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Exhibit 99.1

SAP Integrated Report 2021





About This Report

Content

The SAP Integrated Report 2021 presents our full-year financial, social, and environmental performance in one integrated report ("SAP Integrated Report") available at www.sapintegratedreport.com.

The SAP Integrated Report also serves as our United Nations (UN) Global Compact progress report. We also report on our contribution to the UN Sustainable Development Goals (SDGs) and embedded the recommended disclosures of the Task Force on Climate-Related Financial Disclosures (TCFD), of the SASB standards, and of the World Economic Forum (WEF) stakeholder capitalism metrics.

Basis of Presentation

Our combined management report is prepared in accordance with the German Commercial Code and the relevant German Accounting Standards. The combined management report is also a management commentary complying with the International Financial Reporting Standards (IFRS) Practice Statement Management Commentary.

Our consolidated financial statements are prepared in accordance with IFRS. Our executive management has confirmed the effectiveness of our internal controls over financial reporting.

The social and environmental data and information included in the SAP Integrated Report is prepared in accordance with the GRI Standards: Core option. This GRI option indicates that a report contains the minimum information needed to understand the nature of the organization, its material topics and related impacts, and how these are managed. We apply the GRI principles (sustainability context, stakeholder inclusiveness, materiality, and completeness) for defining report content. We also report on SDGs identified as material to our strategy.

Greenhouse gas data is prepared based on the Greenhouse Gas Protocol.

Data

All financial and non-financial data and information for the reporting period is reported utilizing SAP software solutions and sourced from the responsible business units.

The reporting period is fiscal year 2021. The report encompasses SAP SE and all subsidiaries of the SAP Group. To make this report as current as possible, we have included relevant information available up to the auditor's opinion dated February 23, 2022. The report is available in English and German.

Independent Audit and Assurance

KPMG AG Wirtschaftsprüfungsgesellschaft has audited our consolidated financial statements and our combined management report. Information relating to the non-financial statement included in SAP's management report has been audited with limited assurance by KPMG. Additionally, KPMG has provided assurance on selected sustainability information in accordance with the International Standard on Assurance Engagements (ISAE) 3000, a pertinent standard for the assurance of sustainability reporting. The Independent Auditor's Report and the Assurance Reports of KPMG for the non-financial statement and selected sustainability information are available in the [Independent Auditor's Report](#) section, the [Limited Assurance Report of the Independent Auditor regarding the Combined Non-Financial Statement](#) section and the [Assurance Report of the Independent Auditor regarding Sustainability Information](#) section.

Concept and Realization

This report was designed by SAP and created with SAP S/4HANA software and the SAP Disclosure Management application.



Key Facts

€ millions, unless otherwise stated	2021	2020	Δ in %
Revenues			
Cloud (IFRS)	9,418	8,080	17
Cloud (non-IFRS)	9,418	8,085	16
Software licenses (IFRS)	3,248	3,642	-11
Software licenses (non-IFRS)	3,248	3,642	-11
Software support (IFRS)	11,412	11,506	-1
Software support (non-IFRS)	11,412	11,506	-1
Cloud and software (IFRS)	24,078	23,228	4
Cloud and software (non-IFRS)	24,078	23,233	4
Total revenue (IFRS)	27,842	27,338	2
Total revenue (non-IFRS)	27,842	27,343	2
Applications, Technology & Support Segment revenue	23,502	22,965	2
Qualtrics Segment revenue	929	681	36
Services Segment revenue	3,234	3,379	-4
Share of more predictable revenue (IFRS, in %)	75	72	4
Share of more predictable revenue (non-IFRS, in %)	75	72	4
Operating Expenses			
Cost of cloud (IFRS)	-3,105	-2,699	15
Cost of cloud (non-IFRS)	-2,876	-2,451	17
Cost of software licenses and support (IFRS)	-1,925	-2,008	-4
Cost of software licenses and support (non-IFRS)	-1,822	-1,911	-5
Cost of cloud and software (IFRS)	-5,030	-4,707	7
Cost of cloud and software (non-IFRS)	-4,698	-4,362	8
Total cost of revenue (IFRS)	-7,946	-7,886	1
Total cost of revenue (non-IFRS)	-7,328	-7,362	0
Research and development (IFRS)	-5,190	-4,454	17
Profits and Margins			
Cloud gross margin (in % of corresponding revenue, IFRS)	67.0	66.6	1
Cloud gross margin (in % of corresponding revenue, non-IFRS)	69.5	69.7	0
Software and support gross margin (IFRS, in %)	86.9	86.7	0
Software and support gross margin (non-IFRS, in %)	87.6	87.4	0
Cloud and software gross margin (in % of corresponding revenue, IFRS)	79.1	79.7	-1
Cloud and software gross margin (in % of corresponding revenue, non-IFRS)	80.5	81.2	-1
Gross margin (in % of total revenue, IFRS)	71.5	71.2	0
Gross margin (in % of total revenue, non-IFRS)	73.7	73.1	1
Applications, Technology & Services Segment gross margin (in % of corresponding revenue)	79.5	80.6	-1
Qualtrics Segment gross margin (in % of corresponding revenue)	79.6	77.6	2
Services Segment gross margin (in % of corresponding revenue)	34.1	31.5	8

Operating profit (IFRS)	4,656	6,623	-30
Operating profit (non-IFRS)	8,230	8,287	-1
Operating margin (in % of total revenue, IFRS)	16.7	24.2	-31
Operating margin (in % of total revenue, non-IFRS)	29.6	30.3	-2
Free cash flow	5,049	6,000	-16



€ millions, unless otherwise stated	2021	2020	Δ in %
Net liquidity (net debt)	-1,563	-6,503	-76
Equity ratio (total equity in % of total assets)	58	51	14
Effective tax rate (IFRS, in %)	21.5	26.8	-20
Effective tax rate (non-IFRS, in %)	20.0	26.5	-24
Current cloud backlog			
Current cloud backlog	9,447	7,155	32
Key SAP Stock Facts			
Earnings per share, basic (in €)	4.46	4.35	2
Earnings per share, basic (non-IFRS, in €)	6.73	5.41	24
Dividend per share ² (in €)	2.45	1.85	32
Market capitalization ¹ (in € billions)	153.4	131.7	16
Employees and Personnel Expenses			
Number of employees ^{1, 3}	107,415	102,430	5
Personnel expenses per employee – excluding share-based payments (in € thousands)	122	122	1
Women working at SAP (in %)	34.3	33.6	0
Women in management ¹ (total, in % of total number of employees)	28.3	27.5	3
Employee Engagement Index (in %)	83	86	-3
Business Health Culture Index (in %)	81	80	1
Leadership Trust Index (LTI, as NPS)	67	62	8
Employee retention (in %)	92.8	95.3	-3
Customer			
Customer Net Promoter Score	10	4	>100
Environment			
Net carbon emissions ⁴ (in kilotons)	110	135	-19
Total energy consumption ⁵ (in GWh)	941	879	7
Total data center electricity consumption (in GWh)	429	361	19

¹ Numbers based on year end.

² Numbers are based on the proposed dividend and on level of treasury stock at year-end.

³ Full-time equivalents.

⁴ In CO2 equivalents.

⁵ Before 2021, our total energy consumption covered direct energy consumption (Scope 1) and selected indirect energy consumption (Scope 2). In 2021, we added indirect energy consumption of our value chain (Scope 3) to all years shown.



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Letter from the CEO



Dear Fellow Shareholders,

2021 was another extraordinary year. For all of us, it was a time of challenges, but also of hope. In the face of the ongoing pandemic, disrupted global supply chains, and extreme weather events, we also witnessed the best of humanity. We have seen solidarity in times of crisis, with individuals, organizations, and nations coming together and stepping up to provide social, financial, and material support when it has mattered most.

SAP is no exception. We have supported companies and organizations around the globe that are at the forefront of the fight against the pandemic. We have helped businesses not only keep running but also truly transform, enabling them to become intelligent, networked, and sustainable enterprises. We have moved the world closer to zero emissions, zero waste, and zero inequality. These are just a few examples. There are many more.

2021 also marked the first anniversary of our revised strategy, and we can confidently say that the bold strategic moves we have taken are paying off. Despite the ongoing headwinds of the pandemic and economic uncertainties, our customers recognize the way SAP can help them drive their business transformation. We delivered an exceptional year, with record cloud growth, exceeding our outlook for cloud and software revenue and operating profit.



Our exceptional 2021 results at a glance:

- Cloud revenue continued to be our main growth driver, increasing 19%.¹
- Current cloud backlog increased by 26%.¹
- Total revenue grew 3%.¹
- Operating profit increased by 1%,^{1,2}
- Operating cash flow of €6.22 billion, while free cash flow was €5.05 billion.

Our share price gained over the course of 2021, growing 16.5%, ahead of the DAX which grew 15.8%. With a market capitalization of €153.4 billion, SAP ended the year as the second most valuable company in the DAX40. We want our shareholders to participate in our success. Therefore, we have proposed an annual dividend of €2.45 per share,³ an increase of approximately 32%. This includes a special dividend of €0.50 per share to celebrate our 50th anniversary.

Our non-financial performance also remained strong. Our constant focus on customers led to a six-point increase in the Customer Net Promoter Score to a score of 10, the second subsequent year of significant improvement. The Employee Engagement Index remained exceptionally strong at 83%, one percentage point below our ambitious target range. We decreased our net greenhouse gas emissions by 25 kt to 110 kt. And just in January this year, we announced that we will accelerate our goal to achieve net-zero emissions across our value chain by 2030, rather than 2050 – achieving our net-zero target 20 years earlier than we originally planned.

We take our social and environmental responsibilities and the opportunity we have to make a difference seriously.

- We significantly contributed to the fight against COVID-19 by helping 17 of the 20 largest vaccine producers ensure production and logistics for the vaccine supply at an unprecedented speed.
- The Corona-Warn-App for contact tracing has been downloaded 42 million times and is key to breaking infection chains.
- Fostering diversity is key: The share of women in management increased to 28.3%, and we want to reach 30% by the end of 2022. We remain committed to advancing the share of underrepresented minorities at SAP. And last year, we celebrated 20 years of Pride@SAP, our global employee network for LGBTQ+ colleagues and allies.
- We have joined Generation Unlimited as a founding member to provide over 500 million young people with access to opportunities and training for employment, entrepreneurship, and social impact by 2025.

For 50 years, SAP has revolutionized the way business is done. Building on this heritage, we will now take our purpose to help the world run better and improve people's lives to the next level. Based on the biggest issues our customers face worldwide, our vision has three goals:

- First, **we enable every enterprise to become an intelligent, sustainable enterprise.** The RISE with SAP offering is designed to support our customers as they transform their businesses while at the same time moving to the cloud. We help them benchmark their processes against best practices we gathered from working with hundreds of thousands of customers across 25 industries, move to a modular, agile ERP, and connect them to latest innovations such as our industry cloud, SAP Business Network, and SAP Cloud for Sustainable Enterprises solutions.
- Second, **we bring enterprises together in a global business network.** With our SAP Business Network – the largest B2B network in the cloud – we are truly scaling the power of our companies, connecting intelligent enterprises across supply chains so everyone can respond to any disruptions in real-time.

¹ At constant currencies

² Non-IFRS

³ Pending approval of Annual General Meeting of Shareholders



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- Third, **we create a sustainable world together.** Our customers trust us with their most mission-critical and energy-intense processes. We have the end-to-end transparency and solution portfolio to turn our customers into sustainable enterprises. SAP Cloud for Sustainable Enterprises allows companies to integrate sustainability metrics seamlessly into how they manage their business.

Net-net: At SAP, we help our customers manage their green line together with their top and bottom lines. We are helping them to become intelligent, networked, and sustainable enterprises, and we accompany them along this journey, based on a half-century of experience, innovation, and trusted collaboration to create a sustainable world together.

2022 is a particularly special year for us at SAP. First, we celebrate our 50th anniversary – a milestone in the history of German technology development. Second, 2022 will be crucial in our own transformation as we intensify our focus on our cloud goals across the company. The strong performance that has followed since we announced our revised strategy to accelerate our growth in the cloud shows that we are right on track. For us, it is now all about continuing to execute on our strategy and keeping our promise of delivering innovation to our customers that allows them to tackle any challenge – today and in the future.

We've had a record year at SAP, and this is just the beginning. We are strongly positioned to deliver on our targets, and our strategy will continue to create opportunities for unceasing and accelerated growth both for our customers and SAP.

Thank you for your ongoing trust in SAP. You have my word that we will continue to deliver outstanding customer and shareholder value. At the end of the day, it's the more than 100,000 people behind the name SAP who drive us forward and are key to our success. It is a privilege to head this company, and I can't wait for the amazing things we will achieve in 2022 and beyond.

Sincerely,

Christian Klein
CEO, SAP SE

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SAP Executive Board



Christian Klein
Chief Executive Officer (CEO)

Joined SAP: 1999
Appointed to the Executive Board: 2018
Current Executive Board term expires: 2025
Nationality: German
Year of Birth: 1980
Other board memberships:
Supervisory Board, adidas AG, Herzogenaurach, Germany



Sabine Bendiek
Chief People & Operating Officer, Labor Relations Director

Joined SAP: 2021
Appointed to the Executive Board: 2021
Current Executive Board term expires: 2023
Nationality: German
Year of Birth: 1966
Other board memberships: Executive Board, Bitkom e.V., Berlin,
Germany; Supervisory Board, Schaeffler AG, Herzogenaurach, Germany



Luka Mucic
Chief Financial Officer

Joined SAP: 1996
Appointed to the Executive Board: 2014
Current Executive Board term expires: 2026
Nationality: German
Year of Birth: 1971
Other board memberships:
Supervisory Board, HeidelbergCement AG, Heidelberg, Germany

**Juergen Mueller**
Chief Technology Officer

Joined SAP: 2013
Appointed to the Executive Board: 2019
Current Executive Board term expires: 2024
Nationality: German
Year of Birth: 1982

**Scott Russell**
Customer Success

Joined SAP: 2010
Appointed to the Executive Board: 2021
Current Executive Board term expires: 2024
Nationality: Australian
Year of Birth: 1973

**Thomas Saueressig**
SAP Product Engineering

Joined SAP: 2004
Appointed to the Executive Board: 2019
Current Executive Board term expires: 2025
Nationality: German
Year of Birth: 1985

**Julia White**
Chief Marketing & Solutions Officer

Joined SAP: 2021
Appointed to the Executive Board: 2021
Current Executive Board term expires: 2024
Nationality: U.S. citizen
Year of Birth: 1973



Investor Relations

New Highs Despite Challenging Environment

Investment appetite remained high during 2021, enabling the markets to develop favorably overall and even break new records in the final months of the year. Macroeconomic issues were the main driver of market movements, including the ongoing COVID-19 pandemic and its effects on global supply chains. Further, persistent supply bottlenecks for key products, such as semiconductors, and a jump in energy, and commodity prices slowed down economic growth significantly. Rising inflation, and interest rate concerns also contributed to volatility in the marketplace. SAP stock largely followed general market trends in this environment, gaining 16.5% on the year to finish higher than the DAX (+15.8%) but below the NASDAQ-100 (+26.6%). With a market capitalization of €153.4 billion at year end, SAP was the second most valuable company on the DAX.

Cloud Strategy Resonates –SAP Stock Gains Ground

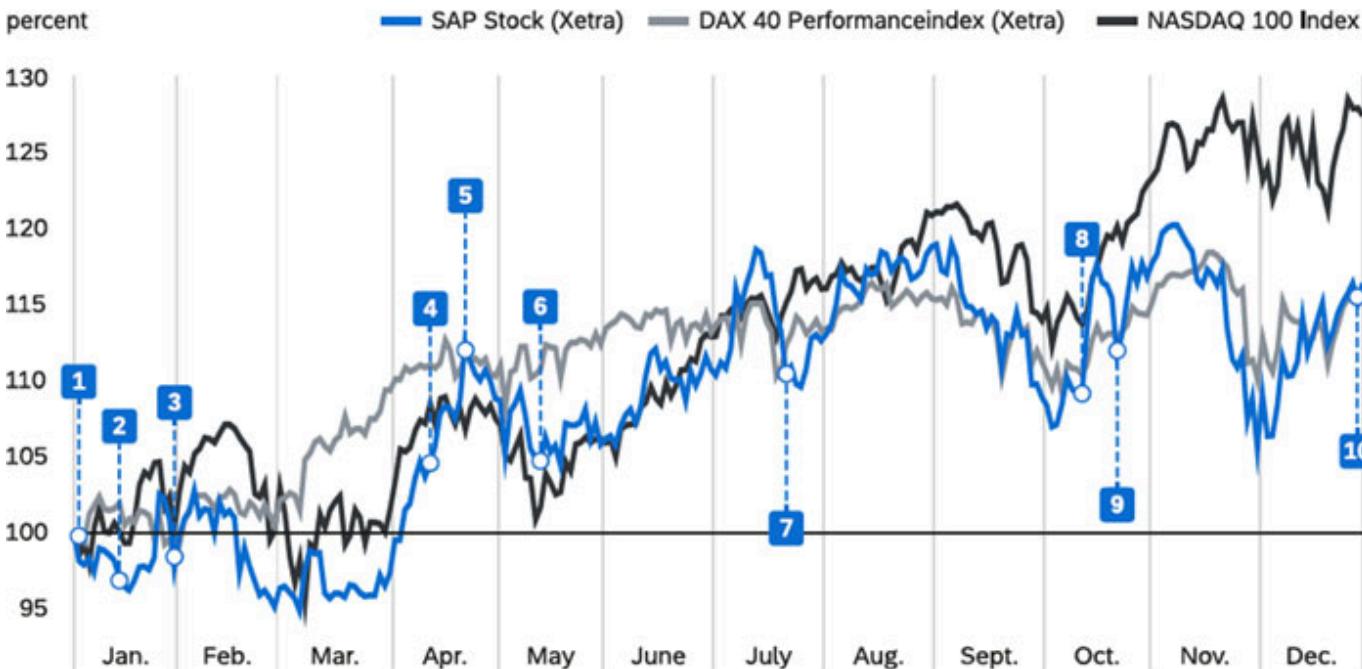
SAP stock started the year at €107.22 (1, see graphic below), the Xetra closing price on December 31, 2020. Though buoyed temporarily at the end of January by the Qualtrics IPO, the share price reached its lowest level for the year of €101.78 just a few weeks later.

Thanks also to good results in the first quarter of 2021 (4), (5), SAP stock was able to rally back in April, rising to an interim high of €120.70 before broad market rotation out of technology stocks and into value names triggered by interest rate concerns pushed it back down again. By contrast, the ex-dividend markdown of €1.85 (6) in May had no appreciable effect on the share price. SAP stock ultimately recovered in June and, continuing its upward trajectory, reached a new interim high of €125.78 in July following a clear buy recommendation from a major financial institution.

SAP's strategic focus on cloud business resonated with the market: analysts particularly praised the benefits of cloud migration, the switch to a long-term, more profitable subscription model, and the 'RISE with SAP' offering. Despite strong first-half results (7) attesting to the successful implementation of the cloud strategy, SAP shares declined 2.5% to €118.46 amidst a positive overall market. Market analysts pointed out that even more optimistic expectations had emerged prior to the earnings announcement.

Increasing demand for technology shares in August, however, ultimately lifted SAP stock slightly above its previous high for the year, before mounting concerns about interest rates and the Chinese economy melted away gains in September.

October then saw SAP stock benefit from stronger than expected preliminary results for the third quarter and a renewed guidance increase for the full year (8). Analysts were impressed above all with the strength of SAP's cloud business, and the share price jumped 3.9% to €121.50, but subsequent publication of our final third-quarter results (9), together with a reiteration of expected margin development in fiscal 2022, had a dampening impact on the share price. The share price nevertheless climbed to its high for the year of €128.98 by early November. The subsequent market downturn, triggered by new COVID-19 concerns, was almost made up for by the end of the year, with the share benefitting in December from positive industry news as well as a buy recommendation from another major financial institution, which had forecast accelerated cloud growth in 2022. SAP stock ultimately ended the fourth quarter at €124.90, or 16.5% above its opening price for the year.

**SAP Stock Versus Major Indices (December 30, 2020 to December 30, 2021)**

1. December 30, 2020 Closing Price €107.22

6. May 13, 2021 Ex dividend, €1.85 per share

2. January 14, 2021 Preliminary results Q4 2020

7. July 21, 2021 Financial results Q2 2021

3. January 29, 2021 Final results Q4 / Full year 2020

8. October 12, 2021 Preliminary results Q3 2021

4. April 13, 2021 Preliminary results Q1 2021

9. October 21, 2021 Final results Q3 2021

5. April 22, 2021 Final results Q1 2021

10. December 30, 2021 Closing price €124.90

Continuous Engagement with the Investment Community

SAP continuously engaged with the investment community in 2021. Throughout the year, members of the Executive Board of SAP SE and the Investor Relations (IR) team discussed our latest strategy, its execution and business development, and how SAP was helping customers in the new virtual world, with institutional investors, analysts, and private investors worldwide. Given the ongoing pandemic, most events were held virtually.

The IR team, together with senior management, held more than 100 meetings in 2021 to maintain the dialogue with investors and analysts, including one-on-one phone calls, video conferences, and virtual road shows as well as a limited number of in-person meetings under strict hygiene standards. Members of the Executive Board and the IR team participated in more than 20 conferences worldwide. In June, we hosted the virtual Financial Analyst Conference as a part of our SAPPHIRE NOW event for investors and financial analysts. Once again, SAP held the 2021 Annual General Meeting of Shareholders (AGM) virtually without physical presence.

We continued our dialogue with socially responsible investors (SRI), providing them with insights into our environmental, social, and corporate governance policies. SAP's leadership in this area is being recognized by leading organizations. SAP was one of only three enterprise software companies to make the Carbon Disclosure Project's (CDP) A List 2021. And SAP remains the software industry leader in the Dow Jones Sustainability Indices for the 15th year in a row.

SAP representatives engaged with retail shareholders at virtual events. The IR team and the Treasury team also maintained regular communication with the debt investor community.

We provide a wide range of information online about SAP and its shares. Our communications channels include our Twitter feed @sapinvestor and the quarterly SAP INVESTOR magazine. Shareholders can reach the IR team directly by telephone hotline and by e-mail at investor@sap.com. We also publish an overview of the latest analyst consensus in collaboration with Vara Research.



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Additional Information

In addition, we provide a Webcast for all key investor events at which members of our Executive Board speak, and we post all relevant presentations on the Investor Relations Web site.

Key Facts About SAP Stock/SAP ADRs**Listings**

Germany	Berlin, Frankfurt, Stuttgart
United States (ADRs)	New York Stock Exchange

IDs and symbols

WKN/ISIN	716460/DE0007164600
NYSE (ADRs)	803054204 (CUSIP)
Reuters	SAPG.F or .DE
Bloomberg	SAP GR

Weight (%) in indexes as at 12/31/2021¹

DAX 40	9.29
Prime All Share	7.54
CDAX	8.75
HDAX	8.06
Dow Jones STOXX 50	2.87
Dow Jones EURO STOXX 50	4.21

¹ Source: Qontigo**Return on SAP Common Stock — WKN 716460/ISIN DE007164600**

Percent, unless otherwise stated

Initial investment €10,000			
Date of investment	12/31/2011	12/31/2016	12/31/2020
Period of investment	10 years	5 years	1 year
Value as at 12/31/2021 ¹ (in €)	30,575	15,083	11,649
Average annual return	11.8	8.6	16.5
Performance comparators			
DAX 40 Performance — total return index	10.4	6.7	15.8
REX General Bond — total return index	0.9	0.2	-1.3
S&P 500 Composite — total return index	15.8	14.5	36.3
S&P North American Technology Software Index	23.8	26.8	35.0

¹ Assuming all dividends were reinvested.



Return on SAP ADRs — 803054204 (CUSIP)

Percent, unless otherwise stated

Initial investment US\$10,000

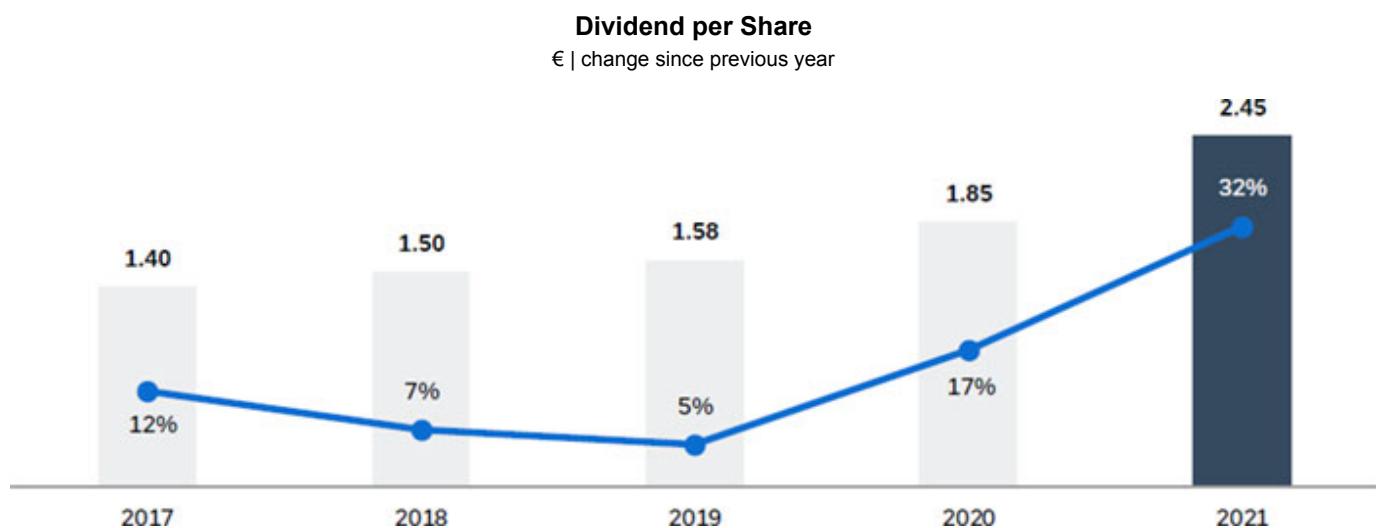
	12/31/2011	12/31/2016	12/31/2020
Date of investment			
Period of investment	10 years	5 years	1 year
Value at 12/31/2021 ¹ (in US\$)	26,461	16,211	10,745
Average annual return	10.2	10.1	7.5
Performance comparators			
S&P 500 Composite — total return index	14.3	16.3	26.9

¹ Assuming all dividends were reinvested. Source: Bloomberg

Dividend Increased to €2.45

It is our policy to pay a dividend totaling 40% or more of IFRS profit after tax.

At the Annual General Meeting of Shareholders, the Executive Board and the Supervisory Board of SAP SE will recommend increasing the total dividend for fiscal year 2021 by approximately 32% to €2.45 per share (2020: €1.85). This includes a special dividend of €0.50 to celebrate SAP's 50th anniversary. The payout ratio would be 54% (2020: 41%). Excluding the special dividend, the ratio would be 43%.



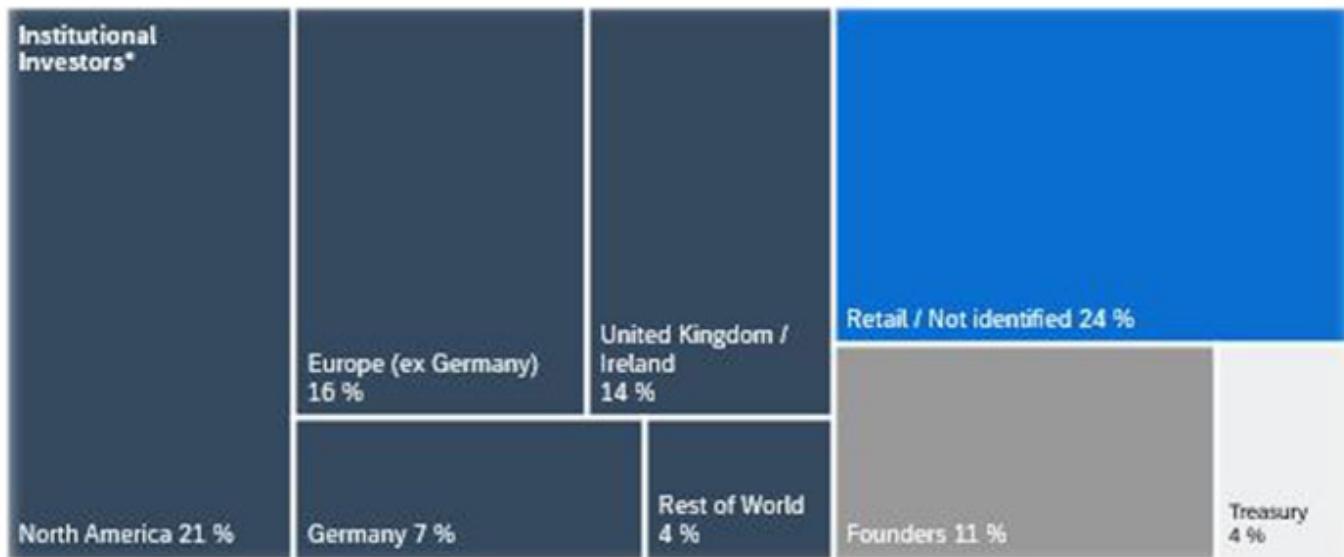
Capital Stock Unchanged

SAP's capital stock as at December 31, 2021, was €1,228,504,232 (2020: €1,228,504,232). It is issued as 1,228,504,232 no-par shares, each with an attribute value of €1 in relation to capital stock.



Shareholder Structure

Applying the definition accepted on the Frankfurt Stock Exchange, which excludes treasury stock from the free float, as at December 31, 2021, the free float stood at 85% (December 31, 2020: 86%).



*40% of institutional investors are classified as ESG investors.



Report by the Supervisory Board

Dear Shareholders,

In the following, we would like to inform you about the work of the Supervisory Board in the fiscal year 2021.

Collaboration Between the Supervisory Board and the Executive Board

In the past fiscal year, the Supervisory Board of SAP SE advised the Executive Board on an ongoing basis with regard to the management of the Company and kept the Executive Board's management of the Company under observation for legal compliance, adherence to proper accounting principles, business focus, and expediency. We were involved whenever decisions of fundamental importance to SAP were made.

The Supervisory Board received regular, full, and timely reports from the Executive Board, both from members in person and in written documents. The Supervisory Board was also in regular exchange with senior internal officers through its various committees. This ensured that we were always up to date, even between meetings, on the Company's strategy, planning, business performance, risks, risk management, compliance (in other words, adherence to laws, to the Company's Articles of Incorporation, and to internal policies), and on transactions of special significance for SAP. In its reports, the Executive Board also informed us in particular where business deviated from plan or target, and why. In addition, the Supervisory Board members can turn to SAP Digital Boardroom at any time to call up comprehensive metrics for all business areas in real time and generate evaluations and analyses as required. The solution affords us an up-to-date view of SAP's business performance whenever we need it – with maximum transparency.

The content and scope of the Executive Board's reports to us fully met our requirements for them: The Executive Board came to Supervisory Board meetings for discussion of the agenda items. We questioned and probed the Executive Board to satisfy ourselves that the information it gave us was plausible. All transactions requiring approval by the Supervisory Board whether by law, the Articles of Incorporation, or the Supervisory Board's list of transactions requiring its consent were carefully examined and discussed with the Executive Board prior to approval.

The Supervisory Board chairperson and the CEO were in continuous contact, which meant the Supervisory Board chairperson was always informed without delay of all important events that were significant for assessing SAP's situation and progress or for the management and governance of the Company. Moreover, the chairperson of the Supervisory Board discussed SAP's strategy, business performance, risks, risk management, compliance, and other key topics and decisions regularly with the CEO. This enabled the Supervisory Board chairperson to update the members of the Supervisory Board between meetings.

Supervisory Board Meetings and Resolutions

In the past fiscal year, the Supervisory Board of SAP SE held four ordinary meetings and one extraordinary meeting at which we deliberated and resolved on all matters of relevance to the Company. Due to the ongoing travel and contact restrictions imposed on us as a result of the COVID-19 pandemic, we also conducted the majority of our plenary meetings and Committee meetings, which are normally held as physical meetings, in 2021 as video conferences or as hybrid sessions, where some members attended physically and the remainder online. We also adopted eleven resolutions by correspondence vote. The following table provides an overview of the individual members' attendance at the Supervisory Board's plenary sessions and committee meetings in the year under review.



The Supervisory Board and its committees also convened wholly or partly without the Executive Board as necessary in the reporting year to deliberate on items that pertained to the Executive Board or required internal discussion among Supervisory Board members alone. This was the case in three of the plenary sessions, and in five committee meetings. In addition, the shareholder representatives and the employee representatives independently discussed individual agenda items as required prior to the adoption of resolutions in plenary sessions. The Supervisory Board addressed the following key topics during the year:

Strategy and RISE with SAP

In October 2020, SAP announced a revised corporate strategy in the form of an accelerated transition to the cloud, which resulted in a series of measures and investments in line with customer requirements. We continued to monitor and discuss with the Executive Board the implementation of this revised company strategy in 2021. We satisfied ourselves that the activities introduced by the Executive Board created room for organic innovation, expedited the harmonization of SAP's cloud business, and, last but not least, contributed to the good results for fiscal 2021. In this regard, the Executive Board reported, *inter alia*, on the progress made with respect to SAP Business Technology Platform (which companies can use to run own developments or existing SAP or third-party services), and on its measures to implement SAP's People Strategy. A further significant step was the acquisition of Signavio, a provider of cloud solutions for business process management. We approved this acquisition during our extraordinary meeting on January 25, 2021, on recommendation of the Finance and Investment Committee because we, like the Executive Board, consider investment in business process intelligence (BPI, or applications and tools for capturing and analyzing process data) to be strategically worthwhile. BPI enables SAP to leverage the experiences of its customers to identify and eliminate inefficiencies and vulnerabilities of their business operations. Prior to this, in its meetings on January 15 and 25, 2021, the Finance and Investment Committee had thoroughly discussed the opportunities and risks associated with this acquisition as well as the two fairness opinions (external assessments of the purchase price determination and company valuation of the planned acquisition). At our meeting on February 24, 2021, the Executive Board presented the RISE with SAP offering to us. Introduced at the end of January 2021, this flexible cloud service package provides customers with a holistic approach for accelerating their transition to the cloud and transforming into an intelligent enterprise. As part of its ongoing reports to the full Supervisory Board, the Executive Board kept us apprised of the package's success among SAP customers. When we met in April and July 2021, we deliberated with the Executive Board on the Company's China strategy, the future direction of the marketing strategy, and HR measures to attract new cloud development talent.



Meeting Participation of SAP SE Supervisory Board Members During Fiscal Year 2021

Supervisory Board Members	Plenum		Committees		All Meetings		Participation in %
	Meetings	Participation	Meetings	Participation	Meetings	Participation	
Prof. Dr. h.c. Hasso Plattner	5	5	15	13	20	18	90%
Pekka Ala-Pietilä (until 12.05.2021)	3	3	6	6	9	9	100%
Manuela Asche-Holstein (since 08.07.2021)	2	1	1	1	3	2	67%
Panagiotis Bissiritsas (until 07.07.2021)	3	3	13	13	16	16	100%
Aicha Evans	5	5	15	14	20	19	95%
Prof. Dr. Gesche Joost	5	5	8	8	13	13	100%
Margret Klein-Magar	5	5	20	20	25	25	100%
Monika Kovachka-Dimitrova	5	5	10	10	15	15	100%
Lars Lamadé	5	5	13	13	18	18	100%
Peter Lengler (since 10.08.2021)	1	1	5	5	6	6	100%
Bernard Liautaud	5	5	11	11	16	16	100%
Dr. Qi Lu	5	5	8	7	13	12	92%
Gerhard Oswald	5	5	23	23	28	28	100%
Christine Regitz	5	5	12	12	17	17	100%
Dr. Friederike Rotsch	5	5	29	29	34	34	100%
Heike Steck	5	5	16	16	21	21	100%
Helmut Stengele (since 29.10.2021) ¹	NA	NA	NA	NA	NA	NA	NA
Christa Vergien-Knopf (until 09.08.2021)	5	5	9	9	14	14	100%
Dr. Rouven Westphal (ab 12.05.2021)	2	2	13	13	15	15	100%
Gunnar Wiedenfels	5	5	22	22	27	27	100%
James Wright	5	5	26	26	31	31	100%
Ralf Zeiger (until 28.10.2021)	3	3	7	7	10	10	100%

¹ Helmut Stengele joined the Supervisory Board as an employee representative on October 29, 2021. As at December 31, 2021, he has not served on any committee, nor have there been any Supervisory Board meetings since his appointment. However, he did participate in four circular resolutions during this period.

Reorganization of Supervisory Board Responsibilities in Committees

In the past fiscal year, the Supervisory Board took the key results from a Spring 2021 questionnaire reviewing the efficiency of the Supervisory Board's work as an opportunity to change the structure, size, and duties of its committees so as to further optimize their work and decision-making processes in the interest of good corporate governance. At its meeting on April 15, 2021, for example, it deliberated on proposals for reorganizing the Supervisory Board committees, as drawn up by the Personnel and Governance Committee based on the aforementioned efficiency review of the plenary and committee work. The Supervisory Board subsequently resolved on the new composition and structure of the committees by circular correspondence vote in May 2021. Some of the tasks of the committees were rearranged and some of the committees were renamed to better reflect their roles. In addition, the number of committees was partially reduced, or their memberships filled anew, as described in the section on the work of the committees below. Notably, the General and Compensation Committee was renamed to Personnel and Governance Committee, the Audit Committee was renamed to Audit and Compliance Committee, and the People and Organization Committee was renamed to People and Culture Committee. The Personnel and Governance Committee was downsized from 10 to eight members, and the number of seats on the Technology



and Strategy Committee was reduced from 12 to 10 members. We subsequently adopted the rules of procedure of the committees – except for the China Strategy Committee and the Nomination Committee – in updated form at our meeting on July 29, 2021. As part of a circular correspondence vote at the beginning of October 2021, a new employee representative was appointed to each of the Personnel and Governance Committee and the People and Culture Committee as successor to an employee representative who had left both committees. When we convened on October 28, 2021, we updated the rules of procedure of the full Supervisory Board and of the Audit and Compliance Committee, primarily to take account of the new regulations, insofar as they pertained to the work of the Supervisory Board, in the German Act to Strengthen Financial Market Integrity, which for the most part entered into force on July 1, 2021. The rules of procedure were also updated to reflect the increased requirements of investors regarding the handling of ESG (environmental, social and governance) issues in the supervisory bodies. For more information about the Supervisory Board committees, particularly their respective tasks and responsibilities, see [Corporate Governance Statement for 2022](#) and the [Corporate Governance section of SAP's Web site](#). We also resolved, by way of correspondence vote in December 2021, on the creation of an eight-member Go-to-Market and Operations Committee effective January 1, 2022, comprising an equal number of employer and employee representatives. Our objective with this new Committee is to provide more space for deliberating the sales and marketing strategy and discussing same with the relevant Executive Board members, and thereby ease the burden on the Strategy and Technology Committee. We believe that the work in the committees is now structured even better than before.

Compliance, Cybersecurity, and Governance Matters

The Supervisory Board and the Audit and Compliance Committee dealt at length with the ongoing compliance and cybersecurity matters and immediately addressed all governance issues that arose during the reporting year.

SAP's Office of Ethics & Compliance (OEC) kept the Audit and Compliance Committee continually informed about the ongoing investigations being conducted with the assistance of external counsel into potential violations of anticorruption laws (including the U.S. Foreign Corrupt Practices Act (FCPA)). Said updates included reports on the implementation of further significant improvements to compliance processes and controls at the Company, which had been introduced in response to the relevant investigations and as part of the general evolution of the compliance management program. The Audit and Compliance Committee reported in turn on the status of these compliance matters and on the discussions with the U.S. Department of Justice (U.S. DOJ), which intensified significantly in the third quarter, to the full Supervisory Board at our extraordinary meeting held on January 25, 2021, and at our ordinary plenary meetings held in February, April, July, and October 2021.

The Audit and Compliance Committee continued to seek assistance from its own external consultants to help address the complex technical and legal nature of the compliance and cybersecurity matters being investigated, and reported on their opinions to the Supervisory Board, which – where required – resolved on the next steps. In particular, representatives of the external legal consultant referred to above attended the Supervisory Board's July 2021 meeting as experts and explained to the plenum the results of their legal audits and the status of the internal investigations. At present, SAP is still in discussions with the U.S. DOJ and the U.S. Securities and Exchange Commission (U.S. SEC) with a view to reaching a global resolution with regard to the compliance matters. The Supervisory Board and notably the Audit and Compliance Committee are regularly updated on these matters. The negotiations are expected to close in 2022.

As already announced publicly in a May 4, 2020, mandatory disclosure, the Company has also stepped up its cybersecurity efforts in the wake of internal investigations. The Audit and Compliance Committee monitored, from the outset and continuously in the year under review, the progress of cybersecurity measures introduced by the Executive Board in relation to SAP cloud products, as well as the other steps taken to continuously improve security standards.

Further, the Supervisory Board was informed that, following comprehensive investigations into potential export controls and economic sanctions violations, SAP had entered into a non-prosecution agreement with the U.S. DOJ and mutual settlement agreements with the U.S. Bureau of Industry and



Security (BIS) and U.S. Department of Treasury's Office of Foreign Assets Control (OFAC) in April 2021. SAP had voluntarily self-disclosed potential violations to the U.S. DOJ and OFAC in September 2017 and had notified the U.S. SEC at the same time. Since then, the Audit and Compliance Committee and the full Supervisory Board have been kept continually apprised of the status of the investigations.

Another topic of interest, initially dealt with at length by the responsible Finance and Investment Committee at a March 2021 meeting, was SAP Fioneer, SAP's joint venture with Dediq. At said meeting, the Committee and the Executive Board examined all the details of the joint venture agreement, the ownership structure, and the underlying strategic and economic considerations. After comprehensive analysis, the Committee members approved the joint venture by correspondence vote. When later media reports criticized the shareholder structure of the joint venture, the Audit and Compliance Committee probed the governance aspects of the transaction to follow up on the concerns expressed. To this end, the Committee commissioned two independent external opinions to assess the valuation of SAP's and participating partners' stake in SAP Fioneer and to report on whether the decision process regarding the joint venture complied with applicable law. The opinions confirmed that the valuation was in line with the market and the decision process compliant.

In an extraordinary meeting in December 2021, the Audit and Compliance Committee dealt with allegations in media reports about inadequate corporate governance measures in connection with a past legal dispute that SAP had already settled many years earlier in 2014. A representative of the law firm commissioned by the Supervisory Board at the time informed the Committee about the checks and deliberations actually carried out by the Supervisory Board during the period in question. The external counsel and the Committee jointly concluded that the modus operandi chosen by the Supervisory Board at the time was appropriate and that the Supervisory Board had no reason to question it after the fact.

Other key topics addressed at our meetings in 2021 notably included the following:

Meeting in February (Meeting to Discuss the Financial Statements)

In the plenary session on February 24, 2021, we approved a change to the Executive Board's schedule of portfolios. This was followed by a report on business in 2020, and the adoption of the budget for 2021 after discussing same extensively with the Executive Board. Next, we turned to the matter of Executive Board compensation. We first determined the total target achievement under the Short-Term Incentive (STI) 2020 Plan, which, due to the COVID-19 pandemic, had not resulted in any payouts. After that, we deliberated on Executive Board compensation for 2021. We set the specific target numbers for, and relative weighting of, each key performance indicator (KPI) of the STI 2021. In addition, we set the specific target numbers for each KPI of the Long-Term Incentive Program 2020 (LTI 2020), tranche 2021. The Supervisory Board, as required, evaluated the appropriateness of the individual Executive Board members' total compensation for fiscal 2021, and in each case found it to be appropriate in terms of amount, structure, objective criteria, and for each member's responsibilities and tasks. We referred in this regard to an appropriateness certificate obtained beforehand from an external consulting firm for compensation matters. In addition, the Supervisory Board approved, on recommendation of the Personnel and Governance Committee, the payment of supplementary compensation to the Executive Board members as permitted by the compensation system in the event of extraordinary situations. In doing so, the Supervisory Board honored the fact that, despite unprecedented challenges posed by the COVID-19 pandemic, the related restrictions, and the ensuing economic crisis, the Executive Board members exhibited extraordinary performance, ensuring the company remained profitable and positioned for long-term, sustainable success. In accordance with the agreement, the Executive Board members invested the net payout amount of this supplementary compensation in the purchase of SAP shares with a holding period of three years. The Supervisory Board referred prior to this decision to a corresponding analysis from an independent consulting firm for compensation matters as well as a legal opinion from an external law firm. For more information about the STI 2021, the LTI 2020, tranche 2021, the supplementary compensation, and the other compensation elements for Executive Board members, see the [Compensation Report](#). In addition, the Supervisory Board turned its attention to the SAP SE financial statements and the



consolidated financial statements for 2020, the audits conducted by KPMG AG Wirtschaftsprüfungsgesellschaft (KPMG), and the Executive Board's proposed resolution on the appropriation of retained earnings for 2020. The auditor attended the meeting and reported in detail on the audit and its findings for each of the focus areas that had been agreed between the auditor and the Audit and Compliance Committee. The auditor also related the discussions on those matters at the preceding meetings of the Audit and Compliance Committee. The auditor then discussed the results of the audit with the Supervisory Board and answered our questions. The Audit and Compliance Committee had comprehensively prepared all topics in connection with the financial statements and the consolidated financial statements for 2020, and in particular reported on the form and scope of its examination of the documents relating to the financial statements, which it recommended we approve. The Supervisory Board approved the audit. There were no findings from our own examination, so we gave our consent to the SAP SE and consolidated financial statements for 2020. We endorsed the Executive Board's proposal concerning the appropriation of retained earnings for 2020, in accordance with the Audit and Compliance Committee's recommendation to us, and subsequently passed the proposed resolutions for the SAP SE Annual General Meeting of Shareholders on May 12, 2021. In particular, this included our proposal to the Annual General Meeting concerning the election of an auditor for fiscal 2021. Next, we extended the appointment of Juergen Mueller as member of the Executive Board for a further three years. In compliance with auditor rotation legislation, we resolved, on recommendation of the Audit and Compliance Committee, to propose to the 2022 Annual General Meeting that BDO AG Wirtschaftsprüfungsgesellschaft be appointed as SAP SE's auditor for fiscal 2023, so as to facilitate optimal familiarization with and preparation for the new auditor. Prior to this, the Audit and Compliance Committee had conducted a tender and selection process to identify a suitable new auditor and, following its own in-depth analysis of the candidates, proposed two of them to the Supervisory Board while citing a clear preference. In addition, the Executive Board gave us an overview of the Company's equity investments in 2020 and SAP's donation activities.

Resolutions Adopted by Correspondence in February

In February 2021, the Supervisory Board approved by way of correspondence vote the corporate governance statement for 2021 as well as the appointment of new regional presidents for the APJ (Asia Pacific Japan) and EMEA North (Europe, Middle East, and North Africa) regions.

Meeting in April

On April 15, 2021, the Supervisory Board reviewed the first quarter results for 2021 and SAP's competitive situation. A senior analyst from global asset management company AllianceBernstein joined this session to share an outside view of SAP from the investors' standpoint. With this expert, we also examined the most important metrics in SAP's financial reports and the capital markets' expectations of SAP. We also assessed the effectiveness of the work of the full Supervisory Board and its committees (the so-called the efficiency review), as is regularly required pursuant to the recommendations of the German Corporate Governance Code (GCGC, herein: Code). For more information relating to this assessment, see the [Corporate Governance Statement for 2022](#). In this regard, an electronic survey was sent to all the Supervisory Board members ahead of the meeting, with questions addressing all aspects of the Supervisory Board's work. We evaluated the questionnaire and discussed the consolidated survey responses and comments in the plenum. In closing, we dealt with the question of waiving a former Executive Board member's contractually agreed non-compete provisions.

Resolutions Adopted by Correspondence in May

In May 2021, we adopted, besides the above resolution, two further resolutions by correspondence, namely: one resolution appointing a SAP regional president for the Greater China region (China, Taiwan, Hong Kong), and one resolution approving an additional venture capital fund (Sapphire Ventures Fund VI).



Meeting in July

When we met on July 29, 2021, we resolved to file a petition to the court for the removal of an employee representative from the Supervisory Board. The Supervisory Board was advised in this regard by a law firm it had commissioned to examine the underlying facts. The Supervisory Board member in question was first given the opportunity to comment on matter, and then left the meeting to allow the other members of the Supervisory Board to discuss and vote on the agenda item. The member rejoined the meeting once the item had been dealt with. After that, we discussed the effects of an adjustment in the non-IFRS definition – which from a Group point of view was not material – on the Group budget. In addition, we updated the list of transactions that go beyond the scope of the Company's articles of incorporation and for which the Executive Board must obtain the Supervisory Board's prior consent. On recommendation of the Finance and Investment Committee, we also agreed to the planned acquisition of the U.S.-based company Clarabridge by Qualtrics, a listed SAP subsidiary in which SAP holds a majority interest, based on the details of the acquisition contract explained to us previously. Fairness opinions of two independent consulting firms confirmed that the purchase price was fair. With the combination of both companies' products, now made possible by the acquisition, SAP aims to reinforce Qualtrics' leading position in the Experience Management (XM) space.

Resolutions Adopted by Correspondence in August

In August 2021, the Supervisory Board resolved by way of correspondence the appointment of a new chief strategy officer for SAP.

Meeting in October

At our meeting on October 28, 2021, the Executive Board first reported on business performance in the third quarter. As is regularly the case, we also dealt with the topic of independence. Based on the findings from our own examination, we determined that all shareholder representatives were independent in the meaning of the Code and were therefore to be named as such in the *Corporate Governance Statement*. We also resolved on what we believe to be the appropriate number of independent shareholder representative members, and determined that the Supervisory Board has an appropriate number of independent members in the meaning of the Code, also when the shareholder structure is taken into account. In agreement with the Executive Board, we also adopted, for regular publication in October 2021, the annual *Declaration of Implementation* of the Code, and approved an amendment to the objectives for the composition of the Supervisory Board. On recommendation of the Finance and Investment Committee, we consented to a follow-on share offering by Qualtrics, under which the subsidiary offered additional Qualtrics shares through the stock market in November 2021. Prior to this decision, the Executive Board explained to the meeting members the planned use of the funds collected in this way and how the move would affect SAP SE's stake in Qualtrics. The Executive Board also reported on the efficiency review we had requested in the Research & Development area.

Resolution Adopted by Correspondence in November

We adopted two resolutions by correspondence in November 2021. In the first correspondence vote, the Supervisory Board extended Thomas Saueressig's Executive Board contract by a further three years to October 2025, and in that regard defined a new total compensation for this Executive Board member effective November 1, 2022. We had deliberated on this resolution in advance in our October session. In the second correspondence vote, we consented, on recommendation of the Finance and Investment Committee, to the execution of a share repurchase program in the amount of €1 billion. The program is to be executed between February 2022 and December 2022, and is intended to enable SAP to service future awards under the global share-based employee compensation program predominantly through SAP shares. This resolution was based on the authorization granted by the Annual General Meeting of Shareholders on May 17, 2018, under agenda item 8.



Resolution Adopted by Correspondence in December

In December 2021, we gave our approval, as recommended by the Personnel and Governance Committee, for compensation-related changes to be made to the Executive Board contracts of Scott Russell effective January 1, 2022, and Thomas Saueressig effective November 1, 2022.

The Work of the Supervisory Board Committees

The committees made a key contribution to the work of the Supervisory Board in 2020, and reported on their work to us, including their preparatory work for and decisions made on the relevant agenda items of the subsequent Supervisory Board meetings. The following committees were in place in the year under review:

- **Personnel and Governance Committee** (formerly General and Compensation Committee): Friederike Rotsch (chairperson since June 1, 2021), Pekka Ala-Pietilä (until May 12, 2021), Panagiotis Bissiritsas (until May 31, 2021), Aicha Evans, Margret Klein-Magar, Monika Kovachka-Dimitrova (since October 8, 2021), Lars Lamadé, Bernard Liautaud, Hasso Plattner (chairperson until May 31, 2021), Christine Regitz, Ralf Zeiger (until October 7, 2021)
- **Audit and Compliance Committee** (formerly Audit Committee): Gunnar Wiedenfels (chairperson), Panagiotis Bissiritsas (until May 31, 2021), Margret Klein-Magar, Peter Lengler (since August 10, 2021), Gerhard Oswald (until May 31, 2021), Friederike Rotsch, Christa Vergien-Knopf (June 1 until August 9, 2021), Rouven Westphal (since June 1, 2021), James Wright
- **Finance and Investment Committee**: Rouven Westphal (since June 1, 2021, as chairperson and member), Panagiotis Bissiritsas (until May 31, 2021), Christine Regitz, Friederike Rotsch (until May 31, 2021, as chairperson and member), Heike Steck (since June 1, 2021), Gunnar Wiedenfels, James Wright
- **Technology and Strategy Committee**: Hasso Plattner (chairperson), Christine Regitz (deputy chairperson), Aicha Evans, Gesche Joost, Monika Kovachka-Dimitrova, Lars Lamadé, Bernard Liautaud, Qi Lu (since February 24, 2021), Gerhard Oswald (until May 31, 2021), Heike Steck, Christa Vergien-Knopf (until May 31, 2021), James Wright
- **People and Culture Committee** (formerly People and Organization Committee): Aicha Evans (chairperson since June 1, 2021), Pekka Ala-Pietilä (until May 12, 2021), Manuela Asche-Holstein (since October 8, 2021), Gesche Joost, Monika Kovachka-Dimitrova, Peter Lengler (since August 10, 2021), Gerhard Oswald (until May 31, 2021, as chairperson and member), Friederike Rotsch (since June 1, 2021), Heike Steck, Christa Vergien-Knopf (until August 9, 2021), Ralf Zeiger (until October 7, 2021)
- **China Strategy Committee**: Gerhard Oswald (chairperson), Margret Klein-Magar, Lars Lamadé, Qi Lu (since February 24, 2021), Hasso Plattner, Christine Regitz (since February 24, 2021), Friederike Rotsch, Heike Steck
- **Nomination Committee**: Hasso Plattner (chairperson), Pekka Ala-Pietilä (until May 12, 2021), Aicha Evans (since June 1, 2021), Bernard Liautaud (until May 31, 2021), Gerhard Oswald (until May 31, 2021), Friederike Rotsch (since June 1, 2021), Rouven Westphal (since June 1, 2021)

Each of the aforementioned committees was active in 2021. For more information about the Supervisory Board committees and their duties, see the [Corporate Governance section of SAP's Web site](#).

Besides the matters described above, the committees focused primarily on the following topics in 2021:

- The *Personnel and Governance Committee* held four regular meetings in the reporting year. In particular, the Committee, in fulfillment of the tasks assigned to it, extensively prepared and discussed in advance the deliberations of the Supervisory Board and its resolutions on the self-assessment and reorganization of the Supervisory Board committees, on a termination agreement for a departing Executive Board member, and on Executive Board compensation, or it adopted its



own resolutions in these matters. At its first meeting in February 2021, the Committee reviewed the annual report from SAP's corporate governance and insider trading compliance officer, as presented to it. In its second meeting in February, the Committee dealt with the extension of Juergen Mueller's appointment to the Executive Board. When it met in July 2021, the Committee approved the acceptance of an outside supervisory board seat by an Executive Board member and the conclusion of a consulting contract with a former Executive Board member. It also discussed the lessons learned from the voting results at the Annual General Meeting in May 2021 and the feedback from institutional investors. In October 2021, the Committee prepared the Supervisory Board's resolutions regarding an update to the objectives for the composition of the Supervisory Board, submission of the implementation declaration, and determination of the independence of Supervisory Board members. The Committee also discussed the succession planning process for the Executive Board and the development of top talent as potential successors for departing members. At its ordinary meeting on December 16, 2021, the Committee approved its resolution proposal to the Supervisory Board regarding the Executive Board compensation for Scott Russell effective January 1, 2022, and for Thomas Saueressig effective November 1, 2022.

- The *Audit and Compliance Committee* held ten regular meetings – two of which jointly with the Finance and Investment Committee – and three extraordinary meetings in 2021. It also adopted one resolution by way of correspondence. The Committee comprehensively prepared the resolutions of the Supervisory Board for all topics assigned to it, as described above, and dealt at its meetings with the course of business in the respective quarter, the accounting processes, the preparation of end-of-quarter closings, and the quarterly reports due for publication. In addition, the Committee chairperson was in regular contact with the auditor. Other recurring meeting topics included SAP's risk management system, its internal control system, its compliance system (including specific compliance issues, the status of corresponding SAP-internal investigations, and case-related collaboration with authorities), and cybersecurity. During its meeting in February 2021, the Committee focused on the financial accounts of SAP SE and the SAP Group for 2020 and prepared the Supervisory Board's proposed resolutions to the Annual General Meeting of Shareholders concerning the election of an auditor and the appropriation of retained earnings. The decision on the recommendation regarding the election of the auditor was preceded by a review of the auditor's independence, qualifications, and quality of work. To monitor the latter, the Audit and Compliance Committee obtained regular reports from the auditor on its internal quality assurance standards and on any material findings from internal quality audits, from external quality controls via peer review, and from any inspections conducted by the government or regulators into the auditor's audits. Other material topics deliberated on by the Committee beyond the regular meeting topics in its ordinary and extraordinary meetings included quarter-specific matters and the compensation system for SAP's Sales organization. Further, the Committee discussed the progress of selected lawsuits involving SAP. The Audit and Compliance Committee also received regular updates on the activities relating to the change in auditor for SAP's financial statements and consolidated financial statements. The Committee discussed the audit focus with the auditor at its meeting in July. At its meeting in April, and again at its meeting in July, the Committee resolved to commission non-audit services from the auditor in relation to the compensation report (April meeting) and in relation to the non-financial report (July meeting). Specifically, this included a limited assurance review of the documents and a report to the Committee on the results of the review. As reported in more detail below, the Committee also held two joint meetings with the Finance and Investment Committee in February and December 2021 to discuss the Group annual plan for 2021 and the preliminary Group annual plan for 2022. The auditor attended all Audit and Compliance Committee meetings except for the extraordinary meetings in June, July, and December, as well as the joint meetings with the Finance and Investment Committee, and reported in depth on its audit work and on its quarterly reviews of selected software agreements.
- The *Finance and Investment Committee* held six regular meetings and six extraordinary meetings in 2021, and outside these meetings it passed two resolutions by correspondence. Two of its meetings, one in February and one in December 2021, were joint meetings with the Audit and Compliance Committee. In two extraordinary meetings in January 2021, the Committee was given detailed status reports on the Qualtrics IPO and the planned acquisition of Signavio. In



February 2021, the Executive Board updated the Committee on the status of both projects as well as on the closing of the sale of SAP Digital Interconnect (SDI). The Executive Board also reported on the acquisition of Finnish company AppGyver, provider of a no-code platform enabling app development without prior coding experience. Further, the Committee received its regular written update on SAP's equity investments during the preceding fiscal year. In the joint meeting with the Audit and Compliance Committee that followed, the members of both Committees discussed the annual budget for 2021 and voted in favor of recommending its approval to the Supervisory Board. On March 15, 2021, the Committee convened to deliberate on a small acquisition by an SAP subsidiary. At the meeting in April, the Executive Board reported to the Committee on selected Investor Relations activities. In addition, representatives from Sapphire Ventures gave the Committee an overview of the European and U.S. market for venture capital in technology and a status report on the active SAP venture capital funds, and presented the details of the planned additional venture capital fund, Sapphire Venture Fund VI. A resolution to recommend the Supervisory Board's approval of this new fund was subsequently adopted by the Committee by correspondence in May 2021. At our extraordinary meeting on July 23, 2021, we deliberated on Qualtrics' planned acquisition of Clarabridge. At our ordinary meeting on July 29, 2021, the Executive Board presented an analysis of the acquisitions and shareholding transactions of the past three years, updated us on the SAP's liquidity situation, and compared the current business performance with the budget presented for fiscal 2021. At the Committee's regular meeting in October, the Executive Board took the Committee through SAP's current product portfolio. In addition, the Committee deliberated on the Executive Board's proposed restructuring of current financing activities and recommended the Supervisory Board approve it as well. The Committee was also given a funding and strategy update on the Sapphire Ventures funds manager, and provided with a written report on SAP's business performance up to the third quarter. In December 2021, the Committee held a second joint meeting with the Audit and Compliance Committee, at which the Executive Board presented the preliminary Group annual plan for 2022. This meeting was held in preparation for the Supervisory Board meeting in February 2022, at which the full Supervisory Board resolved to approve the Group annual plan for 2022.

- The *Technology and Strategy Committee* met four times in 2021. It discussed key technology trends in the software industry in the years to come and SAP's corporate and product strategies. The Executive Board explained SAP's technology strategy to the Committee members at its February meeting, where the two bodies also discussed the improved competitive situation in marketing as a result of the 2020 acquisition of Emarsys. At the meeting in April, the Committee turned its attention to how SAP's partner network and SAP itself used SAP technologies to develop cloud applications for organizations. In July 2021, the Executive Board updated the Committee on the strategy plans for small and medium-sized enterprises. The Executive Board also reported on how SAP planned to leverage machine learning and direct integration in business processes to set itself above the competition in the workflow management domain, that is, in the collaborative processes or business processes used by companies and authorities. When it met in October 2021, the Committee examined SAP's long-term innovation strategy and the changes in company culture that had been triggered to support this. To this end, the Executive Board explained that the lever for these changes was the REINVENT strategy, which, through the integration of SAP's product portfolio, the use of artificial intelligence, and a wide range of new functions and applications, was intended to support customers on their journey to an intelligent enterprise and greater sustainability.
- The *China Strategy Committee* met three times in the reporting year. At its meeting in February, the Committee discussed SAP's business performance in China in the past years, the current situation in China, and the software market there. It also analyzed SAP's future strategy, particularly the areas in which SAP sought to make adjustments to cater to the growing importance of the Chinese market. When it met in April, the Committee examined SAP's product, sales, and partner strategies and the associated risks. To this end, it received reports in particular on the temporary tensions between the United States and China. The July meeting focused on the current geopolitical situation and SAP's half-year 2021 results. In addition, the Committee discussed the appointment of a new SAP regional president for Greater China and plans to increase SAP's market share in



China. In December 2021, the Committee received a written final report from the Executive Board summarizing their jointly-developed China strategy and the planned measures for implementing it. The task of the Committee was thus fulfilled, and it concluded its activities at the end of the fiscal year 2021.

- The *People and Culture Committee* held four meetings in fiscal year 2021. The focus of the meeting in February 2021 was SAP's People Strategy. In this connection, the Committee was given an overview of the implementation status, the future concept for performance management, and the attraction, hiring, and onboarding of top talents. Also at this meeting, and again in August and October 2021, the Committee was updated on the impact of the coronavirus pandemic and the global measures introduced both within and outside the Company as a result. At its April meeting, the Committee turned its attention to the early talent process and looked back at the SAP People Day, reviewing both the successes and insights for potential improvement. In addition, the Executive Board updated the Committee on the measures taken in the various Board areas to harness and integrate the diverse socio-cultural backgrounds of the workforce into SAP's corporate culture, and explained the key metrics in that regard. The August meeting focused on the new Future of Work organization at SAP, which deals with the changing world of work and its impact on society, the process of attracting leaders, the leadership culture at SAP, and the new onboarding experience, that is, the process of familiarizing new leaders with their roles. In October 2021, after receiving an update on the diversity strategy focused on the topics "women in management" and "promoting ethnic diversity at SAP," the Committee discussed SAP's revised employee compensation strategy planned for the next two years, the management culture, and the talent development process.
- The *Nomination Committee* met twice in the reporting year. In January 2021, the Committee resolved the nomination of Qi Lu and Rouven Westphal as candidates for election to the Supervisory Board by the Annual General Meeting on May 12, 2021. The Committee met again on December 10, 2021, to deliberate on the candidates for election to the Supervisory Board at the Annual General Meeting in May 2022. It resolved to nominate Hasso Plattner, Rouven Westphal, and Gunnar Wiedenfels as candidates for reelection at the Annual General Meeting on May 18, 2022. Further, the Committee discussed the subject of succession planning for the Supervisory Board. It decided to solicit the help of an international personnel consulting firm, so as to obtain an overview of available top managers who might be potential candidates to succeed departing shareholder representatives in future.

The work of the committees and their regular reports to the full Supervisory Board ensured that we were kept fully informed of all matters covered by the committees and were able to discuss them thoroughly.

Corporate Governance

SAP's corporate governance and insider trading compliance officer monitored our compliance with those recommendations in the Code with which we claim to comply in SAP SE's declaration, and reported in full to the Personnel and Governance Committee in this regard at the latter's meeting on February 10, 2021. Detailed information about compliance with the Code is available in the Executive and Supervisory Boards' [Corporate Governance Statement](#). Members of the Supervisory Board and of the Executive Board had no conflicts of interest that recommendations E.1 and E.2 of the Code require to be disclosed to the Supervisory Board. Insofar as Supervisory Board members hold executive positions in companies or have material equity in companies that currently have business dealings with SAP, we do not see any impairment of their independence. The scope of these transactions is relatively small and, moreover, takes place at arm's length. During the year under review, the Personnel and Governance Committee approved transactions involving a member of the Executive Board in 2020 which were all consistent with industry standards and immaterial. Other than those contracts mentioned in this report, the Company made no other contracts with members of the Executive Board or Supervisory Board that would have required a resolution of the Supervisory Board.



Training and Professional Development

The members of the Supervisory Board once again took advantage of various training and professional development opportunities throughout the year, with appropriate support from the Company. At the start of their term of office, new Supervisory Board members were made familiar with their tasks and responsibilities through on-boarding sessions and leaflets. In addition, the members of the Audit and Compliance Committee were invited to a presentation in April 2021 on “New regulatory reporting requirements,” and a short seminar in July 2021 on the impact of the “OECD/G20 New World Tax Order for Digital Business” (a new basic approach adopted by OECD/G20 to reform international business taxation) on SAP. In January 2021, the Supervisory Board members were invited to the professional development events “Resilient and Sustainable Supply Chain with SAP Digital Supply Chain,” and “RISE with SAP.” In March 2021, the Supervisory Board members were invited to a seminar on “Professional Negotiation Management” and a training course focusing on pending business models in Retail Solutions (digital solutions for the retail industry). Where it made sense, the training offerings were recorded and placed on a specially configured training platform to enable the remaining Supervisory Board members to take part in them as well.

SAP SE and Consolidated Financial Reports for 2021

KPMG audited the SAP SE and consolidated financial reports for 2021. The Annual General Meeting of Shareholders elected KPMG as the SAP SE and SAP Group auditor on May 12, 2021. The Supervisory Board proposed the appointment of KPMG on the recommendation of the Audit and Compliance Committee. Prior to the proposed resolution being put to the Annual General Meeting of Shareholders, KPMG had confirmed to the chairperson of the Supervisory Board and the Audit and Compliance Committee that circumstances did not exist that might prejudice or raise any doubt concerning its independence as the Company's auditor. In that connection, KPMG also informed us of the volume of the services that were not part of the audit which it had either provided to the Group in the past year or was engaged to provide in the year to come. The Supervisory Board has agreed with KPMG that the auditor should report to the Supervisory Board and record in the auditor's report any fact found during the audit that is inconsistent with the declaration given by the Executive Board and the Supervisory Board concerning implementation of the German Corporate Governance Code. KPMG examined the SAP SE financial statements prepared in accordance with the German Commercial Code, the consolidated financial statements prepared in accordance with International Financial Reporting Standards (IFRSs) as required by the German Commercial Code, section 315e, and the combined SAP Group and SAP SE management report prepared in accordance with the German Commercial Code, and certified them without qualification. The auditor thus confirmed that, in its opinion and based on its audit in accordance with the applicable accounting principles, the SAP SE and consolidated financial statements give a true and fair view of the net assets, financial position, and results of operations of SAP SE and the SAP Group. The auditor also confirmed that the combined SAP SE and SAP Group management report is consistent with the corresponding financial statements and as a whole gives a suitable view of the position of SAP SE and the SAP Group and of foreseeable opportunities and risks. In accordance with section 317 (3a) of the German Commercial Code, the auditor also examined and confirmed that the renderings of the financial statements, the management report, the consolidated financial statements, and the combined management report contained in the files submitted on an electronic data carrier, which can be accessed by the issuer on the secure client portal, and prepared for the purposes of disclosure comply in all material respects with the requirements of section 328 (1) of the German Commercial Code regarding the electronic reporting format (“ESEF format”). KPMG had completed its audit of SAP's internal control over financial reporting and certified without qualification that it complies with the applicable U.S. standards. The auditor stated in its opinion that it considers SAP's internal controls with respect to the consolidated financial statements to be effective in all material respects. Additionally, it provided assurance on the non-financial declaration in the combined management report, and on the separate review of the compensation report and selected qualitative and quantitative sustainability disclosures outside of the financial statements and management report. All Audit and Compliance Committee members and Supervisory Board members received – initially in the form of drafts that were identical to the final documents – the documents concerning the financial statements mentioned above, the



audit reports prepared by KPMG, and the Executive Board's proposal concerning the appropriation of retained earnings in good time. On February 23, 2022, the Executive Board prepared the financial accounts of SAP SE and the Group for 2021, comprising the SAP SE financial statements, the consolidated financial statements, and the combined management report, and submitted them without delay to the Supervisory Board.

The Executive Board explained the financial statements of SAP SE and the SAP Group and its proposal concerning the appropriation of retained earnings at the meeting of the Audit and Compliance Committee on February 22, 2022 (based on the drafts identical to the final documents) and at the meeting of the Supervisory Board on February 23, 2022. Members of the Executive Board answered questions from the Committee and Supervisory Board members. At the Audit and Compliance Committee meeting, they also explained the compensation report and the Annual Report on Form 20-F prepared in accordance with the applicable U.S. standards.

After the Executive Board had explained them, the Audit and Compliance Committee and the Supervisory Board reviewed the financial statement documents (based on drafts identical to the final documents), taking KPMG's audit reports (or the drafts identical to the final documents) into account. The Audit and Compliance Committee then passed the compensation report on to the Supervisory Board for release. The representative of the auditor who attended presented full reports on the audit and the results of the audit to the Audit and Compliance Committee and Supervisory Board meetings and explained its audit reports (or final drafts thereof). The auditor also reported that it had not identified any material weaknesses in SAP's internal control and risk-management systems for financial reporting. Both the Audit and Compliance Committee and the Supervisory Board asked detailed questions about the form, scope, and results of the audit. The Audit and Compliance Committee reported to the Supervisory Board on its own review of the financial statements of SAP SE and the SAP Group, its discussions with the Executive Board and with the auditor, and its supervision of the financial reporting process. It confirmed that as part of its supervisory work, it had addressed the SAP Group's internal control, risk management, and internal auditing systems, and found the systems to be effective.

The Committee also reported that KPMG had told it that no circumstances had arisen that might give cause for concern about KPMG's impartiality, and informed us about the services KPMG had provided that were not part of the audit. The Committee reported that it had examined the auditor's independence, taking the non-audit services it had rendered into consideration, and stated that, in the Committee's opinion, the auditor possessed the required degree of independence and professional qualification.

The Audit and Compliance Committee and the Supervisory Board satisfied themselves that KPMG had conducted the audit properly. In particular, they concluded that both the audit reports and the audit itself fulfilled the legal requirements. On the basis of the report and the Audit and Compliance Committee's recommendation, the Supervisory Board approved the results of the audit and, since there were no findings from our own examination, we gave our consent to the SAP SE financial statements, the consolidated financial statements, the combined Group management report, and adopted the compensation report pursuant to the German Stock Corporation Act, section 162. The financial statements and combined management report were thus formally adopted upon approval by the Supervisory Board. The Supervisory Board's opinion of the Company and the Group coincided with that of the Executive Board as set out in the combined management report. The Supervisory Board considered the proposal presented by the Executive Board concerning the appropriation of retained earnings. We had regard to the requirements of dividends policy, the effects on the liquidity of SAP SE and the SAP Group, and the interests of the shareholders. We also discussed these matters with the auditor. We then endorsed the Executive Board's proposal concerning the appropriation of retained earnings, in accordance with the Audit and Compliance Committee's recommendation. The corporate governance statement pursuant to the German Commercial Code, sections 315d and 289f was approved for publication by the Supervisory Board by way of correspondence vote prior to the meeting to discuss the financial statements on February 22, 2022. Finally, we adopted this present Report.



Changes on the Executive Board and Supervisory Board in 2021

After 13 years at SAP, most recently as Executive Board member responsible for Customer Success, Adaire Fox-Martin retired from the Executive Board on January 31, 2021. We thank Adaire Fox-Martin for her valuable contribution to the success of the Company over these many years. Her successor, Scott Russell, took over said Board area as a new member of the Executive Board effective February 1, 2021. In addition, Julia White joined the Executive Board on March 1, 2021, becoming SAP's chief marketing officer.

Pekka Ala-Pietilä stepped down from the Supervisory Board at the end of the Annual General Meeting of Shareholders on May 12, 2021. The Supervisory Board would like to sincerely thank him for his invaluable contribution for the benefit of the Company. On May 12, 2021, the Annual General Meeting of Shareholders elected Rouven Westphal to the Supervisory Board as a successor for Pekka Ala-Pietilä. Qi Lu, who was initially appointed by the court as member of the Supervisory Board on December 21, 2021, was likewise elected to the Supervisory Board by the Annual General Meeting of Shareholders. Christa Vergien-Knopf left the Supervisory Board as employee representative on August 10, 2021, and was succeeded by Peter Lengler effective the same day. The Supervisory Board also thanks Christa Vergien-Knopf for her work on the Supervisory Board. With effect from July 8, 2021, Panagiotis Bissiritsas resigned from his seat as employee representative on the Supervisory Board. He was succeeded by Manuela Asche-Holstein. Lastly, Ralf Zeiger was removed from the SAP SE Supervisory Board by order of the Mannheim Municipal Court dated October 20, 2021, which came into effect on October 28, 2021. Helmut Stengele replaced Ralf Zeiger as employee representative on October 29, 2021.

The ongoing COVID-19 pandemic continued to challenge us all in 2021. The Supervisory Board thanks the current members of the Executive Board and all SAP employees for their tireless commitment to SAP under these extraordinary circumstances.

For the Supervisory Board

Professor Hasso Plattner

(Chairperson)



Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the Consolidated Financial Statements give a true and fair view of the assets, finances, and operating results of the SAP Group, and the management report of the Group and SAP SE includes a fair review of the development and performance of the business and the position of the Group and SAP SE, together with a description of the principal opportunities and risks associated with the expected development of the Group and SAP SE.

Walldorf, February 23, 2022

SAP SE

Walldorf, Germany

Executive Board of SAP SE

Christian Klein

Sabine Bendiek

Luka Mucic

Jürgen Müller

Scott Russell

Thomas Saueressig

Julia White



Independent Auditor's Report

For the consolidated financial statements and Group Management Report we have issued an unqualified auditor's report. The English language text below is a translation of the independent auditor's report.

To SAP SE, Walldorf

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Opinions

We have audited the consolidated financial statements of SAP SE, Walldorf, and its subsidiaries (the Group), which comprise the consolidated statements of financial position as at December 31, 2021, consolidated income statements, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the financial year from January 1 to December 31, 2021 and notes to the consolidated financial statements, including a summary of significant accounting policies.

In addition, we have audited the combined Group Management Report by the SAP Group and the Management Report of SAP SE, Walldorf ("Group Management Report") for the financial year from January 1 to December 31, 2021. In accordance with German legal requirements, we have not audited the content of those components of the Group Management Report specified in the "Other Information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code], as well as the IFRSs as adopted by the International Accounting Standards Board and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at December 31, 2021, and of its financial performance for the financial year from January 1 to December 31, 2021 and
- the accompanying Group Management Report as a whole provides an appropriate view of the Group's position. In all material respects, this Group Management Report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the Group Management Report does not cover the content of those components of the Group Management Report specified in the "Other Information" section of the auditor's report.

Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the Group Management Report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the Group Management Report in accordance with Section 317 HGB and the EU Audit Regulation No. 537/2014 (referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW) as well as in supplementary compliance with the International Standards on Auditing (ISAs) and guidelines of the Public Company Accounting Oversight Board (United States).



Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the Group Management Report.

Key Audit Matters in the Audit of Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1 to December 31, 2021. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

Software license revenue recognition

Refer to note (A.1) – Revenue and Group Management Report, section Risk Management and Risks.

THE FINANCIAL STATEMENT RISK

In the financial year 2021 SAP generated revenue of EUR 27,842 million, of which EUR 14,660 million relate to revenues from sales of software licenses and support.

The evaluation of software licenses revenue recognition bears an inherent risk of errors as SAP's software customer contracts are complex. SAP defined detailed policies, procedures and processes to manage the accounting for its customer contracts, which are also described in the notes. Applying them often requires significant judgments, in particular in the assessment of the following:

1. whether various contracts are economically interrelated,
2. whether products and services qualify as separate performance obligations, and
3. the allocation of the transaction price of a customer contract to the performance obligations in the contract based on standalone-selling prices.

There is the financial statement risk that the recognition cut-off of software license revenue as at the balance sheet date is incorrect and that revenues are allocated incorrectly.

OUR AUDIT APPROACH

On software revenue recognition, we evaluated the compliance of SAP's accounting policies with the IFRS Framework and IFRS 15.

We evaluated the design and tested the operating effectiveness of certain internal controls related to the revenue process including controls related to the identification of economically interrelated contracts, separate performance obligations and allocation of the transaction price to the performance obligations in the contract.

For a sample of customer contracts, which were selected using a statistical approach, we:

- inspected the underlying contractual agreements and other related documents as well as inquired with SAP's accounting and/or sales representatives to evaluate SAP's assessment of whether contracts were economically interrelated as well as to evaluate the identified performance obligations and allocation of transaction price,
- obtained and inspected external confirmations of the key terms and conditions from the respective customers to test whether contracts were economically interrelated, as well as to evaluate the identified performance obligations,



- evaluated the allocation of the transaction price for each of the deliverables that qualified as a separate performance obligation by assessing the methodology applied and testing mathematical accuracy of the underlying calculations.

For the majority of software support revenue, we compared the actual support revenue with the support revenue that is expected based on last year's support revenue, the loss rate of last year's support contracts and the current year software sales that trigger additional support revenue.

OUR OBSERVATIONS

SAP has developed an adequate framework for determining the accounting treatment for its revenue. For the vast majority of the software arrangements entered into during 2021, it was clear which of SAP's revenue recognition policies should be applied. Where there was room for interpretation, SAP's judgment was balanced and appropriate.

Assessment of the Group's uncertain tax treatments

Refer to note (C.5) – Income Taxes, and Group Management Report section Risk Management and Risks.

THE FINANCIAL STATEMENT RISK

SAP operates in multiple tax jurisdictions with complexities and uncertainties due to different interpretations of tax laws, such as those involving transfer pricing and intercompany transactions between SAP Group entities. The determination of provisions for tax uncertainties requires SAP to make judgments on tax issues and develop estimates regarding SAP's exposure to tax risks. SAP regularly engages external experts to provide tax opinions to support their own risk assessment. The risk for the consolidated financial statements relates to the completeness, measurement and disclosure of the provision for uncertain tax treatments. As of December 31, 2021 SAP disclosed contingent liabilities relating to tax uncertainties of EUR 1,283 million.

OUR AUDIT APPROACH

We evaluated the design and tested the operating effectiveness of certain internal controls over the tax process including controls over the Group's assessment of tax law and the process to estimate the related exposures. We assessed the competency, skills and objectivity of the external experts and evaluated the related expert opinions. We inquired of the Group's tax department and inspected correspondence with the relevant tax authorities. We involved tax professionals with specialized skills and knowledge, who assisted in evaluating SAP's conclusions over the estimate of tax uncertainties based on their knowledge and experience regarding the application of relevant legislation by tax authorities and courts.

Finally, we assessed whether the disclosures in the notes with respect to uncertain tax treatments are complete and appropriate.

OUR OBSERVATIONS

SAP's judgments as to the amounts recognized as tax provisions for tax uncertainties as of December 31, 2021 are appropriate. The disclosures in the notes to the consolidated financial statements are complete and appropriate.



Valuation of unlisted equity securities

Refer to note (D.6) – Equity Investments and note (F.2) – Fair Value Disclosures on Financial Instruments

THE FINANCIAL STATEMENT RISK

As of December 31, 2021, the Company holds unlisted equity securities with a carrying amount of EUR 4,871 million. These financial instruments are classified as equity securities at fair value through profit and loss and their valuations are based on significant unobservable inputs (Level 3 of the fair value hierarchy).

The measurement of fair value of such investments is complex and, with regard to the assumptions made, highly dependent on management's estimates and judgments. This applies particularly to selection of the appropriate valuation method and the determination of the significant unobservable inputs.

There is the risk for the consolidated financial statements that the valuations are not appropriate. There is also the risk that the related disclosures in the notes are not appropriate.

OUR AUDIT APPROACH

We evaluated the design and implementation and tested the operating effectiveness of certain internal controls over the Company's investments process. This included controls related to selection of the valuation model and the relevance and reliability of the significant unobservable inputs. We also involved financial instrument valuation professionals with specialized skills and knowledge, who assisted in testing management's ability to produce a fair value estimate compliant with IFRS 13 Fair Value Measurements for a selection of investments by (1) testing the appropriateness of the valuation method selected by comparing it to our expectation based on industry experience and knowledge of the investment, and (2) assessing the reliability and relevance of the significant unobservable inputs by comparing them to historical and market information.

Finally, we assessed whether the related disclosures in the notes regarding the determination of fair value are appropriate.

OUR OBSERVATIONS

The valuation method used for the valuation of unlisted equity securities is appropriate and in line with the accounting policies. The Company's underlying assumptions and data are appropriate. The related disclosures in the notes are appropriate.

Other Information

The Executive Board and the Supervisory Board, respectively, of SAP SE is responsible for the other information. The other information comprises the following components of the Management Report, whose content was not audited:

- the combined non-financial statement, included in section "Non-Financial Statement Including Information on Sustainable Activities" of the Group Management Report,
- the corporate governance statement, included in section "Corporate Governance Fundamentals" of the Group Management Report, and
- Information extraneous to the Group Management Report and marked as unaudited.

The other information also includes the annual report on Form 20-F and remaining parts of the annual report.

The other information does not include the consolidated financial statements, group management report information and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the Group Management Report do not cover the other information and consequently we do not express an opinion or any other form of assurance conclusion thereon.



In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the Group Management Report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

In addition, we were engaged to perform an independent assurance engagement on selected qualitative and quantitative sustainability disclosures of the integrated report 2021. In regard to the nature, extent and conclusions of this independent assurance engagement we refer to our Independence Assurance Report dated on February 23, 2022.

Responsibilities of the Executive Board and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The Executive Board of SAP SE is responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB as well as IFRSs as adopted by the International Accounting Standards Board and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the Executive Board is responsible for such internal control as the Executive Board has determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Executive Board is responsible for assessing the Group's ability to continue as a going concern. The Executive Board also has the responsibility for disclosing, as applicable, matters related to going concern. In addition, the Executive Board is responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the Executive Board is responsible for the preparation of the Group Management Report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with the German legal requirements and appropriately presents the opportunities and risks of future development. In addition, the Executive Board is responsible for such arrangements and measures (systems) as the Executive Board has considered necessary to enable the preparation of the Group Management Report that is in accordance with the applicable German legal requirements, the German Accounting Standards number 17 and 20 (GAS 17, GAS 20) and the IFRS Practice Statement Management Commentary and to be able to provide sufficient appropriate evidence for the assertions in the Group Management Report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the Group Management Report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the Group Management Report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the Group Management Report.



Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) as well as in supplementary compliance with ISAs and guidelines of the Public Company Accounting Oversight Board (United States) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this Group Management Report.

We exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the Group Management Report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the Group Management Report in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used by the Executive Board and the reasonableness of accounting estimates made by the Executive Board and related disclosures.
- Conclude on the appropriateness of the Executive Board's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the Group Management Report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU as well as with IFRSs as adopted by the International Accounting Standards Board and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the Group Management Report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the Group Management Report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the Executive Board in the Group Management Report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the Executive Board as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.



We communicate with the Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Supervisory Board with a statement that we have complied with relevant independence requirements and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable the related safeguards.

From the matters communicated with the Supervisory Board, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Report on Internal Control over Financial Reporting in the Consolidated Financial Statements pursuant to PCAOB

Opinion on Internal Control over Financial Reporting in the Consolidated Financial Statements

We have audited the internal control over financial reporting in the consolidated financial statements of SAP SE, Walldorf, and its subsidiaries in place as at December 31, 2021. This control system is based on criteria set out in the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, SAP maintained, in all material respects, effective internal control over financial reporting in the consolidated financial statements as at December 31, 2021 based on the criteria set out in the Internal Control – Integrated Framework (2013) issued by the COSO.

Executive Board's and Supervisory Board's Responsibility for the Internal Control over Financial Reporting in the Consolidated Financial Statements

SAP SE's Executive Board is responsible for maintaining effective internal control over financial reporting in the consolidated financial statements and assessing its effectiveness, which is included in the Executive Board's report on the internal control over consolidated financial reporting.

A company's internal control over financial reporting in the consolidated financial statements is a process designed to provide reasonable assurance regarding the reliability of financial reporting in the consolidated financial statements and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting in the consolidated financial statements includes policies and procedures to (1) ensure an accounting system that in reasonable detail accurately and fairly reflects the transactions and dispositions of the company's assets, (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect material misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The Supervisory Board is responsible for overseeing the Group's internal control over financial reporting in the consolidated financial statements.



Auditor's Responsibility for the Internal Control over Financial Reporting in the Consolidated Financial Statements

Our responsibility is to express an opinion on the internal control over financial reporting in the consolidated financial statements based on our audit. We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether effective internal control over financial reporting in the consolidated financial statements was maintained in all material respects. Our audit of internal control over financial reporting in the consolidated financial statements included obtaining an understanding of internal control over financial reporting, assessing the risk of material deficiencies in internal control, testing and evaluating the design and operating effectiveness of internal control based on this assessment, and performing such other procedures as we considered necessary in the circumstances.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB

We have performed assurance work in accordance with Section 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the electronic file „sap-2021-12-31AR.zip“ (SHA256 hash value: 3121b1e38e2abffbfcc947b3749e

19f70e106b19b514fedebc79853c98601bd2) made available and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained in these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the electronic file made available, identified above and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from January 1, 2021 to December 31, 2021 contained in the "Report on the Audit of the Consolidated Financial Statements and the Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the file made available and identified above in accordance with Section 317 (3a) HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB (IDW AsS 410 (10.2021)). Our responsibility in accordance therewith is further described below. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The company's management is responsible for the preparation of the ESEF documents including the electronic rendering of the consolidated financial statements and the group management report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the company's management is responsible for such internal control that they have considered necessary to enable the preparation of ESEF documents that are free from material



intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB for the electronic reporting format.

The Supervisory Board is responsible for overseeing the process of preparing the ESEF documents as part of the financial reporting process.

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB. We exercise professional judgement and maintain professional scepticism throughout the assurance work. We also:

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e. whether the file made available containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815, as amended as at the reporting date, on the technical specification for this electronic file.
- Evaluate whether the ESEF documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, as amended as at the reporting date, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor at the annual general meeting on May 12, 2021. We were engaged by the Chairman of the Audit and Compliance Committee of the Supervisory Board of SAP SE on May 20, 2021, and this engagement was confirmed on October 6, 2021. We have been the group auditor of SAP SE without interruption since the financial year 2002.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

In addition to the financial statement audit, we have provided to group entities the following services that are not disclosed in the consolidated financial statements or in the Group Management Report:

We audited the financial statements of SAP SE and performed various financial statement audits at subsidiaries. Furthermore, other assurance services required by law or on a contractual basis were performed, including an assurance engagement on selected qualitative and quantitative sustainability disclosures of the Integrated Report 2021 and an EMIR assurance service pursuant to section 20 of German Securities Trading Act [WpHG] and service organization attestation procedures.

Other matter – Use of the Auditor's Report

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the examined ESEF documents. The consolidated financial statements and group management report converted to the ESEF format – including the versions to be published in the German Federal Gazette [Bundesanzeiger] – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the examined ESEF documents made available in electronic form.



German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Bodo Rackwitz.

Mannheim, February 23, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

[signature] Rackwitz
Wirtschaftsprüfer
[German Public Auditor]

[signature] Conrad
Wirtschaftsprüfer
[German Public Auditor]



Limited Assurance Report of the Independent Auditor regarding the combined non-financial statement

To the Supervisory Board of SAP SE, Walldorf

We have performed an independent limited assurance engagement on the non-financial statement of SAP SE (further "Company" or "SAP") and on the non-financial statement of the parent company that is combined with it, which are published in the Management Report, (further "combined non-financial statement") for the period from January 1 to December 31, 2021.

Management's Responsibility

The legal representatives of the Company are responsible for the preparation of the combined non-financial statement in accordance with §§ 315b, 315c in conjunction with 289b to 289e HGB and with Article 8 of REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 18, 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (further „EU Taxonomy Regulation“) and the supplementing Delegated Acts as well as the interpretation of the wordings and terms contained in the EU Taxonomy Regulation and in the supplementing Delegated Acts by the Company as disclosed in Section "Sustainable Finance: EU Taxonomy Disclosures" of the combined non-financial statement.

This responsibility of the legal representatives includes the selection and application of appropriate methods to prepare the combined non-financial statement and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. Furthermore, the legal representatives are responsible for the internal controls they deem necessary for the preparation of the combined non-financial statement that is free of – intended or unintended – material misstatements.

The EU Taxonomy Regulation and the supplementing Delegated Acts contain wordings and terms that are still subject to substantial uncertainties regarding their interpretation and for which not all clarifications have been published yet. Therefore, the legal representatives have included a description of their interpretation in Section "Sustainable Finance: EU Taxonomy Disclosures" of the combined non-financial statement. They are responsible for its tenability. Due to the innate risk of diverging interpretations of vague legal concepts, the legal conformity of these interpretations is subject to uncertainty.

Practitioner's Responsibility

It is our responsibility to express a conclusion on the combined non-financial statement based on our work performed within a limited assurance engagement.

We conducted our work in the form of a limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information", published by IAASB.

Accordingly, we have to plan and perform the assurance engagement in such a way that we obtain limited assurance as to whether any matters have come to our attention that cause us to believe that the combined non-financial statement of the Company for the period from January 1 to December 31, 2021 has not been prepared, in all material respects, in accordance with §§ 315b and 315c in



conjunction with 289b to 289e HGB and with the EU Taxonomy Regulation and the supplementing Delegated Acts as well as the interpretation of the wordings and terms contained in the EU Taxonomy Regulation and in the supplementing Delegated Acts by the legal representatives as disclosed in Section "Sustainable Finance: EU Taxonomy Disclosures" of the combined non-financial statement. We do not, however, issue a separate conclusion for each disclosure. As the assurance procedures performed in a limited assurance engagement are less comprehensive than in a reasonable assurance engagement, the level of assurance obtained is substantially lower. The choice of assurance procedures is subject to the auditor's own judgement.

Within the scope of our engagement we performed, amongst others, the following procedures:

- Interviewing employees responsible for the materiality analysis at group level in order to obtain an understanding on the approach for identifying key issues and related reporting limits of SAP.
- Carry out a risk assessment, including media analysis, to identify relevant information on SAP's sustainability performance in the reporting period.
- Assessing the design and implementation of systems and processes for identifying, handling and monitoring information on environmental, employee and social matters, respect for human rights and combatting corruption and bribery, including the consolidation of data.
- Inquiries of group level personnel, who are responsible for the disclosures on concepts, due diligence processes, results and risks, the performance of internal control activities and the consolidation of the disclosures.
- Inspecting selected internal and external documents.
- Analytical procedures for the evaluation of data and of the trends of quantitative information as reported at group level by all sites.
- Evaluation of local data collection, validation and reporting processes as well as the reliability of reported data based on a sample of three sites.
- Assessment of the overall presentation of the disclosures.
- Evaluation of the process for the identification of taxonomy-eligible economic activities and the corresponding disclosures in the combined non-financial statement by
 - Inquiries of responsible employees at Group level to obtain an understanding of the approach to identify relevant economic activities in accordance with EU taxonomy.
 - Assessing the design and implementation of systems and procedures for identifying, processing and monitoring information of revenue, capital expenditures and operating expenditures for the taxonomy-relevant economic activities.
 - Assessment of the overall presentation of the information.

The legal representatives have to interpret vague legal concepts in order to be able to compile the relevant disclosures according to Article 8 of the EU Taxonomy Regulation. Due to the innate risk of diverging interpretations of vague legal concepts, the legal conformity of these interpretations and, correspondingly, our assurance thereof are subject to uncertainty.

In our opinion, we obtained sufficient and appropriate evidence for reaching a conclusion for the assurance engagement.

Independence and Quality Assurance on the Part of the Auditing Firm

In performing this engagement, we applied the legal provisions and professional pronouncements regarding independence and quality assurance, in particular the Professional Code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).



Conclusion

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the combined non-financial statement of SAP SE for the period from January 1 to December 31, 2021 has not been prepared, in all material respects, in accordance with §§ 315b and 315c in conjunction with 289b to 289e HGB and with the EU Taxonomy Regulation and the supplementing Delegated Acts as well as the interpretation disclosed in Section "Sustainable Finance: EU Taxonomy Disclosures" of the combined separate non-financial statement.

Restriction of Use/General Engagement Terms

This assurance report is issued for purposes of the Supervisory Board of SAP SE, Walldorf only. We assume no responsibility with regard to any third parties.

Our assignment for the Supervisory Board of SAP SE, Walldorf, and professional liability as described above was governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (https://www.kpmg.de/bescheinigungen/lib/aab_english.pdf). By reading and using the information contained in this assurance report, each recipient confirms notice of the provisions contained therein including the limitation of our liability as stipulated in No. 9 and accepts the validity of the General Engagement Terms with respect to us.

Mannheim, February 23, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

Beyer
Wirtschaftsprüfer
[German Public Auditor]

Wiegand
Wirtschaftsprüfer
[German Public Auditor]



Assurance Report of the Independent Auditor regarding Sustainability Information

To the Executive Board of SAP SE, Walldorf

We have performed an independent assurance engagement on selected qualitative and quantitative sustainability disclosures as well as on selected quantitative sustainability indicators included in the Integrated Report 2021 (further "Report") for the business year from January 1 to December 31, 2021 of SAP SE, Walldorf (further "Company" or "SAP").

For the selected quantitative sustainability indicators Business Health Culture Index; Employee Engagement Index; Employee Retention Rate; Ratio of Women in Management; Total Gross and Net Greenhouse Gas Emissions (Scope 1, Scope 2 and selected Scope 3 emissions including, for instance, business flights and employee commuting); Renewable Energy Certificates (Energy Attribute Certificates); Total Energy Consumption; and Customer Net Promoter Score, including the explanatory notes supplementing these indicators (further "sustainability indicators"), a reasonable assurance engagement was performed.

For selected qualitative and quantitative sustainability disclosures included in the "Combined Group Management Report" (sections: General Information About This Management Report; Human Rights and Labor Standards; Social Investments), as well as included in "Further Information on Economic, Environmental, and Social Performance" (sections: Materiality; Stakeholder Engagement; Sustainability Management; Sustainable Procurement; Waste and Water; Public Policy; Non-Financial Notes: Social Performance, and Non-Financial Notes: Environmental Performance; GRI Content Index and UN Global Compact Communication on Progress) (further "sustainability disclosures") a limited assurance engagement was performed.

Selected sustainability disclosures included in the scope of our assurance engagement are marked in the GRI Content Index with the following symbol: „✓“.

Management's Responsibility

The legal representatives of SAP are responsible for the preparation of the Report in accordance with the Reporting Criteria. SAP's Report applies the principles and standard disclosures of the Global Reporting Initiative (GRI) Sustainability Reporting Standards, the Corporate Accounting and Reporting Standard, the Greenhouse Gas Protocol Scope 2 Guidance, and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard of the Greenhouse Gas Protocol Initiative by the World Resources Institute and the World Business Council for Sustainable Development, in combination with internal guidelines, as described in the "Non-Financial Notes: Social Performance" and the "Non-Financial Notes: Environmental Performance" as Reporting Criteria (further: "Reporting Criteria").

The responsibility includes the selection and application of appropriate methods to prepare the Report and the use of assumptions and estimates for individual qualitative and quantitative sustainability disclosures, which are reasonable under the circumstances. Furthermore, this responsibility includes designing, implementing and maintaining systems and processes relevant for the preparation of the Report in a way that is free of – intended or unintended – material misstatements.



Independence and Quality Assurance on the Part of the Auditing Firm

In performing this engagement, we applied the legal provisions and professional pronouncements regarding independence and quality assurance, in particular the Professional Code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).

Practitioner's Responsibility

Our responsibility is to express a conclusion based on our work performed within the assurance engagement on the sustainability indicators and the sustainability disclosures described above.

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information", published by IAASB.

