

2020

**SAP
Annual Report
on Form 20-F**

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g)
OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2020

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
Date of event requiring this shell company report.....

For the transition period from _____ to _____

Commission file number: 1-14251

SAP SE

(Exact name of Registrant as specified in its charter)

SAP EUROPEAN COMPANY

(Translation of Registrant's name into English)

Federal Republic of Germany

(Jurisdiction of incorporation or organization)

Dietmar-Hopp-Allee 16

69190 Walldorf

Federal Republic of Germany

(Address of principal executive offices)

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(Name, Telephone, Email and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class (SAP)

SAP

Name of each exchange on which registered

American Depository Shares, each Representing one Ordinary
Share, without nominal value

New York Stock Exchange

Ordinary Shares, without nominal value

New York Stock Exchange*

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

Ordinary Shares, without nominal value: 1,228,504,232 (as of December 31, 2020)**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Note — Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically, if any, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files.)

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of "accelerated filer," "large accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards[†] provided pursuant to Section 13(a) of the Exchange Act.

[†] The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262 (b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

* Listed not for trading or quotation purposes, but only in connection with the registration of American Depository Shares representing such ordinary shares pursuant to the requirements of the Securities and Exchange Commission.

** Including 48,924,892 treasury shares.

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Introduction

SAP SE is a European Company (Societas Europaea, or "SE") and is referred to in this report, together with its subsidiaries, as SAP, or as "Company," "Group," "we," "our," or "us."

In this report: (i) references to "US\$," "\$," or "dollars" are to U.S. dollars; (ii) references to "€" or "euro" are to the euro. Our financial statements are denominated in euros, which is the currency of our home country, Germany. Certain amounts that appear in this report may not add up because of differences due to rounding.

Unless otherwise specified herein, euro financial data have been converted into dollars at the noon buying rate in New York City for cable transfers in foreign currencies as certified for customs purposes by the Federal Reserve Bank of New York (the "Noon Buying Rate") on December 31, 2020, which was US\$1.223 per €1.00. No representation is made that such euro amounts actually represent such dollar amounts or that such euro amounts could have been or can be converted into dollars at that or any other exchange rate on such date or on any other date. On February 12, 2021, the Noon Buying Rate for converting euro to dollars was US\$1.2126 per €1.00.

Unless the context otherwise requires, references in this report to ordinary shares are to SAP SE's ordinary shares, without nominal value. References in this report to "ADRs" are to SAP SE's American Depositary Receipts, each representing one SAP ordinary share. References in this report to "ADSs" are to SAP SE's American Depositary Shares, which are the deposited securities evidenced by the ADRs.

SAP, ABAP, Adaptive Server, Advantage Database Server, Afaria, Business ByDesign, BusinessObjects, ByDesign, Crystal Reports, Expenselt, PartnerEdge, PowerBuilder, PowerDesigner, Quadrem, Qualtrics, R/3, Replication Server, SAP Ariba, SAP BusinessObjects Explorer, SAP Business Workflow, SAP BW.4HANA, SAP C/4HANA, SAP Concur, SAP EarlyWatch, SAP Fieldglass, SAP Fiori, SAP HANA, SAP Jam, SAP Leonardo, SAP Lumira, SAP NetWeaver, SAP S/4HANA, SAP SuccessFactors, SAP Vora, SAPPHIRE, SAPPHIRE NOW, SQL Anywhere, The Best Run SAP, TriplT, TripLink, Web Intelligence and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries.

Throughout this report, whenever a reference is made to our website, such reference does not incorporate by reference into this report the information contained on our website.

We intend to make this report and other periodic reports publicly available on our web site (www.sap.com) without charge immediately following our filing with the U.S. Securities and Exchange Commission (SEC). Such reports are also available on the website maintained by the SEC (www.sec.gov). We assume no obligation to update or revise any part of this report, whether as a result of new information, future events or otherwise, unless we are required to do so by law.

Forward-Looking Statements

This report contains forward-looking statements and information based on the beliefs of, and assumptions made by, our 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. A broad range of uncertainties and risks, many of which are beyond our control, could cause our actual results and performance to differ materially from any projections expressed in or implied by our forward-looking statements. The uncertainties and risks include, but are not limited to:

- 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
- COVID-19 Pandemic: A novel strain of coronavirus (COVID-19) was first identified in Wuhan, China in December 2019, and spread across the globe, subsequently being classified as a pandemic by the World Health Organization (WHO). While surfacing in almost all regions around the world, this outbreak prompted governments and businesses to introduce preventative measures intended to contain or mitigate further spreading, negatively impacting the global economy with immediate and prolonged effect.
- Cloud Operations: We may not be able to properly protect and safeguard our critical information and assets, business operations, cloud offerings and portfolio presentation, and related infrastructure against disruption or poor performance.
- 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.
- 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.
- 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.
- Data Protection and Privacy: Non-compliance with increasingly complex and stringent, sometimes even conflicting, applicable data protection and privacy laws or failure to adequately 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.