Accordingly, we have to comply with our professional duties and to plan and perform the assurance engagement in such a way that we, respecting the principle of materiality, reach our conclusion with a reasonable level of assurance on the above-mentioned sustainability indicators. The assurance of the sustainability indicators encompasses the performance of assurance procedures to obtain evidence for the information included in the Report. The choice of assurance procedures is subject to the auditor's own judgement.

This standard requires that we plan and perform the assurance engagement to obtain limited assurance whether any matters have come to our attention that cause us to believe that the above-mentioned sustainability disclosures of the entity for the business year January 1 to December 31, 2021 have not been prepared, in all material respects, in accordance with the Reporting Criteria. We do not, however, issue a separate conclusion for each disclosure. As the assurance procedures performed in a limited assurance engagement are less comprehensive than in a reasonable assurance engagement, the level of assurance obtained is substantially lower. The choice of assurance procedures is subject to the auditor's own judgement.

Within the scope of our engagement, we performed amongst others the following procedures when conducting the limited assurance:

- Evaluation of the process for determining material aspects and respective boundaries, including results of SAP's stakeholder engagement.
- Risk analysis, including a media search, to identify relevant sustainability aspects for SAP in the reporting period.
- Interviewing management at corporate level responsible for sustainability performance goal setting and monitoring process.
- Reviewing the suitability of the internally developed reporting criteria.
- Evaluation of the design and implementation of the systems and processes for the collection, processing and control of the data on sustainability performance indicators, including the consolidation of the data.
- Interviews with relevant staff at corporate level responsible for providing the data, carrying out internal control procedures and consolidating the data, including the "Non-Financial Notes".
- Evaluating internal and external documentation to determine whether selected qualitative claims and quantitative indicators on sustainability performance are supported by sufficient evidence.
- Reviewing the consistency of GRI Standards in accordance with "Core Option" as declared by SAP with sustainability performance information presented in the Integrated Report.

In addition, we conducted the following procedures to obtain reasonable assurance:



- An evaluation of the design, existence, and testing of the operation of the systems and methods used to collect and process data reported for Business Health Culture Index; Employee Engagement Index; Employee Retention Rate; Ratio of Women in Management; Total Gross and Net Greenhouse Gas Emissions (Scope 1, Scope 2 and selected Scope 3 emissions including, for instance, business flights and employee commuting); Renewable Energy Certificates (Energy Attribute Certificates); Total Energy Consumption; and Customer Net Promoter Score, including the aggregation of the data into the information as presented in the Integrated Report.
- Auditing the 2021 data using internal and external documentation in order to determine in detail whether the data correspond to the information in the relevant underlying sources, and whether all the relevant information contained in such underlying sources has been included in SAP's Integrated Report.
- Conducting (remote) site visits to Walldorf, St. Leon Rot (both Germany), Newtown Square (USA) und Vancouver (Canada) to assess the quality of information, management systems and the reliability of the data as reported to corporate level.

In our opinion, we obtained sufficient and appropriate evidence for reaching a conclusion for the assurance engagement.

Conclusions

In our opinion the above-mentioned sustainability indicators in the Report, including the Non-Financial Notes supplementing these indicators, of SAP SE for the business year from January 1 to December 31, 2021 are presented, in all material respects, in accordance with the Reporting Criteria.

Based on the procedures performed and the evidence obtained for the limited assurance, nothing has come to our attention that causes us to believe that the above-mentioned sustainability disclosures of SAP SE for the business year from January 1 to December 31, 2021, published in the Report, are not prepared, in all material respects, in accordance with the Reporting Criteria.

Restriction of Use/Clause on General Engagement Terms

This assurance report is issued for purposes of the Executive Board of SAP SE, Walldorf, only. We assume no responsibility with regard to any third parties.

Our assignment for the Executive Board of SAP SE, Walldorf, and professional liability as described above was governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (https://www.kpmg.de/bescheinigungen/lib/aab_english.pdf). By reading and using the information contained in this assurance report, each recipient confirms notice of the provisions contained therein (including the limitation of our liability as stipulated in No. 9) and accepts the validity of the General Engagement Terms with respect to us.

Mannheim, February 23, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

Beyer
Wirtschaftsprüfer
[German Public Auditor]

Wiegand
Wirtschaftsprüfer
[German Public Auditor]



Combined Group Management Report

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General Information About This Management Report

Basis of Presentation

This combined group management report by the SAP Group (collectively, "we," "us," "our," "SAP," "Group," or "Company") and the management report of SAP SE have been prepared in accordance with sections 289, 289a, 289b, 289f, 315, 315a, 315b, and 315d of the German Commercial Code and German Accounting Standards (GAS) No. 17 and 20. The combined group management report is also a management commentary complying with the International Financial Reporting Standards (IFRS) Practice Statement "Management Commentary."

Our auditor, KPMG AG Wirtschaftsprüfungsgesellschaft (KPMG), audited SAP's combined group management report, except for some information that relates to the *Non-Financial Statement Including Information on Sustainable Activities* that was not subject to the statutory audit of our combined group management report, but on which a limited assurance engagement was performed. The *Security, Data Protection, and Privacy; Employees and Social Investments; Energy and Emissions; Business Conduct; and Human Rights and Labor Standards* sections include such information that was not subject to the statutory audit of our combined group management report, but on which a limited assurance engagement was performed. These sections contain further explanations about the audit scope in an info box at the end of the respective section marked by the symbol .

For more information about the scope of the assurance and the underlying reporting criteria, see KPMG's *Independent Auditor's Report*, the *Limited Assurance Report of the Independent Auditor Regarding the Combined Non-Financial Statement*, and the *Assurance Report of the Independent Auditor Regarding Sustainability Information*.

All of the information in this report relates to the situation as at December 31, 2021, or the fiscal year ended on that date, unless otherwise stated. As figures are rounded, numbers presented throughout this document may not add up precisely to the totals we provide and percentages may not precisely reflect the absolute figures.

Forward-Looking Statements

This management report contains forward-looking statements and information based on the beliefs of, and assumptions made by, SAP management using information currently available to them. Any statements contained in this report that are not historical facts are forward-looking statements as defined in the U.S. Private Securities Litigation Reform Act of 1995. We have based these forward-looking statements on our current expectations, assumptions, and projections about future conditions and events. As a result, our forward-looking statements and information are subject to uncertainties and risks, many of which are beyond our control. If one or more of these uncertainties or risks materializes, or if management's underlying assumptions prove incorrect, our actual results could differ materially from those described in or inferred from our forward-looking statements and information. We describe these risks and uncertainties in the *Risk Management and Risks* section.

The words "aim," "anticipate," "assume," "believe," "continue," "could," "counting on," "is confident," "development," "estimate," "expect," "forecast," "future trends," "guidance," "intend," "may," "might," "outlook," "plan," "predict," "project," "seek," "should," "strategy," "want," "will," "would," and similar expressions as they relate to us are intended to identify such forward-looking statements. Such statements include, for example, those made in the *Operating Results* section, our quantitative and qualitative disclosures about market risk pursuant to the International Financial Reporting Standards (IFRS), namely IFRS 7 and related statements in our Notes to the Consolidated Financial Statements;



Expected Developments and Opportunities and *Risk Management and Risks* sections; and other forward-looking information appearing in other parts of this report.

To fully consider the factors that could affect our future financial results, both this report and our Annual Report on Form 20-F should be considered, as well as all of our other filings with the U.S. Securities and Exchange Commission (SEC). Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date specified or the date of this report. We undertake no obligation to publicly update or revise any forward-looking statements as a result of new information that we receive about conditions that existed upon issuance of this report, future events, or otherwise unless we are required to do so by law.

This report includes statistical data about the IT industry and global economic trends that comes from information published by sources including International Data Corporation (IDC), Gartner, the European Central Bank (ECB), and the International Monetary Fund (IMF). This type of data represents only the estimates of IDC, Gartner, the ECB, the IMF, and other sources of industry data. SAP does not adopt or endorse any of the statistical information provided by sources such as IDC, Gartner, the ECB, the IMF, or other similar sources that is contained in this report. The data from these sources is subject to risks and uncertainties, and subject to change based on various factors, including those described above, in the *Risk Management and Risks* section, and elsewhere in this report. These and other factors could cause our results to differ materially from those expressed in the estimates made by third parties and SAP. We caution readers not to place undue reliance on this data.



Strategy

Overview of SAP

Founded in 1972, SAP is a global company headquartered in Walldorf, Germany. Our legal corporate name is SAP SE. SAP has been named a market share leader in the following areas worldwide: enterprise applications software,⁴ enterprise resource management applications,⁵ supply chain management applications,⁶ procurement applications software,⁷ travel and expense management software,⁸ and enterprise resource planning software,⁹ among others. The SAP Group has a global presence and employs more than 100,000 people.

Our ordinary shares are listed on the Frankfurt Stock Exchange. American Depository Receipts (ADRs) representing SAP SE ordinary shares are listed on the New York Stock Exchange (NYSE). SAP is a member of Germany's DAX and TecDAX as well as the Dow Jones EURO STOXX 50, the Dow Jones Sustainability Index World, and the Dow Jones Sustainability Index Europe. As at December 31, 2021, SAP was the second most valuable company in the DAX based on market capitalization. SAP was ranked as the most sustainable software company in the Dow Jones Sustainability Indices for the fifteenth consecutive year.

Our Purpose

Our purpose at SAP is to “help the world run better and improve people’s lives.” We strive to achieve this as both an enabler and an exemplar of sustainable business. Our products and services aim to help our customers both meet the challenges and take advantage of the opportunities presented by today’s rapidly changing world.

In addition, we want our own business operations and practices to be intelligent, sustainable, and inclusive. SAP is committed to the goal set by the Paris Agreement of limiting global warming to 1.5 degrees Celsius in comparison to pre-industrial levels. In March 2021, SAP announced the intention to become carbon neutral in our own operations by the end of 2023 – two years earlier than previously stated. Further, in January 2022, SAP announced its commitment to achieve net-zero along their value chain in 2030; 20 years earlier than originally targeted. SAP also supports the United Nations Sustainable Development Goals (UN SDGs). Together with our customers and partners, we are engaged in initiatives across the UN SDGs.

⁴ IDC, Worldwide Enterprise Applications Market Shares, 2020: Next-Generation Applications Shaping the Market, Doc #US47983821, Sept. 2021

⁵ IDC, Worldwide Enterprise Resource Management Applications Market Shares, 2020: Digital Makes Strides, Doc #US47984121, Sept. 2021

⁶ IDC, Worldwide Supply Chain Management Applications Market Shares, 2020: Disruption Managed, Doc #US46435921, Dec. 2021

⁷ IDC, Worldwide Procurement Applications Software Market Shares, 2020: Digital Became New Normal, Doc #US47984421, Aug. 2021

⁸ IDC, Worldwide Travel and Expense Management Software Market Shares, 2020: Travel Down But New Opportunities Emerge, Doc #US47980421, July 2021

⁹ IDC, Worldwide Enterprise Resource Planning Software Market Shares, 2020: The Advance of Modular and Intelligent ERP Systems, Doc #US46441121, June 2021



Our Vision

In 2020, SAP introduced our **REINVENT** strategy. The underlying vision of this strategy was extended in 2021 to “REINVENT how the world runs as a network of intelligent,¹⁰ sustainable enterprises.” In our pursuit of this vision, we focus on three areas:

Helping Our Customers Become Intelligent and Sustainable Enterprises

Intelligent enterprises use data with embedded artificial intelligence (AI) and experience management to remove friction across business processes and drive innovation, enabling people to work more flexibly.

Creating a Network of Intelligent, Sustainable Enterprises

We believe that businesses are playing an even greater role in their communities – forming a network that expands far beyond the walls of any one company. We deliver innovation and intelligent technologies across procurement, logistics, asset management, and industry-specific offerings to enable a global business network spanning entire industries and value chains. As companies face supply chain disruptions, this becomes even more important, as our software aims to enable stakeholders in the network to react to disruption in real time.

Enabling a Sustainable World

The traditional focus of businesses on productivity and profitability is expanding to include a new measurement for business success – how operations impact the environment, or the “green line.” With the overview and transparency of business processes and ability to connect value chains end to end provided by SAP software, we help companies to measure and improve sustainability across entire networks, allowing them to effectively “chase zero” – zero emissions, zero waste, and zero inequality.

Our REINVENT strategy is firmly rooted in our goal to be an innovative and trusted partner for our ecosystem, supporting them on their journey to reinvent how their businesses run. To achieve our overarching objectives of creating resilient, profitable, and sustainable business outcomes for our customers, we have honed our strategic priorities mentioned above, in which our product strategy plays a central role.

Our Product Strategy

While each of our line-of-business (LoB) solutions must be competitive in its own right, we believe the true value comes through the strength of our collective offerings, with SAP S/4HANA Cloud at the core. SAP has the technologies, products, footprint, and experience to combine four essential end-to-end business processes to create not just one intelligent enterprise, but a global ecosystem of intelligent enterprises. Those processes – Recruit to Retire, Source to Pay, Design to Operate, and Lead to Cash – are supported by our products.

The most prominent building blocks of our product portfolio are:

SAP S/4HANA Cloud provides modular cloud ERP in the areas of finance, supply chain, and sustainability among others – and can enable customers to adjust and adopt business process and business models.

SAP SuccessFactors Human Experience Management (HXFM) Suite provides cloud-based solutions, such as a human resources management system (HRMS) for core HR and payroll, talent management, employee experience management, and people analytics, by aiming to create differentiated employee experiences across the employee lifecycle.

Our **intelligent spend management** applications aim to provide a more unified view of a customer’s spending to reduce costs, mitigate risks, improve collaboration, and make sure every spend decision is aligned with the business strategy.

¹⁰ An “intelligent enterprise” is an event-driven, real-time business powered by technology that includes machine learning, robotic process automation, Internet of Things, and analytics capabilities to help scale innovation.



Our **SAP Customer Experience** solutions deliver a personalized view across customers and business partners, connecting the front- and back office with solutions spanning from the point of sale, to manufacturing, to logistics, customer experience, and returns management.

SAP Business Technology Platform (SAP BTP) is a business-centric and open platform that enables customers and partners to extend and customize SAP applications in a cloud-native way. It allows shared data and insights, AI-powered experiences, as well as partner solutions and customer-led customizations. Specifically, it provides capabilities in four key areas: database and data management; analytics and planning; application development and integration; and intelligent technologies such as AI, all bundled into one platform offering.

SAP's **Industry Cloud** provides the opportunity for SAP and our partners to extend our core with modular solutions addressing industry-specific functions, built on SAP BTP.

SAP Business Network is a network of enterprises. The interactive community helps enable companies to extend their ecosystem, react to supply chain disruptions, discover new trading partners, and find new opportunities, all through a unified, role-based experience.

Our **business process intelligence (BPI)** application portfolio, which has been significantly expanded with the integration of Signavio solutions, helps our customers enable their business transformations. We support analysis of current processes, benchmarking against best practices, and reconfiguring current processes towards future processes.

Our **sustainability management** solutions empower customers to integrate sustainability into their business processes – from ethical sourcing and inclusive hiring to visibility into and management of a company's overall ecological footprint. The solutions aim to help our customers minimize carbon emissions, reduce waste through responsible supply chain management, and enable diversity across all business practices.

For more information about the products and solutions offered as part of our strategy framework, see the *Products, Research & Development, and Services* section.

Compelling Value Propositions and Customer Centricity

Business Transformation: To achieve our strategy and deliver the best value to our stakeholders, we must execute against our goals with strong alignment across the company. To that end, we have established a Corporate Transformation Office to drive the end-to-end execution of our REINVENT strategy. This office unites experts with strong program management skills, deep content knowledge around major areas of SAP's transformation, as well as change and communications management.

Value Proposition: As we implement our strategy, we have introduced new initiatives and offerings including, for example, **RISE with SAP**. Launched in early 2021, RISE with SAP is our business transformation-as-a-service offering. We have also redesigned our ecosystem engagement model to create an attractive proposition for our partners in the cloud. A dedicated operating model demonstrates the integrated value of our solution areas across development, marketing and solution management, and go-to-market functions.

Customer Centricity: Achieving our growth ambitions requires us to put an unwavering focus on our customers. Therefore, we aim to provide the maximum **Customer Lifetime Value**, that is, the cumulative value that SAP provides to customers over the course of our relationship. To do so, SAP aims to deliver differentiated value across the customer relationship, from the first interaction to deployment and beyond.

Our People

We are working to ensure our people have the skills and resources they need to deliver on our strategy and overall ambitions. SAP's global workforce of over 100,000 employees is key to the successful execution of our strategy.

For more information, see the *Employees and Social Investments* section.



Our Business Model

Our business model, through which we implement our vision and strategy, can be summarized as follows:

We create value by identifying the business needs of our customers, then developing and delivering cloud solutions, services, and support addressing these needs. By proactively obtaining customer feedback on a quarterly basis, we strive to continuously improve our solutions, identify further business needs, and deliver enhanced value to our customers across the whole lifecycle thus increasing customer loyalty.

We derive revenue from fees charged to our customers for use of our cloud subscription solutions as well as licensing software. Support, consulting, development, training, and other services also contribute significant revenue.

For an overview of our product portfolio, see the [Products, Research and Development, and Solutions](#) section.

Subsidiaries, Acquisitions, and Joint Ventures

Subsidiaries

SAP SE is the parent company of the SAP Group. As at December 31, 2021, the SAP Group comprised 290 companies.

For a list of our subsidiaries, associates, and other equity investments, see the Notes to the Consolidated Financial Statements, [Note \(G.9\), Scope of Consolidation, Subsidiaries and Other Equity Investments](#).

Qualtrics IPO

On January 28, 2021, **Qualtrics International Inc.** issued 12% of its shares on the Nasdaq Stock Market (NASDAQ). The IPO-related cash inflow amounted to €1,847 million and the initial value of non-controlling interests in net assets was €909 million.

On November 11, 2021, Qualtrics announced the closing of its public offering and issued an additional 4% of its shares, which reduced SAP's ownership in Qualtrics to 74%. The offering-related cash inflow amounted to €1.0 billion and the corresponding value of non-controlling interests in net assets was €0.3 billion.

For more information about the Qualtrics acquisition and Qualtrics IPO, see [Note \(D.1\), Business Combinations and Divestitures](#) and [Note \(E.2\) Total Equity](#).

Acquisitions

We continue to focus on organic investments in technology and innovations that ensure sustainable growth of our solution portfolio to drive our short-term, mid-term, and long-term ambitions. Additionally, we may make targeted acquisitions to complement our solution offerings and improve coverage in key strategic markets.

The acquisition of **Signavio GmbH** ("Signavio"), closed on March 5, 2021, and deepens SAP's business process intelligence capabilities, which represent the process layer within the SAP portfolio. Solutions from Signavio augment the spectrum of business process management solutions offered by SAP by adding process modeling, process mining, and process management capabilities.

For more information about Signavio, see [Note \(D.1\), Business Combinations and Divestitures](#).

On October 1, 2021 (after receipt of required regulatory approvals and satisfaction or waiver of other customary closing conditions), Qualtrics completed its previously announced acquisition of **Clarabridge, Inc.**, a customer experience management software company headquartered in Reston, Virginia, in the United States.

For more information about Clarabridge, see [Note \(D.1\), Business Combinations and Divestitures](#).



On January 27, 2022, SAP announced its intent to acquire a majority stake of **Taulia**, a leading provider of working capital management solutions. The acquisition is expected to close in March 2022, following completion of customary closing conditions and regulatory approvals.

For more information about Taulia, see [Note \(G.8\), Events After the Reporting Period](#).

Joint Ventures

To better support our customers in the financial services industry (FSI), SAP created a joint venture called **SAP Pioneer**, with German investment company Dediq GmbH. The aim of this joint venture is to build agile solutions for FSI using SAP technologies as a basis. SAP has contributed certain FSI-centric software solutions to SAP Pioneer in exchange for a minority share in the new entity. Some SAP employees transferred to the new entity. The transaction closed in September 2021.

For more information, see [Note \(D.1\), Business Combinations and Divestitures](#).

Sapphire Ventures

In addition to our investments in organic growth and acquisitions, SAP also supports entrepreneurs that aspire to build industry-leading businesses through venture capital funds managed by **Sapphire Ventures**. Sapphire Ventures manages over US\$8.8 billion (€7.8 billion) and has invested in more than 200 companies. Sapphire Ventures pursues opportunities in which it can help fuel enterprise growth by adding expertise, relationships, geographic reach, and capital. It places a particular focus on companies in Europe, Israel, and the United States. In the second quarter of 2021, the Executive Board proposed, and the Supervisory Board consented to, the financing of a new Sapphire Ventures fund ("SAPPHIRE Ventures Fund VI"). SAP's total volume committed for SAPPHIRE Ventures Fund VI is US\$1.75 billion (€1.5 billion).

Measuring Our Success

We use the following financial and non-financial objectives to steer our company:

- Growth
- Profitability
- Customer loyalty
- Employee engagement
- Carbon impact



The table below provides an overview of the specific key performance indicators (KPIs) used to measure performance within these objectives and compares this performance with our goals.

Outlook and Results for 2021

Strategic Objective	KPI	2021 Outlook*	2021 Results
Growth	Cloud revenue**	€9.4 billion to €9.6 billion	€9.59 billion
	Cloud and software revenue**	€23.8 billion to €24.2 billion	€24.41 billion
Profitability	Operating profit**	€8.1 billion to €8.3 billion	€8.41 billion
Customer Loyalty	Customer Net Promoter Score	5 to 10	10
Employee Engagement	Employee Engagement Index	84% to 86%	83%
Carbon Impact	Net carbon emissions	90 kt to 110 kt	110 kt

* The 2021 outlook was communicated in January 2021 and was updated in April, July, and October 2021. The 2021 outlook numbers above reflect the updated outlook from October 2021.

** Non-IFRS, at constant currencies

Note: A reconciliation of non-IFRS results to IFRS equivalents is available in the [Performance Management System](#) section.

Outlook for 2022

Strategic Objective	KPI	2021 Results	2022 Outlook
Growth	Cloud revenue	€9.42 billion	€11.55 billion to €11.85 billion ²
	Cloud and software revenue	€24.08 billion	€25.0 billion to €25.5 billion ²
Profitability	Operating profit	€8.23 billion ¹	€7.8 billion to €8.25 billion ^{1,2}
	Free cash flow	€5.05 billion	More than €4.5 billion
Customer Loyalty	Customer Net Promoter Score	10	11 to 15
Employee Engagement	Employee Engagement Index	83%	84% to 86%
Carbon Impact	Net carbon emissions	110 kt	70 kt

¹ Non-IFRS

² at constant currencies

Note: A reconciliation of non-IFRS results to IFRS equivalent is available in the [Performance Management System](#) section.

Ambitions for 2025

Strategic Objective	KPI	2025 Ambition
Growth	Cloud revenue	More than €22 billion
	Total revenue	More than €36 billion
Profitability	Operating profit ¹	More than €11.5 billion
	Free cash flow	Approximately €8 billion
Customer Loyalty	Customer Net Promoter Score	Steady increase
Employee Engagement	Employee Engagement Index	84% to 86%
Carbon Impact	Net carbon emissions	0 kt (from 2023 onward; net zero along our value chain by 2030)

¹Non-IFRS



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Note: A reconciliation of non-IFRS results to IFRS equivalents is available in the *Performance Management System* section.

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Performance Management System

We use various performance measures to manage our performance with regard to our primary financial objectives, which are growth and profitability, and our primary non-financial objectives, which are customer loyalty, employee engagement, and carbon impact. We view growth and profitability as indicators of our current performance, while we see customer loyalty, employee engagement, and carbon impact as indicators of our future performance.

Measures to Manage Our Financial Performance

Measures to Manage Our Operating Financial Performance

In 2021, we used the following key measures to manage our operating financial performance:

Cloud revenue: This revenue driver comprises the main revenues of our fast-growing cloud business. Revenue from cloud is derived from fees earned from providing customers with any of the following:

- Software as a service (SaaS)
- Platform as a service (PaaS)
- Infrastructure as a service (IaaS)
- Premium cloud support beyond regular support embedded in cloud offerings

For more information regarding the composition of cloud revenue and a description of these services, see the Notes to the Consolidated Financial Statements, [Note \(A.1\)](#).

We use the cloud revenue measure at both actual currencies and constant currencies.

Cloud and software revenue: We use cloud and software revenue expressed in both actual currencies and constant currencies to measure our revenue growth. Our cloud and software revenue includes cloud revenue plus software licenses and support revenue. Cloud revenue and software revenue are our key revenue drivers because they tend to affect our other revenue streams. Generally, customers that buy software licenses also enter into related support contracts, and these generate recurring support revenue after the software sale. Support contracts cover standardized support services and unspecified future software updates and enhancements. Cloud and software revenue also tends to stimulate services revenue, which is earned by providing customers with professional services, premium engagement services, training services, and payment services.

Total revenue: We use total revenue to measure our growth at both actual currencies and constant currencies. The total of cloud revenue and support revenue divided by total revenue is the share of more predictable revenue. This measure provides additional insight into our sustained business success.

Current cloud backlog (CCB): We use CCB both in actual and at constant currencies, to manage our operating financial performance. The CCB measures our overall go-to-market success in committed cloud business. The CCB is the contractually committed cloud revenue we expect to recognize over the upcoming 12 months as of a specific key date. Thus, it is a subcomponent of our overall remaining performance obligations following IFRS 15.120. For our committed cloud business, we believe the CCB is a valuable indicator of our go-to-market success, as it reflects both new contracts closed as well as existing contracts renewed.

Operating profit (non-IFRS): We use operating profit (non-IFRS) expressed in both actual currencies and constant currencies to measure our overall operational process efficiency and overall business performance.



Cloud gross margin (non-IFRS): We use our cloud gross margin (non-IFRS) to measure our process efficiency in our cloud business. Cloud gross margin (non-IFRS) is the ratio of our cloud gross profit (non-IFRS) to cloud revenue (non-IFRS), expressed as a percentage.

Operating margin (non-IFRS): We use operating margin to measure our overall operational efficiency. Operating margin (non-IFRS) is the ratio of our operating profit (non-IFRS) to total revenue (non-IFRS), expressed as a percentage.

Measures to Manage Our Non-Operating Financial Performance

We use the following measures to manage our non-operating financial performance:

Financial income, net: This measure provides insight into the return on liquid assets and capital investments and the cost of borrowed funds. To manage our financial income, net, we focus on cash flow, the composition of our liquid assets and capital investment portfolio, and the average rate of interest at which assets are invested. We also monitor average outstanding borrowings and associated finance costs.

Measures to Manage Overall Financial Performance

We use the following measures to manage our overall financial performance:

Earnings per share (EPS) (IFRS and non-IFRS): EPS (basic and diluted) measures our overall performance because it captures all operating and non-operating elements of profit as well as income tax expense. It represents the portion of profit after tax attributable to equity holders of SAP SE allocable to each SAP share outstanding. EPS is influenced not only by our operating and non-operating business and income taxes but also by the number of shares outstanding.

Effective tax rate (IFRS and non-IFRS): We define our effective tax rate as the ratio of income tax expense to profit before tax, expressed as a percentage.

Operating, investing, and financing cash flows and free cash flow: Our consolidated statement of cash flows provides insight into how we generate and use cash and cash equivalents. When applied in conjunction with the other primary financial statements, it provides information that helps us evaluate the changes in our net assets, our financial structure (including our liquidity and solvency), and our ability to affect the amounts and timing of cash flows to adapt to changing circumstances and opportunities. We use our free cash flow measure to determine the cash flow remaining after all expenditures required to maintain or expand our organic business have been paid off. This measure provides management with supplemental information to assess our liquidity needs. We calculate free cash flow as net cash from operating activities minus purchases (other than purchases made in connection with business combinations) of intangible assets and property, plant, and equipment, as well as payments for lease liabilities.

Measures to Manage Our Non-Financial Performance

In 2021, we used the following key measures to manage our non-financial performance in the areas of customer loyalty, employee engagement, leadership trust, and carbon emissions:

Customer Net Promoter Score (Customer NPS): In 2021, we continued to harmonize the **Customer Loyalty Survey** program where Customer NPS is measured. Specifically, to enable better standardization and comparability, we now ask about SAP across all entities and product lines. The annual assessment of customer loyalty is based on a survey that includes the Net Promoter Score (NPS) metric. The Customer NPS score is calculated based on the NPS Likelihood to Recommend question with its proprietary scoring, identified on a scale of 0–10. We introduced this measure in 2012 as we are convinced that we can achieve our financial goals only when our customers are loyal to, and satisfied with, SAP and our solutions. To derive the Customer NPS, we start with the percentage of “promoters” of SAP, that is, those giving us a score of 9 or 10 on a scale of 0–10. We then subtract the percentage of “detractors,” that is, those giving us a score of 0–6. The method ignores “passives,” that is, those giving us a score of 7 or 8. Consequently, the range of achievable



scores is –100 to +100, with the latter being the best achievable score for customer loyalty as measured by the Customer NPS methodology.

Since this year, we determine the **Employee Engagement Index** and the **Leadership Trust Score** as the average of the scores retrieved in each of the surveys we run within a fiscal year. Adopting the Experience Management (XM) philosophy of Qualtrics, we changed our engagement survey concept to a continuous listening approach that includes multiple data collections throughout the year. This new average score provides a more valid evaluation of the full-year engagement and trust level of our employees.

We measure both the Employee Engagement Index as well as Leadership Trust Score to get insights on the following:

- **Employee Engagement Index:** We use this index to measure the satisfaction and commitment of our employees, how proud they are of our company, and how strongly they identify with SAP. Applying this measure is recognition that our growth strategy depends on engaged employees.
- **Leadership Trust Score:** We use this score to further enhance accountability and to measure our collective effort to foster a work environment based on trust. It is derived from a question in our surveys that gauges employees' trust in our leaders. We measure leadership trust by using the same NPS methodology that we use to compute the Customer NPS.

Carbon emissions: We use carbon emissions to manage our non-financial performance. It is used as a metric to strengthen our ambitious short-term and long-term carbon reduction targets. We measure our net carbon emissions according to the **Greenhouse Gas (GHG) Protocol**. The net carbon emissions are calculated by deducting emission savings such as self-produced renewable energy, renewable energy certificates, and carbon offsets from our gross carbon emissions.

Value-Based Management

Our holistic view of the performance measures described above, together with our associated analyses, comprises the information we use for value-based management. We use planning and control processes to manage the compilation of these key measures and their availability to our decision-makers across various management levels.

SAP's long-term strategic plans are the point of reference for our short-term and mid-term planning and controlling processes. We initially identify future growth and profitability drivers at a highly aggregated level for the entire SAP Group. In a first step, the resulting financial plan is broken down into (i) product portfolio grouped into solution areas and deployment models "On Premise," "Software as a Service/Platform as a Service," "Infrastructure as a Service," and "Intelligent Spend Management"; and (ii) functions such as development, delivery, sales, and administration. In a second step, the planned total revenues and total expenses are generally allocated to the operating segments and the areas of functional responsibility of the individual members of the Executive Board ("Board area"). If a Board area represents not only a functional department but also has a responsibility for operating segments within this Board area, the allocation is done at the lower segment level. Budget adjustments may be applied during the year to reflect changes in priorities, to achieve efficiency targets, and to reflect endogenous and exogenous factors. Such budget adjustments, as well as the assessment of the performance, are handled at the Board area level if the Board area is part of a segment, or at the segment level if the Board area comprises several segments. It is then the individual Executive Board member's responsibility to break down the allocated budget adjustments within the segment budget boundary. Based on an integrated portfolio process running in parallel to the budgeting process, we ensure aligned investment behavior across Board areas with regards to specific solution and/or subsolution areas. In a final step, customer-facing revenue targets and cost-of-sales and marketing targets are broken down into sales regions and market units.

Based on our detailed annual plans, we determine the budget for the respective fiscal year. We also have processes in place to forecast revenue and profit on a quarterly basis, to quantify whether we expect to realize our financial goals, and to identify any deviations from plan. We continuously monitor the affected operating segments and Board areas in the SAP Group to analyze their developments



and define any appropriate actions. Our entire network of planning, control, and reporting processes is implemented in integrated planning and information systems, based on SAP software, across all organizational units so that we can conduct the evaluations and analyses needed to make informed decisions.

Non-IFRS Financial Measures Cited in This Report

Explanation of Non-IFRS Measures

We disclose certain financial measures that are not prepared in accordance with IFRS and are therefore considered non-IFRS financial measures. Our non-IFRS financial measures may not correspond to non-IFRS financial measures that other companies report. The non-IFRS financial measures that we report should only be considered in addition to, and not as substitutes for, or superior to, our IFRS financial measures.

We believe that the disclosed supplemental historical and prospective non-IFRS financial information provides useful information to investors because management uses this information, in addition to financial data prepared in accordance with IFRS, to attain a more transparent understanding of our past performance and our anticipated future results.

We use these non-IFRS measures consistently in our internal planning and forecasting, reporting, and compensation, as well as in our external communications, as follows:

- Our management primarily uses these non-IFRS measures rather than IFRS measures as the basis for making financial, strategic, and operating decisions.
- The variable components of our Executive Board members' and employees' remuneration are based on non-IFRS numbers such as operating profit (non-IFRS), operating margin (non-IFRS), as well as current cloud backlog (CCB) measures rather than the respective IFRS measures.
- The annual budgeting process for all management units is based on operating profit (non-IFRS) numbers rather than the respective IFRS financial measures.
- All forecast and performance reviews with all senior managers globally are based on these non-IFRS measures, rather than the respective IFRS financial measures.
- Both our internal performance targets and the guidance we provide to the capital markets are based on revenue and profit (non-IFRS) measures rather than the respective IFRS financial measures.

Our non-IFRS financial measures reflect adjustments based on the items below, as well as adjustments for the related income tax effects.

Revenue (Non-IFRS)

Starting in 2021, we no longer adjust our IFRS revenue measures by including the full amount of recurring revenue that is not recognized under IFRS due to fair value accounting for the contracts in effect at the time of the respective acquisitions.

Thus, SAP's IFRS revenue equals the non-IFRS revenue at actual currencies starting with the annual reporting period 2021. Due to immateriality, prior-year numbers are further based on our previous non-IFRS definition as described in our SAP Integrated Report 2020.

Operating Expense (Non-IFRS)

Operating expense numbers that are identified as operating expenses (non-IFRS) have been adjusted by excluding the following expenses:

- Acquisition-related charges
 - Amortization expense/impairment charges for intangibles acquired in business combinations and certain stand-alone acquisitions of intellectual property (including purchased in-process research and development) as well as sale/disposal gains and losses for these intangibles



- Settlements of preexisting business relationships in connection with a business combination
- Acquisition-related third-party expenses
- Share-based payment expenses
- Restructuring expenses, that is, expenses resulting from measures which comply with the definition of restructuring according to IFRS

We exclude certain acquisition-related expenses for the purpose of calculating operating profit (non-IFRS), operating margin (non-IFRS), and earnings per share (non-IFRS) when evaluating SAP's continuing operational performance because these expenses generally cannot be changed or influenced by management after the relevant acquisition other than by disposing of the acquired assets. Since management at levels below the Executive Board does not influence these expenses, we generally do not consider these expenses for the purpose of evaluating the performance of management units. For similar reasons, we eliminate share-based payment expenses as these costs are impacted by share price developments and other factors outside our control. We also eliminate restructuring expenses because they are volatile and mostly cannot be influenced by management at levels below the Executive Board.

Operating Profit (Non-IFRS), Cloud Gross Margin (Non-IFRS), Operating Margin (Non-IFRS), Effective Tax Rate (Non-IFRS), and Earnings per Share (Non-IFRS)

Operating profit, cloud gross margin, operating margin, effective tax rate, and earnings per share denominated as operating profit (non-IFRS), cloud gross margin (non-IFRS), operating margin (non-IFRS), effective tax rate (non-IFRS), and earnings per share (non-IFRS) have been adjusted from the respective IFRS measures by adjusting for the aforementioned operating expenses (non-IFRS) and the income tax effects thereon.

Constant Currencies Information

We believe it is important for investors to have information that provides insight into the development of our sales. Revenue measures determined under IFRS provide information that is useful in this regard. However, both sales volume and currency effects impact period-over-period changes in sales revenue. We do not sell standardized units of products and services, so we cannot provide relevant information on sales volume by providing data on the changes in product and service units sold. To provide additional information that may be useful to investors in breaking down and evaluating changes in sales volume, we present information about our revenue and various values and components relating to operating profit that are adjusted for foreign currency effects. We calculate constant currencies measures by translating foreign currencies using the average exchange rates from the comparative period instead of the current period. Constant currency measures on current cloud backlog use the closing exchange rate from the previous year's corresponding key date instead of the average exchange rate.

Free Cash Flow

Among other measures, we use free cash flow to manage our overall financial performance.

€ millions	2021	2020	Δ in %
Net cash flows from operating activities	6,223	7,194	-13
Purchase of intangible assets and property, plant, and equipment (without acquisitions)	-800	-816	-2
Payments of lease liabilities	-374	-378	-1
Free cash flow	5,049	6,000	-16



Usefulness of Non-IFRS Measures

We believe that our non-IFRS measures are useful to investors for the following reasons:

- Our expense (non-IFRS), and profit (non-IFRS) measures, along with the current cloud backlog (CCB) measure (see above), provide investors with insight into management's decision-making because management uses these measures to run our business and make financial, strategic, and operating decisions. We exclude the expense adjustments outlined above when making decisions to allocate resources. In addition, we use these non-IFRS measures to facilitate comparisons of SAP's operating performance from period to period.
- The non-IFRS measures provide investors with additional information that enables a comparison of year-over-year operating performance by eliminating certain direct effects of acquisitions, share-based compensation plans, and restructuring plans.
- Non-IFRS and non-GAAP (Generally Accepted Accounting Principles) measures are widely used in the software industry. In many cases, inclusion of our non-IFRS measures may facilitate comparison with our competitors' corresponding non-IFRS and non-GAAP measures.

Limitations of Non-IFRS Measures

Without being analyzed in conjunction with the corresponding IFRS measures, the non-IFRS measures are not indicative of our present and future performance, foremost, but not limited, for the following reasons:

- While our profit (non-IFRS) numbers reflect the elimination of certain acquisition-related expenses, no eliminations are made for the additional revenue or other income that results from the acquisitions.
- The acquisition-related amortization expense that we eliminate in deriving our profit (non-IFRS) numbers is a recurring expense that will impact our financial performance in future years.
- The remaining acquisition-related charges that we eliminate in deriving our profit (non-IFRS) numbers are likely to recur should SAP enter into material business combinations in the future. Similarly, the restructuring expenses that we eliminate in deriving our profit (non-IFRS) numbers are likely to recur should SAP perform restructurings in the future.
- The expense adjustment for acquisition-related charges does not arise from a common conceptual basis. This is because the expense adjustment aims to improve the comparability between post-acquisition periods and pre-acquisition periods. This should particularly be considered when evaluating our operating profit (non-IFRS) and operating margin (non-IFRS) numbers, as these combine our revenue and expenses (non-IFRS) despite the absence of a common conceptual basis.
- Our restructuring charges resulted in significant cash outflows in the past and could do so in the future. The same applies to our share-based payment expense because most of our share-based payments are settled in cash rather than shares.
- The valuation of our cash-settled share-based payments could vary significantly from period to period due to the fluctuation of our share price and other parameters used in the valuation of these plans. In the future, we plan to move more of our awards to equity settlement.
- In the past, we have issued share-based payment awards to our employees every year and we intend to continue doing so in the future. Thus, our share-based payment expenses are recurring, although the amounts usually change from period to period.

We believe that constant currencies measures have limitations, particularly as the currency effects that are eliminated constitute a significant element of our revenue and expenses and could materially impact our performance. Therefore, we limit our use of constant currencies measures to the analysis of changes in volume as one element of the full change in a financial measure. We do not evaluate our results and performance without considering both constant currencies and nominal measures of revenue (non-IFRS) and operating profit (non-IFRS) measures on the one hand, and changes in



revenue, operating expenses, operating profit, or other measures of financial performance prepared in accordance with IFRS on the other. We caution the readers of our financial reports to follow a similar approach by considering nominal and constant currencies non-IFRS measures only in addition to, and not as a substitute for or superior to, changes in revenue, operating expenses, operating profit, or other measures of financial performance prepared in accordance with IFRS.

Despite these limitations, we believe that the presentation of our non-IFRS measures and the corresponding IFRS measures, together with the relevant reconciliations, provide useful information to management and investors regarding present and future business trends relating to our financial condition and results of operations.

**Reconciliations of IFRS to Non-IFRS Financial Measures for the Years 2021 and 2020**

€ millions, unless otherwise stated

	IFRS	Adj.	Non-IFRS	Currency Impact	2021		2020	
					Non-IFRS Constant Currency	IFRS	Adj.	Non-IFRS
Revenue measures								
Cloud	9,418	0	9,418	174	9,592	8,080	5	8,085
Software licenses	3,248	0	3,248	-8	3,240	3,642	0	3,642
Software support	11,412	0	11,412	166	11,577	11,506	0	11,506
Software licenses and support	14,660	0	14,660	158	14,818	15,148	0	15,148
Cloud and software	24,078	0	24,078	332	24,410	23,228	5	23,233
Services	3,764	0	3,764	58	3,823	4,110	0	4,110
Total revenue	27,842	0	27,842	390	28,232	27,338	5	27,343
Operating expense measures								
Cost of cloud	-3,105	229	-2,876			-2,699	248	-2,451
Cost of software licenses and support	-1,925	103	-1,822			-2,008	97	-1,911
Cost of cloud and software	-5,030	332	-4,698			-4,707	345	-4,362
Cost of services	-2,916	286	-2,630			-3,178	178	-3,000
Total cost of revenue	-7,946	617	-7,328			-7,886	523	-7,362
Gross profit	19,897	617	20,514			19,453	528	19,981
Research and development	-5,190	524	-4,667			-4,454	303	-4,151
Sales and marketing	-7,505	1,025	-6,479			-7,106	735	-6,371
General and administration	-2,431	1,250	-1,181			-1,356	166	-1,190
Restructuring	-157	157	0			3	-3	0
Other operating income/expense, net	43	0	43			84	-66	18
Total operating expenses	-23,186	3,573	-19,613	-212	-19,824	-20,715	1,659	-19,056
Profit numbers								
Operating profit	4,656	3,573	8,230	178	8,408	6,623	1,664	8,287
Other non-operating income/expense, net	17	0	17			-179	0	-179
Finance income	3,123	0	3,123			1,473	0	1,473
Finance costs	-949	0	-949			-697	0	-697
Financial income, net	2,174	0	2,174			776	0	776
Profit before tax	6,847	3,573	10,421			7,220	1,664	8,884
Income tax expense	-1,471	-613	-2,084			-1,938	-413	-2,350
Profit after tax	5,376	2,960	8,337			5,283	1,251	6,534
Attributable to owners of parent	5,256	2,687	7,943			5,145	1,251	6,396
Attributable to non-controlling interests	121	273	394			138	0	138
Key ratios								
Operating margin (in %)	16.7		29.6		29.8		24.2	
Effective tax rate (in %)	21.5		20.0		26.8		26.5	
Earnings per share, basic (in €)	4.46		6.73		4.35		5.41	

Due to rounding, the sum of the numbers presented in the table above might not precisely equal the totals we provide.

**Non-IFRS Adjustments by Functional Areas**

€ millions	2021					2020				
	IFRS	Acquisition- Related	SBP ¹	Restructuring	Non- IFRS	IFRS	Acquisition- Related	SBP ¹	Restructuring	Non- IFRS
Cost of cloud	-3,105	169	59	0	-2,876	-2,699	208	40	0	-2,451
Cost of software licenses and support	-1,925	33	70	0	-1,822	-2,008	42	55	0	-1,911
Cost of services	-2,916	20	266	0	-2,630	-3,178	3	175	0	-3,000
Research and development	-5,190	10	513	0	-4,667	-4,454	7	296	0	-4,151
Sales and marketing	-7,505	370	655	0	-6,479	-7,106	375	360	0	-6,371
General and administration	-2,431	20	1,230	0	-1,181	-1,356	9	157	0	-1,190
Restructuring	-157	0	0	157	0	3	0	0	-3	0
Other operating income/expense, net	43	0	0	0	43	84	-66	0	0	18
Total operating expenses	-23,186	623	2,794	157	-19,613	-20,715	577	1,084	-3	-19,056

¹ Share-based payments



Products, Research & Development, and Services

In 2021, we expanded on 2020's REINVENT strategy to "REINVENT how the world runs as a network of intelligent, sustainable enterprises." Our strategy was built on the following focus areas:

- Helping customers become intelligent and sustainable enterprises
- Creating a network of intelligent, sustainable enterprises
- Enabling a sustainable world

The goal of our product and services portfolio is to deliver on this expanded vision.

For an overview of our strategy, see the [Strategy](#) section.

SAP S/4HANA Cloud

SAP S/4HANA is our ERP suite with intelligent technologies such as artificial intelligence (AI), machine learning, and advanced analytics. Running on **SAP HANA**, the suite combines automation and integrated business processes analytics and a role-based user experience. The suite provides software capabilities for finance, sales, service, procurement, manufacturing, and asset management, as well as research and development (R&D).

SAP offers a choice of SAP S/4HANA deployments – in the public cloud via software as a service (SaaS), in a private cloud or on premise as well as a combination in a hybrid deployment.

Launched in January 2021, **RISE with SAP** is our business-transformation-as-a-service offering that aims to support and accelerate customers in their transformation to an intelligent enterprise. It is a package of products and tools and includes SAP S/4HANA Cloud – either public or private deployment options; **business process intelligence (BPI)** solutions; migration tools and services including the **SAP Readiness Check tool** and the **Custom Code Migration app**; infrastructure provided by any hyperscaler or SAP data center; **SAP Business Technology Platform (SAP BTP)**; and an **SAP Business Network Starter Pack**.

At SAPPHIRE NOW in 2021, we announced the availability of **RISE with SAP transformation packages for specific industries** that provide business transformation-as-a-service with five industry-tailored cloud solutions for retail, consumer products, automotive, utilities, and industrial machinery and components. **RISE with SAP for Modular Cloud ERP**, which includes ERP capabilities in different domains and lines of business (LoBs), namely procurement, human experience management (HXM), analytics, and governance, was also announced at our annual event.

Around 2,800 SAP S/4HANA customers were added in 2021, bringing the number of customers to approximately 18,800, up 18% year over year.

Human Experience Management

SAP solutions for human experience management (HXM) under the SAP SuccessFactors brand aim to increase the value of a workforce by developing, managing, engaging, and empowering people.

SAP SuccessFactors HXM Suite was designed to provide decision-makers with tools to identify and reduce unconscious bias from key people decisions such as hiring, calibration, and compensation. With embedded analytics throughout the suite, SAP SuccessFactors HXM solutions aim to enable organizations to visualize and forecast diversity trends, as well as track and measure progress against diversity, equity, and inclusion goals through custom reports, dashboards, and scorecards.



In 2021, we maintained a leadership position in the Gartner Magic Quadrant for Cloud HCM Suites for 1,000+ Employee Enterprises that we have been awarded for six consecutive years; the 2021 IDC MarketScape Reports for Talent Management for nine consecutive years; and the inaugural The Forrester Wave: Learning Management Systems and Experience Platforms report.

Intelligent Spend Management

SAP provides a comprehensive set of solutions for customers to better navigate spend management decisions aligned with corporate strategies. It brings together SAP's intelligent spend management solutions including products branded under **SAP Ariba**, **SAP Concur**, and **SAP Fieldglass** as well as **SAP Business Network**. Our intelligent spend management solutions aim to address our customers' end-to-end procurement, travel and expense, and external workforce needs with visibility across the entire supply chain.

At SAPPHIRE NOW, we introduced **Verify**, a new SAP Concur service that uses AI and machine learning to evaluate companies' expense reports and identify anomalies.

Customer Experience

Our **SAP Customer Experience** solutions bring together customer data, machine learning technology, and microservices to support customer engagements across end-to-end processes in the areas of marketing, commerce, sales, and service. The focus for 2021 was maintaining leadership positions in various "magic quadrants" such as Gartner's Magic Quadrant for Sales Force Automation with SAP Sales Cloud; Forrester Wave for Customer Identity and Access Management (CIAM) with SAP Customer Data Cloud (formerly Gigya); and Gartner Magic Quadrant for Personalization Engines for SAP Emarsys Customer Data platform.

SAP Business Technology Platform

SAP Business Technology Platform (SAP BTP) spans a comprehensive set of on-premise and cloud-native technologies and services that support SAP applications across four areas: database and data management; analytics; application development and integration; and AI and robotic process automation.

This platform aims to help our customers, partners, and internal development teams to store and manage data, derive insights, build, extend, and integrate applications, as well as optimize and automate business processes in and beyond SAP landscapes. Across technologies, SAP provides customers actionable use cases with prebuilt support and executable code that is ready to deploy.

As part of our multi-cloud strategy, we increased our global footprint of SAP BTP by adding to our regional presence in APJ and Europe. New points of presence include Microsoft Azure in Sydney as well as Amazon Web Services (EU Access) and Google Cloud Platform (GCP) in Frankfurt.

SAP Business Network

SAP officially launched **SAP Business Network** in June 2021, bringing together **Ariba Network**, **SAP Logistics Network**, and **SAP Asset Intelligence Network** with the aim to unify the points of interaction and integration across trading partners – from supplier collaboration to logistics coordination and traceability, to equipment usage and maintenance. The trading partner directory in SAP Business Network aims to provide trading partners with a view of their customer relationships and transactions on the network.

As part of our strategy to make SAP Business Network more open, SAP announced a partnership with Amazon Business in Q3/2021. This partnership aims to enable users to tap into millions of items listed on Amazon Business directly from within SAP Ariba solutions, as well as assist with compliance with corporate purchasing policies. With this partnership and technology integration, Amazon Business becomes a source of supply for **Spot Buy**, a capability within SAP Ariba solutions for users to purchase items from trusted suppliers.



Business Process Intelligence

Business process intelligence (BPI) solutions aim to help our customers analyze their operations, understand their process bottlenecks, and improve their business process landscape.

Our goal is to offer one integrated BPI portfolio, the **SAP Signavio Business Process Management (BPM) Suite**. The suite consists of branded **SAP Signavio** solutions and the **SAP Process Insights** solution with integration into application lifecycle management solutions **SAP Solution Manager** and **SAP Cloud ALM**. The suite aims to deliver business transformation capabilities for our customers and partners with quick time to insights and time to deploy. This portfolio is powered by SAP BTP capabilities such as workflow management, citizen automation, low-code/no-code, and intelligent robotic process automation. Acquisitions such as Signavio and the no-code platform **SAP AppGyver** contributed to this comprehensive business process transformation solution.

Released in September 2021, **SAP Process Insights** aims to help companies foster continuous improvements with performance views and process drilldowns, as well as recommendations and improvement actions.

With the SAP-wide initiative **One Process Acceleration Layer** (OPAL), we aim to create a primary resource for process repository, process simulation, process mining and analytics, process collaboration, and enterprise-wide dissemination.

Sustainable Business Solutions, Services, and Partnerships

As a key strategic pillar, sustainability is a topic that is covered across the various SAP product areas along emerging and maturing environmental, social, and governance (ESG) standards from organizations such as the World Economic Forum (WEF), the International Sustainability Standards Board (ISSB), the European Union (EU), and others. The goal of our sustainability management solutions is to enable customers to include sustainability as a new dimension into their business processes and operations. SAP offers solutions focusing on ESG reporting, climate change, circular economy, and social responsibility.

For more information, see *Sustainable Solutions and Products in Use* in the *Energy and Emissions* section.

Experience Management

Experience Management (XM) refers to both Qualtrics technology as well as the discipline of seeking out and closing the experience gaps across the four core areas of businesses – customer, product, employee, and brand. In 2021, Qualtrics acquired **Clarabridge**, adding omnichannel conversational analytics to **Qualtrics XM Platform**. The combination of SAP and Qualtrics' respective offerings, as well as integration into our suite solutions aim to help organizations and governments bring real-time customer and employee sentiment to their travel and expense programs, vaccination efforts, and business and office reopening.

Industry Cloud

SAP's **industry cloud** is an open innovation space for SAP and our partners to build solutions that make a difference to the core business of our customers. Industry cloud solutions extend the end-to-end processes of SAP S/4HANA, LoB cloud solutions, and SAP Business Network to enable our customers optimize and transform their core business.

Industry cloud solutions are built by SAP and partners in the cloud, giving our customers access to the innovation power of an entire ecosystem. The solutions are built on SAP BTP and can use its full spectrum of intelligent technologies and business services. We have an expanding portfolio and a growing ecosystem across all industries.



Ecosystem

SAP's ecosystem consists of more than 22,500 partners worldwide in over 140 countries that build, sell, service, and run SAP solutions and technology. The introduction of **SAP PartnerEdge Cloud Choice, flex model** in 2021 offers greater flexibility for customers, partners, and SAP to support cloud adoption. Through emphasis on landing customers as well as fostering engagement, SAP and our partners have new opportunities in the midmarket and large enterprise segments. Our 2025 ambition is to develop a radically partner-centric approach in line with the wider SAP strategy.

Simplifying Partner and Customer Engagement Through RISE with SAP

From a services perspective, the RISE with SAP offering simplifies the engagement between SAP, ecosystem partners, and our customers. Aiming to support small and midsize business (SMB) partners, **partner services for RISE with SAP** are available for the enablement of their teams and offered in partner-led customer engagements. In line with this, **SAP Learning Hub** aims to support enabling and certifying SMB partners.

Services and Support

Complementing our software and technology offerings, SAP provides services and support to help customers continually realize business value from their SAP investment. Throughout the customer lifetime partnership, we aim to help customers as they implement and adopt new solutions in the cloud, move legacy solutions to the cloud, or transform their business.

Speeding Up the Adoption of SAP Solutions

The standardization and automation of our remote service delivery on the **Intelligent Service Delivery Hub** aims to assist customers with their adoption and improve delivery efficiency and quality. This is a new cloud-based service delivery and collaboration platform for customers, partners, and SAP to use throughout the customer engagement lifecycle. Embedded automation capabilities aim to enable automated quality checks, performance issue detection, and customer notification to mitigate potential issues that may arise.

Scaling RISE with SAP

To scale the RISE with SAP offering, the SAP Services and Support organization focused on the development of a comprehensive, full-lifecycle adoption methodology. The methodology goal is to drive successful customer adoption and provide clearly outlined deliverables throughout the engagement of each RISE journey in 30/60/90/120-day sprints. The activities during these sprints are closely aligned with the **SAP Integrated Delivery Framework**, which allows for seamless partner collaboration.

Supporting Business Transformation

To support our customers in getting started quickly and realizing their desired business transformation, a series of low-touch, fixed scope services were introduced to help customers detail, model, and design the business transformation based on our BPI portfolio.

Enabling Use of SAP BTP

To scale the delivery of the value of SAP BTP to our customers, all relevant service offerings and methods were adjusted to ensure the ability to use the platform in all service-related projects. To ensure easy integration across different solutions, a program was initiated to make integration-related content available to all customers and the developer community on **SAP API Business Hub**, the central catalog for integrations and extensions.

Starting Fast with Industry Cloud Solutions

Industry cloud-based services are now available. These services include industry-specific advisory services that aim to help discover and prioritize innovation opportunities and reimagine business



processes with pre-defined templates and accelerators. These industry cloud-based services also include quick-start services to speed functional implementation and technical readiness.

Expanding Our Support Offerings

SAP continued to expand and scale the capabilities of our customers' support experience, including the following ways:

- A new version of **Built-In Support**, a product-embedded digital support assistant, was released.
- **SAP Cloud ALM** has provided implementation and operation capabilities for cloud solutions which now includes solution monitoring, partner delivery content, and APIs, for a number of SAP solutions.
- An engagement model was established where customers, through their Customer Success team at SAP, now have access to domain experts through newly formed **Success Centers**.
- **SAP Preferred Success** now covers SAP S/4HANA Cloud, private edition and is available through the RISE with SAP offering.
- **SAP Learning System Access** (previously called SAP Live Access) is now available as an integrated platform within SAP Learning Hub, edition for Preferred Success, providing access to live, preconfigured instances of SAP software to carry out class exercises, cross-train, and gain hands-on experience.

Simplifying Business Journeys

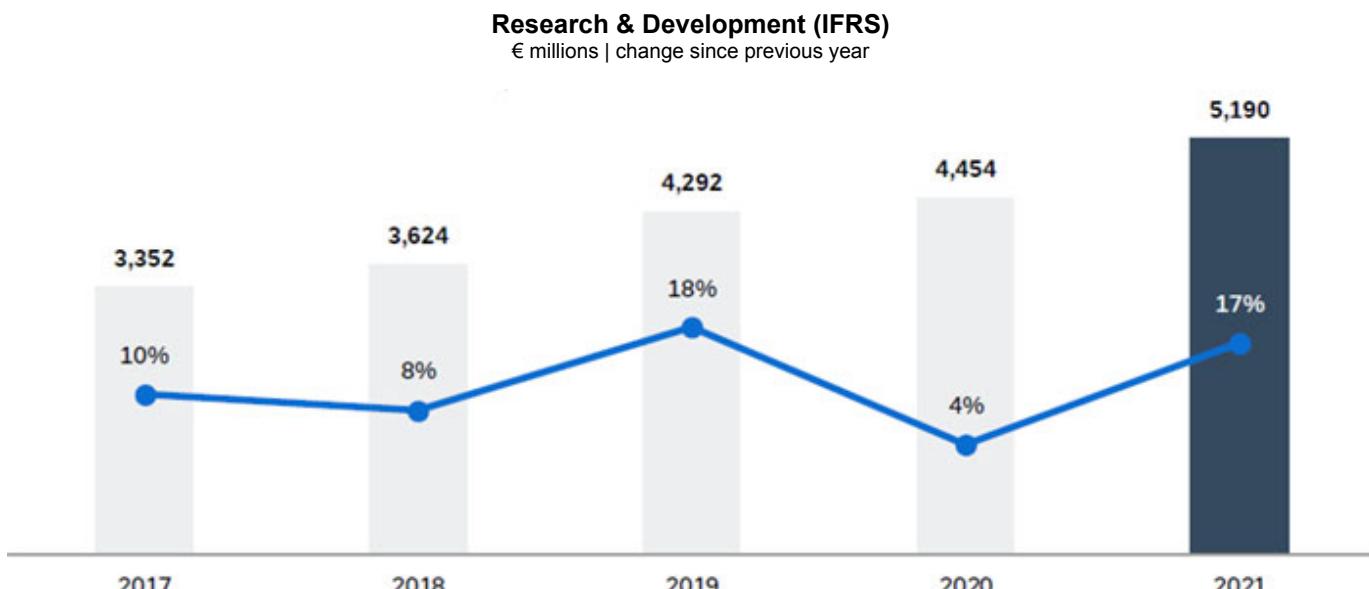
To accelerate the implementation of specific business scenarios, **premium engagement** services have been bundled into out-of-the box service plans, providing a prescribed implementation approach and road map broken down into phases with individual steps and timelines. Over 25 business scenarios are available.

Enhancing the SAP MaxAttention Program

The **SAP MaxAttention program** was expanded to enhance collaboration with customers. This includes continuing the launch of the **Intelligent Enterprise Institute** to help customers explore the full potential of SAP products and solutions through thought leadership, think tanks, and unique events. Chapters have now been established in Berlin, London, and New York.

Investment in R&D

SAP's strong commitment to R&D is reflected in our expenditures (see graphic below).



In 2021, our IFRS R&D ratio, reflecting R&D expenses as a portion of total operating expenses, increased by 0.9 percentage points (pp) to 22.4% (2020: 21.5%). Our non-IFRS R&D ratio increased



by 2.0pp to 23.8% year over year (2020: 21.8%). At the end of 2021, our total full-time equivalent (FTE) headcount in development work was 32,244 (2020: 29,580). Measured in FTEs, our R&D headcount was 30% of total headcount (2020: 29%).

Total R&D expense not only includes our own personnel costs but also the external costs of work and services from the providers and cooperation partners we work with to deliver and enhance our products. We also incur external costs for the following:

- Translating, localizing, and testing products
- Obtaining certification for products in different markets
- Patent attorney services and fees
- Consulting related to our product strategy
- Professional development of our R&D workforce.

Patents

SAP actively seeks intellectual property protection for innovations and proprietary information. Our software innovations continue to strengthen our market position as a leader in business solutions and services. Our investment in R&D has resulted in numerous patents. As at December 31, 2021, SAP held a total of more than 11,605 (2020: 10,931) validated patents worldwide. Of these, 793 (2020: 897) were granted and validated in 2021.

While our intellectual property is important to our success, we believe our business as a whole is not dependent on any particular patent or a combination of patents.



Financial Performance: Review and Analysis

Economy and the Market

According to the European Central Bank (ECB),^(A) the global economy was on the road to recovery in 2021, with some advanced economies even returning to their pre-pandemic trajectories by year end. Overall, however, the recovery turned out to be less smooth than expected. Toward the end of the year, the ECB even revised its previous projections downward when the emergence of the Omicron variant of the coronavirus threatened to intensify the pandemic on a global scale.

Throughout 2021, rising commodity prices led to a buildup of inflationary pressures across the globe, reports the ECB. While the services sector benefitted from large economies reopening, supply bottlenecks interfered with the manufacturing sector in particular. In addition to pandemic uncertainties, these factors weighed on global economic activity, with the recovery lagging behind especially in emerging market economies.

In the EMEA region, after a technical recession at the start of the year, the euro area economy recovered moderately in 2021 thanks to robust domestic demand, and nearly reached its pre-pandemic level of output in the third quarter. However, economic activity in the euro area waned again over the final quarter of the year as some countries reintroduced tighter containment measures to cope with new pandemic waves. In central and eastern Europe, economic activity stabilized until the third quarter but slackened in the fourth, reflecting a significant deterioration of the epidemiological situation, persistent supply bottlenecks, and high energy prices. In Russia, rising global demand for oil and gas supported economic activity throughout 2021, while sharply increasing numbers of pandemic infections led to tighter containment measures toward the end of the year.

As for the Americas region, economic activity recovered in the United States, with subdued growth in the third quarter caused by a resurgence of pandemic infections. Over the year, consumer demand in the United States rotated toward services, which were not subject to supply bottlenecks. In Brazil, a tighter policy stance and limited fiscal space constrained economic activity in 2021, reports the ECB.

Concerning the APJ region, the ECB finds that the Japanese economy slowed until the third quarter in the face of supply bottlenecks and the pandemic resurgence. However, it rebounded in the fourth quarter when containment measures were eased, vaccinations progressed, and policy support continued. In China, on the other hand, economic activity decelerated in the second half of the year because of energy shortages, turmoil in the residential property sector, and renewed pandemic outbreaks.

The IT Market

"2021 represented times of uncertainty due to the global health crisis and the upending of traditional business practices, but it also fueled further growth in digital technology pivots and digital transformation." This is how International Data Corporation (IDC), a U.S.-based market research firm, summarizes the reporting year.^(B) "One notable impact of the COVID-19 pandemic is that many enterprises now recognize that their ability to build innovative digital products and services will determine whether they succeed or fail in the market. The imperative to develop innovative digital offerings is influencing an array of strategic decision making in the enterprise, including significant changes to business models, organizational models, distribution models, and revenue streams, says IDC."^(C)

According to IDC, "adaptations and lessons learned from the COVID-19 pandemic are becoming permanent, requiring revised global business and operating models. Digital resilience approaches



counter supply chain disruptions. Organizations are preparing for the return to office, the return to travel, new consumer spending patterns, the challenges of finding (higher-cost) talent, and the possible return of inflation in an environment of continued economic uncertainty. Innovation and digital resiliency become key to navigating ongoing disruption. During the pandemic, changes in behavior, consumption, and supply forced companies to adopt digital-led business and operating models that endure lockdowns, movement restrictions, social distancing, and more. Work from anywhere, connectivity, scalability, security, throughput, resiliency, and redefining internal processes for remote access will define the next normal.”^(C)

IDC observed in addition that “companies that traditionally weren’t technology centric are now digitally transforming and adopting technology to run and support their businesses. As part of that transformation, many are rethinking their business models so they can offer differentiated and recurring services, which are harder to commoditize. Where companies once sold physical items, they are now reimaging their businesses to provide outcome-based recurring services.”^(C)

Monitoring decarbonization initiatives turned out to be a key component of digital transformation in the reporting year. “Beyond just cost take out, organizations will increasingly be disrupting themselves by using lower carbon power sources and creating more sustainable operations to adhere to the numerous sustainability standards that fall under the environmental, social, and governance (ESG) umbrella. More than 40% of organizations surveyed by IDC worldwide have declared an intent to reduce CO₂ in their products/services, while about 30% have implemented a CO₂ monitoring solution and another 20% are currently developing a CO₂ monitoring solution,” observed IDC.^(B)

Sources:

(A) European Central Bank, Economic Bulletin, Issue 8/2021, Publication Date: January 13, 2022 (<https://www.ecb.europa.eu/pub/pdf/ecbu/eb202108.en.pdf>)

(B) IDC FutureScape: Worldwide Digital Transformation 2022 Predictions, Doc #US47115521, October 2021

(C) IDC FutureScape: Worldwide Future of Digital Innovation 2022 Predictions, Doc #US47148621, October 2021

Impact on SAP

Businesses around the world increasingly used digital technologies and the cloud to transform the way they do business. Companies expressed the need for flexibility and adaptability as a response to supply chain disruptions and new regulatory restrictions. The strength and the execution of our strategy showed up on multiple fronts, for instance with strong growth in current cloud backlog and cloud revenues in particular that exceeded our expectations. High customer adoption was underpinned by strong demand for our cloud offerings. Furthermore, Customer NPS continued to increase, echoing our efforts toward stronger customer focus.

Overall Financial Position

Executive Board's Assessment

Looking at most of our financial and non-financial KPIs, the course of business was favorable for SAP in 2021:

Full-year cloud revenue was up 17% to €9.42 billion and up 19% to €9.59 billion at constant currencies, hitting the high end of the revised full year outlook (€9.4 billion to €9.6 billion at constant currencies). Cloud and software revenue was up 4% year over year to €24.08 billion and up 5% to €24.41 billion at constant currencies, exceeding the high end of the revised full-year outlook (€23.8 billion to €24.2 billion at constant currencies). IFRS operating profit decreased 30% year over year to €4.66 billion. Non-IFRS operating profit was down 1% to €8.23 billion and up 1% to €8.41 billion at constant currencies, exceeding the high end of the revised full-year outlook (€8.1 billion to €8.3 billion non-IFRS at constant currencies).

SAP's non-financial performance developed as follows: the Customer Net Promoter Score was 10, hitting the upper end of our 2021 guidance (5 to 10). Employee Engagement decreased slightly to 83% (-3pp compared to 2020 and remaining below our outlook for 2021 (84% to 86%)). Our net carbon emissions continued to decrease by 18.5% to 110 kt (outlook for 2021: 90 kt to 110 kt). SAP's



commitment to sustainability is also reflected in our target to reach CO₂-neutrality in our own operations by 2023 and our announcement to achieve net-zero along our value chain in 2030.

We are confident that we will continue our growth path in 2022 and will deliver on both our financial and non-financial outlook for 2022 and on our 2025 mid-term ambition.

Performance Against Our Outlook for 2021 (Non-IFRS)

As in previous years, our 2021 operating profit-related goals and published outlook were based on our non-IFRS financial measures at constant currencies. For this reason, in the following section we discuss performance against our outlook only in terms of non-IFRS numbers (at constant currencies) derived from IFRS measures. The subsequent section about IFRS operating results discusses numbers only in terms of the International Financial Reporting Standards (IFRS), so the numbers in that section are not expressly identified as IFRS numbers.

Outlook for 2021 (Non-IFRS)

The initial outlook for 2021, updated on April 13, 2021 (for more information, see the table “Comparison of Outlook and Results for 2021”), reflected the strong new cloud business performance, which was expected to reaccelerate cloud revenue growth, while software licenses revenue was expected to decline for the full year as more customers turned to the RISE with SAP subscription offering. This outlook also continued to assume that the COVID-19 pandemic would begin to recede as vaccine programs rolled out globally, leading to a gradually improving global demand environment in the second half of 2021. In this context, we predicted cloud revenue to range between €9.2 billion and €9.5 billion, and cloud and software revenue to range between €23.4 billion and €23.8 billion, with more predictable revenue anticipated to make up 75% of this result. Furthermore, we expected operating profit (non-IFRS) to range between €7.8 billion and €8.2 billion. We expected a full-year 2021 effective tax rate (IFRS) of 27.5% to 28.5% (2020: 26.8%) and an effective tax rate (non-IFRS) of 24.5% to 25.5% (2020: 26.5%). In April 2021, we adjusted our outlook for the effective tax rate (IFRS) to between 26.0% and 27.0% and for the effective tax rate (non-IFRS) to between 22.5% and 23.5%. The decrease in comparison to the previous outlook mainly resulted from changes in taxes for prior years and tax-exempt income. Under IFRS, these positive tax effects were partly compensated by changes in non-deductible expenses.

In July 2021, we adjusted our outlook for cloud revenue at constant currencies to range between €9.3 billion and €9.5 billion and for cloud and software revenue to range between €23.6 billion and €24.0 billion, resulting in a new projected non-IFRS operating profit of between €7.95 billion and €8.25 billion. We adjusted our outlook for the effective tax rate (IFRS) to between 21.5% and 23.0% and for the effective tax rate (non-IFRS) to between 20.0% and 21.5%. The decrease in comparison to the previous outlook mainly resulted from changes in tax-exempt income.

In our quarterly statement published on October 21, 2021, we raised our outlook again to further reflect the strong business performance. This outlook likewise continued to assume that the COVID-19 pandemic would continue to recede as vaccine programs rolled out globally.

We adjusted our projection for cloud revenue upward to range between €9.4 billion and €9.6 billion, which represented a growth rate of 16% to 19% at constant currencies. In addition, the Company then anticipated cloud and software revenue of between €23.8 billion and €24.2 billion. This range represented a growth rate of 2% to 4% at constant currencies. Furthermore, we projected the share of more predictable revenue to reach approximately 75%. We also set a target range of €8.1 billion to €8.3 billion for our operating profit, which represented a decrease of 2% to flat at constant currencies. We expected a full-year 2021 effective tax rate (IFRS) of 21.0% to 22.0% and an effective tax rate (non-IFRS) of 20.0% to 21.0%. The decrease in comparison to the previous outlook mainly resulted from changes in tax-exempt income.



2021 Actual Revenue and Profit Performance Compared to Outlook (Non-IFRS)

On the cloud revenue side, we reached the upper end of the guidance, while our cloud and software revenue and our operating profit both exceeded the outlook adjusted in October 2021.

Comparison of Outlook and Results for 2021

	Results for 2020	Outlook for 2021 (Integrated Report 2020)	Revised Outlook for 2021 (Q1 Quarterly Statement)	Revised Outlook for 2021 (Half-Year Report)	Revised Outlook for 2021 (Q3 Quarterly Statement)	Results for 2021
Cloud revenue (non-IFRS, at constant currencies)	€8.09 billion	€9.1 billion to €9.5 billion	€9.2 billion to €9.5 billion	€9.3 billion to €9.5 billion	€9.4 billion to €9.6 billion	€9.59 billion
Cloud and software revenue (non-IFRS, at constant currencies)	€23.23 billion	€23.3 billion to €23.8 billion	€23.4 billion to €23.8 billion	€23.6 billion to €24.0 billion	€23.8 billion to €24.2 billion	€24.41 billion
Operating profit (non-IFRS, at constant currencies)	€8.29 billion	€7.8 billion to €8.2 billion	€7.8 billion to €8.2 billion	€7.95 billion to €8.25 billion	€8.1 billion to €8.3 billion	€8.41 billion
Share of predictable revenue	72%	75%	75%	75%	75%	75%
Effective tax rate (IFRS)	26.8%	27.5% to 28.5%	26.0% to 27.0%	21.5% to 23.0%	21.0% to 22.0%	21.5%
Effective tax rate (non-IFRS)	26.5%	24.5% to 25.5%	22.5% to 23.5%	20.0% to 21.5%	20.0% to 21.0%	20.0%

In a global economic situation that keeps being shaken by the COVID-19 pandemic, the demand for our solutions and services was higher than assumed in 2021, reflecting the strong business performance which is expected to continue to accelerate cloud revenue growth.

Our current cloud backlog (contractually committed cloud revenue that we expect to recognize over the upcoming 12 months) reached €9.01 billion at constant currencies (€9.45 billion at actual currencies; 2020: €7.15 billion). This was an increase of 26% (2020: 14%) on a constant currency basis.

At constant currencies, the resulting non-IFRS cloud revenue grew from €8.09 billion in 2020 to €9.59 billion in 2021, hitting the high end of our guidance range of €9.4 billion to €9.6 billion. That represented an increase of 19% at constant currencies.

Cloud and software revenue (non-IFRS) grew 5% at constant currencies to €24.41 billion (2020: €23.23 billion), and thus ended above our range forecasted for 2021 of €23.8 billion to €24.2 billion.

Thanks to the strong increase in cloud business described above, we were able to increase the share of more predictable revenue 3.3pp to 75% (2020: 72%). As such, our total revenue (non-IFRS) increased slightly despite a decline in the software license business, which is in line with our cloud transformation.

Total revenue (non-IFRS) on a constant currency basis grew 3% in 2021 to €28.23 billion (2020: €27.34 billion).

Operating expenses (non-IFRS) in 2021 on a constant currency basis increased 4% to €19.82 billion (2020: €19.06 billion).

Our expense base in 2021 was impacted by our transformation to a fast-growing cloud business. The cloud gross margin (non-IFRS) for 2021 was 69%, declining slightly in comparison with the previous year, despite the increase in cloud revenue. This decline was predominantly due to investments into our cloud delivery program.

The cloud gross margin (non-IFRS) on our intelligent spend management offerings improved 0.6pp on a constant currency basis, resulting in 80% for 2021 (2020: 79%).

The cloud gross margin (non-IFRS) on our infrastructure as a service (IaaS) cloud offerings saw a decline of 0.8pp for 2021 on a constant currency basis to achieve a cloud gross margin (non-IFRS) of 34% for the full year.



Profitability in our software as a service/platform as a service (SaaS/PaaS) excluding intelligent spend cloud offerings was 70% at constant currencies (non-IFRS) for 2021. Due to ongoing investments in the further development and harmonization in the operation of our various SaaS/PaaS offerings on a single platform, the gross margin declined 0.5pp.

Non-IFRS operating profit in 2021 was €8.41 billion on a constant currency basis (2020: €8.29 billion), reflecting an increase of 1%. As a result, we were able to surpass our excellent results from 2019 and 2020, despite our continued investment in our business transformation during the reporting year. The development of our operating profit was largely influenced by investment decisions in our innovation areas and growth markets. This, among other things, resulted in an increase of our overall headcount by 4,984 full-time equivalents or FTEs (4,071 thereof organically), primarily in research and development as well as in sales and marketing. Thus, non-IFRS operating profit on a constant currency basis amounting to €8.41 billion exceeded the top end of the target range (€8.1 billion to €8.3 billion).

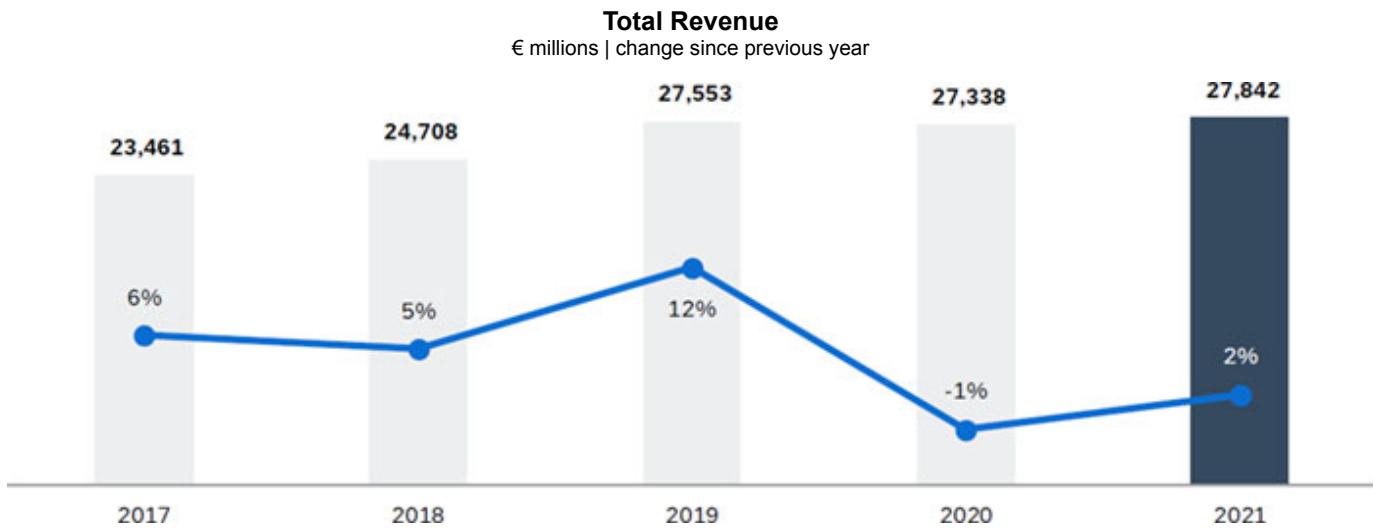
We achieved an effective tax rate (IFRS) of 21.5% and an effective tax rate (non-IFRS) of 20.0%, which is in the middle of the adjusted outlook of 21.0% to 22.0% (IFRS) and at the lower end of the range of 20.0% to 21.0% (non-IFRS) we announced in October 2021.

Operating Results (IFRS)

This section on operating results (IFRS) discusses results only in terms of IFRS measures, so the IFRS numbers are not expressly identified as such.

We break our operations down into three regions: the Europe, Middle East, and Africa (EMEA) region, the Americas region, and the Asia Pacific Japan (APJ) region. We allocate revenue amounts to each region based on where the customer is located. For more information about revenue by geographic region, see the Notes to the Consolidated Financial Statements, [Note \(A.1\)](#).

Revenue



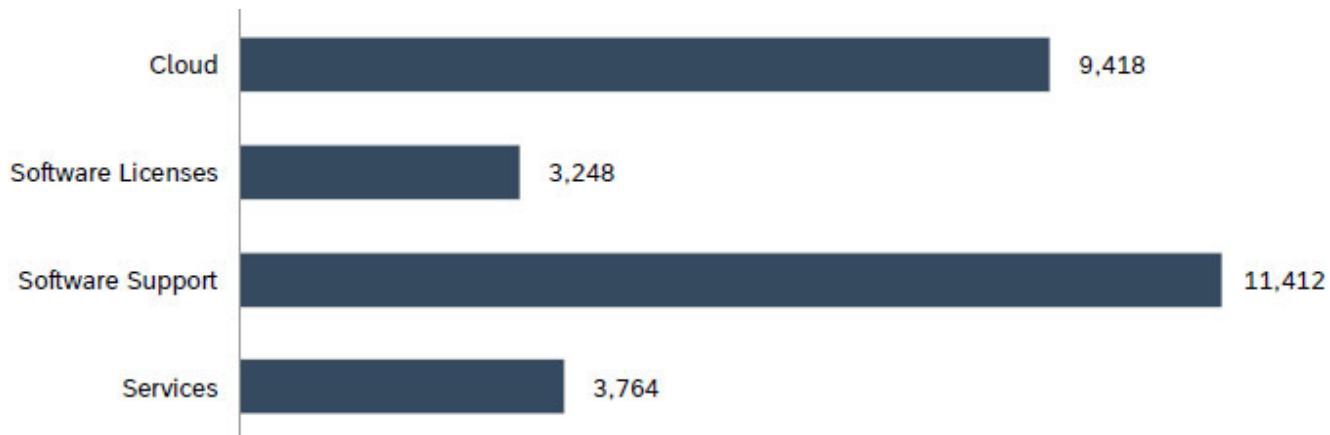
Total revenue increased from €27,338 million in 2020 to €27,842 million in 2021, representing an increase of €504 million, or 2%.

Cloud and software revenue represented 86% of total revenue in 2021 (2020: 85%). Service revenue decreased 8% from €4,110 million in 2020 to €3,764 million in 2021, which was 14% of total revenue (2020: 15%).



Revenue by Revenue Type

€ millions

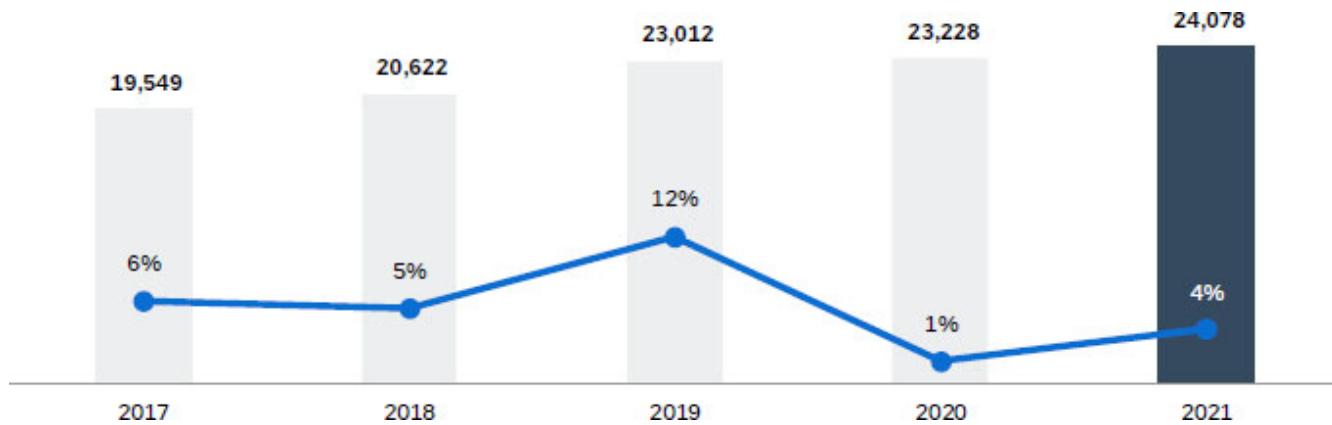


For more information about our regional performance, see the [Revenue by Region](#) section.

Cloud revenue refers to the income earned from contracts that permit the customer to access specific software solutions hosted by SAP or third parties engaged by SAP during the term of its contract with SAP. Software licenses revenue results from the fees earned from selling or licensing software to customers. Support revenue represents fees earned from providing customers with technical support services and unspecified software upgrades, updates, and enhancements. For more information about our revenue types, see the Notes to the Consolidated Financial Statements, [Note \(A.1\)](#).

Cloud and Software Revenue

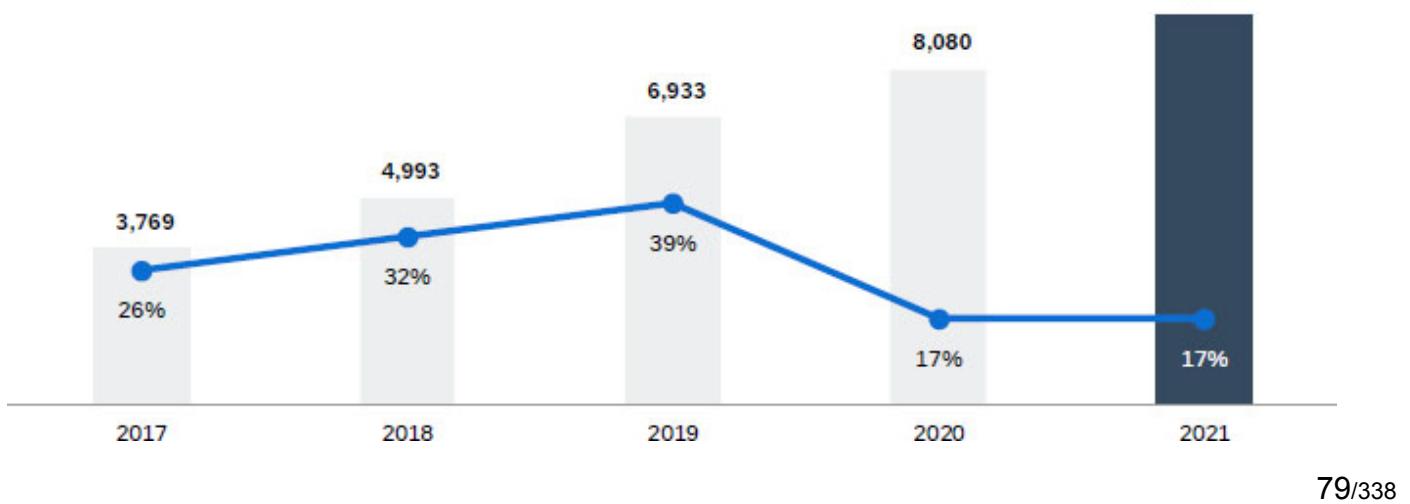
€ millions | change since previous year



Cloud and software revenue grew from €23,228 million in 2020 to €24,078 million in 2021, an increase of 4%.

Cloud Revenue

€ millions | change since previous year



79/338



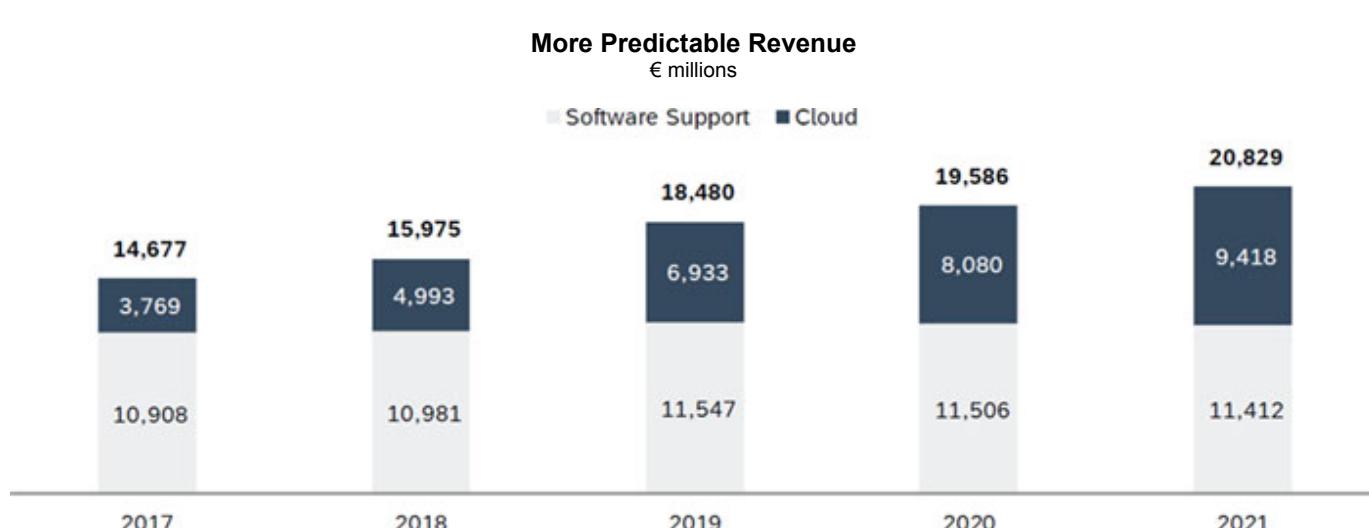
Cloud revenue increased €1,337 million, or 17%, from €8,080 million in 2020 to €9,418 million in 2021. With continued lower transactional revenue, SAP Concur and SAP Fieldglass supplier business grew moderately, having an unfavorable impact on the cloud revenue growth. The current cloud backlog increased 32% to €9,447 million in 2021 (2020: €7,155 million).

Our software licenses revenue declined €393 million from €3,642 million in 2020 to €3,248 million in 2021.

The continued demand for SAP software helped us maintain a stable maintenance customer base for software support, resulting in software support revenue of €11,412 million in 2021 (2020: €11,506 million), the slight decline being driven by an accelerated transition to the cloud and unfavorable currency exchange rates.

SAP Enterprise Support was the largest contributor to our software support revenue.

Software licenses and software support revenue decreased €488 million, or 3%, from €15,148 million in 2020 to €14,660 million in 2021.



We define more predictable revenue as the sum of our cloud revenue and our software support revenue. Our more predictable revenue increased from €19,586 million in 2020 to €20,829 million in 2021. This reflects a rise of 6%. More predictable revenue accounted for 75% of our total revenue in 2021 (2020: 72%), following the upward trend from prior years.

Services revenue combines revenue from consulting services, premium support services, and other services such as training services. Consulting services primarily relate to the implementation of our cloud and on-premise software products. Our premium support offering consists of high-end support services tailored to customer requirements.

Services revenue decreased €345 million, or 8%, from €4,110 million in 2020 to €3,764 million in 2021. The services revenue decline was predominantly caused by the divestiture of the SAP Digital Interconnect business in 2020. For more information, see [Note \(D.1\)](#). At the same time, the year-over-year revenue development continued to be negatively impacted by the lower consulting order entry generated in 2020 in the wake of COVID-19 pandemic uncertainties.

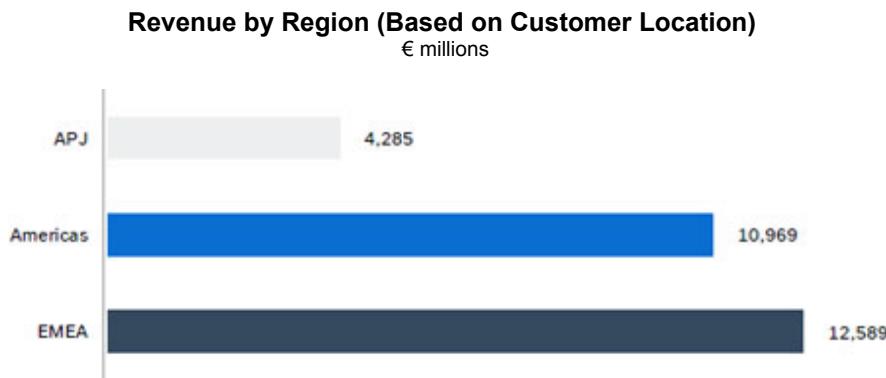
Consulting revenue and premium support revenue decreased €114 million, or 3%, from €3,408 million in 2020 to €3,294 million in 2021. In 2021, consulting and premium support revenue contributed 87% of the total services revenue (2020: 83%) and 12% of total revenue (2020: 12%).

Revenue from other services decreased €231 million, or 33%, to €471 million in 2021 (2020: €702 million), which was mainly caused by the divestiture of the SAP Digital Interconnect business.

For more information about the development of our Services segment, see the [Segment Information](#) section.

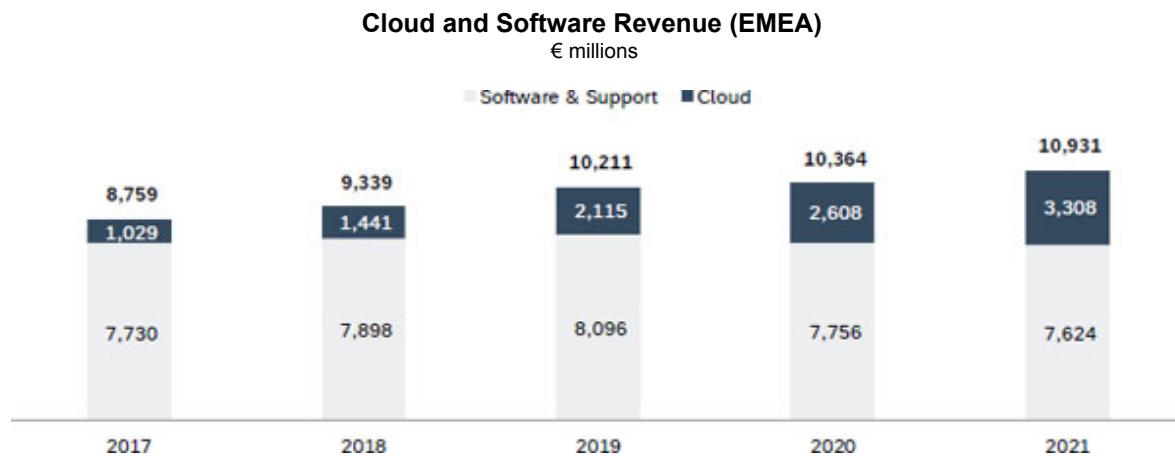


Revenue by Region



EMEA Region

In 2021, the EMEA region generated €12,589 million in revenue (2020: €12,067 million), which was 45% of total revenue (2020: 44%). Revenue in Germany increased 8% to €4,343 million (2020: €4,015 million). Germany contributed 34% (2020: 33%) of all EMEA region revenue. The remaining revenue in the EMEA region was primarily generated in France, Italy, the Netherlands, Switzerland, and the United Kingdom.



Cloud and software revenue generated in the EMEA region totaled €10,931 million (2020: €10,364 million). That was 87% of all revenue from the region (2020: 86%). Cloud revenue in the EMEA region rose 27% to €3,308 million in 2021 (2020: €2,608 million). Software licenses and software support revenue decreased 2% to €7,624 million in 2021 (2020: €7,756 million).

Americas Region

In 2021, 39% of our total revenue was generated in the Americas region (2020: 41%). Total revenue in the Americas region decreased 1% to €10,969 million (2020: €11,106 million). Revenue in the United States decreased to €8,870 million (2020: €9,110 million), primarily driven by unfavorable changes in currency exchange rates. The United States contributed 81% (2020: 82%) of all revenue generated in the Americas region. In the remaining countries of the Americas region, revenue increased 5% to €2,099 million. Revenue in the remaining countries of the Americas region was generated primarily in Brazil, Canada, and Mexico.



Cloud and Software Revenue (Americas)

€ millions

■ Software & Support ■ Cloud



Cloud and software revenue generated in the Americas region totaled €9,348 million (2020: €9,239 million). That was 85% of all revenue from the region (2020: 83%). Cloud revenue in the Americas region rose 10% to €4,894 million in 2021 (2020: €4,439 million). The United States, SAP's largest market, contributed 83% of cloud revenue generated in the Americas region. Software licenses and software support revenue amounted to €4,455 million in 2021 (2020: €4,800 million).

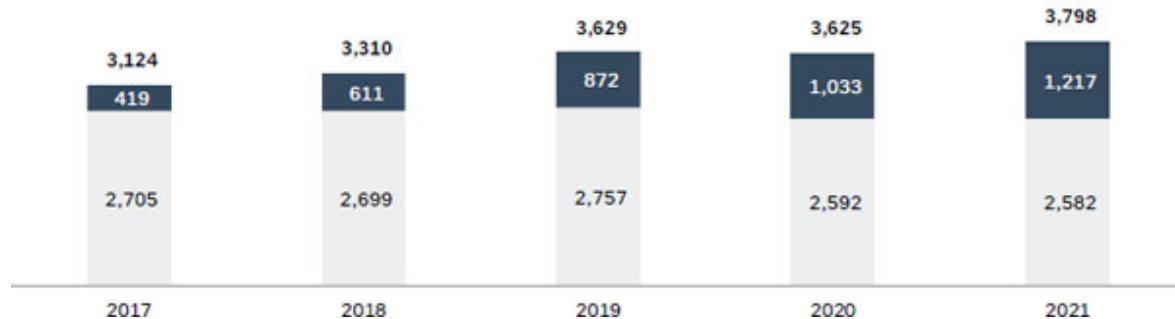
APJ Region

In 2021, 15% of our total revenue was generated in the APJ region (2020: 15%). Total revenue in the APJ region increased 3% to €4,285 million (2020: €4,165 million). Despite the unfavorable currency development in Japan, revenue reached €1,301 million, nearly matching the previous year's level of €1,305 million. Revenue from Japan accounted for 30% of all revenue generated in the APJ region (2020: 31%). In the remaining countries of the APJ region, revenue increased 4%. Revenue in the remaining countries of the APJ region was generated primarily in Australia, China, and India.

Cloud and Software Revenue (APJ)

€ millions

■ Software & Support ■ Cloud



Cloud and software revenue in the APJ region totaled €3,798 million (2020: €3,625 million). That was 89% of all revenue from the region (2020: 87%). Cloud revenue in the APJ region rose 18% to €1,217 million in 2021 (2020: €1,033 million). Software licenses and software support revenue decreased from €2,592 million in 2020 to €2,582 million in 2021.

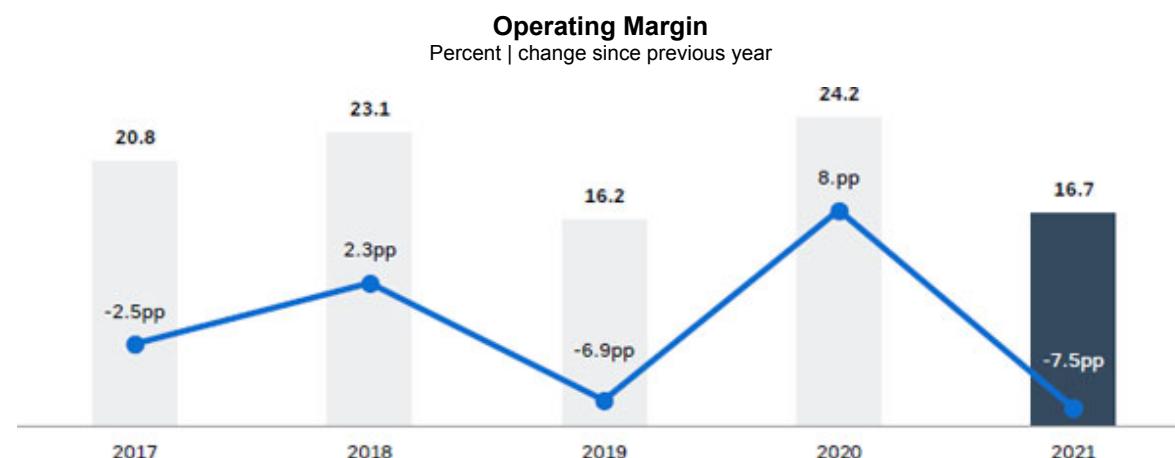
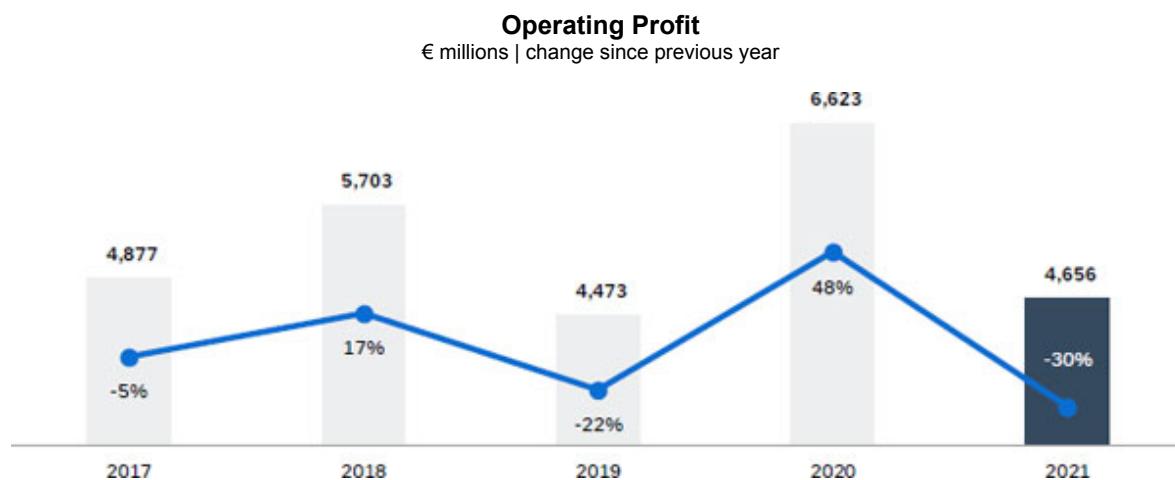


Operating Profit and Operating Margin

SAP continued to increase its cloud revenue in 2021. Total revenue increased significantly by 2% to €27,842 million (2020: €27,338 million), representing an increase of €504 million.

In 2021, our operating expenses increased €2,471 million, or 12%, to €23,186 million (2020: €20,715 million). The main contributor to the increase were share-based payments, mainly caused by newly granted equity-settled Qualtrics RSUs. Our employee headcount (measured in full-time equivalents, or FTEs) grew 4,984 FTEs year over year to 107,415.

As a result of these effects, our operating profit decreased 30% to €4,656 million (2020: €6,623 million) and our operating margin decreased 7.5pp to 16.7% (2020: 24.2%).



Changes to the individual elements in our cost of revenue were as follows:

Cost of Cloud and Software

Cost of cloud and software consists primarily of costs for deploying and operating cloud solutions, the cost of developing custom solutions that address customers' specific business requirements, and customer support costs.

In 2021, the cost of cloud and software increased to €5,030 million (2020: €4,707 million) and our cloud margin widened 0.4pp from 66.6% in 2020 to 67.0% in 2021.

Our software licenses and software support margin was 86.9%, slightly above the prior year level (2020: 86.7%). Software licenses and software support revenue decreased 3% to €14,660 million (2020: €15,148 million), primarily arising from an 11% decline in software revenue. Software licenses and software support costs decreased correspondingly by 4% to €1,925 million (2020: €2,008 million).



Cost of Services

Cost of services consists primarily of the cost of consulting, premium services and training courses, and the cost of bought-in consulting and training resources.

The services revenue decreased by 8% year over year to €3,764 million in 2021 (2020: €4,110 million). The cost of services declined 8% to €2,916 million (2020: €3,178 million). Our gross margin on services, defined as services profit as a percentage of services revenue, decreased slightly to 22.5% (2020: 22.7%). As our services business trends away from traditional software licensing and consulting revenue toward more subscription revenue from cloud solutions, we adjusted our service delivery resources correspondingly. The expenses are impacted by COVID-19-related limitations in personal customer contacts and a correspondingly high remote delivery share of the consulting services.

Research and Development

Our research and development (R&D) expense consists primarily of the personnel cost of our R&D employees, costs incurred for independent contractors whom we retain to assist in our R&D activities, and amortization of the computer hardware and software we use for our R&D activities.

Due to growing personnel costs driven by a 9% year-over-year increase in our R&D headcount, and due to continued strategic investments, our R&D expense rose 17% to €5,190 million in 2021 from €4,454 million in 2020. R&D expense as a percentage of total revenue thus increased to 18.6% in 2021 (2020: 16.3%). For more information, see the [Products, Research & Development, and Services](#) section.

Sales and Marketing Expense

Sales and marketing expense consists mainly of personnel costs, direct sales costs, and the cost of marketing our products and services.

Our sales and marketing expense grew 6% from €7,106 million in 2020 to €7,505 million in 2021. This increase is mainly attributable to the expansion of the global sales force and to greater expenditure on bonus payments prompted by strong revenue growth and share-based payments.

Accordingly, the ratio of sales and marketing expense to total revenue, expressed as a percentage, increased 1.0pp in 2021 to 27.0% (2020: 26.0%).

General and Administration Expense

Our general and administration expense consists mainly of personnel costs to support our finance and administration, human resource, and corporate functions.

General and administration expense increased 79% from €1,356 million in 2020 to €2,431 million in 2021. This increase is primarily due to expenses from share-based payments, with a major effect coming from Qualtrics equity-settled plans. The ratio of general and administration expense to total revenue grew 3.8pp year over year to 8.7% (2020: 5.0%).



Reconciliation of Cloud Revenues and Margins

€ millions, unless otherwise stated				Q1–Q4 2021		Q1–Q4 2020			Δ in %		
	IFRS	Non- IFRS	Currency Impact	Non-IFRS Constant Currency	IFRS	Adj.	Non- IFRS	IFRS	Non- IFRS	Non-IFRS Constant Currency ³	
Cloud revenue – SaaS/PaaS ¹	Intelligent Spend	2,831	2,831	67	2,899	2,722	0	2,722	4	4	6
	Other	5,669	5,669	86	5,755	4,517	5	4,522	25	25	27
	Total	8,500	8,500	154	8,653	7,239	5	7,244	17	17	19
Cloud revenue – IaaS ²		918	918	21	939	841	0	841	9	9	12
Cloud revenue		9,418	9,418	174	9,592	8,080	5	8,085	17	16	19
Cloud gross margin – SaaS/PaaS ¹ (in %)	Intelligent Spend	78.9	79.5		79.5	78.6	78.9	0.3pp	0.6pp	0.6pp	
	Other	66.7	70.3		70.2	65.5	70.7	1.2pp	– 0.4pp	– 0.5pp	
	Total	70.8	73.3		73.3	70.4	73.8	0.3pp	– 0.5pp	– 0.5pp	
Cloud gross margin – IaaS ² (in %)		32.5	33.6		33.5	33.6	34.3	– 1.1pp	– 0.7pp	– 0.8pp	
Cloud gross margin (in %)		67.0	69.5		69.4	66.6	69.7	0.4pp	– 0.2pp	– 0.3pp	

¹ Software as a service/platform as a service

² Infrastructure as a service

³ Constant currency period-over-period changes are calculated by comparing the current year's non-IFRS constant currency numbers with the non-IFRS numbers of the previous year's respective period.

Segment Information

At the end of 2021, SAP had three reportable segments: Applications, Technology & Support; Qualtrics; and Services. For more information about our segment reporting and the changes in the composition of our reportable segments in 2021, see the Notes to the Consolidated Financial Statements, [Notes \(C.1\)](#) and [\(C.2\)](#), and the [Performance Management System](#) section.

Applications, Technology & Support

€ millions, unless otherwise stated (non-IFRS)	2021		2020		Δ in %		Δ in %	
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Constant Currency	Constant Currency	Constant Currency
Cloud revenue	8,509	8,661	7,541	13	15	15	13	15
Cloud gross margin (in %)	68.4	68.4	69.3	–0.9pp	–0.9pp	–0.9pp	–0.9pp	–0.9pp
Segment revenue	23,502	23,816	22,965	2	4	4	2	4
Segment gross margin (in %)	79.5	79.5	80.6	–1.0pp	–1.0pp	–1.0pp	–1.0pp	–1.0pp
Segment profit	9,567	9,718	9,722	–2	0	0	–2	0
Segment margin (in %)	40.7	40.8	42.3	–1.6pp	–1.5pp	–1.5pp	–1.6pp	–1.5pp

The Applications, Technology & Support segment recorded a strong increase in cloud revenue of 12.8% in 2021 (14.8% at constant currencies). At the same time, cost of cloud increased 16.0% (18.3% at constant currencies), which led to a reduction in the cloud gross margin of 0.9pp (0.9pp at constant currencies) to 68.4%. Software support revenue remained flat compared to the prior year and ended 2021 at €11,410 million, which indicated a growth of 0.6% at constant currencies. Together with software licenses revenue, which decreased 10.8% (11.0% at constant currencies) mainly due to the shift toward cloud revenue, the segment achieved a total software licenses and support revenue of €14,654 million. However, total segment revenue rose slightly, by 2.3% (3.7% at constant currencies), and ended 2021 at €23,502 million.

Overall, the share of more predictable revenue increased 1.8pp from 82.9% in 2020 to 84.8% in 2021.

Cost of revenue increased 7.7% (9.3% at constant currencies) compared to the prior year, ending 2021 at €4,808 million. This development was mainly driven by a strong increase in cost of cloud.



Segment profit remained at prior year level and ended 2021 at €9,567 million. This is mainly explained by an increase of total segment cost of 6.5% at constant currencies. Consequently, both the segment gross margin and the segment margin decreased slightly by 1.1pp and 1.5pp at constant currencies.

Qualtrics

€ millions, unless otherwise stated (non-IFRS)	2021		2020		Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	
Cloud revenue	757	780	518	46	50	
Cloud gross margin (in %)	91.5	91.5	91.8	-0.3pp	-0.2pp	
Segment revenue	929	957	681	37	41	
Segment gross margin (in %)	79.6	79.7	77.6	1.9pp	2.1pp	
Segment profit	44	44	-4	<-100	<-100	
Segment margin (in %)	4.7	4.6	-0.6	5.4pp	5.2pp	

The Qualtrics segment, which comprises SAP's experience management solutions, closed 2021 with a strong cloud revenue growth of 46.2% (50.4% at constant currencies). The associated cost of cloud rose 54.5% at constant currencies, which led to a slight drop in the segment's cloud gross margin of 0.3pp (0.2pp at constant currencies). Including services revenue, the total segment revenue increased 36.6% (40.6% at constant currencies) to €929 million. Overall, the Qualtrics segment profit increased to €44 million in 2021. The corresponding segment margin rose 5.4pp (5.2pp at constant currencies) to 4.7%.

Services

€ millions, unless otherwise stated (non-IFRS)	2021		2020		Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	
Services revenue	3,234	3,282	3,374	-4	-3	
Services gross margin (in %)	37.1	37.2	34.5	2.6pp	2.7pp	
Segment revenue	3,234	3,283	3,379	-4	-3	
Segment gross margin (in %)	34.1	34.2	31.5	2.6pp	2.7pp	
Segment profit	728	743	645	13	15	
Segment margin (in %)	22.5	22.6	19.1	3.4pp	3.5pp	

The Services segment, comprising major parts of SAP's services business, recorded revenue of €3,234 million, which represents a decline of 4.2% (2.7% at constant currencies). Cost of services decreased 7.9% (6.7% at constant currencies) to €2,035 million. As a result, the services gross margin increased 2.6pp (2.7pp at constant currencies) to 34.1% in 2021. This gross margin improvement was primarily attributable to the positive development of SAP's consulting and premium engagement business, and a higher remote delivery share of the consulting services.

Overall, the segment profit and the segment margin benefitted from this development and ended the year with a segment profit of €728 million and a segment margin of 22.5%, which indicates a growth of 3.4pp (3.5pp at constant currencies).



Financial Income, Net

Financial income, net, changed to €2,174 million (2020: €776 million). Our finance income was €3,123 million (2020: €1,473 million) and our finance costs were €949 million (2020: €697 million).

Finance income mainly consists of gains from IFRS 9-related fair value adjustments, mainly of Sapphire Ventures investments, and the disposal of equity securities totaling €3,067 million (2020: €1,360 million).

Finance costs mainly consist of interest expense on financial liabilities amounting to €160 million (2020: €179 million), and IFRS 9-related fair value adjustments or losses from disposal of Sapphire Ventures investments totaling €654 million (2020: €345 million). For more information about financing instruments, see the Notes to the Consolidated Financial Statements, [Note \(E.3\)](#).

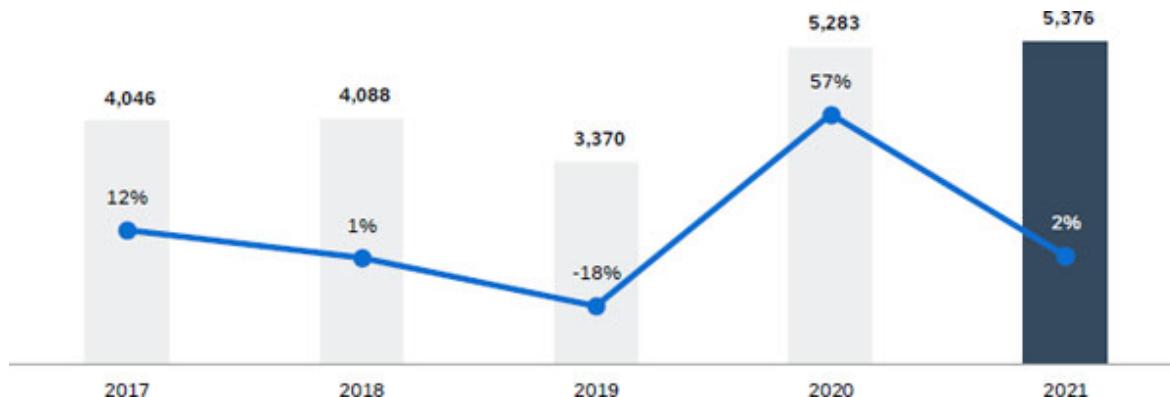
Income Taxes

The effective tax rate in 2021 was 21.5% (2020: 26.8%). The year-over-year decrease mainly resulted from changes in tax-exempt income and a one-time change of taxable temporary differences associated with investments in subsidiaries, which were partly compensated by changes in non-deductible expenses. For more information about income taxes, see the Notes to the Consolidated Financial Statements, [Note \(C.5\)](#).

Profit After Tax and Earnings per Share

Profit after tax increased to €5,376 million in 2021 (2020: €5,283 million).

Profit After Tax
€ millions | change since previous year



Basic earnings per share increased to €4.46 (2020: €4.35). The number of shares outstanding decreased slightly to 1,180 million in 2021 (2020: 1,182 million).

Earnings per Share
€ | change since previous year



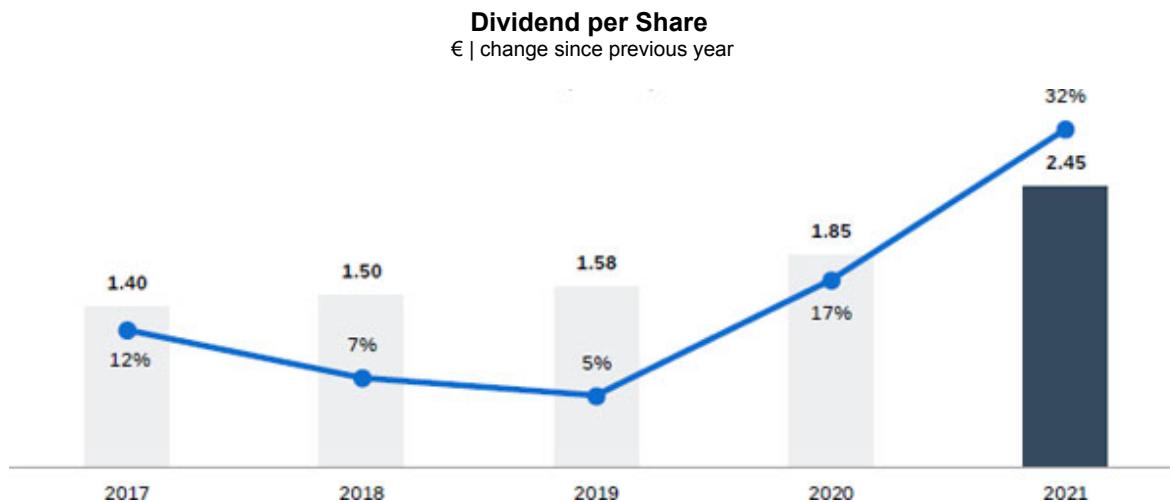


Dividend

We believe our shareholders should benefit appropriately from the profit the Company made in 2021. Our dividend policy is to pay a dividend totaling 40% or more of profit after tax.

The Executive Board and the Supervisory Board of SAP SE will recommend to the Annual General Meeting of Shareholders in May 2022 that the total dividend for 2021 be increased 32% to €2.45 per share (2020: €1.85). This payment includes a special dividend of €0.50 to celebrate SAP's 50th anniversary. Based on this recommendation, the overall dividend payout ratio (which means the total distributed dividend as a percentage of profit after tax) would be 54% (2020: 41%). Excluding the special dividend, the ratio would be 43%.

If the shareholders approve this recommendation, and based on the number of treasury shares as at December 31, 2021, the total amount distributed in dividends will be €2,890 million. The actual amount distributed can be different from this total amount, because the number of shares held as treasury stock will change before the Annual General Meeting of Shareholders due to the share buyback SAP will execute in 2022. In 2021, we distributed €2,182 million in dividends.



Finances (IFRS)

Overview

Global Financial Management

We use global centralized financial management to control liquid assets and monitor exposure to interest rates and currencies. The primary aim of our financial management is to maintain liquidity in the Group at a level that is adequate to meet our financial obligations at all times. Most SAP entities have their liquidity managed centrally by the Group, so that liquid assets across the Group can be consolidated, monitored, and invested in accordance with Group policy. High levels of liquid assets help keep SAP flexible, sound, and independent. In addition, various credit facilities are currently available for additional liquidity, if required. For more information about these facilities, see the [Credit Facilities](#) section.

We manage credit, liquidity, interest rate, equity price, and foreign exchange rate risks on a Group-wide basis. We use selected derivatives exclusively for this purpose and not for speculation, which is defined as entering into a derivative instrument for which we do not have corresponding underlying transactions. The rules for the use of derivatives and other rules and processes concerning the management of financial risks are documented in our Treasury Guideline, which applies globally to all companies in the Group. For more information about the management of each financial risk and about our risk exposure, see the Notes to the Consolidated Financial Statements, [Notes \(F.1\)](#) and [\(F.2\)](#).



Capital Structure Management

The primary objective of our capital structure management is to maintain a strong financial profile for investor, creditor, and customer confidence, and to support the growth of our business. We seek to maintain a capital structure that will allow us to cover our funding requirements through the capital markets at reasonable conditions, and in so doing, ensure a high level of independence, confidence, and financial flexibility. For more information about the capital structure and its analysis, see the Analysis of Consolidated Statement of Financial Position section and the Notes to the Consolidated Financial Statements, [Note \(E.1\)](#).

The long-term credit rating for SAP SE is "A2" by Moody's and "A" by Standard & Poor's, both with a stable outlook.

The Company plans to repurchase shares with a volume of up to €1.0 billion in the period between February 1, 2022, and December 31, 2022. Repurchased shares will primarily be used to service future awards granted under the 'Move SAP' share-based compensation plan which will start to be predominantly equity-settled in 2022. The share buyback will be in addition to SAP's regular dividend policy. Further capital returns in subsequent years will be decided on an annual basis in line with SAP's capital allocation priorities.

Liquidity Management

Our primary source of cash, cash equivalents, and current investments is funds generated from our business operations. Over the past several years, our principal use of cash has been to support operations and our capital expenditure requirements resulting from our growth, to quickly repay financial debt, to acquire businesses, to pay dividends on our shares, and to buy back SAP shares on the open market. On December 31, 2021, our cash, cash equivalents, and current investments were primarily held in euros and U.S. dollars. We generally invest only in the financial assets of issuers or funds with a minimum credit rating of BBB, and pursue a policy of cautious investment characterized by wide portfolio diversification with a variety of counterparties, predominantly short-term investments, and standard investment instruments. Our investments in financial assets of issuers with a credit rating lower than BBB were not material in 2021.

We believe that our liquid assets combined with our undrawn credit facilities are sufficient to meet our operating financing needs in 2022 and, together with expected cash flows from operations, will support debt repayments, currently planned capital expenditure requirements, and capital returns to our shareholders over the near term and medium term. It may also be necessary to enter into financing transactions when additional funds are required that cannot be wholly sourced from free cash flow, to maintain flexibility, and/or limit repayment risk.

Therefore, we continuously monitor funding options available in the capital markets and trends in the availability of funds, as well as the cost of such funding. In recent years, we were able to repay additional debt within a short period of time due to our persistently strong free cash flow. For more information about the financial debt, see the [Cash Flows and Liquidity](#) section.

Credit Facilities

Other sources of liquidity are available to us through various credit facilities, if required.

To retain high financial flexibility, we have available a €2.5 billion syndicated revolving credit facility with an end date in November 2024. A possible future utilization is not subject to any financial covenants. Borrowings under the facility bear interest of EURIBOR or LIBOR for the respective currency plus a margin of 0.17%. We are also required to pay a commitment fee of 0.0595% per annum on the unused available credit. So far, we have not used, and do not currently foresee any need to use this credit facility.

As at December 31, 2021, SAP SE had additional available credit facilities totaling €335 million. Several other SAP entities have credit facilities available that allow them to borrow funds at prevailing interest rates.

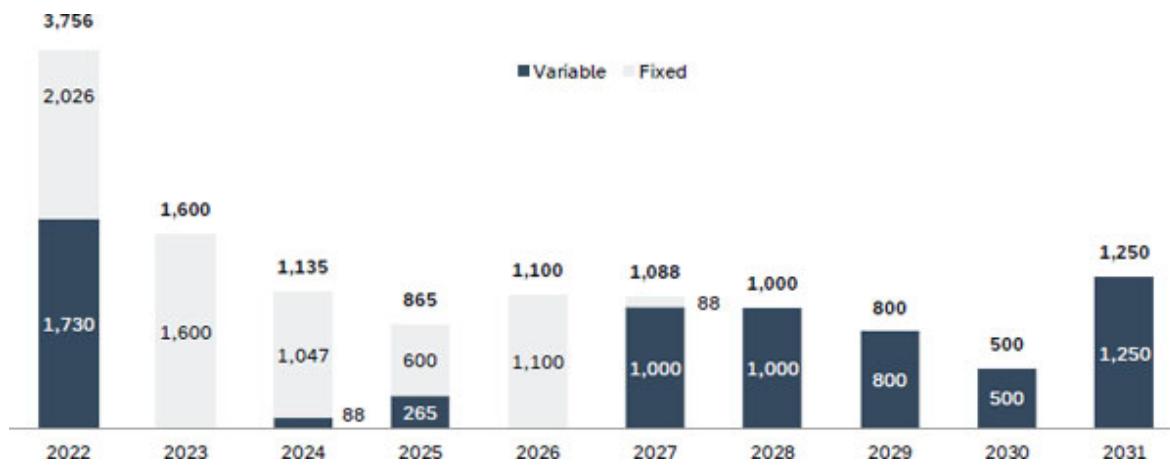


On December 31, 2021, two bilateral term loans with a total amount of €1.45 billion were outstanding. The amount can be flexibly repaid until maturity of the loan on September 30, 2022.

Financial Debts

Financial debt is defined as the nominal volume of bank loans, commercial papers, private placements, and bonds.

Maturity Profile of Financial Debts
€ millions

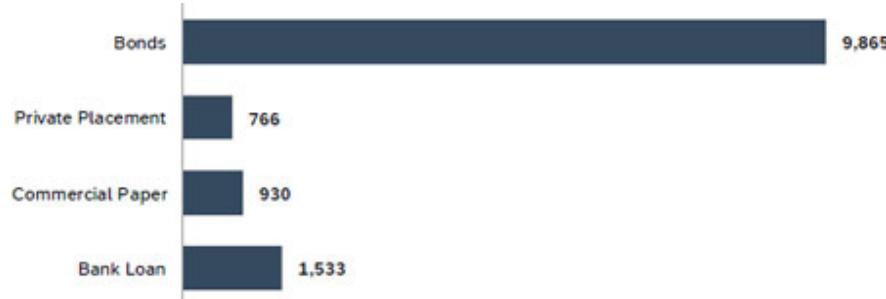


Nominal volume of financial debt on December 31, 2021, included amounts in euros (€12,058 million) and U.S. dollars (€1,036 million). On December 31, 2021, approximately 50% of the financial debt was held at variable interest rates, partially swapped from fixed into variable using interest rate swaps.

For information about the intended repayments, see the goals for liquidity and finance in the [Financial Targets and Prospects](#) section.

Financial Debt by Instrument

Financial Debt
€ millions



For more information about our financial debt, see the Notes to the Consolidated Financial Statements, [Note \(E.3\)](#).



Cash Flows and Liquidity

2021 Actual Cash Flow and Liquidity Performance Compared to Outlook

We met or exceeded the outlook for 2021.

	2020 Results	2021 Outlook ¹	2021 Results
€ billions			
Operating cash flows	7.2	Around 6.0	6.2
Capital expenditure	-0.8	Modest increase	-0.8
Free cash flow	6.0	Above 4.5	5.0
Income taxes payouts	-1.2	Higher	-2.1

¹ The 2021 outlook was communicated in January 2021 and was updated in April 2021. The 2021 outlook numbers above reflect the updated outlook from April 2021.

Group Liquidity and Net Debt

€ millions	2021	2020	Δ
Cash and cash equivalents	8,898	5,311	3,587
Current time deposits and debt securities	2,632	1,470	1,162
Group liquidity	11,530	6,781	4,750
Current financial debt	-3,755	-1,482	-2,273
Non-current financial debt	-9,338	-11,801	2,463
Financial debt	-13,094	-13,283	189
Net debt (-)	-1,563	-6,503	4,939
Lease liability	-2,143	-2,120	-23
Net debt including lease liability	-3,706	-8,623	4,916

Group liquidity consists of cash and cash equivalents (for example, cash at banks, money market funds, and time deposits with original maturity of three months or less) and current investments (for example, time deposits and debt securities with original maturities of greater than three months, and remaining maturities of less than one year included in current other financial assets). Group liquidity on December 31, 2021, primarily comprised amounts in euros and U.S. dollars.

The increase in group liquidity compared to 2020 was mainly due to the cash inflows from our operations and the proceeds from the public offerings of Qualtrics shares.

Net debt is group liquidity less financial debt. For more information about our liquidity, see the Notes to the Consolidated Financial Statements, [Note \(E.3\)](#).

For information about the impact of cash, cash equivalents, current investments, and our financial liabilities on our income statements, see the analysis of our financial income, net, in the [Operating Results \(IFRS\)](#) section.



Development of Net Debt



Net Debt 12/31/2020	Operating Cash Flow	Capital Expenditure	Lease Payments	Business Combinations	Dividends	Proceeds from IPO	Other	Net Debt 12/31/2021
PY: -8,286	+7,194	-816	-378	-664	-1,864	+95	-1,784	-6,503

Analysis of Consolidated Statements of Cash Flow

€ millions	2021	2020	Δ in %
Net cash flows from operating activities	6,223	7,194	-13
Net cash flows from investing activities	-3,063	-2,986	3
Net cash flows from financing activities	-56	-3,997	-99

In 2021, cash inflows from operating activities decreased €971 million to €6,223 million (2020: €7,194 million). This is particularly due to higher income tax payments (€2.1 billion in 2021 compared to €1.2 billion in 2020) and lower payments related to restructuring (€0.0 billion in 2021 compared to €0.2 billion in 2020). Cash collected from customer contracts was at a similar level as in 2020.

Cash outflows from investing activities were €3,063 million in 2021 (2020: €2,986 million). We paid, net of cash received, a total of €1.1 billion mainly for the Signavio and Clarabridge acquisitions in 2021, compared to €0.6 billion mainly for the Emarsys acquisition in 2020. Capital expenditure on intangible assets and property, plant, and equipment remained at a comparable level. For more information about current and planned capital expenditures, see the [Assets](#) section and the [Investment Goals](#) section.

In 2021, free cash flow decreased to €5,049 million (2020: €6,000 million). The free cash flow conversion rate, defined as free cash flow as a percentage of profit after tax, decreased to 94% compared to 114% in 2020.

Net cash outflows from financing activities were €56 million in 2021, compared to €3,997 million in 2020. In 2021, we received €2.8 billion in proceeds from the public offerings of Qualtrics shares and repaid €1.25 billion of the acquisition term loan for Qualtrics, prior to its final maturity date in 2022. Further, we repaid €0.5 billion in Eurobonds, and €0.15 billion of a commercial paper program (Commercial Paper). In 2021, we drew two short-term loans of €0.95 billion and €0.5 billion respectively, as well as €0.15 billion in Commercial Paper. The cash outflows in 2020 resulted from the buyback of treasury shares with a volume of €1.5 billion, repayments of €1.15 billion in Eurobonds when they matured, the repayment of €0.75 billion in the acquisition term loan for Qualtrics, the repayment of US\$0.29 billion in U.S. private placements when they matured, and the repayment of €0.17 billion in Commercial Paper.

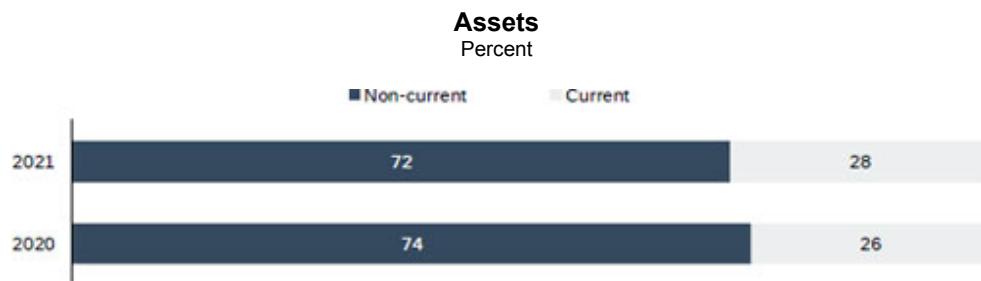
The dividend payment of €2,182 million made in 2021 exceeded the amount paid the preceding year (€1,864 million), while the dividend paid per share increased from €1.58 to €1.85.



Assets (IFRS)

Analysis of Consolidated Statements of Financial Position

Total assets increased 22% year over year to €71,169 million.

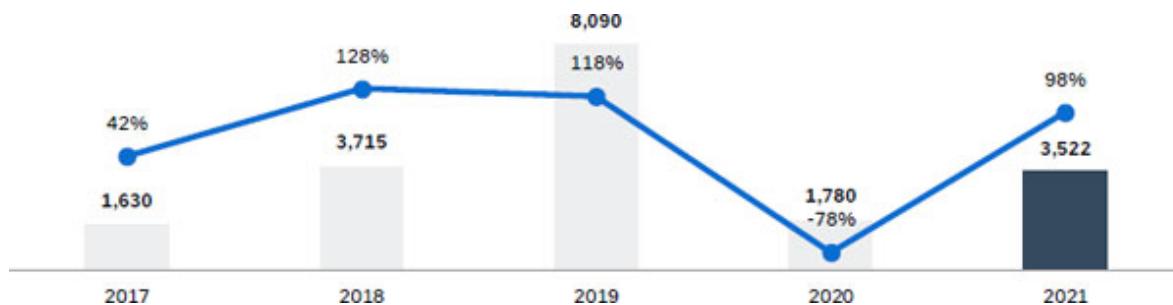


Total current assets increased 33% in 2021 from €15,069 million to €20,044 million, mainly driven by an increase in cash and cash equivalents.

Investment in Goodwill, Intangible Assets, and Property, Plant, and Equipment

(Incl. Additions from Business Combinations)

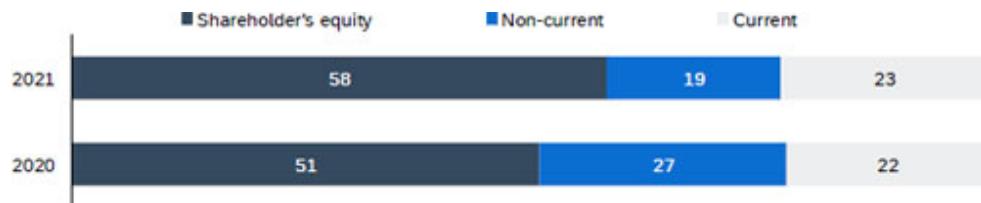
€ millions | change since previous year



Total non-current assets grew 18% to €51,125 million (2020: €43,395 million). Among other effects, this change was mainly due to an increase in goodwill resulting from foreign-exchange-related revaluations as well as the Clarabridge and Signavio acquisitions and an increase in listed and unlisted equity investments resulting from fair value increases and purchases.

Liabilities

Percent

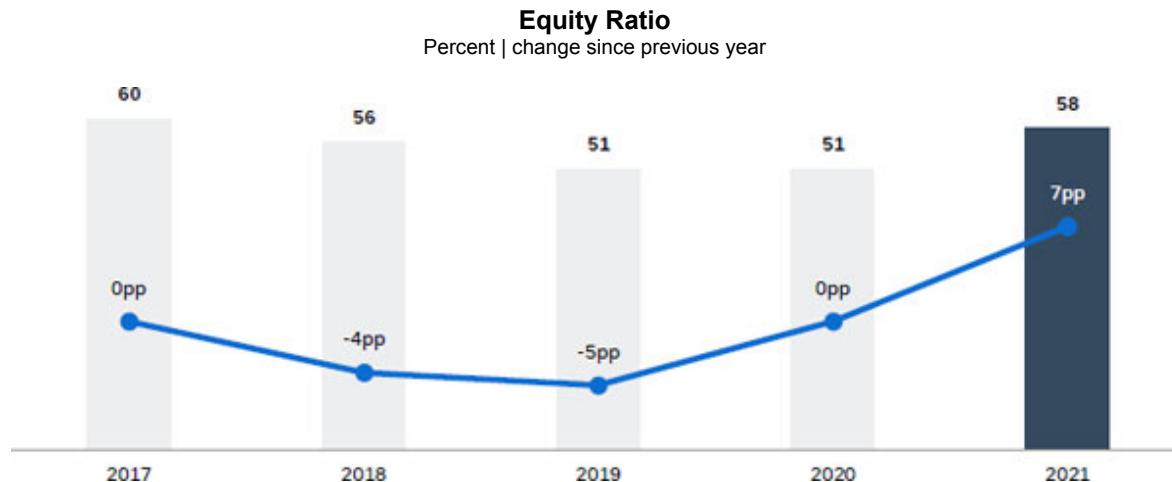


Current liabilities grew 26% to €16,136 million in 2021 (2020: €12,842 million). This was mainly due to an increase in current financial liabilities. For more information about our financing activities in 2021, see the [Finances \(IFRS\)](#) section.

Total non-current liabilities decreased 14% to €13,510 million in 2021 compared to the previous year's figure of €15,696 million. This was mainly due to a decrease in non-current financial liabilities. For more information about our financing activities in 2021, see the [Finances \(IFRS\)](#) section.



The equity ratio (that is, the ratio of shareholders' equity to total assets) grew 7pp to 58% (2020: 51%).



Principal Investments and Divestitures Currently in Progress

In 2021, we finalized various construction projects and continued and started new construction activities in several locations. We plan to finance all of these projects from operating cash flow. Our most important projects are listed below.

Construction Projects

€ millions

Country	Location of Facility	Short Description	Estimated Total Cost	Costs Incurred as at 12/31/2021	Estimated Completion Date
Germany	Berlin	New office building for approx. 1,250 employees	50	3	November 2023
Germany	Munich	New office building for approx. 600 employees	94	15	September 2023
Germany	Walldorf	General renovation of headquarters building for approx. 1,500 employees	219	4	September 2026
Bulgaria	Sofia	New office building for approx. 1,200 employees ¹	54	46	March 2023
India	Bangalore	New office building for approx. 3,500 employees	86	0	December 2025
Japan	Tokyo	New office building for approx. 1,500 employees	29	1	August 2022

¹ In Sofia we bought a building under construction and plan to complete it.

For more information about planned investment expenditures, see the [Investment Goals](#) section. There were no material divestitures of facilities within the reporting period.



Competitive Intangibles

The majority of (intangible) resources that are the basis for our current as well as future success does not appear in the Consolidated Financial Statements. This is apparent from a comparison of the market capitalization of SAP SE (based on all issued shares), which was €153.4 billion at the end of 2021 (2020: €131.7 billion), with the book value of our equity in the Consolidated Financial Statements, which was €41.5 billion (2020: €29.9 billion). This means that the market capitalization of our equity is more than three times higher than the book value. The difference is mainly due to certain internally generated intangible resources that the applicable accounting standards do not allow to be recorded (at all or at fair value) in the Consolidated Financial Statements. These resources include customer capital (our customer base and customer relations); employees and their knowledge and skills; our ecosystem of partners; the majority of internally developed software; our ability to innovate; the brands we have built up, in particular, the SAP brand itself; and our organization.

On December 31, 2021, SAP was the second most valuable company in the German DAX 40 in terms of market capitalization based on all issued shares.

In 2021, SAP's brand value increased compared to 2020. According to the Interbrand "Best Global Brands" annual survey, SAP ranked as the 20th most valued brand in the world (2020: 18th). Against other German brands, the SAP brand ranks third behind Mercedes-Benz and BMW, and third globally against other brands in the business services sector. Interbrand determined our brand value to be US\$30 billion, an increase of 7% compared to the previous year (2020: US\$28 billion). Kantar BrandZ recognized SAP as the world's 26th most valuable brand in the Kantar BrandZ 2021 Most Valuable Global Brands ranking (2020: 17th). The ranking estimates SAP's brand value at US\$69 billion (2020: US\$58 billion), an increase of 20% compared to the previous year.

Report on the Economic Position of SAP SE

SAP SE is headquartered in Walldorf, Germany, and is the parent company of the SAP Group, which comprises 290 companies. SAP SE is the Group holding company and employs most of the Group's Germany-based development and service personnel.

As the owner of the intellectual property in most SAP software, SAP SE derives its revenue mainly from software license fees and bears the Group-wide research and development expenses for the most part.

On March 5, 2021, SAP SE completed the acquisition of Signavio GmbH, Berlin, Germany ("Signavio"), a leader in the enterprise business process intelligence and process management space. Subsequently, based on the merger agreement concluded on October 25, 2021, SAP SE took over all assets and liabilities of Signavio with effect from January 1, 2021. The difference between the acquisition cost of the Signavio shares and the assets and liabilities carried at fair value has been recognized as goodwill on the balance sheet.

On April 13, 2021, SAP SE and investment company Dediq GmbH, Munich, Germany, ("Dediq") announced that they had agreed to enter into a partnership in the area of financial services. Following the close of the transaction in September 2021, SAP SE and Dediq jointly own the new "SAP Pioneer" entity (with SAP owning a minority share). The disposal gain relating to the transfer of the business (predominantly IP and employees) is included in Other operating income.

The SAP SE annual financial statements are prepared in accordance with the reporting standards in the German Commercial Code and the German Stock Corporation Act. The full SAP SE annual financial report and unqualified audit report are submitted to the operator of the *Elektronischer Bundesanzeiger* (Online German Federal Gazette) for publication and inclusion in the *Unternehmensregister* (German Business Register). It is available from SAP SE on request.

Income

SAP SE's income statement is classified following the nature of expense method and presents amounts in millions of euros.



SAP SE Income Statement – German Commercial Code (Short Version)

€ millions	2021	2020
Total revenue	15,370	14,669
Other operating income	1,026	1,385
Cost of services and materials	-9,859	-9,112
Personnel expenses	-2,765	-2,362
Depreciation and amortization	-719	-606
Other operating expenses	-2,298	-2,573
Operating profit	756	1,401
Finance income	2,530	1,724
Income before taxes	3,286	3,125
Income taxes	-583	-625
Income after taxes	2,703	2,500
Other taxes	-12	-15
Net income	2,692	2,485

The total revenue of SAP SE in 2021 was €15,370 million (2020: €14,669 million), an increase of 5%. Product revenue increased 2% to €12,211 million (2020: €11,943 million). As in previous years, product revenue was primarily generated from license fees paid by subsidiaries of SAP SE.

Service revenue increased 86% to €845 million in 2021 (2020: €453 million), other revenue increased 2% to €2,314 million (2020: €2,273 million).

SAP SE operating profit decreased 46% to €756 million (2020: €1,401 million). Other operating income decreased €358 million to €1,026 million (2020: €1,385 million). The year-over-year decrease is primarily due to a €494 million decrease in gains from currency effects, partly offset by the disposal gain relating to the transfer of the business to SAP Pioneer of €117 million.

SAP SE cost of services and materials increased 8% to €9,859 million (2020: €9,112 million). Services received increased €724 million to €7,715 million (2020: €6,991 million), mainly due to increased services received in the context of intra-Group cost allocations. The costs for licenses and commissions increased €17 million to €2,111 million (2020: €2,094 million).

SAP SE personnel expenses, mainly the labor cost of software developers, service and support employees, and administration staff employed by SAP SE, increased by 17% to €2,765 million (2020: €2,362 million), primarily due to an increase in shared-based compensation expenses and headcount increase over the year.

Other operating expenses decreased €275 million to €2,298 million (2020: €2,573 million). This decrease is mainly attributable to a €495 million decrease in currency exchange losses and a €47 million decrease in impairment of receivables. The decrease in other operating expenses was partly offset by a €122 million increase in services purchased and a €63 million increase in other services expense.

Finance income was €2,530 million (2020: €1,724 million), representing a year-over-year increase of €806 million. This increase is primarily due to a €120 million increase in income from investments, a €770 million increase in results from profit and loss transfer agreements, and an offsetting effect of €78 million increase in write-downs on financial assets.

SAP SE income before taxes increased €161 million to €3,286 million (2020: €3,125 million). Income taxes decreased €43 million to €583 million (2020: €626 million). After deducting taxes, the resulting net income was €2,692 million (2020: €2,485 million), an increase of €207 million year over year.

Assets and Financial Position

In 2021, SAP SE total assets closed at €47,320 million (2020: €44,922 million).



SAP SE Balance Sheet as at December 31 – German Commercial Code (Short Version)

€ millions	2021	2020
Assets		
Intangible assets	1,792	1,398
Property, plant, and equipment	1,350	1,417
Financial assets	36,050	34,857
Fixed assets	39,192	37,672
Inventories	1	1
Accounts receivable and other assets	5,244	4,544
Marketable securities and liquid assets	1,391	703
Short-term assets	6,635	5,248
Prepaid expenses and deferred charges	979	1,487
Deferred taxes	512	514
Surplus arising from offsetting	1	1
Total assets	47,320	44,922
 Equity and liabilities		
Shareholders' equity	15,693	15,122
Provisions	2,233	2,046
Liabilities	29,372	27,740
Deferred income	22	13
Total shareholders' equity and liabilities	47,320	44,922

Intangible assets increased €395 million year over year to €1,792 million (2020: €1,398 million). This increase was mainly caused by the addition of €632 million in goodwill and additions of €71 million in intellectual property and other similar rights in connection with the Signavio merger.

Financial assets increased €1,193 million year over year to €36,050 million (2020: €34,857 million), mainly due to capital contributions to subsidiaries and the acquisition of AppGyver Inc.

The increase of €700 million in accounts receivable and other assets was primarily the result of a €479 million increase in receivables from affiliated companies and a €198 million increase in tax assets.

Marketable securities and liquid assets increased €687 million to €1,391 million (2020: €703 million).

SAP SE shareholders' equity increased 4% to €15,693 million (2020: €15,122 million). Against outflows of €2,182 million associated with the payment of the dividend, there was a €2,692 million increase due to net income for 2021. The equity ratio (that is, the ratio of shareholders' equity to total assets) is 33% (2020: 34%).

Provisions increased €187 million to €2,233 million (2020: €2,046 million). Other provisions increased €235 million to €1,529 million (2020: €1,294 million), primarily as a result of an increase in other obligations toward employees. In contrast, provisions for tax decreased €50 million to €689 million (2020: €739 million).

Liabilities increased €1,632 million to €29,372 million (2020: €27,740 million). This increase mainly resulted from a €1,787 million increase in liabilities to affiliated companies, primarily due to higher cash contributions by subsidiaries through SAP SE's centralized management of finance and liquidity.



Opportunities and Risks

SAP SE is subject to essentially the same opportunities and risks as the SAP Group. For more information, see the [Risk Management and Risks](#) section and the [Expected Developments and Opportunities](#) section.

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Non-Financial Statement Including Information on Sustainable Activities

With this section and the information referenced to in this section, SAP SE fulfills its duty to produce a non-financial statement (NFS) for the holding company, pursuant to section 289b–e of the German Commercial Code (HGB), and a non-financial group statement, pursuant to section 315b–c in conjunction with section 289c–e of the German Commercial Code (HGB), in the form of a combined non-financial statement. The relevant non-financial matters are referenced in the table below and can be found in the relevant sections of our combined management report.

Additionally, following Article 8 of Regulation 2020/852 of the European Parliament and of the Council of the European Union (EU Taxonomy), we have included information on how and to what extent SAP's activities are associated with economic activities that qualify as environmentally sustainable under this regulation.

For more information, see the [Sustainable Finance: EU Taxonomy Disclosures](#) subsection.

Reporting Framework

The social and environmental data and information included in the SAP Integrated Report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core Option.

Business Model

SAP's business model is described in the [Strategy](#) section of the combined management report. Good governance is a prerequisite for continued success and is described throughout the combined management report. Therefore, we do not explicitly list this material topic in our non-financial statement.

Non-Financial Disclosures in SAP's Combined Management Report

SAP determines which non-financial information has to be disclosed based on a materiality analysis we perform using internal and external input. The individual non-financial aspects to be covered by the non-financial statement are addressed in the following sections of our combined management report if material. The aspects human rights and social matters have not been identified as material topics according to section 289c (3) HGB. Nevertheless, these topics are important for SAP and discussed in the [Human Rights and Labor Standards](#) and [Social Investments](#) sections in our combined management report. No material risks according to section 289c (3) sentence nos. 3 and 4 HGB have been identified.



SAP Integrated Report 2021

To Our Stakeholders

Combined Group Management Report

Consolidated Financial Statements IFRS

Further Information on Sustainability

Additional Information

	Due Diligence; Policies and Guidelines (Concepts)	Measures and Results, Including Main KPIs	References to Financial Statements and Notes
Employee Matters	<p><i>Employees and Social Investments:</i> <i>Vision and Strategy; Due Diligence</i></p> <p><i>Expected Developments and Opportunities:</i> <i>Opportunities from Our Employees</i></p>	<p>Main KPI: Employee Engagement Index</p> <p><i>Employees and Social Investments:</i> <i>How We Measure and Manage Our Performance</i> <i>Strategy: Measuring Our Success</i> <i>Expected Developments and Opportunities</i></p>	<p><i>Notes to the Consolidated Financial Statements, Section B – Employees</i></p>
Environmental Matters	<p><i>Energy and Emissions:</i> <i>Vision and Strategy; Due Diligence</i></p>	<p>Main KPI: Net carbon emissions</p> <p><i>Energy and Emissions:</i> <i>How We Measure and Manage Our Performance</i> <i>Strategy: Measuring Our Success</i> <i>Expected Developments and Opportunities</i></p>	
Anti-Corruption and Bribery Matters	<p><i>Business Conduct:</i> <i>Vision and Strategy; Due Diligence</i></p>	<p><i>Business Conduct:</i> <i>How We Measure and Manage Our Performance</i></p>	<p><i>Notes to the Consolidated Financial Statements, Note (G.3)</i></p>
Customer Matters	<p><i>Customers:</i> <i>Vision and Strategy; Due Diligence</i></p>	<p>Main KPI: Customer Net Promoter Score, Revenues</p> <p><i>Customers:</i> <i>How We Measure and Manage Our Performance</i> <i>Strategy: Measuring Our Success</i> <i>Financial Performance: Review and Analysis</i> <i>Expected Developments and Opportunities</i></p>	<p><i>Notes to the Consolidated Financial Statements, Section A – Customers</i></p> <p><i>Consolidated Income Statements – Total Revenue</i></p>
Security, Data Protection, and Privacy	<p><i>Security, Data Protection, and Privacy:</i> <i>Vision and Strategy; Due Diligence for Security Topics; Due Diligence for Data Protection Topics</i></p>	<p><i>Security, Data Protection, and Privacy:</i> <i>How We Measure and Manage Our Performance</i></p>	

Sustainable Finance: EU Taxonomy Disclosures

€ millions, unless otherwise stated

2021

	Revenue	Operational Expenditures	Capital Expenditures
8.1 Data Processing and Hosting (contributing to climate change mitigation)	9,217	-898	-261
Non-eligible activities	18,625	-5,502	-1,472
Total	27,842	-6,400	-1,733
Proportion of eligible activities (in %)	33%	14%	15%

Accounting Policy and Contextual Information

Eligibility Assessment

In 2021, we identified the activity “8.1 Data processing, hosting, and related activities” as our only relevant Taxonomy-eligible economic activity contributing to climate change mitigation. SAP has

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evaluated the description of the activity 8.1 provided in the Annex 1 to the EU Taxonomy Climate Delegated Act of June 4, 2021, and concluded that the operation of SAP's cloud infrastructure comprising both SAP's own data centers and third parties engaged by SAP match the description of the activity "8.1 Data processing, hosting, and related activities" and is therefore considered as Taxonomy-eligible.

We also evaluated the relevance of the economic activity "8.2 Data-driven solutions for GHG emissions reductions." In light of our strategic commitment to sustainability management solutions that, for example, help our customers minimize carbon footprints and reduce waste through responsible supply chain management, we expect the share of associated revenues, operational expenditures, and capital expenditures to increase over the next years. In 2021, however, SAP has not recognized material revenues, operational expenditures, and capital expenditures associated to this activity that could be classified as Taxonomy-eligible. For more information about our sustainability management portfolio, see the [Environment and Emissions](#) section.

In addition, we performed an eligibility assessment of the activity "8.2 Computer programming, consultancy and related activities" relating to climate change adaptation. According to the EU Taxonomy regulation, only activities that are classified as "enabling," that is, activities that help other activities substantially contribute to climate change adaptation, can be included in the turnover KPI. Activity 8.2 is not categorized as an "enabling" activity and therefore we cannot attribute any turnover to this activity. Based on our current understanding of the FAQ document published by the European Commission on February 2, 2022, regarding the interpretation of certain legal provisions of the Delegated Act under Article 8 of the EU Taxonomy Regulation of July 6, 2021, we also concluded that operating and capital expenditures relating to activity 8.2 (climate change adaptation) are not Taxonomy-eligible.

Revenue

As outlined above, we have identified only one activity as a relevant Taxonomy-eligible economic activity to which revenues can be attributed. We considered materiality aspects in this process. While SAP may conduct more activities that could be designated as Taxonomy-eligible, currently only "8.1 Data processing, hosting, and related activities" was identified as material in terms of associated revenues. This may change in the future as SAP is aiming to extend our sustainability management product portfolio and increase the corresponding revenue share.

As described in the Notes to the Consolidated Financial Statements, [Note A.1](#), in detail, SAP's cloud revenue consists mainly of fees earned from providing the following services:

- Software as a service (SaaS)
- Platform as a service (PaaS)
- Infrastructure as a service (IaaS)

These services conform with the description of activity 8.1. Therefore, we have designated the revenue resulting from these services as eligible for the EU Taxonomy. Other revenues that qualify as cloud revenue but cannot be classified as Taxonomy-eligible have been excluded.

Total revenue was determined according to IFRS, specifically IFRS 15, and matches total revenue presented in SAP's [Consolidated Income Statements](#). For more information about how we recognize revenue and the components of revenue, see the Notes to the Consolidated Financial Statements, [Note A.1](#).

For a detailed description of the development and key drivers of SAP's revenue, see the [Performance Against Our Outlook for 2021 \(Non-IFRS\)](#) and [Operating Results \(IFRS\)](#) sections in the combined management report.

Operational Expenditures

We have designated those costs as Taxonomy-eligible that relate to assets and processes associated with the Taxonomy-eligible activity "8.1 Data processing, hosting, and related activities." We considered materiality aspects in the identification process of relevant costs and activities. The costs connected to



this activity mainly include expenses for maintenance and repair relating to SAP's own cloud infrastructure as well as leasing expenses for hosting services provided by third parties.

Total operating expenses according to the EU Taxonomy mainly include the following non-capitalized cost elements: research and development, short-term lease, and maintenance and repair relating to property, plant, and equipment. Other major expense components in SAP's *Consolidated Income Statement*, such as, for instance, depreciation, utilities (for example, costs for heating and electricity consumption), as well as most general and administrative cost, restructuring, and sales and marketing cost do not fall in scope of the definition of operating expenses according to the EU Taxonomy and are therefore excluded.

For a detailed description of the development and key drivers of all operating expenses, see the *Performance Against Our Outlook for 2021 (Non-IFRS)* and *Operating Profit and Operating Margin* sections in our combined management report.

Capital Expenditures

In line with the EU Taxonomy regulation, total capital expenditures presented in this section include additions to tangible and intangible assets accounted for based on IAS 16, IAS 38, and IFRS 16, as well as additions to tangible and intangible assets (excluding additions to goodwill) resulting from business combinations.

Taxonomy-eligible capital expenditures relate to assets and processes that are associated with the economic activity "8.1 Data processing, hosting, and related activities." We also considered materiality aspects in the identification process of relevant costs and activities. These expenses comprise mostly investments in SAP's cloud infrastructure.



Audit Scope

The content of the non-financial statement was not subject to the statutory audit of the combined group management report. However, our external auditor carried out an independent limited assurance engagement on the non-financial statement including the EU Taxonomy disclosures. In addition, all non-financial aspects referenced to in the table *Non-Financial Disclosures in SAP's Combined Management Report* are assured by our external auditor, however, on different audit assurance levels (reasonable or limited). The **Audit Scope** box at the end of the respective chapters in the management report explains the audit scope of the disclosures in the respective chapter.



Security, Data Protection, and Privacy

Vision and Strategy

Every day, organizations around the world trust SAP with their data – either on premise at their physical locations, in the cloud, or when using mobile devices while on the move. Our customers need to know that our goal is to keep their data safe, process it in a manner that complies with local legislation, and protect it from malicious use. For this reason, cybersecurity and security, as well as data protection and privacy, are of paramount importance to us.

SAP Global Security

Cloud solutions and services are increasingly important to many companies' daily operations. The COVID-19 pandemic has shown that digital solutions are critical to business resilience. As a result, digital transformation is accelerating and cybersecurity is now even more crucial to IT security professionals and business leaders, particularly in those enterprises that have moved their core processes to the cloud.

The SAP strategy is focused on helping customers transform into intelligent and sustainable enterprises. Our **SAP Global Security** (SGS) organization supports this journey with its goal of reducing risk and promoting regulatory compliance, and by aligning people, procedures, and technology to protect business processes and data. The organization embraces and encourages a security-minded culture that embeds security in our development and deployment processes and helps secure digital transformation.

SGS supports key stakeholders in our lines of business (LoBs), IT, and the presales organization in securing solutions, and drives operational excellence for security across the enterprise. To protect the organization's data and assets and support high-quality risk management and reporting, SGS regularly reviews and adapts our security policies, standards, and frameworks.

Data Protection

With our global product and services portfolio, SAP aims to protect the rights of individuals involved and meet relevant local requirements when processing personal data. In addition, we strive to strengthen SAP's reputation in the long term as a sustainable and trustworthy partner in the market. We have implemented safeguards to help protect the fundamental rights of everyone whose data is processed by SAP, whether they are customers, suppliers, partners, prospects, employees, or applicants.

We develop and pursue our global data protection and privacy strategy in accordance with our business strategy. Our global data protection and privacy strategy is to constantly monitor the global regulatory data protection compliance landscape, identify relevant stakeholders, and enable them to take necessary measures for their adoption. It is also designed to safeguard the processing of personal data. The strategy consists of four pillars to help meet compliance with applicable data protection laws and regulations. These pillars comprise the global data protection and privacy policy; mandatory global data protection and privacy training for employees; our global data protection and privacy coordinator network; and the global data protection management system – and are all aiming to ensure that we comply with applicable data protection laws.



Due Diligence for Security Topics

Governance

SGS is led by a chief security officer who reports directly to the SAP CEO. SGS divisions are responsible for areas such as product and application security, cyberdefense, operational security risk management, security compliance, executive protection, physical security, and a **Trust Office** that supports customers and partners with security-related issues.

The **SAP Security Governance Model** is designed to ensure executive engagement and facilitates shared responsibility in semiannual SAP Security Advisory Board and monthly Security Council meetings, as well as in biweekly updates to the Executive Board.

Our commitment to customers is to be open and transparent about security vulnerabilities. To ensure this, we work with several external stakeholder groups including SAP user groups for the Americas and for German-speaking countries.

Guidelines and Policies

The purpose of the **SAP Global Security Policy** is to provide governance and structure for an appropriate and effective level of information security within SAP and our affiliated businesses. Aligned with the overall SAP corporate strategy and vision, it details the management intent, expectations, and strategic goals and objectives for SAP security.

This policy provides high-level requirements for numerous security domains. These include, but are not limited to, access control, physical security, network security management, incident response, and acceptable use. These requirements apply to all SAP employees, our contractors, consultants, as well as external parties that are granted access to SAP information and information assets. SAP reviews the SAP Global Security Policy annually and enacts modifications as deemed appropriate and necessary to protect SAP and our own and our customers' data and assets where new threats or vulnerabilities are identified.

All SAP employees are required to read and adhere to this internal policy. The **SAP Security Policy Framework** consists of several levels of security documents that support the requirements described in the policy. In addition, the different LoBs at SAP may have supporting policies, standards, procedures, and practices.

Due Diligence for Data Protection Topics

Governance

Within the scope of their responsibilities, our global data protection officer (DPO) monitors the compliance of activities involving the processing of personal data. The DPO reports to the SAP CFO. Within the Executive Board, the SAP CFO is responsible for compliance and enforcement of data protection and privacy. The DPO owns the **SAP Global Data Protection and Privacy Policy** that addresses SAP's data protection governance, and regularly informs the CFO about the status of data protection compliance in the SAP Group.

To meet and ensure consistent security and data protection compliance, SAP has implemented a formal governance model that assigns clear responsibilities across the SAP Group. Upon request, the DPO attends steering committee meetings and reports on matters relevant to data protection to the Audit and Compliance Committee of the SAP Supervisory Board.

SAP has established a global network of data protection and privacy coordinators (DPPCs) across all SAP Group entities that process personal data. This **DPPC network** is aimed to ensure data protection and privacy compliance on a local level. Local DPPCs increase awareness by conducting local training. Where new data protection laws evolve, they also help the **Data Protection and Privacy** (DPP) team acting on behalf of the DPO identify and analyze them. If this requires compliance activities, they align with the affected LoBs and help drive the relevant implementation. Additional regional DPPCs further support and monitor changes to applicable laws. The DPPC network regularly engages with SAP's government relations team to represent SAP's interests in the



legislative process. In this regard, SAP is participating in external working groups to help align industry-specific interests with respective governments.

Global data protection and privacy training is conducted globally every two years and mandatory for SAP employees. This training helps our workforce handle personal data with due care and in accordance with the law and to maintain compliance with data protection requirements in their work.

SAP has implemented a data protection management system (DPMS) for our organization. The DPMS is set according to the generally recognized standard for data protection management systems as defined in the British Standard BS 10012, which comprises the data protection requirements of the European Union (EU) General Data Protection Regulation (GDPR) since version 10012:2017. The DPMS covers almost all LoBs (excluding Qualtrics) and is planned to be implemented in all acquired companies as well. It is designed as a framework covering all aspects of data protection compliance of SAP organizations and employees. The DPMS is used as SAP standard methodology to ensure compliance with data protection legislation. The maintenance of the framework is subject to certification from the British Standards Institution that confirms data protection compliance annually.

Guidelines and Policies

The SAP Global Data Protection and Privacy Policy outlines a group-wide minimum standard for data protection-compliant processing of personal data. It defines requirements for business processes that involve personal data, and assigns clear responsibilities. The principles established by this policy take into account the requirements of the EU GDPR. They apply generally and globally to SAP Group affiliates. Additional data protection and privacy requirements, if applicable, are adopted on a local level as necessary. We actively monitor changes to applicable laws and regulations so that we can update our standards on an ongoing basis as necessary to meet data protection compliance. The policy was last updated in 2019.

How We Measure and Manage Our Performance

Security

Compliance processes at SAP adhere to trust-service criteria established by the American Institute of Certified Public Accountants (AICPA). Our security, availability, privacy, confidentiality, and processing integrity controls are designed to achieve the appropriate control objectives. In addition, independent, external auditing partners regularly conduct security compliance audits.

SAP discloses vulnerabilities on the second Tuesday of every month ("Patch Day"). This disclosure mechanism provides customers with authoritative, public information about SAP software vulnerabilities from SAP that can be integrated with their existing risk management processes and tools.

SAP strives to reduce risk by continuously improving our processes for detecting and remediating attacks and vulnerabilities. To that end, we:

- Engage in approximately 130 internal and external audits across SAP globally
- Monitor and support our cloud and IT units with 1,700 controls that are audited and tested for design and operating effectiveness
- Offer service organization control (SOC) reports – such as SOC 1 Type II/ISAE 3402 and SOC 2 Type II/ISAE 3000 – to provide insights into the design and operating effectiveness of internal control systems implemented within cloud delivery units
- Let external, internationally accredited auditors assess and certify our cloud services according to various reporting standards and ISO certifications, such as ISO 9001, ISO 27001, ISO 27017, ISO 27018, and ISO 22301, in addition to BS 10012



Data Protection

To help ensure necessary knowledge about data protection, global data protection and privacy training is mandatory for SAP employees. The latest training was rolled out in 2021 as per the two-year renewable cycle.

We monitor compliance of data protection-relevant procedures across SAP. We maintain a record of processing activities ("procedure enrollment tool"), in which procedures that process personal data must be documented. The record entries contain general information about the procedure according to defined criteria necessary to meet proper documentation. The record entries are reportable and regularly reviewed.

We also track the quality of our data protection compliance level based on the annual recertification of our DPMS by the British Standards Institution (BSI). SAP has been audited by the BSI annually and awarded certifications according to BS 10012 since 2011. The most recent certification is valid until 2022.

SAP's own quality standards and international regulations require careful selection and monitoring of subprocessors processing personal data on behalf of SAP and SAP customers. With the goal that all subprocessors meet protection and security requirements for the processing of personal data, SAP has implemented a subprocessor verification process. All of SAP's subprocessors (for example, suppliers, vendors, and partners) are subject to this process. The process comprises three main compliance criteria for data protection-relevant subprocessors: (i) contractual compliance; (ii) self-assessments based on a questionnaire including transfer impact assessments on international data transfers to third countries; and (iii) remote and/or on-site audits.

SAP respects the rights of the data subjects to obtain information as to whether or not personal data concerning them is being processed. All necessary information is made available to the data subjects within the framework of the privacy statements on the respective SAP Web sites.

In 2021, SAP experienced two significant incidents in processing personal data – on our own behalf – that were subject to GDPR only and were reported to the supervisory authorities.

Related Risks for SAP

For related risks, see the *Risk Management and Risks* section, specifically the *Cybersecurity and Security* and *Data Protection and Privacy* subsections.

Audit Scope

The content of the section *Security, Data Protection, and Privacy* was not subject to the statutory audit of our combined group management report. However, our external auditor performed an independent limited assurance engagement for the content of this section.



Customers

Vision and Strategy

Focusing on Customer Success

We aim to maximize the value our customers derive from their investment in and relationship with SAP at every touchpoint in their experience with us over the engagement lifecycle. Our focus on value and experience drives our customers' success. Our customer-facing teams – across solutions, sales, services, customer engagement, ecosystem, and others – work together along an operating model that aims to harmonize internal processes with the goal of delivering improved outcomes for our customers.

Company-Wide Experience (XM) Program

To further address and improve on customer feedback through research conducted using Qualtrics solutions, we developed the **Company-Wide Experience (XM)** program. This is an example of a program we have implemented aiming to achieve a consistent end-to-end experience for our customers. This program includes standardizing experience initiatives and methodologies to help identify and improve experience gaps across SAP.

Due Diligence

Governance

The head of Customer Success leads customer-facing engagements across SAP's business. The Chief Marketing & Solutions Officer leads the development of our solution value propositions to provide clarity on SAP's core differentiators. The People & Operations Board area is responsible for conducting the Company-Wide XM program, including conducting the **Customer Net Promoter Score (NPS)** survey.

Guidelines and Policies

Numerous policies govern our relationships with our customers, including the **Employee Code of Conduct**, **SAP Human Rights Commitment** statement, and applicable General Terms and Conditions for our products.

How We Measure and Manage Our Performance

We use the Customer Net Promoter Score (NPS) as a feedback mechanism to measure customer loyalty. This and other results from the customer survey allow us to directly understand what our customers are thinking and identify key pain points for action. Because of the importance of customers to SAP, Customer NPS is one of our main KPIs.

In 2021, our Customer NPS¹¹ increased 6 points year over year to 10 (2020: 4), achieving the upper end of our target range of 5 to 10.

We aim to continue to increase our Customer NPS to a range of 11 to 15 points in 2022. Further, we want to see continuous improvements and increase the score steadily in the medium term.

Customer NPS is a KPI in Executive Board remuneration as part of the short-term incentive component.

For more information about the Customer NPS, see the *Performance Management System* section.

Related Risks for SAP

For related risks, see *Sales and Services* in the *Risk Management and Risks* section.

¹¹ As part of a multi-year harmonization process, the survey question used to measure NPS was adjusted in 2021. Therefore, the results may not be fully comparable. For more information, see the *Performance Management System* section.



Employees and Social Investments

Vision and Strategy

People are at the heart of our organization. Aiming for a highly engaged, diverse, future-fit workforce equipped with the right skills helps SAP attract the best talent.

Interwoven with our product and go-to-market strategies, our **People Strategy** is centered around the employee journey and their experience. Just as we help our customers digitalize and simplify their processes, we strive to do the same for our employees by empowering them to bring value to our customers. We continue to evolve and execute along seven strategic pillars from 2020 that contribute to our business strategy and value generation. We summarize this value generation across **three themes**, powered by operational excellence to showcase Human Experience Management:

- **Building the Skills for the Future** by attracting the best and most diverse talent and continuously up-/reskilling our people
- **Driving SAP's Winning Culture** by fostering a culture enabling and rewarding impact and business outcomes
- **Changing the Way We Lead** by driving for accountability and empowerment, in a healthy, inclusive, and diverse environment

Due Diligence

Governance

Since January 1, 2021, **Sabine Bendiek** has served as Chief People Officer and Labor Relations Director and led our HR organization. On July 1, 2021, she also became Chief Operating Officer and has since been responsible for the Executive Board area People & Operations as Chief People & Operating Officer.

To best support our People Strategy, we reshaped our HR organization in 2021 and it now includes the following functional areas: a newly introduced Future of Work team (including Global Health & Well-Being); Global Diversity & Inclusion; SAP Learning; Talent Attraction; and Total Rewards. In addition, Global People Success Services combines the HR Business Partner organization with Global HR Service Delivery.

Guidelines and Policies

SAP is committed to ensuring a fair and equal treatment of all employees in a sustainable manner. For that reason, we established comprehensive policies that guide us in our daily business. Examples are our **Global Anti-Discrimination Policy** and **Global Health & Safety Policy**.

How We Measure and Manage Our Performance

The impact of our people strategy is measured by seven KPIs.¹² Five out of the seven KPIs are based on the results of our engagement survey program **#Unfiltered**.

With #Unfiltered, we strengthen our commitment to listen regularly to our employees and act together on their feedback. In 2021, we defined strategy, health and well-being, and equality as areas where we increased our focus. We gauged the sentiment on these topics, as well as employee engagement

¹² In the Employees and Social Investments section, the metrics Employee Retention, External Hires, Female External Hires, Headcount, Women in Management, and Women in Workforce include Qualtrics data. All other metrics are reported excluding Qualtrics.



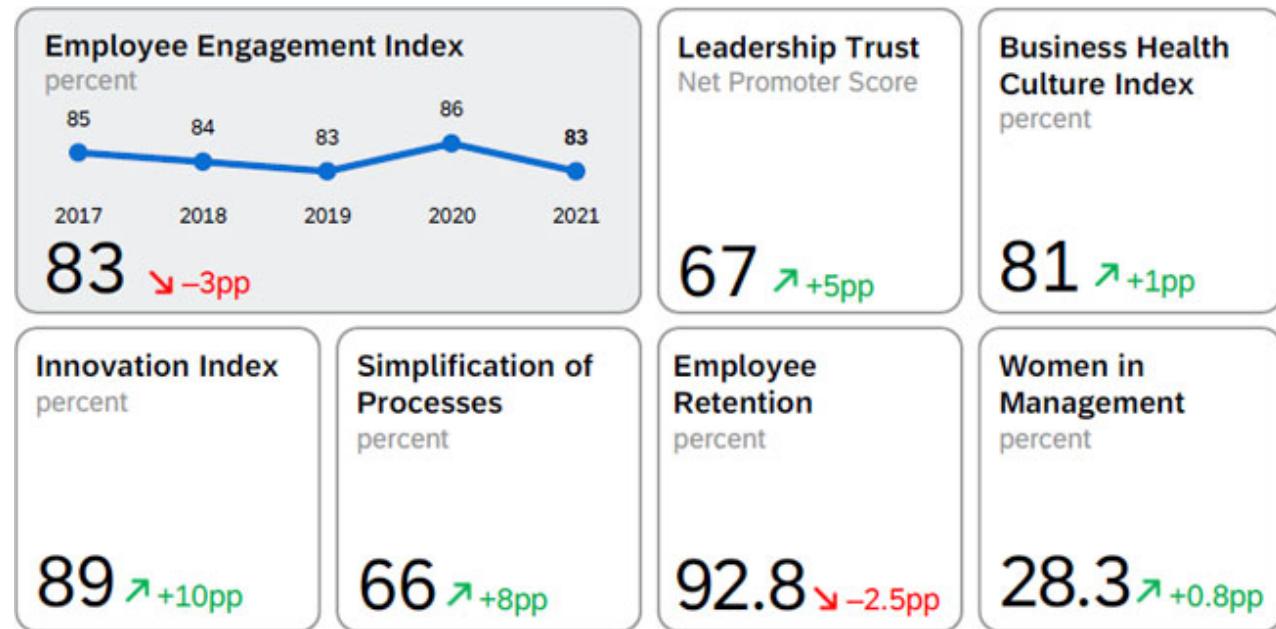
and leadership trust, twice over the year. The average scores from both data collections were used as the full-year Employee Engagement Index and Leadership Trust Net Promoter Score (NPS).

The **Employee Engagement Index**¹³ decreased to 83% (-3 pp compared to 2020) and is slightly below our target range. For 2022 through 2025, our ambition remains to keep the Employee Engagement Index score between 84% and 86%. Our **Leadership Trust NPS** reached an all-time high of 67 in 2021 (2020: 62) since its introduction in 2013. For more information about the measurement of leadership trust, see the *Performance Management System* section.

We measure the progress of individual employee and organizational health through the **Business Health Culture Index**¹⁴ (BHCI). In 2021, the BHCI was 81% (2020: 80%) and exceeded the upper end of our target range. For 2022 through 2025, our ambition remains to keep the BHCI between 78% and 80%. We continuously monitor our innovation culture and simplification of processes. We adjusted the composition of both indices to better reflect the dimensions we would like to improve, even though we consider the scores comparable. In 2021, we achieved a very strong **Innovation Culture Index**¹⁵ of 89% (last measured in 2019 based on different survey questions and reported as an Innovation Score of 79%). After a slight dip in 2020 (58%), the **Simplification of Processes Index**¹⁶ rebounded to 66% in 2021, indicating that our investments in this area took effect.

In addition, we measured a **Retention Rate** of 92.8% (2020: 95.3%). We define retention as the ratio of the average number of employees, minus employees who voluntarily departed (excluding restructuring-related terminations), to the average number of employees (in full-time equivalents or FTEs). The rate of **Women in Management**¹⁷ increased to 28.3% compared to 27.5% in 2020. Through 2022, our ambition remains to increase the rate of women in management to 30%.

Our Key People-Related KPIs at a Glance



Below is an overview of how we put the three themes of our people strategy and overall KPIs into practice.

Building the Skills for the Future

Attracting, hiring, and onboarding the best and most diverse talent is key for the future success of SAP. After a unique 2020 shaped by the global pandemic, in 2021, we saw a significantly increased competition for talent all over the globe. Our refreshed employer value proposition – including a

¹³ We define employee engagement as an index score of five items measuring the satisfaction and commitment of our employees, how proud they are of our company, and how strongly they identify with SAP.

¹⁴ The index covers questions concerning how employees rate their personal well-being and the working conditions at SAP, including our leadership culture.

¹⁵ The index consists of four items showing to what extent employees feel encouraged and supported to innovate.

¹⁶ The index consists of seven items showing ease of understanding and use of our processes at SAP.

¹⁷ This includes manager managing teams, manager managing managers, Executive Board members.



stronger focus on “**Early Talents**” (defined as hires with 0–3 years of experience in a professional setting hired into professional roles¹⁸) and innovation – is key to us attracting people with the right fit.

Despite ongoing challenges due to the pandemic, we were still able to make advancements in building a highly inclusive workforce across various demographic aspects (among others, e.g. generations, gender, nationalities). Overall, we externally hired 13,854 (2020: 8,486) employees, of whom 33.1% (2020: 29.4%) were Early Talents and 38.1% (2020: 35.5%) women.

We strive to position SAP as a talent magnet. SAP has earned 160 (2020: 125) employer recognitions, most notably the **World’s Best Workplaces** by Great Place to Work, **World’s Most Attractive Employer** by Universum and **LinkedIn Talent Award** – Best Employer Brand by LinkedIn. Additionally, we worked closely with more than 2,700 academic institutions on events, executive lectures, office visits, competitions, student club sponsorships, and workshops to attract students and graduates. Our universal **SAP Internship Experience Program** has continued to expand and now exists in 22 countries with a total of 1,461 (2020: 597) participants around the world. In 2021, more than 1,200 students were enrolled in SAP’s vocational training program (in Australia, Brazil, China, Germany, Hungary, India, Ireland, Japan, New Zealand, Singapore, South Korea, Switzerland, and the United States). The conversion rate (number of students who stayed with SAP after completing their dual studies) for vocational training students was 75% in 2021 (2020: 67%).

The average tenure remained at the same high level (2021: 8.0 years; 2020: 7.6 years).

Even when employees leave SAP, it is important that we stay connected. Our **SAP Alumni Network** offers a program to keep our former colleagues connected and foster a trusted network for the benefit of SAP and our ecosystem. In 2021, our alumni community included 14,909 former (2020: 9,096) and 4,379 current (2020: 4,082) SAP employees.

As part of our strategic pillar “building the skills for the future,” we focus on our skill transformation. SAP expects a shift in current skills that will cease to exist and new capabilities that will be needed in the future. In some cases, this shift is predictable, while in others it will require an adaptive workforce management approach focusing on continuous skill transformation to ensure our people are equipped to support future work requirements.

At SAP, learning mainly happens on the job, through interactions with colleagues and formal learning activities. Self-paced online programs and live interactive training, including courses for technical, functional, and professional skills, are open to all employees. Our peer-to-peer learning portfolio encompasses coaching, mentoring, job shadowing, and facilitation opportunities. In 2021, 97% of our employees participated in learning and logged more than three million hours of trackable learning. Additionally, 22,574 of our employees went through targeted upskilling programs tied to SAP’s cloud journey.

The successful delivery of our strategy also requires a robust succession management process. Therefore, in 2021, we launched a systematic approach focusing on our most critical and highest value-generating roles. It incorporates a clearly defined succession pipeline and targeted development and exposure for incumbents and successors to these roles.

Driving SAP’s Winning Culture

With our next-generation performance management approach, we aim to establish a high-performance culture, by linking business goals to the impact of individuals and teams with development opportunities and meaningful reward packages. Smart and transparent goal-setting approaches and continuous review processes, as well as equitable, competitive, and differentiated compensation structures, are a necessary foundation to drive high performance.

It is critical that our employees see the link between their individual contribution and SAP’s future success. Early in 2021, SAP’s top leadership set goals for their organization and made them visible to

¹⁸ In 2021, we adjusted the definition of Early Talents. In the past, the term referred to external hires of graduates with up to two years' professional experience post graduation.



all employees. During a newly established “**People Day**,” all employees at SAP were given time to reflect on SAP’s strategy and connect their goals and development to our direction. During “**SAP Talk**” dialogues, goals are set and viewed by the employees together with their managers.

To strengthen the link between employees’ compensation and SAP’s corporate success, we also increased our investment in **Move SAP**, our long-term share-based incentive plan that rewards employees who provide a significant impact to SAP’s business success. Another model component of our equity offering is **Own SAP**, a global share purchase plan, where 78% of our employees overall participated with an investment of 5,655,937 shares.

For more information, see the Notes to the Consolidated Financial Statements, [Note \(B.3\)](#).

Furthermore, in 2021, we also launched an equity-based **COVID-19 Recognition Plan** for all non-executive employees to recognize their resilience and commitment to business continuity during this difficult period.

Changing the Way We Lead

Strong, future-oriented leadership is key for successfully executing our strategy and becoming more agile, ethical, inclusive, and accountable. To guide our leaders, support their development, and move our organization forward in our journey to the cloud, we began the rollout in 2021 of a refreshed **leadership culture and credo**: “Do what’s right. Make SAP better for generations to come.” This empowers our leaders to make decisions and holds them accountable while focusing on the future of SAP. Our leadership culture is reinforced by traditional, peer, and experiential learning journeys. These journeys focus on building management, leadership, and cloud skills to promote a shared understanding and reinforce leadership behavior and accountability.

In 2021, we focused on a more consistent enablement of our people managers. We scaled the delivery of our flagship leadership programs, and focused on training on psychological safety across our organization. We report that 29.4% of SAP’s people managers have completed these leadership development training sessions.

In addition to our new leadership culture, one further strategic pillar is to pursue an agile, entrepreneurial, healthy, and innovative organization. With the COVID-19 pandemic already into a second year, our environment is changing at an increasing pace and the needs of our customers are shifting quickly. To deliver our business ambitions in this environment, SAP will continue to evolve our organization toward greater agility and innovation. It is our ambition to foster a culture that enables people to run at their best, by providing innovative health and well-being programs and solutions.

Future of Work: In June, the Executive Board announced “**Pledge to Flex**,” an SAP-wide commitment that empowers our employees to choose when and where to work best as their roles and tasks allow. Flexibility at work is considered a critical factor to attract and retain talent in the tech industry; Pledge to Flex also strengthens SAP’s employer brand. The local implementation of flex work along aligned guidelines and country-specific legal regulations is essential to providing an engaging and collaborative working environment. These activities are complemented by efforts to leverage advanced technologies and new facility concepts in frontrunner locations such as Dublin/Galway, London, Montréal, and Zurich.

Health and Well-Being: When people are healthy, respected, and cared for, it results in greater productivity, engagement, innovation, and customer satisfaction. The global pandemic has enforced changes to societal living that are resulting in increasing trends of mental health challenges and sedentary lifestyles. Listening to employees’ feedback in the #Unfiltered survey, we have enhanced health offerings that support a healthy workplace and work culture.

In 2021, SAP’s **Global Pandemic Taskforce** continued to coordinate and adjust countermeasures against the pandemic around the globe, utilizing employee feedback based on regular remote pulse checks on how employees experience their individual situation. Another focus was on **COVID-19**.



Vaccination Programs in many SAP locations, where we offered vaccinations free of charge to SAP employees, their dependents, and, in some instances, to the general public.

Seeing the need for employees to unplug, April 27, 2021, was dedicated as **Mental Health Day**, a company-sponsored global vacation day for all employees. SAP provided the opportunity for all employees to take the time off for themselves and their families.

In addition, SAP participates in the **Healthy Workplaces Lighten the Load** campaign by the European Agency for Safety and Health at Work, which enables leaders and employees to discover new ways to lighten the load of life's stressors by fostering healthy working and lifestyle habits for good physical and mental health.

Innovation: In support of our entrepreneurial journey, **SAP.iO** accelerates, incubates, and scales startup innovation and explores new business models for SAP. In 2021, the SAP.iO intrapreneurship program continued to help identify high-potential entrepreneurial employees at SAP and was able to jump-start 275 venture ideas, seeking investment by the **SAP.iO Venture Studio**.

Another initiative to foster innovation is the prestigious **Hasso Plattner Founders' Award**. It provides the highest internal employee recognition at SAP, based on the three categories: Go-To-Market, Operational Excellence, and Products and Technology. For 2021, the awards went to "Support Assistant: Delighting Customers by Solving Issues Faster" (Go-To-Market); "Cloud Health Score Based on Machine Learning" (Operational Excellence); and "SAP Information Collaboration Hub for Life Sciences" (Products and Technology). Winners were chosen from 192 nominations, with a total of 1,260 employees participating from 42 countries.

At SAP, we are always striving for inclusion and reflecting the diversity of society. As a global organization with 161 nationalities in our workforce, our aspiration is that SAP's employees mirror the diversity in society that includes the gender parity and demographics of all of the regions where we have employees. With our **Diversity and Inclusion Strategy**, we set our long-term focus to ensure we cover critical areas such as providing inclusive career journeys, creating a culture of inclusive collaboration, and improving our diverse ecosystem through supplier diversity efforts, an inclusive language campaign, and accessibility efforts.

Gender inclusion, advancement, and equality: Currently, SAP's representation of women in the overall workforce is 34.3% (2020: 33.6%), with the representation of women in management roles at 28.3% (2020: 27.5%). We continue to advance workplace equity through promoting inclusive policies on flexible work arrangements, enhanced parental leave benefits, and a focus on fair pay. We are present in the Bloomberg Gender-Equality Index in 2019, 2020, and again in 2021, confirming our commitment to gender equity.

Autism inclusion: The **Autism at Work** program supports a workforce that includes 217 colleagues on the autism spectrum in 16 countries. The **Autism Inclusion Network** is an employee-led network group focused on spreading autism acceptance. The **SAP Autism Inclusion Pledge** extends SAP's autism inclusion endeavors by sharing what we have learned with our customer and partner ecosystem.

Race and ethnicity: Back in 2016, SAP identified challenges with underrepresentation of Black, African American, Latinx, and Native American employees in the workforce. We created reporting to track our progress toward a better representation in accordance with required regulations in different countries and in line with our diversity and inclusion objectives. Among many efforts across the globe, this included the establishment of a new goal kicked off in 2020 to double the share of Black and African American employees in the workforce in the United States within the next three years. Built on the "Equality for All" initiative by the Human Rights Campaign, SAP supported the **Spotlight Black Businesses** program to showcase and promote small Black-owned businesses and introduce them to new audiences.

LGBTQ+ inclusion: SAP was among the first supporters of the United Nations Global LGBTI Standards of Conduct for Business and has been named again the Top #1 employer in Germany's Pride Index. SAP has also been recognized by organizations including the Human Rights Campaign in the United States, the Pride Business Forum in the Czech Republic, and the Swiss LGBTI Label for our



inclusion efforts. The employee-driven **Pride@SAP** LGBTQ+ network also celebrated its 20th anniversary in 2021.

In addition, SAP supports numerous global **Employee Network Groups** that offer activities and events from which SAP can help attract and retain people from diverse backgrounds.

Accessibility: SAP is designing a work experience where all employees feel that they belong and can contribute to a culture of equality and inclusion. A major component of this effort is creating accessibility in the workplace that removes barriers for differently abled persons. New technologies, such as eye-tracking are in our focus and will be continuously evaluated and implemented.

Pushing Operational Excellence and Showcasing Human Experience Management to Customers

Delivering engaging experiences for SAP's customers starts with our own workforce. A continued emphasis on operational excellence and experience management is key to delivering our human experience management (HXM) solutions and services efficiently, with both empathy and compliance.

SAP runs **SAP SuccessFactors**-branded solutions as our global software to manage people data. Additionally, the adoption of Qualtrics solutions integrated with SAP SuccessFactors solutions enables us to determine ways to improve the experience of our candidates and employees along the employee journey. Such data insights are the fuel to leverage intelligent technologies such as **SAP Conversational AI** services on our **SAP Careers** site along with **Brilliant Hire by SAP** as a skills and interest-based matching engine for candidates to receive job recommendations from SAP. Our internal HR chatbot provides instant responses to HR-related questions to all SAP employees around the world, 24x7. Machine learning capabilities are leveraged to analyze the skills needed for the future, based on external and internal data sources to provide a decision framework for hiring and learning programs.

Related Risks for SAP

No material risks were identified through our framework which is detailed in the *Risk Management Methodology and Reporting* section.

Headcount and Personnel Expense

As at December 31, 2021, we employed 107,415 full-time equivalent (FTE) employees worldwide (2020: 102,430). This represents an increase in the workforce of 4,985 FTEs (914 thereof from acquisitions) in comparison to 2020. The average number of employees in 2021 was 104,364 (2020: 101,476).

We define headcount in FTE as the number of people on permanent employment contracts, taking into account their staffing percentage. Numbers disclosed in the *Employees and Social Investment* section are based on FTE or headcount. Students, individuals employed by SAP but currently not working for reasons such as maternity leave, and temporary employees on limited contracts of less than six months, are excluded from our figures. The number of temporary employees is not material.

Our average personnel expense for each employee grew to approximately €149,000 in 2021 (2020: approximately €132,000). This increase is primarily due to an increase of share-based payment expenses. The personnel expense for each employee is defined as the overall personnel expense divided by the average number of employees. In 2021, we had 128 restructuring-related terminations (0.1%) compared to 1,037 in 2020 (1%).

For more information about employee compensation and a breakdown of the components of personnel expense, see the Notes to the Consolidated Financial Statements, *Note (B.1)* and *Note (B.2)*.



Social Investments

Vision and Strategy

The pace of innovation and technology progress impacts people, organizations, and communities globally. As a result, the competencies and skills needed for people and businesses to succeed in today's digital world are rapidly changing. Our corporate social responsibility (CSR) strategy puts SAP's purpose to help the world run better and improve people's lives into action. As such, SAP CSR considers issues including the access, adoption, and application of 21st century skills for under-resourced people, communities, and nations, and the acceleration of social enterprises through innovation, adoption of organizational best practices, and market development. SAP CSR has three focus areas that create equitable access to economic opportunity, quality education, and employment:

- Accelerate social business
- Build future skills
- Connect employees with purpose

SAP's CSR strategy is linked to our core business, meaning that we integrate social innovations into our own value chain through, for example, dedicated social procurement initiatives. In addition, we are offering a broad portfolio of corporate volunteering opportunities and pro bono consulting programs to deploy the professional skills of our employees for a good cause.

Governance, Guidelines, and Policies

Our Global Head of CSR leads the global SAP CSR team, which is part of the Marketing & Solutions Board area. SAP has established a **Global CSR Governance Committee** consisting of executive-level representatives from different Board areas at SAP to advise, supervise, and approve the direction of our overall CSR strategy. In addition, Regional CSR Governance Committees advise and approve all major CSR partnerships and efforts with the respective regional SAP CSR lead.

The guidelines in our internal CSR policy aim to ensure lawful, compliant donations and good stewardship of SAP's social investment budget to create a positive, sustainable impact. They articulate our strategic focus areas, set the standards and policies under which we operate, and explain the different roles and responsibilities between global CSR, regional CSR, and line of business activities.

How We Measure and Manage Our Performance

We measure the performance and impact of our CSR engagements and investments regularly and report the following output indicators for all initiatives and regions: number of employees engaged, volunteering projects delivered, lives impacted, engagements with customers and partners, non-profit organizations and social enterprises enabled, and employees on our SAP Together employee engagement and donation platform. In addition, every signature initiative follows a dedicated impact measurement framework and logic model. In 2021, SAP donated €25.5 million.

Focus Area – Accelerate Social Business

SAP provides skills, expertise, products, and financial support to social businesses that, in turn, accelerate their ability to drive sustainable social impact. In 2021, SAP built capacity for over 2,000 innovative non-profit organizations and social enterprises through in-kind contributions of US\$1.8 million (€1.58 million)¹⁹.

SAP set out to bring our pro bono consulting to the next level, scaling virtual models that were tested in 2020. For example, SAP and PYXERA Global launched a new program called **Pro Bono for Economic Equity** to support social and racial justice. Through the program, SAP provides expertise via pro bono consulting to help Black-owned businesses and social enterprises address systemic and business challenges. Further, SAP and MovingWorlds launched the **Acceleration Collective**, a support network to help social enterprises grow their organizations and impact, while helping SAP

¹⁹ Exchange rate date: December 31, 2021.



employees develop their leadership and social innovation skills by solving organizational challenges and offering business coaching.

The pandemic accelerated the importance of collaboration and partnerships on a macro level in creating opportunities to build sustainable, resilient value chains. In support of SAP's **5 & 5 by '25** social procurement initiative, SAP continued efforts to build capacity for social enterprises seeking to enter corporate supply chains through MovingWorlds' S-GRID program and engagement with the COVID-19 Response Alliance for Social Entrepreneurs.

Focus Area – Build Future Skills

In 2021, digital skill-building and coding programs trained 119,000 teachers and engaged 3.5 million underserved youth, of which 50% were girls. As part of the multi-stakeholder initiative **Generation Unlimited (GenU)**, SAP and UNICEF have addressed several strategic areas within education since 2019. The partnership continued to equip and empower young people with the 21st century digital and life skills they need to find suitable work. In 2021, SAP became a Founding Member of GenU, with SAP CEO Christian Klein joining the GenU Board. In India, under the umbrella of Code Unnati, SAP announced a partnership with Microsoft called TechSaksham. The program aims to provide 62,000 young graduating women and 1,500 teachers with Industry 4.0 skills for careers in emerging technology by the end of 2022.

Focus Area – Connect Employees with Purpose

In 2021, globally, SAP employees dedicated more than 100,000 volunteer hours, of which 76% were skills-based. SAP Together has 37,741 employees registered and offers 548 virtual volunteering projects. SAP CSR's employee engagement campaign, **Month of Service**, evolved to become **Moments of Service**. The campaign has a renewed focus on learning by offering employees virtual and on-site volunteering opportunities and speaker sessions with inspiring leaders inside and outside SAP. With a focus on year-round volunteering, employees can take action and deepen their understanding of social and environmental issues, what SAP is doing about them, and their capacity to impact as an individual.

Related Risks for SAP

No material risks were identified through our framework which is detailed in the [Risk Management Methodology and Reporting](#) section.

Audit Scope

The majority of the information in the [Employees and Social Investments](#) section was not part of the statutory audit of our combined group management report by our external auditor. Only the quantitative indicators Business Health Culture Index, Employee Engagement Index, Employee Retention, Women in Management, as well as Headcount and Personnel Expense are audited at a reasonable assurance level. For the remaining content of the [Employees and Social Investments](#) section, our auditor performed a limited assurance engagement.



Energy and Emissions

Vision and Strategy

To bring SAP's purpose of "helping the world run better and improving people's lives" to life, our sustainability activities and programs are aimed at creating positive economic, environmental, and social impact within planetary boundaries. In light of the aggravating climate change impacts and other intensifying global challenges, such as biodiversity loss and population growth, climate action has been put at the top of SAP's corporate sustainability agenda – which was also reconfirmed by the latest conducted materiality analysis.

Our strategy to create positive impact and to address climate action is implemented through a dual approach: (1) **SAP as enabler:** We aim to provide products and services to our customers to reduce their carbon emissions and pave the way towards a low-carbon future together; and (2) **SAP as exemplar:** To live up to our corporate responsibility and to build climate resilience, we strive towards leading by example in SAP's business operations and practices by running our own operations more sustainably.

Due Diligence

Governance

The Executive Board sponsor for sustainability, including climate action, is the SAP CFO. The responsibility for driving SAP's holistic, cross-company sustainability agenda is shared between the core sustainability team and the Sustainability Council, which are both chaired and led by the chief sustainability officer (CSO). The CSO's team coordinates SAP's response to climate change (including assessing and managing climate-related risks through a quarterly risk review, setting reduction targets, measuring and monitoring carbon emissions on a quarterly basis, and embedding sustainability-related initiatives across SAP), while it is the Council members' responsibility to integrate sustainability into the core business of their particular Board area, measure and report on their Board areas' progress, act as an ethical advisory board for the Company, and communicate with internal and external audiences on the business relevance of the topic. This happens in close cooperation with various other departments such as the global procurement organization, which aims to ensure that the Company purchases energy-efficient, sustainable products and services. The global facilities management team designs and operates our facilities based on robust environmental standards such as ISO 14001. Our global cloud services organization considers the optimization of the energy consumption in our data centers, while SAP's IT operations personnel is encouraged to use IT equipment and business software responsibly.

To be able to innovate and embed sustainability further, we regularly engage externally with various stakeholder groups such as non-governmental organizations (NGOs), non-profit organizations (NPOs), and academia. This notably includes an external sustainability advisory panel comprised of expert representatives from our customers, investors, partners, NGOs, and academia, which provide us with valuable outside-in feedback and advice.

Guidelines and Policies

Our global environmental policy provides the core framework for how we manage our environmental impact – in our own operations and with our customers. Updated regularly and approved by the CFO, this policy guides our efforts to reduce our ecological footprint, provide environmental performance transparency, and demonstrate sustainable leadership through transformational strategies. In addition, it helps us to comply with internationally recognized sustainability standards as well as stakeholder expectations, primarily those of customers, investors, and employees.



How We Measure and Manage Our Performance

Our Targets

In 2017, we set our leading environmental target of making our operations carbon neutral by 2025. However, to consider the impact of the COVID-19 pandemic on our carbon emissions, to strive toward a role model position in sustainability, and to maintain our ambition level, we decided to revise and accelerate our carbon neutral target: We now aim to become **carbon neutral in our own operations by 2023** – two years earlier than what we had aimed for thus far.

This target refers to our total net carbon emissions, which are calculated by deducting purchased renewable energy certificates, self-generated renewable energy, and carbon offsets from our gross carbon emissions in the respective reporting period. Our carbon neutral target includes all direct and indirect emissions from running our business (Scope 1 and Scope 2)²⁰ as well as a selected subset of indirect emissions from our value chain (Scope 3).²¹ This objective is key to reducing SAP's own environmental footprint and to combatting climate change – one important step towards contributing to SAP's overarching purpose.

To achieve our carbon neutral target and to track its progress, we have derived annual targets for our internal operational steering. Since the beginning of 2020, these annual targets have been integrated in the Executive Board's short-term performance-based compensation.

Since 2017, we have complied with the requirements of the Science Based Targets initiative (SBTi) and are committed to reducing emissions by 85% by 2050 compared to the base-year level 2016, including our entire Scope 3 value chain emissions such as our products-in-use emissions at our customers. Confirmed by the SBTi in a 2019 reassessment, this target reflects the level of decarbonization required to keep the global temperature increase below 1.5 degrees Celsius compared to preindustrial temperatures. However, to meet a net-zero future, in 2022 we aim to further accelerate our climate ambitions by committing to **achieve net zero across our entire value chain by 2030** in alignment with the SBTi Net-Zero Standard – 20 years earlier than originally planned.

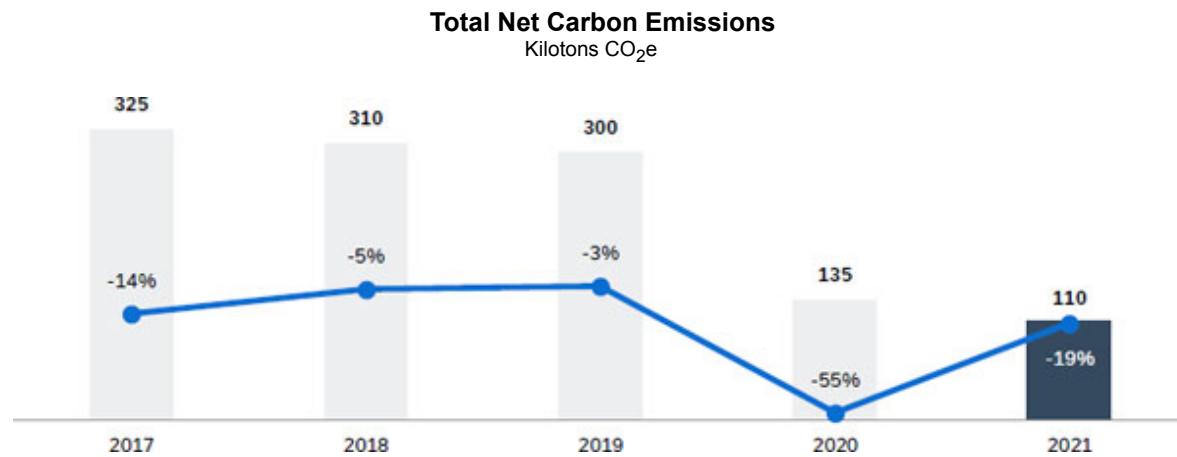
Performance and Measures to Progress

As a result of the ongoing COVID-19 pandemic, as well as the introduction of a more flexible working model at SAP, carbon-intensive business activities, in particular business travel-related activities, increased moderately during the year, but remained at a low level overall. As a result, our carbon emissions have continued to decrease. Even though our employee headcount increased by 4.9%, our net carbon emissions dropped to 110 kilotons²² (kt), representing a year-over-year decrease of 18.5% (2020: 135 kt). In July 2021, we had already reduced our carbon emissions outlook for 2021 from 145 kt to a range of 90 kt to 110 kt to reflect the expected impact of the COVID-19 pandemic on SAP's business results.