- 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 adequately protect or enforce our own intellectual property, may result in adverse outcomes.

We describe these and other risks and uncertainties in the *Risk Factors* section.

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.

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* section; *Risk Factors* section; 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 Integrated Report 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 Factors* 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.

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 and employee engagement. We view growth and profitability as indicators of our current performance, while we see customer loyalty and employee engagement as indicators of our future performance.

Measures to Manage Our Financial Performance

Measures to Manage Our Operating Financial Performance

In 2020, we used the following key measures to manage our operating financial performance:

Cloud revenue (non-IFRS): 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 cloud revenue and a description of these services, see the Notes to the Consolidated Financial Statements, [Note \(A.1\)](#).

We use the cloud revenue (non-IFRS) measure at both actual currencies and constant currencies.

Cloud and software revenue (non-IFRS): We use cloud and software revenue (non-IFRS) 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, messaging services, and payment services.

Total revenue (non-IFRS): We use total revenue (non-IFRS) 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 current cloud backlog, both in actual and at constant currencies, to manage our operating financial performance. The CCB measures our overall go-to-market success in the 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 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.

Days Sales Outstanding (DSO): We manage working capital by controlling the DSO of trade receivables. DSO measures the average number of days from the raised invoice to cash receipt from the customer. We calculate DSO by dividing the average invoiced trade receivables balance of the last 12 months by the average monthly cash receipt of the last 12 months.

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 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 allocable to each SAP share outstanding. EPS is influenced not only by our operating and nonoperating 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 2020, 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): 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.

Employee Engagement Index: We use this index to measure the motivation and loyalty of our employees, how proud they are of our company, and how strongly they identify with SAP. The index is derived from our global employee survey program. 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 global employee survey program 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.

Starting in 2021, we will 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 will provide a more valid evaluation of the full-year engagement level of our employees.

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. In a first step, the resulting financial plan is broken down into (i) our 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, sales, and administration. In a second step, the planned total revenues and total expenses are generally allocated to 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 Executive Board's 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 solutions or solution areas. In a final step, customer-facing revenue targets and cost-of-sales and marketing targets are broken down into sales regions.

Based on our detailed annual plans, we determine the budget for the respective 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 units in the Group to analyze these 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 such as revenue (non-IFRS), expense (non-IFRS), and profit measures (non-IFRS) 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 non-IFRS revenue and profit 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 revenue (non-IFRS), 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 revenue (non-IFRS) and 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 non-IFRS revenue and profit 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)

Non-IFRS revenue measures have been adjusted from the respective IFRS financial measures by including the full amount of software support revenue, cloud revenue, and other similarly recurring revenue that we are not permitted to record as revenue under IFRS due to fair value accounting for the contracts in effect at the time of the respective acquisitions.

Under IFRS, we record at fair value the contracts in effect at the time entities were acquired. Consequently, our IFRS software support revenue, IFRS cloud revenue, IFRS cloud and software revenue, and IFRS total revenue for periods subsequent to acquisitions do not reflect the full amount of revenue that would have been recorded by entities acquired by SAP had they remained stand-alone entities. Adjusting revenue numbers for this revenue impact provides additional insight into the comparability of our ongoing performance across periods.

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 identified 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 revenue (non-IFRS) and 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 revenue 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	2020	2019	Δ in %
Net cash flows from operating activities	7,194	3,496	>100%
Purchase of intangible assets and property, plant, and equipment (without acquisitions)	-816	-817	0
Payments of lease liabilities	-378	-403	-6
Free cash flow	6,000	2,276	164

Usefulness of Non-IFRS Measures

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

- Our revenue (non-IFRS), 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 include the revenue adjustments outlined above and 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 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.
- While we adjust for the fair value accounting of the acquired entities' recurring revenue contracts, we do not adjust for the fair value accounting of deferred compensation items that result from commissions paid to the acquired company's sales force and third parties for closing the respective customer contracts.
- 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 revenue adjustment for the fair value accounting of the acquired entities' contracts and the expense adjustment for acquisition-related charges do not arise from a common conceptual basis. This is because the revenue adjustment aims to improve the comparability of the initial post-acquisition period with future post-acquisition periods, while 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 (non-IFRS) 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 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 2020 and 2019