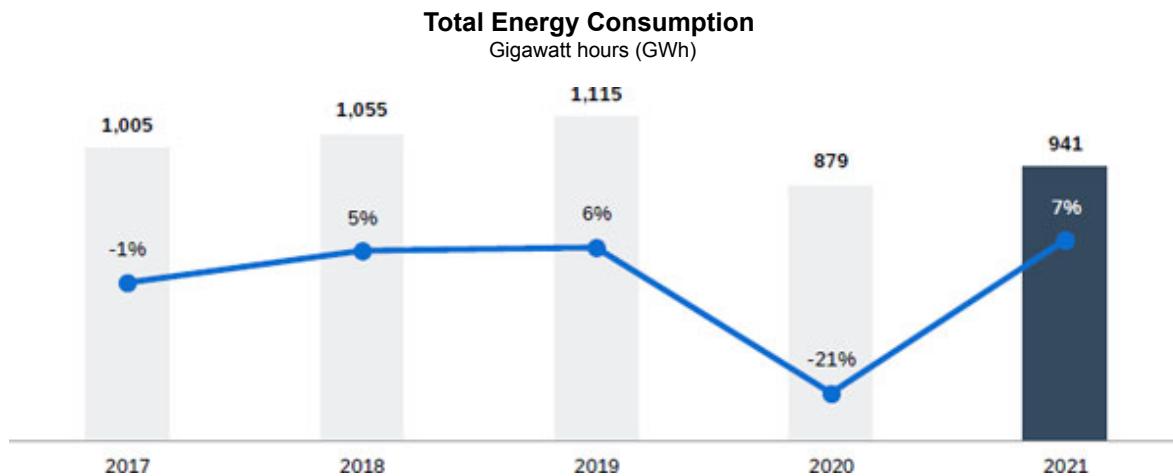
²⁰ Scope 1 includes: Stationary Combustion and Refrigerants in Facilities, Mobile Combustion and Refrigerants in Corporate Cars, Mobile Combustion in Corporate Jets. Scope 2 includes: Electricity in Offices, Electricity in Data Centers, Purchases of Chilled and Hot Water, Steam.

²¹ Scope 3 includes: Rental Cars, Business Flights, Train Travel, Business Trips with Private Cars, Employee Commuting, Electricity External Data Centers, Electricity Used by Hyperscale Services, and Logistics.

²² We report all our carbon emissions in CO₂ equivalents (CO₂e).



Due to the COVID-19 pandemic and SAP's pledge to flexible, trust-based working styles, electricity consumption in our offices continued to be low as the majority of employees remained in a remote working model. Our total energy consumption²³ remains lower than before the COVID-19 pandemic. However, in light of an increasing external data center electricity consumption (including hyperscale services), the total amount of energy consumption has slightly increased year over year.



Our focus on climate action has contributed to a cumulative cost avoidance of €743.5 million in the past three years. We achieved 55% of this cost avoidance in 2021. Cost avoidance is a financial key figure that indicates the financial benefits of SAP's engagement in sustainability measures compared to a business-as-usual scenario where no sustainability measures have been implemented (base year: 2016).

To become carbon neutral even in times of ongoing growth in our business, we continue to drive our three-pillar strategy of "avoid – reduce – compensate." In 2021, key initiatives following this approach included:

²³ Before 2021, our total energy consumption graph covered direct energy consumption (Scope 1) and selected indirect energy consumption (Scope 2). In 2021, we added indirect energy consumption of our value chain (Scope 3) to all years shown.



Facilities, Data Centers, and Renewable Electricity

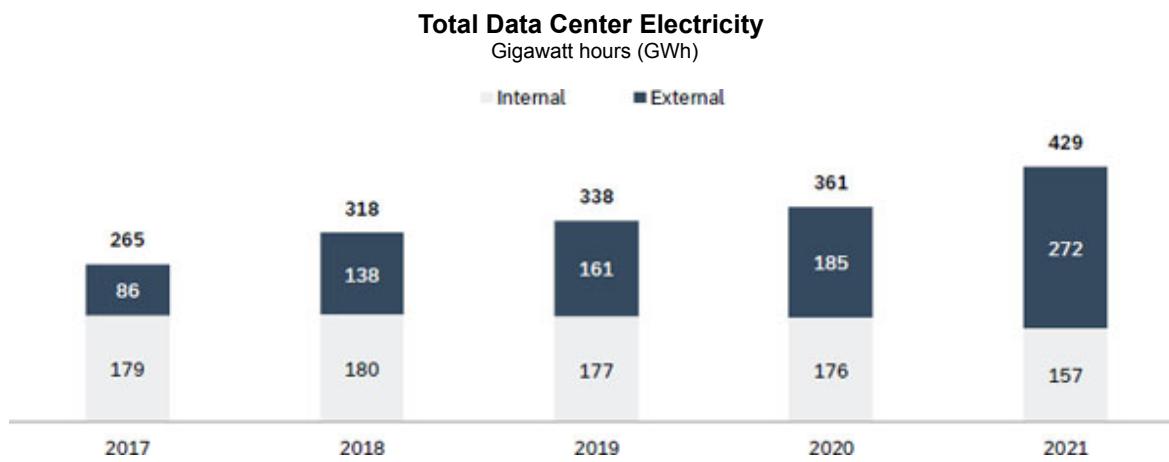
To lead by example and continually improve the environmental footprint of its own operations, SAP has thus far implemented an environmental management system (EMS) at more than 50 sites in around 30 countries worldwide. The EMS is certified by the renowned ISO 14001:2015 standard and successfully maintained its certification in 2021. Its scope will be gradually increased from currently 77% to 100% of SAP's major company-owned sites by 2025. To further increase our energy efficiency, selected sites such as SAP's headquarters in Germany also operate an ISO 50001:2018-certified energy management system.

As more business moves to the cloud, data centers play an increasing key role in SAP providing solutions to our customers. Running solutions on SAP data centers and completing thousands of cloud solution transactions per day requires central processing units (CPUs), memory, storage, and cooling, and therefore electricity – which ultimately results in carbon emissions. This is why our internal data centers have become a primary focus of our carbon reduction efforts.

We have introduced initiatives to drive efficiency and innovation with respect to our buildings, data center operations, and infrastructure (such as the installment of new co-generation units and the replacement of old back-up batteries with more efficient lithium-ion batteries in the data centers in St. Leon-Rot, Germany). At our SAP headquarters in Germany and North America, we operate our own data centers with an efficient power usage effectiveness (PUE) of 1.38. The PUE is a ratio that describes the efficiency of a data center, with 1.0 being the ideal.

In 2014, SAP strengthened the integration of our environmental strategy into our business strategy by creating a “**green cloud**” – running all data centers with 100% renewable electricity.²⁴ This is one major step towards achieving carbon neutrality and upholding our commitment towards the RE100 initiative. The term “data center” refers to both SAP-owned and external data centers (co-location data centers and hyperscalers).

We realize our green cloud by using two strategic levers: On the one hand, by investing in very high-quality, EKOenergy-certified energy attribute certificates (EACs)²⁵ to foster renewable energy generation; and on the other hand, by producing renewable electricity in selective SAP locations worldwide through solar panels (such as Palo Alto, CA, in the United States, and Bangalore, India). Operating all our facilities and data centers with 100% renewable electricity allows us to compensate our entire electricity consumption-related emissions (2021: 219.5 kt). This is why customers can reduce their carbon emissions (Scope 3) by using our green cloud solutions and services.



²⁴ We also run all our SAP office facilities with 100% renewable electricity.

²⁵ We formerly used the term „Renewable Energy Certificates“ (RECs) to refer to Energy Attribute Certificates.



Sustainable Solutions and Products in Use

The vast majority of our overall carbon emissions result from the use of our software. To address this, we have developed a downstream emissions strategy to help our customers, hardware providers, and others run greener operations. One of the most important ways we help our customers reduce their energy usage and emissions is by managing their SAP systems through cloud services provided by our carbon-neutral green cloud offerings. In addition, our **SAP Cloud for Sustainable Enterprises** offering bundles a broad portfolio of sustainability-related solutions, such as **SAP Sustainability Control Tower**, **SAP Environment, Health, and Safety Management**, and **SAP Product Footprint Management**, which enable our customers to collect, organize, and report financial and non-financial metrics or to manage their greenhouse gas footprint and resources, such as electricity, more efficiently.

SAP also works with customers to optimize their on-premise landscapes so that they consume less energy. We achieve this by helping them decommission legacy systems, archive unused data, consolidate business applications, and virtualize their system landscape. In 2021, we started to develop a carbon footprint sizing approach with the aim of enabling our customers to gain transparency on the carbon impact of their SAP applications that run in SAP's internal and external data centers, answering the question of how much our customers can reduce their environmental footprint by running SAP solutions on SAP's green cloud compared to a cloud that is not powered by 100% renewable electricity.

Corporate Cars and Commuting

Consumption of fuel for our company cars remains the single greatest contributor to our direct emissions (Scope 1). To counteract this emission source, SAP released a new commitment in Q4/2021. We aim to enhance our climate protection measures by transitioning our global car fleet to electric or zero-emission²⁶ vehicles. From 2025 onwards, employees will no longer be able to order vehicles with internal combustion engines (ICEV) or plug-in hybrid electric vehicles (PHEV) as company cars. To ensure a carbon-neutral car fleet reflecting this new commitment, we continue to power all charging stations at SAP locations with 100% renewable electricity. We also continue and strengthen our incentive offers for our employees, for example:

- In selected locations, we offer employees a subsidy to install a charging point at home which deploys the new **SAP E-Mobility** solution to ease billing of the consumed electricity for both car fleet managers and employees.
- In Germany, we offer employees a battery subsidy that partially offsets the higher costs of an electric vehicle, and introduced "Charge at Home," a program to reimburse the employee's electricity costs for charging at home.
- We continuously expand SAP's global charging infrastructure (2021: >970 charging stations; 2020: >900 charging stations).

To generate a shift in alternative commuting habits, we continue to offer a company bike program in Germany, where employees can lease bicycles with the option of purchasing them after three years. In 2021, we expanded the mobility budget pilot to the whole of Germany to foster inter-/multimodal mobility. A pilot group of employees receives a monthly fixed mobility budget at their free disposal to use any mode of transport to commute to work or in their leisure time (bike, e-scooter, rental car, train, bus, and so on).

²⁶ Zero emission vehicles refer to a vehicle that does not emit exhaust gas or other pollutants from the onboard source of power.



Carbon Offsets

To offset a share of our Scope 1 and Scope 3 emissions that cannot yet be avoided, we invest in different offset schemes with a strategic focus on nature-based solutions to compensate for these emissions (2021: 17.5 kt):

- A key part of SAP's carbon offsetting strategy is the long-term investment in the Livelihoods Carbon Funds (LCF). The funds finance much-needed climate action and sustainable development in developing countries through ecosystem restoration, agroforestry, biodiversity preservation, and clean energy projects. This has generated high-quality carbon offsets certified by internationally recognized and demanding standards (such as the Gold Standard) and improved people's lives. In 2020, SAP committed to invest €3 million in the third LCF and an additional €0.6 million in the first LCF. Due to the strong impact of the COVID-19 pandemic on our carbon emissions, we did not require our financial contribution to the LCF to offset our emissions in 2021. Instead, we used an investment in a nature-based forest project to compensate our emissions, the majority of which was caused by business flights.
- In 2021, SAP made a US\$2 million (€1.76 million)²⁷ commitment to the LEAF (Lowering Emissions by Accelerating Forest finance) Coalition, a public-private initiative seeking to mobilize US\$1 billion to protect tropical forests in joint effort with national and subnational governments and local communities. LEAF issues emission reduction credits (ERCs) to its corporate partners that are verified and validated under the ART's (Architecture for REDD+ Transactions) TREES standard (The REDD+ Environmental Excellence Standard) to ensure high-quality offsets. Due to the ongoing funding process, LEAF does not yet offer carbon offsets.
- In addition to avoiding business flights by investing in virtual collaboration and communication technologies, we charge an internal carbon price for business flights in the majority of countries we travel from, to counterbalance the carbon emissions caused. Since 2016, we invest the collected internal air travel fees in high-quality carbon offsets (such as the Gold Standard) to support climate projects worldwide and compensate the adverse impact of necessary business flights. As a result, this measure has tangibly impacted our progress towards achieving our emission goals.

Investments in sustainable projects and the corresponding carbon offsets represent a unit of reduced, avoided, or removed greenhouse gas emissions.

Furthermore, SAP joined the 1t.org Corporate Alliance in 2021, which mobilizes business leaders to responsibly conserve, restore, and grow trees worldwide while pursuing 1.5 degrees Celsius science-based target. Restored and protected in the right places, trees and forests are invaluable in maintaining planetary stability, slowing climate change, safeguarding biodiversity, and providing critical ecosystem services to people around the world. Thus, SAP added the goal of **planting 21 million trees by the end of 2025** to its comprehensive portfolio of climate measures and carbon-reducing innovations. This will help foster the much-needed transition to a nature-positive and net-zero future. Since 2012, SAP has helped to plant more than 12.2 million trees and is on track to reach its 2025 goal.

²⁷ Exchange rate date: December 31, 2021.



Related Risks for SAP

We have analyzed climate change risks and their potential impact on our largest office buildings, major data centers, and SAP's workforce. Risk drivers were chosen based on the Intergovernmental Panel on Climate Change (IPCC) reports AR5 and SR15 (that is, rising sea levels, temperature extremes, and tropical storms). The risk assessment was performed in accordance with the SAP Global Risk Management Policy as outlined in the [Risk Management and Risks](#) section. As part of our last analysis in 2019, no material risks have been identified potentially impacting our business operations, revenue, or expenditure.

Audit Scope

The content of the [Energy and Emissions](#) section was not subject to the statutory audit of our combined group management report. However, our auditor has performed an independent assurance engagement on the contents of this section. Under this engagement, the quantitative indicators Carbon Emissions (Scope 1 and 2 as well as selected Scope 3 emissions including business flights and employee commuting), Renewable Electricity, and Total Energy Consumed were audited at a reasonable assurance level. For the remaining content of this section, our auditor performed a limited assurance engagement.



Corporate Governance Fundamentals

Corporate Governance Statement

The German Commercial Code, section 315d in connection with section 289f, requires that, as a listed company, SAP SE publishes a corporate governance statement either as part of our management report or on our Web site. The Executive Board and the Supervisory Board of SAP SE issued the Corporate Governance Statement on February 22, 2022, and published it on our Web site at www.sap.com/corporate-en/investors/governance.

Changes in Management

Since January 1, 2021, Sabine Bendiek has served as chief people officer and labor relations director and has led the Human Resources organization. In mid-2021, she assumed additional responsibility and became SAP's chief people and operating officer.

In January 2021, SAP announced that Julia White and Scott Russell had been appointed to the Executive Board. On February 1, 2021, Scott Russell took over the Customer Success organization from Adaire Fox-Martin, who departed the Executive Board at the end of January 2021 and left the Company at the end of June 2021. Julia White joined the Executive Board effective March 1, 2021, and took up the newly created Board role of chief marketing and solutions officer.

Information Concerning Takeovers

Information required under the German Commercial Code, sections 289a (1) and 315a (1), with an explanatory report:

Composition of share capital: For information about the composition of SAP SE's share capital as at December 31, 2021, see the Notes to the Consolidated Financial Statements, [Note \(E.2\)](#). Each share entitles the bearer to one vote. American depositary receipts (ADRs) representing our shares are listed on the New York Stock Exchange (NYSE) in the United States. ADRs are certificates representing non-U.S. shares and are traded on U.S. stock exchanges instead of the underlying shares. One SAP ADR corresponds to one SAP share.

Restrictions applying to share voting rights or transfers: SAP shares are not subject to transfer restrictions. SAP held [48,924,892] treasury shares as at December 31, 2021 (see the Notes to the Consolidated Financial Statements, [Note \(E.2\)](#)). Treasury shares do not carry voting rights or dividend rights or other rights. We are not aware of any other restrictions applying to share voting rights or to share transfers.

Shareholdings that exceed 10% of the voting rights: We are not aware of any direct or indirect SAP SE shareholdings that exceed 10% of the voting rights.

Shares with special rights conferring powers of control: No SAP shareholder has special rights conferring powers of control.

Type of control over voting rights applying to employee shareholders who do not directly exercise their control rights: As with other shareholders, employee holders of SAP shares exercise their control rights in accordance with the law and the Articles of Incorporation. In votes on the formal approval of their acts at the Annual General Meeting of Shareholders, employee representatives on the Supervisory Board, as all other members of the Supervisory Board, are prohibited from exercising the voting rights associated with their shares.



Requirements concerning appointments and dismissals of members of the Executive Board and amendments to the Articles of Incorporation: Conditions for the appointment and dismissal of members of the Executive Board and amendments to the Articles of Incorporation reflect the relevant provisions of applicable European and German law, including Council Regulation (EC) No. 2157/2001 on the Statute for a European Company ("SE Regulation") and the German Stock Corporation Act. Under the Articles of Incorporation, the Executive Board consists of at least two members, who are appointed for a period of not more than five years by the Supervisory Board in accordance with the SE Regulation, articles 39 and 46. The number of members of the Executive Board is decided by the Supervisory Board. Executive Board members may be reappointed for, or their term of office extended by, a maximum of five years. A simple majority of the Supervisory Board members is required for Executive Board appointments. In the event of a tie, the chairperson of the Supervisory Board has the deciding vote. The Supervisory Board can appoint a chairperson of the Executive Board and one or more deputy chairpersons from among the members of the Executive Board. The Supervisory Board can revoke appointments to the Executive Board in accordance with the SE Regulation, article 9, and the German Stock Corporation Act, section 84, if compelling reasons exist, such as gross negligence on the part of the Executive Board member. If the Executive Board is short of a required member, one may be appointed in urgent cases by a court in accordance with the SE Regulation, article 9, and the German Stock Corporation Act, section 85. In accordance with the SE Regulation, article 59, and the German Stock Corporation Act, section 179, an amendment of the Articles of Incorporation requires a resolution of the General Meeting of Shareholders with a majority of at least three-quarters of the valid votes cast. For any amendments of the Articles of Incorporation that require a simple majority for stock corporations established under German law, however, the simple majority of the valid votes cast is sufficient if at least half of the subscribed capital is represented or, in the absence of such quorum, the majority prescribed by law (that is, two-thirds of the votes cast, pursuant to article 59 of the SE Regulation) is sufficient. Section 11 (2) of the Articles of Incorporation authorizes the Supervisory Board to amend the Articles of Incorporation where such amendments only concern the wording.

Power to issue and repurchase shares: The Annual General Meeting of Shareholders on May 12, 2021, granted powers to the Executive Board, subject to the consent of the Supervisory Board, to issue convertible and/or warrant-linked bonds, profit-sharing rights and/or income bonds (or combinations of these instruments), and to grant conversion or option rights in respect of SAP SE shares representing a total attributable portion of the share capital of not more than €100 million secured by a corresponding amount of contingent capital. These powers will expire on May 11, 2026. The Executive Board is also authorized until May 19, 2025, to increase the share capital by not more than €250 million by issuing new shares against contributions in cash and to increase the share capital by not more than €250 million by issuing new shares against contributions in cash or in kind. For more information about the different tranches of authorized capital and the aforementioned contingent capital, see the Articles of Incorporation, section 4.

The Annual General Meeting of Shareholders on May 17, 2018, granted a power to the Executive Board in accordance with the German Stock Corporation Act, section 71 (1)(8), to buy back for treasury on or before May 16, 2023, SAP SE shares attributable in total to not more than €120 million of the share capital. This power is subject to the proviso that the shares repurchased, together with any shares that were previously acquired and are still held by SAP in treasury and any other shares controlled by SAP, must not in total exceed 10% of SAP's share capital. Executive Board powers, such as those described to issue and repurchase stock and to grant rights of conversion and subscription to shares of SAP, are widely followed common practice among German companies such as SAP. These powers give the Executive Board the flexibility it needs, in particular, the option to use SAP shares as consideration in equity investments, raise funds on the financial markets at short notice on favorable terms, or return value to shareholders during the course of the year.

Material agreements with change-of control-provisions: SAP SE has concluded the following material agreements with provisions that take effect in the event of a change of control, whether following a takeover bid or otherwise:



The terms of SAP's syndicated €2.5 billion revolving credit facility include a change-of-control clause. For more information about this syndicated credit facility, see the Notes to the Consolidated Financial Statements, [Note \(F.1\)](#). This clause obliges SAP SE to notify the banks in case of a change of control. If, on receiving the notification, banks that represent at least two-thirds of the credit volume so require, the banks have the right to cancel the credit facility and demand complete repayment of the outstanding debt. If no continuation agreement is reached, the credit facility would end and the obligation to repay would become effective at an ascertainable time.

SAP had bonds totaling €9.6 billion and US\$0.3 billion outstanding as at December 31, 2021. For more information about SAP's bonds, see the Notes to the Consolidated Financial Statements, [Note \(E.3\)](#). Under the terms agreed with the buyers, we are required to notify the buyers, without delay, of any change of control. If there is a change of control and SAP is consequently assigned a lower credit rating within a defined period, buyers are entitled to demand repayment.

Under the terms of our U.S. private placements totaling approximately US\$0.87 billion as at December 31, 2021, we are required to offer lenders repayment of outstanding debt if there is a change of control and SAP is consequently assigned a lower credit rating within a defined period. For more information about these private placements, see the Notes to the Consolidated Financial Statements, [Note \(E.3\)](#). Lenders would have up to 30 days to accept the offer.

To finance the acquisition of Signavio GmbH and create additional financial flexibility during the COVID-19 pandemic, SAP took out two bilateral bank loans amounting to €0.95 billion and €0.5 billion at the beginning of 2021, both of which were fully outstanding as at December 31, 2021. Both loan agreements contain a change-of-control clause which obliges SAP SE to notify the bank in case of a change of control. On receiving the notification, the bank has the right to cancel the loan agreement and demand complete repayment of the outstanding debt. If no continuation agreement is reached, the loan agreement would end and the obligation to repay would become effective at an ascertainable time.

We have entered into relationships with other companies to jointly develop and market new software products. These relationships are governed by development and marketing agreements with the respective companies. Some of the agreements include provisions that, in the event of a change of control over one of the parties, give the other party a right to consent to the assignment of the agreement or to terminate it.

Change-of-control provisions in Executive Board compensation agreements: Agreements have been concluded with the members of the Executive Board of SAP SE concerning compensation in the event of a change of control. These agreements, which are customary internationally, are described in the Compensation Report. We have no analogous compensation agreements with our other employees.



Business Conduct

Vision and Strategy

In an increasingly complex business environment, making the right decisions and abiding by ethical choices has never been more important. As a company operating in numerous countries across the globe, SAP is required to adhere to strict international legislation that defines acceptable business conduct and practices.

At SAP, we also expect our business practices to not only meet international rules and legal requirements, but to adhere to our internal high standards of ethics and integrity. We understand that our customers expect this as well. SAP's reputation for doing business the right way is one of our most important assets. By striving to make ethical choices and to stay within high bounds of compliance, we aim to continue to grow SAP in a way that encourages and is conducive to compliant and ethical behavior.

Due Diligence

Governance

The **Office of Ethics and Compliance** (OEC) contributes to SAP's success by providing trusted advice to SAP managers, leaders, and employees across the entire business. The OEC strives to advance SAP's business goals by promoting a strong culture of integrity and helping SAP to "Win the Right Way" by providing guidance and training that enables employees to make ethical and compliant choices.

In 2021, our aim to maintain a robust compliance program, based on our corporate values and voluntary commitments, as well as international standards, continued. The OEC team grew for the fourth consecutive year, from 123 employees in 2020 to 142 employees in 2021. The group chief compliance officer (GCCO) continues to report directly to the group CEO.

At SAP, ethical behavior is an integral part of our cultural values that influence our daily decision-making at every level of the business. To help nurture this environment, the OEC's various teams continually address compliance challenges and improve policies, guidelines, systems, and measures related to their implementation.

The OEC has field compliance officers based all around the world, in high-risk and low-risk jurisdictions, and in markets where there are local language needs. Field compliance officers are often the first point of contact for the business regarding compliance matters. In those high-risk countries in which the OEC is not physically represented, the OEC operates a network of compliance stewards drawn largely from either our legal, finance, or human resources (HR) departments. They are equipped to offer advice on specific and straightforward compliance questions, and they work alongside our global network of compliance ambassadors (drawn from all areas of the Company) to amplify compliance messages and provide a further link for local employees to the relevant field compliance officer.

Compliance matters are discussed with senior leadership at quarterly Audit and Compliance Committee meetings as well as during regular touchpoints with Executive Board and Supervisory Board members. Compliance matters are also discussed by the GCCO in quarterly Global Compliance Governance Committee meetings.

Where appropriate, and in response to identified compliance concerns, the OEC engages external counsel and forensic consulting resources to perform corruption risk assessments of high-risk market units. This process also includes a comprehensive root cause analysis for identified risks.

Outside SAP, the OEC regularly exchanges ideas and best practices for compliance processes with relevant peers in the software industry and beyond. In Germany, the OEC participates in the annual



DAX Chief Compliance Officer Round Table. SAP is also a Corporate Member of the Association of Certified Fraud Examiners (ACFE).

Guidelines and Policies

Our **Code of Business Conduct** (CoBC) provides the primary ethical and legal framework within which we conduct business and remain on course for success. It is adapted locally and translated into over 20 languages.

We also expect our partners and suppliers to commit to meeting our high standards of integrity and sustainability. For this reason, we have the SAP Partner Code of Conduct and the SAP Supplier Code of Conduct in place so that partners and suppliers understand what is expected of them.

How We Measure and Manage Our Performance

Enforcing Policies and Guidelines

The CoBC is communicated to employees globally and contains a fundamental set of rules that define how we conduct our business. It sets SAP's standard for our dealings with each other and with customers, partners, competitors, and vendors. All of our employees are bound by it. In 2021, the policy was reviewed and revised. It is now called the Code of Ethics and Business Conduct and was rolled out globally in January 2022.

Communication

The OEC's dedicated communications team promotes a consistent distribution of integrity-related communications, at all levels of the Company – including senior leaders, managers, and front-line employees. Executive Board members and senior leaders regularly host all-hands meetings as well as leadership team meetings and smaller gatherings, which include integrity-focused topics, demonstrating their dedication to ethical business.

All Board areas have re-committed their support for OEC's Compliance Ambassador Program and have nominated employees to participate in it. In 2021, a fourth cohort was introduced, bringing the number of participants from 177 in 2020 to over 500 in 2021. The program is designed to give employees a further point of contact in the business when compliance matters arise. Ambassadors participate in an extensive curriculum of monthly on-boarding sessions over a two-year period and are expected to cascade and transfer information on the importance of compliance and ethics throughout their teams and lines of business.

Quarterly OEC newsletters provide all employees with information on a range of compliance-related topics. We also include at least one business ethics and compliance-related question in our annual employee engagement survey and in company-wide polls throughout the year. Employees can use the SAP One employee portal at any time to access all global policies, guidelines, and additional information. The SAP Compliance mobile app also provides convenient, ongoing access to compliance-related information.

Training Offerings

Our training programs cover topics such as anticorruption and antibribery, competition law, governance for customer commitments, intellectual property, and information security.

Our "Five Pillars of Compliance" online training is mandatory for all employees wherever legally permissible.

Monitoring employee certification of the CoBC for employees worldwide continued. During the 2021 monitoring cycle, a 99.9% certification rate was recorded for permanent SAP employees (excluding newly acquired companies).

Despite restrictions caused by the COVID-19 pandemic, field compliance officers continued to hold training sessions – albeit virtually – for employees across the organization, from customer-facing staff to individuals in supporting roles, such as corporate affairs and marketing.



Compliance Processes

The OEC also evaluates SAP's third-party service providers to check that SAP's compliance standards are met. New suppliers and third parties seeking a partnership with SAP are scrutinized according to a risk-based compliance due diligence process, which is repeated every two years thereafter. Supplier and partner relationships are formally defined in contracts that outline their obligation to abide by SAP's compliance requirements and a "right to audit" clause. The OEC also has a team dedicated to conducting compliance audits of partners and suppliers to assess adherence to SAP's requirements and to identify and address compliance risks.

The OEC's Compliance Monitoring & Analysis (CMA) team monitors the effectiveness of SAP's compliance processes and controls through regular testing of high-risk transactions, identified using a recently introduced data analytics tool developed with PricewaterhouseCoopers GmbH (PwC) and through manual sampling. The CMA team also analyzes findings from investigations and partner audit reports to identify potential enterprise-wide process deficiencies and patterns of misconduct that indicate a compliance risk. The team then conducts root cause analyses on the highest-risk topics and recommends remediation actions to mitigate the risks.

Whistleblower Reporting Tool

In 2021, SAP replaced its existing **whistleblower reporting tool** with one that is independently managed, so that any matters or concerns can continue to be reported easily and anonymously. The new tool – Speak Out at SAP – is available both internally to SAP employees and externally to concerned parties.

Reports may be submitted either directly by the reporter through the tool, or through the multilingual call center by an agent acting on the reporter's behalf. In all cases, SAP continues to operate a strict non-retaliation policy.

Investigating Misconduct

Where appropriate, the OEC engages the assistance of an external law firm when investigating conduct that may violate antibribery and anticorruption laws.

For more information about the material allegations currently being investigated by the OEC, see the Notes to the Consolidated Financial Statements, [Note \(G.3\)](#).

Related Risks for SAP

The actions and processes to address risks in business conduct are described above. For related risks, see also [Ethical Behavior](#) in the [Risk Management and Risks](#) section.

Audit Scope

The content of the [Business Conduct](#) section was not subject to the statutory audit of the combined group management report. However, our external auditor performed an independent limited assurance engagement for the content of this section.



Human Rights and Labor Standards

Vision and Strategy

SAP is committed to respecting and promoting human rights across our operations, extended supply chain, and product lifecycle, and we are guided by the United Nations (UN) Guiding Principles on Business and Human Rights in doing so. We also expect all of our business partners to respect human rights and avoid complicity in any abuse.

Due Diligence

Governance

Our cross-company agenda on human rights is driven by SAP's Sustainability team. In 2021, we established a new project organization to respond to increasing legal requirements such as the German Supply Chain Due Diligence Act. The project organization comprises executives and employees from various Executive Board areas who embed human rights due diligence in their areas of responsibility. We regularly consult experts from academia, civil society, and industry in our external **Sustainability Panel** on how SAP can generate the greatest positive social impact.

The **Artificial Intelligence (AI) Ethics Steering Committee** guides our internal efforts to implement and enforce AI ethics in our operations and policies. It comprises SAP executives from all Executive Board areas with supervision of topics relevant to guiding and implementing AI ethics. Also made up of experts from academia, industry, and public policy, our external **AI Ethics Advisory Panel** advises us on how to further develop and operationalize our guiding principles for AI.

Guidelines

We support the Universal Declaration of Human Rights; the Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises; and the International Labor Organization Declaration on Fundamental Principles and Rights at Work. The **SAP Global Human Rights Commitment Statement** is our public commitment to respecting and promoting human rights across our value chain. Overseen by our chief sustainability officer and approved by our Executive Board, the current version of the Human Rights Commitment Statement is available at www.sap.com/corporate-sustainability.

How We Measure and Manage Our Performance

Assessing Human Rights Measures

To assess our human rights measures, we consider legal requirements, performance ratings, audit results, and stakeholder feedback. For example, since 2012, we have conducted regular internal audits to help us verify that subsidiaries adhere to human rights standards, and check whether employees feel empowered to raise concerns.

At the end of 2021, we started a labor audit at SAP China, whereby we reviewed labor conditions, wages and hours, health and safety, environmental management system, and business practices. The audit has been subject to finalization in the first quarter of 2022. We plan to adapt our global internal audit program based on recent legal requirements.



Employees

Our employees receive training on human rights issues most relevant to SAP. For example, they are trained on our policies on discrimination, health and safety management, and data protection and privacy.

We encourage all employees, including groups at heightened risk of becoming disadvantaged or marginalized (also called “vulnerable groups”) such as temporary external staff, to report conduct that violates our policies. Employees can reach out to their managers, HR officers, compliance officers, or colleagues who are trained to be part of our internal mediation pool. Our **global ombudsperson** also receives employee complaints and mediates fair settlements as well as helps our Executive Board analyze HR-related complaints and issues. Our complaints mechanisms (for example, our **Speak Out at SAP** tool) are also accessible to external groups.

Suppliers and Partners

We expect suppliers and partners to respect human rights, and our codes of conduct require them to uphold labor rights and provide a safe and healthy work environment for all employees.

For more information, see the [Sustainable Procurement](#) section.

Product Development

We seek to respect human rights throughout the product lifecycle – from design through development to use. Protection of personal information and accessibility are key areas of focus.

For more information, see the [Security, Data Protection, and Privacy](#) section.

Our innovative solutions help customers embed human rights standards into their own business. For example, they can use the **SAP Ariba Supplier Risk** solution to gain the intelligence and transparency to understand human rights risks within their supply chains.

AI Ethics

To steer the ethical development, deployment, and sale of our AI solutions, we created SAP's **Guiding Principles for Artificial Intelligence** that we continue to evaluate and update in conjunction with an external advisory panel. Our guiding principles are an evolving reflection on the challenges of AI in an everchanging technological landscape. In January 2022, we rolled out a **Global AI Ethics Policy** to help ensure that our AI systems are developed, deployed, and sold in line with the ethical standards laid out in our guiding principles.

Related Risks

No material risks were identified through our framework which is detailed in the [Risk Management Methodology and Reporting](#) section.

Audit Scope

The content of the section [Human Rights and Labor Standards](#) was not subject to the statutory audit of the combined group management report. However, our external auditor performed an independent limited assurance engagement for the content of this section.



Risk Management and Risks

Our Risk Management

Internal Control and Risk Management Systems

As a global company, SAP is exposed to a broad range of risks across our business operations. Consequently, our Executive Board has established comprehensive internal control and risk management structures that enable us to identify and analyze risks early and take appropriate action. Our internal control and risk management systems are designed to identify potential events that could negatively impact the Company and to provide reasonable assurance regarding the operating effectiveness of our internal controls over our financial reporting.

These systems comprise numerous control mechanisms and are an essential element of our corporate decision-making process; they are therefore implemented across the entire Group as an integral part of SAP's business processes. We have adopted an integrated internal control and risk management approach to help maintain effective global risk management while also enabling us to aggregate risks and report on them transparently.

In addition, we have a governance model in place across the internal control and risk management systems to ensure both are effective, as well as a central software solution to store, maintain, and report all risk-relevant information.

Legal and Regulatory Requirements

Due to our public listings in both Germany and the United States, we are subject to both German and U.S. regulatory requirements that relate to internal controls and risk management over financial reporting, such as provisions in the German Stock Corporation Act, section 91 (2), and the U.S. Sarbanes-Oxley Act (SOX) of 2002, specifically sections 302 and 404. Hence, our Executive Board has established an early warning system (risk management system) to enable compliance with applicable regulations.

Risk Management Policy and Framework

The risk management policy issued by our Executive Board governs how we manage risk in line with the Company's risk appetite and defines a methodology that is applied uniformly across all parts of the Group.

Risk Management Pillars

Our risk management system is based on the framework published by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) entitled "Enterprise Risk Management – Integrating with Strategy and Performance." Updated in 2017, this framework is built on four pillars, which include a global risk management governance framework, a dedicated risk management policy, a global risk management organization, and a standardized risk management methodology.

In accordance with the COSO framework, SAP's enterprise risk management covers risks in the areas of strategy, operations, finance, and compliance which also covers ethical behavior, corporate governance, and sustainability.

Our Global Risk Management Governance Framework

The risk management governance framework at SAP represents a comprehensive system of approaches and processes to ensure control through a clearly structured risk management system and a supporting risk culture. The risk culture is considered the basis of SAP's risk management system. Risk culture at SAP comprises a system of values, beliefs, knowledge, attitudes, and understanding concerning risks and risk management as part of our corporate culture. To support and



continuously foster SAP's risk culture, we conduct risk activities for the entire SAP organization such as mandatory training in ethical behavior, code of conduct, and risk management.

Our Executive Board is responsible for ensuring the effectiveness of the internal control system and the risk management system. The effectiveness of both systems and their implementation in the different Board areas is monitored by each Executive Board member. The Audit and Compliance Committee of the Supervisory Board regularly monitors the effectiveness of SAP's internal control and risk management systems. Our Global Risk & Assurance Services (GR&AS) organization regularly provides a status update on the internal control and the risk management systems to the Audit and Compliance Committee of the Supervisory Board. Every year, SAP's external auditors assess as to whether the SAP Group early-warning system for risk detection is adequate to identify risks that might endanger our ability to continue as a going concern. Additional assurance is obtained through the external audit of the effectiveness of our system of internal controls over financial reporting.

Our Global Risk Management Policy

The risk management policy, updated in June 2021, stipulates responsibilities for conducting risk management activities and defines reporting and monitoring structures. Our global SAP risk management policy clearly states that each employee is responsible for active engagement in the risk management process as well as for the continuous identification of risks, based upon clear rules of engagement in adherence to the policy. The risk management system primarily analyzes risks. Opportunities are assessed or analyzed where it is deemed appropriate.

Our Global Risk Management Organization

Our global risk management organization is responsible for the implementation of a Group-wide effective risk management system. Furthermore, GR&AS is responsible for the regular maintenance and implementation of our risk management policy, as well as the standardized internal and external risk reporting.

All GR&AS risk managers, working with assigned risk contacts in the relevant business units, identify and assess risks associated with material business operations using a uniform approach and monitor the implementation and effectiveness of the measures chosen to mitigate risks.

Further financial risk management activities are performed for example by our Global Treasury and Global Tax departments. General legal risks are managed by the Global Legal department. Sanction and embargo-related risks are managed by the Export Control department, harassment and other HR-related issues by our Global Labor & Employee Relations Office, security-related risks by our SAP Global Security Office, and IP risks by our Global IP Office. All risks are tracked, maintained, and reported within SAP's risk management system.

During the merger and acquisition and post-merger integration phase, newly acquired companies are subject to risk management performed by our Corporate Development M&A function. Furthermore, for as long as the newly acquired companies are not integrated, existing risk management structures are maintained or enhanced within the acquired companies for the purposes of compliance with legal requirements.

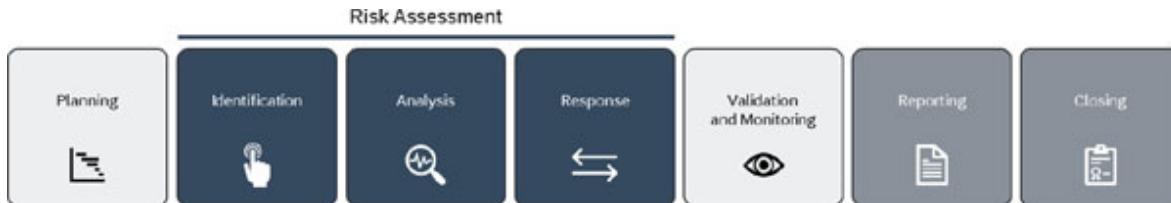
The exposure of SAP business units to potential compliance risks is reviewed on a regular basis. Quantitative and qualitative internal data as well as external information, such as the Transparency International Corruption Perceptions Index, are considered in our wider compliance risk analysis. Based on this information, we performed a detailed assessment for all SAP-relevant high-risk countries and derived local as well as global mitigations.

The GR&AS unit, led by the Chief Risk Officer, also acting as chief audit executive, combines internal audit, SOX, internal controls and global governance, risk, and compliance. The Chief Risk Officer reports to our Group CFO and is responsible for SAP's internal control and risk management programs.



Risk Management Methodology and Reporting

The illustration below describes the key elements of the risk management process under SAP's risk management policy.



Risk Planning

Based on SAP's risk management policy and framework, the risk planning phase serves to align on the definition and assignment of roles and responsibilities, the definition of risk-relevant business activities (such as processes, projects or other aspects affecting Company assets), the determination of objectives and value drivers, the planning of risk assessments, and the determination of adequate information flow.

Risk planning and risk identification for internal and external risks are conducted jointly by GR&AS risk managers and the relevant business units or SAP entities.

Risk Assessment

A risk assessment covers the identification and analysis of a risk, as well as the determination of a response to that risk. We use various approaches to identify risks. For example, we have identified risk indicators and have developed a comprehensive risk catalog that includes risk mitigation strategies. Risk identification takes place at various levels of our organization to ensure that common risk trends are identified and end-to-end risk management across organizational borders is enabled. We apply both qualitative and quantitative risk analyses and other risk analysis methods such as sensitivity analyses and simulation techniques.

To determine which risks pose the greatest threat to the viability of the SAP Group, we classify them as high, medium, or low based on the likelihood that a risk will occur within the assessment horizon and the impact the risk would have on SAP's business objectives if it were to occur.

The scales for measuring these two indicators are given in the following tables.

Probability/Likelihood of Occurrence	Description
1% to 19%	Remote
20% to 39%	Unlikely
40% to 59%	Likely
60% to 79%	Highly Likely
80% to 99%	Near Certainty

The period for analyzing our risks correlates with that of the respective associated business activities, considering a relevant forecast horizon. The period for analyzing risks that could be possible threats to the Group's ability to continue as a going concern is eight rolling quarters.



Impact Level	Impact Definition	Impact
Insignificant	Negligible negative impact on business, financial position, profit, and/or cash flows	From €0 to €25 million
Minor	Limited negative impact on business, financial position, profit, and/or cash flows	From €25 million to €50 million
Moderate	Some potential negative impact on business, financial position, profit, and/or cash flows	From €50 million to €100 million
Major	Considerable negative impact on business, financial position, profit, and/or cash flows	From €100 million to €500 million
Business-Critical	Detrimental negative impact on business, financial position, profit, and/or cash flows	From €500 million

The combination of the likelihood that a risk will occur and its impact on SAP's reputation, business, financial position, profit, and/or cash flows leads to a subsequent classification of the risk as either "high," "medium," or "low."

	Insignificant (€0 to €25 million)	Minor (€25 million to €50 million)	Moderate (€50 million to €100 million)	Major (€100 million to €500 million)	Business-Critical (From €500 million)
Probability	L	M	H	H	H
	L	M	M	H	H
	L	L	M	M	H
	L	L	L	M	M
	L	L	L	L	M

Impact

L = Low Risk

M = Medium Risk

H = High Risk

In the final stage of the risk assessment, after identifying and analyzing the risk, we determine a response for each identified risk. We have different response categories such as mitigating, retaining for research, transferring, delegating, accepting, or avoiding, for example, by deciding not to start or not to continue the activity that may lead to a risk.

Risk Validation and Monitoring

Risk assessment is followed by risk validation and risk monitoring. The risk exposure and the risk description, as well as the appropriateness of agreed responses, are validated by the accountable management. Our GR&AS risk managers work in close cooperation with the relevant business owners, ensuring that strategies are implemented to address identified risks. Business owners are responsible for continuously monitoring the risks and associated mitigation strategies, with support from the respective GR&AS risk managers. To ensure greater risk transparency and enable appropriate decision-making for business owners, we have established a risk delegation of authority (RDOA) for relevant parts of the organization as deemed appropriate. RDOA is a risk management decision-making hierarchy that helps business owners gain timely insight into business transactions that pose the greatest risk, so that they are better able to review the relevant information, understand the risk profile and associated mitigation strategies, and determine whether their approval is warranted. Depending on the exposure, approval is required at various levels of the Company, up to and including the Executive Board.

Risk Reporting

All identified and relevant risks are reported at local, regional, and global levels in accordance with our risk management policy and the global risk reporting standard. At these levels, we have established executive risk councils that regularly discuss risks and responses and that monitor the success of risk.



mitigation. In addition, the Executive Board is informed regularly about individual risks based on clearly defined qualitative reporting criteria. Newly identified or existing risks that are above a defined threshold, meet a qualitative criterion, or have a potential significant impact are also reported to the Audit and Compliance Committee and the chairperson of the Supervisory Board on a quarterly basis. This includes risks along our strategic portfolio for services and solutions as well as any risks to our ability to continue as a going concern, the latter supported by a process that analyzes those risks with respect to potential effects on liquidity, excessive indebtedness, and insolvency.

Risk Closure

Risks are closed once a reassessment concludes that a risk is no longer existent or does not require continued monitoring. Risk closure criteria include the risk event occurring, the risk no longer being considered a risk, or the risk having been successfully mitigated.

Internal Control and Risk Management System for Financial Reporting

The purpose of our system of internal control over financial reporting is to provide reasonable assurance that our financial reporting is reliable and compliant with generally accepted accounting principles. Because of the inherent limitations of internal control over financial reporting, it might not prevent or bring to light all potential misstatements in our financial statements.

Our internal control system consists of the internal control and risk management system for financial reporting (ICRMSFR), which also covers the broader business environment and is part of the overall risk management system of SAP. Using the current COSO Internal Control – Integrated Framework of 2013, we have defined and implemented internal controls along the value chain on a process and subprocess level to ensure that sound business objectives are set in line with the organization's strategic, operational, financial, and compliance goals.

SAP's ICRMSFR is based on our Group-wide risk management methodology. It includes organizational, control, and monitoring structures designed to ensure that data and information concerning our business is collected, compiled, and analyzed in accordance with applicable laws and properly reflected in our IFRS Consolidated Financial Statements.

Our ICRMSFR also includes policies, procedures, and measures designed to ensure compliance of SAP's financial reports with applicable laws and standards. We analyze new statutes, standards, and other pronouncements concerning IFRS accounting and its impact on our financial statements and the ICRMSFR. Failure to adhere to these would present a substantial risk to the compliance of our financial reporting. Finally, the ICRMSFR has both preventive and detective controls, including, for example, automated and non-automated reconciliations, segregated duties with two-person responsibility, authorization concepts in our software systems, and corresponding monitoring measures.

Our Corporate Financial Reporting (CFR) department codifies all accounting policies in our Group accounting and global revenue recognition guidelines. These policies and the corporate closing schedule, together with our process descriptions, define the closing process. Under this closing process, we prepare, predominately through centralized or external services, the financial statements of all SAP entities for consolidation by CFR. CFR and other corporate departments are responsible for ensuring compliance with Group accounting policies and monitor the accounting work. CFR also conducts reviews of our accounting processes and books. The employees who work on SAP's financial reporting receive training in the respective policies and processes.

We have outsourced some tasks, such as valuing projected benefit obligations and share-based payouts, quarterly tax calculations for most entities, and purchase price allocations in the context of asset acquisitions and business combinations, and the local statutory financial statements for a few of our subsidiaries. These outsourced tasks are subject to the same stringent requirements that are mandated for all of our internally generated financially relevant information.

Based on an analysis of the design and operating effectiveness of our respective internal controls over financial reporting, a committee presents the results of the assessment on the ICRMSFR effectiveness with respect to our IFRS consolidated financial statements as at December 31 each year to our Group



CFO. The committee meets regularly to set the annual scope for the test of effectiveness, to assess and evaluate any weaknesses in the controls, and to determine measures to address them timely and adequately. The Audit and Compliance Committee of the Supervisory Board regularly scrutinizes the resulting assessments of the effectiveness of the internal controls over financial reporting with respect to the IFRS consolidated financial statements.

The assessment, conducted by SAP and external audit, of the effectiveness of the ICRMSFR related to our IFRS consolidated financial statements concluded that, on December 31, 2021, the Group had an effective internal control system over financial reporting in place.

Additionally, and in compliance with German commercial law requirements, SAP maintains an internal control system beyond financial reporting. This is supported through automated controls (continuous control monitoring) as part of our business processes.

Supporting Software Solution

We use our own risk management software, namely SAP Governance, Risk, and Compliance (GRC) solutions powered by SAP HANA, to support the governance process. GR&AS risk managers record and track identified risks using our risk management software online and in real time to help create transparency across all known risks that exist in the Group, as well as to facilitate risk management and the associated risk reporting. This GRC solution also supports the risk-based approach of the ICRMSFR. Our continuous control monitoring activities are performed utilizing our GRC software as well. This information is available to managers through direct access to our SAP Fiori application for enterprise risk reporting, and in regularly issued reports, and is consolidated and aggregated for the quarterly risk report to the Executive Board.

Risk Factors

The following sections outline our risk categories and risk factors that we have identified and continuously track. To further streamline our integrated report, we disclose material and relevant risks and focus on “major” and “business-critical” risk factors as per our assessment. Thus, the following risk factors are not included in the Integrated Report 2021 as they do not currently fall into either the “major” or “business-critical” category: Corporate Governance; Sustainability; Taxation; Sales and Revenue Conditions; Liquidity; Use of Accounting Policies and Judgment; Currency, Interest Rate, and Share Price Fluctuation; Insurance and Venture Capital; Unauthorized Disclosure of Information; Investor Relations; Corporate Affairs; Marketing; Corporate Development; Portfolio; SAP Strategy; Cloud Operations; Human Workforce; and Government Security & Secrecy.

Despite the ongoing COVID-19 pandemic, SAP has been able to take effective measures to mitigate the risks arising from it. There has been no significant disruption to business operations or adverse effects on revenues, with some savings in operating expenses. While monitoring continues, we expect the remaining impact of the pandemic to be insignificant, and estimate the probability of occurrence of material risks of this risk factor to be remote.

The table below provides an overview of major and business critical risk categories (together with the respective risk factors). Therein, risk factors are categorized with their net value (after the implementation of mitigations) according to our framework that is detailed in the [Risk Management Methodology and Reporting](#) section.



Overview of Risk Factors (Aggregated Statement for 2021)

	Probability	Impact	Risk Level
Economic, Political, Social, and Regulatory Risks			
Global Economic and Political Environment	Likely	Major	Medium
International Laws and Regulations	Unlikely	Business-Critical	Medium
Legal and IP	Likely	Major	Medium
Data Protection and Privacy	Likely	Major	Medium
Corporate Governance and Compliance Risks			
Ethical Behavior	Likely	Major	Medium
Operational Business Risks			
Sales and Services	Unlikely	Major	Medium
Partner Ecosystem	Likely	Major	Medium
Cybersecurity and Security	Likely	Business-Critical	High
Technology and Products	Likely	Major	Medium
Strategic Risks			
Market Share and Profit	Unlikely	Business-Critical	Medium
Mergers and Acquisitions	Unlikely	Major	Medium
Innovation	Unlikely	Major	Medium

Economic, Political, Social, and Regulatory Risks

Global Economic and Political Environment: Uncertainty in the global economy, financial markets, and social and political instability caused by state-based conflicts, terrorist attacks, civil unrest, war, or international hostilities could lead to disruptions in our business.

As a global company, we are influenced by multiple external factors that are difficult to predict and beyond our influence and control. Any of these factors could have a significant adverse effect on the global economy as well as on our business.

We are subject to risks and associated consequences in the following areas, among others:

- General economic, political, social, environmental, public health, and market developments, and general unrest
- Prolonged deterioration of global economic conditions (impact on accurate forecast) or budgetary constraints of national governments
- Diplomatic confrontations, frictions, trade or tariff conflicts with potential global implications as indicated by a prolonged and widespread economic slowdown
- Financial market volatility episodes, global economic crises, chronic fiscal imbalances, slowing economic conditions, or disruptions in emerging markets
- Higher credit barriers for customers, reducing their ability to finance software purchases
- Increased number of foreclosures and bankruptcies among customers, business partners, and key suppliers
- Terrorist attacks or other acts of violence, civil unrest, pandemics, or natural disasters, impacting our business
- Regional conflicts, which may affect data centers as critical infrastructure assets



Any of these events could limit our ability to reach our targets, as they could have a material adverse effect on our business operations, our business in general, our financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- Ongoing shift to a higher share of cloud subscriptions and software support revenue streams, which will lead to more predictable revenue streams over time, providing increased stability against financial volatility
- Internal cost discipline and a conservative financial planning
- Reshaping of our organizational structure and processes to increase flexibility and efficiency
- Monitoring and evaluation of global and political developments, supported by our global government affairs unit, to share insights and provide guidance to allow for proactive preparation and timely mitigation

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be likely. Such occurrence could exacerbate the other risks we describe in this report or cause a negative deviation from our revenue and operating profit target. We classify this risk factor as medium.

International Laws and Regulations: Laws, regulatory requirements and standards in Germany, the United States, and elsewhere continue to be very stringent. Our international business activities and processes expose us to numerous and often conflicting laws and regulations, policies, standards, or other requirements and sometimes even conflicting regulatory requirements.

The SAP Group has a global presence and operates in most countries of the world. As a European company domiciled in Germany with securities listed in Germany and the United States, we are subject to European, German, U.S., and other governance-related regulatory requirements of countries we operate in.

Our business is subject to numerous risks inherent to international business operations. We are subject to risks and associated consequences in the following areas, among others:

- Changes in tax laws and changes in the interpretation of the complex tax rules in certain countries, impacting our business situation, financial condition, and results of operations
- Changes in external reporting standards and tax laws including, but not limited to, conflict and overlap among tax regimes as well as the introduction of new tax concepts that harm digitalized business models
- Discriminatory, protectionist, or conflicting fiscal policies and tax laws
- Workforce restrictions and travel bans resulting from changing laws and regulations, from political decisions, or through required works council involvements, labor union approvals, and immigration laws in different countries
- Protectionist trade policies, import and export regulations, and trade sanctions, counter or even conflicting sanctions, and embargoes including, but not limited to, country-specific software certification requirements
- Violations of country-specific sanctions
- Compliance with and stringent enforcement of laws and regulations (including interpretations), implications of government elections, lack of reforms, data protection and privacy rules, regulatory requirements and standards (such as the Payment Card Industry Data Security Standard [PCI DSS]), other compliance requirements (such as Service Organization Controls [SOC]), or sometimes even country-specific certifications or requirements in particular for cloud service provider or data center operations



- Expenses associated with the localization of our products and compliance with varying and potentially conflicting local regulatory requirements

As we expand into new countries and markets or extend our business activities in these markets, including emerging and high-risk markets, these risks could intensify. The application of the respective local laws and regulations to our business is sometimes unclear, subject to change over time, and often conflicting among jurisdictions. Additionally, these laws and government approaches to enforcement continue to change and evolve, just as our products and services continually evolve. Compliance with these varying laws and regulations could involve significant costs or require changes in products or business practices. Non-compliance could result in the imposition of penalties or cessation of orders due to alleged non-compliant activity. Governmental authorities could use considerable discretion in applying these statutes and any imposition of sanctions against us could be material.

Any of these events could have a material adverse effect on our operations globally or in one or more countries or regions, which could have a material adverse effect on our business, financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- We continuously monitor new and increased regulatory requirements, updated or new enforcement trends, and publicly available information on compliance issues in the computer software industry, in the emerging markets where we invest our resources, and in the business environment in general to cope with an increase in regulation enforcement efforts of certain countries or state-driven protectionism.
- We continuously invest and strive to improve, harmonize, and standardize our global processes, procedures, and solutions to increase our efficiency and effectiveness in meeting the various legal requirements to ensure compliance, while also utilizing scenario impact analyses.
- We have established a dedicated unit within our Global Legal organization that proactively assesses newly emerging regulatory initiatives, advises internal departments on these initiatives, and supports their swift adherence thereto.
- We receive guidance from external economic consultants, law firms, tax advisors, and authorities in the concerned countries, and take legal actions when necessary.
- We engage with authorities on public policy issues, including the creation of reasonable framework conditions for new technologies such as cloud computing, Big Data, artificial intelligence, the Internet of Things (IoT), and for international trade.
- We conduct audits based on various audit standards on a regular basis to identify and remediate issues early on.
- We have a legal and compliance office presence in various countries, with compliance safeguards supported and monitored by our Office of Ethics & Compliance (OEC), a team of dedicated resources who are tasked with managing our policy-related compliance measures.
- We maintain a data protection and privacy office and associated policy.
- We continue efforts to strengthen the Export Control team and continue with our cross-Board project to overhaul SAP's export control and trade sanctions policies, operations, and controls, to safeguard compliance with applicable EU and U.S. laws in all delivery channels both on premise and in the cloud.
- We regularly update and enhance our compliance programs to improve our effectiveness and to ensure that our employees understand and comply with the SAP Code of Business Conduct (CoBC). This process is coordinated by the OEC.



- OEC coordinates and provides guidance on implementation, training; and enforcement efforts with respect to compliance-related policies throughout SAP, including but not limited to the Third-Party Sales Commission Policy and accompanying training.

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be business-critical. We estimate the probability of occurrence to be unlikely. We classify this risk factor as medium.

Legal and IP: Claims and lawsuits against us, such as for IP infringements, or our inability to obtain or maintain adequate licenses for third-party technology, or if we are unable to protect or enforce our own intellectual property, may result in adverse outcomes.

We have in the past and believe that we will continue to be subject to claims and lawsuits, including intellectual property infringement claims, as our solution portfolio grows; as we acquire companies with increased use of third-party code including open source code; as we expand into new industries with our offerings, resulting in greater overlap in the functional scope of offerings; and as non-practicing entities that do not design, manufacture, or distribute products assert intellectual property infringement claims.

Moreover, protecting and defending our intellectual property is crucial to our success. The outcome of litigation and other claims or lawsuits is intrinsically uncertain.

We are subject to risks and associated consequences in the following areas, among others:

- Claims and lawsuits might be brought against us.
- We might become dependent in the aggregate on third-party technology, including cloud and Web services, that we embed in our products or that we resell to our customers.
- Third parties have claimed, and might claim in the future, that we infringe their intellectual property rights or that we are overusing or misusing licenses to these technologies.
- We integrate open source software components from third parties into our software. Open source licenses might require that the software code in those components or the software into which they are integrated be freely accessible under open source terms.
- Despite our efforts, we might not be able to prevent third parties from obtaining, using, or selling without authorization what we regard as our proprietary technology and information. In addition, proprietary rights could be challenged, invalidated, held unenforceable, or otherwise affected. Moreover, the laws and courts of certain countries might not offer effective means to enforce our legal or intellectual property rights. Finally, SAP may not be able to collect all judgments awarded to it in legal proceedings.

Third parties might reverse-engineer or otherwise obtain and use technology and information that we regard as proprietary. Accordingly, we might not be able to protect our proprietary rights against unauthorized third-party copying or utilization. Adverse outcomes to some or all of the claims and lawsuits pending against us might result in the award of significant damages or injunctive relief against us or brought against us in the future that could hinder our ability to conduct our business and could have a material adverse effect on our reputation, brand, business, competitive or financial position, financial performance, profit, and cash flows. Third parties could require us to enter into royalty and licensing arrangements on terms that are not favorable to us, cause product shipment delays, subject our products to injunctions, require a complete or partial redesign of products, result in delays to our customers' investment decisions, and damage our reputation. Third-party claims might require us to make freely accessible under open source terms one of our products or third-party (non-SAP) software upon which we depend.

Any legal action we bring to enforce our proprietary rights could also involve enforcement against a partner or other third party, which might have an adverse effect on our ability, and our customers' ability, to use that partner's or other third party's products.

The outcome of litigation and other claims or lawsuits is intrinsically uncertain. Management's view of the litigation might also change in the future. Actual outcomes of litigation and other claims or lawsuits



could differ from the assessments made by management in prior periods, which are the basis for our accounting for these litigations and claims under IFRS.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- Our OEC sets and manages internal policies related to our CoBC.
- Our GR&AS organization works closely with the OEC and Global Legal and is jointly responsible for the management and reporting of potential risks associated with third-party intellectual property.
- We have established various internal programs, such as internal policies, processes, and monitoring, to assess and manage the risks associated with open source, and third-party intellectual property.
- We endeavor to protect ourselves in the respective third-party software agreements by obtaining certain rights in case such agreements are terminated.
- We are party to certain patent cross-license agreements with third parties, which removes the risk of litigation with respect to the involved patents.
- We rely on a combination of the protections provided by applicable statutory and common law rights, including trade secret, copyright, patent, and trademark laws, license and non-disclosure agreements, and technical measures to establish and protect our proprietary rights in our products and customer projects.

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be likely. We classify this risk factor as medium.

We are named as a defendant in various legal proceedings for alleged intellectual property infringements. For more information and a more detailed report relating to certain of these legal proceedings, see the Notes to the Consolidated Financial Statements, [Notes \(A.4\), \(C.5\)](#), and [\(G.3\)](#).

Data Protection and Privacy: Non-compliance with increasingly complex and stringent, sometimes even conflicting, applicable data protection and privacy laws or failure to meet the contractual requirements of SAP's customers with respect to our products and services could lead to civil liabilities and fines, as well as loss of customers.

As a global software and service provider, SAP is required to comply with local laws wherever it does business. One of the relevant European data protection laws is GDPR. International data transfers to third countries that do not provide for an adequate level of data protection require additional safeguards to justify a transfer from the EU to a third country based on the standard contractual clauses. In 2021, SAP experienced two significant incidents in processing personal data – on our own behalf – that were subject to GDPR only and were reported to the supervisory authorities.

Furthermore, evolving regulations and laws globally (such as the California Consumer Privacy Act, the Brazilian General Data Protection Law, and the EU's proposed e-Privacy Regulation including data localization requirements) regarding data protection and privacy or other standards increasingly aimed at the use of personal data, such as for marketing purposes and the tracking of individuals' online activities, may impose additional burdens for SAP due to increasing compliance standards that could restrict the use and adoption of SAP's products and services (in particular cloud services) and make it more challenging and complex to meet customer expectations. This refers to a compliant use of new technology, such as machine learning (ML) and AI for product development and deployment of intelligent applications.

This could lead to increased risks for SAP, which could harm SAP's business and limit SAP's growth.

Non-compliance with applicable data protection and privacy laws by SAP or any of the subprocessors engaged by SAP within the processing of personal data could lead to risks. We are subject to risks and associated consequences in the following areas, among others:

- Mandatory disclosures of breaches to affected individuals, customers, and data protection supervisory authorities



- Investigations and administrative measures by data protection supervisory authorities, such as the instruction to alter or stop non-compliant data processing activities, including the instruction to stop using non-compliant subprocessors
- Damage claims by customers and individuals or contract terminations and potential fines
- Harm to SAP's reputation
- Increased complexity in times of digitalization with regard to legal requirements in the context of cross-border data transfer and data localization requirements

In addition, the German Federal Office for the Protection of the Constitution and security industry experts continue to warn of risks related to a globally growing number of cybersecurity attacks aimed at obtaining or violating company data including personal data. We anticipate cyberattack techniques to continue to evolve and increase in sophistication, which could make it difficult to anticipate, prevent, detect, and mitigate attacks and intrusions, thus leading to, for example, risks described in the [Cybersecurity and Security](#) section.

Any of these events could have a material adverse effect on our reputation, business, financial performance, competitive or financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- We have implemented internal processes and measures to enable SAP to comply successfully and sufficiently with applicable data protection requirements.
- We have anchored data protection requirements in the mandatory product standards of SAP's product development lifecycle.
- We continuously review SAP's existing standards and policies to address changes to applicable laws and regulations.
- We continuously enhance our data center operations worldwide, also considering local and sector-specific market and legal requirements. For compliance with local legal requirements, we have established a network of local and regional data protection and privacy coordinators.
- We have a data protection management system in place in all our Board areas. Furthermore, this data protection management system will be continuously enhanced and extended to apply to newly acquired companies within the SAP Group. SAP has been awarded the British Standards Institution (BSI) certification for the implementation and operation of SAP's data protection management system, which underlines SAP's compliance with data protection laws, including GDPR.
- We actively monitor legal developments and engage with political stakeholders and government authorities, directly or through industry associations, to clarify questions relevant to SAP and SAP's business.
- We strive to provide clear governance and guidance on data handling, processing standards, and external communication as part of our data management framework, specifically incorporating aspects of new technologies such as those represented in embedded intelligence applications.
- We increase the automation of security processes and secure product development to reduce human error and ensure consistency and dependability of security outcomes.

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be likely. We classify this risk factor as medium.



Corporate Governance and Compliance

Ethical Behavior: Our global business exposes us to risks related to unethical behavior and non-compliance with policies by employees, other individuals, partners, or entities associated with SAP.

SAP's leadership position in the global market is founded on the long-term and sustainable trust of our stakeholders worldwide. Our overarching approach is one of corporate transparency, open communication with financial markets, regulators, and authorities, and adherence to recognized standards of business integrity. This commitment to recognized standards of business integrity is formalized in SAP's CoBC and supporting guidelines.

We are subject to risks and associated consequences in the following areas, among others:

- Non-compliance with our policies and violation of compliance related rules, regulations, and legal requirements including, but not limited to, anti-corruption and anti-bribery legislation in Germany, the U.S. Foreign Corrupt Practices Act, the UK Bribery Act, and other local laws prohibiting corrupt conduct
- Unethical and fraudulent behavior by individual employees, other individuals, partners, or entities associated with SAP leading to criminal charges, fines, and claims by affected parties
- Collusion with external third parties, for example, by aiding in securing business
- Fraud and corruption, especially in countries with a low Transparency International Corruption Perceptions Index score and particularly in emerging markets
- Public sector transactions in territories exposed to a high risk of corruption
- Increased exposure and impact on business activities in highly regulated industries such as public sector, healthcare, banking, or insurance

Any of these events could have a material adverse effect on our business, reputation, brand, competitive or financial position, share price, profit, and cash flows.

SAP has encountered situations that required clear messaging and strong action on non-compliance in the context of corrupt behavior that has the potential to harm our business and reputation. SAP is continuing to investigate its dealings with the public sector. For more information about the alleged violations, see the Notes to the Consolidated Financial Statements, [Note \(G.3\)](#).

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- Continuous development of our comprehensive compliance program based on the three pillars of prevention, detection, and response
- Expansion of the OEC's bandwidth through additional staffing
- Root cause analysis related to corrupt or fraudulent behavior, to improve associated business processes and prevent further and future violations
- Refraining from engaging sales agents and paying third-party sales commissions on public sector deals in high-risk countries
- Review of partner business models, to mitigate risks of corruption while meeting agility requirements
- Internal audit of our compliance program as it relates to bribery, corruption, and substantial fraud
- Several educational, counseling, control, and investigative measures
- Requirement for mandatory CoBC training applicable to every SAP employee, providing practical guidance on how to avoid corrupt behavior and approach dilemma situations



- Annual reconfirmation of commitment to the CoBC by SAP's workforce (except where disallowed by local legal regulations)
- Implementation of compliance policies and processes aimed at managing third parties and preventing misuse of third-party payments for illegal purposes, including the performance of compliance due diligence activities prior to the engagement of third parties
- Guidance in our travel, entertainment, gift, and expense policies
- Termination of partners that do not pass our partner compliance audit process, or remediation of their deficiencies
- Establishment of a Partner Integrity Initiative aiming to examine the compliance programs of partners in SAP's ecosystem and to review the SAP-related deals closed by them

Despite our comprehensive and continuously evolving compliance program and established internal controls, intentional efforts of individuals to circumvent controls or engage in corruption, especially by way of collusion with other involved parties, cannot always be prevented.

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be likely. We classify this risk factor as medium.

Operational Business Risks

Sales and Services: Sales and implementation of SAP software and services, including cloud, are subject to several significant risks sometimes beyond our direct control.

A core element of our business is the successful implementation of software and service solutions. The implementation of SAP software and cloud-based service deliveries is led by SAP, by partners, by customers, or by a combination thereof.

We are subject to risks and associated consequences in the following areas, among others:

- Implementation risks, if, for example, implementations take longer than planned, or fail to generate the profit originally expected, scope deviations, solution complexity, high pace of engineering innovation, individual integration and migration needs or functional requirement changes, or insufficient milestone management and tracking leading to delays in timeline, maybe even exceeding maintenance cycles of solutions in scope
- Insufficient or incorrect information provided by customers, subsequently leading to mismatches in contractual commitments, requirements, solution definition, architectures, or technologies
- Insufficient customer expectation management, including scope, integration capabilities and aspects, as well as lack of purposeful selection, implementation, and utilization of SAP solutions
- Lack of customer commitments and respective engagements, including insufficient commitment of resources or lack of solution migrations to latest offerings, leading to delays or deviations from recommended best practices
- Challenges to effectively implement acquired technologies
- Challenges to achieve a seamlessly integrated, sufficiently automated and aligned service delivery in complex deliveries or implementations, for example due to lack of insights especially in the event of limited project involvement of SAP
- Protracted installation or significant third-party consulting costs
- Improper calculations or estimates leading to costs exceeding the fees agreed in fixed-price contracts
- Unrenderable services committed during the sales stage
- Inadequate contracting and consumption models based on subscription models for services, support, and application management



- Deviations from standard terms and conditions, which may lead to an increased risk exposure
- Statements on solution developments might be misperceived by customers as commitments on future software functionalities
- Joint innovations with partners or customers

Any of these events could have an adverse effect on our business, financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- Risk management processes that are integrated into SAP's project management methods intended to safeguard implementations through coordinated risk and quality management programs
- Scope reviews and monitoring that are adapted as required as part of a clearly defined change request process to support successful implementations together with respective project governance and steering
- Recommended project approaches, guidance, and best practices for customers to optimize their IT solutions in a non-disruptive manner
- Adequate financial planning provisions for the remaining risks
- Continuous project monitoring and controlling activities
- An escalation management process
- Adjustment of delivery models to support customers
- Ongoing development of new commercial models to address customer flexibility needs
- Simplification, review, alignment, approval, and enforcement of contractual standard terms and conditions while conducting legal and operational assessments in case deviations are required
- A policy that clearly outlines communication rules on future functionalities as well as legal requirements for commitments to customers
- Early warning through executive risk committees on regional and global level
- Exposure approval through an RDOA

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be unlikely. We classify this risk factor as medium.

Partner Ecosystem: If we are unable to scale, maintain, and enhance an effective partner ecosystem, revenue might not increase as expected.

An open and vibrant partner ecosystem is a fundamental pillar of our success and growth strategy. We have entered into partnership agreements that drive co-innovation on our platforms, profitably expand our routes to market to optimize market coverage, optimize cloud delivery, and provide high-quality services capacity in all market segments. Partners play a key role in driving market adoption of our entire solutions portfolio, by co-innovating on our platforms, embedding our technology, and reselling or implementing our software.

We are subject to risks and associated consequences in the following areas, among others:

- Failure to establish and enable a network of qualified and fully committed partners supporting our scalability needs and speed and impact in market reach
- Products or services model being less strategic or attractive compared to our competition
- Failure of partners to develop sufficient innovative solutions and content on our platforms or to provide high-quality products or services to meet customer expectations



- Failure of partners to embed our solutions sufficiently enough to profitably drive product adoption, especially with innovations in SAP S/4HANA, the SAP Customer Experience portfolio, business process intelligence from SAP, and SAP Business Technology Platform (SAP BTP)
- Failure of partners to adhere to applicable legal and compliance regulations
- Failure of partners and their products to meet quality requirements expected by our customers or us
- Failure of partners to transform their business model in accordance with the transformation of SAP's business model in a timely manner
- Failure of partners to comply with contract terms in embargoed or high-risk countries

If any of these risks materialize, this might have an adverse effect on the demand for our products and services as well as the partner's loyalty and ability to deliver. As a result, we might not be able to scale our business to compete successfully with other vendors, which could have an adverse effect on our reputation, business, financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- We invest in long-term, mutually beneficial relationships and agreements with partners.
- We continue to develop and enhance a wide range of partner programs to retain existing and attract new partners of all types.
- We enable and encourage partners to leverage SAP technology, by providing guidance about business opportunities, architecture, and technology, such as through demo solutions, to enable partners to lead business value discussions on cloud and on-premise solutions with customers.
- We offer training opportunities on a wide range of resources for our partners and provide safeguarding services to customers and partners.
- We introduced a partner delivery quality framework to monitor and safeguard the success of partner-led projects while ensuring that SAP quality criteria are met.
- We included selected services in the free tier model as part of our Pay-as-You-Go for SAP BTP agreement.
- We maintain a certification process for third-party solutions to ensure consistent high-quality and seamless integration.
- We provide customer guidance and support as required during partner dissolutions.

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be likely. We classify this risk factor as medium.

Cybersecurity and Security: A cybersecurity attack or breach, or cybersecurity vulnerabilities in our products, infrastructure, or services, or economic espionage could result in significant legal and financial exposure.

SAP continues to grow organically and through acquisitions, delivers a full portfolio of solutions via the cloud, hosts or manages elements of our customers' businesses in the cloud, processes large amounts of data, and offers more mobile solutions to users. While SAP executes each of these areas either directly or through partners and other third parties, we face a progressively more complex and threatening cybersecurity environment. The severity of the challenges posed by this cybersecurity environment is amplified due to the increasingly sophisticated and malicious global cybersecurity threat landscape in which we operate. This includes third-party data, products, and services that we incorporate into SAP products and services, and the continually evolving and increasingly advanced techniques employed by threat actors targeting IT products and businesses in general. Such threat actors include, but are not limited to, highly sophisticated parties such as nation-states and organized criminal syndicates.



As a leading cloud company and service provider to some of the largest and best-known customers in the world, we are naturally a prominent target for cybersecurity attacks. We have observed increased threat activity to our products and systems, and we experience cybersecurity attacks of varying types and degrees on a regular basis. Should we become aware of unauthorized access to our systems, we have action plans in place intended to identify and remediate the source and impact of the incursions, and steps to comply with related necessary notification and disclosure obligations. To date, we have not experienced any incursions resulting in a material adverse effect on our business. However, we may be subject to incursions which we are not aware.

In addition, while we are continually taking steps to enhance our cybersecurity defenses, increased investments, coordination, and resources are required to achieve our objective of ensuring over time that our cybersecurity infrastructure meets or exceeds evolving industry standards. Achieving this objective will require continued effort and vigilance, including sustained investment of money and management resources to support the ongoing development and maintenance of systems that meet these standards. As a result, we are subject to risks and associated consequences in the following areas, among others:

- A globally increasing number of threat actor attacks aimed at obtaining or violating Company data including personal data, as observed in recent prominent cases of cyberattacks where the use of ransomware was the preferred method of threat actors
- Identified or undetected cybersecurity defects and vulnerabilities
- Increased complexity, risk of exploitation, and potential vulnerabilities due to utilization of open source software components, such as Log4j vulnerabilities
- Exposure of our business operations and service delivery due to threats, including virtual attack, disruption, damage, unauthorized access, theft, destruction, industrial or economic espionage, serious or organized crime, and other illegal activities, as well as violent extremism and terrorism
- State-driven economic espionage or competitor-driven industrial espionage, and criminal activities including, but not limited to, cyberattacks and breaches against cloud services and hosted on-premise software, whether managed by us or our customers, partners, or other third parties
- Disruptions to back-up, disaster recovery or business continuity management processes
- Disruptions due to exposure of our network systems to cybersecurity attacks via defects and vulnerabilities in the IT systems of our customers, or in the systems of third parties that facilitate our business activities such as cloud service providers, including those that are beyond SAP's cybersecurity infrastructure and protocols
- Failure of any cloud service provider to deliver cloud services securely and successfully, which could have a negative impact on customer trust in cloud solutions
- Cybersecurity threats for SAP and customers due to delayed or insufficient responses to identified cybersecurity issues attributable to complexity, interdependencies, or other factors
- Challenges in effectively synchronizing cybersecurity processes across our various lines of business in a heterogeneous environment
- Insufficient or ineffective asset management potentially endangering secure operations
- Customer systems or systems operated by SAP being compromised by vulnerabilities due to threat actor exploitation
- Operational disruptions due to an increasing number of destructive malwares, ransomware, or other cybersecurity attacks
- Breach of cybersecurity measures due to, for example, but not limited to, error or wrongdoing by employees or affiliated persons, system vulnerabilities, code defects, malfunctions, or attempts of third parties to fraudulently induce employees, users, partners, or customers to gain access to our systems, data, or customers' data



- Expansion of cybersecurity attack surface due to increased connectivity of operational data
- Material costs to attempt to detect, prevent, and mitigate any successful attacks, including, but not limited to the costs of third-party legal and cybersecurity experts and consultants, insurance costs, additional personnel and technologies, organizational changes, and incentives to customers and partners to compensate for any losses or retain their business
- Inability to anticipate attacks or implement sufficient mitigating measures
- Insufficient investment, coordination, or resources to achieve our objective of ensuring over time that our cybersecurity infrastructure meets or exceeds evolving industry standards, and defending against the ever-evolving and emerging threat landscape
- Material costs and time associated with enhancing our cybersecurity infrastructure, which may impact the ongoing pace of development and delivery of our products and services and our financial performance
- Failure to integrate SAP's cybersecurity infrastructure and protocols with other network systems obtained through acquisition, including addressing, identifying, and remediating cybersecurity defects and vulnerabilities and related breaches in acquired systems
- Failure to maintain SAP's cybersecurity infrastructure and protocols in connection with the divestiture of businesses and network systems from SAP, or failure to achieve a holistic level of required transparency reflecting current states
- Inaccurate or incomplete third-party or SAP audit results, certifications, or representations concerning the adequacy of our cybersecurity infrastructure and protocols

Any of these events could have a material adverse effect on our customers, partners, financial performance, profit, cash flows, operations, brand, reputation, competitive position, the perception of our products and services by current and prospective customers, and our business in general.

In response to the increasing number of cybersecurity attacks, and because we anticipate threat actor techniques to continue to evolve in our cybersecurity landscape, SAP has expended significant resources to enhance its cybersecurity program, has increased the Executive Board and Supervisory Board's governance of and involvement in cybersecurity matters, and continues to investigate and remediate vulnerabilities.

SAP has established measures intended to address the described risks and adverse effects, such as:

- Software security development lifecycle as a mandatory, integral part of our software development process, including checks on open source component coverage and enhanced development tools with integrated security features and functionalities
- Alignment of our software security development lifecycle to the recommendations of ISO/IEC 27034, applying methods to develop secure software
- Provision of security certifications (such as ISO/IEC 27001), security white papers, product documentation, and reports from independent auditors and certification bodies to our customers
- Review/audit of our certifications and representations to customers concerning our cybersecurity infrastructure and protocols in alignment with contractual agreements
- An SAP Global Security Policy that is mandatory for all employees and supported by documented security standards, procedures, and good practices including specific security training curricula for our developers
- Product standard requirements such as mandatory non-erroneous modeling that takes software dependencies into account
- Disaster recovery and business continuity plans to protect our key IT infrastructure (especially our data centers), including implementation of data redundancies and daily data backup strategies



- Certification of relevant IT-related organizations to the internationally recognized Business Continuity Management standard
- A responsible disclosure process to detect vulnerabilities, as well as security patch days to rapidly respond to customer security needs and provide fixes
- Increased investments, coordination, and resources, including various internal initiatives, to achieve SAP's objective of ensuring over time that our cybersecurity infrastructure meets or exceeds evolving industry standards
- Improved monitoring with respect to implementing enhancements to our cybersecurity infrastructure
- Improved roll-out procedures for security-relevant notes, patches, and service packs to ensure easy and fast consumption on the customer side
- Continuous vigilance, adaptation, standardization, and modification of our security procedures, such as security risk identification, threat modeling, advanced threat defense, a comprehensive security testing strategy, container security enhancements, mandatory security training for all developers, and security validation of our critical components, products, patches, and services before shipment
- Focus on development and implementation of heightened cybersecurity measures designed to further safeguard SAP's most strategic assets
- Monitoring of cybersecurity posture to gain visibility on exposed vulnerabilities of third-party vendors
- Measures such as technical IT security measures, identity and access management, and mandatory security and compliance training
- Investment in data and asset governance of SAP's global asset repository
- Physical security measures such as access control systems and employee identification
- Focus on increased coordination across our various lines of business with respect to our ability to detect, identify, and respond to unauthorized incursions in our systems in a timely manner
- Focus on increased training, development, and retention of skilled personnel in SAP's cybersecurity and product security workforce
- Increased employee, contractor, third-party, and partner awareness through campaigns and cybersecurity awareness training courses and projects, including execution of security reviews, as required
- Local and regional crisis management teams to respond and minimize losses in case of crisis situations
- Engagement of experts to advise on appropriate cybersecurity protocols and to further increase attention and awareness of cybersecurity protocols and protection options
- Integrated enhanced security capabilities in our hosting environment, cloud platforms, and cloud deployment tools

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be business-critical. We estimate the probability of occurrence to be likely. We classify this risk factor as high. For more information, see the *Security, Data Protection, and Privacy* section.

**Technology and Products: Our technology and products may experience undetected defects, coding, or configuration errors, may not integrate as expected, or may not meet customer expectations.**

We are subject to risks and associated consequences in the following areas, among others:

- Failure of software products and services to fully meet market needs or customer expectations
- Failure of software products and services from acquired companies to fully comply with SAP quality standards
- We might not be as fast as expected in integrating our platforms and solutions, enabling the complete product and cloud service portfolio, harmonizing our user interface design and technology, integrating acquired technologies and products, or bringing packages, services, or new solutions based on SAP BTP to the market.
- New products, services, and cloud offerings, including third-party technologies, might not comply with local standards and requirements or might contain defects or might not be mature enough from the customer's point of view for business-critical solutions after shipment despite all the due diligence SAP puts into quality.
- Inability to define and provide adequate solution packages and scope for all customer segments
- Inability of algorithms to correctly adapt to evolving circumstances, which may lead to adverse decision-making processes in the context of AI-related technologies
- Inability to fulfil expectations of customers regarding time and quality in the defect resolution process
- Lack of customer references for new products and solutions

Any of these events could have a material adverse effect on our business, brand, competitive or financial position, profit, and cash flows.

SAP has established measures to address and mitigate the described risks and adverse effects, such as:

- Increased focus on localization needs to further meet customer demands
- A broad range of techniques, including project management, project monitoring, product standards and governance, and rigid and regular quality assurance measures certified to ISO 9001:2015, applicable to SAP's reportable segments
- Threat modelling at the beginning of every development project to identify potential risks including, but not limited to using centrally provided tools, also as part of information security measures certified to ISO 27001:2013
- A holistic testing strategy to validate the state of quality and security for every product before market introduction
- Regular, direct customer feedback is considered in the market release decision process
- Ongoing maintenance of the high quality-level of our products, which is made transparent in the defined KPIs for quality transparency and confirmed by our satisfaction ratings as measured by our customer survey
- Integration and convergence of our offerings such as SAP S/4HANA, the SAP Customer Experience portfolio, SAP BTP, and acquired technologies
- Enablement of our current product portfolio for SAP HANA, development of innovative solutions based on SAP HANA, and offering of comprehensive cloud-based services, supported by SAP BTP and intelligent technologies
- A comprehensive certification program designed to ensure that relevant third-party solutions are of consistently high quality



We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be likely. We classify this risk factor as medium.

Strategic Risks

Market Share and Profit: Our market share and profit could decline due to increased competition, market consolidation, technological innovation, and new business models in the software industry.

The market for cloud computing is increasingly competitive and is exhibiting strong growth relative to the market for on-premise solutions. To maintain or improve our operating results in the cloud business, it is important that we not only attract new customers but also that our existing customers renew their agreements with us when the initial contract term expires and purchase additional modules or additional capacity. Additionally, we need to bring innovations to the market in line with demands of our ecosystem and ahead of our competitors, such as solutions to support new data-driven applications and the extension of the intelligent suite based on SAP BTP. Innovative applications supporting the Intelligent Enterprise strategy include, among others, SAP Customer Experience solutions, SAP S/4HANA, and SAP BTP, as well as technologies such as IoT, ML, intelligent robotic process automation (which automates rule-based, repetitive tasks), digital assistants including voice recognition and interaction, and blockchain.

We are subject to risks and associated consequences in the following areas, among others:

- Inability to deliver fully suitable solution and transformation services to our customers on the cloud transformation journey, both in cloud-only and hybrid scenarios
- Inability to successfully execute on our hyperscaler strategy
- Adverse, near-term revenue effects due to increasing cloud business and conversions from on-premise licenses to cloud subscriptions from existing SAP customers, which could have an adverse effect on related maintenance and services revenue
- Insufficient solution and service adoption together with increased complexity, as well as failures during the execution of our Intelligent Enterprise strategy in the context of our portfolio for solutions and services, which could lead to a loss of SAP's position as a leading cloud company and subsequently to reduced customer adoption
- Customers and partners reluctant or unwilling to migrate and adapt to the cloud, or customers considering cloud offerings from our competitors
- Existing customers deciding to cancel or not renew their contracts (such as maintenance or cloud subscriptions) or not buy additional products and services
- Strategic alliances among competitors or their growth-related efficiency gains in the cloud business, which could lead to significantly increased competition in the market with regard to pricing and the ability to integrate solutions
- Price pressure, cost increases, and loss of market share through traditional, new, and especially cooperating competitors and hyperscalers
- Inability to achieve the planned margin increase in time as planned

Any of these events could have a material adverse effect on our business, brand, competitive or financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- Share our overall long-term cloud strategy and our integration road map with our customers, and continuously implement improvements to enhance our cloud solutions through our Intelligent Enterprise strategy, also covering the integration of experiential and operational data



- Demonstrate the benefits of our solution and services portfolio through end-to-end integration scenarios, consistent and compelling user interfaces, intelligent technologies, customer references, and success stories
- Enable and support our customers in their transition path from on-premise to cloud, for example through the cloud extension policy, our SAP S/4HANA Movement program (a cross-departmental initiative to promote the migration of our existing ERP customers to an intelligent enterprise), our scalable SAP S/4HANA Cloud, private edition, or the SAP HANA Enterprise Cloud advanced edition offerings
- Balance the allocation of our strategic investments by evolving and protecting our core businesses and simultaneously developing new solutions, technologies, and business models for markets, such as those in analytics, applications, and database and technology
- Engage with our customers and offer a broader range of services to support and drive the digital transformation for our customers, for example with our RISE with SAP package and our premium service offerings
- Place strong focus on providing our cloud services efficiently and to customer expectations, including service provisioning, quality, security, and data protection and privacy
- Continue to drive the solution integration and harmonization of data models to support integrated business processes, applications, and technology while focusing on resilience, profitability, and sustainability
- Enable our portfolio for hyperscalers to extend customer reach and further meet customer expectations
- Deliver standard software and product packages that are fast, easy to install, and highly automated, as well as financially attractive financing and subscription models
- Enable and encourage partners to leverage SAP technology by providing guidance about business opportunities, architecture, and technology, as well as a comprehensive certification program designed to ensure that relevant third-party solutions are of consistent high quality
- Continue to move SAP HANA Enterprise Cloud towards a full-stack offering and increase the share of high-value cloud application services to further improve the margin

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be business-critical. We estimate the probability of occurrence to be unlikely. We classify this risk factor as medium.

Mergers and Acquisitions: We might not acquire and integrate companies effectively or successfully.

To expand our business, we acquire businesses, products, and technologies, and we expect to continue doing so in the future. Over time, some of these acquisitions have increased in size and in strategic importance for SAP. Management negotiation of potential acquisitions and the integration of acquired businesses, products, or technologies demands time, focus, and resources of both management and the workforce, and exposes us to unpredictable operational difficulties.

We are subject to risks and associated consequences in the following areas, among others:

- Incorrect information or assumptions during the due diligence process for the acquisition, including information or assumptions related to the business environment or business and licensing models
- Failure to integrate acquired technologies or solutions successfully and profitably into SAP's solution portfolio and strategy
- Failure to successfully integrate acquired entities, operations, cultures, or languages, all within the constraints of applicable local laws
- Unfulfilled needs of the acquired company's customers or partners



- Failure in implementing, restoring, or maintaining internal controls, disclosure controls and procedures, and policies within acquired companies
- Incompatible practices or policies regarding compliance requirements
- Debt incurrence or significant unexpected cash expenditures
- Impairment of goodwill and other intangible assets acquired in business combinations
- Non-compliance of the acquired company with regulatory requirements, for example, accounting standards, export control laws, data privacy, and trade sanctions, for which SAP, through the acquisition, assumes responsibility and liability, including potential fines and the obligation to remedy the non-compliance

Any of these events could have a material adverse effect on our business, brand, competitive or financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate risks and adverse effects, such as:

- Technical, operational, financial, and legal due diligence on the company or assets to be acquired
- A holistic evaluation of material transaction and integration risks
- Identification, implementation, and tracking of risk mitigation measures for material transactions or integration risks
- A standardized methodology for detailed integration planning, which is conducted by a dedicated integration team
- Process, risk, and control analyses accompanied by subsequent integration into SAP's processes and control framework, and supported by mitigations as required by any specific circumstances to subsequently increase adherence to SAP's standards and policies

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be unlikely. We classify this risk factor as medium.

Innovation: We might not be able to compete effectively if we strategize our solution portfolio ineffectively or if we are unable to keep up with rapid technological and product innovations, enhancements, new business models, and changing market expectations.

Our future success depends on our ability to keep pace with technological and process innovations and new business models, as well as on our ability to develop new products and services, enhance and expand our existing products and services portfolio, and integrate products and services we obtain through acquisitions. To be successful, we are required to adapt our products and our go-to-market approach to a cloud-based delivery and consumption model to satisfy increasing customer demand and to ensure an appropriate level of adoption, customer satisfaction, and retention.

We are subject to risks and associated consequences in the following areas, among others:

- Inability to bring new business models, solutions, solution enhancements, intelligent technologies, integrations and interfaces or services to market before our competitors or at equally favorable terms
- Inability to develop and sell new cloud products spanning various organizations on time and in line with market demands due to complexity in heterogeneous technical environments
- Inability to anticipate and develop technological improvements or succeed in adapting SAP products, services, processes, and business models to technological change, changing regulatory requirements, emerging industry standards, and changing requirements of our customers and partners (especially with innovations such as industry cloud, SAP Business Network, and business process intelligence offerings supported by SAP BTP) to strengthen the Intelligent Enterprise strategy



- Uncertainties regarding new SAP solutions, technologies, and business models as well as delivery and consumption models, which might lead customers to wait for proofs of concepts or holistic integration scenarios through reference customers or more mature versions
- Lower level of adoption of our new solutions, technologies, business models, and flexible consumption models, or no adoption at all
- Our product and technology strategy might not be successful, or our customers and partners might not adopt our technology platforms, applications, or cloud services quickly enough or they might consider other competing solutions in the market, or our strategy might not match customers' expectations and needs, specifically in the context of expanding the product portfolio into additional markets.
- Increasing competition from open source software initiatives or comparable models in which competitors might provide software and intellectual property free of charge or at terms and conditions unfavorable for SAP
- Inability to drive growth of references through customer use cases and demo systems

Any of these events could have a material adverse effect on our business, financial position, profit, and cash flows.

SAP has established measures intended to address and mitigate the described risks and adverse effects, such as:

- Align our organization, processes, products, delivery, commercial and consumption models, and services to changing markets and customer and partner demands
- Continuously benchmark, match, and challenge the entire portfolio at a corporate, portfolio category, and individual business case level
- Focus all investment decisions related to innovative technologies and solutions on portfolio compatibility and readiness as well as high customer value
- Develop innovative technologies and solutions, such as industry cloud solutions, SAP Business Network, and business process intelligence offerings supported by SAP BTP
- Explore future trends as well as the latest technologies, for example through our network of innovation centers as part of the Technology & Innovation Board area, and adapt these to the market if there is a clear business opportunity for SAP and value to our customers
- Conduct wide-ranging market and technology analyses and research or co-innovation projects, also in close cooperation with our customers and partners, to remain competitive
- Make strategic acquisitions in white spots of our portfolio

We cannot exclude the possibility that if risks of this risk factor were to occur, the impact could be major. We estimate the probability of occurrence to be unlikely. We classify this risk factor as medium.

Consolidated Risk Profile

In our view, considering their impact level and likelihood of occurrence, the risks described in our aggregated risk report do not individually or cumulatively threaten our ability to continue as a going concern. While individual risks and assessments may have changed during fiscal 2021, the overall situation did not change materially compared to the prior year. Management remains confident that the Group's earnings strength forms a solid basis for our future business development and provides the necessary resources to pursue the opportunities available to the Group. Based on our structured processes for early risk identification, we are confident that we can continue to counter the challenges arising from the risks in our current risk profile in 2022.



Expected Developments and Opportunities

Future Trends in the Global Economy

Supply bottlenecks, which caused disruption in 2021, will start easing from the second quarter of 2022 and unwind fully by 2023, predicts the European Central Bank (ECB) in its current Economic Bulletin.^(D) The ECB therefore maintains its previous optimistic projections for the full year 2022 and has even raised them for 2023. Persisting shortages, high commodity prices, and the emergence of the Omicron variant of the coronavirus might initially weigh on near-term growth prospects, though. According to the ECB, the future course of the pandemic remains the key uncertainty when it comes to projections for the global economy.

Concerning the EMEA region, economic activity in the euro area could exceed its pre-pandemic level already in the first quarter of 2022 and pick up further in the course of the year, driven by a robust domestic demand, an improving labor market, and ongoing policy support. Thereafter, the ECB expects an increasingly self-sustaining growth, as it believes the basis for an ongoing recovery in the euro area is intact. In central and eastern Europe, rising energy prices might put additional pressure on inflation over the coming months, peaking in the course of 2022 and declining gradually afterwards. Correspondingly, global demand for oil and gas and the associated positive terms of trade should support economic activity in Russia, but at the cost of high inflation.

In the Americas region, the subdued economic growth seen in the United States in the latter half of the previous year might extend into the first quarter of 2022. The ECB suggests that once the current supply bottlenecks dissipate, the United States should return to growth, supported by a fiscal package. However, inflationary pressures will probably remain high at the beginning of 2022. In Brazil, double-digit inflation is likely to continue, but decline in the course of 2022 and 2023.

As for the APJ region, the ECB expects economic activity in Japan to rebound solidly in early 2022. In China, the government introduced policy actions in 2021 that should manage the slowdown and avoid a sharper contraction in 2022, ensuring energy security and supporting the property sector. A stronger slowdown in the Chinese real estate sector than currently expected by the ECB would dampen the economic outlook not only for China, but also worldwide.

**Economic Trends – GDP Growth Year Over Year**

%	2020	2021p	2022p
World	-3.1	5.9	4.4
Advanced Economies	-4.5	5.0	3.9
Emerging Markets and Developing Economies	-2.0	6.5	4.8
Regions (according to IMF taxonomy)			
Euro Area	-6.4	5.2	3.9
Germany	-4.6	2.7	3.8
Emerging and Developing Europe	-1.8	6.5	3.5
Middle East and Central Asia	-2.8	4.2	4.3
Sub-Saharan Africa	-1.7	4.0	3.7
United States	-3.4	5.6	4.0
Canada	-5.2	4.7	4.1
Latin America and the Caribbean	-6.9	6.8	2.4
Japan	-4.5	1.6	3.3
Emerging and Developing Asia	-0.9	7.2	5.9
China	2.3	8.1	4.8

p = projection

Source: International Monetary Fund (IMF), World Economic Outlook Update January 2022, Rising Caseloads, a Disrupted Recovery, and Higher Inflation (<https://www.imf.org/-/media/Files/Publications/WEO/2022/Update/January/English/text.ashx>), p. 6.

The IT Market: Outlook for 2022 and Beyond

“2022 might be the year the global economy becomes more digital than physical,” says International Data Corporation (IDC), a U.S.-based market research firm.^(E) “Cloud in all its permutations will continue to play ever greater, and even dominant, roles across the IT industry as enterprises pivot to a digital-first economy. Entire industries want to intelligently leverage data to their advantage and can do so because they have faster access to digital technologies built on a cloud foundation. Cloud is now firmly established as an essential element of a digital-first strategy, as organizations look to automate operations, deliver rich customer experiences, and launch new products and services, cloud has become the primary accelerator of innovation,” says IDC.^(F)

Sustainability has become a top priority for corporations, and IDC highlights that “decarbonization initiatives will be a key goal of digital transformations; fewer than 10% of organizations say they are not applicable or not implementing objectives to reduce carbon by the end of 2023.” Therefore, “carbon accounting systems will rise up the priority list for systems implementation. The adage ‘you can’t manage what you can’t measure’ applies to carbon emissions as well,” says IDC.^(E) As a guidance, IDC proposes: “Establish the IT organization as the provider of the data management foundation that collects all sustainability data company-wide with the purpose of measuring progress against IT and general business sustainability contribution and efficacy across each factor.”^(G)

Additionally, IDC observes a shift in vendor to customer relationships and predicts that “by 2023, traditional distribution models will crumble as 20% of businesses in some sectors use technology to go direct to customers, seeking to improve customer satisfaction and product development.”^(H) Furthermore, IDC predicts that “by 2022, organizations that allocate 50%+ of their software development projects to customer-facing initiatives will see revenue grow 15% faster compared with those that focus more on internal projects.” In addition, company sales portfolios will be impacted as “by 2026, 30% of software development teams will be focused on turning traditional products into outcomes as a service,” states IDC.^(G)

With regard to macroeconomic factors, IDC states that “organizations continue to navigate the disruptions, accelerations, and crosscurrents spurred by the COVID-19 pandemic and the changing economic conditions. By 2022, more than half the global economy will be based on or influenced by



digital. By 2023, 90% of worldwide organizations will be prioritizing investments in digital tools to augment physical spaces and assets, and by 2024, 55% of all ICT investment will be linked to digital transformation,” predicts IDC.^(F) The software sector in particular will be impacted as “by 2024, the majority of legacy applications will receive some modernization investment, with cloud services used by 65% of the applications to extend functionality or replace inefficient code.” IDC’s rationale for the investments is “modernizing applications brings value to the business by increased competitiveness and the ability to outflank competitors.” As a result, IDC guides companies to “move proactively to modernize more critical applications where you can. Your competitors will be doing the same, and failure to invest can leave an organization in a disadvantaged competitive position.”^(H)

Sources:

- (D) European Central Bank, Economic Bulletin, Issue 8/2021, Publication Date: January 13, 2022
(<https://www.ecb.europa.eu/pub/pdf/ecbu/eb202108.en.pdf>)
- (E) IDC FutureScape: Worldwide Digital Transformation 2022 Predictions, Doc #US47115521, Oct. 2021
- (F) IDC FutureScape: Worldwide Cloud 2022 Predictions, Doc #US47241821, Oct. 2021
- (G) IDC FutureScape: Worldwide IT Industry 2022 Predictions, Doc #US48312921, Oct. 2021
- (H) IDC FutureScape: Worldwide Future of Digital Innovation 2022 Predictions, Doc #US47148621, Oct. 2021

Impact on SAP

Despite ongoing uncertainties in the global economy and supply chain disruptions as well as the ongoing pandemic situation, the resurgence of the global demand is noticeable. SAP expects more companies will choose SAP to help them transform their businesses, build resilient supply chains, and become sustainable enterprises. For SAP, moving to the cloud is not an option anymore but a required step in business transformation for our customers. We saw this momentum reflected in the success of our RISE with SAP offering and are confident about further growth and even greater potential going forward across our complete portfolio. This is manifested in our accelerated cloud guidance for 2022. SAP is confident that its positive momentum will continue throughout 2022.



Financial Targets and Prospects

Revenue and Operating Profit Targets and Prospects (Non-IFRS)

Outlook 2022

For 2022, SAP expects its cloud growth to continue to accelerate. The pace and scale of SAP's cloud momentum places the Company well on track towards its mid-term ambition.

For the full year 2022, SAP expects:

- €11.55 billion to €11.85 billion cloud revenue at constant currencies (2021: €9.42 billion), up 23% to 26% at constant currencies.
- €25.0 billion to €25.5 billion cloud and software revenue at constant currencies (2021: €24.08 billion), up 4% to 6% at constant currencies.
- €7.8 billion to €8.25 billion non-IFRS operating profit at constant currencies (2021: €8.23 billion), flat to down 5% at constant currencies.
- The share of more predictable revenue (defined as the total of cloud revenue and software support revenue) is expected to reach approximately 78% (2021: 75%).
- Free cash flow above €4.5 billion (2021: €5.01 billion).
- A full-year effective tax rate (IFRS) of 25.0% to 28.0% (2021: 21.5%) and an effective tax rate (non-IFRS) of 22.0% to 25.0% (2021: 20.0%), strongly depending on the development of Sapphire Ventures' investments.
- To achieve a year-end current cloud backlog growth rate similar to 2021.

While SAP's full year 2022 business outlook is at constant currencies, actual currency reported figures are expected to be impacted by currency exchange rate fluctuations as the Company progresses through the year. See the table below for the full year 2022 expected currency impacts. These currency expectations for the full year 2022 are based on the December 2021 level.

In percentage points (pp)	FY 2022
Cloud revenue growth	+2pp to +4pp
Cloud and software revenue growth	+1pp to +3pp
Operating profit growth (non-IFRS)	+1pp to +3pp

The following table shows the estimates of the items that represent the differences between our non-IFRS financial measures and our IFRS financial measures.

€ millions	Estimated Amounts for 2022	Actual Amounts for 2021
Acquisition-related charges	570–670	623
Share-based payment expenses	3,000–3,300	2,794
Restructuring	20–40	157

Proposed Dividend

In 2022, we intend to pay a dividend of €2.45 per share (subject to shareholder approval at the **Annual General Shareholders Meeting** in May 2022). This dividend includes a special payment of €0.50 to celebrate SAP's 50th anniversary. For more information, see the [Financial Performance: Review and Analysis](#) section.

Medium-Term Prospects

In this section, all numbers (except cloud revenue and total revenue) are based exclusively on non-IFRS measures.

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SAP expects to steadily grow its more predictable revenue while increasing operating profit. We expect to achieve double-digit growth of non-IFRS operating profit from 2023 onwards followed by double-digit growth of total revenue as we approach 2025. Our strategic objectives are focused primarily on our main financial and non-financial objectives: growth, profitability, customer loyalty, and employee engagement.

SAP confidently reiterates its mid-term ambition published on October 25, 2020. By 2025, SAP continues to expect:

- More than €22 billion cloud revenue
- More than €36 billion total revenue
- More than €11.5 billion non-IFRS operating profit
- A non-IFRS cloud gross margin of approximately 80%
- A significant expansion of the Company's more predictable revenue share to approximately 85%, reaching more than €30 billion
- Free cash flow of approximately €8 billion

Investment Goals

Our planned investment expenditures for 2022 and 2023, other than for business combinations, consist primarily of the purchase of IT infrastructure and the construction activities described in the [Assets \(IFRS\)](#) section. We expect investments in IT infrastructure of approximately €500 million and in construction activities of approximately €300 million in 2022. In 2022, we expect total capital expenditures of approximately €850 million. In 2023, capital expenditures are expected to stay at a similar level as in 2022.

Goals for Liquidity and Finance

As at December 31, 2021, we had net debt of €1.6 billion. We believe that our liquid assets combined with our undrawn credit facilities are sufficient to meet our operating financing needs in 2022 as well, and, together with expected cash flows from operations, will support debt repayments and our currently planned capital expenditure requirements over the near and medium term.

In 2022, we expect a free cash flow of above €4.5 billion (compared to €5.0 billion in 2021), predominantly due to our expectation of flat to slightly declining operating profit. Since payouts for capital expenditures and leasing are expected on a level similar to the last three years, a separate outlook on operating cash flow is not provided. For 2025, we continue to expect around €8.0 billion in free cash flow.

In 2022, we intend to repay €900 million in Eurobonds, US\$445 million in U.S. Private Placements, and €1.45 billion in bank loans. At the date of this report, debt repayments of around €4.3 billion until the end of 2023 are scheduled. The ratio of net debt as at December 31, 2021, divided by the total of operating profit (IFRS) plus depreciation and amortization was 0.24x, therefore, already below our 2023 target of 0.5x.

Non-Financial Goals 2022 and Ambitions for 2025

In addition to our financial goals, we also focus on three non-financial targets: customer loyalty, employee engagement, and carbon impact.

For 2022 through 2025, we aim to maintain employee engagement, measured by the Employee Engagement Index, at a high level between 84% and 86% (2021: 83%).

We measure customer loyalty using the Customer Net Promoter Score (Customer NPS). We are targeting to increase the Customer NPS to a score of 11 to 15 in 2022 and to steadily increase the Customer NPS through 2025 (2021: 10).



We aim to reach net greenhouse gas emissions in our operations of 70 kilotons (kt) in 2022 (2021: 110 kt) with a steady decrease further on, reaching 0 kt by 2023 and maintaining net carbon emissions in our own operations of 0 kt from that point onward. Further, SAP has also committed to achieve net-zero along our value chain in line with a 1.5 degrees Celsius future in 2030.

Premises on Which Our Outlook and Prospects Are Based

In preparing our outlook and prospects, we have taken into account all events known to us at the time we prepared this report that could influence SAP's business going forward.

Outlook for SAP SE

The primary source of revenue for SAP SE is the license fees it charges subsidiaries for the right to market and maintain SAP software solutions. Consequently, the performance of SAP SE in operating terms is closely tied to the cloud and the software revenue of the SAP Group.

Based on the outlook for cloud and software revenue for the SAP Group at constant currency in non-IFRS in 2022, we expect product revenue for SAP SE in 2022 to increase slightly compared to 2021.

Assuming there are no significant effects from acquisitions or other unforeseeable occurrences in 2022, we also expect the operating profit of SAP SE to decrease moderately compared to 2021.

The financial ambitions of the SAP Group for the years 2023 to 2025 provide for future growth of revenue and profit. We expect that such growth will also result in revenue and profit growth for SAP SE to the same degree.

We expect that SAP SE will continue to receive investment income in the form of profit transfers and dividends from its subsidiaries. The growth we expect for the SAP Group should have a positive effect on this investment income.

The outlook for the SAP Group in respect to liquidity, finance, investment, and dividend are equally applicable to SAP SE.

Among the assumptions underlying this outlook are those presented above concerning the economy and our expectations for the performance of the SAP Group.

Opportunities

Our customers choose SAP as a trusted partner for their digital business transformation. We have established a framework for opportunity management by evaluating and analyzing key areas such as current markets, external scenarios, economic conditions, and technological trends. We have also researched customer and product segmentation, growth drivers, and industry-specific factors for success. These combined insights play a key role for the Executive Board in the development of our market strategies. Our shareholder value relies heavily upon a fine balance of risk mitigation and value-driven opportunities. Therefore, our governance model helps ensure that decisions are based on return, investment required, and risk mitigation.

As far as opportunities are likely to occur, we have incorporated them into our business plans, our outlook for 2022, and our medium-term prospects outlined in this report. Therefore, the following section focuses on future trends or events that might result in an uplift of our outlook and medium-term prospects should they develop more positively than anticipated in our forecasts.

SAP SE is the parent company of the SAP Group and earns most of its revenue from subscription fees, software license fees, and dividends paid by affiliates. Consequently, the opportunities described below also apply – directly or indirectly – to SAP SE.

Opportunities from Economic Conditions

Economic conditions clearly influence our business, financial position, profit, and cash flows. Should the global economy recover faster than is reflected in our plans today, our revenue and profit may exceed our current outlook and medium-term prospects. Our medium-term planning considers changes in market conditions as a result of the ongoing COVID-19 pandemic. Although we continue



to be mindful of the negative aspects of this global situation, we do see a trend developing to prioritize investments in digital transformation. This could result in an acceleration of the digitalization of business processes that exceeds what we had originally planned.

For more information about future trends in the global economy and the IT market outlook, as well as their potential influence on SAP, see the beginning of the *Expected Developments and Opportunities* section.

Opportunities Through Innovation

Our continued growth through innovation is based on our ability to leverage research and development (R&D) resources effectively. We continue to improve our products through design thinking and lean methodologies. We are accelerating innovation cycles, especially in our cloud solutions, and engaging even more closely with our customers to enable success.

In addition, we continue to expand innovation initiatives to support long-term projects in strategic opportunity areas, supporting talented entrepreneurs within SAP, as well as, for example, external startups.

Based on our innovation capability, we see opportunities in growing product and market areas, such as in the further enhancement of business processes with intelligent technologies. In addition to the increased focus on innovation, we also focus on ease of adoption and consumption, so our customers can receive the benefits from our software applications, technologies, and platforms at reduced time to value. For example, the accelerated adoption of technology that helps companies transform into more sustainable businesses could result in additional upsell opportunities for customers migrating to **SAP S/4HANA Cloud**.

In particular, we see **three innovation areas** that have the potential to grow beyond our expectations.

First, with its open APIs and value services, **SAP Business Technology Platform (SAP BTP)** may be adopted faster than internally planned. Second, **business process intelligence (BPI)** may see increased demand for intelligent automation realized through services such as application lifecycle management (ALM) and robotic process automation (RPA), for example. Third, we see high growth potential in the area of **sustainability management**. Our vision to enable customers to transform into intelligent, sustainable enterprises is based on our commitment to "chasing zero" – zero emissions, zero waste, zero inequality. If this conviction is shared by increasing numbers of customers, this may lead to an increased demand for our business process logics.

For more information about future opportunities in research and development for SAP, see the *Products, Research & Development, and Services* section.

Opportunities from Our Strategy for Profitable Growth

SAP strives to generate profitable growth across our portfolio of products, solutions, and services to keep or improve our market position. Our aim is to continue to expand our addressable market through the adjustment of our portfolio and our new technologies and innovations. The COVID-19 pandemic has strengthened the readiness in the market to consume software in the cloud, including core business process platforms. This could result in an even faster adoption of our core ERP offering in the cloud than anticipated, translating into higher cloud and total revenue growth from 2023 onwards than currently provided for in our midterm ambition. Greater efficiency in our cloud operations may also positively affect the profitability of our cloud business.

SAP seeks to establish new business models and leverage our expanding ecosystem of partners to achieve scale and maximize opportunities. We see additional opportunities in potential future strategic partnerships, such as those for the migration of critical business systems to the cloud linked to the **Rise with SAP** offering. In addition, a promising joint venture in the financial services industry called **SAP Pioneer** was founded in 2021, enabling a better coverage of the rapidly changing banking and insurance industry.



Our extensive experience in applications and analytics, as well as database and technology, continue to offer solid multiyear growth opportunities as we bring innovative technologies with simplified consumption to our installed base and continue to acquire new customers.

The stronger focus on customer success enabled through our shift to a new operating model that aligns sales, services, and customer engagement activities may positively impact our revenue, profit, and cash flows. This potential may result in our stated medium-term prospects being exceeded.

Opportunities from Our Partner Ecosystem

SAP's partner ecosystem is defined by the interdependent relationships of our customers, our employees, our suppliers, our partners, and our competition. Our ecosystem, which includes more than 22,500 partners with different areas of expertise, carries the SAP brand into global markets and expands our portfolio with their expertise, services, and products. Our ecosystem includes partners in four different tracks: partners in the "**Build**" track develop solutions on top of, or integrate with, SAP technology and platforms; partners in the "**Sell**" track resell, implement, and support customers in the cloud and on premise; partners in the "**Service**" track (systems integrators) provide strategic business consulting, system design, solution integration, and project implementation of SAP solutions; partners in the "**Run**" track are outsourcing or hosting companies that offer SAP solutions to customers through a private or public cloud.

SAP and our partner ecosystem offer solutions to help customers grow their businesses and accelerate their move to the cloud. SAP partners build innovative extensions for SAP applications based on SAP BTP, and in doing so, enhance the customer value with SAP. By providing innovations that extend SAP applications, partners can influence the adoption of SAP technologies to support customers' unique business needs. Thus, customers maximize their SAP investment through partner offerings such as solution extensions, industry-specific solutions, line-of-business (LoB) solutions, and mobile solutions.

Partners constantly respond to the market needs while raising awareness around strategic offerings, such as RISE with SAP, SAP BTP, and our **industry cloud solutions**, which drive the cloud transformation of our customers. Partners offer customers a vast array of SAP technologies and services specific to their LoB or industry, making it easy for customers to purchase the right combination of products and services (such as consulting, implementation, and development) to meet their business needs.

Partners contribute to SAP's growth by expanding our market reach in sales and services, specifically by retaining and increasing sales to existing customers, attracting new customers, and satisfying our joint customers' requirements through (co-)innovation. Together with all of the aforementioned measures, this may positively impact our revenue, profit, and cash flows, and enable SAP to exceed our stated medium-term prospects.

Opportunities from Our Employees

Our employees drive innovation, provide value to our customers, and consistently enable our growth and profitability. We continuously invest in our people with the aim of retaining their high level of engagement, further strengthening their skills, fostering an agile and innovative organization, and ensuring a healthy, diverse, and inclusive workforce. By doing so, we anticipate improvements in our employee productivity and innovation capabilities.

Our outlook and medium-term prospects are based on certain assumptions regarding employee retention and our **Business Health Culture Index**. Should these develop at a rate that is better than expected, employee productivity and engagement may increase. A stronger-than-expected increase in the **Employee Engagement Index** can therefore be an opportunity that could positively impact our revenue, profit, and cash flows, enabling SAP to exceed our stated medium-term prospects.

For more information about future opportunities relating to our employees, see the [Employees and Social Investments](#) section.



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Consolidated Income Statements of SAP Group for the Years Ended December 31

€ millions, unless otherwise stated	Notes	2021	2020	2019
Cloud		9,418	8,080	6,933
Software licenses		3,248	3,642	4,533
Software support		11,412	11,506	11,547
Software licenses and support		14,660	15,148	16,080
Cloud and software		24,078	23,228	23,012
Services		3,764	4,110	4,541
Total revenue	(A.1), (C.2)	27,842	27,338	27,553
Cost of cloud		-3,105	-2,699	-2,534
Cost of software licenses and support		-1,925	-2,008	-2,159
Cost of cloud and software		-5,030	-4,707	-4,692
Cost of services		-2,916	-3,178	-3,662
Total cost of revenue		-7,946	-7,886	-8,355
Gross profit		19,897	19,453	19,199
Research and development		-5,190	-4,454	-4,292
Sales and marketing		-7,505	-7,106	-7,693
General and administration		-2,431	-1,356	-1,629
Restructuring	(B.6)	-157	3	-1,130
Other operating income/expense, net		43	84	18
Total operating expenses		-23,186	-20,715	-23,081
Operating profit		4,656	6,623	4,473
Other non-operating income/expense, net	(C.3)	17	-179	-74
Finance income		3,123	1,473	787
Finance costs		-949	-697	-589
Financial income, net	(C.4)	2,174	776	198
Profit before tax	(C.2)	6,847	7,220	4,596
Income tax expense	(C.5)	-1,471	-1,938	-1,226
Profit after tax		5,376	5,283	3,370
Attributable to owners of parent		5,256	5,145	3,321
Attributable to non-controlling interests		121	138	50
Earnings per share, basic (in €)	(C.6)	4.46	4.35	2.78

Earnings per share, diluted (in €)	(C.6)	4.46	4.35	2.78
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The accompanying Notes are an integral part of these Consolidated Financial Statements.



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Consolidated Statements of Comprehensive Income of SAP Group for the Years Ended December 31

€ millions	Notes	2021	2020	2019
■ Profit after tax		5,376	5,283	3,370
Items that will not be reclassified to profit or loss				
Remeasurements on defined benefit pension plans, before tax	43	39	-57	
Income taxes relating to remeasurements on defined benefit pension plans	-9	-9	5	
Remeasurements on defined benefit pension plans, net of tax	34	30	-52	
Other comprehensive income for items that will not be reclassified to profit or loss, net of tax		34	30	-52
Items that will be reclassified subsequently to profit or loss				
Gains (losses) on exchange differences on translation, before tax	2,825	-2,793	537	
Reclassification adjustments on exchange differences on translation, before tax	30	0	0	
Exchange differences, before tax	2,855	-2,793	537	
Income taxes relating to exchange differences on translation	-9	1	0	
Exchange differences, net of tax	(E.2)	2,846	-2,792	537
Gains (losses) on cash flow hedges/cost of hedging, before tax	-39	20	-24	
Reclassification adjustments on cash flow hedges/cost of hedging, before tax	4	-6	22	
Cash flow hedges/cost of hedging, before tax	(F.1)	-35	14	-2
Income taxes relating to cash flow hedges/cost of hedging	9	-4	0	
Cash flow hedges/cost of hedging, net of tax	(E.2)	-26	10	-1
Other comprehensive income for items that will be reclassified to profit or loss, net of tax		2,819	-2,782	536
Other comprehensive income, net of tax		2,853	-2,752	483
Total comprehensive income		8,230	2,531	3,854
Attributable to owners of parent		8,058	2,393	3,804
Attributable to non-controlling interests		172	138	50

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T Consolidated Statements of Financial Position of SAP Group as at December 31

€ millions	Notes	2021	2020
Cash and cash equivalents	(E.3)	8,898	5,311
Other financial assets	(D.6), (E.3)	2,758	1,635
Trade and other receivables	(A.2)	6,352	6,593
Other non-financial assets	(A.3), (G.1)	1,633	1,321
Tax assets		403	210
Total current assets		20,044	15,069
Goodwill	(D.2)	31,090	27,538
Intangible assets	(D.3)	3,966	3,784
Property, plant, and equipment	(D.4), (D.8)	4,977	5,041
Other financial assets	(D.6), (E.3)	6,275	3,512
Trade and other receivables	(A.2)	147	137
Other non-financial assets	(A.3), (G.1)	2,628	1,926
Tax assets		263	271
Deferred tax assets	(C.5)	1,779	1,188
Total non-current assets		51,125	43,395
Total assets		71,169	58,464
Trade and other payables		1,580	1,367
Tax liabilities		304	414
Financial liabilities	(E.3), (D.5)	4,528	2,348
Other non-financial liabilities	(B.3), (B.5), (G.2)	5,203	4,643
Provisions	(A.4), (B.4), (B.5), (B.6)	89	73
Contract liabilities	(A.1)	4,431	3,996
Total current liabilities		16,136	12,842
Trade and other payables		122	98
Tax liabilities		827	667
Financial liabilities	(E.3), (D.5)	11,042	13,605
Other non-financial liabilities	(B.3), (B.5), (G.2)	860	770
Provisions	(A.4), (B.4), (B.5), (B.6)	355	362
Deferred tax liabilities	(C.5)	291	158
Contract liabilities	(A.1)	13	36
Total non-current liabilities		13,510	15,696
Total liabilities		29,646	28,537
Issued capital		1,229	1,229
Share premium		1,918	545
Retained earnings		37,022	32,026
Other components of equity		1,757	-1,012

Treasury shares		-3,072	-3,072
Equity attributable to owners of parent		38,853	29,716
Non-controlling interests	(E.2)	2,670	211
Total equity	(E.2)	41,523	29,927
Total equity and liabilities		71,169	58,464

The accompanying Notes are an integral part of these Consolidated Financial Statements.



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Consolidated Statements of Changes in Equity of SAP Group for the Years Ended December 31

€ millions	Equity Attributable to Owners of Parent						Non-Controlling Interests	Total Equity
	Issued Capital	Share Premium	Retained Earnings	Other Components of Equity	Treasury Shares	Total		
Notes	(E.2)	(E.2)		(E.2)	(E.2)			
1/1/2019	1,229	543	27,336	1,234	-1,580	28,761	45	28,807
■ Profit after tax			3,321			3,321	50	3,370
Other comprehensive income			-52	536		483		483
Comprehensive income	3,268		536			3,804	50	3,854
Share-based payments		2				2		2
Dividends			-1,790			-1,790	-19	-1,810
Hyperinflation			-29			-29		-29
Other changes			-2			-2	0	-2
12/31/2019	1,229	545	28,783	1,770	-1,580	30,746	76	30,822
■ Profit after tax			5,145			5,145	138	5,283
Other comprehensive income			30	-2,782		-2,752		-2,752
Comprehensive income	5,175		-2,782			2,393	138	2,531
Share-based payments		1				1		1
Dividends			-1,864			-1,864	-2	-1,866
Purchase of treasury shares					-1,492	-1,492		-1,492
Changes in non-controlling interests			-64			-64		-64
Other changes			-4			-4	0	-5
12/31/2020	1,229	545	32,026	-1,012	-3,072	29,716	211	29,927
■ Profit after tax			5,256			5,256	121	5,376
Other comprehensive income			34	2,768		2,802	51	2,853
Comprehensive income	5,290		2,768			8,058	172	8,230
Share-based payments		1,373				1,373	311	1,684
Dividends			-2,182			-2,182	-88	-2,271
Transactions with non-controlling interests			1,933			1,933	2,050	3,983
Other changes			-44			-44	14	-30
12/31/2021	1,229	1,918	37,022	1,757	-3,072	38,853	2,670	41,523

The accompanying Notes are an integral part of these Consolidated Financial Statements.



Consolidated Statements of Cash Flows of SAP Group for the Years Ended December 31

€ millions	Notes	2021	2020	2019
Profit after tax		5,376	5,283	3,370
Adjustments to reconcile profit after tax to net cash flow from operating activities:				
Depreciation and amortization	(D.2)–(D.4)	1,775	1,831	1,872
Share-based payment expenses	(B.3)	2,794	1,084	1,835
Income tax expense	(C.5)	1,471	1,938	1,226
Financial income, net	(C.4)	-2,174	-776	-198
Decrease/increase in allowances on trade receivables		-11	68	14
Other adjustments for non-cash items		39	-198	-54
Decrease/increase in trade and other receivables		414	821	-1,469
Decrease/increase in other assets		-706	-651	-583
Increase/decrease in trade payables, provisions, and other liabilities		475	293	328
Increase/decrease in contract liabilities		100	128	984
Share-based payments		-1,120	-1,310	-1,257
Interest paid		-202	-244	-341
Interest received		56	122	97
Income taxes paid, net of refunds		-2,063	-1,194	-2,329
Net cash flows from operating activities		6,223	7,194	3,496
Cash flows for business combinations, net of cash and cash equivalents acquired	(D.1)	-1,142	-662	-6,215
Cash flows from sale of subsidiaries or businesses		-72	203	61
Purchase of intangible assets and property, plant, and equipment		-800	-816	-817
Proceeds from sales of intangible assets or property, plant, and equipment		91	88	71
Purchase of equity or debt instruments of other entities		-4,368	-2,535	-900
Proceeds from sales of equity or debt instruments of other entities		3,229	735	778
Net cash flows from investing activities		-3,063	-2,986	-7,021
Dividends paid	(E.2)	-2,182	-1,864	-1,790
Dividends paid on non-controlling interests		-54	-2	-17
Purchase of treasury shares	(E.2)	0	-1,492	0
Proceeds from changes in ownership interests in subsidiaries that do not result in the loss of control		2,828	95	0
Proceeds from borrowings	(E.3)	1,680	2,132	3,622
Repayments of borrowings	(E.3)	-1,952	-2,430	-1,309
Payments of lease liabilities		-374	-378	-403
Transactions with non-controlling interests	(E.2)	-2	-59	0
Net cash flows from financing activities		-56	-3,997	102
Effect of foreign currency rates on cash and cash equivalents		484	-214	110
Net decrease/increase in cash and cash equivalents		3,587	-4	-3,313
Cash and cash equivalents at the beginning of the period	(E.3)	5,311	5,314	8,627
Cash and cash equivalents at the end of the period	(E.3)	8,898	5,311	5,314

The accompanying Notes are an integral part of these Consolidated Financial Statements.



Notes

(IN.1) Basis for Preparation

General Information

The registered domicile of SAP SE is in Walldorf, Germany (Commercial Register of the Lower Court of Mannheim HRB 719915). The Consolidated Financial Statements for 2021 of SAP SE and its subsidiaries (collectively, "we," "us," "our," "SAP," "Group," and "Company") have been prepared in accordance with International Financial Reporting Standards (IFRS).

We have applied all IFRS standards and interpretations that were effective on and endorsed by the European Union (EU) as at December 31, 2021. There were no standards or interpretations as at December 31, 2021, impacting our Consolidated Financial Statements for the years ended December 31, 2021, 2020, and 2019, that were effective but not yet endorsed. Therefore, our Consolidated Financial Statements comply with both, IFRS as issued by the International Accounting Standards Board (IASB) and IFRS as endorsed by the EU.

Our Executive Board approved the Consolidated Financial Statements on February 23, 2022, for submission to our Supervisory Board which approved the Consolidated Financial Statements on the same day.

All amounts included in the Consolidated Financial Statements are reported in millions of euros (€ millions) except where otherwise stated. As figures are rounded, numbers presented throughout this document may not add up precisely to the totals we provide and percentages may not precisely reflect the absolute figures.

Amounts disclosed in the Notes that are taken directly from our Consolidated Income Statements or our Consolidated Statements of Financial Position are marked with the symbols and , respectively.

Accounting Policies, Management Judgments, and Sources of Estimation Uncertainty

How We Present Our Accounting Policies, Judgments, and Estimates

To ease the understanding of our financial statements, we present the accounting policies, management judgments, and sources of estimation uncertainty (hereafter: accounting policies, judgments, and estimates) on a given subject together with other disclosures related to the same subject in the Note that deals with this subject. Accounting policies, judgments, and estimates that do not relate to a specific subject are presented in the following section.

For easier identification of our accounting policies, judgments, and estimates, the respective disclosures are marked with the symbol and highlighted with a light gray box. They focus on the accounting choices made within the framework of the prevailing IFRS and refrain from repeating the underlying promulgated IFRS guidance, unless we consider it particularly important to the understanding of a Note's content.



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The following table provides an overview of where our accounting policies, management judgments, and estimates are disclosed:

Note	Accounting Policies, Judgments, and Estimates
(IN.1)	Basis for Preparation
(IN.2)	Implications of the COVID-19 Pandemic
(A.1)	Revenue
(A.2)	Trade and Other Receivables
(A.3)	Capitalized Cost from Contracts with Customers
(A.4)	Customer-Related Provisions
(B.3)	Share-Based Payments
(B.4)	Pension Plans and Similar Obligations
(B.5)	Other Employee-Related Obligations
(B.6)	Restructuring
(C.1)	Results of Segments
(C.5)	Income Taxes
(D.1)	Business Combinations and Divestitures
(D.2)	Goodwill
(D.3)	Intangible Assets
(D.4)	Property, Plant, and Equipment
(D.5)	Leases
(D.6)	Equity Investments
(E.2)	Total Equity
(E.3)	Liquidity
(F.1)	Financial Risk Factors and Risk Management
(F.2)	Fair Value Disclosures on Financial Instruments
(G.3)	Other Litigation, Claims, and Legal Contingencies
(G.5)	Executive and Supervisory Board Compensation

General Accounting Policies

Bases of Measurement

The Consolidated Financial Statements have been prepared on the historical cost basis except for the following:

- Derivative financial instruments, liabilities for cash-settled share-based payments, and financial assets with cash flows that are not solely payments of principal or interest are measured at fair value.
- Post-employment benefits are measured at the present value of the defined benefit obligations less the fair value of the plan assets.
- Monetary assets and liabilities denominated in foreign currencies are translated at period-end exchange rates.
- The financial statements of our subsidiaries to which hyperinflation accounting applies are restated.

Foreign Currencies

Income and expenses and operating cash flows of our foreign subsidiaries that use a functional currency other than the Euro are translated at average rates of foreign exchange (FX) computed on a



monthly basis. Exchange differences resulting from foreign currency transactions are recognized in other non-operating income/expense, net.

The exchange rates of key currencies affecting the Company were as follows:

Exchange Rates

Equivalent to €1		Middle Rate as at 12/31		Annual Average Exchange Rate		
		2021	2020	2021	2020	2019
U.S. dollar	USD	1.1326	1.2271	1.1835	1.1413	1.1196
Japanese yen	JPY	130.38	126.49	129.86	121.78	122.06
Pound sterling	GBP	0.8403	0.8990	0.8600	0.8892	0.8773
Swiss franc	CHF	1.0331	1.0802	1.0814	1.0703	1.1127
Canadian dollar	CAD	1.4393	1.5633	1.4835	1.5294	1.4857
Australian dollar	AUD	1.5615	1.5896	1.5747	1.6554	1.6106

Cost Classification

Cost of Cloud and Software

Cost of cloud and software includes the costs incurred in producing the goods and providing the services that generate cloud and software revenue. Consequently, this line item primarily includes employee expenses relating to these services, amortization of acquired intangibles, fees for third-party licenses, depreciation of our property, plant, and equipment (for example, of our data centers in which we host our cloud solutions), and costs for third-party hosting services. For more information about the capitalization of costs from contracts with customers, see [Note \(A.3\)](#).

Cost of Services

Cost of services includes the costs incurred in providing the services that generate service revenue. Consequently, this line item primarily includes employee expenses and related training, system and system administration costs, and costs for third-party resources.

Research and Development

Research and development includes the costs incurred by activities related to the development of software solutions (new products, updates, and enhancements) including resource and hardware costs for the development systems. For more information about the recognition of internally generated intangible assets from development, see [Note \(D.3\)](#).

Sales and Marketing

Sales and marketing includes the costs incurred for the selling activities (such as sales commissions and amortization of capitalized sales commissions) and marketing activities related to our software and cloud solutions and our service portfolio. For more information about the capitalization of costs from contracts with customers, see [Note \(A.3\)](#).

General and Administration

General and administration includes the costs related to finance and administrative functions, human resources, and general management as long as they are not directly attributable to one of the other operating expense line items.

⌚ Management Judgments and Sources of Estimation Uncertainty

The preparation of the Consolidated Financial Statements requires our management to make judgments, estimates, and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, revenues, and expenses, as well as disclosure of contingent liabilities.



We base our judgments, estimates, and assumptions on historical and forecast information, and on regional and industry economic conditions in which we or our customers operate. Changes to these conditions could adversely affect our estimates. Although we believe we have made reasonable estimates about the ultimate resolution of the underlying uncertainties, no assurance can be given that the final outcome of these matters will be consistent with what is reflected in our recognized assets, liabilities, revenues, and expenses and disclosed contingent liabilities. Actual results could differ significantly from original estimates.

The accounting policies that most frequently or significantly require us to make judgments, estimates, and assumptions, and therefore are critical to understanding our results of operations, include the following:

Note	⌚ Significant Accounting Policies
(A.1)	Revenue recognition
(A.2)	Valuation of trade receivables
(A.4), (G.3)	Accounting for legal contingencies
(B.3)	Accounting for share-based payments
(C.5)	Accounting for income taxes
(D.1)	Accounting for business combinations
(D.2)	Accounting for goodwill
(D.3)	Accounting for intangible assets (including recognition of internally generated intangible assets from development)
(D.6)	Accounting for equity investments

Our management periodically discusses these significant accounting policies with the Audit and Compliance Committee of our Supervisory Board.

⌚ New Accounting Standards Not Yet Adopted

The IASB has issued various amendments to IFRS standards (such as IAS 1 (Classification of Liabilities as Current or Non-current), IAS 37 (Provisions, Contingent Liabilities and Contingent Assets)) that are relevant for SAP but not yet effective. We are currently in the process of finalizing the assessment of the impact on SAP, but do not expect material effects on our financial position or results of operations.



(IN.2) Implications of the COVID-19 Pandemic

⌚ Management Judgments and Estimates Due to the COVID-19 Pandemic

Management judgments and estimates can affect the amounts and reporting of assets and liabilities as at the reporting date, and the amounts of income and expense reported for the period. Due to the global consequences of the ongoing COVID-19 pandemic, these management judgments and estimates continue to be subject to uncertainty. Actual amounts may differ from the management judgments and estimates; changes could have a material impact on the Consolidated Financial Statements. All available information on the expected economic developments and country-specific governmental mitigation measures was included when updating the management judgments and estimates. This information was also included in the analysis of the recoverability and collectability of assets and receivables.

As the pandemic continues, it remains difficult to predict its duration and the magnitude of its impact on assets, liabilities, results of operations, and cash flows. We based our financial-statement-related estimates and assumptions on existing knowledge and best information available at the time, and applied a scenario that assumes the COVID-19 situation will continue to improve as vaccine programs continue to take effect globally, leading to a growing demand environment in 2022.

We will continue to analyze possible future effects of the COVID-19 pandemic on the measurement of individual assets and liabilities.

The impact of global travel restrictions on SAP's Concur business continues, leading to an overall further decline in pay-as-you-go transactional revenues as part of software as a service revenue (defined in [Note \(A.1\)](#)) compared to 2020. Over the course of the second half of 2021, such revenues have started to increase again.

The overall impact of the COVID-19 pandemic on SAP's consolidated financial statements has not been significant.



Section A – Customers

This section discusses disclosures related to contracts with our customers. These include but are not limited to explanations of how we recognize revenue, revenue disaggregation, and information about our trade receivables and customer-related obligations.

(A.1) Revenue

Accounting for Revenue from Contracts with Customers

Classes of Revenue

We derive our revenue from fees charged to our customers for the use of our cloud offerings, for licenses to our on-premise software products, and for standardized and premium support services, consulting, customer-specific software developments, training, and other services.

Cloud and software revenue, as presented in our Consolidated Income Statements, is the sum of our **cloud revenue**, our **software license revenue**, and our **software support revenue**.

Cloud revenue represents fees earned from providing customers with any of the following:

Software as a service (SaaS), that is, a right to use software functionality (including standard functionalities and custom cloud applications and extensions) in a cloud-based infrastructure hosted by SAP or third parties engaged by SAP, where the customer does not have the right to terminate the hosting contract and take possession of the software to either run it on its own IT infrastructure or to engage a third-party provider unrelated to SAP to host and manage the software; SaaS also includes transaction and agent fees for transactions that customers of our network business execute on our cloud-based transaction platforms.

Platform as a service (PaaS), that is, access to a cloud-based platform to develop, deploy, integrate, and manage applications.

Infrastructure as a service (IaaS), that is, hosting and related application management services for software hosted by SAP or third parties engaged by SAP.

Premium cloud support, that is, support beyond the regular support embedded in the underlying cloud subscription services.

Software license revenue represents fees earned from the sale or license of software to customers for use on the customer's premises, in other words, where the customer has the right to take possession of the software for installation on the customer's premises or on hardware of third-party hosting providers unrelated to SAP (on-premise software). Software license revenue includes revenue from both the sale of our standard software products and customer-specific on-premise-software development agreements.

Software support revenue represents fees earned from providing customers with standardized support services that comprise unspecified future software updates, upgrades, and enhancements as well as technical product support services for on-premise software products.

Services revenue primarily represents fees earned from professional consulting services, premium support services, and training services.

Identification of Contract

We frequently enter into multiple contracts with the same customer. For accounting purposes, we treat these contracts as a single contract if they are entered into at or near the same time and are economically interrelated. We do not combine contracts with closing days more than three months apart because we do not consider them being entered into near the same time. Judgment is required



in evaluating whether various contracts are interrelated, which includes considerations as to whether they were negotiated as a package with a single commercial objective, whether the amount of consideration on one contract is dependent on the performance of the other contract, or if some or all goods in the contracts are a single performance obligation.

New arrangements with existing customers can be either a new contract or the modification of prior contracts with the customer. Our judgment in making this determination considers whether there is a connection between the new arrangement and the pre-existing contracts, whether the goods and services under the new arrangement are highly interrelated with the goods and services sold under prior contracts, and how the goods and services under the new arrangement are priced. In determining whether a change in transaction price represents a contract modification or a change in variable consideration, we examine whether the change in price results from changing the contract or from applying unchanged existing contract provisions.

Identification of Performance Obligations

Our customer contracts often include various products and services. Typically, the products and services outlined in the *Classes of Revenue* section qualify as separate performance obligations and the portion of the contractual fee allocated to them is recognized separately. Judgment is required, however, in determining whether a good or service is considered a separate performance obligation. In particular for our professional services and implementation activities, judgment is required to evaluate whether such services significantly integrate, customize, or modify the on-premise software or cloud service to which they relate. In this context, we consider the nature of the services and their volume relative to the volume of the on-premise software or cloud service to which they relate. In general, the implementation services for our cloud services go beyond pure setup activities and qualify as separate performance obligations. Similarly, our on-premise implementation services and our custom development services typically qualify as separate performance obligations. Non-distinct goods and services are combined into one distinct bundle of goods and services (combined performance obligation).

When selling goods or services, we frequently grant customers options to acquire additional goods or services (for example, renewals of renewable offerings, or additional volumes of purchased software). We apply judgment in determining whether such options provide a material right to the customer that the customer would not receive without entering into that contract (material right options). In this judgment, we consider, for example, whether the options entitle the customer to a discount that exceeds the discount granted for the respective goods or services sold together with the option.

Determination of Transaction Price

We apply judgment in determining the amount to which we expect to be entitled in exchange for transferring promised goods or services to a customer. This includes estimates as to whether and to what extent subsequent concessions may be granted to customers and whether the customer is expected to pay the contractual fees. In this judgment, we consider our history with the respective customer or on a portfolio basis.

Our typical cloud services do not provide the customer with a software license because the customer does not have the right to terminate the hosting contract and take possession of the software. Consequently, cloud fees that are based on transaction volumes are considered in the transaction price based on estimates rather than being accounted for as sales-based license royalties.

Only very rarely do our contracts include significant financing components. We do not account for financing components if the period between when SAP transfers the promised goods or services to the customer and when the customer pays for those goods or services is one year or less.

Allocation of Transaction Price

We have established a hierarchy to identify the standalone selling prices (SSPs) that we use to allocate the transaction price of a customer contract to the performance obligations in the contract.

- Where standalone selling prices for an offering are observable and reasonably consistent across customers (that is, not highly variable), our SSP estimates are derived from our respective pricing



history. Typically, our standardized support offerings and our professional service offerings follow this approach.

- Where sales prices for an offering are not directly observable or highly variable across customers, we use estimation techniques. For renewable offerings with highly variable pricing across customers, these techniques consider the individual contract's expected renewal price as far as this price is substantive. Typically, our cloud offerings follow this approach. For non-renewable offerings, these estimations follow a cost-plus-margin approach.
- For offerings that lack renewals, have highly variable pricing, and lack substantial direct costs to estimate based on a cost-plus-margin approach, we allocate the transaction price by applying a residual approach. We use this technique in particular for our standard on-premise software offerings.

Judgment is required when estimating SSPs. To judge whether the historical pricing of our goods and services is highly variable, we have established thresholds of pricing variability. For judging whether contractual renewal prices are substantive, we have established floor prices that we use as SSPs whenever the contractual renewal prices are below these floor prices. In judging whether contracts are expected to renew at their contractual renewal prices, we rely on our respective renewal history. The SSPs of material right options depend on the probability of option exercise. In estimating these probabilities, we apply judgment considering historical exercise patterns.

We review the SSPs periodically or whenever facts and circumstances change to ensure the most objective input parameters available are used.

Recognition of Revenue

Cloud revenue is recognized over time as the services are performed. Where our performance obligation is the grant of a right to continuously access and use a cloud offering for a certain term, revenue is recognized based on time elapsed and thus ratably over this term. In limited scenarios where the transaction price is entirely variable and determined by the customer's usage, we recognize revenue based on usage in the period in which it was earned.

Software revenue is recognized at a point in time or over time depending on whether we deliver standard software, customer-specific software, or software subscription contracts that combine the delivery of software and the obligation to deliver, in the future, unspecified software products:

- Licenses for our standard on-premise software products are typically delivered by providing the customer with access to download the software. We recognize revenue for these on-premise licenses at the point in time when we grant the license rights to the customer and the customer has access to and thus control over the software. In judging whether our on-premise software offerings grant customers a right to use, rather than a right to access, our intellectual property, we have considered the usefulness of our software without subsequent updates to it.
- Typically, our customer-specific on-premise software development agreements:
 - Are for software developed for specific needs of individual customers and therefore it does not have any alternative use for us
 - Provide us with an enforceable right to payment for performance completed to date

For such development agreements, we recognize revenue over time as the software development progresses. Judgment is required in identifying an appropriate method to measure the progress toward complete satisfaction of such performance obligations. We typically measure progress of our development agreements based on the direct costs incurred to date in developing the software as a percentage of the total reasonably estimated direct costs to fully complete the development work (percentage-of-completion method). This method of measuring progress faithfully depicts the transfer of the development services to the customer, as substantially all of these costs are cost of the staff or third parties performing the development work. In estimating the total cost to fully complete the development work, we consider our history with similar projects.



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- For agreements that combine the delivery of software and the obligation to deliver, in the future, unspecific software products, we recognize revenue at a point in time for licenses that are made immediately accessible to the customer. We recognize revenue ratably over the term of the software subscription contract for the unspecified software products, as our performance obligation is to stand ready to deliver such products on a when-and-if-available basis.

Software support revenue is typically recognized based on time elapsed and thus ratably over the term of the support arrangement. Under our standardized support services, our performance obligation is to stand ready to provide technical product support and unspecified updates, upgrades, and enhancements on a when-and-if-available basis. Our customers simultaneously receive and consume the benefits of these support services as we perform.

Service revenue is typically recognized over time. Where we stand ready to provide the service (such as access to learning content), we recognize revenue based on time elapsed and thus ratably over the service period. Consumption-based services (such as separately identifiable consulting services and premium support services and classroom training services) are recognized over time as the services are utilized, typically following the percentage-of-completion method or ratably. When using the percentage-of-completion method, we typically measure the progress toward complete satisfaction of the performance obligation in the same way and with the same reasoning and judgment as we do for customer-specific on-premise software development agreements. We apply judgment in determining whether a service qualifies as a stand-ready service or as a consumption-based service.

Revenue for combined performance obligations is recognized over the longest period of all promises in the combined performance obligation.

Judgment is also required to determine whether revenue is to be recognized at a point in time or over time. For performance obligations satisfied over time, we need to measure progress using the method that best reflects SAP's performance. When using cost incurred as a measure of progress for recognizing revenue over time, we apply judgment in estimating the total cost to satisfy the performance obligation.

All of the judgments and estimates mentioned above can significantly impact the timing and amount of revenue to be recognized.

Contract Balances

We recognize trade receivables for performance obligations satisfied over time gradually as the performance obligation is satisfied and in full once the invoice is due. Judgment is required in determining whether a right to consideration is unconditional and thus qualifies as a receivable.

Contract liabilities primarily reflect invoices due or payments received in advance of revenue recognition.

Typically, we invoice fees for on-premise standard software on contract closure and software delivery. Periodic fixed fees for cloud subscription services, software support services, and other multi-period agreements are typically invoiced yearly or quarterly in advance. Such fee prepayments account for the majority of our contract liability balance. Fees based on actual transaction volumes for cloud subscriptions and fees charged for non-periodical services are invoiced as the services are delivered. While payment terms and conditions vary by contract type and region, our terms typically require payment within 30 to 60 days.

Geographic Information

The amounts for revenue by region in the following tables are based on the location of customers. The regions in the following table are EMEA (Europe, Middle East, and Africa), Americas (North America and Latin America), and APJ (Asia Pacific Japan).



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Information**Total Revenue by Region**

€ millions	2021	2020	2019
Germany	4,343	4,015	3,948
Rest of EMEA	8,246	8,052	8,158
EMEA	12,589	12,067	12,105
United States	8,870	9,110	9,085
Rest of Americas	2,099	1,996	2,109
Americas	10,969	11,106	11,194
Japan	1,301	1,305	1,180
Rest of APJ	2,984	2,859	3,074
APJ	4,285	4,165	4,254
SAP Group	27,842	27,338	27,553

Major Revenue Classes by Region

€ millions	Cloud Revenue		Cloud and Software Revenue			
	2021	2020	2019	2021	2020	2019
EMEA	3,308	2,608	2,115	10,931	10,364	10,211
Americas	4,894	4,439	3,945	9,348	9,239	9,172
APJ	1,217	1,033	872	3,798	3,625	3,629
SAP Group	9,418	8,080	6,933	24,078	23,228	23,012

For information about the breakdown of revenue by segment and segment revenue by region, see [Note \(C.1\)](#).

Remaining Performance Obligations

Amounts of a customer contract's transaction price that are allocated to the remaining performance obligations represent contracted revenue that has not yet been recognized. They include amounts recognized as contract liabilities and amounts that are contracted but not yet due.

The transaction price allocated to performance obligations that were unsatisfied or partially unsatisfied as at December 31, 2021, was €39.9 billion (December 31, 2020: €33.4 billion). This amount mostly comprises obligations to provide software support or cloud subscriptions services, as the respective contracts typically have durations of one or multiple years. The portion of remaining performance obligations related to services consists of non-cancelable revenue from contracts for projects with a predefined output.

The majority of this amount is expected to be recognized as revenue over the next 12 months following the respective balance sheet date. This estimate is based on our best judgment, as it needs to consider estimates of possible future contract modifications. The amount of transaction price allocated to the remaining performance obligations, and changes in this amount over time, are impacted by, among others:

- Currency fluctuations
- The contract period of our cloud and software support contracts remaining at the balance sheet date and thus by the timing of contract renewals

Contract Balances

The following table presents the activities impacting contract liabilities balances during the year ended December 31, 2021:



Contract Liabilities

€ billions	2021
▲ 1/1/2021 ¹	4.0
Increases resulting from billing and invoices becoming due	8.8
Decreases resulting from satisfaction of performance obligations	-9.0
Other ²	0.6
▲ 12/31/2021	4.4

¹ The prior year number was reduced by €0.2 billion to conform to the presentation requirement regarding payments received in advance for cancelable contracts. The corresponding balance is presented in the line "Trade and other payables."

² Other includes, for example, the impact of foreign currency translation and business acquisition.

The amount of revenue recognized in the reporting period that was included in the contract liability balance at the beginning of the reporting period was €3.6 billion (December 31, 2020: €3.5 billion).

(A.2) Trade and Other Receivables

⌚ Accounting for Trade and Other Receivables

We measure trade receivables and contract assets from contracts with customers at amortized cost less expected credit losses. We account for expected credit losses by recording an allowance on a portfolio basis. We apply the simplified impairment approach. On initial measurement of the receivables, we consider all credit losses that are expected to occur during the lifetime of the receivables. We use a provision matrix to estimate these losses.

Additionally, we recognize allowances for individual receivables if there is objective evidence of credit impairment.

Account balances are written off either partially or in full if we judge that the likelihood of recovery is remote.

For information about how the default risk for trade receivables is analyzed and managed, how the loss rates for the provision matrix are determined, how credit impairment is determined and what our criteria for write-offs are, see the section on credit risk in [Note \(F.1\)](#).

In our Consolidated Income Statements, net gains/losses from expected credit loss allowances are included in Other operating income/expense, net. Gains/losses from foreign currency exchange rate fluctuations are included in Other non-operating income/expense, net.

Determining our expected credit loss allowance involves significant judgment. In this judgment, we primarily consider our historical experience with credit losses in the respective provision matrix risk class and current data on overdue receivables. We expect that our historical default rates represent a reasonable approximation for future expected customer defaults. Besides historical data, our judgment used in developing the provision matrix considers reasonable and supportable forward-looking information (for example, changes in country risk ratings, and fluctuations in credit default swaps of the countries in which our customers are located).

The assessment of whether a receivable is collectible involves the use of judgment and requires us to make assumptions about customer defaults that could change significantly.

By applying this judgment, we record an allowance for a specific customer when it is probable that a credit loss has occurred and the amount of the loss is reasonably estimable. Basing the expected credit loss allowance for the remaining receivables primarily on our historical loss experience likewise requires judgment, as history may not be indicative of future development. Also, including reasonable and supportable forward-looking information in the loss rates of the expected credit loss allowance requires judgment, as they may not provide a reliable prediction for future development.



Trade and Other Receivables

€ millions	2021			2020		
	Current	Non- Current	Total	Current	Non-Current	Total
Trade receivables, net	5,887	1	5,888	6,199	33	6,232
Other receivables	465	146	611	395	103	498
Total	6,352	147	6,499	6,593	137	6,730

Contract assets as at December 31, 2021, were €360 million (December 31, 2020: €295 million).

For more information about financial risk, how we manage credit risk, and details of our trade receivables and contract assets allowances, see [Note \(F.1\)](#).

(A.3) Capitalized Cost from Contracts with Customers

Costs of Obtaining Customer Contracts

Capitalized costs from customer contracts are classified as Other non-financial assets in our statement of financial position.

The capitalized assets for the incremental costs of obtaining a customer contract primarily consist of sales commissions earned by our sales force and partners. Judgment is required in determining the amounts to be capitalized, particularly where the commissions are based on cumulative targets and where commissions relate to multiple performance obligations in one customer contract. We capitalize such cumulative target commissions for all customer contracts that count towards the cumulative target but only if nothing other than obtaining customer contracts can contribute to achieving the cumulative target. Commissions for contracts with multiple performance obligations or for probable renewals thereof are allocated to these performance obligations and probable renewals relative to the respective standalone selling price.

Our sales commission payments for customer contract renewals are typically not commensurate with the commissions paid for new contracts. Thus, the commissions paid for renewable new contracts also relate to expected renewals of these contracts. Consequently, we amortize sales commissions paid for new customer contracts on a straight-line basis over the expected contract life including probable contract renewals. Judgment is required in estimating these contract lives. In exercising this judgment, we consider our expectation about future contract renewals which we evaluate periodically to confirm that the resulting amortization period properly reflects the expected contract life. Commensurate payments are amortized over the contract term to which they relate. The amortization periods range from 18 months to eight years depending on the type of offering. Amortization of the capitalized costs of obtaining customer contracts is classified mainly as sales and marketing expense.

We expense incremental costs of obtaining a customer contract as incurred if we expect an amortization period of one year or less.

Costs to Fulfill Customer Contracts

Capitalized costs incurred to fulfill customer contracts mainly consist of direct costs for set-up and implementation of cloud products and custom cloud development contracts as far as these costs are not in scope of other accounting standards than IFRS 15. These costs are amortized after completion of the setup and implementation or the development, respectively, on a straight-line basis over the expected life of the cloud subscription contract including expected renewals. For the life of the contract, we consider our expectation about future contract renewals which we evaluate periodically to confirm that the resulting amortization period properly reflects the expected contract life. The amortization periods range from six to eight years depending on the type of offering. In addition, the capitalized costs include third-party license fees which are amortized over the term of the third-party license contract. Judgment is required in evaluating whether costs are directly related to customer contracts and in estimating contract lives.



Amortization of capitalized costs to fulfill contracts for custom cloud applications and extensions is included in the cost of cloud.

Capitalized Cost from Contracts with Customers

€ millions	2021			2020		
	Current	Non-Current	Total	Current	Non-Current	Total
Capitalized cost of obtaining customer contracts	667	2,158	2,826	491	1,536	2,028
Capitalized cost to fulfill customer contracts	126	175	301	91	151	242
Capitalized contract cost	793	2,333	3,127	583	1,687	2,270
Other non-financial assets	1,633	2,628	4,261	1,321	1,926	3,247
Capitalized contract cost as % of Other non-financial assets	49	89	73	44	88	70

Amortization Expense

€ millions	2021	2020
Capitalized cost of obtaining customer contracts	523	450
Capitalized cost to fulfill customer contracts	171	129

(A.4) Customer-Related Provisions

⌚ Expected Contract Losses

Customer-related provisions mainly include expected contract losses. We adjust these provisions as further information becomes available and as circumstances change. Non-current provisions are measured at the present value of their expected settlement amounts as at the reporting date.

The unit of account for the identification of potential onerous customer contracts is based on the contract definition of IFRS 15 including the contract combination guidance. The economic benefits considered in the assessment comprise the future benefits we are directly entitled to under the contract as well as the anticipated future benefits that are the economic consequence of the contract if these benefits can be reliably determined.

⌚ Customer-Related Litigation and Claims

Customer-related provisions also include obligations resulting from customer-related litigation and claims. We are currently confronted with various claims and legal proceedings, including claims that relate to customers demanding indemnification for proceedings initiated against them based on their use of SAP software, and occasionally claims that relate to customers being dissatisfied with the products and services that we have delivered to them. The obligations arising from customer-related litigation and claims comprise cases in which we indemnify our customers against liabilities arising from a claim that our products infringe a third party's patent, copyright, trade secret, or other proprietary rights.

Due to uncertainties relating to these matters, provisions are based on the best information available. Significant judgment is required in the determination of whether and when a provision is to be recorded and what the appropriate amount for such provision should be. Notably, judgment is required in the following areas:

- Determining whether an obligation exists



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- Determining the probability of outflow of economic benefits
- Determining whether the amount of an obligation is reliably estimable
- Estimating the amount of the expenditure required to settle the present obligation

At the end of each reporting period, we reassess the potential obligations related to our pending claims and litigation and adjust our respective provisions to reflect the current best estimate. In addition, we monitor and evaluate new information that we receive after the end of the respective reporting period, but before the Consolidated Financial Statements are authorized for issue, to determine whether this provides additional information regarding conditions that existed at the end of the reporting period. Changes to the estimates and assumptions underlying our accounting for legal contingencies, and outcomes that differ from these estimates and assumptions, could require material adjustments to the carrying amounts of the respective provisions recorded and additional provisions. The expected timing or amounts of any outflows of economic benefits resulting from these lawsuits and claims are uncertain and not estimable, as they generally depend on the duration of the legal proceedings and settlement negotiations required to resolve the litigation and claims and the unpredictability of the outcomes of legal disputes in several jurisdictions.

Contingent liabilities exist in respect of customer-related litigation and claims for which no provision has been recognized. It is not practicable to estimate the financial impact of these contingent liabilities due to the uncertainties around these lawsuits and claims as outlined above.



Section B – Employees

This section provides financial insights into our employee benefit arrangements. It should be read in conjunction with the compensation disclosures for key management personnel in [Note \(G.5\)](#).

(B.1) Employee Headcount

The following table provides an overview of employee headcount, broken down by function and by the regions EMEA (Europe, Middle East, and Africa), Americas (North America and Latin America), and APJ (Asia Pacific Japan).

Employee Headcount by Region and Function

Full-time equivalents	12/31/2021				12/31/2020				12/31/2019			
	EMEA	Americas	APJ	Total	EMEA	Americas	APJ	Total	EMEA	Americas	APJ	Total
Cloud and software	5,947	4,586	5,113	15,646	6,278	4,589	5,525	16,392	6,501	4,426	5,361	16,288
Services	8,229	5,491	5,924	19,644	8,175	5,934	5,733	19,842	8,250	6,018	5,971	20,239
Research and development	15,347	6,326	10,571	32,244	13,705	6,094	9,781	29,580	12,710	5,793	9,131	27,634
Sales and marketing	11,136	11,598	5,481	28,215	10,348	10,485	5,000	25,834	10,205	10,368	5,209	25,781
General and administration	3,374	2,306	1,199	6,879	3,285	2,161	1,243	6,689	3,161	2,123	1,246	6,530
Infrastructure	2,609	1,353	824	4,786	2,291	1,107	696	4,094	2,220	984	654	3,859
SAP Group (December 31)	46,641	31,660	29,113	107,415	44,082	30,369	27,979	102,430	43,048	29,712	27,571	100,330
Thereof acquisitions	462	407	45	914	609	97	75	781	338	1,638	137	2,113
SAP Group (months' end average)	45,359	30,651	28,354	104,364	43,340	30,306	27,830	101,476	42,697	29,368	27,092	99,157

(B.2) Employee Benefits Expenses

€ millions	2021	2020	2019
Salaries	10,635	10,413	10,031
Social security expenses	1,589	1,439	1,477
Share-based payment expenses	2,794	1,084	1,835
Pension expenses	408	419	369
Employee-related restructuring expenses	25	-7	1,111
Termination benefits outside of restructuring plans	101	72	47
Employee benefits expenses	15,552	13,420	14,870



(B.3) Share-Based Payments

⌚ Accounting for Share-Based Payments

Classification in the Income Statement

Share-based payments cover cash-settled and equity-settled awards issued to our employees. The respective expenses are recognized as employee benefits and classified in our Consolidated Income Statements according to the activities that the receiving employees perform.

Valuation, Judgment, and Sources of Estimation Uncertainty

We use certain assumptions in estimating the fair values for our share-based payments, including expected share price volatility and expected award life (which represents our estimate of the average remaining life until the awards are exercised or expire unexercised). In addition, the final payout for plans also depends on the achievement of performance indicators and on our share price on the respective exercise dates. Changes to these assumptions and outcomes that differ from these assumptions could require material adjustments to the carrying amount of the liabilities we have recognized for these share-based payments. The fair value of the share units granted under the LTI 2016 Plan are dependent on our performance against a group of peer companies (Peer Group Index), the volatility, and the expected correlation between the price of the index and our share price. The fair value of the share units granted under the LTI 2020 are dependent on our performance against the total shareholder return (TSR) for NASDAQ-100 companies, the volatility, and the expected correlation between the TSR of the NASDAQ-100 companies and our TSR.

We believe that the expected volatility is the most sensitive assumption we use in estimating the fair values of our share options. Regarding future payout under our cash-settled plans, the SAP share price is the most relevant factor. With respect to our LTI 2016 Plan, we believe that future payout will be significantly impacted not only by our share price but also by the relative performance against the Peer Group Index. With respect to our LTI 2020, we believe that future payout will be significantly impacted not only by our share price but also by the relative performance against the NASDAQ-100 companies. Future payouts under our LTI 2020 will also be dependent on meeting non-market-based performance conditions based on SAP's long-term strategy. The latter, however, is not incorporated into our fair value calculation but leads to adjustments of the quantity of awards granted. Changes in these factors could significantly affect the estimated fair values as calculated by the valuation model, and the future payout.

The fair values of our equity-settled Qualtrics Plan equal the Qualtrics share price at grant date, as the expected dividend yield is 0%. The future settlement of Performance Share Units (PSUs) under this plan will also be dependent on meeting non-market-based Qualtrics performance conditions.

Under certain programs, we grant our employees discounts on purchases of SAP shares. Since those discounts are not dependent on future services to be provided by our employees, the discount is recognized as an expense when the discounts are granted.

Presentation in the Statements of Cash Flows

We present the payments of our share-based payment plans separately in our Statements of Cash Flows under cash flows from operating activities. As a result, the changes in other assets and in other liabilities presented in the reconciliation of operating cash flow do not consider share-based payment-related assets or liabilities.



The operating expense line items in our income statement include the following share-based payment expenses:

Share-Based Payment Expenses by Functional Area

€ millions	2021	2020	2019
Cost of cloud	59	40	56
Cost of software	70	55	82
Cost of services	266	175	246
Research and development	513	296	429
Sales and marketing	655	360	562
General and administration	1,230	157	461
Share-based payment expenses	2,794	1,084	1,835
Thereof cash-settled share-based payments	1,147	893	1,664
Thereof equity-settled share-based payments	1,647	191	171

Our major share-based payment plans are described below.

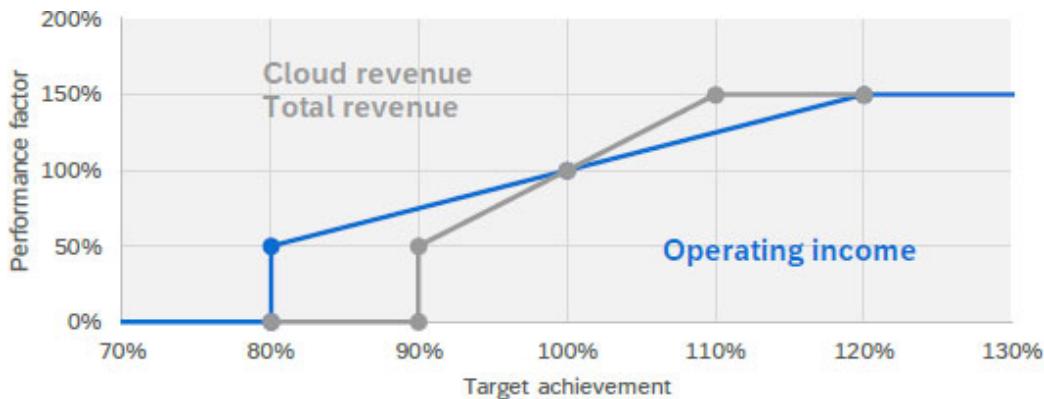
a) Cash-Settled Share-Based Payments

SAP Long-Term Incentive Program 2020 (LTI 2020)

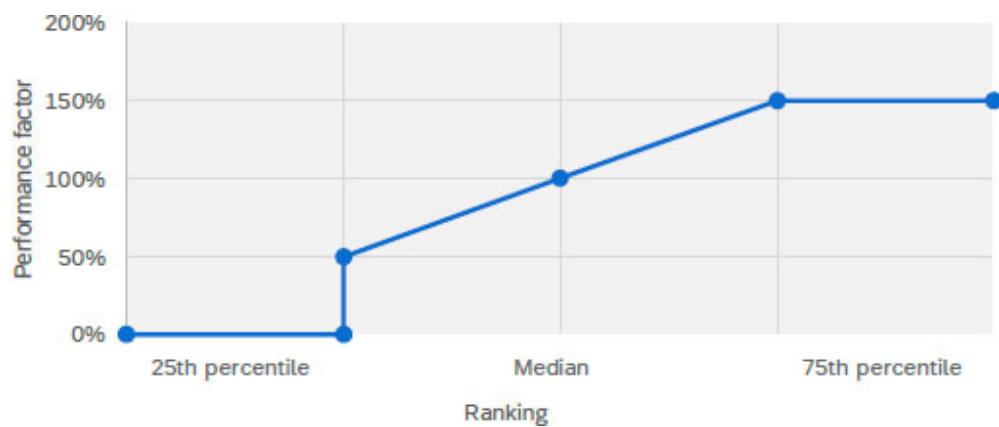
The LTI 2020 is a long-term, multi-year performance-based compensation element that is granted in annual tranches. The LTI 2020 reflects SAP's long-term strategy and thus sets uniform incentives for the Executive Board members to achieve key targets from the long-term strategic plans. The LTI 2020 also serves to reward the Executive Board members for long-term SAP share price performance as compared to the market, thus ensuring that shareholders' interests are also honored. In addition, the LTI 2020 includes a component to ensure long-term retention of our Executive Board members.

The LTI 2020 is a virtual share program under which annual tranches with a term of approximately four years each are granted. When the individual tranches are granted, a certain grant amount specified in the Executive Board member's service contract is converted into virtual shares (Share units). For this purpose, the grant amount is divided by the price of the SAP share which corresponds to the arithmetic mean of the SAP share price on the 20 trading days after scheduled publication of the preliminary results for the fourth quarter and the year as a whole (grant price). The share units allocated are composed of 1/3 Financial Performance Share Units (FSUs), 1/3 Market Performance Share Units (MSUs), and 1/3 Retention Share Units (RSUs). All three types of share units have a vesting period of approximately four years. In contrast to RSUs, FSUs and MSUs are subject to changes in quantity. In this context, the following applies:

The number of FSUs initially awarded is multiplied by a performance factor. The performance factor consists of three equally weighted individual performance indicators relating to the three non-IFRS KPIs at constant currencies, derived from SAP's long-term strategy: total revenue, cloud revenue, and operating income. The performance period throughout which the target achievement for these three KPIs is measured starts at the beginning of the financial year in which the FSUs are awarded and concludes upon the end of the second year following the year in which the share units were awarded. A numerical target value equaling 100% target achievement is set for each KPI. This constitutes, in each case, a cumulative value for the three years of the performance period.



The number of MSUs initially awarded is likewise multiplied by a performance factor. The performance factor depends on the amount of the TSR on the SAP share, measured for an entire performance period of approximately three years, compared to the TSR for NASDAQ-100 companies. If the TSR on the SAP share equals the median, the performance factor will be 100%. If the TSR on the SAP share over the performance period is negative, the maximum performance factor will, however, in deviation from the summary above, be 100%.



The performance of the share units is linked to the performance of the SAP share price, including dividend payments. Accordingly, an amount is paid out for each share unit which equals the SAP share price plus those dividends disbursed in respect of an SAP share in the period from the beginning of the year in which the share units were awarded until the end of the third year following the year in which the share units were awarded. The arithmetic mean of the SAP share price on the 20 trading days after scheduled publication of the preliminary results for the fourth quarter and the year as a whole will be used as the SAP share price. The payout amount per share unit, including the dividend amounts due on the share units, is capped at 200% of the grant price. The tranche is cash-settled and paid in euros after the Annual General Meeting of Shareholders of the corresponding year.

If an Executive Board member's service contract is terminated before the end of the third year following the year in which the share units were granted, the RSUs and PSUs are forfeited in whole or in part, depending on the circumstances of the relevant resignation from office or termination of the service contract.

Long-Term Incentive 2016 Plan (LTI 2016 Plan)

The purpose of the LTI 2016 Plan was to reward our Executive Board members for the annual achievement of SAP's operating profit (non-IFRS at constant currencies) targets, to ensure long-term



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retention of our Executive Board members, and to reward them for the long-term SAP share price performance as compared to its main peer group (Peer Group).

An LTI tranche was granted annually and has a term of four years (2016–2019 tranches). Each grant started with determining a grant amount in euros. The grant amount was based on the Executive Board members' contractual LTI target amount and the operating profit target achievement for the previous year. The Supervisory Board set the grant amount at a level between 80% and 120% of the contractual LTI target amount, taking into account the operating profit target achievement. This grant amount was converted into virtual shares, referred to as share units, by dividing the grant amount by the grant price. The grant price was the arithmetic mean of the XETRA closing prices of the SAP share on the 20 trading days following the publication of SAP's fourth-quarter results.

All share units granted in this way, comprising 60% PSUs and 40% RSUs, have a vesting period of approximately four years. At the end of the vesting period, the corresponding share units are non-forfeitable. The payout price used for the settlement is the arithmetic mean of the XETRA closing prices of the SAP share on the 20 trading days following the publication of SAP's fourth-quarter results subsequent to the end of the vesting period. The payout price is capped at 300% of the grant price. The LTI tranche is cash-settled and paid in euros after the Annual General Shareholders' Meeting of the corresponding year.

The number of PSUs ultimately paid out depends on the performance of the SAP share – absolute and relative to the Peer Group Index. In contrast, the final number of RSUs is fixed. SAP's absolute share price performance is measured by comparing the grant price against the payout price. If the SAP share price performance equals the Peer Group Index performance over the same period, the performance factor is set at 100%. If the SAP share price performs better than the Peer Group Index (measured as difference between SAP share price performance and Peer Group Index performance), the performance factor is increased by the percentage point of the outperformance of the SAP share price. The percentage point is doubled if, additionally, the payout price is higher than the grant price. The performance factor is capped at 150%. If the Peer Group Index performs better than the SAP share price, the performance factor is decreased by the percentage point of the outperformance of the Peer Group Index. All PSUs lapse if the performance factor is below 50%.

If an Executive Board member's service contract is terminated before the end of the third year following the year in which the share units were granted, both the RSUs and PSUs are forfeited in whole or in part, depending on the circumstances of the relevant resignation from office or termination of the service contract.

Restricted Stock Unit Plan Including Move SAP Plan, Grow SAP Plan, and COVID-19 Recognition Plan (RSU Plan)

To retain and engage executives and certain employees, we grant virtual shares representing a contingent right to receive a cash payment determined by the SAP share price and the number of share units that ultimately vest. In June 2020 and 2021, we granted share units under the new Grow SAP Plan. This fixed term plan has broadly the same terms and conditions as the Move SAP Plan, recognizes all employees' commitment to SAP's success, and deepens their participation in our future company performance. In March 2021, we granted share units under the COVID-19 Recognition Plan to thank all employees for their commitment, dedication, and resilience. Except for a six-month vesting period, this non-recurring plan has broadly the same terms and conditions as the Move SAP Plan.

Granted share units will vest in different tranches, either:

- Over a half-year service period only
- Over a one-to-three-year service period only, or
- Over a three-year service period and upon achieving certain key performance indicators (KPIs)

From 2021 onwards, the number of PSUs that will vest under the different tranches is mainly contingent upon achievement of two equally weighted KPIs in the year of grant: operating profit (non-



IFRS at constant currencies) and cloud revenue (non-IFRS at constant currencies). Until 2021, operating profit (non-IFRS at constant currencies) was the only KPI. Depending on the weighted average performance, the number of PSUs vesting ranges between 0% and 200% of the number initially granted. Performance against the KPI target was 130.9% in 2021 (2020: 100.4%, 2019: 118.7%). All share units are paid out in cash upon vesting.

Qualtrics Cash-Settled Awards Replacing Pre-Acquisition Qualtrics Awards (Qualtrics Rights)

In conjunction with the acquisition of Qualtrics in 2019, under the terms of the acquisition agreement, SAP exchanged unvested Restricted Share Awards (RSAs), Restricted Share Units (RSUs), and Performance Share Units (PSUs), and options held by employees of Qualtrics into cash-settled share-based payment awards of SAP (Qualtrics Rights). After completion of a voluntary exchange offer in conjunction with the Qualtrics IPO in 2021, most of the Qualtrics Rights were exchanged into equity-settled Qualtrics RSU awards. For more information about this voluntary exchange offer, see the section Qualtrics Equity Awards – Exchange Offer in this [Note \(B.3\)](#).

The valuation of our outstanding cash-settled plans was based on the following parameters and assumptions:

Fair Value and Parameters Used at Year End 2021 for Cash-Settled Plans

€, unless otherwise stated	LTI 2016 Plan (2018–2019 Tranches)	LTI 2020 (2020–2021 Tranches)	RSU Plan (2018–2021 Tranches)
Weighted average fair value as at 12/31/2021	64.16	118.73	122.88
Information how fair value was measured at measurement date			
Option pricing model used	Monte Carlo	Monte Carlo	Other ¹
Share price	124.90	124.90	124.90
Risk-free interest rate, depending on maturity (in %)	–0.72 to –0.12	NA	–0.72 to –0.32
Expected volatility (in %)	21	30 to 32	NA
Expected dividend yield (in %)	1.52	NA	1.52
Weighted average remaining life of awards outstanding as at 12/31/2021 (in years)	0.7	2.8	1.1

¹ For these awards, the fair value is calculated by subtracting the net present value of expected future dividend payments, if any, until maturity of the respective award from the prevailing share price as at the valuation date.



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€, unless otherwise stated	LTI 2016 Plan (2017–2019 Tranches)	LTI 2020 (2020 Tranche)	RSU Plan (2017–2020 Tranches)	Qualtrics Rights
Weighted average fair value as at 12/31/2020	72.94	94.75	105.52	33.66
Information how fair value was measured at measurement date				
Option pricing model used				
Share price	Monte Carlo	Monte Carlo	Other ¹	Other ¹
Risk-free interest rate, depending on maturity (in %)	107.22	107.22	107.22	107.22
Expected volatility (in %)	–0.75 to –0.11	NA	–0.77 to –0.32	–0.77 to –0.37
Expected dividend yield (in %)	34 to 42	30	NA	NA
Weighted average remaining life of awards outstanding as at 12/31/2020 (in years)	1.2	3.2	1.0	1.5

¹ For these awards, the fair value is calculated by subtracting the net present value of expected future dividend payments, if any, until maturity of the respective award from the prevailing share price as at the valuation date.

For the LTI 2016 Plan valuation, the Peer Group Index price on December 31, 2021, was US\$593.37 (2020: US\$481.65); the expected dividend yield of the index of 1.00% (2020: 1.14%), the expected volatility of the index of 17% to 18% (2020: 26% to 31%), and the expected correlation of the SAP share price and the index price of 35% to 36% (2020: 27% to 30%) are based on historical data for the SAP share price and index price.

For the LTI 2020 valuation, the NASDAQ-100 Total Return Index on December 31, 2021, was US\$19,217.94 (2020: US\$15,072.29). The expected volatility of the NASDAQ-100 companies of 36% to 38% (2020: 36%), and the expected correlation of SAP and the NASDAQ-100 companies of 31% to 34% (2020: 31%) are based on historical TSR data for SAP and the NASDAQ-100 companies.

The risk-free interest rate is derived from German government bonds with a similar duration. The SAP dividend yield is based on expected future dividends.



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Thousands, unless otherwise stated	LTI 2016 Plan (2017–2019 Tranches)	LTI 2020 (2020–2021 Tranches)	RSU Plan (2017–2021 Tranches)	Qualtrics Rights
12/31/2019	1,110	0	16,128	16,007
Granted	0	202	9,238	0
Adjustment based upon KPI target achievement	-211	NA	-5	NA
Exercised	-129	0	-7,204	-7,791
Forfeited	-3	-30	-1,164	-699
12/31/2020	767	172	16,993	7,518
Granted	0	238	12,204	0
Adjustment based upon KPI target achievement	-150	NA	153	NA
Exercised	-92	0	-8,092	-1,780
Exchanged	NA	NA	-1,309	-5,451
Forfeited	-57	-70	-1,165	-243
12/31/2021	469	340	18,783	44
Total carrying amount (in € millions) of liabilities as at				
12/31/2020	49	6	1,027	193
12/31/2021	28	15	1,260	1
Total intrinsic value of vested awards (in € millions) as at				
12/31/2020	32	3	0	0
12/31/2021	38	4	0	0
Weighted average share price (in €) for awards exercised in				
2020	124.03	NA	109.75	113.34
2021	106.68	NA	107.69	105.10
Total expense (in € millions) recognized in				
2019	44	NA	1,087	461
2020	-9	6	760	132
2021	-11	9	1,139	11

Share-Based Payment Balances

€ millions	Current	Non-Current	2021 Total	Current	Non-Current	2020 Total
Share-based payment liabilities	839	462	1,302	863	454	1,317
Other non-financial liabilities	5,203	860	6,063	4,643	770	5,413
Share-based payment liabilities as % of Other non-financial liabilities	16	54	21	19	59	24

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Information****b) Equity-Settled Share-Based Payments****Recognized Expense for Equity-Settled Plans**

€ millions	2021	2020	2019
Own	200	191	171
Qualtrics Plan	1,426	0	0
Others	21	0	0
Total	1,647	191	171

Own SAP Plan (Own)

Under Own, employees have the opportunity to purchase, on a monthly basis, SAP shares without any required holding period. The investment per each eligible employee is limited to a percentage of the respective employee's monthly base salary. SAP matches the employee investment by 40% and adds a subsidy of €20 per month for non-executives. This plan is not open to members of the Executive Board.

Numbers of Shares Purchased

Millions	2021	2020	2019
Own	5.7	5.5	5.2

As a result of our Own SAP Plan, we have commitments to grant SAP shares to employees. We intend to meet these commitments by reissuing treasury shares or through an agent who administers the equity-settled programs and purchases shares on the open market. We have fulfilled the obligations of Own through an agent.

Qualtrics Equity Awards**Qualtrics Omnibus Plan (Qualtrics Plan)**

Qualtrics grants equity awards settled with Qualtrics shares to eligible employees and the executive officers of Qualtrics. Qualtrics intends to meet these commitments by issuing shares. Granted units are either RSU awards subject to a time-based vesting, or PSUs subject to the achievement of certain performance conditions, as established by Qualtrics' board of directors and measured annually (Qualtrics RSUs). Additionally, there are Qualtrics equity-settled options resulting from acquisitions as described below. The RSUs mainly vest with 25% one year after grant and ratably thereafter for 12 quarters. The PSUs vest in four equal annual installments and are measured annually, with vesting of 100% of each installment in the event that the performance targets are achieved, and ratable downward adjustments in the event that the performance targets are partially achieved.

Exchange Offer

After completion of a voluntary exchange offer for eligible Qualtrics employees in conjunction with the IPO on January 28, 2021, 5.4 million cash-settled Qualtrics Rights and 1.3 million SAP RSU awards were exchanged into 12.8 million equity-settled Qualtrics RSU awards. The terms and conditions of the voluntary exchange offer, including the exchange ratio, were designed to preserve the intrinsic value of the Qualtrics Rights and SAP RSUs that were tendered. The modification date fair value of the Qualtrics RSU awards was US\$30.00, which is equivalent to the Qualtrics IPO price.

Furthermore, a subsequent exchange offer for certain Qualtrics employees in Australia took place in September 2021.



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In conjunction with the acquisition of Clarabridge in 2021, Qualtrics assumed outstanding Clarabridge stock options, which were converted into Qualtrics options. The conversion factor was set to preserve the intrinsic value of the outstanding Clarabridge options. The replacement awards mirror the terms of the replaced awards except that the awards are settled by issuing Qualtrics shares while retaining their initial vesting schedules. For some Qualtrics options, additional vesting terms were agreed. The majority of the assumed options were either fully vested or partially vested as at the acquisition date and had a strike price well below the fair value of the awards at the conversion date. The modification date fair value of the stock options was determined to approximate the intrinsic value of the options with an underlying Qualtrics share price of US\$43.88.

Changes in Outstanding Awards Under Our Equity-Settled Plans

		Qualtrics Plan ¹
	Awards	Weighted Average Grant Date Fair Value
Thousands, unless otherwise stated		
12/31/2020		NA
Exchanged	12,872	US\$30.04
Granted	80,856	US\$44.27
Exercised	−7,467	US\$33.43
Forfeited	−2,241	US\$41.29
12/31/2021	84,018	US\$43.13

¹ The number of awards and their weighted average grant date fair values in this table include Qualtrics RSUs and Qualtrics equity-settled options replacing Clarabridge options.

The weighted average remaining life of Qualtrics Plan awards outstanding as at December 31, 2021 (in years) was 3.0 years.

Under Qualtrics' equity-settled plans, we expect to transfer US\$300 million to the tax authority to settle the employees' tax obligation in 2022.

(B.4) Pension Plans and Similar Obligations**Defined Contribution Plans**

Amounts for domestic and foreign defined contribution plans are based on a percentage of the employees' salaries or on the amount of contributions made by employees. In Germany and some other countries, we make contributions to public pension schemes that are operated by national or local government or similar institutions. Expenses for such local state pension plans are recognized as short-term employee benefits, that is, social security expenses.

Defined Benefit Pension Plans

The discount rates used in measuring our post-employment benefit assets and liabilities are derived from rates available on high-quality corporate bonds and government bonds for which the timing and amounts of payments match the timing and the amounts of our projected pension payments. Net interest expense and other expenses related to defined benefit plans are recognized as employee benefits expenses and classified in our Consolidated Income Statements according to the activities that the employees owning the awards perform. Since our domestic defined benefit pension plans primarily consist of an employee-financed post-retirement plan that is fully financed with qualifying insurance policies, current service cost may become a credit as a result of adjusting the defined benefit liability's carrying amount to the fair value of the qualifying plan assets. Such adjustments are recorded in service cost. Total expenses on defined benefit pension plans comprise related current and past service costs as well as interest income and expense.



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Information**Total Expense of Pension Plans**

€ millions	2021	2020	2019
Defined contribution plans	346	326	314
Defined benefit pension plans	62	93	55
Pension expenses	408	419	369

Defined Benefit Plans**Present Value of the Defined Benefit Obligations (DBO) and the Fair Value of the Plan Assets**

€ millions	Domestic Plans		Foreign Plans		Other Foreign Post-Employment Plans		Total
	2021	2020	2021	2020	2021	2020	
Present value of the DBO	1,194	1,127	667	616	216	189	2,077
Fair value of the plan assets	1,183	1,112	578	506	91	73	1,852
Net defined benefit liability (asset)	11	15	89	110	125	116	225
Net defined benefit liability (asset) as % of:							
Non-current other financial assets	0	0	0	0	0	0	0
Non-current provisions	3	4	27	31	35	32	65
							66

Of the present value of the DBO of our domestic plans, €1,125 million (2020: €1,054 million) relate to plans that provide for lump-sum payments not based on final salary; of the present value of the DBO of our foreign plans, €524 million (2020: €479 million) relate to plans that provide for annuity payments not based on final salary.

The following significant weighted average assumptions were used for the actuarial valuation of our domestic and foreign pension liabilities as well as other post-employment benefit obligations as at the respective measurement date:

Significant Actuarial Assumptions

Percent	Domestic Plans			Foreign Plans			Other Foreign Post-Employment Plans		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Discount rate	1.2	0.9	0.8	0.5	0.4	0.3	3.1	3.0	3.7

The sensitivity analysis table below shows how the present value of all defined benefit obligations would have been influenced by reasonably possible changes to significant actuarial assumptions. The sensitivity analysis considers change in discount rate assumptions, holding all other actuarial assumptions constant.

Sensitivity Analysis

€ millions	Domestic Plans			Foreign Plans			Other Foreign Post-Employment Plans			Total
	2021	2020	2019	2021	2020	2019	2021	2020	2019	
Present value of all defined benefit obligations if:										
Discount rate was 50 basis points higher	1,134	1,066	968	626	573	495	203	185	154	1,964
Discount rate was 50 basis points lower	1,260	1,195	1,090	714	663	576	223	204	159	2,196
										1,824
										1,617
										1,825



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Our investment strategy on domestic benefit plans is to invest all contributions in stable insurance policies.

Our investment strategies for foreign benefit plans vary according to the conditions in the country in which the respective benefit plans are situated. We have adopted a long-term investment horizon for all major foreign benefit plans. Although our policy is to invest in a risk-diversified portfolio consisting of a mix of assets, both the defined benefit obligation and plan assets can fluctuate over time, which exposes the Group to actuarial and market (investment) risks. Depending on the statutory requirements in each country, it might be necessary to reduce any underfunding by addition of liquid assets.

Plan Asset Allocation

€ millions	2021		2020	
	Quoted in an Active Market	Not Quoted in an Active Market	Quoted in an Active Market	Not Quoted in an Active Market
Total plan assets	597	1,254	485	1,207
Thereof: Asset category				
Equity investments	182	0	149	0
Corporate bonds	202	0	151	0
Insurance policies	39	1,254	7	1,207

Our expected contribution in 2022 to our domestic and foreign defined benefit pension plans is immaterial. The weighted duration of our defined benefit plans amounted to 11 years as at December 31, 2021, and 12 years as at December 31, 2020.

Total future benefit payments from our defined benefit plans as at December 31, 2021, are expected to be €2,289 million (2020: €1,969 million). Of this amount, 77% (2020: 77%) has maturities of over five years, and 62% (2020: 64%) relates to domestic plans.



(B.5) Other Employee-Related Obligations

Accounting Policy

As far as the obligation for long-term employee benefits is secured by pledged reinsurance coverage, it is offset with the relating plan asset.

Other Employee-Related Liabilities

	€ millions			2021		2020	
	Current	Non-Current	Total	Current		Non-Current	
							Total
Other employee-related liabilities	3,717	398	4,115	3,147	316	3,464	
Other non-financial liabilities	5,203	860	6,063	4,643	770	5,413	
Other employee-related liabilities as % of Other non-financial liabilities	71	46	68	68	41	64	

Other employee-related liabilities mainly relate to obligations from bonuses and sales commissions, outstanding vacation, time credits accumulated in the working time account, employee-related social security expenses, severance payments outside restructuring programs, and jubilee expenses.

(B.6) Restructuring

Recognition of Restructuring Provisions

We only recognize provisions for restructuring if and when the following occurs:

- SAP has designed a program that materially changes the scope of one of our businesses or the manner in which the business is conducted, and
- A detailed and documented restructuring plan has been approved by our Executive Board, a member thereof, or a direct report of an Executive Board member, and
- The program established is planned to start shortly after the program plan is approved and is expected to be completed in a timeframe that makes significant changes to the plan unlikely, and
- The program has been announced to the parties affected or has commenced.

We consider whether a change in business is material based on the business affected rather than for SAP as a whole. In judging whether a unit qualifies as a business for restructuring purposes, we consider if the unit has its own management team, has access to all inputs and processes necessary to provide outputs, and generates or could generate revenues. The materiality of a change to a business is assessed based on both the size and the nature of the change and therefore does not necessarily involve a material quantitative impact on our financial statements.

To accelerate the modernization of our cloud infrastructure and to harmonize our platform structure, we initiated a restructuring program in the Global Cloud Services area. The implementation started in the first quarter of 2021 and is expected to conclude in the first half of 2023. The majority of the expenses recognized as a result of this program are impairments of data centers and related assets.

Restructuring expenses presented in SAP's income statement primarily include the following components:



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€ millions	2021	2020	2019
Employee-related restructuring expenses	-25	7	-1,111
Onerous contract-related restructuring expenses and restructuring-related impairment losses	-132	-4	-19
■ Restructuring expenses	-157	3	-1,130

If not presented separately in our income statement, restructuring expenses would have been classified in the different expense items in our income statement as follows:

Restructuring Expenses by Functional Area

€ millions	2021	2020	2019
Cost of cloud	-127	0	-20
Cost of software licenses and support	-5	1	-118
Cost of services	-13	-3	-154
Research and development	-12	1	-467
Sales and marketing	3	3	-299
General and administration	-2	2	-71
■ Restructuring expenses	-157	3	-1,130

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Section C – Financial Results

This section provides insight into the financial results of SAP's reportable segments and of SAP overall as far as not already covered by previous sections. This includes but is not limited to segment results, income taxes, and earnings per share.

(C.1) Results of Segments

General Information

At year end 2021, SAP had five operating segments that are regularly reviewed by the Executive Board, which is responsible for assessing the performance of the Company and for making resource allocation decisions as our chief operating decision-maker (CODM). The operating segments are largely organized and managed separately according to their product and service offerings, notably whether the products and services relate to our services activities, experience management solutions, business process transformation offerings, or our customer experience portfolio of Emarsys, or cover other activities of our business.

Following organizational changes, and to further strengthen our cloud offerings and support the new cloud strategy, functions related to SAP's travel management solutions in the Concur segment were mainly integrated into the Applications, Technology & Support segment and the Services segment. Hence, the Concur segment was dissolved.

The Applications, Technology & Support segment derives its revenues primarily from the sale of software licenses, support offerings, and cloud subscriptions (as far as not included in one of the other segments).

The Services segment covers most of SAP's services activities. Revenues are mainly generated from the sale of various professional services, premium support services, implementation services for our software products, and education services on the use of our products. However, the services segment does not reflect the full services business, as other segments provide services as well.

In 2021, the finance and legal functions of Qualtrics were reintegrated into the Qualtrics segment. Additionally, the Clarabridge business, acquired by Qualtrics International Inc. in October 2021, was added to the Qualtrics segment accordingly (for more information, see [Note \(D.1\)](#)). The Qualtrics segment derives its revenues mainly from the sale of experience management cloud solutions that run front-office functions across experience data, and from the sale of related services. The figures of the Qualtrics segment of SAP and the financial results of Qualtrics International Inc. cannot be compared, notably due to different accounting standards.

The finance and information technology functions of the Emarsys segment have already been integrated into SAP's corporate functions and therefore their expenses are not included in the Emarsys segment anymore. All other functions are still included in the Emarsys segment, which derives its revenues mainly from the sale of cloud-based customer experience offerings and from the sale of related services. Due to its size, Emarsys is not a reportable segment.

The acquisition of Signavio GmbH, combined with our business process intelligence unit, led to a new operating segment called Business Process Intelligence. The segment derives its revenues from the sale of business process transformation offerings from SAP and Signavio. Due to its size, Business Process Intelligence is not a reportable segment. For more information about the acquisition of Signavio GmbH, see [Note \(D.1\)](#).

The segment information for 2021 and the comparative prior periods were restated to conform with the new segment composition.



Segment Reporting Policies

Our management reporting system, and hence our segment reporting system, reports our intersegment services as cost reductions and does not track them as internal revenue. Intersegment services mainly represent utilization of human resources of one segment by another segment on a project basis. Intersegment services are charged based on internal cost rates including certain indirect overhead costs but excluding a profit margin.

Most of our depreciation and amortization expense affecting segment profits is allocated to the segments as part of broader infrastructure allocations and is thus not tracked separately on the operating segment level. Depreciation and amortization expense that is directly allocated to the operating segments is immaterial in all segments presented.

Our management reporting system produces a variety of reports that differ by the currency exchange rates used in the accounting for foreign-currency transactions and operations, where both actual and constant currency numbers are reported to and used by our CODM. Reports based on actual currencies use the same currency rates as are used in our financial statements. Reports based on constant currencies report revenues and expenses using the average exchange rates from the previous year's corresponding period.

We use an operating profit indicator to measure the performance of our operating segments. The measurement of operating segment revenues and results includes recurring revenue that is not recognized under IFRS due to fair value accounting for the contracts in effect at the time of the respective acquisitions. Starting in 2021, we no longer adjust our IFRS revenues. Due to immateriality, prior year revenue numbers continue to be based on our previous accounting policies. The accounting policies applied in the measurement of operating segment expenses and profit continue to differ as follows from the IFRS accounting principles used to determine the operating profit measure in our income statement:

- The expense measures exclude:
 - Acquisition-related charges such as amortization expense and impairment charges for intangibles acquired in business combinations and certain stand-alone acquisitions of intellectual property (including purchased in-process research and development) as well as sale/disposal gains and losses for these intangibles, settlements of pre-existing business relationships in connection with a business combination, and acquisition-related third-party expenses
 - Share-based payment expenses
 - Restructuring expenses
- SAP headquarter functions which are exclusively managed on corporate level, such as finance, accounting, legal, human resources, global business operations, and corporate marketing, are not included in the results of our reportable segments.

Revenues and expenses of our operating but non-reportable segments, and the certain activities managed on corporate level, as outlined above, are presented under the Other revenue and Other expenses items in the reconciliation in [Note \(C.2\)](#).

Information about assets and liabilities and additions to non-current assets by segment are not regularly provided to our Executive Board. Goodwill by segment is disclosed in [Note \(D.2\)](#).



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Applications, Technology & Support

€ millions	2021		2020		2019	
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency	
Cloud	8,509	8,661	7,541	7,685	6,632	
Software licenses	3,244	3,236	3,637	3,765	4,523	
Software support	11,410	11,576	11,502	11,707	11,542	
Software licenses and support	14,654	14,812	15,139	15,473	16,065	
Cloud and software	23,163	23,473	22,680	23,157	22,696	
Services	339	343	285	289	355	
Total segment revenue	23,502	23,816	22,965	23,446	23,051	
Cost of cloud	-2,685	-2,737	-2,315	-2,371	-2,147	
Cost of software licenses and support	-1,716	-1,733	-1,757	-1,790	-1,910	
Cost of cloud and software	-4,401	-4,470	-4,071	-4,161	-4,057	
Cost of services	-406	-412	-393	-399	-421	
Total cost of revenue	-4,808	-4,882	-4,464	-4,560	-4,478	
Segment gross profit	18,694	18,934	18,500	18,887	18,573	
Other segment expenses	-9,127	-9,216	-8,779	-8,953	-8,800	
Segment profit	9,567	9,718	9,722	9,934	9,773	

¹ The 2021 constant currency amounts are only comparable to 2020 actual currency amounts; 2020 constant currency amounts are only comparable to 2019 actual currency amounts.

Qualtrics

€ millions	2021		2020		2019	
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency	
Cloud	757	780	518	529	371	
Cloud and software	757	780	518	529	371	
Services	172	177	162	166	137	
Total segment revenue	929	957	681	696	508	
Cost of cloud	-65	-66	-43	-43	-33	
Cost of software licenses and support	0	0	0	0	0	
Cost of cloud and software	-65	-66	-43	-43	-33	
Cost of services	-125	-128	-110	-112	-78	
Total cost of revenue	-190	-194	-152	-155	-110	
Segment gross profit	739	763	528	541	398	
Other segment expenses	-696	-719	-533	-545	-407	
Segment profit	44	44	-4	-5	-9	

¹ The 2021 constant currency amounts are only comparable to 2020 actual currency amounts; 2020 constant currency amounts are only comparable to 2019 actual currency amounts.



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Services

€ millions	2021		2020		2019	
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency	
Cloud	0	0	0	0	1	0
Software licenses	0	0	0	0	0	0
Software support	0	0	4	4	4	5
Software licenses and support	0	0	4	4	4	5
Cloud and software	0	0	5	5	5	5
Services	3,234	3,282	3,374	3,428	3,674	
Total segment revenue	3,234	3,283	3,379	3,432	3,679	
Cost of cloud	-78	-80	-74	-76	-62	
Cost of software licenses and support	-18	-19	-32	-33	-54	
Cost of cloud and software	-97	-99	-106	-109	-116	
Cost of services	-2,035	-2,062	-2,209	-2,254	-2,579	
Total cost of revenue	-2,131	-2,161	-2,315	-2,363	-2,695	
Segment gross profit	1,102	1,122	1,063	1,070	983	
Other segment expenses	-375	-379	-418	-427	-466	
Segment profit	728	743	645	642	517	

¹ The 2021 constant currency amounts are only comparable to 2020 actual currency amounts; 2020 constant currency amounts are only comparable to 2019 actual currency amounts.

Segment Revenue by Region

€ millions	EMEA				Americas				APJ		Total Segment Revenue			
	2021		2020		2021		2020		2021		2020		2021	2020
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Actual Currency	Actual Currency	
Applications, Technology & Support	10,902	10,900	10,437	8,862	9,116	8,907	3,737	3,799	3,621	23,502	23,816	22,965		
Qualtrics	153	157	97	690	711	528	86	89	55	929	957	681		
Services	1,458	1,455	1,479	1,370	1,414	1,491	406	414	408	3,234	3,283	3,379		
Total reportable segments	12,513	12,512	12,013	10,922	11,242	10,927	4,230	4,302	4,084	27,665	28,055	27,024		

€ millions	EMEA				Americas				APJ		Total Segment Revenue			
	2020		2019		2020		2019		2020		2019		2020	2019
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	Actual Currency	Actual Currency	
Applications, Technology & Support	10,437	10,549	10,306	8,907	9,200	9,066	3,621	3,698	3,679	22,965	23,446	23,051		
Qualtrics	97	99	68	528	540	403	55	56	37	681	696	508		
Services	1,479	1,491	1,568	1,491	1,527	1,621	408	415	490	3,379	3,432	3,679		
Total reportable segments	12,013	12,139	11,942	10,927	11,267	11,089	4,084	4,169	4,207	27,024	27,574	27,238		

For a breakdown of revenue by region for the SAP Group, see [Note \(A.1\)](#).