€ millions, unless otherwise stated	2020				2019			
	IFRS	Adj.	Non-IFRS	Currency Impact	Non-IFRS Constant Currency	IFRS	Adj.	Non-IFRS
Revenue measures								
Cloud	8,080	5	8,085	155	8,241	6,933	81	7,013
Software licenses	3,642	0	3,642	128	3,770	4,533	0	4,533
Software support	11,506	0	11,506	206	11,712	11,547	0	11,548
Software licenses and support	15,148	0	15,148	334	15,482	16,080	0	16,080
Cloud and software	23,228	5	23,233	490	23,722	23,012	81	23,093
Services	4,110	0	4,110	65	4,174	4,541	0	4,541
Total revenue	27,338	5	27,343	554	27,897	27,553	81	27,634
Operating expense measures								
Cost of cloud	-2,699	248	-2,451			-2,534	305	-2,228
Cost of software licenses and support	-2,008	97	-1,911			-2,159	141	-2,018
Cost of cloud and software	-4,707	345	-4,362			-4,692	446	-4,247
Cost of services	-3,178	178	-3,000			-3,662	254	-3,408
Total cost of revenue	-7,886	523	-7,362			-8,355	700	-7,655
Gross profit	19,453	528	19,981			19,199	781	19,979
Research and development	-4,454	303	-4,151			-4,292	438	-3,854
Sales and marketing	-7,106	735	-6,371			-7,693	909	-6,784
General and administration	-1,356	166	-1,190			-1,629	477	-1,152
Restructuring	3	-3	0			-1,130	1,130	0
Other operating income/expense, net	84	-66	18			18	0	18
Total operating expenses	-20,715	1,659	-19,056	-338	-19,394	-23,081	3,654	-19,426
Profit numbers								
Operating profit	6,623	1,664	8,287	216	8,503	4,473	3,735	8,208
Other non-operating income/expense, net	-179	0	-179			-74	0	-74
Finance income	1,473	0	1,473			787	0	787
Finance costs	-697	0	-697			-589	0	-589
Financial income, net	776	0	776			198	0	198
Profit before tax	7,220	1,664	8,884			4,596	3,735	8,331
Income tax expense	-1,938	-413	-2,350			-1,226	-954	-2,180
Profit after tax	5,283	1,251	6,534			3,370	2,781	6,152
Attributable to owners of parent	5,145	1,251	6,396			3,321	2,781	6,102
Attributable to non-controlling interests	138	0	138			50	0	50
Key ratios								
Operating margin (in %)	24.2		30.3		30.5	16.2		29.7
Effective tax rate (in %)	26.8		26.5			26.7		26.2
Earnings per share, basic (in €)	4.35		5.41			2.78		5.11

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

	2020										2019
	IFRS	Acqui-sition-Related	SBP ¹	Restruc-turing	Non-IFRS	IFRS	Acqui-sition-Related	SBP ¹	Restruc-turing	Non-IFRS	
Cost of cloud	-2,699	208	40	0	-2,451	-2,534	249	56	0	-2,228	
Cost of software licenses and support	-2,008	42	55	0	-1,911	-2,159	59	82	0	-2,018	
Cost of services	-3,178	3	175	0	-3,000	-3,662	9	246	0	-3,408	
Research and development	-4,454	7	296	0	-4,151	-4,292	9	429	0	-3,854	
Sales and marketing	-7,106	375	360	0	-6,371	-7,693	348	562	0	-6,784	
General and administration	-1,356	9	157	0	-1,190	-1,629	16	461	0	-1,152	
Restructuring	3	0	0	-3	0	-1,130	0	0	1,130	0	
Other operating income/expense, net	84	-66	0	0	18	18	0	0	0	18	
Total operating expenses	-20,715	577	1,084	-3	-19,056	-23,081	689	1,835	1,130	-19,426	

¹ Share-based payments

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

Selected Financial Data

The following table sets forth our selected consolidated financial data as of and for each of the years in the five-year period ended December 31, 2020. The consolidated financial data has been derived from, and should be read in conjunction with, our Consolidated Financial Statements prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS), presented in “*Item 18. Financial Statements*” of this report.

Our selected financial data and our Consolidated Financial Statements are presented in euros, unless otherwise stated.