**(C.2) Reconciliation of Segment Measures to the Consolidated Income Statements**

€ millions	2021		2020		2019
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency
Applications, Technology & Support	23,502	23,816	22,965	23,446	23,051
Services	3,234	3,283	3,379	3,432	3,679
Qualtrics	929	957	681	696	508
Total segment revenue for reportable segments	27,665	28,055	27,024	27,574	27,238
Other revenue	177	177	319	322	396
Adjustment for currency impact	0	-390	0	-554	0
Adjustment of revenue under fair value accounting	0	0	-5	-5	-81
Total revenue	27,842	27,842	27,338	27,338	27,553
Applications, Technology & Support	9,567	9,718	9,722	9,934	9,773
Services	728	743	645	642	517
Qualtrics	44	44	-4	-5	-9
Total segment profit for reportable segments	10,339	10,505	10,363	10,571	10,281
Other revenue	177	177	319	322	396
Other expenses	-2,286	-2,274	-2,395	-2,390	-2,469
Adjustment for currency impact	0	-178	0	-216	0
Adjustment for					
Revenue under fair value accounting	0	0	-5	-5	-81
Acquisition-related charges	-623	-623	-577	-577	-689
Share-based payment expenses	-2,794	-2,794	-1,084	-1,084	-1,835
Restructuring	-157	-157	3	3	-1,130
Operating profit	4,656	4,656	6,623	6,623	4,473
Other non-operating income/expense, net	17	17	-179	-179	-74
Financial income, net	2,174	2,174	776	776	198
Profit before tax	6,847	6,847	7,220	7,220	4,596

¹ The 2021 constant currency amounts are only comparable to 2020 actual currency amounts; 2020 constant currency amounts are only comparable to 2019 actual currency amounts.

(C.3) Other Non-Operating Income/Expense, Net

€ millions	2021	2020	2019
Foreign currency exchange gain/loss, net	49	-154	-51
Thereof from financial assets at fair value through profit or loss	316	601	358
Thereof from financial assets at amortized cost	111	-134	194
Thereof from financial liabilities at fair value through profit or loss	-382	-487	-396
Thereof from financial liabilities at amortized cost	-70	-34	-176
Miscellaneous income/expense, net	-33	-25	-23
Other non-operating income/expense, net	17	-179	-74



(C.4) Financial Income, Net

€ millions	2021	2020	2019
Finance income	3,123	1,473	787
Thereof gains from financial assets at fair value through profit or loss	3,067	1,360	596
Finance costs	-949	-697	-589
Thereof losses from financial assets at fair value through profit or loss	-654	-342	-151
Thereof interest expense from financial liabilities at amortized cost	-160	-179	-207
Thereof interest expense from financial liabilities at fair value through profit or loss	-50	-76	-155
■ Financial income, net	2,174	776	198

(C.5) Income Taxes

Judgments and Estimates

We are subject to changing tax laws in multiple jurisdictions within the countries in which we operate. Our ordinary business activities also include transactions where the ultimate tax outcome is uncertain due to different interpretations of tax laws, such as those involving transfer pricing and intercompany transactions between SAP Group entities. In addition, the amount of income taxes we pay is generally subject to ongoing audits by domestic and foreign tax authorities. In determining our worldwide income tax provisions, judgment is involved in assessing whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments and whether to reflect the respective effect of uncertainty based on the most likely amount or the expected value. In applying these judgments, we consider the nature and the individual facts and circumstances of each uncertain tax treatment as well as the specifics of the respective jurisdiction, including applicable tax laws and our interpretation thereof.

The assessment whether a deferred tax asset is impaired requires judgment, as we need to estimate future taxable profits to determine whether the utilization of the deferred tax asset is probable. In evaluating our ability to utilize our deferred tax assets, we consider all available positive and negative evidence, including the level of historical taxable income and projections for future taxable income over the periods in which the deferred tax assets are recoverable. Our judgment regarding future taxable income is based on assumptions about future market conditions and future profits of SAP.

Judgment is also required in evaluating whether interest or penalties related to income taxes meet the definition of income taxes, and, if not, whether it is of financial nature. In this judgment, we particularly consider applicable local tax laws and interpretations on IFRS by national standard setters in the area of group financial reporting.



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€ millions	2021	2020	2019
Current tax expense			
Germany	608	895	625
Foreign	1,360	1,001	1,153
Total current tax expense	1,968	1,896	1,778
Deferred tax expense/income			
Germany	109	-38	-3
Foreign	-606	80	-549
Total deferred tax expense/income	-497	42	-552
Total income tax expense	1,471	1,938	1,226

Major Components of Tax Expense

€ millions	2021	2020	2019
Current tax expense/income			
Tax expense for current year	1,707	1,653	1,818
Taxes for prior years	261	243	-40
Total current tax expense	1,968	1,896	1,778
Deferred tax expense/income			
Origination and reversal of temporary differences	-526	47	-710
Unused tax losses, research and development tax credits, and foreign tax credits	29	-5	158
Total deferred tax expense/income	-497	42	-552
Total income tax expense	1,471	1,938	1,226

Profit Before Tax by Geographic Location

€ millions	2021	2020	2019
Germany	2,040	2,481	2,012
Foreign	4,807	4,739	2,584
Total	6,847	7,220	4,596

The following table reconciles the expected income tax expense, computed by applying our combined German tax rate of 26.4% (2020: 26.3%; 2019: 26.4%), to the actual income tax expense. Our 2021 combined German tax rate includes a corporate income tax rate of 15.0% (2020: 15.0%; 2019: 15.0%), plus a solidarity surcharge of 5.5% (2020: 5.5%; 2019: 5.5%) thereon, and trade taxes of 10.6% (2020: 10.5%; 2019: 10.6%).



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€ millions, unless otherwise stated	2021	2020	2019
Profit before tax	6,847	7,220	4,596
Tax expense at applicable tax rate of 26.4% (2020: 26.3%; 2019: 26.4%)	1,808	1,901	1,212
Tax effect of:			
Foreign tax rates	-126	-166	-171
Non-deductible expenses	420	254	116
Tax-exempt income	-630	-282	-131
Withholding taxes	204	105	138
Research and development and foreign tax credits	-75	-100	-89
Prior-year taxes	9	128	80
Reassessment of deferred tax assets, research and development tax credits, and foreign tax credits	-34	41	48
Other	-105	57	23
Total income tax expense	1,471	1,938	1,226
Effective tax rate (in %)	21.5	26.8	26.7

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Information**Components of Recognized Deferred Tax Assets and Liabilities**

€ millions	2021	2020
Deferred tax assets		
Intangible assets	759	455
Property, plant, and equipment	19	19
Other financial assets	14	11
Trade and other receivables	58	115
Pension provisions	196	194
Share-based payments	278	197
Other provisions and obligations	1,097	1,155
Contract liabilities	781	631
Carryforwards of unused tax losses	146	123
Research and development and foreign tax credits	77	57
Other	134	108
Total deferred tax assets	3,559	3,065
Deferred tax liabilities		
Intangible assets	903	854
Property, plant, and equipment	525	529
Other financial assets	169	239
Trade and other receivables	206	178
Pension provisions	29	21
Share-based payments	1	0
Other provisions and obligations	50	87
Contract liabilities	7	4
Other	181	123
Total deferred tax liabilities	2,071	2,035
Total deferred tax assets, net	1,488	1,030

The increase in deferred tax assets for intangible assets mainly results from the capitalization of research and development expenses for tax purposes. Furthermore, the deferred tax assets for contract liabilities increased mainly because of deferred revenue.

Deferred tax assets for other provisions and obligations in the amount of €472 million (2020: €452 million) and deferred tax liabilities for property, plant, and equipment in the amount of €405 million (2020: €400 million) result from the accounting of liabilities and right-of-use assets from leases.

**Items Not Resulting in a Deferred Tax Asset**

€ millions	2021	2020	2019
Unused tax losses			
Not expiring	430	570	688
Expiring in the following year	26	25	63
Expiring after the following year	309	338	373
Total unused tax losses	765	933	1,124
Deductible temporary differences			
Unused research and development and foreign tax credits			
Not expiring	28	26	28
Expiring after the following year	20	17	17
Total unused tax credits	48	43	45

Of the unused tax losses, €183 million (2020: €179 million; 2019: €187 million) relate to U.S. state tax loss carryforwards.

We have not recognized a deferred tax liability on approximately €24.04 billion (2020: €18.37 billion) for undistributed profits of our subsidiaries, because we are in a position to control the timing of the reversal of the temporary difference and it is probable that such differences will not reverse in the foreseeable future.

Income Tax-Related Litigation

We are subject to ongoing tax audits by domestic and foreign tax authorities. Currently, we are in dispute mainly with the German and only a few foreign tax authorities. The German dispute is in respect of certain secured capital investments, while the few foreign disputes are in respect of the deductibility of intercompany royalty payments and intercompany services. In all cases, we expect that a favorable outcome can only be achieved through litigation. For all of these matters, we have not recorded a provision as we believe that the tax authorities' claims have no merit and that no adjustment is warranted. If, contrary to our view, the tax authorities were to prevail in their arguments before the court, we would expect to have an additional expense of approximately €1,283 million (2020: €1,221 million) in total (including related interest expenses and penalties of €677 million (2020: €648 million)).

Reform of International Taxation Rules

In October 2021, over 135 jurisdictions agreed on a new framework for the international tax system covering the re-allocation of taxing rights and the introduction of a global minimum corporate tax rate. On December 20, 2021, the Organization for Economic Co-operation and Development (OECD) released model rules, which shall ensure that multinational enterprises with revenue above €750 million will be subject to a 15% minimum corporate tax rate. Based on this release, on December 22, 2021, the European Commission (EC) proposed a directive for implementation within the EU. We expect to be subject to such rules. However, since they still need to be implemented into national law and are expected to only apply starting 2023, we cannot yet assess possible impacts for SAP.

**(C.6) Earnings per Share**

€ millions, unless otherwise stated	2021	2020	2019
Profit attributable to equity holders of SAP SE	5,256	5,145	3,321
Issued ordinary shares ¹	1,229	1,229	1,229
Effect of treasury shares ¹	-49	-46	-35
Weighted average shares outstanding, basic ¹	1,180	1,182	1,194
Weighted average shares outstanding, diluted ¹	1,180	1,182	1,194
Earnings per share, basic, attributable to equity holders of SAP SE (in €)	4.46	4.35	2.78
Earnings per share, diluted, attributable to equity holders of SAP SE (in €)	4.46	4.35	2.78

¹ Number of shares in millions



Section D – Invested Capital

This section highlights our non-current assets including investments that form the basis of our operating activities. Additions to invested capital include separate asset acquisitions or business combinations. Further, we disclose information about purchase obligations and capital contributions.

(D.1) Business Combinations and Divestitures

Measuring Non-Controlling Interests and Allocation of Consideration Transferred

We decide for each business combination whether to measure the non-controlling interest in the acquiree at fair value or at the proportionate share of the acquiree's identifiable net assets.

We classify costs related to executing business combinations as general and administration expense.

In our accounting for business combinations, judgment is required in determining whether an intangible asset is identifiable, and should be recorded separately from goodwill. Additionally, estimating the acquisition-date fair values of the identifiable assets acquired and liabilities assumed involves considerable judgment. The necessary measurements are based on information available on the acquisition date and are based on expectations and assumptions that have been deemed reasonable by management. These judgments, estimates, and assumptions can materially affect our financial position and profit for several reasons, including the following:

- Fair values assigned to assets subject to depreciation and amortization affect the amounts of depreciation and amortization to be recorded in operating profit in the periods following the acquisition.
- Subsequent negative changes in the estimated fair values of assets may result in additional expense from impairment charges.
- Subsequent changes in the estimated fair values of liabilities and provisions may result in additional expense (if increasing the estimated fair value) or additional income (if decreasing the estimated fair value).

We acquire businesses in specific areas of strategic interest to us, particularly to broaden our product and service portfolio.

2021 Acquisitions

In 2021, we closed the acquisition of Signavio GmbH, Berlin, Germany, ("Signavio") and of Clarabridge, Inc., Reston, Virginia, United States, ("Clarabridge").

Signavio Acquisition

In January 2021, SAP announced it had entered into an agreement to acquire Signavio, a leader in the enterprise business process intelligence and process management space that enables companies to understand, improve, transform, and manage all their business processes quickly and at scale.

The purchase price was €949 million. The transaction closed on March 5, 2021, following satisfaction of regulatory and other approvals. The Signavio operating results and assets and liabilities are reflected in our consolidated financial statements starting on that date.

The following table summarizes the values of identifiable assets acquired and liabilities assumed in connection with the acquisition of Signavio, as at the acquisition date:



Signavio Acquisition: Recognized Assets and Liabilities

€ millions	
Intangible assets	255
Other identifiable assets	73
Total identifiable assets	328
Other identifiable liabilities	108
Total identifiable liabilities	108
Total identifiable net assets	220
Goodwill	729
Total consideration transferred	949

The initial accounting for the Signavio business combination is incomplete because we are still obtaining the information necessary to identify and measure items such as tax-related assets and liabilities of Signavio. Accordingly, the amounts recognized in our financial statements for these items are regarded provisional as at December 31, 2021.

In general, the goodwill arising from our acquisitions consists largely of the synergies and the know-how and skills of the acquired businesses' workforces.

Signavio goodwill was attributed to expected synergies from the acquisition, particularly in the following areas:

- Cross-selling opportunities to existing SAP customers across all regions, using SAP's sales organization
- The acquisition of Signavio complements SAP's business process intelligence offerings and will help create new offerings by combining Signavio products and SAP products, but is also expected to result, for example, in increased SAP S/4HANA and RISE with SAP sales.
- Improved profitability in Signavio sales and operations

The allocation of the goodwill resulting from the Signavio acquisition to our operating segments depends on how our operating segments actually benefit from the synergies of the Signavio business combination. For more information, see [Note \(D.2\)](#).

Clarabridge Acquisition

On October 1, 2021 (after receipt of required regulatory approvals and satisfaction or waiver of other customary closing conditions), Qualtrics completed its previously announced acquisition of Clarabridge, a customer experience management software company headquartered in Reston, Virginia, United States, pursuant to an Agreement and Plan of Reorganization and Merger. The number of Qualtrics class A common stock issued to the sellers was fixed based on a valuation of US\$1,125 million (subject to certain adjustments) – the assumed Qualtrics share price was US\$37.33. The actual consideration transferred (mainly in shares valued at the acquisition date fair value of the common stock) amounted to US\$1,298 million (€1,116 million). This includes €910 million of issued shares, €115 million of assumed awards as well as €91 million of cash paid.

Qualtrics has (1) assumed, amended, and restated Clarabridge stock plans, and (2) converted the assumed options to purchase shares of Clarabridge stock outstanding into corresponding Qualtrics options. Qualtrics has granted equity incentive awards to certain continuing employees of Clarabridge and its subsidiaries under their own Qualtrics equity plan at Qualtrics' sole discretion. For more information see [Note \(B.3\)](#).

The following table summarizes the values of identifiable assets acquired and liabilities assumed in connection with the acquisition of Clarabridge, as at the acquisition date:



Clarabridge Acquisition: Recognized Assets and Liabilities

€ millions	
Intangible assets	218
Other identifiable assets	79
Total identifiable assets	297
Other identifiable liabilities	103
Total identifiable liabilities	103
Total identifiable net assets	194
Goodwill	922
Total consideration transferred	1,116

The initial accounting for the business combination is preliminary as at December 31, 2021 (as we are still in the process of collecting the information necessary to determine the fair value of, for example, intangible assets as well as tax assets and liabilities).

In general, the goodwill arising from our acquisitions consists largely of the synergies and the know-how and skills of the acquired businesses' workforces.

The Clarabridge goodwill consists largely of the synergies that SAP expects to achieve from combining the acquired assets and operations with its existing operations, especially in its Qualtrics subsidiary.

For more information about the allocation of goodwill to our segments (benefiting from the acquisition), see [Note \(D.2\)](#).

Impact of Business Combinations on Our Financial Statements

The amounts of revenue and profit or loss of the Signavio and Clarabridge businesses acquired in 2021 since the acquisition date are included in the 2021 consolidated income statements as follows:

2021 Acquisitions: Impact on SAP's Financials (Signavio and Clarabridge)

€ millions	2021 as Reported	Contribution of 2021 Acquisitions
Revenue	27,842	70
Profit after tax	5,376	-89

Had the acquired entities been consolidated as at January 1, 2021, our 2021 revenue and profit after tax would not have been materially different.

2021 Divestitures

On April 13, 2021, SAP and investment company Dediq GmbH, Munich, Germany, ("Dediq") announced that they had agreed to enter into a partnership in the area of financial services. Following the close of the transaction in September 2021 (after satisfaction of all closing conditions including regulatory approvals), SAP and Dediq jointly own the new "SAP Pioneer" entity (with SAP owning a minority share).

SAP and SAP Pioneer have executed transition service and go-to-market agreements, among others.

The disposal gain relating to the transfer of the business (predominantly IP and employees) is included in Other operating income/expense, net (€77 million for both IFRS and non-IFRS).



2020 Acquisitions

On November 4, 2020, we concluded the acquisition of 100% of the shares of Emarsys eMarketing Systems AG, Vienna, Austria, ("Emarsys") following satisfaction of applicable regulatory and other approvals.

The operating results and assets and liabilities of Emarsys are reflected in our consolidated financial statements from November 4, 2020, onwards.

Measurement period adjustments recorded in both 2021 and 2020 were not material (the measurement period adjustments have resulted in an adjustment of our 2020 numbers – reducing goodwill along with non-current provisions by €6 million; a further reduction of goodwill by €16 million was caused by adjustments of tax items).

In general, the goodwill arising from our acquisitions consists largely of the synergies and the know-how and skills of the acquired businesses' workforces.

Emarsys goodwill is attributed to expected synergies from the acquisition, particularly in the following areas:

- Cross-selling opportunities to existing SAP customers across all regions, using SAP's sales organization
- Emarsys offerings complementing the existing SAP Customer Experience solutions
- Improved profitability in Emarsys sales and operations

2020 Divestitures

On May 5, 2020, SAP and Sinch AB, Stockholm, Sweden, ("Sinch") announced that they had entered into a definitive agreement for Sinch to acquire the SAP Digital Interconnect group. The business sold (which was a non-reportable segment to SAP) consists of several SAP subsidiaries as well as assets transferred from certain SAP entities. The initial cash purchase price was €225 million (on a cash-free, debt-free basis). The disposal gain of €194 million (IFRS) and €128 million (non-IFRS) is included in Other operating income/expense, net.

The transaction closed on November 1, 2020, following satisfaction of applicable regulatory and other approvals.

Due to immateriality, we have not separately presented the business as a discontinued operation.

2019 Acquisitions

On January 23, 2019, we concluded the acquisition of Qualtrics International Inc. ("Qualtrics"), following satisfaction of applicable regulatory and other approvals.

Qualtrics is a leading provider of experience management solutions. By combining Qualtrics products and SAP products, we aim to deliver an end-to-end experience and operational management system to our customers.

We acquired 100% of the Qualtrics shares for approx. US\$35 per share, representing consideration transferred in cash of approximately US\$7.1 billion. In addition to the cash payments, SAP also incurred liabilities and post-closing expenses relating to assumed share-based payment awards amounting to approximately US\$0.9 billion.

The operating results and assets and liabilities of Qualtrics are reflected in our consolidated financial statements from January 23, 2019, onward.

Qualtrics Acquisition: Consideration Transferred

€ millions	
Cash paid	6,212
Liabilities incurred	237
Total consideration transferred	6,449



The liabilities incurred related to the earned portion of unvested share-based payment awards. These liabilities were incurred by replacing, upon acquisition, equity-settled share-based payment awards held by employees of Qualtrics with cash-settled share-based payment awards, which are subject to forfeiture. The respective liabilities represent the portion of the replacement awards that relates to pre-acquisition services provided by the acquiree's employees and were measured at the fair value determined under IFRS 2.

Measurement period adjustments recorded in both 2020 and 2019 were not material.

The following table summarizes the values of identifiable assets acquired and liabilities assumed in connection with the acquisition of Qualtrics, as at the acquisition date.

Qualtrics Acquisition: Recognized Assets and Liabilities

€ millions	
Cash and cash equivalents	138
Other financial assets	1
Trade and other receivables	37
Other non-financial assets	20
Property, plant, and equipment	75
Intangible assets	1,803
Thereof acquired technology	575
Thereof customer relationship and other intangibles	1,226
Thereof software and database licenses	2
Total identifiable assets	2,074
Trade and other payables	97
Financial liabilities	53
Current and deferred tax liabilities	317
Provisions and other non-financial liabilities	41
Contract liabilities	129
Total identifiable liabilities	637
Total identifiable net assets	1,437
Goodwill	5,012
Total consideration transferred	6,449

In general, the goodwill arising from our acquisitions consists largely of the synergies and the know-how and skills of the acquired businesses' workforces.

Qualtrics goodwill was attributed to expected synergies from the acquisition, particularly in the following areas:

- Cross-selling opportunities to existing SAP customers across all regions, using SAP's sales organization
- Creation of new offerings by combining Qualtrics products and SAP products to deliver an end-to-end experience and operational management system to the customers
- Improved profitability in Qualtrics sales and operations

The allocation of the goodwill resulting from the Qualtrics acquisition to our operating segments was depending on how our operating segments actually benefit from the synergies of the Qualtrics business combination.



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Impact of the Business Combination on Our Financial Statements

The amounts of revenue and profit or loss of the Qualtrics business acquired in 2019 since the acquisition date were included in our 2019 consolidated income statements as follows:

Qualtrics Acquisition: Impact on SAP's Financials

€ millions	2019 as Reported	Contribution of Qualtrics
Revenue	27,553	429
Profit after tax	3,370	-526

Had Qualtrics been consolidated as at January 1, 2019, our 2019 revenue and profit after tax would not have been materially different.

(D.2) Goodwill**⌚ Goodwill and Intangible Asset Impairment Testing**

The annual goodwill impairment test is performed at the level of our operating segments, since there are no lower levels in SAP at which goodwill is monitored for internal management purposes.

In general, the test is performed at the same time (at the beginning of the fourth quarter) for all operating segments.

In making impairment assessments for our goodwill and intangible assets, the outcome of these tests is highly dependent on management's assumptions regarding future cash flow projections and economic risks, which require significant judgment and assumptions about future developments. They can be affected by a variety of factors, including:

- Changes in business strategy
- Internal forecasts
- Estimation of weighted average cost of capital

Changes to the assumptions underlying our goodwill and intangible assets impairment assessments could require material adjustments to the carrying amount of our recognized goodwill and intangible assets as well as the amounts of impairment charges recognized in profit or loss.

The outcome of goodwill impairment tests may also depend on the allocation of goodwill to our operating segments. This allocation involves judgment as it is based on our estimates regarding which operating segments are expected to benefit from the synergies of business combinations.

Changes in our segment structure result in the reallocation of goodwill with the reallocated goodwill being calculated based on relative values (if a direct allocation is not possible).



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Goodwill

€ millions

Historical cost

1/1/2020	29,260
Foreign currency exchange differences	-2,010
Additions from business combinations	395
Retirements/disposals	-9
12/31/2020	27,636
Foreign currency exchange differences	1,838
Additions from business combinations	1,737
Retirements/disposals	-20
12/31/2021	31,191

Accumulated amortization

1/1/2020	101
Foreign currency exchange differences	-3
12/31/2020	98
Foreign currency exchange differences	3
12/31/2021	101

Carrying amount

12/31/2020	27,538
12/31/2021	31,090

For more information about our segments and the changes in 2021, see [Note \(C.1\)](#).

Throughout 2021 (particularly in light of the COVID-19 pandemic and its development), we have – through a qualitative and quantitative analysis – been continuously monitoring whether triggering events exist.

Based on our analysis, which we updated in the fourth quarter and which served as the basis for our regular goodwill impairment test, we assume that the COVID-19 situation will continue to improve as vaccine programs continue to take effect globally, leading to a growing demand environment in 2022. For more information, see [Note \(IN.2\)](#).

For impairment testing purposes, the carrying amount of goodwill is allocated to the operating segments expected to benefit from goodwill as follows:

Goodwill by Operating Segment

€ millions	Applications, Technology & Support	Services	Concur	Qualtrics	Emarsys	Business Process Intelligence	Total
12/31/2020	20,844	355	3,307	2,637	395	NA	27,538
12/31/2021	26,074	367	NA	3,846	395	408	31,090

A portion (€43 million) of the goodwill in the Applications, Technology & Support segment was moved to the newly formed Business Process Intelligence segment. Based on the expected synergies, the goodwill added through the acquisition of Signavio (€766 million) was provisionally allocated to the Applications, Technology & Support segment (€383 million) and the Business Process Intelligence segment (€383 million). As the initial accounting for the Signavio business combination is incomplete (for more information, see [Note \(D.1\)](#)), the allocation of goodwill is provisional. The allocation of the



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goodwill resulting from the Clarabridge acquisition (by Qualtrics) to our operating segments depends on how our operating segments actually benefit from the synergies of the Clarabridge business combination. As we have not yet completed the identification of those benefits and the initial accounting for the business combination is preliminary (for more information, see [Note \(D.1\)](#)), the entire goodwill (€924 million) was provisionally allocated to the Qualtrics segment.

Due to the dissolution of the Concur segment in 2021 (for more information, see [Note \(C.1\)](#)), the Concur goodwill (€3,307 million) was moved to the Applications, Technology & Support segment. Given the close proximity to the 2020 annual goodwill impairment test and the significant headroom, no formal impairment test was performed on the reallocation date of the Concur segment.

In conjunction with the creation of the SAP Pioneer joint venture (for more information, see [Note \(D.1\)](#)), we disposed €20 million of goodwill (thereof €9 million from the Applications, Technology & Support segment and €11 million from the Services segment).

Goodwill Impairment Test

The key assumptions on which management based its cash flow projections for the period covered by the underlying business plans are as follows:

Key Assumption	Basis for Determining Values Assigned to Key Assumption
Budgeted revenue growth	Revenue growth rate achieved in the current year, adjusted for an expected increase in SAP's addressable cloud and database markets; expected growth in the established software applications and analytics markets. Values assigned reflect our past experience and our expectations regarding an increase in the addressable markets.
Budgeted operating margin	Operating margin budgeted for a given budget period equals the operating margin achieved in the current year, increased by expected efficiency gains. Values assigned reflect past experience, except for efficiency gains.
Discount rates	Our estimated cash flow projections are discounted to present value using discount rates (after-tax rates). Discount rates are based on the weighted average cost of capital (WACC) approach.
Terminal growth rate	Our estimated cash flow projections for periods beyond the business plan were extrapolated using segment-specific terminal growth rates. These growth rates do not exceed the long-term average growth rates for the markets in which our segments operate.

Key Assumptions and Detailed Planning Period

Percent, unless otherwise stated	Applications, Technology & Support		Services		Qualtrics		Emarsys		Business Process Intelligence	
	2021	2020	2021	2020	2021 ¹	2020	2021	2020 ²	2021	2020
Budgeted revenue growth (average of the budgeted period)	8.4	5.4	0.4	3.4	NA	20.6	15.3	NA	31.7	NA
After-tax discount rate	8.8	8.8	7.9	7.2	NA	9.7	10.0	NA	11.5	NA
Terminal growth rate	3.0	3.0	0.0	3.0	NA	3.0	3.0	NA	3.0	NA
Detailed planning period (in years)	5	5	5	5	NA	13	12	NA	14	NA

¹ As we are using Level 1 inputs for Qualtrics in 2021, no information on assumptions and the detailed planning period is presented.

² No formal test was performed in 2020 as the acquisition was after the annual testing date. However, we performed a quantitative and qualitative analysis to monitor whether triggering events exist.

On October 1, 2021, we performed a goodwill impairment test for the segments mentioned above.

Applications, Technology & Support Segment and Services Segment

For more information about our 2021 segment changes, see [Note \(C.1\)](#).

The recoverable amount of these segments was determined based on fair value less costs of disposal calculation. The fair value measurement was categorized as a Level 3 fair value based on the inputs



used in the valuation. The cash flow projections were based on actual operating results and specific estimates covering a detailed planning period and the terminal growth rate thereafter. The projected results were determined based on management's estimates and are consistent with the assumptions a market participant would make (target operating margins of 33.1% (Applications, Technology & Support) (2020: 32.4%) and 5.1% (Services) (2020: 2.4%) were used in the valuation).

We believe that no reasonably possible change in any of the above key assumptions would cause the carrying amount of our Applications, Technology & Support segment to exceed the recoverable amount.

For our Services segment, the recoverable amount exceeded the carrying amount by €1,377 million (2020: €1,416 million).

The following table shows the amounts by which the key assumptions would need to change individually (that is, without changing the other key assumptions) for the recoverable amount to be equal to the carrying amount. For budgeted revenue growth sensitivity, the cost structure was not adjusted, hence leading to a modified terminal operating margin:

Sensitivity to Change in Assumptions

	Services	
	2021	2020
Budgeted revenue growth (change in pp)	-0.8	-0.6
Target operating margin at the end of the budgeted period (change in pp)	-4	-2

Qualtrics Segment

Qualtrics International Inc. completed its initial public offering ("IPO") on January 28, 2021. The recoverable amount was determined based on fair value less costs of disposal calculation. The fair value measurement was categorized as a Level 1 fair value based on the market capitalization derived from publicly listed shares of Qualtrics. We believe that no reasonably foreseeable change in the share price of Qualtrics would cause the carrying amount of our Qualtrics segment to exceed its recoverable amount.

Emarsys Segment

The recoverable amount was determined based on fair value less costs of disposal calculation. The fair value measurement was categorized as a Level 3 fair value based on the inputs used in the valuation. The cash flow projections were based on actual operating results and specific estimates covering a detailed planning period and the terminal growth rate thereafter. The projected results were determined based on management's estimates and are consistent with the assumptions a market participant would make (a target operating margin of 24.6% was used in the valuation).

Given the fact that the Emarsys segment is expected to show disproportionate growth in the coming years and has not yet reached a steady state, we have used a longer and more detailed planning period than one would apply in a more mature segment.

The recoverable amount exceeded the carrying amount by €547 million.

The following table shows the amounts by which the key assumptions would need to change individually (that is, without changing the other key assumptions) for the recoverable amount to be equal to the carrying amount. For budgeted revenue growth sensitivity, the cost structure was not adjusted, hence leading to a modified terminal operating margin:



Sensitivity to Change in Assumptions

	Emarsys	
	2021	2020 ¹
Budgeted revenue growth (change in pp)	-1.7	NA
Target operating margin at the end of the budgeted period (change in pp)	-14	NA

¹ No formal test was performed in 2020 as the acquisition was after the annual testing date. However, we performed a quantitative and qualitative analysis to monitor whether triggering events exist.

Business Process Intelligence Segment

The recoverable amount was determined based on fair value less costs of disposal calculation. The fair value measurement was categorized as a Level 3 fair value based on the inputs used in the valuation. The cash flow projections were based on actual operating results and specific estimates covering a detailed planning period and the terminal growth rate thereafter. The projected results were determined based on management's estimates and are consistent with the assumptions a market participant would make (a target operating margin of 24.8% was used in the valuation).

Given the fact that the Business Process Intelligence segment is expected to show disproportionate growth in the coming years and has not yet reached a steady state, we have used a longer and more detailed planning period than one would apply in a more mature segment.

The recoverable amount exceeded the carrying amount by €1,225 million.

The following table shows the amounts by which the key assumptions would need to change individually (that is, without changing the other key assumptions) for the recoverable amount to be equal to the carrying amount. For budgeted revenue growth sensitivity, the cost structure was not adjusted, hence leading to a modified terminal operating margin:

Sensitivity to Change in Assumptions

	Business Process Intelligence
	2021
Budgeted revenue growth (change in pp)	-2.5
Target operating margin at the end of the budgeted period (change in pp)	-20



(D.3) Intangible Assets

Recognition of Intangibles

Whereas in general, expenses for internally generated intangibles are expensed as incurred, development expenses incurred on standard-related customer development projects (for which the IAS 38 criteria are met cumulatively) are capitalized on a limited scale with those amounts being amortized over the estimated useful life for the majority of the projects of eight years.

Determining whether internally generated intangible assets from development qualify for recognition requires significant judgment, particularly in the following areas:

- Determining whether activities should be considered research activities or development activities
- Determining whether the conditions for recognizing an intangible asset are met requires assumptions about future market conditions, customer demand, and other developments.
- The term “technical feasibility” is not defined in IFRS, and therefore determining whether the completion of an asset is technically feasible requires judgment and a company-specific approach.
- Determining the future ability to use or sell the intangible asset arising from the development and the determination of the probability of future benefits from sale or use
- Determining whether a cost is directly or indirectly attributable to an intangible asset and whether a cost is necessary for completing a development

These judgments impact the total amount of intangible assets that we present in our balance sheet as well as the timing of recognizing development expenses in profit or loss.

Measurement of Intangibles

All our purchased intangible assets other than goodwill have finite useful lives. They are initially measured at acquisition cost and subsequently amortized based on the expected consumption of economic benefits over their estimated useful lives ranging from two to 20 years.

Judgment is required in determining the following:

- The useful life of an intangible asset, as this is based on our estimates regarding the period over which the intangible asset is expected to generate economic benefits to us
- The amortization method, as IFRS requires the straight-line method to be used unless we can reliably determine the pattern in which the asset's future economic benefits are expected to be consumed by us

Both the amortization period and the amortization method have an impact on the amortization expense that is recorded in each period.

Classification of Intangibles

We classify intangible assets according to their nature and use in our operations. Software and database licenses consist primarily of technology for internal use, whereas acquired technology consists primarily of purchased software to be incorporated into our product offerings. Customer relationship and other intangibles consist primarily of customer relationships and acquired trademark licenses.

Amortization expenses of intangible assets are classified as cost of cloud, cost of services, research and development, sales and marketing, and general and administration, depending on the use of the respective intangible assets.



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€ millions	Software and Database Licenses	Acquired Technology	Customer Relationships and Other Intangibles	Total
Historical cost				
1/1/2020	929	2,752	6,415	10,096
Foreign currency exchange differences	-14	-224	-467	-705
Additions from business combinations	1	59	184	244
Other additions	10	0	60	70
Retirements/disposals	-148	-22	-142	-312
Transfers	15	0	-12	3
12/31/2020	793	2,565	6,038	9,396
Foreign currency exchange differences	12	205	427	644
Additions from business combinations	0	233	304	537
Other additions	19	0	66	85
Retirements/disposals	-84	-7	-11	-102
Transfers	93	0	-89	4
12/31/2021	833	2,996	6,735	10,564
Accumulated amortization				
1/1/2020	598	2,031	2,976	5,605
Foreign currency exchange differences	-13	-180	-219	-412
Additions amortization	85	214	420	719
Retirements/disposals	-147	-22	-131	-300
12/31/2020	523	2,043	3,046	5,612
Foreign currency exchange differences	11	171	211	393
Additions amortization	77	189	412	678
Retirements/disposals	-64	-11	-10	-85
12/31/2021	547	2,392	3,659	6,598
Carrying amount				
12/31/2020	270	522	2,992	3,784
12/31/2021	286	604	3,076	3,966

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Significant Intangible Assets

€ millions, unless otherwise stated	Carrying Amount	Remaining Useful Life (in years)
	2021	2020
Ariba – Customer relationships	174	203
Concur – Customer relationships	755	786
Callidus – Customer relationships	241	262
Qualtrics – Acquired technologies	286	360
Qualtrics – Customer relationships	983	991
Emarsys – Customer relationships	163	174
Signavio – Customer relationships	184	NA
Total significant intangible assets	2,786	2,776

(D.4) Property, Plant, and Equipment

⌚ Depreciation of Property, Plant and Equipment

Property, plant, and equipment are typically depreciated using the straight-line method. Judgment is required in estimating the useful life of the assets. In this assessment we consider, among others, our history with similar assets and current and future changes in technology.

Useful Lives of Property, Plant, and Equipment

Buildings	Predominantly 25 to 50 years
Leased assets and leasehold improvements	Based on the term of the lease contract
Information technology equipment	2 to 6 years
Office furniture	4 to 20 years
Automobiles	2 to 5 years

Property, Plant, and Equipment

€ millions	Land and Buildings	Land and Buildings Leased	Other Property, Plant, and Equipment	Other Property, Plant, and Equipment Leased	Advance Payments and Construction in Progress	Total
12/31/2020	1,457	1,816	1,628	41	99	5,041
12/31/2021	1,609	1,801	1,450	40	77	4,977

Additions

2020	66	404	424	25	87	1,006
2021	144	313	518	23	69	1,067

The additions (other than from business combinations) relate primarily to the replacement and purchase of information technology equipment and the construction and leasing of buildings and data centers. For more information about the impairment of data centers, see [Note \(B.6\)](#). For more information about leases, see [Note \(D.5\)](#).



(D.5) Leases

Accounting Policies, Judgments, and Estimates

Under IFRS 16, a contract is or contains a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. As a lessee, SAP recognizes a right-of-use asset representing its right to use the underlying asset and a lease liability representing its obligation to make lease payments. The right-of-use assets are depreciated on a straight-line basis and interest expense is recognized on the lease liabilities. The vast majority of our leases consist of facility and data center leases. Payments for short-term and low-value leases are expensed over the lease term. Extension options are included in the lease term if their exercise is reasonably certain.

Leases in the Balance Sheet

€ millions	12/31/2021	12/31/2020
Right-of-use assets		
Right-of-use assets – land and buildings	1,800	1,816
Right-of-use assets – other property, plant, and equipment	40	41
Total right-of-use assets	1,840	1,857
Property, plant, and equipment	4,977	5,041
Right-of-use assets as % of Property, plant, and equipment	37	37
 Lease liabilities		
Current lease liabilities	407	380
Current financial liabilities	4,528	2,348
Current lease liabilities as % of Current financial liabilities	9	16
 Non-current lease liabilities	1,736	1,740
Non-current financial liabilities	11,042	13,605
Non-current lease liabilities as % of Non-current financial liabilities	16	13

SAP is committed to future minimum lease payments in the amount of €172 million for facility leases that had not yet commenced as at December 31, 2021. For data centers, we have future commitments to spend €226 million on services and IFRS 16-related assets. Because this agreement does not specify the required split, the entire amount has been included in the purchase obligations reported in [Note \(D.8\)](#).

Leases in the Income Statement

€ millions	2021	2020
Lease expenses within operating profit		
Depreciation of right-of-use assets	398	396

For more information about right-of-use asset additions, see [Note \(D.4\)](#), and for a maturity analysis of lease liabilities, see [Note \(F.1\)](#). For more information about the cash flow related to lease liabilities, see the “Reconciliation of Liabilities Arising from Financing Activities” table within [Note \(E.3\)](#).



(D.6) Equity Investments

Accounting Policies, Judgments, and Estimates

As we do not designate financial assets as "at fair value through profit or loss," we generally classify financial assets into the following categories: at amortized cost (AC), at fair value through other comprehensive income (FVOCI), and at fair value through profit or loss (FVTPL), depending on the contractual cash flows of and our business model for holding the respective asset.

For equity securities, as the cash flow characteristics are typically other than solely principal and interest, we take an investment-by-investment decision whether to classify as FVTPL or FVOCI.

The valuation of equity securities of private companies requires judgment, since it is typically based on significant unobservable inputs as no market prices are available and there is an inherent lack of liquidity.

We take the most recent qualitative and quantitative information aspects into consideration to determine the fair value estimates of these equity securities.

Considerable judgment and assumptions are involved with regard to the selection of appropriate comparable company data, the assessment of cash requirements of the business, the acceptance of the technology or products in the addressable markets, the actual and forecasted performance, the milestone achievements, the adequacy of price points from financing rounds, the transaction of similar securities of the same company, the rights and preferences of the underlying securities, the selection of adequate equity allocation parameters, and the possible exit scenarios and associated weightings. Because all of these assumptions could change significantly and because of the inherent uncertainty of valuation, our estimated fair values may differ significantly from the values that would have been used had market prices for the investments existed and that will ultimately be realized, and those differences could be material.

Gains/losses on equity securities at FVTPL include gains/losses from fair value fluctuations, from disposals as well as dividends, while gains/losses on equity securities at FVOCI only include dividends, all of which are shown in Financial income, net. Regular way purchases and sales are recorded as at the trade date.

Equity Investments

€ millions	2021			2020		
	Current	Non- Current	Total	Current	Non- Current	Total
Equity securities	0	5,799	5,799	0	3,113	3,113
Investments in associates	0	155	155	0	14	14
Equity investments	0	5,954	5,954	0	3,127	3,127
Other financial assets	2,758	6,275	9,033	1,635	3,512	5,147
Equity investments as % of Other financial assets	0	95	66	0	89	61



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SAP also has interests in a number of individually immaterial associates. We own more than 20% of the equity interests or have at least 20% of the voting rights. Based on these facts and the nature of the relationships, SAP has determined that it has significant influence.

The following table shows, in aggregate, the carrying amount and share of profit of these associates.

€ millions	2021	2020
Carrying amount of interest in associates	155	14
Share of profit and losses from continuing operations	-9	-1

SAP contributed certain software solutions specific to the financial services industry to SAP Pioneer (with SAP employees also transferring over on a voluntary basis) in exchange for a minority share in the new entity. The transaction closed on September 1, 2021. The associated accounting for this transaction is preliminary and the accounting alignment is ongoing. As such, the proportionate share of earnings is provisional.

The proportionate share of earnings of SAP Pioneer is included in SAP's Consolidated Financial Statements with a time lag of one month. The figures for the equity result relate to the period from September 1, 2021, to November 30, 2021.

For a list of the names of other equity investments, see [Note \(G.9\)](#).

Financial Commitments in Venture Capital Funds

€ millions	2021	2020
Investments in venture capital funds	255	237

SAP invests and holds interests in unrelated parties that manage investments in venture capital. On December 31, 2021, total commitments to make such investments amounted to €757 million (2020: €607 million), of which €502 million had been drawn (2020: €370 million). By investing in such venture capital funds, we are exposed to the risks inherent in the business areas in which the entities operate. Our maximum exposure to loss is the amount invested plus contractually committed future capital contributions.

Maturities

€ millions	12/31/2021
Due 2022	255
Total	255

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(D.7) Non-Current Assets by Region

The table below shows non-current assets excluding financial instruments, deferred tax assets, post-employment benefit assets, and rights arising under insurance contracts.

Non-Current Assets by Region

	2021	2020
€ millions		
Germany	5,305	4,350
Rest of EMEA	5,927	5,798
EMEA	11,232	10,149
United States	30,143	26,829
Rest of Americas	441	379
Americas	30,584	27,208
APJ	1,263	1,216
SAP Group	43,079	38,572

For a breakdown of our employee headcount by region, see [Note \(B.1\)](#), and for a breakdown of revenue by region, see [Note \(A.1\)](#).

(D.8) Purchase Obligations

	2021	2020
€ millions		
Contractual obligations for acquisition of property, plant, and equipment and intangible assets	99	106
Other purchase obligations	4,680	3,685
Purchase obligations	4,779	3,791

The contractual obligations for acquisition of property, plant, and equipment and intangible assets relate primarily to the purchase of hardware, software, patents, office equipment, and vehicles. The remaining obligations relate mainly to marketing, consulting, maintenance, license agreements, cloud services, and other third-party agreements. The increase is mainly due to new purchase obligations related to cloud services. Historically, the majority of such purchase obligations have been realized.

Maturities

	12/31/2021
	Purchase Obligations
€ millions	
Due 2022	1,199
Due 2023 to 2026	2,946
Due thereafter	634
Total	4,779
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Section E – Capital Structure, Financing, and Liquidity

This section describes how SAP manages its capital structure. Our capital management is based on a high equity ratio, modest financial leverage, a well-balanced maturity profile, and deep debt capacity.

(E.1) Capital Structure Management

The primary objective of our capital structure management is to maintain a strong financial profile for investor, creditor, and customer confidence, and to support the growth of our business. We seek to maintain a capital structure that will allow us to continuously cover our funding requirements through the capital markets on reasonable terms and, in so doing, ensure a high level of independence, confidence, and financial flexibility.

SAP SE's long-term credit rating is "A2" by Moody's and "A" by Standard & Poor's, both with stable outlook.

	12/31/2021		12/31/2020		Δ in %
	€ millions	% of Total Equity and Liabilities	€ millions	% of Total Equity and Liabilities	
Equity	41,523	58	29,927	51	39
Current liabilities	16,136	23	12,842	22	26
Non-current liabilities	13,510	19	15,696	27	-14
Liabilities	29,646	42	28,537	49	4
Thereof financial debt	13,094	18	13,283	23	-1
Thereof lease liabilities	2,143	3	2,120	4	1
Total equity and liabilities	71,169	100	58,464	100	22

In 2021, we drew two short-term loans of €950 million and €500 million with the tenor of one year and a flexible repayment schedule, as well as €150 million in issued commercial paper (CP). At maturity, we repaid €500 million in Eurobonds, as well as €150 million in CP. Making use of the flexible structure, we further repaid €1,250 million in acquisition loan for Qualtrics prior to its final maturity date in 2022. The ratio of total nominal volume of financial debt to total equity and liabilities decreased 4 pp.

(E.2) Total Equity

⌚ Accounting for Interests in Subsidiaries

Changes in SAP's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions. When SAP loses control over the subsidiary, it derecognizes the assets and liabilities of the subsidiary and any related non-controlling interests (NCI) and other components of equity. Any resulting gain or loss is recognized in profit or loss.

Issued Capital

SAP SE has issued no-par value bearer shares with a calculated nominal value of €1 per share. All of the shares issued are fully paid.



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Number of Shares

Millions	Issued Capital	Treasury Shares
1/1/2019	1,228.5	-34.9
12/31/2019	1,228.5	-34.9
Purchase of treasury shares	0	-14.1
12/31/2020	1,228.5	-48.9
12/31/2021	1,228.5	-48.9

On January 13, 2022, SAP announced a new share repurchase program to service future share-based compensation awards. The program, with a volume of up to €1 billion, is planned to be executed in the period between February 1, 2022, and December 31, 2022.

Authorized Shares

The Articles of Incorporation authorize the Executive Board to increase the issued capital as follows:

- By up to a total amount of €250 million by issuing new no-par value bearer shares against contributions in cash until May 19, 2025 (Authorized Capital I). The issuance is subject to the statutory subscription rights of existing shareholders.
- By up to a total amount of €250 million by issuing new no-par value bearer shares against contributions in cash or in kind until May 19, 2025 (Authorized Capital II). Subject to the consent of the Supervisory Board, the Executive Board is authorized to exclude the shareholders' statutory subscription rights in certain cases.

Contingent Shares

SAP SE's share capital is subject to a contingent capital increase, which may be effected only to the extent that the holders or creditors of convertible bonds or stock options issued or guaranteed by SAP SE or any of its directly or indirectly controlled subsidiaries under certain share-based payments exercise their conversion or subscription rights, and no other methods for servicing these rights are used. As at December 31, 2021, €100 million, representing 100 million shares, was still available for issuance (2020: €100 million).

Other Components of Equity

€ millions	Exchange Differences	Cash Flow Hedges/Cost of Hedging	Total
1/1/2019	1,239	-5	1,234
Other comprehensive income for items that will be reclassified to profit or loss, net of tax	537	-1	536
12/31/2019	1,776	-6	1,770
Other comprehensive income for items that will be reclassified to profit or loss, net of tax	-2,792	10	-2,782
12/31/2020	-1,016	4	-1,012
Other comprehensive income for items that will be reclassified to profit or loss, net of tax	2,846	-26	2,819
12/31/2021	1,830	-22	1,808

Treasury Shares

By resolution of SAP SE's Annual General Meeting of Shareholders held on May 17, 2018, the authorization granted by the Annual General Meeting of Shareholders on June 4, 2013, regarding the acquisition of treasury shares was revoked to the extent it had not been exercised at that time, and replaced by a new authorization of the Executive Board of SAP SE to acquire, on or before May 16, 2023, shares of SAP SE representing a pro rata amount of capital stock of up to €120 million in aggregate, provided that the shares purchased under the authorization, together with any other shares in the Company previously acquired and held by, or attributable to, SAP SE do not account for



more than 10% of SAP SE's issued share capital. Although treasury shares are legally considered outstanding, there are no dividend or voting rights associated with them. We may redeem or resell shares held in treasury, or we may use treasury shares for the purpose of servicing option or conversion rights under the Company's share-based payment plans. Also, we may use shares held in treasury as consideration in connection with mergers with, or acquisitions of, other companies.

Distribution Policy and Dividends

Our general intention is to remain in a position to return liquidity to our shareholders by distributing annual dividends totaling 40% or more of our profit after tax and by potentially repurchasing treasury shares in future.

In 2021, we distributed €2,182 million (€1.85 per share) in dividends for 2020 compared to €1,864 million (€1.58 per share) paid in 2020 for 2019 and €1,790 million (€1.50 per share) paid in 2019 for 2018.

The total dividend available for distribution to SAP SE shareholders is based on the profits of SAP SE as reported in its statutory financial statements prepared under the accounting rules in the German Commercial Code (*Handelsgesetzbuch*). For the year ended December 31, 2021, the Executive Board intends to propose that a dividend of €2.45 per share (that is, an estimated total dividend of €2,890 million), be paid from the profits of SAP SE, which includes an extraordinary dividend component of €0.50 per share to celebrate SAP's 50th anniversary in 2022.

Non-Controlling Interests

On January 28, 2021, Qualtrics successfully issued 12% of its shares on the Nasdaq Stock Market (NASDAQ). The IPO-related cash inflow amounted to €1,847 million and the initial value of non-controlling interests in net assets was €909 million.

On October 1, 2021, Qualtrics completed its acquisition of Clarabridge in the form of Qualtrics shares and cash. Following the issuance of new Qualtrics shares, SAP's ownership further decreased to 78%, resulting in an additional value of non-controlling interests of €261 million in net assets to be recognized.

On November 11, 2021, Qualtrics announced the closing of its public offering and issued an additional 4% of its shares, which reduced SAP's ownership in Qualtrics to 74%. The offering-related cash inflow amounted to €981 million and the corresponding value of non-controlling interests in net assets was €250 million.

(E.3) Liquidity

Accounting for Non-Derivative Financial Instruments

Classification and Measurement of Non-Derivative Financial Debt Investments

Our non-derivative financial debt investments comprise cash at banks and cash equivalents (highly liquid investments with original maturities of three months or less, such as time deposits and money-market funds), loans and other financial receivables, and acquired debt securities.

As we do not designate financial assets as "at fair value through profit or loss," we generally classify financial assets as: at amortized cost (AC), at fair value through other comprehensive income (FVOCI), or at fair value through profit or loss (FVTPL), depending on the contractual cash flows of, and our business model for, holding the respective asset. Financial assets having cash flow characteristics other than solely principal and interest such as money market and similar funds are generally classified as FVTPL. Generally, all other financial assets with cash flows consisting solely of principal and interest are classified as AC because we follow a conservative investment approach, safeguarding our liquidity by ensuring the safety of principal investment amounts.

Gains/losses on non-derivative financial debt investments at FVTPL are reported in Financial income, net and show interest income/expenses separately from other gains/losses which include gains/losses from fair value fluctuations and disposals. Gains/losses on non-derivative financial debt investments



at AC are reported in Financial income, net and show interest income/expenses separately from other gains/losses which include gains/losses disposals and changes in expected and incurred credit losses. Gains/losses from foreign currency exchange rate fluctuations are included in Other non-operating income/expense, net. Regular way purchases and sales are recorded as at the trade date.

Impairment of Non-Derivative Financial Debt Investments

For these financial assets, we apply considerable judgment by employing the general impairment approach as follows:

- For cash at banks, time deposits, and debt securities such as acquired bonds and acquired commercial paper, we apply the low credit risk exception, as it is our policy to invest only in high-quality assets of issuers with a minimum rating of at least investment grade to minimize the risk of credit losses. Thus, these assets are always allocated to stage 1 of the three-stage credit loss model, and we record a loss allowance at an amount equal to 12-month expected credit losses. This loss allowance is calculated based on our exposure at the respective reporting date, the loss given default for this exposure, and the credit default swap spread as a measure for the probability of default. Even though we invest only in assets of at least investment-grade, we also closely observe the development of credit default swap spreads as a measure of market participants' assessments of the creditworthiness of a debtor to evaluate probable significant increases in credit risk to timely react to changes should these manifest. Among others, we consider cash at banks, time deposits, and debt securities to be in default when the counterparty is unlikely to pay its obligations in full, when there is information about a counterparty's financial difficulties or if there is a drastic increase in a counterparty's credit default swap spread for a prolonged time period while the overall market environment remains generally stable. Such financial assets are written off either partially or in full if the likelihood of recovery is considered remote, which might be evidenced, for example, by the bankruptcy of a counterparty of such financial assets.
- Loans and other financial receivables are monitored based on borrower-specific internal and external information to determine whether there has been a significant increase in credit risk since initial recognition. We consider such assets to be in default if they are significantly beyond their due date or if the borrower is unlikely to pay its obligation. A write-off occurs when the likelihood of recovery is considered remote, for example when bankruptcy proceedings have been finalized or when all enforcement efforts have been exhausted.

Non-Derivative Financial Liabilities

Non-derivative financial liabilities include bank loans, issued bonds, private placements, and other financial liabilities. Included in other financial liabilities are customer funding liabilities which are funds we draw from and make payments on behalf of our customers for customers' employee expense reimbursements, related credit card payments, and vendor payments. We present these funds in cash and cash equivalents and record our obligation to make these expense reimbursements and payments on behalf of our customers as customer funding liabilities.

As we do not designate financial liabilities as FVTPL, we generally classify non-derivative financial liabilities as AC.

Expenses and gains or losses on financial liabilities at AC mainly consist of interest expense, which is shown in Financial income, net. Gains/losses from foreign currency exchange rate fluctuations are included in Other non-operating income/expense, net.

Group Liquidity, Financial Debt, and Net Debt

Group liquidity consists of cash at banks, money market and other funds, as well as time deposits and debt securities (both with remaining maturities of less than one year). Financial debt is defined as the nominal volume of bank loans, issued commercial paper, private placements, and bonds. Net debt is group liquidity less financial debt.



Group Liquidity and Net Debt

	2021	2020	Δ
Cash and cash equivalents	8,898	5,311	3,587
Current time deposits and debt securities	2,632	1,470	1,162
Group liquidity	11,530	6,781	4,750
Current financial debt	-3,755	-1,482	-2,273
Non-current financial debt	-9,338	-11,801	2,463
Financial debt	-13,094	-13,283	189
Net debt (-)	-1,563	-6,503	4,939

While we continuously monitor the ratios presented in the capital structure table, we actively manage our liquidity and structure of our financial indebtedness based on the ratios group liquidity and net debt.

Cash and Cash Equivalents

€ millions	2021			2020		
	Current	Non-Current	Total	Current	Non-Current	Total
Cash at banks	3,149	0	3,149	2,732	0	2,732
Time deposits	1,420	0	1,420	927	0	927
Money market and other funds	4,281	0	4,281	1,655	0	1,655
Debt securities	50	0	50	0	0	0
Expected credit loss allowance	-3	0	-3	-3	0	-3
Cash and cash equivalents	8,898	0	8,898	5,311	0	5,311

Non-Derivative Financial Debt Investments

€ millions	2021			2020		
	Current	Non-Current	Total	Current	Non-Current	Total
Time deposits	2,605	0	2,605	1,448	0	1,448
Debt securities	30	0	30	24	0	24
Financial instruments related to employee benefit plans	0	201	201	0	162	162
Loans and other financial receivables	79	107	186	83	107	190
Expected credit loss allowance	-3	0	-3	-3	0	-3
Non-derivative financial debt investments	2,711	308	3,019	1,552	269	1,822
Other financial assets	2,758	6,275	9,033	1,635	3,512	5,147
Non-derivative financial debt investments as % of Other financial assets	98	5	33	95	8	35

Time deposits with original maturity of three months or less are presented as cash and cash equivalents, and those with original maturities of greater than three months (investments considered in group liquidity) are presented as other financial assets. Debt securities consist of acquired CP and acquired bonds of mainly financial and non-financial corporations and municipalities.

For more information about financial risk and the nature of risk, see [Note \(F.1\)](#).



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Financial Debt

€ millions	2021					2020				
	Nominal Volume			Carrying Amount		Nominal Volume			Carrying Amount	
	Current	Non-Current	Current	Non-Current	Total	Current	Non-Current	Current	Non-Current	Total
Bonds	900	8,965	900	8,851	9,751	500	9,844	500	9,868	10,369
Private placement transactions	393	373	396	393	790	0	707	0	742	742
Commercial paper	930	0	931	0	931	930	0	931	0	931
Bank loans	1,533	0	1,533	0	1,533	52	1,250	52	1,250	1,302
Financial debt	3,756	9,338	3,760	9,245	13,005	1,482	11,801	1,484	11,860	13,344
Financial liabilities			4,528	11,042	15,570			2,348	13,605	15,953
Financial debt as % of Financial liabilities			83	84	84			63	87	84

Financial liabilities are unsecured, except for the retention of title and similar rights customary in our industry. Effective interest rates on our financial debt (including the effects from interest rate swaps) were 0.83% in 2021, 0.87% in 2020, and 1.09% in 2019.

For more information about the risk associated with our financial liabilities, see [Note \(F.1\)](#). For more information about fair values, see [Note \(F.2\)](#).

Bonds

	Maturity	Issue Price	Coupon Rate	Effective Interest Rate	Nominal Volume (in respective currency in millions)	2021	2020
						Carrying Amount (in € millions)	Carrying Amount (in € millions)
Eurobond 8 – 2014	2023	99.478%	1.125% (fix)	1.24%	€1,000	999	998
Eurobond 9 – 2014	2027	99.284%	1.750% (fix)	1.87%	€1,000	985	1,006
Eurobond 12 – 2015	2025	99.264%	1.000% (fix)	1.13%	€600	597	597
Eurobond 14 – 2018	2021	100.519%	0.000% (var.)	-0.15%	€500	0	500
Eurobond 15 – 2018	2026	99.576%	1.000% (fix)	1.06%	€500	499	498
Eurobond 16 – 2018	2030	98.687%	1.375% (fix)	1.50%	€500	491	510
Eurobond 18 – 2018	2022	99.654%	0.250% (fix)	0.36%	€900	900	899
Eurobond 19 – 2018	2024	99.227%	0.750% (fix)	0.89%	€850	847	845
Eurobond 20 – 2018	2028	98.871%	1.250% (fix)	1.38%	€1,000	982	1,009
Eurobond 21 – 2018	2031	98.382%	1.625% (fix)	1.78%	€1,250	1,223	1,279
Eurobond 22 – 2020	2023	99.794%	0.000% (fix)	0.07%	€600	599	599
Eurobond 23 – 2020	2026	99.200%	0.125% (fix)	0.26%	€600	596	596
Eurobond 24 – 2020	2029	98.787%	0.375% (fix)	0.51%	€800	769	789
Eurobonds						9,487	10,125
USD bond – 2018	2025	100.000%	0.721% (var.)	0.80%	US\$300	264	243
Bonds						9,751	10,369



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Private Placements

					2021	2020
	Maturity	Coupon Rate	Effective Interest Rate	Nominal Volume (in respective currency in millions)	Carrying Amount (in € millions)	Carrying Amount (in € millions)
U.S. private placements						
Tranche 7 – 2012	2022	3.18% (fix)	3.22%	US\$444.5	396	373
Tranche 8 – 2012	2024	3.33% (fix)	3.37%	US\$323	300	281
Tranche 9 – 2012	2027	3.53% (fix)	3.57%	US\$100	94	88
Private placements					790	742

The U.S. private placement notes were issued by one of our subsidiaries that has the U.S. dollar as its functional currency.

Commercial Paper

The net proceeds from our commercial paper program (Commercial Paper, or CP) are being used for general corporate purposes, including dividends and share repurchases. As at December 31, 2021, we had €930 million of issued commercial paper outstanding with maturities generally less than six months and the carrying amount was €931 million (December 31, 2020: €931 million). The weighted average interest rate of our CP was -0.48% as at December 31, 2021 (December 31, 2020: -0.40%).

Loans

In 2021, prior to its original maturity date, SAP repaid the remaining €1,250 million from the term loan drawn in 2019 for the acquisition of Qualtrics.

In March 2021, SAP drew two short-term bank loans of €950 million and €500 million with tenors of one year. In November 2021, the tenors were extended to September 30, 2022. The loans can be repaid flexibly over time, and currently bear interest at 0.55% and 0.52%, respectively.

Reconciliation of Liabilities Arising from Financing Activities

The changes in our financial debts are reconciled to the cash flows from borrowings included in the cash flow from financing activities.

€ millions	1/1/2021	Cash Flows	Business Combinations	Foreign Currency	Fair Value Changes	Other	12/31/2021
Current financial debt	1,482	980	1	1	0	1,291	3,755
Non-current financial debt	11,801	-1,252	2	78	0	-1,291	9,338
Financial debt (nominal volume)	13,283	-272	3	79	0	0	13,094
Basis adjustment	126	0	0	3	-163	0	-34
Transaction costs	-66	0	0	0	0	11	-55
Financial debt (carrying amount)	13,344	-272	3	82	-163	11	13,005
Accrued interest	61	0	0	0	0	-1	60
Interest rate swaps	-114	0	0	-1	157	0	42
Lease ¹	2,120	-374	4	106	0	287	2,143

Total liabilities from financing activities	15,411	-646	7	187	-6	297	15,250
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¹ Other includes new lease liabilities.



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€ millions	1/1/2020	Cash Flows	Business Combinations	Foreign Currency	Fair Value Changes	Other	12/31/2020
Current financial debt	2,529	-2,282	2	-17	0	1,251	1,482
Non-current financial debt	11,139	2,000	1	-88	0	-1,251	11,801
Financial debt (nominal volume)	13,668	-282	2	-105	0	0	13,283
Basis adjustment	13	0	0	-4	117	0	126
Transaction costs	-64	-16	0	0	0	14	-66
Financial debt (carrying amount)	13,616	-298	2	-109	117	14	13,344
Accrued interest	67	0	0	0	0	-6	61
Interest rate swaps	7	0	0	2	-123	0	-114
Lease ¹	2,204	-378	15	-125	0	404	2,120
Total liabilities from financing activities	15,895	-675	17	-233	-5	413	15,411

¹ Other includes new lease liabilities.

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Section F – Management of Financial Risk Factors

This section discusses financial risk factors and risk management regarding foreign currency exchange rate risk, interest rate risk, equity price risk, credit risk, and liquidity risk. Further, it contains information about financial instruments.

(F.1) Financial Risk Factors and Risk Management

Accounting for Derivative Financial Instruments

We use derivatives to hedge foreign currency risk or interest rate risk and designate them as cash flow or fair value hedges if they qualify for hedge accounting under IFRS 9, which involves judgment.

Derivatives Not Designated as Hedging Instruments

Many transactions constitute economic hedges, and therefore contribute effectively to the securing of financial risks but do not qualify for hedge accounting under IFRS 9. To hedge currency risks inherent in foreign-currency denominated and recognized monetary assets and liabilities, we do not designate our held-for-trading derivative financial instruments as accounting hedges, because the profits and losses from the underlying transactions are recognized in profit or loss in the same periods as the profits or losses from the derivatives.

In addition, we occasionally have contracts that contain foreign currency embedded derivatives that are required to be accounted for separately.

Fair value fluctuations in the spot component of such derivatives at FVTPL are included in Other non-operating income/expense, net while the forward element is shown in Financial income, net.

Derivatives Designated as Hedging Instruments

a) Cash Flow Hedge

In general, we apply cash flow hedge accounting to the foreign currency risk of highly probable forecasted transactions. With regard to foreign currency risk, hedge accounting relates to the spot price and the intrinsic values of the derivatives designated and qualifying as cash flow hedges. Accordingly, the effective portion of these components determined on a present value basis is recorded in other comprehensive income. The forward element and time value as well as foreign currency basis spreads excluded from the hedging relationship are recorded as cost of hedging in a separate position in other comprehensive income. As the amounts are not material, they are presented together with the effective portion of the cash flow hedges in our consolidated statements of comprehensive income and consolidated statements of changes in equity. All other components including counterparty credit risk adjustments of the derivative and the ineffective portion are immediately recognized in Financial Income, net in profit or loss. Amounts accumulated in other comprehensive income are reclassified to profit or loss to Other non-operating income/expense, net and Financial income, net in the same period when the hedged item affects profit or loss.

b) Fair Value Hedge

We apply fair value hedge accounting for certain of our fixed-rate financial liabilities and show the fair value fluctuations in Financial income, net.

c) Valuation and Testing of Effectiveness

At inception of a designated hedging relationship, we document our risk management strategy and the economic relationship between hedged item and hedging instrument. The existence of an economic relationship is demonstrated as well as the effectiveness of the hedging relationship tested.



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prospectively by applying the critical terms match for our foreign currency hedges, since currencies, maturities, and the amounts are closely aligned for the forecasted transactions and for the spot element of the forward exchange rate contract or intrinsic value of the currency options, respectively. For interest rate swaps, effectiveness is tested prospectively using statistical methods in the form of a regression analysis, by which the validity and extent of the relationship between the change in value of the hedged items as the independent variable and the fair value change of the derivatives as the dependent variable is determined. The main sources of ineffectiveness are:

- The effect of the counterparty and our own credit risk on the fair value of the forward exchange contracts and interest rate swaps, which is not reflected in the respective hedged item, and
- Differences in the timing of hedged item and hedged transaction in our cash flow hedges.

Amendments to IFRS 9, IAS 39, IFRS 16, IFRS 4, and IFRS 7 – Interest Rate Benchmark Reform

The IASB issued amendments to IFRS 9, IAS 39, IFRS 16, IFRS 4, and IFRS 7 on August 26, 2020, completing Phase 2 of the Interest Rate Benchmark Reform (IBOR reform) project. This was necessary because major interest rate benchmarks were reformed or even replaced.

We are exposed to interest rate benchmarks due to our investing, financing, and hedging activities. The impact of the interest rate benchmark reform, however, is very limited either because the interest rate benchmarks we are mainly using will stay in place (that is, Euribor, USD Fed Funds Rate), the instruments will mature well before the respective benchmark rate is discontinued, or because the instruments have fixed interest rates.

We are impacted by the IBOR reform with regard to:

- Derivatives held in a hedging relationship: We have already replaced the old interest rate benchmark with the new risk-free rate for our EUR interest rate swaps designated in hedging relationships for which we transitioned from EONIA to Euro Short-Term Rate (€STR) + 8.5bps in the first quarter of 2021, or
- Non-derivative financial instruments: We are in the process of reviewing and amending the respective contracts well before the respective IBOR will no longer be quoted, which is the case for our USD bond of US\$300 million referencing to three-month USD LIBOR.

We continue to monitor the IBOR reform project, assess any impact, manage our transition to alternative benchmark rates, and provide respective disclosures. Apart from that, the IBOR reform had no impact on our risk management strategy.

We are exposed to various financial risks, such as market risks (that is, foreign currency exchange rate risk, interest rate risk, and equity price risk), credit risk, and liquidity risk.

We manage market risks, credit risk, and liquidity risk on a Group-wide basis through our global treasury department, global risk management, and global credit management. Risk management policies are established to identify risks, to set appropriate risk limits, and to monitor risks. Risk management policies and hedging strategies are laid out in our internal guidelines (for example, treasury guideline and other internal guidelines), and are subject to continuous internal review, analysis, and update to reflect changes in market conditions and our business.

We only purchase derivative financial instruments to reduce risks and not for speculation, which is defined as entering into derivative instruments without a corresponding underlying transaction.

Foreign Currency Exchange Rate Risk**Foreign Currency Exchange Rate Risk Factors**

As we are active worldwide, our ordinary operations are subject to risks associated with fluctuations in foreign currencies. Since the Group's entities mainly conduct their operating business in their own



functional currencies, our risk of exchange rate fluctuations from ongoing ordinary operations is not considered significant. However, SAP occasionally generates foreign currency-denominated receivables, payables, and other monetary items by transacting in a currency other than the functional currency. To mitigate the extent of the associated foreign currency exchange rate risk, the majority of these transactions are hedged as described below.

In rare circumstances, transacting in a currency other than the functional currency also leads to embedded foreign currency derivatives being separated and measured at fair value through profit or loss.

In addition, the intellectual property (IP) holders in the SAP Group are exposed to risks associated with forecasted intercompany cash flows in foreign currencies. These cash flows arise out of royalty payments from subsidiaries to the respective IP holder. The royalties are linked to the subsidiaries' external revenue. This arrangement leads to a concentration of the foreign currency exchange rate risk with the IP holders, as the royalties are mostly denominated in the subsidiaries' local currencies, while the functional currency of the IP holders with the highest royalty volume is the euro. The highest foreign currency exchange rate exposure of this kind relates to the currencies of subsidiaries with significant operations, for example the U.S. dollar, the pound sterling, the Japanese yen, the Swiss franc, and the Australian dollar.

Generally, we are not exposed to any significant foreign currency exchange rate risk with regard to our investing and financing activities, as such activities are normally conducted in the functional currency of the investing or borrowing entity.

Foreign Currency Exchange Rate Risk Management

We continuously monitor our exposure to currency fluctuation risks based on monetary items and forecasted transactions and pursue a Group-wide strategy to manage foreign currency exchange rate risk, using derivative financial instruments, primarily foreign exchange forward contracts, as appropriate, with the primary aim of reducing profit or loss volatility. Most of the hedging instruments are not designated as being in a hedge accounting relationship.

Currency Hedges Designated as Hedging Instruments (Cash Flow Hedges)

We enter into derivative financial instruments, primarily foreign exchange forward contracts, to hedge significant forecasted cash flows (royalties) from foreign subsidiaries denominated in foreign currencies with a hedge ratio of 1:1 and a hedge horizon of up to 12 months, which is also the maximum maturity of the foreign exchange derivatives we use.

For all years presented, no previously highly probable transaction designated as a hedged item in a foreign currency cash flow hedge relationship ceased to be probable. Therefore, we did not discontinue any of our cash flow hedge relationships. Also, ineffectiveness was either not material or non-existent in all years reported. Generally, the cash flows of the hedged forecasted transactions are expected to occur and to be recognized in profit or loss monthly within a time frame of 12 months from the date of the statement of financial position.

The amounts as at December 31, 2021, relating to items designated as hedged items were as follows:

Designated Hedged Items in Foreign Currency Exchange Rate Hedges

	Forecasted License Payments
€ millions	2021
Change in value used for calculating hedge ineffectiveness	-28
Cash flow hedge	-28
Cost of hedging	-2
Balances remaining in cash flow hedge reserve for which hedge accounting is no longer applied	0



The amounts as at December 31, 2021, designated as hedging instruments were as follows:

Designated Hedging Instruments in Foreign Currency Exchange Rate Hedges

€ millions	Forecasted License Payments	
		2021
Nominal amount		1,023
Carrying amount		
Other financial assets	1	
Other financial liabilities	-31	
Change in value recognized in OCI	-28	
Hedge ineffectiveness recognized in Finance income, net	0	
Cost of hedging recognized in OCI	2	
Amount reclassified from cash flow hedge in OCI to Other non-operating income, net	-4	
Amount reclassified from cost of hedging in OCI to Finance income, net	-3	

On December 31, 2021, we held the following instruments to hedge exposures to changes in foreign currency:

Details on Hedging Instruments in Foreign Currency Exchange Rate Hedges

	Maturity	
	2021	7–12 Months
Forward exchange contracts		
Net exposure in € millions	770	253
Average EUR:GBP forward rate	0.87	0.86
Average EUR:JPY forward rate	130.52	130.32
Average EUR:CHF forward rate	1.08	1.07
Average EUR:AUD forward rate	1.58	1.61
Average EUR:USD forward rate	1.19	1.16

Foreign Currency Exchange Rate Exposure

Our risk exposure is based on the following assumptions:

- The SAP Group's entities generally operate in their functional currencies. In exceptional cases and limited economic environments, operating transactions are denominated in currencies other than the functional currency, leading to a foreign currency exchange rate risk for the related monetary instruments. Where material, this foreign currency exchange rate risk is hedged. Therefore, fluctuations in foreign currency exchange rates do not have a significant impact on either profit or other comprehensive income with regard to our non-derivative monetary financial instruments and related income or expenses.
- Our free-standing derivatives designed for hedging foreign currency exchange rate risks almost completely balance the changes in the fair values of the hedged item attributable to exchange rate movements in the Consolidated Income Statements in the same period. As a consequence, the hedged items and the hedging instruments are not exposed to foreign currency exchange rate risks, and thereby have no effect on profit.

Consequently, we are only exposed to significant foreign currency exchange rate fluctuations with regard to the following:



- The spot component of derivatives held within a designated cash flow hedge relationship affecting other comprehensive income
- Foreign currency embedded derivatives affecting other non-operating expense, net

Thus, our foreign currency exposure (and our average/high/low exposure) as at December 31, 2021, was as follows:

Foreign Currency Exposure

€ billions	2021	2020
Year-end exposure toward all our major currencies	1.4	0.9
Average exposure	1.3	0.9
Highest exposure	1.6	1.0
Lowest exposure	1.0	0.9

Foreign Currency Exchange Rate Sensitivity

We calculate our sensitivity on an upward/downward shift of +/-10% of the foreign currency exchange rate between the euro and all major currencies (2020: +/-10% of the foreign currency exchange rate between the euro and all other major currencies; 2019: +/-10% of the foreign currency exchange rate between the euro and all other major currencies). If, on December 31, 2021, 2020, and 2019, the foreign currency exchange rates had been higher/lower as described above, this would have had the following effects on other non-operating expense, net and other comprehensive income:

Foreign Currency Sensitivity

€ millions	Effects on Other Non-Operating Expense, Net			Effects on Other Comprehensive Income		
	2021	2020	2019	2021	2020	2019
Derivatives held within a designated cash flow hedge relationship						
All major currencies -10% (2020: all major currencies -10%; 2019: all major currencies -10%)				106	43	53
All major currencies +10% (2020: all major currencies +10%; 2019: all major currencies +10%)				-106	-43	-53
Embedded derivatives						
All currencies -10%	40	40	53			
All currencies +10%	-49	-49	-53			

Interest Rate Risk

Interest Rate Risk Factors

We are exposed to interest rate risk as a result of our investing and financing activities mainly in euros and U.S. dollars, since a large part of our investments are based on variable rates and/or short maturities (2021: 67%; 2020: 67%) and most of our financing transactions are based on fixed rates and long maturities (2021: 87%; 2020: 85%).

Interest Rate Risk Management

The aim of our interest rate risk management is to reduce profit or loss volatility and optimize our interest result by creating a balanced structure of fixed and variable cash flows. We therefore manage interest rate risks by adding interest-rate-related derivative instruments to a given portfolio of investments and debt financing. The desired fixed-floating mix of our net debt is set by the Treasury Committee.



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Derivatives Designated as Hedging Instruments (Fair Value Hedges)

To match the interest rate risk from our financing transactions to our investments, we use receiver interest rate swaps to convert certain fixed-rate financial liabilities to floating, and by this means secure the fair value of the swapped financing transactions on a 1:1 ratio. Including interest rate swaps, 50% (2020: 48%) of our total interest-bearing financial liabilities outstanding as at December 31, 2021, had a fixed interest rate.

The amounts as at December 31, 2021, relating to items designated as hedged items were as follows:

Designated Hedged Items in Interest Rate Hedges

€ millions	2021	
	Fixed-Rate Borrowing in EUR	Fixed-Rate Borrowing in USD
Notional amount	4,550	285
Carrying amount	4,508	284
Accumulated fair value adjustments in Other financial liabilities	59	-24
Change in fair value used for measuring ineffectiveness	59	-9
Accumulated amount of fair value hedge adjustments for hedged items ceased to be adjusted for hedging gains/losses	0	-16

The amounts as at December 31, 2021, designated as hedging instruments were as follows:

Designated Hedging Instruments in Interest Rate Hedges

€ millions	2021	
	Interest Rate Swaps for EUR Borrowing	Interest Rate Swaps for USD Borrowing
Notional amount	4,550	285
Carrying amount		
Other financial assets	0	7
Other financial liabilities	-49	0
Change in fair value used for measuring ineffectiveness	-49	7

As at December 31, 2021, we held the following instruments to hedge exposures to changes in interest rates:

Details on Hedging Instruments in Interest Rate Hedges

€ millions	2021						
	2022	2024	2027	2028	2029	2030	2031
EUR interest rate swaps							
Nominal amounts			1,000	1,000	800	500	1,250
Average variable interest rate			1.469%	0.893%	0.233%	0.868%	1.031%
USD interest rate swaps							
Nominal amounts	196	88					
Average variable interest rate	1.011%	0.890%					

None of the fair value adjustment from the receiver swaps, the basis adjustment on the underlying hedged items held in fair value hedge relationships, and the difference between the two recognized in Financial income, net, is material in any of the years presented.



Interest Rate Exposure

Our interest rate exposure (and our average/high/low exposure) as at December 31 was as follows:

Interest Rate Risk Exposure

€ billions	2021				2020			
	Year-End	Average	High	Low	Year-End	Average	High	Low
Fair value interest rate risk								
From investments	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Cash flow interest rate risk								
From investments (including cash)	7.72	6.25	7.72	4.67	4.58	5.14	5.77	4.58
From financing	1.71	2.07	2.95	1.70	1.99	3.18	3.93	1.99
From interest rate swaps	4.83	4.82	4.83	4.81	4.81	4.78	5.10	4.30

Interest Rate Sensitivity

A sensitivity analysis is provided to show the impact of our interest rate risk exposure on profit or loss and equity in accordance with IFRS 7, considering the following:

- Changes in interest rates only affect the accounting for non-derivative fixed-rate financial instruments if they are recognized at fair value. Therefore, such interest rate changes do not change the carrying amounts of our non-derivative fixed-rate financial liabilities, as we account for them at amortized cost. Investments in fixed-rate financial assets classified as fair value through profit or loss were not material at each year end reported. Thus, we do not consider any fixed-rate instruments in the equity-related sensitivity calculation.
- Income or expenses recorded in connection with non-derivative financial instruments with variable interest rates are subject to interest rate risk if they are not hedged items in an effective hedge relationship. Thus, we take into consideration interest rate changes relating to our variable-rate financing and our investments in money market instruments in the profit-related sensitivity calculation.
- The designation of interest rate receiver swaps in a fair value hedge relationship leads to interest rate changes affecting Financial income, net. The fair value movements related to the interest rate swaps are not reflected in the sensitivity calculation, as they offset the fixed interest rate payments for the bonds and private placements as hedged items. However, changes in market interest rates affect the amount of interest payments from the interest rate swap. As a consequence, we include those effects of market interest rates on interest payments in the profit-related sensitivity calculation.

Due to the different interest rate expectations for the U.S. dollar and the euro area, we base our sensitivity analyses on a yield curve upward shift of +75/+20 basis points (bps) for the U.S. dollar/euro area (2020: +50/+10bps for the U.S. dollar/euro area; 2019: +50/+10bps for the U.S. dollar/euro area), and a yield curve downward shift of -25/-20bps for the U.S. dollar/euro area (2020: -50/-20bps for the U.S. dollar/euro area; 2019: -50/-20bps for the U.S. dollar/euro area).

If, on December 31, 2021, 2020, and 2019, interest rates had been higher/lower than as described above, this would not have had a material effect on Financial income, net, for our variable interest rate investments and would have had the following effects on Financial income, net.



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Interest Rate Sensitivity

€ millions	Effects on Financial Income, Net		
	2021	2020	2019
Derivatives held within a designated fair value hedge relationship			
Interest rates +75bps for U.S. dollar area/+20bps for euro area (2020: +50/+10bps for U.S. dollar/euro area; 2019: +50/+10bps for U.S. dollar/euro area)	-70	-41	-41
Interest rates -25bps for U.S. dollar area/-20bps for euro area (2020: -50/- 20bps for U.S. dollar/euro area; 2019: -50/-20bps for U.S. dollar/euro area)	68	79	76
Variable-rate financing			
Interest rates +75bps for U.S. dollar area/+20bps for euro area (2020: +50/+10bps for U.S. dollar/euro area; 2019: +50/+10bps for U.S. dollar/euro area)	-10	-6	-8
Interest rates -25bps for U.S. dollar area/-20bps for euro area (2020: -50/- 20bps for U.S. dollar/euro area; 2019: -50/-20bps for U.S. dollar/euro area)	5	6	8

Equity Price Risk**Equity Price Risk Factors**

We are exposed to equity price risk with regard to our investments in equity securities and our share-based payments plans.

Equity Price Risk Management

Our listed equity investments are monitored based on the current market value that is affected by the fluctuations in the volatile stock markets worldwide. Unlisted equity investments are monitored based on detailed financial information provided by the investees. The fair value of our listed equity investments depends on the equity prices, while the fair value of the unlisted equity investments is influenced by various unobservable input factors.

We also monitor the exposure with regard to our share-based payment plans. To reduce resulting profit or loss volatility, we historically hedged certain cash flow exposures associated with these plans by purchasing derivative instruments, but we did not apply hedge accounting. This practice ceased in June 2021.

Equity Price Exposure

On December 31, 2021, our exposure from our investments in equity securities was €5,799 million (2020: €3,113 million; 2019: €1,996 million).

For information about the exposure from our share-based payments plans, see [Note \(B.3\)](#).

Equity Price Sensitivity

Our sensitivity towards a fluctuation in equity prices is as follows:

Equity Price Sensitivity

€ millions	2021	2020	2019
Investments in equity securities			
Increase in equity prices and respective unobservable inputs of 10% - increase of financial income, net	515	259	156
Decrease in equity prices and respective unobservable inputs of 10% - decrease of financial income, net	-515	-259	-156



Credit Risk

Credit Risk Factors

To reduce the credit risk in investments, we arrange to receive rights to collateral for certain investing activities in the full amount of the investment volume, which we would be allowed to make use of only in the case of default of the counterparty to the investment. In the absence of other significant agreements to reduce our credit risk exposure, the total amounts recognized as cash and cash equivalents, current investments, loans, and other financial receivables, trade receivables, and derivative financial assets represent our maximum exposure to credit risks, except for the agreements mentioned above.

Credit Risk Management

Cash at Banks, Time Deposits, and Debt Securities

To mitigate the credit risk from our investing activities and derivative financial assets, we conduct all our activities only with approved major financial institutions and issuers that carry high external ratings, as required by our internal treasury guideline. Among its stipulations, the guideline requires that we invest only in assets from issuers with a minimum rating of at least "BBB flat." We only invest in issuers with a lower rating in exceptional cases. Such investments were not material in 2021 and 2020. The weighted average rating of our financial assets is A. We pursue a policy of cautious investments characterized by predominantly current investments, standard investment instruments, as well as a wide portfolio diversification by doing business with a variety of counterparties.

To further reduce our credit risk, we require collateral for certain investments in the full amount of the investment volume, which we would be allowed to make use of in the case of default of the counterparty to the investment. As such collateral, we only accept bonds with at least investment-grade rating level.

In addition, the concentration of credit risk that exists when counterparties are involved in similar activities by instrument, sector, or geographic area is further mitigated by diversification of counterparties throughout the world and adherence to an internal limit system for each counterparty. This internal limit system stipulates that the business volume with individual counterparties is restricted to a defined limit that depends on the lowest official long-term credit rating available by at least one of the major rating agencies, the Tier 1 capital of the respective financial institution, or participation in the German Depositors' Guarantee Fund or similar protection schemes. We continuously monitor strict compliance with these counterparty limits. As the premium for credit default swaps mainly depends on market participants' assessments of the creditworthiness of a debtor, we also closely observe the development of credit default swap spreads in the market to evaluate probable risk developments and react in a timely manner to changes should these manifest.

For cash at banks, time deposits, and debt securities such as acquired bonds or commercial paper, we apply the general impairment approach. As it is our policy to only invest in high-quality assets of issuers with a minimum rating of at least investment grade so as to minimize the risk of credit losses, we use the low credit risk exception. Thus, these assets are always allocated to stage 1 of the three-stage credit loss model and we record a loss allowance for an amount equal to 12-month expected credit losses. This loss allowance is calculated based on our exposure as at the respective reporting date, the loss given default for this exposure, and the credit default swap spread as a measure for the probability of default. To ensure that during their lifetime our investments always fulfill the requirement of being investment-grade, we monitor changes in credit risk by tracking published external credit ratings. Among other things, we consider cash at banks, time deposits, and debt securities to be in default when the counterparty is unlikely to pay its obligations in full, when there is information about a counterparty's financial difficulties, or in case of a drastic increase in the credit default swap spread of a counterparty for a prolonged time period while the overall market environment remains rather stable. Such financial assets are written off either partially or in full if the likelihood of recovery is considered remote, which might be evidenced, for example, by the bankruptcy of a counterparty of such financial assets.

**Trade Receivables**

The default risk of our trade receivables is managed separately, mainly based on assessing the creditworthiness of customers through external ratings and on our past experience with the customers concerned. Based on this assessment, individual credit limits are established for each customer and deviations from such credit limits need to be approved by management.

We apply the simplified impairment approach using a provision matrix for all trade receivables and contract assets to take into account any lifetime expected credit losses already at initial recognition. For the purpose of the provision matrix, customers are clustered into different risk classes, mainly based on market information such as the country risk assessment of their country of origin. Loss rates used to reflect lifetime expected credit losses are determined using a roll-rate method based on the probability of a receivable progressing through different stages of being overdue and on our actual credit loss experience over the past years. These loss rates are enhanced by forward-looking information to reflect differences between economic conditions during the period over which the historical data has been collected, current conditions, and the expected changes in the economic conditions over the expected life of the receivables. Forward-looking information is based on changes in country risk ratings, or fluctuations in credit default swaps of countries of the customers we do business with. We continuously monitor outstanding receivables locally to assess whether there is objective evidence that our trade receivables and contract assets are credit-impaired. Evidence that trade receivables and contract assets are credit-impaired include, among the trade receivables being past due, information about significant financial difficulty of the customer or non-adherence to a payment plan. We consider receivables to be in default when the counterparty is unlikely to pay its obligations in full. However, a delay of payments (for example, more than 90 days past due) in the normal course of business alone does not necessarily indicate a customer default. We write off account balances either partially or in full if we judge that the likelihood of recovery is remote, which might be evidenced, for example, when bankruptcy proceedings for a customer are finalized or when all enforcement efforts have been exhausted.

The impact of default on our trade receivables from individual customers is mitigated by our large customer base and its distribution across many different industries, company sizes, and countries worldwide. For more information about our trade receivables, see [Note \(A.2\)](#).

Credit Risk Exposure***Cash, Time Deposits, and Debt Securities***

As at December 31, 2021, our exposure to credit risk from cash, time deposits, and debt securities was as follows:

Credit Risk Exposure from Cash, Time Deposits, and Debt Securities

2021					
€ millions, unless otherwise stated	Equivalent to External Rating	Weighted Average Loss Rate	Gross Carrying Amount Not Credit-Impaired	Gross Carrying Amount Credit-Impaired	ECL Allowance
Risk class 1 - low risk	AAA to BBB-	-0.0%	6,864	0	-3
Risk class 2 - high risk	BB to D	0.0%	37	0	0
Risk class 3 - unrated	NA	-10.3%	29	0	-3
Total		-0.1%	6,930	0	-6

2020					
€ millions, unless otherwise stated	Equivalent to External Rating	Weighted Average Loss Rate	Gross Carrying Amount Not Credit-Impaired	Gross Carrying Amount Credit-Impaired	ECL Allowance
Risk class 1 - low risk	AAA to BBB-	-0.1%	4,846	0	-3
Risk class 2 - high risk	BB to D	0.0%	29	0	0
Risk class 3 - unrated	NA	-11.3%	23	0	-3
Total		-0.1%	4,898	0	-6



As at December 31, 2021, the major part of our other loans and other financial receivables was concentrated in Germany. There were no loans, or other financial receivables past due but not impaired and we had no indications of impairments of such assets that were not past due and not impaired as at that date.

Trade Receivables and Contract Assets

As at December 31, 2021, our exposure to credit risk from trade receivables was as follows:

Credit Risk Exposure from Trade Receivables and Contract Assets

€ millions, unless otherwise stated	Weighted Average Loss Rate	Gross Carrying Amount Not Credit-Impaired	Gross Carrying Amount Credit-Impaired	2021
				ECL Allowance
AR not due and due	-0.5%	4,106	6	-19
AR overdue 1 to 30 days	-1.0%	611	57	-7
AR overdue 30 to 90 days	-1.8%	514	48	-10
AR overdue more than 90 days	-19.3%	482	240	-139
TOTAL	-2.9%	5,713	351	-175

€ millions, unless otherwise stated	Weighted Average Loss Rate	Gross Carrying Amount Not Credit-Impaired	Gross Carrying Amount Credit-Impaired	2020
				ECL Allowance
AR not due and due	-0.2%	4,426	0	-10
AR overdue 1 to 30 days	-0.9%	511	71	-5
AR overdue 30 to 90 days	-1.8%	380	61	-8
AR overdue more than 90 days	-16.8%	695	273	-163
TOTAL	-2.9%	6,012	405	-186

For 2021, the movement in the ECL allowance for trade receivables and contract assets is as follows:

Movement in ECL Allowance for Trade Receivables and Contract Assets

€ millions	2021	2020
Balance as at 1/1	-186	-131
Net credit losses recognized	-87	-97
Amounts written off	98	42
Balance as at 12/31	-175	-186

Liquidity Risk

Liquidity Risk Factors

We are exposed to liquidity risk from our obligations towards suppliers, employees, and financial institutions.

Liquidity Risk Management

Our liquidity is managed by our global treasury department with the primary aim of maintaining liquidity at a level that is adequate to meet our financial obligations.

Generally, our primary source of liquidity is funds generated from our business operations. Our global treasury department manages liquidity centrally for all subsidiaries. Where possible, we pool their



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cash surplus so that we can use liquidity centrally for our business operations, for subsidiaries' funding requirements, or to invest any net surplus in the market. With this strategy, we seek to optimize yields, while ensuring liquidity, by investing only with counterparties and issuers of high credit quality, as explained before. Hence, high levels of liquid assets and marketable securities provide a strategic reserve, helping keep SAP flexible, sound, and independent.

Apart from effective working capital and cash management, we have reduced the liquidity risk inherent in managing our day-to-day operations and meeting our financing responsibilities by arranging an adequate volume of available credit facilities with various financial institutions on which we can draw if necessary.

In order to retain high financial flexibility, in 2017, SAP SE entered into a €2.5 billion syndicated credit facility agreement with a term until 2024. The use of the facility is not restricted by any financial covenants. Borrowings under the facility bear interest of EURIBOR or LIBOR for the respective currency plus a margin of 17bps. We are also required to pay a commitment fee of 5.95bps per annum on the unused available credit. We have not drawn on the facility.

In September 2019, we initiated a commercial paper program (Commercial Paper, or CP). As at December 31, 2021, we had €930 million of CP outstanding with maturities generally less than six months (2020: €930 million).

Additionally, as at December 31, 2021 and 2020, the Group had available lines of credit totaling €346 million and €372 million, respectively. There were immaterial borrowings outstanding under these lines of credit in all years presented.

Liquidity Risk Exposure

The table below is an analysis of the remaining contractual maturities of all our financial liabilities held as at December 31, 2021. Financial liabilities for which repayment can be requested by the contract partner at any time are assigned to the earliest possible period. Variable interest payments were calculated using the latest relevant interest rate fixed as at December 31, 2021. As we generally settle our derivative contracts gross, we show the pay and receive legs separately for all our currency and interest rate derivatives, whether or not the fair value of the derivative is negative. The cash outflows for the currency derivatives are translated using the applicable spot rate.

Contractual Maturities of Non-Derivative Financial Liabilities

€ millions	Carrying Amount	Contractual Cash Flows					
		12/31/2021	2022	2023	2024	2025	2026
Non-derivative financial liabilities							
Trade payables	-1,089	-1,089	0	0	0	0	0
Lease liabilities	-2,143	-448	-338	-263	-208	-184	-934
Other financial liabilities	-13,285	-4,084	-1,695	-1,228	-936	-1,165	-4,773
Total of non-derivative financial liabilities	-16,517	-5,621	-2,033	-1,491	-1,144	-1,349	-5,707

€ millions	Carrying Amount	Contractual Cash Flows					
		12/31/2020	2021	2022	2023	2024	2025
Non-derivative financial liabilities							
Trade payables	-1,014	-1,014	0	0	0	0	0
Lease liabilities	-2,120	-426	-359	-262	-218	-165	-931
Other financial liabilities	-13,770	-1,982	-2,640	-1,700	-1,211	-918	-5,933
Total of non-derivative financial liabilities	-16,904	-3,422	-2,999	-1,962	-1,429	-1,083	-6,864

**Contractual Maturities of Derivative Financial Liabilities and Financial Assets**

€ millions	Carrying Amount	Contractual Cash Flows		Carrying Amount	Contractual Cash Flows			
		2022	Thereafter		2021	Thereafter		
Derivative financial liabilities and assets								
Derivative financial liabilities								
Currency derivatives not designated as hedging instruments	-62			-61				
Cash outflows		-2,381	-12		-2,902	-7		
Cash inflows		2,327	0		2,842	0		
Currency derivatives designated as hedging instruments	-31			-1				
Cash outflows		-919			-141			
Cash inflows		885			139			
Interest rate derivatives designated as hedging instruments	-49			0				
Cash outflows		-48	-476					
Cash inflows		60	421					
Total of derivative financial liabilities	-142	-76	-67	-63	-62	-7		
Derivative financial assets								
Currency derivatives not designated as hedging instruments	45			38				
Cash outflows		-2,878			-2,452			
Cash inflows		2,923			2,493			
Currency derivatives designated as hedging instruments	1			7				
Cash outflows		-136			-291			
Cash inflows		137			297			
Interest rate derivatives designated as hedging instruments	7			114				
Cash outflows		-4	-4		-48	-398		
Cash inflows		9	6		69	495		
Total of derivative financial assets	53	51	2	158	68	97		
Total of derivative financial liabilities and assets	-89	-25	-65	95	6	90		

(F.2) Fair Value Disclosures on Financial Instruments**① Level Transfers**

It is our policy that transfers between the different levels of the fair value hierarchy are deemed to have occurred at the beginning of the period of the event or change in circumstances that caused the transfer.

Fair Value of Financial Instruments

We use various types of financial instruments in the ordinary course of business, which are classified as either amortized cost (AC) or fair value through profit or loss (FVTPL). For those financial instruments measured at fair value or for which fair value must be disclosed, we have categorized the financial instruments into a three-level fair value hierarchy depending on the inputs used to determine fair value and their significance for the valuation techniques.



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Fair Values of Financial Instruments and Classification Within the Fair Value Hierarchy

€ millions	Category	Measurement Categories				12/31/2021		
		Carrying Amount	At Amortized Cost	At Fair Value	Level 1	Level 2	Level 3	Fair Value
								Total
Assets								
Cash and cash equivalents				8,898				
Cash at banks ¹	AC	3,149	3,149					
Time deposits ¹	AC	1,467	1,467					
Money market and similar funds	FVTPL	4,281		4,281	4,281			4,281
Trade and other receivables		6,499						
Trade receivables ¹	AC	5,888	5,888					
Other receivables ²	–	611						
Other financial assets		9,033						
Debt securities	AC	30	30		30			30
Equity securities	FVTPL	5,799		5,799	772	155	4,871	5,799
Investments in associates ²	–	155						
Time deposits	AC	2,602	2,602			2,602		2,602
Financial instruments related to employee benefit plans ²	–	201						
Loans and other financial receivables	AC	186	186			186		186
Derivative assets								
Designated as hedging instrument								
FX forward contracts	–	1		1		1		1
Interest rate swaps	–	7		7		7		7
Not designated as hedging instrument								
FX forward contracts	FVTPL	41		41		41		41
Call options for share-based payments	FVTPL	0		0		0		0
Call option on equity shares	FVTPL	10		10		10		10
Liabilities								
Trade and other payables		–1,702						
Trade payables ¹	AC	–1,089	–1,089					
Other payables ²	–	–613						
Financial liabilities		–15,571						
Non-derivative financial liabilities								
Loans	AC	–1,533	–1,533		–1,533			–1,533
Bonds	AC	–10,682	–10,682		–10,248	–931		–11,179
Private placements	AC	–790	–790			–801		–801
Other non-derivative financial liabilities ³	AC	–2,424	–2,424			–281		–281
Derivatives								
Designated as hedging instrument								
FX forward contracts	–	–31		–31		–31		–31

Interest rate swaps	-	-49	-49	-49	-49		-49	
Not designated as hedging instrument								
FX forward contracts	FVTPL	-62	-62	-62	-62		-62	
Total financial instruments, net		7,158	-3,194	9,997	-5,164	-695	4,881	-978

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€ millions	Category	Measurement Categories			Fair Value			12/31/2020
		Carrying Amount	At Amortized Cost	At Fair Value	Level 1	Level 2	Level 3	
							Total	
Assets								
Cash and cash equivalents		5,311						
Cash at banks ¹	AC	2,732	2,732					
Time deposits ¹	AC	924	924					
Money market and similar funds	FVTPL	1,655		1,655	1,655			1,655
Trade and other receivables		6,730						
Trade receivables ¹	AC	6,232	6,232					
Other receivables ²	—	498						
Other financial assets		5,147						
Debt securities	AC	24	24		24			24
Equity securities	FVTPL	3,113		3,113	72	536	2,505	3,113
Investments in associates ²	—	14						
Time deposits	AC	1,445	1,445			1,445		1,445
Financial instruments related to employee benefit plans ²	—	162						
Loans and other financial receivables	AC	190	190			190		190
Derivative assets								
Designated as hedging instrument								
FX forward contracts	—	7		7		7		7
Interest rate swaps	—	114		114		114		114
Not designated as hedging instrument								
FX forward contracts	FVTPL	38		38		38		38
Call options for share-based payments	FVTPL	36		36		36		36
Call option on equity shares	FVTPL	4		4		4		4
Liabilities								
Trade and other payables		-1,312						
Trade payables ¹	AC	-1,014	-1,014					
Other payables ²	—	-298						
Financial liabilities		-15,953						
Non-derivative financial liabilities								
Loans	AC	-1,301	-1,301		-1,301			-1,301
Bonds	AC	-11,300	-11,300		-10,966	-931		-11,897
Private placements	AC	-742	-742			-771		-771
Other non-derivative financial liabilities ³	AC	-2,547	-2,547			-427		-427
Derivatives								
Designated as hedging instrument								
FX forward contracts	—	-1		-1		-1		-1
Interest rate swaps	—	0		0		0		0
Not designated as hedging instrument								
FX forward contracts	FVTPL	-61		-61		-61		-61
Total financial instruments, net		-77	-5,357	4,904	-9,214	-1,128	2,509	-7,833

¹ We do not separately disclose the fair value for cash and cash equivalents, trade receivables, and accounts payable as their carrying amounts are a reasonable approximation of their fair values.

² Since the line items Trade receivables, Trade payables, and Other financial assets contain both financial and non-financial assets or liabilities (such as other taxes or advance payments), the carrying amounts of non-financial assets or liabilities are shown to allow a reconciliation to the corresponding line items in the Consolidated Statements of Financial Position.

³ For lease liabilities, included in the line item Other non-derivative financial liabilities, separate disclosure of fair value is not required.



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Fair Values of Financial Instruments by Instrument Classification

			12/31/2021	
€ millions	Category	Carrying Amount	At Amortized Cost	At Fair Value
Financial assets				
At fair value through profit or loss	FVTPL	10,131		10,131
At amortized cost	AC	13,323	13,323	
Financial liabilities				
At fair value through profit or loss	FVTPL	-62		-62
At amortized cost	AC	-16,517	-16,517	

Fair Values of Financial Instruments by Instrument Classification

			12/31/2020	
€ millions	Category	Carrying Amount	At Amortized Cost	At Fair Value
Financial assets				
At fair value through profit or loss	FVTPL	4,846		4,846
At amortized cost	AC	11,547	11,547	
Financial liabilities				
At fair value through profit or loss	FVTPL	-61		-61
At amortized cost	AC	-16,904	-16,904	

Determination of Fair Values

A description of the valuation techniques and the inputs used in the fair value measurement is given below:



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Financial Instruments Measured at Fair Value on a Recurring Basis

Type	Fair Value Hierarchy	Determination of Fair Value/Valuation Technique	Significant Unobservable Inputs	Interrelationship Between Significant Unobservable Inputs and Fair Value Measurement
Other financial assets				
Money-market and similar funds	Level 1	Quoted prices in an active market	NA	NA
Debt securities	Level 1	Quoted prices in an active market	NA	NA
Listed equity securities	Level 1	Quoted prices in an active market	NA	NA
	Level 2	Quoted prices in an active market deducting a discount for the disposal restriction derived from the premium for a respective put option.	NA	NA
	Level 3	Market approach. Comparable company valuation using revenue multiples derived from companies comparable to the investee.	- Peer companies used (revenue multiples range from 3.5 to 11.5) - Revenues of investees - Discounts for lack of marketability (10% to 32.3%)	The estimated fair value would increase (decrease) if: - The revenue multiples were higher (lower) - The investees' revenues were higher (lower) - The liquidity discounts were lower (higher)
Unlisted equity securities		Market approach. Venture capital method evaluating a variety of quantitative and qualitative factors such as actual and forecasted results, cash position, recent or planned transactions, and market comparable companies.	- Nature and selection of financing rounds - Weighting of financing rounds - Discounts for lack of marketability - Weighting of equity allocation method such as option pricing model and common stock equivalent model - Volatility assumptions - Estimated time to exit - Imminent exit value	The estimated fair value would increase (decrease) if: - Different financing rounds are selected - Weighting of financing rounds changes - Weighting of the applied equity allocation methods changes - Volatility assumptions were higher (lower) - Estimated time to exit increases (decreases) - The imminent exit value increases (decreases)
		Last financing round valuations	Nature and pricing indication of latest financing round	The estimated fair value would increase (decrease) if: - Price of latest financing round increases (decreases) - The overall company value were higher (lower) - The respective analyzed share class would be affected by this change due to its rights and preferences
		Net asset value/fair market value as reported by the respective funds	Net asset value calculations of the respective funds	The estimated fair value would increase (decrease) if: - Reported net asset value of respective fund were higher (lower)
Call option on equity shares	Level 3	Market approach. Venture capital method evaluating a variety of quantitative and qualitative factors such	NA	NA

as actual and forecasted results, cash position, recent or planned transactions, and market comparable companies.

Other financial assets/ Financial liabilities

FX forward contracts Level 2

Discounted cash flow using par method. Expected future cash flows based on forward exchange rates are discounted over the respective remaining term of the contracts using the respective deposit interest rates and spot rates.

NA

NA



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Type	Fair Value Hierarchy	Determination of Fair Value/Valuation Technique	Significant Unobservable Inputs	Interrelationship Between Significant Unobservable Inputs and Fair Value Measurement
Interest rate swaps	Level 2	Discounted cash flow. Expected future cash flows are estimated based on forward interest rates from observable yield curves and contract interest rates, discounted at a rate that reflects the credit risk of the counterparty.	NA	NA

Financial Instruments Not Measured at Fair Value

Type	Fair Value Hierarchy	Determination of Fair Value/Valuation Technique
Financial liabilities		
Fixed-rate bonds (financial liabilities)	Level 1	Quoted prices in an active market
Fixed-rate private placements/ loans (financial liabilities)	Level 2	Discounted cash flows Future cash outflows for fixed interest and principal are discounted over the term of the respective contracts using the market interest rates as at the reporting date.

For other non-derivative financial assets/liabilities and variable rate financial debt, it is assumed that their carrying value reasonably approximates their fair values.

Transfers Between Levels 1 and 2

Transfers of equity securities from Level 2 to Level 1, which occurred because disposal restrictions lapsed and deducting a discount for such restriction was no longer necessary, were €1,030 million in 2021 (2020: €91 million), while transfers from Level 1 to Level 2 did not occur at all.

Level 3 Fair Value Disclosures

The following table shows the reconciliation of fair values from the opening to the closing balances for our unlisted equity securities and call options on equity shares classified as Level 3 fair values:

Reconciliation of Level 3 Fair Values

€ millions	2021	2020
1/1	2,508	1,896
Transfers		
Into Level 3	0	0
Out of Level 3	-455	-201
Purchases	1,076	728
Sales	-852	-233
Gains/losses		
Included in financial income, net	2,348	501

Included in exchange differences in other comprehensive income	256	-183
12/31	4,881	2,508
Change in unrealized gains/losses in profit or loss for equity investments held at the end of the reporting period	1,789	376

Transfers out of Level 3 are due to initial public offerings of the respective investees. Changing the unobservable inputs to reflect reasonably possible alternative assumptions would not have a material impact on the fair values of our unlisted equity securities held as FVTPL as at the reporting date.

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Section G – Other Disclosures

This section provides additional disclosures on miscellaneous topics, including information pertaining to the Executive Board, the Supervisory Board, related party transactions, and other corporate governance topics.

(G.1) Prepaid Expenses and Other Tax Assets

€ millions	2021			2020		
	Current	Non-Current	Total	Current	Non-Current	Total
Prepaid expenses	588	242	830	495	187	682
Other tax assets	219	53	272	209	52	261
Total	807	295	1,102	704	239	943
⌚ Other non-financial assets	1,633	2,628	4,261	1,321	1,926	3,247
Prepaid expenses and other tax assets as % of ⌚ Other non-financial assets	49	11	26	53	12	29

Prepaid expenses primarily consist of prepayments for hyperscalers, support services, and software royalties. Other tax assets primarily consist of value-added tax (VAT).

(G.2) Other Tax Liabilities

€ millions	2021			2020		
	Current	Non-Current	Total	Current	Non-Current	Total
Other tax liabilities	646	0	646	632	0	632
⌚ Other non-financial liabilities	5,203	860	6,063	4,643	770	5,413
Other tax liabilities as % of ⌚ Other non-financial liabilities	12	0	11	14	0	12

Other tax liabilities primarily consist of VAT, payroll tax, sales tax, and withholding tax.

(G.3) Other Litigation, Claims, and Legal Contingencies

This Note discloses information about intellectual property-related litigation and claims, tax-related litigation other than income tax-related litigation (see [Note \(C.5\)](#)), and anti-bribery and export control matters.

⌚ Uncertainty in Context of Legal Matters

The policies outlined in [Note \(A.4\)](#) for customer-related provisions, which include provisions for customer-related litigation cases and claims, equally apply to our other litigation, claims, and legal contingencies disclosed in this Note.

The outcome of litigation and claims is intrinsically subject to considerable uncertainty. Management's view of these matters may also change in the future. Actual outcomes of litigation and claims may differ from the assessments made by management in prior periods, which could result in a material impact on our business, financial position, profit, cash flows, or reputation. Most of the lawsuits and



claims are of a very individual nature and claims are either not quantified by the claimants or the claim amounts quantified are, based on historical evidence, not expected to be a good proxy for the expenditure that would be required to resolve the case concerned. The specifics of the jurisdictions where most of the claims are located further impair the predictability of the outcome of the cases. Therefore, it is typically not practicable to reliably estimate the financial effect that these lawsuits and claims would have if SAP were to incur expenditure for these cases.

Further, the expected timing of any resulting outflows of economic benefits from these lawsuits and claims is typically uncertain and not estimable, as it depends generally on the duration of the legal proceedings and settlement negotiations required to resolve them.

We are subject to a variety of claims and lawsuits that arise from time to time in the ordinary course of our business, including proceedings and claims that relate to companies we have acquired. We will continue to vigorously defend against all claims and lawsuits against us. The provisions recorded for these claims and lawsuits as at December 31, 2021, are neither individually nor in the aggregate material to SAP.

Among the claims and lawsuits disclosed in this Note are the following classes:

Intellectual Property-Related Litigation and Claims

Intellectual property-related litigation and claims are cases in which third parties have threatened or initiated litigation claiming that SAP violates one or more intellectual property rights that they possess. Such intellectual property rights may include patents, copyrights, and other similar rights.

Contingent liabilities exist from intellectual property-related litigation and claims for which no provision has been recognized. Generally, it is not practicable to estimate the financial impact of these contingent liabilities due to the uncertainties around the litigation and claims, as outlined above. The total amounts claimed by plaintiffs in those intellectual property-related lawsuits or claims in which a claim has been quantified were not material to us as at December 31, 2021 and 2020. Based on our past experience, most of the intellectual property-related litigation and claims tend to be either dismissed in court or settled out of court for amounts significantly below the originally claimed amounts. We currently believe that resolving the intellectual property-related claims and lawsuits pending as at December 31, 2021, will neither individually nor in the aggregate have a material adverse effect on our business, financial position, profit, or cash flows.

Individual cases of intellectual property-related litigation and claims include the following:

In June 2018, Teradata Corporation, Teradata US, Inc. and Teradata Operations, Inc. (collectively "Teradata") filed a civil lawsuit against SAP SE, SAP America, Inc., and SAP Labs, LLC in U.S. federal court in California. Teradata alleged that SAP misappropriated trade secrets of Teradata, infringed Teradata's copyrights (this claim was subsequently withdrawn by Teradata), and violated U.S. antitrust laws. Teradata sought unspecified monetary damages and injunctive relief. In 2019, SAP asserted patent infringement counterclaims against Teradata seeking monetary damages and injunctive relief. In 2020, Teradata initiated a second civil lawsuit against SAP asserting patent infringement, seeking monetary damages and injunctive relief; in February 2021, SAP filed patent infringement counterclaims against Teradata in this second U.S. lawsuit as well as a civil lawsuit against Teradata in Germany asserting patent infringement, seeking monetary damages and injunctive relief. Currently, all claims between the parties have been dismissed. Teradata has appealed the dismissal of its trade secret and antitrust claims; this appeal is expected to be completed by late 2023.

Tax-Related Litigation

We are subject to ongoing audits by domestic and foreign tax authorities. In respect of non-income taxes, we are involved in various proceedings with only a few foreign tax authorities regarding assessments and litigation matters on intercompany royalty payments and intercompany services. The total potential amount in dispute related to these matters for all applicable years is approximately



€195 million (2020: €154 million). We have not recorded a provision for these matters, as we believe that we will prevail.

For more information about our income tax-related litigation, see [Note \(C.5\)](#).

Anti-Bribery and Export Control Matters

SAP has received communications and whistleblower information alleging conduct that may violate anti-bribery laws in the United States (including the U.S. Foreign Corrupt Practices Act (FCPA)), and other countries. The Office of Ethics and Compliance (OEC) of SAP is conducting investigations with the assistance of an external law firm and voluntarily advised the U.S. Securities and Exchange Commission (U.S. SEC) and the U.S. Department of Justice (U.S. DOJ), as well as local authorities where potential violations are being investigated. The investigations and dialogue between SAP and the local authorities and the U.S. SEC and U.S. DOJ are ongoing.

The alleged conduct may result in monetary penalties or other sanctions under the FCPA and/or other anti-bribery laws. In addition, SAP's ability to conduct business in certain jurisdictions could be negatively impacted. The comprehensive and exhaustive investigations and the corresponding remediation activities are still ongoing. In South Africa, SAP is seeking resolution of pending civil claims relating to ongoing investigations. Considering the complexity of individual factors and the large number of open questions, it is not entirely possible at this point in time to assess the risk of a financial impact.

For the reasons outlined above, it is impossible at this point in time to determine whether the potential anti-bribery law violations represent present obligations of SAP and, if so, to reliably estimate the amount of these obligations. We recognized no material provisions for these potential violations in our consolidated financial statements 2021. It is also not practicable to estimate the financial effect of any contingent liabilities that may result from these potential violations.

Furthermore, SAP voluntarily self-disclosed potential export control and economic sanctions violations to the U.S. DOJ and the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) in September 2017. At the same time, SAP provided notification to the U.S. SEC and responded to a U.S. SEC comment letter on export restriction matters in October 2017. SAP also provided disclosure to the U.S. Department of Commerce's Bureau of Industry and Security (BIS) based on the same alleged facts.

Following comprehensive investigations, SAP entered into a non-prosecution agreement with the U.S. DOJ and mutual settlement agreements with the BIS and OFAC in April 2021. Among other things, the settlement agreements require SAP to conduct internal audits of its compliance with U.S. export control laws and regulations and produce audit reports for a period of three years. In addition, SAP paid non-material monetary penalties in May 2021.



(G.4) Board of Directors

Executive Board

Memberships on supervisory boards and other comparable governing bodies of enterprises, other than subsidiaries of SAP, on December 31, 2021

Christian Klein

Chief Executive Officer

Corporate Development and Strategy, Security and Secrecy, Compliance

Supervisory Board, adidas AG, Herzogenaurach, Germany

Sabine Bendiek (from January 1, 2021)

Chief People & Operating Officer, Labor Relations Director

HR Strategy, Business Transformation, Leadership Development, Talent Development

Supervisory Board, Schaeffler AG, Herzogenaurach, Germany

Luka Mucic

Chief Financial Officer

Global Finance and Administration including Investor Relations, Internal Audit, Data Protection & Privacy, Business Process Intelligence, Sustainability

Supervisory Board, HeidelbergCement AG, Heidelberg, Germany

Juergen Mueller

Chief Technology Officer

Technology & Innovation

Technology and Innovation Strategy, SAP HANA Database, SAP Business Technology Platform, Analytics, Cloud Infrastructure

Supervisory Board, DFKI GmbH, Kaiserslautern, Germany

Scott Russell (from February 1, 2021)

Customer Success

Global Field Organization including Sales, Services, Partner Ecosystem, and Customer Engagement

Thomas Saueressig

SAP Product Engineering

Global Responsibility for all SAP Business Software Applications, Cloud Operations and Support, Cross-Development Functions, SAP Enterprise Adoption Organization

Julia White (from March 1, 2021)

Chief Marketing and Solutions Officer

Global Marketing, Corporate Communications, Government Affairs

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**Executive Board Members Who Left During 2021**

Adaire Fox-Martin (until June 30, 2021, member of the Executive Board until January 31, 2021)

Supervisory Board

Memberships on supervisory boards and other comparable governing bodies of enterprises, other than subsidiaries of SAP, on December 31, 2021

Prof. Dr. h.c. mult. Hasso Plattner^{2, 4, 6, 8}

Chairperson

Lars Lamadé^{1, 2, 4, 8}

Deputy Chairperson (from January 1, 2022)

Head of Global Sponsorships

Supervisory Board, Rhein-Neckar Loewen GmbH, Kronau, Germany

Manuela Asche-Holstein (from July 8, 2021)⁷

Industry Advisor Expert

Member of the SAP Germany SE & Co. KG Works Council

Aicha Evans^{2, 4, 6, 7}

Chief Executive Officer and Member of the Board of Directors, Zoox, Inc., Foster City, CA, United States

Board of Directors, Joby Aviation LLC, Santa Cruz, CA, United States

Prof. Dr. Gesche Joost^{4, 7}

Professor for Design Research and Head of the Design Research Lab, Berlin University of the Arts, Berlin, Germany

Supervisory Board, Ottobock SE & Co. KGaA, Duderstadt, Germany

Supervisory Board, ING-DiBa AG, Frankfurt, Germany

Margret Klein-Magar^{1, 2, 3, 8}

Deputy Chairperson (until December 31, 2021)

Vice President, Head of SAP Alumni Relations

Chairperson of the Spokespersons' Committee of Senior Managers of SAP SE

Monika Kovachka-Dimitrova^{1, 2, 4, 7}

Chief Operations Expert

Member of the SAP SE Works Council (Europe)

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Peter Lengler (from August 10, 2021)^{1, 3, 7}

Value Advisor Expert

Member of the SAP Germany SE & Co. KG Works Council and Member of the SAP SE Works Council (Europe)

Bernard Liautaud^{2, 4}

Managing Partner Balderton Capital, London, United Kingdom

Board of Directors, nlyte Software Ltd., London, United Kingdom (until October 5, 2021)

Board of Directors, Vestiaire Collective SA, Levallois-Perret, France (until April 2, 2021)

Board of Directors, Dashlane, Inc., New York, NY, United States

Board of Directors, Qubit Digital Ltd., London, United Kingdom (until October 10, 2021)

Board of Directors, Aircall.io, New York City, NY, United States

Board of Directors, Virtuo Technologies, Paris, France

Board of Directors, Peakon Aps, Copenhagen, Denmark (until March 9, 2021)

Board of Directors, Tim Talent SAS, Paris, France

Board of Directors, Citymapper Ltd., London, United Kingdom

Board of Directors, Toucan Toco SAS, Paris, France

Board of Directors, Traefik Labs SAS, Lyon, France

Board of Directors, Kili Technology SAS, Paris, France (from July 26, 2021)

Board of Directors, 2121 Atelier, Inc., Brooklyn, NY, United States (from November 18, 2021)

Board of Directors, Sweep SAS, Paris, France (from December 14, 2021)

Dr. Qi Lu^{4, 7, 8}

CEO, MiraclePlus Ltd., Beijing, China

Board of Directors, Pinduoduo Inc., Shanghai, China

Chairperson of the Board of Directors, Pine Field Holding Limited, Cayman Islands

Chairperson of the Board of Directors, Pine Field Holding Limited, Hong Kong, China

Chairperson of the Board of Directors, Pine Field Ltd., Beijing, China

Gerhard Oswald^{5, 8}

Managing Director of Oswald Consulting GmbH, Walldorf, Germany

Advisory Board, TSG 1899 Hoffenheim Fußball-Spielbetriebs GmbH, Sinsheim, Germany

Christine Regitz^{1, 2, 4, 5, 8}

Vice President, User Experience

Dr. Friederike Rotsch^{2, 3, 6, 7, 8}

Group General Counsel and Head of Group Legal & Compliance, Merck KGaA, Darmstadt, Germany

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**SAP Integrated Report 2021**[To Our Stakeholders](#)[Combined Group Management Report](#)[**Consolidated Financial Statements IFRS**](#)[Further Information on Sustainability](#)[Additional Information](#)**Heike Steck^{1, 4, 5, 7, 8}**

Senior Operations Manager

Member of the SAP SE Works Council and Member of the SAP SE Works Council (Europe)

Helmut Stengele (from October 29, 2021)

On Early Retirement

Dr. Rouven Westphal (from May 12, 2021)^{3, 5, 6}

Member of the Executive Board of the Hasso Plattner Foundation, Potsdam, Germany, and Managing Director of the General Partner of HPC Germany GmbH & Co. KG, Potsdam, Germany

Advisory Board, Sharks Sports & Entertainment LLC, San José, CA, United States

Dr. Gunnar Wiedenfels^{3, 5}

Chief Financial Officer, Discovery, Inc., New York, NY, United States

Board of Directors, Motor Trend Group, LLC, El Segundo, CA, United States (until July 1, 2021)

Board of Directors, OWN LLC, West Hollywood, CA, United States

James Wright^{1, 3, 4, 5}

Chairperson of the SAP SE Works Council (Europe)

Supervisory Board Members Who Left During 2021

Pekka Ala-Pietilä (until May 12, 2021)

Panagiotis Bissiritsas (until July 7, 2021)

Christa Vergien-Knopf (until August 9, 2021)

Ralf Zeiger (until October 28, 2021)

¹ Appointed by the SAP SE Works Council (Europe)² Member of the Company's Personnel and Governance Committee³ Member of the Company's Audit and Compliance Committee⁴ Member of the Company's Technology and Strategy Committee⁵ Member of the Company's Finance and Investment Committee⁶ Member of the Company's Nomination Committee⁷ Member of the Company's People and Culture Committee⁸ Member of the Company's China Strategy Committee



(G.5) Executive and Supervisory Board Compensation

Accounting Policy

The share-based payment amounts disclosed below in the table “Executive Board Compensation” are based on the grant date fair value of the share units in the respective year. In 2021 and 2020, share units were issued to the Executive Board members under the LTI 2020 and in 2019 under the LTI 2016 Plan.

In the table “Share-Based Payment for Executive Board Members,” the share-based payment expense is the amount recorded in profit or loss under IFRS 2 (Share-Based Payment) in the respective period.

The total compensation of the Executive Board members for each of the years 2021, 2020, and 2019 was as follows:

Executive Board Compensation

€ thousands	2021	2020	2019
Short-term employee benefits	25,015	5,094	17,378
Share-based payment	25,095	23,095	32,393
Subtotal	50,110	28,189	49,771
Post-employment benefits	464	488	2,825
Thereof defined-benefit	461	487	2,056
Thereof defined-contribution	3	1	769
Total	50,574	28,677	52,596

Share-Based Payment for Executive Board Members

	2021	2020	2019
Number of share units granted	238,428	201,690	344,047
Total expense in € thousands	6,356	11,173	44,447

The defined benefit obligation (DBO) for pensions to Executive Board members and the annual pension entitlement of the members of the Executive Board on reaching age 62 based on entitlements from performance-based and salary-linked plans were as follows:

Retirement Pension Plan for Executive Board Members

€ thousands	2021	2020	2019
DBO 12/31	3,435	3,520	5,497
Annual pension entitlement	108	98	215

The total annual compensation of the Supervisory Board members is as follows:

Supervisory Board Compensation

€ thousands	2021	2020	2019
Total compensation	3,856	3,755	3,770
Thereof fixed compensation	3,176	3,149	3,218

Thereof committee remuneration

680

606

553

The Supervisory Board members do not receive any share-based payment for their services. As far as members who are employee representatives on the Supervisory Board receive share-based payment,

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such compensation is for their services as employees only and is unrelated to their status as members of the Supervisory Board.

Payments to/DBO for Former Executive Board Members

€ thousands	2021	2020	2019
Payments	2,159	3,010	2,081
DBO 12/31	42,313	44,043	44,306

SAP did not grant any compensation advance or credit to, or enter into any commitment for the benefit of, any member of the Executive Board or Supervisory Board in 2021, 2020, or 2019.

Detailed information about the different elements of the compensation is disclosed in the Compensation Report and in the Annual Report on Form 20-F, both of which are available on SAP's Web site.

(G.6) Related Party Transactions Other Than Board Compensation

Certain Supervisory Board members of SAP SE currently hold, or held within the last year, positions of significant responsibility with other entities. We have relationships with certain of these entities in the ordinary course of business, whereby we buy and sell products, assets, and services at prices believed to be consistent with those negotiated at arm's length between unrelated parties.

Companies controlled by Hasso Plattner, Chairperson of the Supervisory Board of SAP SE and Chief Software Advisor of SAP, engaged in the following transactions with SAP: providing consulting services to SAP, receiving sport sponsoring from SAP, and making purchases of SAP products and services.

Occasionally, members of the Executive Board of SAP SE obtain services from SAP for which they pay a consideration consistent with those negotiated at arm's length between unrelated parties.

All amounts related to the abovementioned transactions were immaterial to SAP in all periods presented.

In total, we sold products and services to companies controlled by members of the Supervisory Board in the amount of €2 million (2020: €3 million), we bought products and services from such companies in the amount of €4 million (2020: €2 million), and we provided sponsoring and other financial support to such companies in the amount of €3 million (2020: €4 million). Outstanding balances at year end from transactions with such companies were €0 million (2020: €0 million) for amounts owed to such companies and €0 million (2020: €0 million) for amounts owed by such companies. All of these balances are unsecured and interest-free and settlement is expected to occur in cash. Commitments (the longest of which is for 2 years) made by us to purchase further goods or services from these companies and to provide further sponsoring and other financial support amount to €6 million as at December 31, 2021 (2020: €10 million).

In total, we sold services to members of the Executive Board and the Supervisory Board in the amount of €0 million (2020: €0 million), and we received services from members of the Supervisory Board (including services from employee representatives on the Supervisory Board in their capacity as employees of SAP) in the amount of €2 million (2020: €2 million). Amounts owed, but not yet paid, to Supervisory Board members from these transactions were €0 million as at December 31, 2021 (2020: €0 million). All of these balances are unsecured and interest-free and settlement is expected to occur in cash.

For information about the compensation of our Executive Board and Supervisory Board members, see [Note \(G.5\)](#).

Further, we have relationships to associated entities. In total, we sold products and services to these entities in the amount of €6 million (2020: €2 million), we bought products and services from such



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companies in the amount of €37 million (2020: €0 million). Outstanding balances at year end from transactions with such companies were €15 million (2020: €0 million) for amounts owed to such companies and €4 million (2020: €0 million) for amounts owed by such companies. All of these balances are unsecured and interest-free, and settlement is expected to occur in cash.

For more information about the SAP Pioneer divestment (SAP Pioneer is an associated entity of SAP and thus treated as a related party), see [Note \(D.1\)](#) and [Note \(D.6\)](#).

(G.7) Principal Accountant Fees and Services

At the Annual General Meeting of Shareholders held on May 12, 2021, our shareholders elected KPMG AG Wirtschaftsprüfungsgesellschaft (KPMG) as SAP's independent auditor for 2021. KPMG has been the Company's principal auditor since the fiscal year 2002. Bodo Rackwitz has signed as auditor responsible for audit of the financial reporting and the group reporting of SAP SE since the fiscal year 2018. KPMG and other firms in the global KPMG network charged the following fees to SAP for audit and other professional services related to 2021 and the previous years:

€ millions	2021			2020			2019		
	KPMG AG (Germany)	Foreign KPMG Firms	Total	KPMG AG (Germany)	Foreign KPMG Firms	Total	KPMG AG (Germany)	Foreign KPMG Firms	Total
Audit fees	3	8	12	3	9	12	3	7	10
Audit-related fees	2	5	7	0	1	2	0	1	1
Tax fees	0	0	0	0	0	0	0	0	0
All other fees	0	0	0	0	0	0	0	0	0
Total	6	13	19	3	10	14	3	8	10

Audit fees are the aggregate fees charged by KPMG for auditing our consolidated financial statements and the statutory financial statements of SAP SE and its subsidiaries. Audit-related fees are fees charged by KPMG for assurance and related services that are reasonably related to the performance of the audit, for service organization attestation procedures, and fees charged by KPMG for services regarding the initial public offering of Qualtrics.

(G.8) Events After the Reporting Period

On January 27, 2022, SAP announced its intent to acquire a majority stake of Taulia, a leading provider of working capital management solutions. The acquisition is expected to further expand SAP's Business Network capabilities and strengthen SAP's solutions for the CFO office. The acquisition is expected to close in March 2022, following completion of customary closing conditions and regulatory approvals.

Other than that, no events have occurred since December 31, 2021, that have a material impact on the Company's Consolidated Financial Statements.



(G.9) Scope of Consolidation, Subsidiaries and Other Equity Investments

Entities Consolidated in the Financial Statements

	Total
12/31/2019	264
Additions	17
Disposals	-12
12/31/2020	269
Additions	39
Disposals	-18
12/31/2021	290

The additions relate to legal entities added in connection with acquisitions and foundations. The disposals are mainly due to mergers, and liquidations of legal entities.

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Subsidiaries

Major Subsidiaries

Name and Location of Company	Ownership %	Total Revenue in 2021 ¹ € thousands	Profit/Loss (-) After Tax for 2021 ¹ € thousands	Total Equity as at 12/31/2021 ¹ € thousands	Number of Employees as at 12/31/2021 ²	Foot- note
% € thousands € thousands € thousands						
Ariba Technologies India Private Limited, Bangalore, India	100	80,790	9,481	34,185	1,281	
Ariba, Inc., Palo Alto, CA, United States	100	1,318,872	499,785	5,276,448	1,772	
Concur Technologies, Inc., Bellevue, WA, United States	100	1,621,912	188,665	7,878,818	3,485	
Qualtrics, LLC, Wilmington, DE, United States	100	898,901	-1,440,737	8,228,091	3,380	
SAP (China) Co., Ltd., Shanghai, China	100	1,106,711	-1,577	-213,060	6,147	16
SAP (Schweiz) AG, Biel, Switzerland	100	1,092,657	127,116	264,263	810	
SAP (UK) Limited, Feltham, United Kingdom	100	1,235,416	60,404	45,239	1,697	
SAP America, Inc., Newtown Square, PA, United States	100	6,215,786	-309,232	19,337,747	8,731	
SAP Argentina S.A., Buenos Aires, Argentina	100	162,335	3,129	67,259	1,132	16
SAP Asia Pte. Ltd., Singapore, Singapore	100	550,036	7,457	-6,721	1,110	16
SAP Australia Pty Ltd, Sydney, Australia	100	740,871	44,741	67,725	1,205	
SAP Brasil Ltda, São Paulo, Brazil	100	467,512	-22,415	44,060	2,379	16
SAP Canada Inc., Toronto, Canada	100	1,036,257	139,927	700,086	3,012	
SAP Deutschland SE & Co. KG, Walldorf, Germany	100	4,921,867	946,574	1,912,583	4,463	7, 9
SAP España – Sistemas, Aplicaciones y Productos en la Informática, S.A., Madrid, Spain	100	510,602	29,557	341,508	791	
SAP France S.A., Levallois-Perret, France	100	1,099,071	198,617	1,794,013	1,506	
SAP Hungary Rendszerek, Alkalmazások és Termékek az Adatfeldolgozásban Informatikai Kft., Budapest, Hungary	100	133,643	4,563	23,817	1,163	
SAP India Private Limited, Bangalore, India	100	633,680	103,453	359,149	2,125	
SAP Industries, Inc., Newtown Square, PA, United States	100	588,508	105,770	1,122,929	276	
SAP Italia Sistemi Applicazioni Prodotti in Data Processing S.p.A., Vimercate, Italy	100	615,004	37,154	265,312	750	
SAP Japan Co., Ltd., Tokyo, Japan	100	1,251,106	138,785	458,761	1,318	
SAP Labs Bulgaria EOOD, Sofia, Bulgaria	100	78,971	3,321	21,544	1,125	
SAP Labs India Private Limited, Bangalore, India	100	628,073	60,855	205,586	9,882	
SAP Labs, LLC, Palo Alto, CA, United States	100	575,665	159,933	608,787	1,893	
SAP México S.A. de C.V., Mexico City, Mexico	100	415,025	26,097	111,265	964	16
SAP National Security Services, Inc., Newtown Square, PA, United States	100	858,772	127,178	651,935	636	
SAP Nederland B.V., 's-Hertogenbosch, the Netherlands	100	708,927	208,699	443,701	610	11
SAP Service and Support Centre (Ireland) Limited, Dublin, Ireland	100	209,533	14,186	50,793	1,705	
SAP Services s.r.o., Prague, Czech Republic	100	83,428	2,074	15,285	1,191	



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Name and Location of Company	Ownership %	Footnote
"SAP Kazakhstan" LLP, Almaty, Kazakhstan	100	
110405, Inc., Newtown Square, PA, United States	100	
Abakus Ukraine Limited Liability Company, Kiev, Ukraine	100	
Ambin Properties Proprietary Limited, Johannesburg, South Africa	100	16
Apex Expert Solutions LLC, Chantilly, VA, United States	100	
AppGyver Inc., Indianapolis, IN, United States	100	4
AppGyver Oy, Helsinki, Finland	100	4
Ariba Czech s.r.o., Prague, Czech Republic	100	16
Ariba India Private Limited, Gurugram, India	100	
Ariba International Holdings, Inc., Wilmington, DE, United States	100	
Ariba International Singapore Pte. Ltd., Singapore, Singapore	100	
Ariba International, Inc., Wilmington, DE, United States	100	
Ariba Slovak Republic, s.r.o., Košice, Slovakia	100	
Ariba Software Technology Services (Shanghai) Co., Ltd., Shanghai, China	100	
Ariba Technologies Netherlands B.V., 's-Hertogenbosch, the Netherlands	100	11
Business Objects Holding B.V., 's-Hertogenbosch, the Netherlands	100	11
Business Objects Option, LLC, Wilmington, DE, United States	100	
Business Objects Software Limited (Trading as SAP Solutions), Dublin, Ireland	100	
Callidus Software Inc., San Ramon, CA, United States	100	
Callidus Software Ltd., Feltham, United Kingdom	100	10
Callidus Software Pty. Ltd., Sydney, Australia	100	
CallidusCloud (India) Private Limited, Hyderabad, India	100	
CallidusCloud (Malaysia) Sdn. Bhd., Kuala Lumpur, Malaysia	100	
CallidusCloud Holdings Pty. Ltd., Sydney, Australia	100	
CallidusCloud Pty. Ltd., Sydney, Australia	100	
Christie Partners Holding C.V., 's-Hertogenbosch, the Netherlands	100	
Clarabridge Netherlands B.V., Amsterdam, the Netherlands	100	4
Clarabridge UK Ltd, London, United Kingdom	100	4
Clarabridge, Inc., Reston, VA, United States	100	4
C-Learning Pty. Ltd., Sydney, Australia	100	
ClearTrip Inc. (Mauritius), Ebene, Mauritius	100	
ClearTrip Inc., George Town, Cayman Islands	57	
Clicktools Limited, Feltham, United Kingdom	100	10
CNQR Operations Mexico S. de. R.L. de. C.V., Mexico City, Mexico	100	
Concur (Canada), Inc., Toronto, Canada	100	
Concur (Czech) s.r.o., Prague, Czech Republic	100	
Concur (France) S.A.S., Levallois-Perret, France	100	
Concur (Germany) GmbH, Frankfurt am Main, Germany	100	8, 9
Concur (Japan) Ltd., Tokyo, Japan	97	
Concur (New Zealand) Limited, Wellington, New Zealand	100	14
Concur (Philippines) Inc., Makati City, Philippines	100	
Concur (Switzerland) GmbH, Zurich, Switzerland	100	13
Concur Holdings (France) S.A.S., Levallois-Perret, France	100	



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Name and Location of Company	Ownership	Footnote
Concur Holdings (Netherlands) B.V., 's-Hertogenbosch, the Netherlands	100	11
Concur Technologies (Australia) Pty. Limited, Sydney, Australia	100	
Concur Technologies (Hong Kong) Limited, Hong Kong, China	100	
Concur Technologies (India) Private Limited, Bangalore, India	100	
Concur Technologies (Singapore) Pte. Ltd., Singapore, Singapore	100	16
Concur Technologies (UK) Limited, Feltham, United Kingdom	100	
ConTgo Consulting Limited, Feltham, United Kingdom	100	
ConTgo Limited, Feltham, United Kingdom	100	10
Crystal Decisions (UK) Limited, Feltham, United Kingdom	100	10
Datahug Limited, Dublin, Ireland	100	12
Delighted, LLC, Wilmington, DE, United States	100	
Emarsys Beijing Limited, Beijing, China	100	
Emarsys eMarketing Systems GmbH, Vienna, Austria	100	
Emarsys İletişim Sistemleri Tic. Ltd Şti., Istanbul, Turkey	100	
Emarsys Interactive Services GmbH, Berlin, Germany	100	
Emarsys Limited, Hong Kong, China	100	
Emarsys North America, Inc., Indianapolis, IN, United States	100	
Emarsys Pte. Ltd., Singapore, Singapore	100	
Emarsys Pty Ltd, Sydney, Australia	100	
Emarsys S.A.S., Levallois-Perret, France	100	
Emarsys Schweiz GmbH, Zurich, Switzerland	100	
Emarsys UK Ltd, London, United Kingdom	100	
EMARSYS-Technologies Informatikai Szolgáltató Kft., Budapest, Hungary	100	
Engagor N.V., Ghent, Belgium	100	4
Engagor, Inc., Wilmington, DE, United States	100	4
ESS Cubed Procurement Proprietary Limited, Johannesburg, South Africa	100	
Extended Systems, Inc., San Ramon, CA, United States	100	
Financial Fusion, Inc., San Ramon, CA, United States	100	
FreeMarkets Ltda., São Paulo, Brazil	100	
Hipmunk, Inc., San Francisco, CA, United States	100	
hybris (U.S.) Corporation, Wilmington, DE, United States	100	
hybris GmbH, Munich, Germany	100	8, 9
Inxight Federal Systems Group, Inc., Wilmington, DE, United States	100	
IP Asset Holdings, LLC, Provo, UT, United States	100	
LeadFormix, Inc., Dublin, CA, United States	100	
Learning Heroes Ltd., Feltham, United Kingdom	100	10
Learning Seat Borrowings Pty. Ltd., Sydney, Australia	100	
Learning Seat Group Pty. Ltd., Sydney, Australia	100	
Learning Seat Holdings Pty. Ltd., Sydney, Australia	100	
Learning Seat Pty. Ltd., Sydney, Australia	100	
LLC "Emarsys", Moscow, Russia	100	
LLC "SAP Labs", Moscow, Russia	100	
LLC "SAP Ukraine", Kiev, Ukraine	100	16
Loyalsys GmbH, Vienna, Austria	100	
Loyalsys Technologies Israel Ltd., Tel Aviv, Israel	100	



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Market Metrix Iberia S.L., Barcelona, Spain	100	4
Market Metrix Singapore Pte. Ltd., Singapore, Singapore	100	4
Market Metrix, A Clarabridge Company, LLC, Wilmington, DE, United States	100	4
New Debden Merger Sub II LLC, Wilmington, DE, United States	100	
Nihon Ariba K.K., Tokyo, Japan	100	
OrientDB Limited, Feltham, United Kingdom	100	10
Outerjoin, Inc., San Ramon, CA, United States	100	
OutlookSoft Deutschland GmbH, Walldorf, Germany	100	8, 9
Plat.One Inc., Newtown Square, PA, United States	100	
Plat.One Lab S.r.l., Genoa, Italy	100	
PT SAP Indonesia, Jakarta, Indonesia	99	
Q (AGF2) Inc., Wilmington, DE, United States	100	
QAL Technologies Pty Ltd, Sydney, Australia	100	
QCL Techonologies Ltd., Toronto, Canada	100	
QDL Technologies GmbH, Munich, Germany	100	
QFL Technologies S.A.R.L., Paris, France	100	
QIL Technologies Limited, Dublin, Ireland	100	
QPL Technologies sp. z o.o., Kraków, Poland	100	
QSL Technologies Pte. Ltd., Singapore, Singapore	100	
Quadrem Africa Pty. Ltd., Johannesburg, South Africa	100	
Quadrem Brazil Ltda., Rio de Janeiro, Brazil	100	
Quadrem Chile Ltda., Santiago de Chile, Chile	100	
Quadrem International Ltd., Hamilton, Bermuda	100	
Quadrem Netherlands B.V., 's-Hertogenbosch, the Netherlands	100	11
Quadrem Overseas Cooperatief U.A., 's-Hertogenbosch, the Netherlands	100	
Quadrem Peru S.A.C., Lima, Peru	100	
Qualtrics Holdings Inc., Wilmington, DE, United States	100	
Qualtrics Hong Kong Limited, Hong Kong, China	100	4
Qualtrics India Private Limited, Mumbai, India	100	4
Qualtrics International Inc., Wilmington, DE, United States	74	
Qualtrics Ireland Limited, Dublin, Ireland	100	4
Qualtrics Japan LLC, Tokyo, Japan	100	
Qualtrics Korea, LLC, Seoul, South Korea	100	4
Qualtrics Mexico, S. DE R.L. DE C.V., Mexico City, Mexico	100	4
Qualtrics Netherlands B.V., Amsterdam, the Netherlands	100	4
Qualtrics Provo HQ, LLC, Wilmington, DE, United States	100	4
Qualtrics Sweden AB, Stockholm, Sweden	100	
Qualtrics Switzerland AG, Zurich, Switzerland	100	4
Qualtrics Technologies Brasil Ltda., São Paulo, Brazil	100	4
Qualtrics Technologies Spain, S.L.U., Madrid, Spain	100	
QUL Technologies Limited, London, United Kingdom	100	
SAP (Beijing) Software System Co., Ltd., Beijing, China	100	
SAP (China) Holding Co., Ltd., Beijing, China	100	
SAP Andina y del Caribe C.A., Caracas, Venezuela	100	16
SAP AZ LLC, Baku, Azerbaijan	100	



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Name and Location of Company	Ownership	Footnote
SAP Belgium – Systems, Applications and Products S.A., Brussels, Belgium	100	
SAP Beteiligungs GmbH, Walldorf, Germany	100	
SAP Bulgaria EOOD, Sofia, Bulgaria	100	
SAP Business Services Center Nederland B.V., 's-Hertogenbosch, the Netherlands	100	11
SAP Chile Limitada, Santiago de Chile, Chile	100	
SAP CIS, LLC, Moscow, Russia	100	
SAP Colombia S.A.S., Bogotá, Colombia	100	16
SAP Costa Rica, S.A., San José, Costa Rica	100	16
SAP ČR, spol. s r.o., Prague, Czech Republic	100	
SAP Cyprus Limited, Nicosia, Cyprus	100	
SAP d.o.o., Zagreb, Croatia	100	16
SAP Danmark A/S, Copenhagen, Denmark	100	
SAP Dritte Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100	
SAP East Africa Limited, Nairobi, Kenya	100	16
SAP Egypt LLC, Cairo, Egypt	100	16
SAP EMEA Inside Sales S.L., Madrid, Spain	100	
SAP Erste Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100	8, 9
SAP Estonia OÜ, Tallinn, Estonia	100	
SAP Financial, Inc., Toronto, Canada	100	
SAP Finland Oy, Espoo, Finland	100	
SAP Foreign Holdings GmbH, Walldorf, Germany	100	
SAP France Holding S.A., Levallois-Perret, France	100	
SAP Global Marketing, Inc., New York, NY, United States	100	
SAP Hellas Single Member S.A., Athens, Greece	100	
SAP Hong Kong Co., Ltd., Hong Kong, China	100	16
SAP Hosting Beteiligungs GmbH, St. Leon-Rot, Germany	100	8, 9
SAP India (Holding) Pte. Ltd., Singapore, Singapore	100	
SAP International Panama, S.A., Panama City, Panama	100	
SAP International, Inc., Miami, FL, United States	100	
SAP Investments, Inc., Wilmington, DE, United States	100	
SAP Ireland Limited, Dublin, Ireland	100	12
SAP Ireland US - Financial Services Designated Activity Company, Dublin, Ireland	100	
SAP Israel Ltd., Ra'anana, Israel	100	16
SAP Korea Ltd., Seoul, South Korea	100	
SAP Labs France S.A.S., Mougins, France	100	
SAP Labs Israel Ltd., Ra'anana, Israel	100	
SAP Labs Korea, Inc., Seoul, South Korea	100	
SAP Latvia SIA, Riga, Latvia	100	
SAP Malaysia Sdn. Bhd., Kuala Lumpur, Malaysia	100	
SAP MENA FZ L.L.C., Dubai, United Arab Emirates	100	16
SAP Middle East and North Africa L.L.C., Dubai, United Arab Emirates	49	5, 16
SAP Nederland Holding B.V., 's-Hertogenbosch, the Netherlands	100	11
SAP New Zealand Limited, Auckland, New Zealand	100	
SAP Norge AS, Oslo, Norway	100	
SAP North West Africa Ltd, Casablanca, Morocco	100	16



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SAP Österreich GmbH, Vienna, Austria	100	
SAP Perú S.A.C., Lima, Peru	100	16
SAP Philippines, Inc., Taguig City, Philippines	100	16
SAP Polska Sp. z o.o., Warsaw, Poland	100	
SAP Portals Europe GmbH, Walldorf, Germany	100	
SAP Portals Holding Beteiligungs GmbH, Walldorf, Germany	100	
SAP Portals Israel Ltd., Ra'anana, Israel	100	
SAP Portugal – Sistemas, Aplicações e Produtos Informáticos, Sociedade Unipessoal, Lda., Porto Salvo, Portugal	100	
SAP Projektverwaltungs- und Beteiligungs GmbH, Walldorf, Germany	100	
SAP Public Services, Inc., Washington, DC, United States	100	
SAP Puerto Rico GmbH, Walldorf, Germany	100	8, 9, 16
SAP Retail Solutions Beteiligungsgesellschaft GmbH, Walldorf, Germany	100	
SAP Romania SRL, Bucharest, Romania	100	
SAP Saudi Arabia Software Services Ltd, Riyadh, Kingdom of Saudi Arabia	100	
SAP Saudi Arabia Software Trading Ltd, Riyadh, Kingdom of Saudi Arabia	75	16
SAP Sechste Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100	8, 9
SAP Siebte Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100	8, 9
SAP sistemi, aplikacije in produkti za obdelavo podatkov d.o.o., Ljubljana, Slovenia	100	
SAP Slovensko s.r.o., Bratislava, Slovakia	100	
SAP Software and Services LLC, Doha, Qatar	49	5, 16
SAP Svenska Aktiebolag, Stockholm, Sweden	100	
SAP System Application and Products Asia Myanmar Limited, Yangon, Myanmar	100	
SAP Systems, Applications and Products in Data Processing (Thailand) Ltd., Bangkok, Thailand	100	
SAP Taiwan Co., Ltd., Taipei, Taiwan	100	
SAP Technologies Inc., Palo Alto, CA, United States	100	
SAP Training and Development Institute FZCO, Dubai, United Arab Emirates	100	
SAP Türkiye Yazılım Üretim ve Ticaret A.Ş., Istanbul, Turkey	100	
SAP UAB, Vilnius, Lithuania	100	
SAP Ventures Investment GmbH, Walldorf, Germany	100	8, 9
SAP Vierte Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100	
SAP Vietnam Company Limited, Ho Chi Minh City, Vietnam	100	
SAP West Balkans d.o.o., Belgrade, Serbia	100	
SAP Zweite Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100	8, 9
SAP.io Fund, L.P., Austin, TX, United States	0	6
Sapphire Fund Investments II Holdings, LLC, Austin, TX, United States	100	6
Sapphire Fund Investments II, L.P., Austin, TX, United States	0	6
Sapphire Fund Investments III, L.P., Austin, TX, United States	0	6
Sapphire SAP HANA Fund of Funds, L.P., Austin, TX, United States	0	6
Sapphire Ventures Fund I, L.P., Austin, TX, United States	0	6
Sapphire Ventures Fund II, L.P., Austin, TX, United States	0	6
Sapphire Ventures Fund III, L.P., Austin, TX, United States	0	6
Sapphire Ventures Fund IV, L.P., Austin, TX, United States	0	6
Sapphire Ventures Fund V L.P., Austin, TX, United States	0	6
Sapphire Ventures Fund VI, L.P., Austin, TX, United States	0	4, 6
SAPV (Mauritius), Ebene, Mauritius	100	6



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Signavio ANZ Pty Ltd, Melbourne, Australia	100	4
Signavio Benelux B.V., Amsterdam, the Netherlands	100	4
Signavio France S.A.S., Paris, France	100	4
Signavio GmbH, Berlin, Germany	100	4, 17
Signavio India Private Limited, Gurugram, India	100	4
Signavio Italia S.r.l., Milan, Italy	100	4
Signavio Japan KK, Tokyo, Japan	100	4
Signavio Pte. Ltd., Singapore, Singapore	100	4
Signavio Schweiz GmbH, Zug, Switzerland	100	4
Signavio Sweden AB, Stockholm, Sweden	100	4
Signavio UK Ltd, Birmingham, United Kingdom	100	4
Signavio, Inc., Burlington, VT, United States	100	4
Statwing, LLC, Wilmington, DE, United States	100	
SuccessFactors (Philippines), Inc., Pasig City, Philippines	100	16
SuccessFactors Cayman, Ltd., Grand Cayman, Cayman Islands	100	
SuccessFactors, Inc., Newtown Square, PA, United States	100	
SurveyVitals A Qualtrics Company, LLC, Wilmington, DE, United States	100	4
Sybase Angola, LDA, Luanda, Angola	100	15
Sybase Iberia, S.L., Madrid, Spain	100	
Sybase International Holdings Corporation, LLC, San Ramon, CA, United States	100	
Sybase, Inc., San Ramon, CA, United States	100	
Systems Applications Products (Africa Region) Proprietary Limited, Johannesburg, South Africa	100	
Systems Applications Products (Africa) Proprietary Limited, Johannesburg, South Africa	100	
Systems Applications Products (South Africa) Proprietary Limited, Johannesburg, South Africa	70	16
Systems Applications Products Nigeria Limited, Victoria Island, Nigeria	100	16
Technology Management Associates Inc., Chantilly, VA, United States	100	
Temkin Group, LLC, Wilmington, DE, United States	100	
TM Property Holdings, LLC, Wilmington, DE, United States	100	
TomorrowNow, Inc., Bryan, TX, United States	100	
TRX Europe Limited, Feltham, United Kingdom	100	
TRX Technologies India Private Limited, Bangalore, India	100	
TRX UK Limited, Feltham, United Kingdom	100	10
TRX, Inc., Bellevue, WA, United States	100	
Usermind d.o.o Beograd, Belgrade, Serbia	100	4
Usermind International, Inc., Seattle, WA, United States	100	4
Usermind International, LTD, Bristol, United Kingdom	100	4
Usermind, Inc., Seattle, WA, United States	100	4
Volume Integration, Inc., Reston, VA, United States	100	

¹ These figures are based on our local IFRS financial statements prior to eliminations resulting from consolidation and therefore do not reflect the contribution of these companies included in the Consolidated Financial Statements. The translation of the equity into Group currency is based on period-end closing exchange rates, and on average exchange rates for revenue and net income/loss.

² As at December 31, 2021, including managing directors, in FTE.

³ Figures for profit/loss after tax and total equity pursuant to HGB, section 285 and section 313 are not disclosed if they are of minor significance for a fair presentation of the profitability, liquidity, capital resources, and financial position of SAP SE, pursuant to HGB, section 313 (2) sentence 3 no. 4 and section 286 (3) sentence 1 no. 1.

⁴ Consolidated for the first time in 2021.

⁵ Agreements with the other shareholders provide that SAP SE fully controls the entity.

⁶ SAP SE has the following structured entities: SAP.io Fund, L.P., Sapphire Fund Investments II Holdings, LLC, Sapphire Fund Investments II, L.P., Sapphire Fund Investments III, L.P., Sapphire SAP HANA Fund of Funds, L.P., Sapphire Ventures Fund I, L.P., Sapphire Ventures Fund II, L.P., Sapphire Ventures Fund III, L.P., Sapphire Ventures Fund IV, L.P., Sapphire Ventures Fund V, L.P., Sapphire Ventures Fund



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VI, L.P., SAPV (Mauritius). The results of operations of these entities are included in SAP's consolidated financial statements in accordance with IFRS 10 (Consolidated Financial Statements).

⁷ Entity whose personally liable partner is SAP SE.

⁸ Entity with (profit and) loss transfer agreement.

⁹ Pursuant to HGB, section 264 (3) or section 264b, the subsidiary is exempt from applying certain legal requirements to their statutory stand-alone financial statements including the requirement to prepare notes to the financial statements and a review of operations, the requirement of independent audit, and the requirement of public disclosure.

¹⁰ Pursuant to section 480 of the UK Companies Act 2006, the entity is exempt from having its financial statements audited on the grounds that the entity is entitled to the benefits from a dormant entity exemption in respect of its financial year ended December 31, 2021.

¹¹ Pursuant to article 2:403 of the Dutch Civil Code, the entity is exempt from applying certain legal requirements to their statutory stand-alone financial statements including the requirement to prepare the financial statements, the requirement of independent audit, and the requirement of public disclosure, on the basis that SAP SE has provided a guarantee of the entity's liabilities in respect of its financial year ended December 31, 2021, or in respect of its financial year ended September 30, 2021, respectively.

¹² Pursuant to Irish Companies Act 2014, chapter 16 of Part 6, section 365, the entity is exempt from having its financial statements audited on the grounds that the entity is entitled to the benefits from a dormant entity exemption in respect of its financial year ended December 31, 2021.

¹³ Pursuant to article 727a, paragraph 2 of the Swiss Code of Obligations, the entity is exempt from having its financial statements audited in respect of its financial year ended December 31, 2021, or in respect of its financial year ended September 30, 2021, respectively.

¹⁴ Pursuant to section 211 (3) of the New Zealand Companies Act 1993 and section 45 (2) of the Financial Reporting Act 2013, the entity had approved exclusions and is not required to lodge audited financial statements in respect of its financial year ended September 30, 2021.

¹⁵ Pursuant to Angola Tax Law and Presidential Decree no. 147/13 of October 1, 2013, the entity does not qualify as being a Large Taxpayer and therefore is exempt from having its financial statements audited in respect of its financial year ended December 31, 2021.

¹⁶ Entity with support letter issued by SAP SE.

¹⁷ Dissolved on January 7, 2022, by merger into SAP SE.

Other Equity Investments

Name and Location of Company	Ownership %
Joint Arrangements and Investments in Associates	
China DataCom Corporation Limited, Guangzhou, China	28
Procurement Negócios Eletrônicos S/A, Rio de Janeiro, Brazil	17
SAP Pioneer GmbH, Walldorf, Germany	20

Name and Location of Company
Equity Investments with Ownership of at Least 5%
83North IV, L.P., Herzlia, Israel
Adverity GmbH, Vienna, Austria
Alation, Inc., Redwood City, CA, United States
Alchemist Accelerator Fund I LLC, San Francisco, CA, United States
Aleph-Bigg SPV, L.P., Grand Cayman, Cayman Islands
All Tax Platform - Solucoes Tributarias S.A., São Paulo, Brazil
Amplify Partners II L.P., Menlo Park, CA, United States
Amplify Partners III, L.P., Menlo Park, CA, United States
Amplify Partners IV, L.P., Menlo Park, CA, United States
Amplify Partners Select Fund IV, L.P., Menlo Park, CA, United States
Amplify Partners, L.P., Menlo Park, CA, United States
BGS Holdings, Inc., Austin, TX, United States
Bitonic Technology Labs, Inc., Karnataka, India
Blue Yard Capital 1 Alternative GmbH & Co. KG, Berlin, Germany
Blue Yard Capital I GmbH & Co. KG, Berlin, Germany
Blue Yard Crypto 1, L.P., Hot Springs Village, AR, United States

Boldstart Ventures V, L.P., New York, NY, United States

Boldstart Ventures VI, L.P., New York, NY, United States

Brightfield Holdings, Inc., New York, NY, United States

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Name and Location of Company

BY Capital 2 GmbH & Co. KG, Berlin, Germany

Canvas Ventures 3, L.P., Portola Valley, CA, United States

Catchpoint Systems, Inc., New York, NY, United States

CDQ AG, St. Gallen, Switzerland

Chalfen Ventures Fund I L.P., St Helier, Jersey, Channel Islands

Chalfen Ventures Fund II L.P., St Helier, Jersey, Channel Islands

CircleCI, Inc., San Francisco, CA, United States

Clari, Inc., Sunnyvale, CA, United States

ComponentLab Inc., Seattle, WA, United States

Contentful GmbH, Berlin, Germany

Costanoa Venture Capital II L.P., Palo Alto, CA, United States

Costanoa Venture Capital III L.P., Palo Alto, CA, United States

Costanoa Venture Capital QZ, LLC, Palo Alto, CA, United States

Creandum SPV TR (D) AB, Stockholm, Sweden

Culture Amp, Inc., San Francisco, CA, United States

Data Collective II L.P., Palo Alto, CA, United States

Data Collective III L.P., Palo Alto, CA, United States

Data Collective IV, L.P., Palo Alto, CA, United States

DataRobot, Inc., Boston, MA, United States

Digital Hub Rhein-Neckar GmbH, Ludwigshafen, Germany

Dremio Corporation, Santa Clara, CA, United States

FeedZai S.A., Lisbon, Portugal

Felix Capital Fund III, London, United Kingdom

Felix Ventures II, L.P., London, United Kingdom

Finco Services, Inc. (dba Current), New York, NY, United States

Follow Analytics, Inc., San Francisco, CA, United States

GitGuardian SAS, Paris, France

Greater Pacific Capital (Cayman) L.P., Grand Cayman, Cayman Islands

Haystack Ventures V, L.P., Mill Valley, CA, United States

IDG Ventures USA III, L.P., San Francisco, CA, United States

IEX Group, Inc., New York, NY, United States

InfluxData, Inc., San Francisco, CA, United States

Initialized CBH SPV LLC, Walnut, CA, United States

InnovationLab GmbH, Heidelberg, Germany

innoWerft Technologie- und Gründerzentrum Walldorf Stiftung GmbH, Walldorf, Germany

Integral Ad Science Holding Corp., New York, NY, United States

Involve.ai, Inc., Santa Monica, CA, United States

JFrog, Ltd., Netanya, Israel

JupiterOne, Inc., Morrisville, NC, United States

Kaltura, Inc., New York, NY, United States

LeanData, Inc., Sunnyvale, CA, United States

LGVP F I LLC, Dover, DE, United States

Local Globe Opportunity Fund, L.P., St. Peter Port, Guernsey, Channel Islands

Local Globe VII, L.P., St. Peter Port, Guernsey, Channel Islands

Local Globe VIII, L.P., St. Peter Port, Guernsey, Channel Islands



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Name and Location of Company

Local Globe X, L.P., St. Peter Port, Guernsey, Channel Islands
Local Globe XI, L.P., St. Peter Port, Guernsey, Channel Islands
Mango Capital 2018, L.P., Los Altos, CA, United States
Mango Capital 2020, L.P., Los Altos, CA, United States
Matillion Ltd., Altrincham, United Kingdom
Medable Inc., Palo Alto, CA, United States
Mosaic Partners II, L.P., London, United Kingdom
Notation Capital II CIRC, LLC, Brooklyn, NY, United States
Notation Capital II, L.P., Brooklyn, NY, United States
Notation Capital III, L.P., Brooklyn, NY, United States
Notation Capital, L.P., Brooklyn, NY, United States
NOTATION I SPV SV OCT 2020, LLC, Brooklyn, NY, United States
OpenX Software Limited, Pasadena, CA, United States
OpsRamp, Inc., San Jose, CA, United States
Pendo.io, Inc., Raleigh, NC, United States
PivotNorth Early Fund I, L.P., Atherton, CA, United States
Point Nine Annex GmbH & Co. KG, Berlin, Germany
Point Nine Capital Fund II GmbH & Co. KG, Berlin, Germany
Point Nine Capital Fund III GmbH & Co. KG, Berlin, Germany
Point Nine Capital Fund IV GmbH & Co. KG, Berlin, Germany
Point Nine Capital Fund V GmbH & Co. KG, Berlin, Germany
Project 44, Inc., Chicago, IL, United States
PubNub, Inc., San Francisco, CA, United States
Reltio, Inc., Redwood Shores, CA, United States
Restream, Inc., Austin, TX, United States
Ridge Software Investments I, LLC, San Francisco, CA, United States
Ridge Ventures IV, L.P., San Francisco, CA, United States
SafeGraph, Inc., Denver, CO, United States
Side, Inc., San Francisco, CA, United States
Smart City Planning, Inc., Tokyo, Japan
Splashtop, Inc., San Jose, CA, United States
SportsTech Fund, L.P., Palo Alto, CA, United States
SportsTech Parallel Fund, L.P., Palo Alto, CA, United States
Spring Mobile Solutions, Inc., Salt Lake City, UT, United States
StackHawk, Inc., Denver, CO, United States
Storm Ventures V, L.P., Menlo Park, CA, United States
SumoLogic, Inc., Redwood City, CA, United States
Sun Basket, Inc., San Francisco, CA, United States
SV Angel IV, L.P., San Francisco, CA, United States
Tetrate.io, Inc., Milpitas, CA, United States
The SaaS Fund II, L.P., Palo Alto, CA, United States
The SaaS Fund, L.P., Palo Alto, CA, United States
Third Kind Venture Capital II, L.P., New York, NY, United States
Third Kind Venture Capital III, L.P., New York, NY, United States
Tribe Capital LLC Series 3, Redwood City, CA, United States

**Name and Location of Company**

Tribe Capital LLC Series 3, Redwood City, CA, United States
UJET, Inc., San Francisco, CA, United States
Unmind Ltd., London, United Kingdom
Upfront V, L.P., Santa Monica, CA, United States
Uptycs, Inc., Waltham, MA, United States
VerBIT, Inc., New York, NY, United States
Vistex, Inc., Hoffman Estates, IL, United States
Walkabout Ventures Fund II L.P., Los Angeles, CA, United States
Yapily Ltd., London, United Kingdom
Zesty Tech Ltd., Ramat Gan, Israel

(G.10) German Code of Corporate Governance

The German federal government published the German Corporate Governance Code (the “Code”) in February 2002 and introduced a commission that amends the Code from time to time. The Code contains statutory requirements and a number of recommendations and suggestions. Only the legal requirements are binding for German companies. With regard to the recommendations, the German Stock Corporation Act, section 161, requires that every year, listed companies publicly state the extent to which they have implemented them. Companies can deviate from the suggestions without having to make any public statements.

In 2021 and 2020, the Executive Board and Supervisory Board of SAP SE issued the required declarations of implementation. The declaration for 2021 was issued at the end of October 2021. These statements are available on our Web site: www.sap.com/investors/en/governance.



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Walldorf, February 23, 2022

SAP SE

Walldorf, Baden

The Executive Board

Christian Klein

Sabine Bendiek

Luka Mucic

Juergen Mueller

Scott Russell

Thomas Saueressig

Julia White

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Management's Annual Report on Internal Control over Financial Reporting in the Consolidated Financial Statements

U.S. law requires that management submit a report on the effectiveness of internal control over financial reporting in the consolidated financial statements. For 2021, that report is as follows:

The management of SAP is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rules 13a-15(f) and 15d-15(f) under the U.S. Securities Exchange Act of 1934. SAP's internal control over financial reporting is a process designed under the supervision of SAP's CEO and CFO to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

SAP's management assessed the effectiveness of the Company's internal control over financial reporting as at December 31, 2021. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control – Integrated Framework (2013).

Based on the assessment under these criteria, SAP management has concluded that, as at December 31, 2021, the Company's internal control over financial reporting was effective.



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About This Further Information on Economic, Environmental, and Social Performance

The social and environmental data and information included in the SAP Integrated Report has been prepared in accordance with the GRI Standards: Core option. This option indicates that a report contains the minimum information needed to understand the nature of the organization, its material topics and related impacts, and how these are managed.

The Further Information on Economic, Environmental, and Social Performance includes information that is required to comply with the GRI Standards. In addition, we present our Connectivity model that shows the interrelations between social, environmental, and financial performance. We also report on our contribution towards the United Nations Sustainable Development Goals (SDGs) and respond to the recommendations of the Task Force on Climate-Related Financial Disclosure (TCFD).

Starting in 2021, we map our reporting to two additional frameworks:

- The Software & IT Services Sustainability Accounting Standards prepared by the Sustainability Accounting Standards Board (SASB), now part of the Value Reporting Foundation.
- The core “Stakeholder Capitalism Metrics” as proposed by the World Economic Forum’s International Business Council (WEF IBC).



Connectivity of Financial and Non-Financial Indicators

Where We Come From: Putting a Value on Non-Financial Performance Indicators

At SAP, we have put a monetary value on how selected non-financial indicators impact our operating profit. For example, how well we engage with our employees and inspire them to commit to our purpose and strategy, support a healthy business culture, and succeed in reducing our carbon emissions.



Figure 1: Connectivity Between Social, Environmental, and Economic Performance. SAP's main KPIs are marked in orange.

To achieve this, we created cause-and-effect chains that show how specific actions we take at SAP lead to shifts in behavior. This behavior impacts our business and has a financial consequence.

By doing so, we established more than just a correlation between non-financial and financial indicators. The cause-and-effect chains also reveal why and how something such as employee engagement ultimately leads to gains or losses in business performance. We believe that such insights are a prerequisite for fully modeling the financial impact of non-financial performance.

Magnitude of Financial Impact

From 2014 to 2018, SAP used techniques such as linear regression analysis to document the financial impact of four non-financial indicators: the Business Health Culture Index, the Employee Engagement Index, employee retention, and carbon emissions. In the past, we assessed each indicator to see what a change of one percentage point (pp) (or 1% for carbon emissions) would mean for our operating profit. The results for 2018, for example, showed that a 1pp change in the Business Health Culture Index affected our operating profit by €90 million to €100 million (non-IFRS).



Having illustrated this impact with concrete numbers, we are now turning our focus to a broader perspective of impact (for example, see [Our Contribution to the UN Sustainable Development Goals](#) and [A New and Broader Focus](#)). We still strongly believe in the fundamental conclusions of the analysis, but do not see a need to continuously update specific monetary values on the well-established connections. This is because the values have not been subject to any large fluctuations over the years. Instead, they have increased steadily, as expected.

Promoting Sustainability Measures to Boost Financial Performance

Documenting the financial impact of non-financial indicators has helped us move closer to achieving our sustainability goals. Rather than simply stating the business case for social or environmental change, we also have the numbers to back it up.

Our findings have helped us shift the conversation for managers, investors, employees, and other key stakeholders, and firmly establish non-financial indicators as playing a crucial role in our financial success. As a result, engaging employees or reducing our emissions is no longer seen as a nice-to-have, but rather as essential to carrying out a successful business strategy.

By embedding this approach into our decision-making and quarterly business reviews, our sustainability performance steers our business alongside factors such as revenue and profit. Our goal is for all senior managers and experts at SAP to recognize – and be held accountable for – the fact that improving such measures as employee engagement also boosts financial performance.

Embedding Non-Financial Performance Indicators into Our Solutions

We will continue to share our approach and methodology with our customers to help them win in the marketplace. We believe that companies achieve higher profits – resulting from both greater cost efficiency as well as revenue growth – by addressing economic, social, and environmental considerations in a holistic and integrated manner. More importantly, these companies are better equipped to lead in the future, as they navigate the world's most pressing challenges and help bring about long-term sustainable change.

Using the connectivity model as outlined above, we have been able to embed non-financial KPIs into our software solutions. This integrated approach to financial and non-financial performance is reflected in the solutions developed for climate action, circular economy, social responsibility and holistic steering and reporting.

A New and Broader Focus

In line with our purpose to help the world run better and improve people's lives, we have moved beyond financial measures to evaluate the consequences of our actions on society and the environment as well as the wider economy. As well as exploring cause-and-effect chains within SAP's own operations, we also measure positive and negative societal impacts across our complete value chain.

Building on our many years of experience in connecting financial and non-financial measures, we cofounded the Value Balancing Alliance (VBA) in 2019. This alliance looks at ways in which businesses can better understand their societal and environmental impacts and formulate corporate strategies to address these areas.

The VBA was founded by eight companies: BASF SE, Robert Bosch GmbH, Deutsche Bank AG, LafargeHolcim Ltd, Novartis International AG, Philip Morris International Inc, SAP SE, and SK Group. The organization is supported by the world's four largest accounting companies: Deloitte Touche Tohmatsu Limited, Ernst and Young Global Ltd, KPMG International Ltd, and PricewaterhouseCoopers International Limited. It is also supported by leading universities such as Harvard Business School, together with stakeholders from governments, civil societies, and standard-setting organizations. As at the end of 2021, the alliance consisted of 19 companies. By participating in the VBA's methodology



development and piloting phases, SAP is playing an active part in shaping the future of impact measurement and valuation.

Meeting the Challenges of Non-Financial Value Measurement

Environmental degradation, rising societal inequalities, and the COVID-19 pandemic have highlighted the need for corporate accountability and value creation beyond financial markets. However, most corporations are failing to tackle climate change, biodiversity loss, and inequality, because – as one of multiple reasons – decisions are based on insufficient information.

Accounting systems often ignore the value of environmental and societal impacts, leading to misallocation of resources. However, as is increasingly recognized by institutions such as Harvard Business School, monetary evaluation of these impacts has the potential to change accounting systems and transform capital markets. The development of impact-weighted accounting metrics is a necessary precondition for this.

Increasing regulatory pressure has also resulted in an urgent requirement for a reporting standard for environmental, social, and governance criteria. In response, organizations such as the Sustainability Accounting Standards Board (now part of the Value Reporting Foundation) and the Global Reporting Initiative are adapting and aligning their efforts to develop reporting systems that help investors make more sustainable decisions.

We co-founded the VBA to support the development of a standardized methodology that helps companies, investors, and other stakeholders compare non-financial performance. These insights enable companies to create business value beyond revenue or profit growth while taking into consideration the long-term impacts of their business operations on the environment and society as a whole.

To help the European Union (EU) achieve its commitment to making Europe the first climate-neutral continent by 2050 as part of the European Green Deal, the VBA is acting as an advisor on EU regulatory activities. Furthermore, the VBA is working to help drive the establishment of a globally accepted system of standards for non-financial disclosure.

Piloting the Measurement of Non-Financial Impacts

Ending in November 2021, our second VBA pilot analyzed categories including GDP contribution, health and safety, training, consumptive water use, water pollution, greenhouse gas (GHG), air emissions, land use and biodiversity, and waste. We used data from our Integrated Report 2020, from our internal controlling and HR systems, and from our environmental management system. The analysis focused on our complete operations and our supply chain. An analysis of the “downstream” impacts resulting from customers’ use of our software solutions and services will be piloted in the next phase.

Wherever possible, we used primary data for the calculations. Where primary data was not available, we used proxies, modeling techniques, and assumptions that were well-defined and documented in the VBA method papers. Key stakeholders across all relevant lines of business were engaged in the pilot, which was sponsored by our CFO.

Analysis took place across multiple impact categories, and resulted, for example, in the following findings from the GHG and training categories:

- **GHG:** Our analysis enabled us to identify the GHG impact of each subsidiary and location, and we now have insights into which SAP locations have the highest CO₂ footprints and which locations have the lowest. Negative impacts of GHG were monetized at €136 million and this has helped inform decision-making regarding our CO₂-reduction strategy. It has also helped us quantify the investment required for offsetting emissions by funding alternative energy resources to achieve carbon neutrality in our operations by 2023.
- **Training:** Money spent on offering training to employees positively impacts their employability, earnings, skills, and knowledge. However, it also results in “softer” impacts such as enhanced



confidence, self-awareness, and active listening. This can result in improved mental well-being, with benefits for our employees' immediate social environment, as well as social and civic engagement. The analysis identified that our global employee training programs have a material positive impact and thus valuation of training is being prioritized in our future journey in shaping impact measurement and valuation.

We aim to add further indicators and share best practices and lessons learned with external stakeholders and other VBA member companies to help improve the methodology and input process. In addition, we will make results available to the public.

Shaping the Environment of Impact Measurement

Since the outbreak of COVID-19, impact measurement and valuation as a science is evolving globally. The connection between economic, social, and environmental impacts will become a guiding principle for the way businesses are evaluated and steered.

We are using insights gained during our impact valuation journey in the development of our sustainability management initiative. We strive to embed impact measurement into our corporate and relevant business unit decision-making and target-setting. Holistic steering and reporting are being developed across the value chain, incorporating our response to legal requirements and using capabilities embedded in our software solutions.

Our impact measurement experiences form a foundation for software innovations in the fields of climate action, circular economy, social responsibility, and holistic steering and reporting, helping customers on their environmental, social, and governance journey. We see the monetary evaluation of environmental and societal impacts as crucial in achieving a sustainable economy, and by simplifying, aligning, and optimizing enterprise sustainability reporting, we help customers address global sustainability challenges.

Audit Scope

The content of this section was not subject to the independent limited assurance engagement of our external auditor.



Materiality

Defining Key Priorities for Our Non-Financial Reporting

To select the topics to be included in our integrated reporting, we conducted a comprehensive materiality assessment in 2020 using an artificial intelligence (AI) and Big Data solution from Datamaran Limited that helped us build an evidence-based materiality matrix. We assessed economic, social, and environmental topics according to three criteria:

- 1) Importance of topic for stakeholders (Y-axis)
- 2) Relevance to SAP's business success (X-axis: Impact of topic on SAP)
- 3) Magnitude of SAP's impact on the topic (differently colored circles)

Below, we have detailed the key stages of the process.

Identification

We compiled a list of approximately 100 potentially relevant topics based on guidance from standards of the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), as well as our existing materiality topics. We also considered a materiality assessment for the information and communications technology industry by the Global Enabling Sustainability Initiative (GeSI) as well as the United Nations' Sustainable Development Goals (SDGs). When identifying key topics and their boundaries, we looked at areas related to our operations and supply chain as well as at topics related to our solutions. Since we oriented ourselves on the topics provided in the Datamaran matrix, the selected topics are more detailed than in our last materiality assessment.

Prioritization

We ranked topics by their importance to stakeholders by analyzing six external sources. These sources included corporate peer reports; mandatory and voluntary regulations for the software sector; online news related to the technology equipment and services industry; tweets; and questionnaires gathering non-financial information from socially responsible investors and clients.

Next, we evaluated the financial, operational, and strategic relevance of each topic to SAP's business success and resilience, drawing on an analysis by SAP sustainability experts from various units and regions.

Finally, based on survey responses gathered from SAP sustainability experts, we considered the potential impacts on society, the environment, and the economy, ranking topics as either low, medium, or high. We have estimated our impact on today's society, environment, and economy and we expect the impact level to change as we continue to design solutions to manage areas such as climate change.

Validation

In 2020, the results of the materiality analysis were reviewed and confirmed by our steering committee for integrated reporting, our sustainability council, and our sustainability advisory panel. Our chief financial officer, who is also our Board sponsor for sustainability and integrated reporting, was also informed about the results. In 2021, our materiality assessment was reviewed, updated, and confirmed by our Integrated Report Steering Committee.



The changes in 2021 compared to 2020 include:

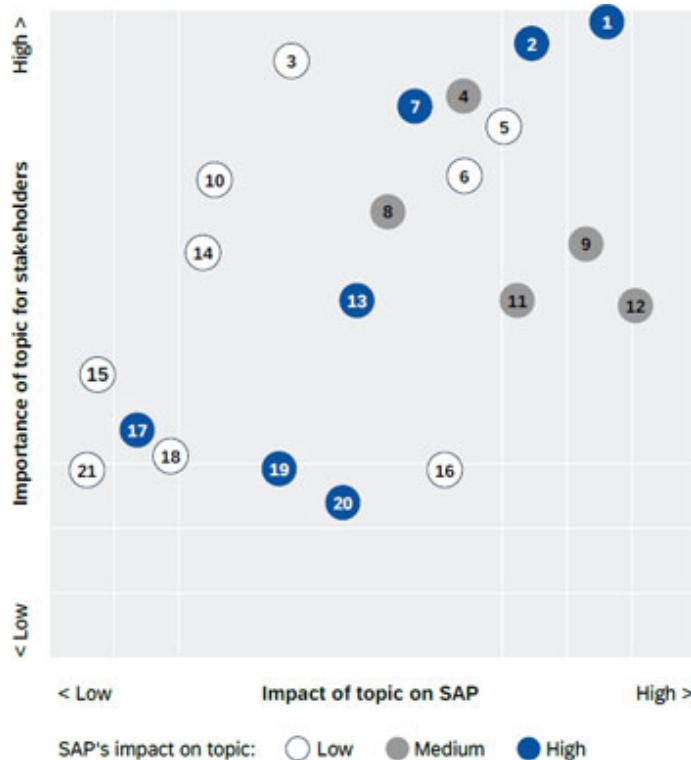
- To achieve greater consistency with definitions in reporting standards, we deleted the topics “Business resilience” and “Innovation and digitalization” from the matrix. “Business resilience” is redundant to the y-axis of our matrix; “Innovation and digitalization” is at the heart of our business model and described as such.
- We have extended the thresholds for defining topics as material, to better align our reporting with our strategic priorities.
- We have applied the definition of materiality according to the GRI Standards more strictly. We now identify material topics by considering their importance for stakeholders or SAP’s impact on the topic. Previously, we combined both dimensions.

Review

Feedback on and analysis of our integrated report will be taken into account during future materiality assessments.

Results

Our materiality matrix for prioritizing our reporting topics is shown in the following graphic. We have categorized topics according to whether they are sustainability challenges or sustainability management practices. The former affect SAP and are also impacted by us, whereas the latter offer guidance on how to deal with these challenges.



Materiality Matrix for Prioritizing Our Reporting Topics (numbers in the matrix are explained in the table below)



Sustainability challenges* and management practices** included in our materiality assessment are as follows:

Index	Topics	Definitions	Related Non-Financial Matters
1*	Security, privacy, and data protection	Protection of private, confidential, or sensitive information and data, as well as the vulnerability of critical information systems	
2*	Ethics and compliance	Responsible business conduct, including anti-corruption, anti-bribery, fair competition, respect for intellectual property, and responsible tax principles	Anti-corruption and bribery matters
3*	Employee rights	Labor rights, including unionization, as well as compensation and benefits offered to employees by their employer	Employee matters
4*	Fair and inclusive workplace	Active integration, equal opportunity, as well as fair treatment and remuneration of all employees	Employee matters
5*	Human rights	Fundamental rights of all individuals to live in dignity	Respect for human rights
6*	Well-being, health, and safety	Social, economic, psychological, and physical conditions of employees in their workplace, as well as employees' occupational health and safety	Employee matters
7*	Climate change and air quality	(Non-)greenhouse gas emissions from operations and products, as well as present or potential disruptive impacts of climate change	Environmental matters
8**	Governance	Procedures and rules concerning a company's control and decision-making system, as well as relationship management with investors and stakeholders	
9*	Talent and development	Talent attraction, retention, and development	Employee matters
10*	Energy	Energy consumption by operations and products, and the transition to renewable energy	Environmental matters
11*	Customer responsibility	Responsibility to help ensure customer satisfaction and customer rights, including responsible marketing and selling practices	Customer matters
12*	Employee engagement	Corporate culture, employee engagement and motivation, and strategic decisions involving workforce changes	Employee matters
13**	Transparency	Transparency through non-financial reporting on public policy practices and executive compensation	
14*	Resource efficiency and waste	(Non-)hazardous waste as well as resource usage, reduction, reuse, or recycling	Environmental matters
15*	Water	Use, management, conservation, reduction, and contamination of water	Environmental matters
16*	Geopolitical events	Political conditions, demographic changes, and catastrophic or other events with an influence on business	
17**	Responsible supply chain	Procurement practices to help ensure respect of the environment and human rights throughout the entire supply chain	

18**	Local community support	Programs and projects to help ensure the well-being and positive development of communities with which a company interacts, including employee volunteering	
19**	Solutions for an inclusive and circular economy	Products and services that create positive environmental and social impact during their whole lifecycle	
20*	Product responsibility	Product and service quality, as well as the information shared with customers so that they can make informed decisions	Customer matters
21*	Biodiversity	Variety of flora and fauna on earth, and the foundation for ecosystem services that are essential for nature and human well-being	Environmental matters

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* Sustainability challenges affect SAP and are also impacted by us.

** Sustainability management practices offer guidance on how to deal with these challenges.

In our reporting, we seek to meet the materiality requirements of both the GRI Standards and section 289c (3) of the German Commercial Code (Handelsgesetzbuch, HGB). Because of the diverging definitions of materiality, we see the following difference in material topics:

According to the GRI Standards, the following topics are material:

Index	Topic
1*	Security, privacy, and data protection
2*	Ethics and compliance
3*	Employee rights
4*	Fair and inclusive workplace
5*	Human rights
6*	Well-being, health, and safety
7*	Climate change and air quality
8**	Governance
9*	Talent and development
10*	Energy
11*	Customer responsibility
12*	Employee engagement
13**	Transparency
14*	Resource efficiency and waste
17**	Responsible supply chain
19**	Solutions for an inclusive and circular economy
20*	Product responsibility

According to the HGB, the following topics are material:

Index	Topic
1*	Security, privacy, and data protection
2*	Ethics and compliance
4*	Fair and inclusive workplace
7*	Climate change and air quality
8**	Governance
9*	Talent and development
11*	Customer responsibility
12*	Employee engagement



Stakeholder Engagement

For SAP, stakeholder engagement and collaboration are deeply embedded into our process of innovation and the development of our products and services. Before we can design a new solution, we must first understand the issue we are addressing. This is why we regularly liaise with the stakeholder groups described below, including our sustainability and AI ethics advisory panels.

Customers

For more information about our customer engagement programs, see the [Customers](#) section.

Employees

We survey our employees regularly throughout the year. For the results of our latest employee survey and action items resulting from it, see the [Employees and Social Investments](#) section.

We strive for constructive labor relations across the world, working within each country's requirements. We currently have social partners in 37 countries in Europe, Asia, and the Americas. These employee representative bodies consist of elected union members and/or non-union members, and are consulted by SAP management mainly on topics that define the work environment and work processes. Collective bargaining agreements with unions are only made in countries where legally required. Overall, about 49% of our employees are represented by works councils or an independent trade union, or are covered by collective bargaining agreements.

In addition, the Executive Board answers employees' questions in quarterly all-hands meetings. In regular coffee corner sessions, senior executives explain our strategy to employees and answer their questions directly.

Financial Analysts and Investors

For more information about our dialog with the financial community (that is, financial analysts, institutional investors, and retail shareholders), see the [Investor Relations](#) section.

Governments

For more information about our dialog with governments, see the [Public Policy](#) section.

Industry Analysts

Our Analyst Relations team, the Executive Board, and executives have strong relations with IT analysts and engage with them on strategic SAP solutions and services on a frequent basis.

Partners

With more than 22,500 partners around the world, the SAP ecosystem is vital to our success. We take a multifaceted approach to engagement that begins with the dedicated, interactive SAP Partner Portal. Partners receive regular communications including customized newsletters, training offers, and Web seminars, with the latest announcements and thought leadership relevant to their specific partnership type. Additionally, virtual events are held throughout the year, around the globe, to further gauge partners' feedback on how SAP can continuously improve. For more information about our ecosystem, see the section [Products, Research & Development, and Services](#).

Non-Profit Organizations (NPOs) and Academia

Our dialog with NPOs and academic institutions helps us understand how we can address today's most pressing issues with our solutions and what is expected from us as a corporation. For example,



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SAP University Alliances introduces students and faculty to SAP software by providing networking and educational activities and partnering to build technology skills. For more information about how we engage with NPOs, see the [Employees and Social Investments](#) and [Our Contribution to the UN SDGs](#) sections.

Sustainability Advisory Panel

Our sustainability advisory panel consists of expert representatives from our customers, investors, partners, NPOs, and academia. In 2021, the panel discussed key initiatives related to corporate social responsibility, environmental performance, and our sustainability management solutions.

AI Ethics Advisory Panel

Our AI ethics advisory panel consists of academic, policy, and industry experts who advise us on the development and operationalization of the guiding principles for artificial intelligence. In 2021, the panel discussed, for example, the importance of harmonizing AI ethics with SAP's overall human rights agenda and operationalizing these topics.



Sustainability Management

Putting Sustainability at the Heart of Our Strategy

With SAP's purpose to help the world run better and improve people's lives, sustainability is firmly anchored in our business strategy, governance, and executive compensation system. For more information about our renewed corporate strategy, see the [Strategy](#) section.

We aim to create positive economic, environmental, and social impact within the planetary boundaries using two key levers:

- 1) Providing products and services that meet the sustainability challenges and opportunities of our customers (enabler)
- 2) Leading by example in our own sustainable business operations and practices (exemplar)

Our chief sustainability officer (CSO) reports directly to the chief financial officer (CFO), who is the sponsor for sustainability on the Executive Board. The CSO chairs the Sustainability Council which consists of dedicated senior executives in charge of sustainability in each Board area. Together with the CSO's team, the Council is accountable for driving SAP's holistic, cross-company sustainability agenda and setting annual objectives and priorities.

In addition to the Sustainability Council, we have governance and project structures in place to address specific topics such as solution development, environmental management, and human rights.

Changing Our Behavior and Culture

Employee engagement is essential for driving change throughout SAP. We set up a number of programs to help employees understand how sustainability is engrained in our purpose and strategy, and how they can contribute. For example, SAP continues to include sustainability in its onboarding training for new hires and various line-of-business-specific learning offerings. Furthermore, employees can take openSAP online courses on sustainability, which are also available to the general public for free. Due to the COVID-19 pandemic, onsite offerings have been on hold, but in many cases have shifted to new virtual alternatives.

To help drive progress in our sustainability initiatives, we need the support of employees in every part of SAP. We have a global internal network of more than 300 sustainability champions who represent different regions and areas of the business at SAP. Not only do they act as role models and multipliers, these champions also tailor sustainability engagement activities to local and lines-of-business needs and interests and share best practices.

We measure the success of our initiatives through our employee engagement surveys. The latest results from 2021 showed that 79% of our employees stated "I actively contribute to SAP's sustainability goals." This is down from 87% in 2019 but up from 47% in 2009 when we introduced the question.



Our Contribution to the UN Sustainable Development Goals

The 17 United Nations Sustainable Development Goals (SDGs) provide a globally accepted framework anchored in human rights, which we use for communicating our purpose to “help the world run better and improve people’s lives.” We strive to execute on this purpose by being a role model for sustainable, purpose-led operations and by enabling our customers to operate in a sustainable way.

Following the adoption of the SDGs by world leaders in September 2015, we identified and aligned existing initiatives with all 17 SDGs. For example, we looked at the environmental and social impacts of customers using SAP technology and applications, linking these impacts to the SDGs. The resulting Web book (www.sap.com/unglobalgoals) was published in early 2016 and has been updated regularly.

In discussions with our Sustainability Council and external sustainability advisory panel, we defined the SDGs for which there is a tangible and material link between our own operational activities or the use of our software by customers.

The following table describes the potential positive (+) and negative (-) direct or indirect impacts of our company and of our products and services related to the selected SDGs. We use “direct” when we refer to impacts through our own operations; “indirect” describes impacts through the use of our solutions and technology or in our ecosystem.

Audit Scope

The content of this section was not subject to the independent limited assurance engagement of our external auditor.

SDG 3 Good Health and Well-Being

Our Potential Direct and Indirect Impact	Direct:	Indirect:
	<ul style="list-style-type: none"> + Provide access to a healthy lifestyle and a safe and healthy working environment for our employees 	<ul style="list-style-type: none"> + Enhance safe and healthy working conditions, healthcare, and personalized medicine on a global scale - Increase transparency of physical, medical, and health conditions of individuals, which might be abused
Our KPIs and Targets	Business Health Culture Index	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct:	Indirect:
	Global Health and Safety Management Policy; Employee Assistance Program; Corporate Oncology Program for Employees; Mental Health Initiative	
Where You Can Find More Information in the SAP Integrated Report and Other Sources	Employees and Social Investments SAP and SDG 3, Healthcare, SAP Environment, Health, and Safety Management, SAP Mental Health Initiative, SAP's COVID-19 Response, Corona-Warn-App, SAP Vaccine Collaboration Hub	



SDG 4 Quality Education

Our Potential Direct and Indirect Impact	Direct: + Train and educate SAP employees	Indirect: + Build capability in our ecosystem and among our customers
Our KPIs and Targets	Engaging two million children, youth, and young adults in digital skills and coding programs by 2022	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Cloud-based learning management system for employees	Indirect: openSAP; CSR digital literacy programs; SAP digital learning initiative
Where You Can Find More Information in the SAP Integrated Report and Other Sources	<p><i>Employees and Social Investments</i> <i>SAP and SDG 4, SAP Learning for Life, Powering Opportunity Through Digital Inclusion, SAP Digital Learning Initiative</i></p>	

SDG 8 Decent Work and Economic Growth

Our Potential Direct and Indirect Impact	Direct: + Create decent jobs at SAP through our growth plans, specifically in developing markets	Indirect: + Create three million jobs in our ecosystem (based on a 2017 study by SAP and PwC) + Enable an inclusive economy + Respect human rights across value chains + Combat forced and child labor throughout supply chains - Fuel negative effects on employment through digitalization and automation; potentially increase precarious jobs
Our KPIs and Targets	Number of employees	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: SAP recruiting programs	Indirect: SAP Rural Sourcing Management; SAP Ariba Supplier Risk; Partnership with Social Enterprise UK
Where You Can Find More Information in the SAP Integrated Report and Other Sources	<p><i>Employees and Social Investments</i> <i>SAP and SDG 8, Skilled and Inclusive Workforce, Pledge to Flex, Supporting Social Entrepreneurship, Powering Opportunity Through Digital Inclusion, SAP Solutions for Social Responsibility, SAP Rural Sourcing Management</i></p>	

SDG 9 Industry, Innovation, and Infrastructure

Our Potential Direct and Indirect Impact	Direct: + Increase inclusive and sustainable industrialization through SAP's investments in research and development (including in developing countries)	Indirect: + Support providers of infrastructure, financial services and clean technologies + Provide "Best Practice" business processes through standard software solutions + Integrate small and medium-sized enterprises into global value chains and markets
Our KPIs and Targets	NA	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: SAP Labs Network; One Billion Lives initiative fostering purpose-driven innovation	Indirect: SAP support for startups through various programs



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Where You Can Find More Information in the SAP Integrated Report and Other Sources*Products, Research & Development, and Services, Employees and Social Investments
SAP and SDG 9, SAP Innovation, One Billion Lives Initiative, SAP.io***SDG 10 Reduced Inequalities**

Our Potential Direct and Indirect Impact	Direct	Indirect
	<ul style="list-style-type: none"> + Ensure equal opportunity and inclusion of all employees, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or other status 	<ul style="list-style-type: none"> + Enable an inclusive economy by providing tools and systems to foster inclusion of all in workforce and supply chains - Decouple societal groups from entire areas of employment through an accelerated digital divide and lack of digital skills
Our KPIs and Targets	<ul style="list-style-type: none"> ▪ 30% women in management by year end 2022 ▪ Double the representation of African-American talent in the U.S. over the next three years ▪ Reach 5% of annual addressable procurement spend with social enterprises and with diverse businesses by 2025 	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Human Rights Commitment Statement; Diversity & Inclusion programs including EDGE certification; SAP Global Anti-Discrimination Policy; 5 & 5 by '25 initiative	Indirect: SAP solutions for social responsibility; SAP Ariba Supplier Risk Management
Where You Can Find More Information in the SAP Integrated Report and Other Sources	<i>SAP and SDG 10, Human Rights Commitment Statement, Equality for All, Diversity and Inclusion, Social Justice, Spotlight Black Businesses, Equal Pay for Equal Work, Fostering Corporate Spend with Diverse Suppliers, Powering Opportunity Through Digital Inclusion, SAP Product Accessibility, SAP Solutions for Social Responsibility, SAP Rural Sourcing Management</i>	

SDG 12 Responsible Consumption and Production

Our Potential Direct and Indirect Impact	Direct:	Indirect:
	<ul style="list-style-type: none"> + Drive sustainable business practices and integrated reporting - Use energy, water, and resources; produce waste 	<ul style="list-style-type: none"> + Decouple economic prosperity from resource consumption by enabling transparency and optimizing resource productivity in linear or circular economies - Increase absolute resource and energy consumption because efficiency gains through automation may be counteracted (rebound effect)
Our KPIs and Targets	We drive resource productivity with an aspiration to a world with zero waste.	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Beyond Single-Use Plastics initiative; Supplier Code of Conduct; Sustainable Procurement; e-waste recycling	Indirect: SAP Responsible Design and Production; 5 & 5 by '25 initiative; SAP Ariba Supplier Risk Management; SAP Digital Supply Chain; SAP Rural Sourcing Management; SAP Logistics Business Network and Material Traceability
Where You Can Find More Information in the SAP Integrated Report and Other Sources	<i>Energy and Emissions, Waste and Water, Sustainable Procurement Environmental Policy, SAP and SDG 12, Circular Economy, SAP Solutions for Circular Economy, Circular Design Project, SAP and Topolytics Launch COP26 Waste Insights Project, Phase out single-use plastics, Buy social: 5 & 5 by '25, SHIFT: Digital tools to fight ocean plastics, Material traceability, GreenToken by SAP</i>	



SDG 13 Climate Action

Our Potential Direct and Indirect Impact	Direct: <ul style="list-style-type: none"> + Assume responsibility for products in use-related emissions by running customer applications in the SAP green cloud - Emit greenhouse gases 	Indirect: <ul style="list-style-type: none"> + Contribute to climate change mitigation and strengthen resilience and adaptive capacity to climate-related hazards and natural disasters of our customers + Enable holistic operational steering by integrating climate-change relevant parameters and help understand and minimize the climate footprint of a company's products, operations, and services - Increase customers' energy consumption through use of software
Our KPIs and Targets	Become carbon neutral by 2023	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: <p>Global Environmental Policy; Report and reduce CO₂ emissions and energy consumption; Procure 100% renewable electricity; Carbon impact relevance for Executive Board compensation</p>	Indirect: <p>Green Cloud; Business ambition for 1.5°C; Climate 21 program; SAP Product Carbon Footprint Management; SAP Landscape Management Cloud; SAP Transportation Management; Concur Travel, and TripIT</p>
Where You Can Find More Information in the SAP Integrated Report and Other Sources	<p><i>Energy and Emissions, Compensation Report</i></p> <p><i>Environmental Policy, SAP and SDG 13, Climate Action, Climate Change: What SAP Is Doing, SAP sets 1.5°C science-based emissions reduction targets aligned with a net-zero future, SAP's investment in Livelihoods Carbon Funds, SAP joins 1t.org with a pledge to plant 21 million trees, Climate 21, SAP Product Carbon Footprint Management, SAP Concur Sustainable Travel</i></p>	

SDG 17 Partnerships for the Goals

Our Potential Direct and Indirect Impact	Direct: <ul style="list-style-type: none"> + Build capacity throughout our broader ecosystem
Our KPIs and Targets	NA
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	For more information, see the section <i>Memberships, Partnerships, and Commitments</i>
Where You Can Find More Information in the SAP Integrated Report and Other Sources	<p><i>Employees and Social Investment, Memberships, Partnerships, and Commitments</i></p> <p><i>SAP and SDG 17, SAP and UNICEF, SAP Founding Member of Value Balancing Alliance, SDG Ambition, SAP joins the Ellen MacArthur Foundation, WEF Global Plastic Action Partnership, SAP Is Innovation Partner in WBSCD's Value Chain Carbon Transparency Pathfinder, SAP joins the Global Alliance for YOUTH</i></p>



Sustainable Procurement

Making Our Supply Chain More Sustainable

A significant part of our social and environmental impact is delivered through our supply chain. Eliminating single-use plastics, decreasing carbon emissions, reducing oversized packages, and close collaboration with our supplier network are factors that contribute to a sustainable supply chain.

Our Global Procurement Organization (GPO) aims to transform into an even more purpose-driven organization consistent with diversity and social enterprises. That is why we established the overarching Procurement with Purpose strategy, which promotes purpose-driven programs such as diversity and social inclusion and responsible resource usage.

Governance

SAP's GPO is led by our chief procurement officer (CPO). Reporting to our CPO are the heads of our procurement categories (1) Car Fleet, (2) IT Infrastructure, (3) Marketing & Travel, (4) Professional Services, and (5) Workplace Infrastructure and their teams.²⁸

Also reporting to the CPO, the chief operating officer (COO) is responsible for enabling processes and governance within the GPO.

Our CPO and chief sustainability officer meet each quarter to discuss the progress and challenges related to embedding sustainability in our procurement practices.

Upholding High Standards Across Our Supply Chain

SAP's supplier code of conduct (SCoC) is included in our standard supplier contracts and is an essential part of our supplier registration. This supplier registration ensures that potential suppliers of SAP are aware of SAP's SCoC. We review and update our SCoC regularly to maintain high standards within our supplier network. This strengthens the code's enforceability and sends a clear message about its importance for SAP.