SELECTED FINANCIAL DATA: IFRS

€ millions, unless otherwise stated	2020	2019	2018	2017	2016
Income Statement Data: Years ended December 31,					
Cloud revenue	8,080	6,933	4,993	3,769	2,993
Software licenses and support revenue	15,148	16,080	15,628	15,780	15,431
Cloud and software revenue	23,228	23,012	20,622	19,549	18,424
Total revenue	27,338	27,553	24,708	23,461	22,062
Operating profit	6,623	4,473	5,703	4,877	5,135
Profit after tax	5,283	3,370	4,088	4,046	3,629
Profit attributable to owners of parent	5,145	3,321	4,083	4,008	3,642
Earnings per share ⁽¹⁾					
Basic in €	4.35	2.78	3.42	3.35	3.04
Diluted in €	4.35	2.78	3.42	3.35	3.04
Other Data:					
Weighted-average number of shares outstanding					
Basic	1,182	1,194	1,194	1,197	1,198
Diluted	1,182	1,194	1,194	1,198	1,199
Statement of Financial Position Data: At December 31,					
Cash and cash equivalents	5,311	5,314	8,627	4,011	3,702
Total assets	58,472	60,212	51,502	42,484	44,262
Current financial liabilities ⁽²⁾	2,348	3,273	1,125	1,561	1,813
Non-current financial liabilities ⁽²⁾	13,605	12,923	10,553	5,034	6,481
Issued capital	1,229	1,229	1,229	1,229	1,229
Total equity	29,928	30,822	28,877	25,515	26,382

(1) See [Note \(C.6\)](#) to our Consolidated Financial Statements for more information on earnings per share.

(2) The balances include primarily bonds, private placements and bank loans. See [Note \(E.3\)](#) to our Consolidated Financial Statements for more information on our financial liabilities.

Exchange Rates

The sales prices for our ordinary shares traded on German stock exchanges are denominated in euro. Fluctuations in the exchange rate between the euro and the U.S. dollar affect the dollar equivalent of the euro price of the ordinary shares traded on the German stock exchanges and, as a result, may affect the price of the ADRs traded on the NYSE in the United States. See "[Item 9. The Offer and Listing](#)" for a description of the ADRs. In addition, SAP SE pays cash dividends, if any, in euro. As a result, any exchange rate fluctuations will also affect the dollar amounts received by the holders of ADRs on the conversion into dollars of cash dividends paid in euro on the ordinary shares represented by the ADRs. Deutsche Bank Trust Company Americas is the depositary (the Depositary) for SAP SE's ADR program. The deposit agreement with respect to the ADRs requires the Depositary to convert any dividend payments from euro into dollars as promptly as practicable upon receipt. For additional information on the Depositary and the fees associated with SAP's ADR program see "[Item 12. Description of Securities Other Than Equity Securities – American Depository Shares](#)".

For details on the impact of exchange rate fluctuations see "[Item 5. Operating and Financial Review and Prospects – Foreign Currency Exchange Rate Exposure](#)".

Dividends

Dividend Distribution Policy

Dividends are jointly proposed by SAP SE's Supervisory Board (Aufsichtsrat) and Executive Board (Vorstand) based on SAP SE's year-end stand-alone statutory financial statements, subject to approval by the Annual General Meeting of Shareholders. Dividends are officially declared for the prior year at SAP SE's Annual General Meeting of Shareholders. SAP SE's Annual General Meeting of Shareholders usually convenes during the second quarter of each year. Beginning with the dividends payable for the 2017 fiscal year and in accordance with a change of the German Stock Corporation Act that aims to implement joint market standards in Europe for corporate actions processing, dividends are remitted to the custodian bank on behalf of the shareholders on the third business day following the Annual General Meeting of Shareholders. Record holders of the ADRs on the dividend record date will be entitled to receive payment of the dividend declared in respect of the year for which it is declared. Cash dividends payable to such holders will be paid to the Depositary in euro and, subject to certain exceptions, will be converted by the Depositary into U.S. dollars.

Dividends paid to holders of the ADRs may be subject to German withholding tax. See "[Item 8. Financial Information – Other Financial Information – Dividend Policy](#)" and "[Item 10. Additional Information – Taxation](#)" for further information.

Annual Dividends Paid and Proposed

The following table sets forth in euro the annual dividends paid or proposed to be paid per ordinary share in respect of each of the years indicated. One SAP ADR currently represents one SAP SE ordinary share. Accordingly, the final dividend per ADR is equal to the dividend for one SAP SE ordinary share and is dependent on the euro/U.S. dollar exchange rate. The table does not reflect tax credits that may be available to German taxpayers who receive dividend payments. If you own our ordinary shares or ADRs and if you are a U.S. resident, refer to "[Item 10. Additional Information – Taxation](#)" for further information.