In addition to requirements for sustainable packaging (such as plastic-free, appropriately sized boxes), our SCoC contains provisions on the Modern Slavery Act and diversity and inclusion, as well as a labor standards chapter that expressly refers to human rights. Furthermore, we recommend to SAP suppliers that they deliver goods and services that are accessible to everyone, including people with disabilities.

In early 2022, the GPO will implement the Procurement with Purpose supplier qualification process. This process will capture information pertaining to the performance of our suppliers in three focus areas: Social & Inclusive Supply Chain, Environmental Supply Chain, and Human Rights in Value Chain. This data will enable the GPO to make an informed supplier selection based on environmental and social performance.

What We Buy and Where We Buy It From

We consider our suppliers to be key partners in our business success. In 2021, we spent approximately €5.3 billion in purchases from more than 15,000 suppliers worldwide (2020: approximately €5.1 billion from more than 14,700 suppliers worldwide). Within our five categories and our Sourcing Excellence Champions unit, we approach sustainability from different

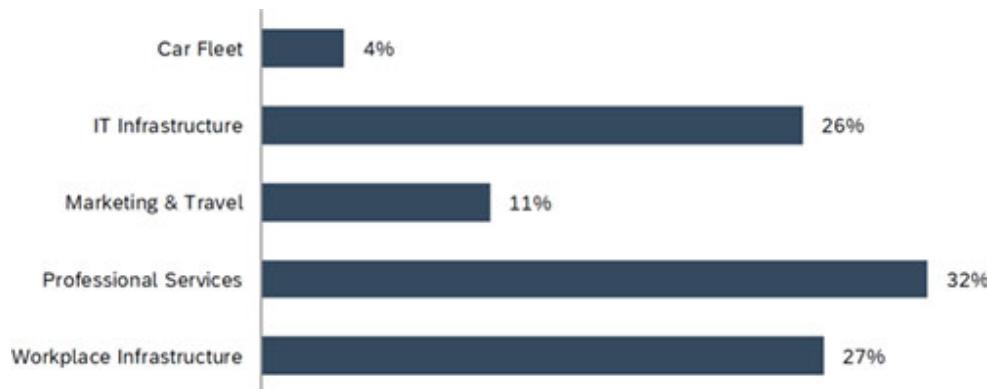
²⁸ Car Fleet includes procurement relating to the global Company car fleet. IT Infrastructure procures products and services for SAP's cloud business such as network services and data center and co-location goods and services. Marketing & Travel supports topics related to SAP's marketing, events, merchandise, and business travel areas. Professional Services includes application and development services as well as financial and legal services. Workplace Infrastructure includes procurement for areas such as facility services, client services, and equipment, communication, and collaboration services. Sourcing Excellence Champions are responsible for the seamless execution of procurement and sourcing activities and are drivers for customer satisfaction and end user success.



angles: Workplace Infrastructure (example: reduce single-use plastics packaging and packaging material), Professional Services (example: CO₂-reduced mobility concepts, electronic contracts), Marketing & Travel (example: sustainable merchandise and events), IT Infrastructure (example: sustainable cooling of data centers), and Car Fleet (example: sustainable mobility concepts).

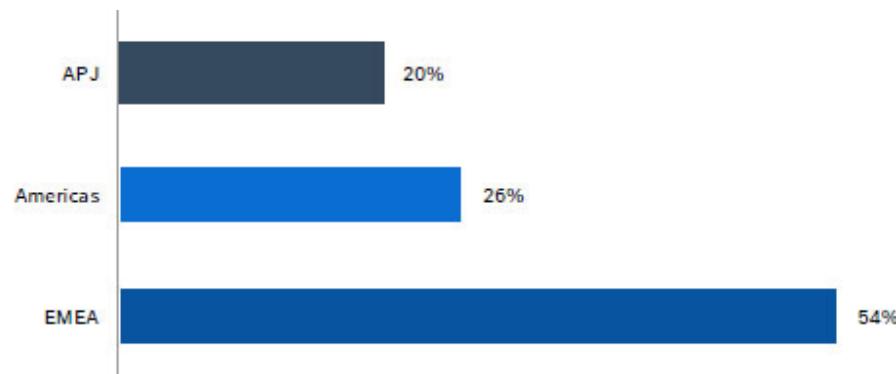
Suppliers by Category (Tier 1)

Percent of total spend



Percent of Suppliers per Region

Percent of total spend



Social Procurement

We believe that diverse and sustainable businesses bring significant added value to SAP.

Establishing an inclusive supplier network – that is, minority enterprises defined by gender, ethnicity, disability, sexual orientation, and other characteristics, as well as certified social enterprises that focus their company's mission on making social impact – have become a key priority for SAP. We believe that our commitment to an inclusive, bias-free culture in our workplace must be mirrored in our approach to our supplier base.

Driven by our GPO, SAP's supplier diversity and social enterprise programs are an integral part of our transformation into a purpose-driven organization. These programs aim to build the capacity of diverse and social businesses to provide a fair chance at competing for contracts and are treated equally with other SAP suppliers. Utilizing the procurement skills and expertise within the organization, our GPO engages in skills-based volunteering to build the capacity of social enterprises in the Sustainable Growth of Revenues for International Development (S-GRID) program by the social purpose organization MovingWorlds.

To support these programs, the GPO established the Procurement with Purpose Ambassador Network. This network consists of volunteers within the GPO across the various procurement spend categories and regions; its functions include identifying new opportunities to engage with certified



diverse suppliers and social enterprises, engaging with their regional procurement teams on current and upcoming activities, supporting Environmental Management System (EMS) audits for ISO 14001 certification, and acting as a multiplier for passing on Procurement with Purpose knowledge, learning, and training opportunities to the GPO.

As part of its Procurement with Purpose program, SAP was a corporate member of the following supplier and social enterprise certification organizations in 2021:

Supplier Diversity:

- National Minority Supplier Development Council (NMSDC)
- WEConnect International
- Disability:IN

Social Enterprise:

- Social Enterprise UK
- Buy Social Canada
- Social Traders (Australia)
- Social Enterprise NL
- Ākina Foundation
- Social Entrepreneurship Network Germany

These organizations enable the GPO to identify opportunities to engage with diverse suppliers and social enterprises, to support the 5 & 5 by '25 social procurement spend targets. This target is defined as 5% addressable spend with diverse suppliers and 5% addressable spend with Social Enterprises by year end 2025. As at the end of 2021, we had achieved €200.9 million (3.9%) diverse spend with 958 diverse suppliers in the United States.

To ensure that all diverse and social spend is captured, our GPO evaluates its supplier network to identify and register all existing certified diverse suppliers and social enterprises. Activities such as this and expanding our efforts with the Buy Social Corporate Challenge aim to enable SAP to fulfill our pledge and shift our addressable spend to diverse suppliers and social enterprises. With Ariba Network, we invite existing suppliers, as well as potential suppliers, to engage more in the area of diversity and social enterprises.

Improving Sustainability Through Practice

As part of our Third Party Risk Management (TPRM) program, we have created a Responsible Sourcing questionnaire to identify, manage, mitigate, and avoid sustainability risks within our supply chain. The risk domains evaluated include: Environmental, Human Rights, Diversity, Equity & Inclusion, Social Enterprise, and Health & Safety.

As outlined in the [Waste and Water](#) section, the GPO is one of the focus areas of the interdisciplinary Beyond Single-Use Plastics initiative. From addressing plastic packaging materials, to the items in our SAP Ariba catalog, our GPO is engaging with all relevant suppliers to remove single-use plastics from their packaging material and their offered product portfolio.



Waste and Water

Aspiring to a World of Zero Waste

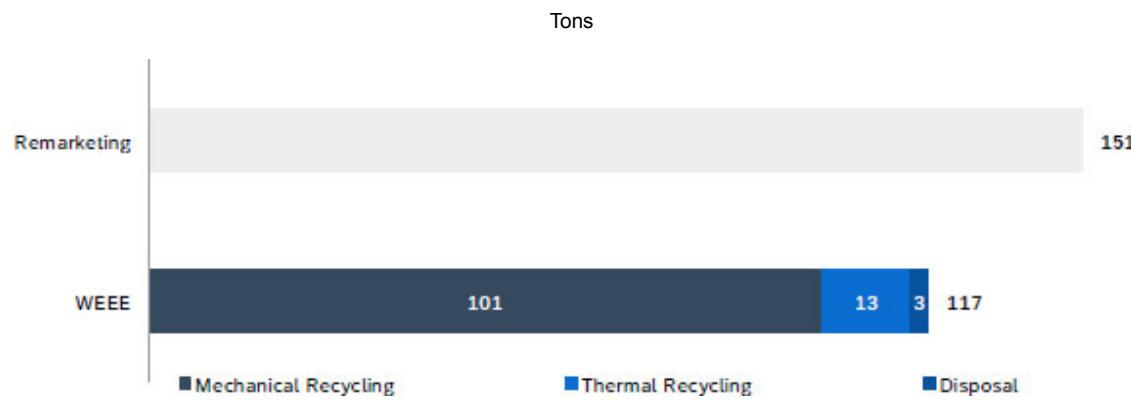
We believe in SAP's capabilities to help transform the economy into a low-carbon, circular system to reach a restorative and regenerative world of zero waste and significantly cleaner oceans by 2030. In alignment with SAP's Global Environmental Policy, our waste and water strategy and corresponding Company-wide initiatives aim to continuously reduce SAP's impact on the environment by generating less waste, reducing water consumption, and enabling our customer to do the same.

Managing Our Discarded Electrical and Electronic Devices

Waste of electrical and electronic equipment (WEEE, or e-waste) is one of the world's fastest-growing waste streams. As a global cloud company running data centers and office buildings across the world with a large amount of IT devices in place for our more than 100,000 employees, the ecological footprint of our electrical and electronic equipment (EEE) and their end-of-life treatment is a growing area of focus for SAP. Thus, the ultimate goal is to give our discarded electronic devices and assets a second life through refurbishment and remarketing. If the device is non-repairable or unmarketable, the subsequent priority is to recover valuable materials through mechanical recycling.

In multiple SAP locations, we cooperate with international and/or local IT asset lifecycle partners to refurbish, recycle, and dispose our EEE. In late 2020, we started to transform our e-waste reporting. Instead of reporting only scrapped e-waste, we began collaborating with our major IT asset lifecycle partners to establish a more distinguished (W)EEE reporting that enables us to see more precisely what type of end-of-life treatment was applied to our disposed IT assets and devices.

End-of-Life Treatment of Electrical and Electronic Equipment



Building Regenerative Business in a Circular Economy

In 2020, we made a commitment with our customers to strive for a significantly cleaner ocean by 2030 at the World Economic Forum in Davos, alongside the Ellen MacArthur Foundation, World Wildlife Fund, and the Global Plastic Action Partnership. To make the circular economy the de facto approach to material use and waste management, we are working with our customers and partners on solutions that address full-circle transparency across all material flows to enable three priorities: eliminate, circulate, and regenerate.

- Eliminate: Manage packaging and regulatory risks including extended producer responsibility obligations and plastic taxes holistically across global markets, and embed circularity principles into



core business processes to eliminate waste through the SAP Responsible Design and Production solution

- Circulate: Establish responsible sourcing and secondary marketplaces to stimulate an increase in value of materials for re-use as well as gain transparency into material flows across global supply networks. For instance, the SAP Rural Sourcing Management solution was used to engage waste collector communities ethically and responsibly in the first-mile acquisition of waste materials, while the GreenToken by SAP solution provides full multilayer transparency of raw material flows, including co-mingled commodities.
- Regenerate: Leverage new regenerative business models to accelerate the shift from consumption to re-use models, by way of industry cloud innovations from SAP.

SAP also advocates global systems change at scale to accelerate the transition to a circular economy: in addition to endorsing meaningful proposals such as calling for the implementation of extended producer responsibility schemes for packaging, it enables citizens to find their role and best-fit solutions to help solve ocean plastic pollution, through the SHiFT platform developed in close collaboration with Emily Penn, ocean advocate and co-founder of the non-profit organization eXXpedition.

Finding Alternatives to Single-Use Plastics

To lead by example, SAP continued to execute on its original commitment to phase out single-use plastics by the end of 2020 as part of its global environmental policy's goals. The interdisciplinary 'Beyond Single-Use Plastics' initiative is based on identifying and eliminating single-use plastics and introducing more sustainable alternatives based on three principles: reduce waste, reuse items, and recycle materials.

Worldwide, SAP locations continued to collaborate with their suppliers and service providers to eliminate single-use plastic products such as bottles, cups, stirrers, straws, cutlery, and food packaging. For example, we rolled-out a digital reusable food packaging system for takeout, delivery, and convenience in all SAP locations with a canteen in Germany, and piloted the first two single-use plastic-free cafeteria kiosks at SAP's headquarters in Walldorf. At SAP locations in the United States and Canada, meanwhile, "Sustainability on the Go" kits with reusable utensils were distributed among the employees. The lessons learned and experiences of such practices will be used to refine the concepts and make them suitable for a global rollout.

We also continue to exclude single-use plastics in our internal procurement processes (such as for office supply packaging) as outlined in the *Sustainable Procurement* section. The established "Choose to Reuse" campaign aims to increase visibility and usage of reusable products by encouraging employees to take photos of reusable items of their everyday work and share them on social media.

Thanks to the continuous efforts of our global network of sustainability champions, our Environmental Management System (EMS) colleagues, and other internal stakeholders, and their persistent engagement of and communication with external suppliers and partners, we overcame our setbacks from 2020 caused by the COVID-19 pandemic and, by midyear 2021, had successfully phased out nearly all single-use plastics at the Company. The project was operationalized at the end of the second quarter 2021 and handed over to the three core lines-of-business in the area of facilities, procurement, and events to ensure SAP remains free of single-use plastics going forward.

Cutting Down on Further Residual Waste

In 2021, our continuous effort to improve waste segregation and evolve our processes at offices across the globe failed to pick up its original speed due to the persisting COVID-19 pandemic, as many sites remained closed or opened with major restrictions. Nonetheless, as part of our ISO 14001 program, SAP introduced the 'Too Good to Go' app in Germany. For a small fee, employees can pick up leftover lunches from the cafeterias to fight food waste. At SAP Mexico, the amount of waste segregation stations was further expanded, while SAP Philippines implemented systematic hazardous-waste management practices.



Furthermore, we reduced our paper usage by 88% (over 73 million pages) since 2009, despite a 125.7% increase in employee full-time equivalents over the same period. Initiatives such as the continuous global rollout of a secure pull-printing system (about 82,000 registered employees) or the implementation of double-sided, black-and-white printouts by default supported this decrease. In 2021, we also continued our approach of paperless contracting. By using the SAP Signature Management application by DocuSign, which enables electronic signatures, we were able to further cut down on the printing of paper-based contracts by about 185,600 pages in 2021 (2020: over 224,000 pages) – considering the same procurement contract types as in 2020. As most employees continued to work from home in 2021 due to the pandemic, the printing volume further decreased 42% (6.9 million pages) compared to 2020.

Using Water Efficiently

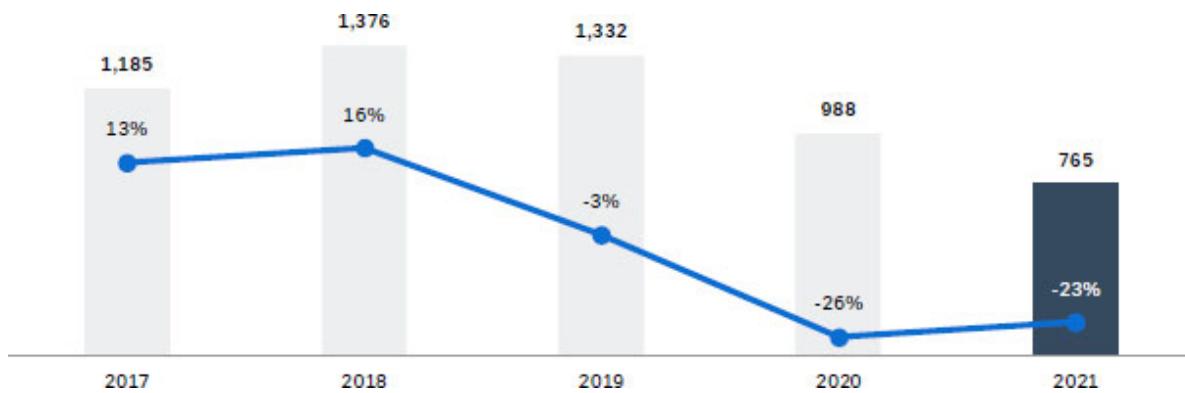
Climate change affects – and is affected by – global water resources and management. This is why we continue to use water as efficiently as possible in our data centers and offices even though our operations are not water-intensive. For example, in the data centers of our headquarters, we use adiabatic cooling (evaporative cooling) as well as a closed water circuit to minimize water consumption for cooling our server racks. In 2021, we set the target to reduce water consumption for cooling purposes in our headquarters data centers by at least 1,200 m³ per year (achievement rate 2021: 100%). At our headquarters and other office locations, we use rain and run-off water for irrigation and toilets.

Based on the Aqueduct Water Risk Atlas of the World Resource Institute, we conducted a water risk assessment for our ISO 14001-certified sites. Twenty percent of these sites are located in high to extremely high water-risk regions. We address this issue with dedicated water management efforts. For instance, in Bangalore, India, we will install a rainwater harvesting system at the beginning of 2022 to improve water conservation. In Johannesburg, South Africa, smart water meters and a water catchment solution were installed to decrease municipal water consumption. In Ra'anana, Israel, we implemented a building management system (BMS) to monitor and track consumption, and various detectors were installed to limit irrigation on rainy days and to detect water leakages early on.

In 2021, our global water usage further decreased due to the prevailing COVID-19 pandemic and the strong reduction in the usage of our offices coupled with our implemented water-reduction measures.

Global Water Usage

Thousand cubic meters





Public Policy

SAP has developed trusting and transparent relationships with governments worldwide by cooperatively exploring the potential for information and communications technologies to spur economic growth, create jobs, and address societal challenges. This includes consideration of the role governments play as consumers as well as policy makers, and by supporting the digital transformation of the public sector to become more efficient, effective, and citizen oriented.

SAP engages with governments around the globe on various policy issues as well as on creating reasonable framework conditions for the adoption of new beneficial technologies or business models such as cloud computing, the Internet of Things, and Big Data.

SAP believes in transparency in the political process. Accordingly, we are registered in the European Transparency Register for interest representatives. In the United States, SAP is registered, and reports in compliance with, the federal Lobbying Disclosure Act. We are also registered in other countries, where this is required by local law.

Political Contributions

In accordance with the SAP Code of Business Conduct (CoBC), SAP does not support any political parties. By the laws of the United States, SAP employees exercise their right to operate a political action committee (PAC). The SAP America PAC is an independent, registered, and strictly regulated organization that allows eligible SAP employees to voluntarily contribute to the SAP America PAC in the United States to financially support candidates seeking public office at the state and federal levels. Consistent with U.S. laws, SAP exercises no control over or influence on the SAP America PAC. SAP America PAC expenditure figures are transparent and accessible through the U.S. Federal Election Commission Web site.



Memberships, Partnerships, and Commitments

To better understand and evolve sustainable performance, dialogue, and exchange of knowledge and different perspectives on a national, regional, and global level, is vital for SAP, both for our company and customers. Hence, SAP subscribes to, commits to, and routinely engages in a range of third-party organizations, including:

Organization

Accounting Standards Committee of Germany (ASCG)	Advancing Women Executives
Alliance for Development and Climate	Alliance for Integrity
ASEAN Foundation	
Bitkom e.V.	Breakthrough Energy Ventures
Business Call to Action	Business for Social Responsibility
CEO letter on EU 2030 emissions targets	Climate Neutral Now
Deloitte Digital	Deutschland sicher im Netz e.V.
DIGITALEUROPE	
econsense e.V.	Ellen MacArthur Foundation (EMF)
EMF ERP Pledge	ESMIG
EU Green Deal CEO Pledge	European CEO Alliance
European Climate Pact Pledge	European Green Digital Coalition (EGDC)
European Roundtable for Industry (ERT)	
Federation of German Industries	
Global Alliance for YOUTH	Global Business Alliance
GlobalGiving	Global Partnership for Sustainable Development Data
Gucci CEO Carbon Neutral Challenge	
Impact 2030 (founding member)	Industrial Internet Consortium
Information Technology Industry Council	
JA Worldwide (JA Americas and INJAZ Al-Arab)	
Klimabündnis Baden-Württemberg	
LEAF Coalition	Livelihood Funds
Metropolregion Rhein-Neckar	
National Chambers of Commerce	Network for Teaching Entrepreneurship (NFTE)
Ocean Plastics Leadership Network	
Race to Zero	RE100
Schmalenbach-Gesellschaft für Betriebswirtschaft e.V.	Science Based Targets initiative
Social Enterprise UK	Social Enterprise World Forum
Social Traders	Society of Corporate Compliance & Ethics
Sustainable Markets Initiative	
Terra Carta of the Sustainable Markets Initiative by Prince	The Climate Pledge

Charles

The Conference Board, Inc.

The Female Quotient

The Green Web Foundation

Thrive Global

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To Our
StakeholdersCombined Group
Management ReportConsolidated Financial
Statements IFRS**Further Information on
Sustainability**Additional
Information**Organization**

Together with Nature Principles for Nature-Based Solutions	Topolytics
TRACE International	Transparency International Germany
United Nations Global Compact (since 2000)	UN Global Compact SDG Ambition
UNICEF	Unternehmen für ein leistungsfähiges Klimapaket
Value Balancing Alliance e.V. (founding member)	Verband Deutscher Maschinen- und Anlagenbau e. V. (VDMA)
We Are Family Foundation	WEConnect International
WEF CEO Climate Leaders	WEF Commitment to Stakeholder Capitalism Metrics
WEF Global Battery Alliance	WEF Global Plastic Action Partnership
WEF 1t.org	WEF Stakeholder Capitalism Coalition
"We Mean Business" coalition	"We Mean Business" Letter to G20 Leaders
Wirtschaft macht Klimaschutz	Women in Data Science (WDS)
World Bank: "Put a Price on Carbon" statement	World Business Council for Sustainable Development (WBCSD)
World Economic Forum (WEF)	WWF OneSource Coalition

Audit Scope

The content of this section was not subject to the independent limited assurance engagement of our external auditor.

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Non-Financial Notes: Social Performance

General Information About Social Indicators

Boundaries

Our reporting takes two different perspectives into account: SAP as a company, which includes all our legal entities and operations and supply chain, and SAP as a solution provider enabling our customers. These boundaries are listed in detail in the GRI Standard Content Index.

Social Indicators

Data for our social indicators is collected and reported on a quarterly or annual basis and is audited at a reasonable assurance level.

Employee Retention

We define employee retention as the ratio of the average number of employees minus the employees who voluntarily departed, to the average number of employees, taking into account the past 12 months (in full-time equivalents, or FTEs). This ratio puts emphasis on employee-initiated turnover – in other words, we seek to measure how many employees choose to stay with SAP. As opposed to keeping a low turnover rate, we aim to keep our retention rate high. The number of voluntarily departed employees excludes the voluntary part of restructuring-related departures for more transparency and precise headcount management purposes.

Women in Management

We define “women in management” as the share of women in management positions as compared to the total number of managers, expressed by the number of individuals and not FTEs.

- Managers managing teams: Refers to managing teams of at least one employee or vacant positions.
- Managers managing managers: Refers to managing managers who manage teams.
- Board members

Employee Engagement

We define employee engagement as an index score of five items measuring the satisfaction and commitment of our employees, how proud they are of our company, and how strongly they identify with SAP.

It is calculated based on the average of the scores retrieved in each of the surveys we run for our engagement survey program "#Unfiltered." Adopting the Experience Management (XM) philosophy of Qualtrics, we changed our engagement survey concept to a continuous listening approach that includes multiple data collections throughout the year. The overall program focuses on measuring the key people outcome indices Employee Engagement and Leadership Trust, as well as the organizational and team factors derived from the strategy that impact engagement. In the #Unfiltered survey in April, 73,598 employees participated (response rate: 72%), and in the #Unfiltered survey in



October, 70,386 participated (response rate: 68%). All employees were invited to take part in the 2021 #Unfiltered survey cycle.²⁹

Business Health Culture Index

The Business Health Culture Index (BHCI) is an indicator of the extent to which SAP successfully offers employees a working environment that promotes health supporting their long-term employability and their active engagement in reaching our corporate goals. The index covers questions concerning how employees rate their personal well-being and the working conditions at SAP, including our leadership culture.

The BHCI is calculated based on the results of our "#Unfiltered" program (April 2021 survey).

²⁹ Eligible are all headcount-relevant employees (permanent contracts) and employees from acquired companies if their acquisition status allows for it. In Germany, additional non-headcount-relevant employees are eligible (temporary staff with tenure of more than six months, employees on long-term leave or parental leave, PhD students, and vocational trainees).



Non-Financial Notes: Environmental Performance

We understand environmental performance as the measurable outcome of SAP's ability to meet environmental objectives and targets set forth in our environmental policy. In this context, we determine SAP's greenhouse gas footprint (in the following called carbon emissions), total energy consumed, and data center electricity as the three key environmental performance indicators. Furthermore, we realize external reductions through self-generated renewable electricity and by purchasing offsets and Energy Attribute Certificates (EACs). Plus, we identify water consumption and the end-of-life treatment of SAP's electrical and electronic equipment as additional environmental aspects.

By looking at the energy usage and emissions throughout our entire value chain, we gain insights to help us manage our environmental performance and, in turn, help our customers to do the same.

Our gross carbon emissions for 2021 were 345 kilotons of CO₂ equivalents (CO₂e) (2020: 410 kilotons CO₂e), including all carbon emission categories of Scope 1 and 2, as well as selected categories of Scope 3 relevant for our carbon neutral target as described in [Methodology and Further Details](#) below. Our net carbon emissions (110 kilotons in 2021) are calculated by deducting purchased EACs, self-generated renewable electricity, and carbon offsets from our gross carbon emissions in the respective reporting period.

General Information

We consider the principle of Sustainability Context (the performance of the organization in the context of the limits and demands placed on environmental or social resources at the sectoral, local, regional, or global level) in a number of ways, such as by looking at global issues or trends including climate change and demographic shifts. For example, we assess our carbon emissions in the context of the emissions of the entire information and communications technology landscape, with particular focus on the abatement potential of the industry. When it comes to completeness, we recognize that while we comply with this principle in reporting on our own operations, we are still developing methodologies to reliably quantify our impact through our solutions.

Boundaries

Our reporting takes two different perspectives into account: SAP as a company, which includes all our legal entities and operations and supply chain, and SAP as a solution provider enabling our customers. These boundaries are listed in the [Content Index of the Global Reporting Initiative \(GRI\)](#).

Reporting Approach

Data for our environmental indicators is collected and reported on a quarterly basis and is subject to external assurance for annual reporting.

Reporting on total energy consumed and data center electricity is based on the data collected for the calculation of our carbon emissions. All numbers are based on the metric system. Whenever we state "tons," we mean metric tons.



Carbon Emissions

Definition

We define the gross carbon emissions as the sum of all greenhouse gas emissions, measured and reported as CO₂e, while net carbon emissions include the compensation with renewable electricity and carbon offsets (see [External Reductions](#)).

Reporting Principles

SAP's preparation of the carbon emissions is based on the Corporate Accounting and Reporting Standard, the GHG (Greenhouse Gas) Protocol Scope 2 Guidance, and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard of the World Resources Institute/World Business Council for Sustainable Development. This approach conforms to the requirements of GRI Standard indicators 305-1, 305-2, and 305-3.

In alignment with the GHG Protocol Scope 2 Guidance, we report our net carbon emissions based on the two different calculation approaches: the classic location-based method and the market-based method.

Organizational Boundaries

SAP defines its organizational boundaries by applying the operational control approach as set out in the GHG Protocol.

Operational control is established when SAP has the full authority to introduce and implement its operating policies. The emissions of all operations over which the company has operational control and all owned, leased facilities, co-location data centers, and vehicles that the company occupies or operates are accounted for in the carbon emissions. They are based either on measurements or, where no measured data is available, on estimations and extrapolations.

A portion of SAP's leased facilities operates under full-service or multitenant leases, where SAP does not have access to actual energy consumption information. SAP includes these facilities in our definition of operational control and accounts for them by estimating related energy consumption.

To support the growing demand for SAP's cloud offerings, we subcontract computation power in local third-party data centers. Carbon emissions are approximated and included based on the consumed or extrapolated computation power.

In most instances, however, SAP has 100% ownership of its subsidiaries. Accordingly, the difference between applying the control versus the equity approach is about 0.8% based on SAP revenue. If investments in associates were included, the difference would be even smaller, about 0.6%.

Data Consistency

Methodology Change

We aim to continuously refine SAP's emissions calculation methodology and to increase the usage of measured instead of extrapolated input data. Methodology changes include changes in the source of activity data, additional new activity types, changes in emission factors, and changes in the methodology used to calculate carbon emissions. As we implemented our methodology approaches to the best of our current knowledge and ability, and consider such changes to be continuous desired progress, methodology changes will not lead to retrospective data adjustments. Hence, changes will be applied from the current year onward. The current year's methodology changes are made transparent in this chapter, particularly under [Methodology and Further Details](#).

Error Correction

If a significant error is found in the current year that has an impact on the preceding year's emissions, it will be corrected not only in the current year but also retrospectively. An error is significant if it affects SAP's gross carbon footprint by more than 5%. No restatement due to an error correction of historical data was necessary in 2021.



Structural Changes

A structural change due to company acquisitions will be considered in our emission calculations by extrapolating the company's emissions based on FTEs for relevant emission categories.

For other types of structural or organizational changes, we use a significance threshold of 5% of total current-year emissions. A structural or organizational change that increases or decreases the total carbon inventory by 5% or more will trigger an adjustment of past years. A structural or organizational change that increases or decreases the total inventory by less than 5% will be considered insignificant and thus no adjustment will be made.

Financial Impact of Sustainability Measures

We annually measure the cumulative cost avoidance of our carbon emissions, compared to a business-as-usual scenario. Since 2015, our calculation approach uses a triennial rolling method.

Conversion Factors

The calculation of the carbon emissions is based on factors for conversion and extrapolation, provided by IEA, US EPA, UK DEFRA, Environment Canada, and GHG Protocol. SAP also uses extrapolation factors based on own reported data (of previous quarters) to determine an average consumption value per base unit (such as corporate cars: liters of fuel per car; facility: electricity consumption per m²).

Where relevant, our conversion factors consider CO₂e for greenhouse gases. Global Warming Potential factors are based on the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). We report all our carbon emissions in CO₂ equivalents including the impact from CH₄ and N₂O in our target-relevant Scope 1, Scope 2, and Scope 3. The emission impact of refrigerants includes hydrofluorocarbons (HFCs) only. As SF₆ and PFCs mainly occur in chemical processes, they are not relevant for us. Since 2016, we annually review all our emissions and extrapolation factors and update them if required.

Due to office closures and travel restrictions during the COVID-19 pandemic, the 2021 extrapolation factors for the following emission categories were reduced by a factor considering the ratio between limited and business-as-usual operations: stationary combustion in facilities, refrigerants in facilities and corporate cars, mobile combustion in corporate cars, electricity in office buildings, purchased chilled and hot water, steam, and employee commuting.

Methodology and Further Details

Below you will find the different parameters contributing to our carbon emissions. We use "carbon emissions" as the common term for greenhouse gas emissions or CO₂e. Data coverage refers to the share of measured data (compared to extrapolated data) that is the basis for emissions calculation, such as kWh for electricity emissions or liters of fuel for corporate car emissions.

Scope 1

Refers to direct carbon emissions and is defined as emissions from sources that are owned or controlled by the organization. At SAP, the following areas are covered by Scope 1:

- **Stationary Combustion in Facilities:** Emissions caused by oil or gas combustion of heating systems and generators in SAP office buildings and data centers. Emission calculation is based on gas and oil consumption in kWh. Where no measured data is available, stable values (kWh/m²) based on the previous year's stationary combustion consumption data are used for extrapolation (78% data coverage). In cases where no specific information is available, natural gas reported by local sites is assumed to be reported in Lower Heating Value. Besides gas and oil, we also began using wood pellets to produce thermal heat for our buildings. The Scope 1 emissions of wood pellets can be set to net '0', since the wood itself absorbs an equivalent amount of carbon emissions during the growth phase as the amount of emissions released through combustion. Still, to ensure complete accounting for all emissions caused, we document the direct carbon dioxide



impact of burning wood pellets as 'outside of scopes' carbon emissions. In 2021, these emissions accounted for 0.375 kilotons of carbon emissions.

- **Refrigerants in Facilities:** HFC emissions caused by the use of refrigeration and air conditioning equipment. The emissions are extrapolated based on the number of server units in data centers and office space with an air conditioning (A/C) system (100% data coverage). All refrigerants are assumed to be HFC134a.
- **Mobile Combustion in Corporate Cars:** Emissions from fuel combustion of company cars. In the context of carbon reporting, the term company car refers to all cars for which SAP permanently covers the fuel costs. Emission calculation is based on fuel consumption. In 2021, 29 countries reported actual fuel data (93% data coverage); for other countries, stable values (liters/car) are used for extrapolation based on the number of corporate cars reported. The stable values for extrapolation are based on the previous year's carbon emissions data.
- **Refrigerants in Corporate Cars:** HFC emissions caused by air conditioning devices in company cars. Refrigerant emissions are based on an estimate of HFC1234yf emissions per car (in Europe) and HFC134a emissions per car (for the rest of the world) and are extrapolated based on the number of corporate cars reported (100% data coverage).
- **Mobile Combustion in Corporate Jets:** Emissions caused by business trips with SAP-owned or chartered jets. Emission calculation for SAP's own jets is based on actual fuel consumption (100% data coverage).

Scope 2

Refers to indirect carbon emissions and is defined as emissions from the consumption of purchased electricity, steam, or other sources of energy generated upstream from the organization. To determine SAP's global net emissions, we use the location-based method to calculate the Scope 2 emissions. Additionally, we disclose our market-based Scope 2 emissions in the [interactive chart generator](#). At SAP, the following emission categories are covered by Scope 2:

- **Electricity in Office Buildings:** Emissions caused by the consumption of purchased electricity in office buildings. Calculation of emissions is based on building electricity consumption. Country-specific emission factors are updated annually. Where no measured data is available, stable values (kWh/m^2) based on the previous year's energy consumption data are used for extrapolation (75% data coverage).
- **Electricity in Data Centers:** Emissions caused by the consumption of purchased electricity in SAP-owned and -operated data centers. The calculation of emissions is based on data center electricity consumption (100% data coverage). CO₂e conversion factors are updated annually based on country-specific grid factors.
- **Purchased Chilled and Hot Water and Steam:** Emissions caused by the consumption of purchased heat or steam in office buildings (district heating). Calculation of emissions is based on consumption of district heating. Emission factors are updated annually. Where no measured data is available, stable values (kWh/m^2) based on the previous year's energy consumption data are used for extrapolation (38% data coverage).

Scope 3

Refers to other indirect carbon emissions and is defined as emissions that are a consequence of operations of an organization, but are not directly owned or controlled by the organization. Scope 3 emissions are divided into upstream and downstream emissions.

Upstream

Only selected upstream emissions are measured directly and hence included in our corporate carbon target. The following upstream Scope 3 carbon emissions are included in our target:

- **Business Flights:** Emissions caused by business trips by airplane. Calculation of emissions is based on actual distance travelled and actual costs spent (79% data coverage). This data is used



to determine an average emission factor per euro spent based on short, medium, and long-haul flight emission factors. For CO₂ calculation, this factor is applied to actual controlling costs for business flights. Emission factors for business flights do not consider the radiative forcing factors.

- **Rental Cars:** Emissions caused by business trips by rental car. An average emission factor from rental cars is calculated based on actual distance traveled and actual costs spent (90% data coverage). This average emission factor is used for extrapolation based on the controlling costs.
- **Train Travel:** Emissions from business trips by train. An average emission factor from train travel is calculated based on actual distance traveled and actual costs spent (24% data coverage). This average factor is used for extrapolation based on the controlling costs. In Germany, business trips by train are considered carbon neutral as they are compensated with 100% green electricity by Deutsche Bahn.
- **Business Trips with Private Cars:** Emissions from business trips with employee-owned cars and company cars without fuel card. Carbon calculation is based on distance traveled with car (100% data coverage). Company car trips with fuel cards are excluded from this activity type.
- **Employee Commuting:** Emissions caused by commuting between home and work at an SAP office location. Considered are all modes of transport, excluding commuters with corporate cars. An SAP-global, system-integrated commuting survey about the distance to work and the mode of transport is conducted to collect relevant data. However, due to the COVID-19 pandemic, no new commuting survey has been conducted since 2018. Approximately 28,000 employees responded to the 2018 survey. These responses are the basis for carbon calculation of employee commuting in 2021. Commuting data for non-responding employees and quarterly updates are extrapolated based on the number of FTEs excluding those employees who own a company car (24% data coverage).
- **Electricity in External Data Centers:** Emissions caused by the consumption of purchased electricity in data centers not operated by SAP. An external data center (co-location) is a local computing center with server units running SAP software that is operated by an external partner. CO₂e conversion factors are updated annually based on country-specific grid factors. Electricity consumption for external data centers is extrapolated based on the consumed data center capacity and a power usage effectiveness (PUE) factor. Where no data is available, average factors are applied (78% data coverage).
- **Electricity Consumed by Hyperscale Services:** Emissions caused by the consumption of purchased electricity resulting from the usage of hyperscale services in providers' hyperscale data centers. Hyperscale data centers enable massive, efficient, and robust scalability of computing, system, and server architecture in order to respond to the increasing demand for cloud computing and Big Data solutions. Electricity consumption is calculated based on the total allocated server memory size (RAM) of all hyperscale services. A power conversion factor is used to convert the allocated RAM value into a server power value, and an average PUE factor is used to extrapolate the total hyperscale service electricity (100% data coverage).
- **Logistics:** Newly established category which consists of the following three emission sources: 1) Emissions caused by **mail and parcel**, 2) Emissions caused by the **consumption of paper**, and 3) Emissions caused by our customers **downloading software data** from our servers (originally a downstream emissions category). Due to their insignificant emissions impact, calculation is done based on an average factor 'carbon emissions per FTE.' This factor has been determined based on the emissions data of each category of the previous three years (0% data coverage).

Each year, we measure the following additional upstream Scope 3 carbon emissions based on the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard: Purchased Goods and Services, Capital Goods, Waste Generated and Water Consumed in Operations, Other Fuel- and Energy-Related Activities. These emission categories are not included in our carbon neutral target but our science-based target. The emissions calculation is based on an estimate. Due to the link of our upstream emissions to operating expenses, we extrapolated these upstream figures for



2021 by multiplying the four key contributors to our previous year's upstream emissions with the year-over-year change of operating expenses between 2020 and 2021.

Downstream

In previous years, the only downstream emission category included in SAP's carbon neutral target was "Data Download." In 2021, this KPI was incorporated into the newly created upstream Scope 3 category "Logistics" as described above.

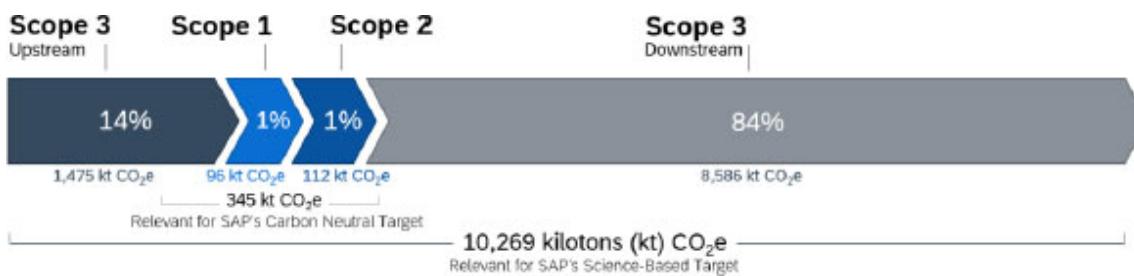
Use of Sold Products: The vast majority of our overall emissions stem from the use of our software (customers running SAP solutions on their hardware and premises). Due to our lack of control over our customers' IT landscapes, these emissions are not included in our carbon neutral target. Nonetheless, we have been calculating the emissions for indicative purposes for many years and take them into account for our science-based target.

The annual energy need per year is determined using a landscape simulation. It is extrapolated globally based on the number of productive installations and PUE. We use a PUE factor of 1.55, which is the average PUE of our external data centers. Emissions are calculated using a global electricity emission factor. Due to the special characteristics of software products, we chose an assessment of resource need per year. This deviates from the minimum boundaries as defined by the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard, which requires assessment and disclosure of "direct use-phase emissions of sold products over their expected lifetime." The calculation covers all of our major solutions, including on-premise software. Cloud solutions are not included, as they are part of internal, external, and hyperscale data center electricity emissions. Mobile solutions (for example, SAP apps running on customer IT equipment) are also not included. Calculation parameters will be adapted when significant technology changes occur.

Excluded Scope 3 Emissions

The following Scope 3 emissions sources are not applicable to SAP's business operations: Upstream Leased Assets, Processing of Sold Products, End-of-Life Treatment of Sold Products, Downstream Leased Assets, Franchises, and Investments.

SAP's 2021 Gross Carbon Emissions Along the Value Chain



Scope 1

Emission Categories

- Stationary combustion and refrigerants in buildings
- Mobile combustion and refrigerants in corporate cars
- Mobile combustion in corporate jets

Scope 2

Emission Categories

- Electricity in own buildings and data centers
- Indirect energy in buildings (chilled / hot water, steam)



Scope 3

Upstream Emission Categories	Downstream Emission Categories
Business travel (train, plane, rental car, private car)	Use of sold products ³⁰
Employee commuting	(Data Download – incorporated in “Logistics”)
Electricity in external data centers and hyperscalers	
Logistics	
Purchased Goods and Services ³⁰	
Capital Goods ³⁰	
Waste Generated and Water Consumed in Operations ³⁰	
Other Fuel- and Energy-Related Activities ²	

External Reductions

SAP uses external reductions, such as purchases of EACs and certified voluntary “offsets,” to achieve its carbon neutral target. Emission reductions are subtracted from gross Scope 1 to Scope 3 emissions to achieve a net carbon inventory.

Renewable Electricity

We define renewable electricity as electricity coming from renewable electricity sources such as wind, solar, hydro, and geothermal. The amount of renewable electricity used by SAP is calculated by adding the amounts of renewable electricity produced onsite by our own solar cells and covered by EACs.

As recommended by the Greenhouse Gas Protocol and CDP, we actively look for the best available quality and standards, which support renewable electricity projects that meet robust criteria in terms of environmental integrity, stakeholder inclusivity, and reporting and verification. We have developed a quality standard that defines key criteria for the procurement of EACs to drive change in the electricity market and to avoid the risk caused by low-quality products. The key characteristics of our renewable electricity purchasing guidelines are as follows:

- **Type of Renewable Electricity:** SAP only considers solar and wind for renewable electricity sourcing.
- **Installation:** The power plant producing the renewable electricity shall not be older than 10 years. In case of a renovation of an old power plant, the 10-year rule applies only to the additional electricity output due to efficiency increase. Furthermore, SAP does not consider EACs from government supported power plants.
- **Vintage:** The renewable electricity must be produced in the same year or the year preceding the reporting period to which it will be applied.
- **Accounting:** SAP uses the country-specific emissions factor to calculate the carbon reduction achieved by the EACs. EACs are considered independently to the electricity achieved through their procurement. SAP aims to consider the latest guidelines on EAC market boundaries.³¹

In addition, all of our purchased renewable electricity is EKOenergy-certified, a high-quality, internationally recognized not-for-profit ecolabel for renewable energy installations that fulfill additional sustainability criteria. Through the purchase of EKOenergy-certified electricity, we also contribute to EKOenergy's Climate Fund, which finances solar projects tackling energy poverty.

To calculate the carbon reductions of the EACs, the amount of purchased electricity is multiplied by the country-specific carbon factor derived from the location where the renewable electricity was

³⁰ Not included in SAP's carbon neutral target but in SAP's science-based target.

³¹ In 2021, we achieved an EAC market boundary alignment of 87% based on the criteria of RE100 and GHG Protocol Scope 2 Guidance.



produced. The renewable electricity is only considered if confirmed by an official certificate or written confirmation of our respective EAC suppliers (100% data coverage).

In the net carbon emissions, the purchased as well as the produced renewable electricity is already deducted from our Scope 2 and Scope 3 electricity emissions.

Carbon Offsets

Carbon offsets represent a unit of CO₂e that is reduced, avoided, and removed to compensate for emissions occurring elsewhere. We continuously refine our internal carbon emissions calculation methodology and uphold high requirements for dealing with carbon offsets:

- In 2021, we did not require our financial contribution to the LCF to offset our emissions. Instead, we used an investment in a nature-based forest project to compensate for a portion of our business flights as well as 100% of the following emissions categories: corporate cars using Novofleet's climate fuel cards, corporate jets, business trips with private cars, and logistics.
- By charging an internal carbon price for business flights and investing in the forest project, we were able to offset 85% (10.7 kt) of our business flights emissions in 2021.

A requirement for carbon offsets is the application of the Verified Carbon Standard (VCS) and equally-high quality standards. SAP ensures that the quantified carbon emission reductions from offsets are credible and that they meet four key principles:

- **Real:** The carbon reductions represent actual emission reductions that have already occurred.
- **Additional:** The carbon reductions are surplus to regulation and would not have happened without the offset.
- **Permanent:** The carbon reductions are permanent or have guarantees to ensure that any losses are replaced in the future.
- **Verifiable:** The performance of the carbon reduction projects can be readily and accurately quantified, monitored, and verified.

In the net carbon emissions, purchased offsets are already deducted from our gross emissions.

Total Energy Consumed

We define total energy consumed as the sum of all energy consumed in SAP's own operations and value chain (Scope 1, 2, and 3), including energy from renewable sources. It is calculated based on the consumption data obtained through our measurements for the carbon emissions and is the sum of energy consumption from stationary combustion in facilities, mobile combustion in corporate cars, mobile combustion in corporate jets, electricity in offices, electricity in data centers, purchased chilled water, purchased hot water, and purchased steam, and electricity in external data centers (co - locations and hyperscalers).

Data Center Electricity

We define data center electricity as the sum of electricity consumed to provide internal and external computation power in SAP data centers, contracted third-party data centers, and hyperscale data centers. A data center is any global, regional, or local computing center (location with any number of server units) that is part of our global IT infrastructure strategy.

Additional Environmental Aspects

Water

By water, we mean the total amount of freshwater withdrawn for our office buildings and data centers. Data is based on measurements and estimations from sites. Data was provided for 65% of the total water consumption; remaining data is extrapolated based on square meter footage.



End-of-Life Treatment of SAP's Electrical and Electronic Equipment

The discarded electrical and electronic equipment (EEE) ranges from laptops, peripherals, and mobile devices to servers. Our international and local IT asset lifecycle partners test the collected EEE to determine its end-of-life treatment. In doing so, EEE is channeled either into the remarketing or waste stream. We define these streams as follows:

1. Remarketing (top priority): Refurbishing and reselling functioning EEE to give it a second life
2. Waste: By waste of electrical and electronic equipment (WEEE) or e-waste, we mean any electric devices and assets discarded in our offices and data centers that cannot be refurbished or remarketed due to outdatedness or unrepairable dysfunctions.

Within the WEEE stream, we distinguish between the following processing treatments:

- Mechanical recycling (secondary priority): Extracting raw materials to preserve and reuse them (such as plastics, metals, and rare earths)
- Thermal recycling: Generating energy through the incineration of waste
- Landfill: Disposing waste on a landfill site; this treatment option has to be avoided under all circumstances.

Data is based on the weight of the devices. As remarketed EEE is reported in items (and not in weight), the IT asset lifecycle partners use average item weights to determine the remarketing weight. To determine the share of end-of-life treatment practices (remarketing vs. mechanical vs. thermal recycling vs. landfill), our key IT asset lifecycle partners aim to use the specific quotas of the recycling sites. If this data is not available, regional quotas or other available country quotas are used for approximation.

Some of our SAP locations collaborate with local providers in addition to our large IT remarketing and recycling partners – or even exclusively. To supplement our EEE / WEEE reporting in the [Waste and Water](#) section, we collect local providers' e-waste data from all locations that are in scope of our environmental management system. The remaining data of locations not covered is extrapolated based on full-time equivalents. Consequently, 16 tons of WEEE was collected in 2021 on top of our WEEE reported in the [Waste and Water](#) section. In total, 133 tons of WEEE was collected in 2021 (98% data coverage).



GRI Content Index and UN Global Compact Communication on Progress

The social and environmental data and information included in the SAP Integrated Report 2021 has been prepared in accordance with the GRI Standards: Core option.

The 15 material topics in this GRI Content Index were selected based on the comprehensive *materiality assessment* conducted in 2020 and reviewed in 2021, and reflect topics that have been identified as sustainability challenges and *material topics by the GRI Standards*. We have clustered these topics according to the relevant *non-financial matters* set out in the German Commercial Code (Handelsgesetzbuch, HGB) (exception: the material topic "ethics and compliance" is not clustered under "Anti-corruption and bribery matters" as the corresponding GRI standards are defined more broadly). The two material management practices 'Governance' and 'Transparency' are not listed as individual disclosures below as they have already been fulfilled through the universal GRI standards 102: General Disclosures and/or GRI 103: Management Approach.

To meet our commitment to the UN Global Compact (UN GC) initiative, this chapter serves as an annual Communication on Progress (CoP) outlining how SAP supports and upholds the Ten Principles of the UN GC. We also present the interconnection between the GRI topic-specific disclosures that are material to SAP and the 17 United Nations Sustainable Development Goals (UN SDGs).

Audit Scope

The content of the column UN SDGs was not subject to the independent limited assurance engagement of our external auditor.

General Standard Disclosures

Links and Content	External Assurance	UN GC Principles
102-1 Strategy	✓	
102-2 Strategy	✓	
102-3 Strategy	✓	
102-4 Strategy <i>Note (G.9) Scope of Consolidation, Subsidiaries and Other Equity Investments</i>	✓ ✓	
102-5 Strategy	✓	
102-6 Financial Performance: Review and Analysis <i>Note (C.1) Results of Segments</i> Strategy http://www.sap.com/industries.html	✓ ✓ ✓	
102-7 Consolidated Financial Statements IFRS Financial Performance: Review and Analysis <i>Note (G.9) Scope of Consolidation, Subsidiaries and Other Equity Investments</i> <i>Note (B.1) Employee Headcount</i>	✓ ✓ ✓ ✓	



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	Links and Content	External Assurance	UN GC Principles
102-8	<p>Note (B.1) Employee Headcount</p> <p>Chart Generator</p> <p>Employees and Social Investments</p> <p>About This Report</p> <p>At SAP, we consider the portion of contingent workers as not significant.</p>	✓	6
102-9	<p>Strategy</p> <p>Sustainable Procurement</p>	✓ ✓	1
102-10	<p>Note (IN.2) Implications of the COVID-19 Pandemic</p> <p>Financial Performance: Review and Analysis</p> <p>Strategy</p> <p>Sustainable Procurement</p>	✓ ✓ ✓ ✓	
102-11	<p>We support a precautionary approach towards environmental management, which is why we have implemented an environmental management system across various SAP locations worldwide according to ISO 14001. While we see little apparent risk for our own operations, we do see an opportunity to help our customers anticipate and manage this risk in a more agile and responsive fashion through effective product lifecycle management and sustainable design.</p> <p>Sustainability Management</p> <p>Strategy</p> <p>Products, Research & Development, and Services</p> <p>Sustainability Management</p>	✓ ✓ ✓ ✓	7
102-12	Memberships		
102-13	Memberships		
102-14	Letter from the CEO		
102-16	<p>Business Conduct</p> <p>Employees and Social Investments</p>	✓ ✓	10
102-18	<p>Corporate Governance Report</p> <p>Sustainability Management</p>	✓	
102-40	Stakeholder Engagement	✓	
102-41	Stakeholder Engagement	✓	
102-42	<p>Stakeholder Engagement</p> <p>Business Conduct</p> <p>Human Rights and Labor Standards</p>	✓ ✓ ✓	
102-43	<p>Stakeholder Engagement</p> <p>Business Conduct</p> <p>Human Rights and Labor Standards</p>	✓ ✓ ✓	
102-44	<p>Stakeholder Engagement</p> <p>Employees and Social Investments</p> <p>Customers</p> <p>Products, Research & Development, and Services</p> <p>Report by the Supervisory Board</p>	✓ ✓ ✓ ✓ ✓	
102-45	<p>Note (G.9) Scope of Consolidation, Subsidiaries and Other Equity Investments</p> <p>All entities are covered by the report.</p>	✓	
102-46	<p>About This Report</p> <p>Materiality</p> <p>Non-Financial Notes</p>	✓ ✓ ✓	

102-47*Materiality*✓

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Links and Content		External Assurance	UN GC Principles
102-48	Materiality		✓
	Non-Financial Notes		✓
102-49	Non-Financial Notes		✓
	Materiality		✓
102-50	About This Report		✓
102-51	March 4, 2021		✓
102-52	Annual Reporting Cycle		✓
102-53	Financial Calendar and Addresses		
102-54	About This Report		✓
102-55	GRI Content Index		✓
102-56	About This Report		✓
	Independent Assurance Report		✓

Topic-Specific Disclosures

Ethics and Compliance

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	Business Conduct GRI Content Index		✓ ✓		
103-2	Business Conduct SAP's Global Tax Principles		✓		10
103-3	Business Conduct SAP's Global Tax Principles		✓		
205-1	Business Conduct Risk Management and Risks In alignment with the different legal requirements in various countries, and as per SAP Global Risk Management Policy and supporting processes, SAP, together with legal advisory services as deemed appropriate, perform risk assessments globally. These include cross-business topics and the evaluation of risks related to compliance, bribery, and corruption. Overall, our corporate risk assessments focus on compliance topics. In addition, 45% of all audits concluded in 2021 under the risk-based audit plan are compliance-relevant audits. As part of this process, a regular and dedicated focus is also placed on identifying high-risk countries to identify deep dive reviews and necessary mitigations accompanied by regular monitoring. Furthermore, ad hoc audits are performed if there are grounds of suspicion. This regular auditing is a vital component of ensuring compliance worldwide in our business processes and identifying weaknesses or non-compliance to derive adequate measures. Given the holistic approach of our compliance risk assessment, SAP does not report on the number of audits solely related to corruption.	SAP	✓ ✓ ✓	16	10
206-1	Note (G.3) Other Litigation, Claims, and Legal Contingencies	SAP	✓	16, 17	
207-1	SAP's Global Tax Principles	SAP		9, 11, 16	

207-2	<i>SAP's Global Tax Principles</i>	SAP	9, 11, 16
207-3	<i>SAP's Global Tax Principles</i>	SAP	9, 11, 16

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	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
207-4	As a German company, we report our tax expense separately for Germany and the rest of the world. We are confident that this information meets our stakeholders' demands.				
419-1	<i>Note (G.3) Other Litigation, Claims, and Legal Contingencies</i>	SAP	✓	16, 17	

Environmental Matters**Energy**

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<i>Energy and Emissions GRI Content Index</i>		✓ ✓		
103-2	<i>Energy and Emissions Sustainability Management</i>		✓ ✓		
103-3	<i>Energy and Emissions Sustainability Management</i>		✓ ✓		
302-1	<i>Energy and Emissions Non-Financial Notes</i> <i>Chart Generator</i>	SAP	✓ ✓	7, 8, 12, 13	7, 8
302-2	<i>Energy and Emissions Non-Financial Notes</i>	SAP + external parties	✓ ✓	7, 8, 12, 13	7, 8
302-3	<i>Energy and Emissions Non-Financial Notes</i> <i>Chart Generator</i> <i>Five-Year Summary</i> The ratio uses only energy consumption within the organization.	SAP	✓ ✓ ✓ ✓	7, 8, 12, 13	8
302-4	<i>Energy and Emissions Non-Financial Notes</i> Allocation of energy consumption reductions to conservation and efficiency initiatives cannot be presented precisely due to overlapping effects (such as reductions caused by the COVID-19 pandemic).	SAP	✓ ✓ ✓	7, 8, 13	8

Climate Change and Air Quality

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<i>Energy and Emissions GRI Content Index</i>		✓ ✓		
103-2	<i>Energy and Emissions Sustainability Management</i>		✓ ✓		
103-3	<i>Energy and Emissions Sustainability Management</i>		✓ ✓		

305-1	SAP	✓	3, 12, 13, 14, 15	7, 8
		✓		

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	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
305-2	<i>Energy and Emissions</i> <i>Non-Financial Notes</i> <i>Chart Generator</i>	SAP	✓ ✓	3, 12, 13, 14, 15	7, 8
305-3	<i>Energy and Emissions</i> <i>Non-Financial Notes</i> <i>Chart Generator</i>	External parties	✓ ✓	3, 12, 13, 14, 15	7, 8
305-4	<i>Chart Generator</i> <i>Non-Financial Notes</i>	SAP + external parties	✓	13, 14, 15	8
305-5	<i>Energy and Emissions</i> <i>Non-Financial Notes</i> <i>Chart Generator</i> Allocation of carbon emission reductions to avoidance and efficiency initiatives cannot be connected precisely due to overlapping effects (such as reductions caused by the COVID-19 pandemic).	SAP + external parties	✓ ✓ ✓	13, 14, 15	8, 9
305-6	As a software company with no production sites, emissions of ozone-depleting substances (ODS) are not material to SAP.		✓	3, 12, 13, 14, 15	7, 8
305-7	We report all our carbon emissions in CO2 equivalents (CO2e) including the impact from CH4, N2O, and HFCs in our Scope 1 and 2 emissions. We do not provide a breakdown. As a software company with no production sites, sulfur oxides (SOx) and other significant air emissions are not material to SAP.		✓	3, 12, 13, 15	7, 8

Ressource Efficiency and Waste

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<i>Energy and Emissions</i> <i>Waste and Water</i> <i>GRI Content Index</i>		✓ ✓ ✓		
103-2	<i>Energy and Emissions</i> <i>Waste and Water</i> <i>Sustainability Management</i>		✓ ✓ ✓		
103-3	<i>Waste and Water</i> <i>Sustainability Management</i>		✓ ✓		
306-1	<i>Waste and Water</i>	SAP + external parties	✓	12, 13, 14	7, 8
306-2	<i>Waste and Water</i> <i>Non-Financial Notes</i> Suppliers must acknowledge and adhere to the SAP Supplier Code of Conduct, which expects compliance with legal obligations. In addition, our ISO 14001-certified locations monitor regulatory requirements through a legal register. We also work on integrating specific waste-related legal demands into supplier contracts of our IT asset lifecycle partners.	SAP + external parties	✓ ✓ ✓	12, 13, 14	7, 8

306-3	As a software company with no production sites, the generated total weight of waste is considered non-material. Considering our business model, we only perceive electrical and electronic waste as relevant.	SAP + external parties	✓	12, 13, 14	7, 8
	<i>Waste and Water</i>		✓		
	<i>Non-Financial Notes</i>		✓		

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Employee Matters

The management approaches for the material topics 'employee rights,' 'fair and inclusive workplace,' 'talent development,' and 'employee engagement' strongly overlap. This is why we decided to combine them in one joint table, including their corresponding topic-specific disclosures:

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<p>Nothing has a greater impact on our long-term success than the creativity, talent, commitment, health, and well-being of our people. Their ability to innovate and understand the needs of our customers has the potential to deliver sustainable value to our Company and our society.</p> <p><i>Employees and Social Investments</i> <i>GRI Content Index</i></p>		✓		
103-2	<p><i>Sustainability Management</i> <i>Employees and Social Investments</i></p>		✓ ✓		1, 2, 6
103-3	<p><i>Sustainability Management</i> <i>Employees and Social Investments</i></p>		✓ ✓		
Women in Management	<p><i>Employees and Social Investments</i> <i>Chart Generator</i></p>	SAP	✓	5	6
Employee Engagement	<p><i>Employees and Social Investments</i></p>	SAP	✓		6
401-1	<p><i>Employees and Social Investments</i> <i>Note (B.1) Employee Headcount</i> <i>Chart Generator</i></p>	SAP	✓ ✓	8	
404-1	<p><i>Employees and Social Investments</i></p> <p>SAP offers a wide portfolio of learning and development offerings to help all of our employees to upskill and accelerate their career. Every individual employee is encouraged to learn and expand their skills – independent of employee level/category or gender. We align training activities according to the needs of each employee and they can freely choose what makes sense for them.</p>	SAP	✓ ✓	4, 5, 8, 9, 10	
404-2	<p><i>Employees and Social Investments</i></p> <p>SAP has dedicated as well as volunteer staff that supports generational intelligence on matters of continued employability, managing career endings, and cross-generational integration and collaboration. These experts work to continuously improve processes and design programs that sustain employability for as long as possible. They provide training for cross-generation collaboration, facilitate flexible career endings for employees (such as part-time options), and keep employees connected with the Company after retirement (the "HR Lounge – Mature Talents" consultation session, for example, provides a platform for our experienced, long-term employees in Germany to gain insight on sharing experiences across generations, career development, transitioning to retirement, and so on).</p>	SAP	✓ ✓	4, 5, 8, 9, 10	6
404-3	<p><i>Employees and Social Investments</i></p> <p>With our performance appraisal approach called SAP Talk, our employees receive regular performance and development reviews –independent of gender and employee category.</p>	SAP	✓ ✓	5, 8, 10	6
405-1	<p><i>Corporate Governance Statement</i> https://www.sap.com/investors/en/governance/supervisory-board.html <i>Chart Generator</i></p>	SAP	✓	5, 8, 10	1, 2, 6



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	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
407-1	<p><i>Human Rights and Labor Standards</i> We are not aware of any operations or suppliers in which the right to exercise freedom of association and collective bargaining may be at significant risk.</p> <p><i>Sustainable Procurement</i></p>	SAP + external Parties	✓ ✓ ✓	8	1, 2, 3

Well-Being, Health, and Safety

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<p>Nothing has a greater impact on our long-term success than the creativity, talent, commitment, health, safety, and well-being of our people. Their ability to collaborate, innovate, and understand the needs of our customers has the potential to deliver sustainable value to our company, customers, and society.</p> <p>As an enterprise software company, SAP does not have the occupational health and safety issues associated with manufacturing or heavy-industry jobs. Most of our people have sedentary, intellectually demanding jobs in a constantly changing business environment that requires considerable flexibility and agility. Therefore, typical health and safety management issues at SAP include ergonomic and safe workplaces, stress management, self - management, work-life balance, travel medicine, and general medical prevention.</p> <p><i>Employees and Social Investments</i></p> <p><i>GRI Content Index</i></p>		✓		
103-2	<p><i>Sustainability Management</i></p> <p><i>Employees and Social Investments</i></p> <p><i>Global Health and Safety Policy</i></p> <p>Conditions in which people live up to their full potential – now and in the future of work – are mainly defined by the organization's leadership style and working culture. We believe that there can be no organizational health without "individual health." SAP and its leaders take ownership for workplaces and a caring culture that foster physical health, safety, and mental well-being, while every employee is enabled and encouraged to take care of their individual health.</p> <p>SAP Health and Well-Being team (led by SAP's chief medical officer), together with their partners in Human Resources, Real Estate and Facilities, Occupational Safety and Personal Security, provide the information, education, and support to foster a healthy working culture and a supporting environment for all people. In doing so, we enable the organization to be a role model in safe, healthy, and sustainable people management.</p>		✓ ✓ ✓	1, 3, 6	
103-3	<p><i>Sustainability Management</i></p> <p><i>Employees and Social Investments</i></p> <p><i>Non-Financial Notes: Social Performance</i></p> <p>SAP provides manifold feedback opportunities and encourages its people to get involved and shape SAP's caring culture and working conditions to "tell it like it is," and in so doing, help us improve where needed. Our success is tracked through the Business Health Culture Index (BHCI) and the Stress-Satisfaction Score (measured by regular employee surveys, which revealed that job satisfaction was equal or higher than the perceived stress for about 70% of SAP participants in 2021).</p>		✓ ✓ ✓ ✓		



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403-1	<p>SAP has developed an internal health management system called "RUN HEALTHY" which is built on International Labour Organization Occupational Health and Safety (ILO-OSH) standards. "RUN HEALTHY" enables SAP organizations to assess their maturity state on health, well-being, and safety, to develop and drive targeted initiatives across their organizations, and to boost their local Business Health Culture Index, employee engagement, and employer attractivity. The implementation is voluntary and driven by the managing director according to country/line-of-business needs. We give all workers access to global offerings which are complemented according to local business needs. Local RUN HEALTHY councils are key in the process to self-assess maturity levels in the light of covering local requirements and global standards. RUN HEALTHY is expanded on a continuous basis. In addition, SAP engages with its suppliers, partners, and customers to promote the topics of people health and occupational safety beyond the boundaries of our company.</p> <p><i>SAP Supplier Code of Conduct</i> <i>Safety Instructions for Contractors</i></p>	SAP + external parties	✓	3	
403-2	<p><i>Employees and Social Investments: How We Measure and Manage Our Performance</i></p> <p><i>Employees and Social Investments: Health and Well-Being</i></p> <p><i>Non-Financial Notes: Social Performance</i></p> <p><i>Sustainable Procurement: Improving Sustainability Through Practice</i></p> <p><i>Global Health and Safety Policy</i></p> <p><i>Human Rights Commitment Statement</i></p> <p><i>Pledge to Flex</i></p> <p>SAP regularly conducts health risk assessments on global level with reporting on all manager levels. Mental health is key to SAP's ability to provide innovative solutions for our customers. SAP has a long tradition in taking action against stigmatization and in taking care of prevention and case management. With the Stress-Satisfaction Score SAP is monitoring an early-watch KPI to measure resilience on people level and to detect fields of action on individual and organizational level. In 2020, we established a COVID-19-related risk assessment to identify stress factors while working remote. An SAP Analytics Cloud-based "Country Health Dashboard" supports the identification of health risks on country level.</p> <p>SAP relies on the enablement of internal multiplier networks such as the Health Ambassador Network, and external trainings and certifications to ensure health & safety competence across the organization.</p> <p>Our workers can use various tools to report concerns as outlined in the Human Rights Commitment Statement, and are protected against retaliation. This document is core to our people-related policies, such as the Global Health and Safety Policy. SAP's Pledge to Flex empowers employees to choose when and where to work best while balancing business requirements and personal needs. This approach enables employees to avoid and circumvent hazardous workplace situations.</p>	SAP + external parties	✓ ✓ ✓ ✓ ✓ ✓	3	1, 2
403-3	<p><i>Employees and Social Investments: How We Measure and Manage Our Performance</i></p> <p><i>Employees and Social Investments: Health and Well-Being</i></p> <p>By regularly conducting surveys, we continuously receive insights which enable SAP and particularly its Health and Well-Being organization, together with its strong partners in Human Resources, Real Estate and Facilities, Occupational Safety and Personal Security to enforce and adjust its initiatives and counteract adverse developments in time.</p> <p>SAP's Health and Well-Being team provides global frameworks and a comprehensive health and well-being portfolio to enable SAP's business with its organizations at all levels to run healthy.</p> <p>Please also refer to GRI 403-6.</p>	SAP	✓ ✓ ✓	3	



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403-4	<p>SAP's RUN HEALTHY management system includes a self-assessment conducted by a cross-functional staffed council in order to drive tailor-made and effective local programs and initiatives.</p> <p>Digital solutions are leveraged to guide SAP's people to their relevant health content by considering individual needs and location, and to gather their feedback to drive highest standards of quality, as we do with the permanent Qualtrics-based Health Feedback Survey across all health and well-being offerings.</p> <p>A RUN HEALTHY council is the execution entity for the RUN HEALTHY program (see GRI 403-1 for its purpose and target). It meets regularly (usually quarterly) and contains the RUN HEALTHY lead, different line-of-business representatives, such as from the Human Resources, Facility, and Health departments, as well as an employee representative. The program is being expanded step by step; not all SAP employees are represented by the RUN HEALTHY program.</p>	SAP	✓	3	
403-5	<p>At SAP, we offer a flexible training and enablement portfolio (such as SAP's learning platform Success Map) to enable our people to thrive in the future of work, foster healthy working habits, and become multipliers. In addition to flagship sessions on how to manage stress and foster a healthy work lifestyle, new classes and Web seminars were introduced with special focus on the pandemic situation to help our people adapt to the sudden change in working conditions. Specific offerings for leaders support caring for people's health, safety, and well-being.</p>	SAP + external parties	✓	3	
403-6	<p><i>Employees and Social Investments: Health and Well-Being</i> <i>SAP Health and Well-Being: Fostering a Healthy Culture</i></p> <p>At SAP, we offer a wide range of health and well-being services to our employees, ranging from general guidance on how to be more active and to deal with stress and challenging situations in - and outside SAP, conducting health and people days, consultation on ergonomic workplace set-up to prevent back pain, to local vaccination initiatives. Employees have access to these services and are informed about them in SAP's internal employee portal, monthly newsletters, live sessions, and campaigns, or by contacting the SAP Health team directly. In addition, we have Web-based tools such as the Qualtrics-based SAP Health Navigator which guides SAP people toward health offerings and tips according to their individual needs. The Run Your Way program on our Fit@SAP activity challenge platform encourages people to integrate more physical activity into their daily life.</p>	SAP + external parties	✓ ✓		
403-7	<p>As outlined in GRI 403-2, we have various approaches to identify negative occupational health and safety impacts such as the BHCI and Country Health Dashboard as well as various channels to report concerns and incidents. In addition, to ensure the health, safety, and well-being of our employees worldwide, SAP runs dedicated crises management and business continuity frameworks. To safeguard our people on business travels, SAP ensures medical and security assistance through a Travel Emergency Assistance Program.</p> <p><i>Sustainable Procurement: Improving Sustainability Through Practice</i></p>	SAP + external parties	✓	3	



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	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
403-10	<p>Fatalities and injuries are not a material issue for SAP, as employees work in an office environment. Please refer to GRI 103-1 for the main types of work-related ill health.</p> <p>The identification of work-related hazards that pose a risk of ill health (such as via the BHCI or the RUN HEALTHY program), as well the actions taken to eliminate/ minimize these hazards and risks, are outlined in GRI 403-1 to GRI 403-7.</p> <p>Internally, we track and monitor an SAP illness rate (in %) which is defined as the total number of days absent (including absences shorter than 3 days) / scheduled workdays per year (250 days) x 100. In 2021, SAP had a global illness rate of 1.7%.³²</p> <p>In 2021, our Stress Satisfaction Score evaluation (see GRI 403-2) confirmed lower stress levels on average compared to satisfaction. Furthermore, we leverage the company reports from our external Employee Assistance Program (EAP) providers to recognize health trends and to derive appropriate actions.</p> <p>For non-employee workers, we require our suppliers and sub-suppliers to uphold health and safety standards via our Global Supplier Code of Conduct. In addition, in Germany we have safety instructions for contractors in place.</p>	SAP	✓	3	

Respect for Human Rights

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<p><i>Human Rights and Labor Standards</i></p> <p><i>GRI Content Index</i></p>		✓		
103-2	<i>Human Rights and Labor Standards</i>		✓		
103-3	<i>Human Rights and Labor Standards</i>		✓		
407-1	<p><i>Human Rights and Labor Standards</i></p> <p>We are not aware of any operations or suppliers in which the right to exercise freedom of association and collective bargaining may be at significant risk.</p> <p><i>Sustainable Procurement</i></p>	SAP + external parties	✓	8	1, 2, 3
408-1	<p><i>Human Rights and Labor Standards</i></p> <p>We are not aware of any operations or suppliers being at significant risk for incidents of child labor.</p> <p><i>Sustainable Procurement</i></p>	SAP + external parties	✓	3, 8	1, 2, 5
409-1	<p><i>Human Rights and Labor Standards</i></p> <p>We are not aware of any operations or suppliers being at significant risk for incidents of forced or compulsory labor.</p> <p><i>Sustainable Procurement</i></p>	SAP + external parties	✓	3, 8, 10	1, 2, 4

Security, Privacy, and Data Protection

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<p><i>Security, Data Protection, and Privacy</i></p> <p><i>GRI Content Index</i></p>		✓		

103-2

Security, Data Protection, and Privacy
SAP Trust Center: Data Protection and Privacy
SAP Privacy Statement

✓

✓

³² Employees of recently acquired companies and SAP Israel as well as workers who are not SAP employees are excluded.

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Links, Content, and Omissions		External Boundaries	External Assurance	UN SDGs	UN GC Principles
103-3	<i>Security, Data Protection, and Privacy</i> SAP Trust Center: Data Protection and Privacy		✓ ✓		
418-1	<i>Security, Data Protection, and Privacy</i> We have not received any substantiated complaints concerning breaches of customer privacy, neither from outside parties nor regulatory bodies. As a result, we have no identified leaks, thefts, or losses of customer data.	SAP + external parties	✓ ✓	12, 16	1

Customer Matters**Customer Responsibility**

Links, Content, and Omissions		External Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	At SAP, we are committed to our purpose of helping the world run better and improving people's lives. To this end, we aim to create innovations that help accelerate economic prosperity, drive positive social impact, and safeguard the planet. <i>Strategy</i> GRI Content Index		✓ ✓ ✓		
103-2	<i>Sustainability Management</i> <i>Customers</i> <i>Performance Management System</i>		✓ ✓ ✓		
103-3	<i>Sustainability Management</i> <i>Customers</i> <i>Performance Management System</i>		✓ ✓ ✓		
416-1	<i>Human Rights and Labor Standards</i> As a software company without any physical products or production sites, customer health and safety is mainly related to the responsible usage of technology, especially artificial intelligence. Guiding Principles for Artificial Intelligence	SAP + external Parties	✓ ✓	3	
Customer Loyalty	<i>Customers</i> Performance Management System	SAP	✓ ✓	4, 5, 8, 10	

Product Responsibility

Links, Content, and Omissions		External Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	At SAP, we are committed to our purpose of helping the world run better and improving people's lives. To this end, we aim to create innovations that help accelerate economic prosperity, drive positive social impact, and safeguard the planet. <i>Strategy</i> GRI Content Index		✓ ✓ ✓		
103-2	<i>Sustainability Management</i> <i>Strategy</i> <i>Products, Research & Development, and Services</i>		✓ ✓ ✓		

103-3	<i>Sustainability Management Strategy Products, Research & Development, and Services</i>	✓ ✓ ✓
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	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
Customer Loyalty	Customers express their satisfaction with the quality of our products and services via the regularly conducted customer net promoter score. <i>Customers</i> <i>Performance Management System</i>	SAP	✓ ✓ ✓		

Responsible Supply Chain

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<i>Sustainable Procurement</i> <i>GRI Content Index</i>		✓ ✓		
103-2	<i>Sustainable Procurement</i>		✓	10, 12, 13, 17	1, 2, 7, 8
103-3	<i>Sustainable Procurement</i>		✓		
308-1	<i>Sustainable Procurement</i> All our suppliers have to acknowledge the SAP Supplier Code of Conduct, containing environmental expectations of them and their sub-suppliers. In addition, we are in the process of setting up a holistic third-party risk assessment for SAP suppliers, including screening for environmental criteria. Once the process has been rolled out, we can report a percentage.	SAP + external parties	✓ ✓	12, 13	7, 8
Percentage of addressable spend with diverse suppliers and social enterprises	<i>Sustainable Procurement</i> SAP set a social procurement spend target aiming for 5% addressable spend with diverse suppliers and 5% addressable spend with social enterprises by year end 2025.	SAP + external parties	✓ ✓	10, 12	1

Solutions for an Inclusive and Circular Economy

	Links, Content, and Omissions	Boundaries	External Assurance	UN SDGs	UN GC Principles
103-1	<i>Waste and Water</i> <i>GRI Content Index</i>		✓ ✓		
103-2	<i>Waste and Water</i>		✓	3, 6, 9, 12, 13, 14, 15	7, 8, 9
103-3	<i>Waste and Water</i> For this material topic, we could not identify a topic-specific GRI standard. In addition, we are still working on meaningful key performance indicators for measuring the impact of our solutions for an inclusive and circular economy, for example through our membership in the Value Balancing Alliance. For more information, see the <i>Connectivity</i> section.		✓		



Stakeholder Capitalism Metrics

To support long-term value creation, SAP has committed to applying the World Economic Forum (WEF) Stakeholder Capitalism Metrics and encourages further global standardization and convergence in the ESG reporting landscape. We include the standards in our own reporting and also offer the framework in our core sustainability software solutions.

The following table provides information about the core metrics proposed by the WEF White Paper titled “Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation”, published in September 2020.

The table refers to the chapters of our Management Report, Notes, Form 20-F, and other sources that contain the respective disclosures. Core metrics that have not been identified as material for SAP during our latest materiality analysis have been omitted.

Principles of Governance

Theme	Core Metrics and Disclosures	Links	Comments
Governing Purpose	Setting purpose	<i>Strategy</i>	
Quality of Governing Body	Governance body composition	<i>Corporate Governance Statement</i> https://www.sap.com/investors/en/governance/supervisory-board.html <i>Form 20-F Item 6</i> <i>Note (G.4)</i>	
Stakeholder Engagement	Material issues impacting stakeholders	<i>Materiality</i> <i>Stakeholder Engagement</i>	
Ethical Behavior	Anti-corruption	<i>Business Conduct</i> <i>Note (G.3) Other Litigation, Claims, and Legal Contingencies</i> <i>SAP Partner Code of Conduct</i>	Provisions for material corruption cases would be reported together with further details in Note (G.3). Partners are also requested to complete any compliance training available based on their partner type. For more information, see SAP's Partner Code of Conduct.
	Protected ethics advice and reporting mechanisms	<i>Business Conduct</i> <i>SAP Speak Out</i>	
Risk and Opportunity Oversight	Integrating risk and opportunity into business process	<i>Risk Management and Risks</i> <i>Expected Developments and Opportunities</i>	

Planet

Theme	Core Metrics and Disclosures	Links	Comments
Climate Change	Greenhouse gas (GHG) emissions	<i>Energy and Emissions</i> <i>Chart Generator</i>	
	TCFD implementation	<i>Task Force on Climate-Related Financial Disclosure</i>	



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People

Theme	Core Metrics and Disclosures	Links	Comments
Dignity and Equality	Diversity and inclusion (%)	<i>Employees and Social Investment</i> Chart Generator	No disclosure of other indicators of diversity due to legal requirements in Germany.
	Pay equality (%)	<i>SAP Recertifies with EDGE</i> <i>Bloomberg Gender-Equality Index 2021</i> <i>SAP Named Among Best Companies to Work for in 2021</i> <i>SAP among Forbes' America's Best Employers For Women 2021</i>	Creating an inclusive workplace that benefits employees, customers, and partners is a strategic commitment for SAP. We are the first EDGE-certified global technology company and have received numerous recognitions for our advances in creating an inclusive and more equal workplace, such as Bloomberg Equality Index, Best Place to Work, Forbes' America's Best Employers For Women ranking, and many others.
	Wage level (%)	<i>Compensation Report</i>	In our Compensation Report, we disclose the vertical pay ratio. This ratio compares the total compensation granted to the CEO with that of all employees who were employed at year end.
Skills for the Future	Training provided (#, \$)	<i>Employees and Social Investment</i>	Training hours split by gender and employee category are not a material issue for SAP, as we align our training activities according to the needs of each employee and do not tolerate discrimination.

Prosperity

Theme	Core Metrics and Disclosures	Links	Comments
Community and Social Vitality	Total tax paid	<i>Analysis of Consolidated Statements of Cash Flow</i>	

Audit Scope

The content of this section was not subject to the independent limited assurance engagement of our external auditor.

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SASB Index

Starting in 2021, SAP maps existing sustainability disclosures to the standards of the Sustainability Accounting Standards Board (SASB). The table below presents a set of sustainable indicators based on the SASB standards for Software and IT Services (Version 2018-10).

Topic	Code	Links	Comments
Environmental Footprint of Hardware Infrastructure	TC-SI-130a.1	Energy and Emissions	
	TC-SI-130a.2	Waste and Water	
	TC-SI-130a.3	Energy and Emissions	
Data Privacy & Freedom of Expression	TC-SI-220a.1	Security, Data Protection, and Privacy	For more information about data protection and privacy, see the SAP Trust Center
Data Security	TC-SI-230a.2	Security, Data Protection, and Privacy Risk Management and Risks	
Recruiting & Managing a Global, Diverse and Skilled Workforce	TC-SI-330a.1	Employees and Social Investments Note (B.1) Employee Headcount	SAP is a multinational company with locations all over the world. At each location, we hire people based on their qualifications and our business needs. For an overview of our headcount per geographical area, see Note (B.1) .
	TC-SI-330a.2	Key Facts Employees and Social Investments Non-Financial Notes: Social Performance	
	TC-SI-330a.3	Key Facts Employees and Social Investments	As a global organization with employees from over 150 nationalities, our aspiration is that SAP's workforce mirrors the diversity in society that includes gender parity and demographics of all of the regions where we have employees.
Managing Systemic Risks from Technology Disruptions	TC-SI-550a.2	Risk Management and Risks	

Audit Scope

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Task Force on Climate-Related Financial Disclosure (TCFD)

The TCFD recommends companies to disclose their climate-related financial risks to investors, lenders, insurers, and other stakeholders. SAP started to report in alignment with the TCFD recommendations in 2018. For more information, see the table below.

Area	Content	Chapter
Governance	SAP's governance of climate-related risks and opportunities.	Energy and Emissions
Strategy	Actual and potential impacts of climate-related risks and opportunities on SAP's businesses, strategy, and financial planning where such information is material.	Energy and Emissions Risk Management and Risks Strategy
Risk Management	How does SAP identify, assess, and manage climate-related risks?	Energy and Emissions
Metrics and Targets	Metrics and targets that SAP uses to assess and manage relevant climate-related risks and opportunities where such information is material.	Energy and Emissions Risk Management and Risks Non-Financial Notes: Environmental Performance Chart Generator

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Five-Year Summary¹

€ millions, unless otherwise stated	2021	2020	2019	2018	2017
Revenues					
Cloud (IFRS)	9,418	8,080	6,933	4,993	3,769
Non-IFRS adjustments	0	5	81	33	2
Cloud (non-IFRS)	9,418	8,085	7,013	5,027	3,771
Software licenses (IFRS)	3,248	3,642	4,533	4,647	4,872
Non-IFRS adjustments	0	0	0	0	0
Software licenses (non-IFRS)	3,248	3,642	4,533	4,647	4,872
Software support (IFRS)	11,412	11,506	11,547	10,981	10,908
Non-IFRS adjustments	0	0	0	0	0
Software support (non-IFRS)	11,412	11,506	11,548	10,982	10,908
Cloud and software (IFRS)	24,078	23,228	23,012	20,622	19,549
Non-IFRS adjustments	0	5	81	33	3
Cloud and software (non-IFRS)	24,078	23,233	23,093	20,655	19,552
Services (IFRS = non-IFRS)	3,764	4,110	4,541	4,086	3,912
Total revenue (IFRS)	27,842	27,338	27,553	24,708	23,461
Non-IFRS adjustments	0	5	81	33	3
Total revenue (non-IFRS)	27,842	27,343	27,634	24,741	23,464
Share of more predictable revenue (IFRS, in %)	75	72	67	65	63
Share of more predictable revenue (non-IFRS, in %)	75	72	67	65	63
Operating Expenses					
Cost of cloud (IFRS)	-3,105	-2,699	-2,534	-2,068	-1,660
Non-IFRS adjustments	229	248	305	213	233
Cost of cloud (non-IFRS)	-2,876	-2,451	-2,228	-1,855	-1,427
Cost of software licenses and support (IFRS)	-1,925	-2,008	-2,159	-2,092	-2,234
Non-IFRS adjustments	103	97	141	130	190
Cost of software licenses and support (non-IFRS)	-1,822	-1,911	-2,018	-1,962	-2,044
Cost of cloud and software (IFRS)	-5,030	-4,707	-4,692	-4,160	-3,893
Non-IFRS adjustments	332	345	446	343	423
Cost of cloud and software (non-IFRS)	-4,698	-4,362	-4,247	-3,817	-3,471
Cost of services (IFRS)	-2,916	-3,178	-3,662	-3,302	-3,158
Non-IFRS adjustments	286	178	254	151	166
Cost of services (non-IFRS)	-2,630	-3,000	-3,408	-3,151	-2,991
Total cost of revenue (IFRS)	-7,946	-7,886	-8,355	-7,462	-7,051
Non-IFRS adjustments	617	523	700	494	589
Total cost of revenue (non-IFRS)	-7,328	-7,362	-7,655	-6,969	-6,462
Research and development (IFRS)	-5,190	-4,454	-4,292	-3,624	-3,352
Research and development (in % of total revenue, IFRS)	18.6	16.3	15.6	14.7	14.3
Research and development (in % of total operating expenses, IFRS)	22.4	21.5	18.6	19.1	18.0
Sales and marketing (IFRS)	-7,505	-7,106	-7,693	-6,781	-6,924
General and administration (IFRS)	-2,431	-1,356	-1,629	-1,098	-1,075
Depreciation and amortization (IFRS)	-1,775	-1,831	-1,872	-1,362	-1,272



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€ millions, unless otherwise stated	2021	2020	2019	2018	2017
Profits and Margins					
Cloud gross margin (in % of corresponding revenue, IFRS)	67.0	66.6	63.5	58.6	56.0
Cloud gross margin (in % of corresponding revenue, non-IFRS)	69.5	69.7	68.2	63.1	62.2
Cloud and software gross margin (in % of corresponding revenue, IFRS)	79.1	79.7	79.6	79.8	80.1
Cloud and software gross margin (in % of corresponding revenue, non-IFRS)	80.5	81.2	81.6	81.5	82.2
Services gross margin (in % of corresponding revenue, IFRS)	22.5	22.7	19.4	19.2	19.3
Services gross margin (in % of corresponding revenue, non-IFRS)	30.1	27.0	25.0	22.9	23.5
Software and support gross margin (IFRS, in %)	86.9	86.7	86.6	86.6	85.8
Software and support gross margin (non-IFRS, in %)	87.6	87.4	87.4	87.4	87.0
Gross margin (in % of total revenue, IFRS)	71.5	71.2	69.7	69.8	69.9
Gross margin (in % of total revenue, non-IFRS)	73.7	73.1	72.3	71.8	72.5
Operating profit (IFRS)	4,656	6,623	4,473	5,703	4,877
Non-IFRS adjustments	3,573	1,664	3,735	1,459	1,892
Operating profit (non-IFRS)	8,230	8,287	8,208	7,163	6,769
Operating margin (in % of total revenue, IFRS)	16.7	24.2	16.2	23.1	20.8
Operating margin (in % of total revenue, non-IFRS)	29.6	30.3	29.7	29.0	28.9
Financial income, net	2,174	776	198	-47	188
Profit before tax (PBT)	6,847	7,220	4,596	5,600	5,029
PBT margin (in % of revenues)	24.6	26.4	16.7	22.7	21.4
Income tax expense	-1,471	-1,938	-1,226	-1,511	-983
Profit after tax	5,376	5,283	3,370	4,088	4,046
Effective tax rate (IFRS, in %)	21.5	26.8	26.7	27.0	19.5
Effective tax rate (non-IFRS, in %)	20.0	26.5	26.2	26.3	22.8
Return on equity (profit after tax in percentage of average equity)	15	17	11	15	16
Current cloud backlog					
Current cloud backlog	9,447	7,155	6,681	NA	NA
Non-IFRS Adjustments					
Revenue adjustments	0	5	81	33	3
Adjustment for acquisition-related charges	623	577	689	577	587
Adjustment for share-based payment expenses	2,794	1,084	1,835	830	1,120
Adjustment for restructuring	157	-3	1,130	19	182
Segment Results					
Applications, Technology & Support					
Segment revenue	23,502	22,965	23,051	20,997	19,881
Segment gross margin (in % of corresponding revenue)	79.5	80.6	80.6	80.8	81.7
Segment profit	9,567	9,722	9,773	8,764	8,375
Segment margin (Segment profit in % of Segment revenue)	40.7	42.3	42.4	41.7	42.1
Qualtrics					
Segment revenue	929	681	508	NA	NA
Segment gross margin (in % of corresponding revenue)	79.6	77.6	78.3	NA	NA
Segment profit	44	-4	-9	NA	NA
Segment margin (Segment profit in % of Segment revenue)	4.7	-0.6	-1.7	NA	NA
Services					
Segment revenue	3,234	3,379	3,678	3,390	3,240
Segment gross margin (in % of corresponding revenue)	34.1	31.5	26.7	23.9	23.7



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€ millions, unless otherwise stated		2021	2020	2019
Segment profit	728	645	517	403
Segment margin (Segment profit in % of Segment revenue)	22.5	19.1	14.1	11.9
Liquidity and Cash Flow				
Net cash flows from operating activities	6,223	7,194	3,496	4,303
Net cash flows from investing activities	-3,063	-2,986	-7,021	-3,066
Net cash flows from financing activities	-56	-3,997	102	3,283
Capital expenditure	-800	-816	-817	-1,458
Free cash flow ¹⁰	5,049	6,000	2,276	2,844
Free cash flow in % of total revenue	18	22	8	12
Cash conversion rate (net cash flows from operating activities in % of profit after tax)	116	136	104	105
Cash and cash equivalents	8,898	5,311	5,314	8,627
Short-term investments	2,632	1,470	67	211
Group liquidity (cash and cash equivalents/short-term investments/restricted cash)	11,530	6,781	5,382	8,838
Financial debts	-13,094	-13,283	-13,668	-11,331
Net liquidity (net debt)	-1,563	-6,503	-8,286	-2,493
Assets, Equity and Liabilities				
Trade and other receivables	6,499	6,730	8,037	6,480
Total current assets	20,044	15,069	15,213	16,620
Goodwill	31,090	27,538	29,159	23,736
Total non-current assets	51,125	43,395	44,999	34,881
Total current liabilities (including contract liabilities/deferred income)	16,136	12,842	14,462	10,486
Total non-current liabilities (including contract liabilities/deferred income)	13,510	15,696	14,929	12,138
Total equity (including contract liabilities/deferred income)	41,523	29,927	30,822	28,877
Total assets	71,169	58,464	60,215	51,502
Contract liabilities/Deferred income – current (IFRS) ⁷	4,431	3,996	4,266	3,028
Equity ratio (total equity in % of total assets)	58	51	51	56
Debt ratio (total liabilities ² in % of total assets)	42	49	49	44
Investments in goodwill, intangible assets, or property, plant, and equipment (including capitalizations due to acquisitions)	3,522	1,780	8,090	3,715
Key SAP Stock Facts				
Issued shares ⁷ (in millions)	1,229	1,229	1,229	1,229
Earnings per share, basic (in €)	4.46	4.35	2.78	3.42
Earnings per share, basic (non-IFRS, in €)	6.73	5.41	5.11	4.35
Earnings per share, diluted (in €)	4.46	4.35	2.78	3.42
Dividend per share ³ (in €)	2.45	1.85	1.58	1.50
Total dividend distributed ³	2,890	2,182	1,886	1,790
Total dividend distributed ³ (in % of profit after tax)	54	41	56	44
SAP share price ⁷ (in €)	129.40	107.22	120.32	86.93
SAP share price – peak (in €)	128.98	142.26	124.72	108.02
SAP share price – low (in €)	101.78	87.63	84.31	82.47
Market capitalization ⁷ (in € billions)	153.4	131.7	147.8	106.8
Return on SAP shares ⁴ , 1-year investment period (in %)	16.5	-10.9	38.4	-7.0

Return on SAP shares ⁴ , 5-year investment period (in %)	8.6	7.9	15.6	6.9	9.0
Return on SAP shares ⁴ , 10-year investment period (in %)	11.8	11.0	13.9	13.2	10.2

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**Employees and Personnel Expenses**

Number of employees ⁷	107,415	102,430	100,330	96,498	88,543
Number of employees, annual average ⁵	104,364	101,476	99,157	93,709	86,999
Number of employees in research and development ^{5, 7}	32,244	29,580	27,634	27,060	24,872
Personnel expenses	15,552	13,420	14,870	11,595	11,643
Personnel expenses – excluding share-based payments	12,758	12,336	13,035	10,765	10,523
Personnel expenses per employee – excluding share-based payments (in € thousands)	122	122	131	115	121
Operating profit per employee (in € thousands)	45	65	45	61	56
Women working at SAP (in %)	34.3	33.6	33.5	33.0	32.8
Women in management ⁷ (total, in % of total number of employees)	28.3	27.5	26.4	25.7	25.4
Women managing managers ^{6, 7} (in %)	24.1	23.5	22.5	21.1	21.7
Women managing teams ^{6, 7} (in %)	29.7	29.0	27.8	27.5	26.8
Employee Engagement Index (in %)	83	86	83	84	85
Business Health Culture Index (BHCI, in %)	81	80	80	78	79
Leadership Trust Index (LTI, as NPS)	67	62	59	60	61
Employee retention (in %)	92.8	95.3	93.3	93.9	94.6
Total turnover rate (in %)	9.0	7.0	10.7	7.6	7.9

Customer

Customer Net Promoter Score ⁹	10.0	4.0	-6.0	-5.0	17.8
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Environment

Net carbon emissions ¹¹ (in kilotonnes)	110	135	300	310	325
Net carbon emissions ¹¹ per employee ⁵ (in tonnes)	1.0	1.3	3.0	3.3	3.7
Net carbon emissions ¹¹ per € revenue (in grams)	3.9	4.9	10.9	12.6	13.9
Total energy consumption ¹² (in GWh)	941	879	1,115	1,055	1,005
Energy consumed per employee ⁵ (in kWh)	8,980	8,650	11,230	10,630	11,510
Total data center electricity consumption (in GWh)	429	361	338	318	265
Data center electricity consumption per € revenue ⁸ (in Wh)	15	13	12	12	11
Renewable energy sourced (in %)	100	100	100	100	100

¹ SAP Group. Amounts according to IFRS, unless otherwise stated.² As sum of current and non-current liability³ Numbers are based on the proposed dividend and on level of treasury stock at year end.⁴ Average annual return assuming all dividends are reinvested.⁵ Full-time equivalents⁶ Relates to different levels of management position.⁷ Numbers at year end.⁸ Data center electricity consumption normalized against € revenue represents the required energy to develop and operate solutions in internal and external data centers.⁹ Due to changes in sampling in 2018, Customer NPS is not fully comparable to the prior years' scores.¹⁰ As at January 1, 2019, we changed our free cash flow definition to avoid effects resulting from the adoption of IFRS 16.¹¹ In CO₂ equivalents¹² Before 2021, our total energy consumption covered direct energy consumption (Scope 1) and selected indirect energy consumption (Scope 2). In 2021, we added indirect energy consumption of our value chain (Scope 3) to all years shown.



Financial Calendar and Addresses

Financial Calendar

2022

April 22	Results for the first quarter 2022
May 18	Annual General Meeting of Shareholders, virtual event
May 23	Dividend payment
July 21	Results for the second quarter and half-year 2022
October 25	Results for the third quarter 2022

2023

January 26	Results for the fourth quarter and full year 2022
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Financial and Sustainability Publications

We present our financial, social, and environmental performance in the SAP Integrated Report 2021, which is available at www.sapintegratedreport.com. This SAP Integrated Report 2021 comprises all of the information required by accounting and disclosure standards applicable to us.

The following publications are available in English at www.sap.com/investor, or in German at www.sap.de/investor:

- Annual Report on Form 20-F (IFRS, available in English only)
- SAP Integrated Report (PDF)
- SAP SE Statutory Financial Statements and Review of Operations (HGB, available in German only)
- Half-Year Reports
- SAP Compensation Report
- SAP Quarterly Statements
- SAP INVESTOR, SAP's quarterly shareholder magazine
(in German)

Complete information on the governance of SAP SE is available at www.sap.com/corpgov. Materials include:

- Information about the management of SAP SE, including the current members of the Executive Board and the Supervisory Board, their CVs and memberships in boards of other companies
- Information about the Supervisory Boards' committees, including their tasks and current composition
- Details of managers' (the Executive and Supervisory Board members') transactions in SAP securities
- Documents relating to SAP SE's Annual General Meetings of Shareholder, including voting results
- SAP SE's Articles of Incorporation
- Agreement on the Involvement of Employees in SAP SE
- German Code of Corporate Governance
- Declaration of Implementation pursuant to the German Stock Corporation Act, Section 161
- Global Code of Ethics and Business Conduct for EmployeesCorporate Governance Statement pursuant to the German Commercial Code, Sections 315d and 289f
- Rules of Procedure for the SAP SE Supervisory Board
- Rules of Procedure for the SAP SE Executive Board
- Profile of Skills and Expertise for the SAP SE Supervisory Board
- Overview of the participation of Supervisory Board members in meetings of the Supervisory Board and its committees



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Additional SAP policies are made public at www.sap.com/sustainability:

- SAP Human Rights Commitment Statement
- SAP Global Health and Safety Management Policy
- SAP Environmental Policy
- SAP Global Anti-Discrimination Statement
- SAP's Guiding Principles for Artificial Intelligence and SAP Global Artificial Intelligence Ethics Policy
- SAP Supplier Code of Conduct
- SAP Partner Code of Conduct
- SAP's Global Tax Principles

Further, the SAP Glossary is available at www.sap.com/glossary

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