Year Ended December 31,	Dividend Paid per Ordinary Share	
	€	US\$
2016	1.25	1.37 ⁽¹⁾
2017	1.40	1.65 ⁽¹⁾
2018	1.50	1.76 ⁽¹⁾
2019	1.58	1.73 ⁽¹⁾
2020 (proposed)	1.85 ⁽²⁾	2.24 ^{(2), (3)}

⁽¹⁾ Translated for the convenience of the reader from euro into U.S. dollars at the Noon Buying Rate for converting euro into U.S. dollars on the dividend payment date. The Depositary is required to convert any dividend payments received from SAP as promptly as practicable upon receipt.

⁽²⁾ Subject to approval at the Annual General Meeting of Shareholders of SAP SE currently scheduled to be held on May 21, 2021.

⁽³⁾ Translated for the convenience of the reader from euro into U.S. dollars at the Noon Buying Rate for converting euro into U.S. dollars on February 12, 2021 of US\$1.2126 per €1.00. The dividend paid may differ due to changes in the exchange rate.

The amount of dividends paid on the ordinary shares depends on the amount of profits to be distributed by SAP SE, which depends in part upon our financial performance. In addition, the amount of dividends received by holders of ADRs may be affected by fluctuations in exchange rates (see "[Item 3. Key Information – Exchange Rates](#)"). The timing, declaration, amount and payment of any future dividend will depend upon our future earnings, capital needs and other relevant factors, in each case as proposed by the Executive Board and the Supervisory Board of SAP SE and approved by the Annual General Meeting of Shareholders.

Risk Factors

Our operations and financial results are subject to various risks and uncertainties, including those described below, that could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our ADRs and ordinary shares.

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 (for example, United States-China security-based supply chain restrictions; United States-North Korea tensions; Western sanctions pressure on Russia; a UK/Brexit “no deal” scenario; political and social unrest in the United States)
- Prolonged deterioration of global economic conditions (impact on accurate forecast) or budgetary constraints of national governments
- Diplomatic confrontations, frictions, trade or tariff conflicts such as those between the United States and China, with potential global implications as indicated by a prolonged and widespread economic slowdown
- Financial market volatility episodes, global economic crises and 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.

COVID-19 Pandemic: A novel strain of coronavirus (COVID-19) was first identified in Wuhan, China, in December 2019, and spread across the globe, subsequently being classified as a pandemic by the World Health Organization (WHO). While surfacing in almost all regions around the world, this outbreak prompted governments and businesses to introduce preventative measures intended to contain or mitigate further spreading, negatively impacting the global economy with immediate and prolonged effect.

Repercussions include supply chain interruptions and an impact on production manufacturing and the borrowing of money, and have been observed across most industries, from tourism and leisure to the luxury goods industry. In addition, uncertainty and travel restrictions have impacted businesses, jobs, and consumer confidence, which in turn has led to a reduction in consumer spending. At the same time, businesses were confronted with higher costs resulting from measures intended to mitigate the spread of infection, such as the extension of holiday periods, lengthy workforce absences due to sick leave, delays in people returning to work in the office, and additional health screenings; public sector investments, meanwhile, were redirected to health-related expenditures. Individual economies were the first to raise concerns related to observed recession indicators.

We cannot predict the degree to which or over which period of time this pandemic and associated measures will impact our customers, our business, and our business operations with effects that could be material, leading to the following risks, among others:

- Global recession, economic downturns, increased unemployment rates, or customers reevaluating their business plans, priorities, and IT needs, with subsequent delays, shifts, or reductions in IT investments
- Financially impacted customers struggling to meet contractual obligations
- Increasingly complex digitalization requirements that challenge uninterrupted customer interaction and subsequent customer satisfaction
- Limited availability of qualified implementation partners that are largely unaffected
- Workforce mobility limitations resulting from government- or SAP-imposed travel restrictions
- Workforce productivity impacts resulting from adaptation to new working models
- Business continuity challenges in our business-critical data centers and in our mission-critical support activities if sites or the workforce were to be contaminated or the workforce were not available due to travel limitations
- Interruption in the maintenance of our cloud services infrastructure or reduced reliability and adequacy of cloud service capacity
- Decrease in software sales with subsequent impact on growth of our maintenance and services business
- Delays in cash collection due to interrupted invoice processing and delayed execution of financial transactions
- Increased costs in effectively managing the ramp-up of onsite operations

Any of these events could have a material adverse effect on our business, business operations, financial position, profit, and cash flows.

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. 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.

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:

- Possible tax constraints impeding business operations in certain countries
- 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 digitized business models
- Discriminatory, protectionist, or conflicting fiscal policies and tax laws, such as certain protectionist measures included in the U.S. Tax Reform, which was enacted at the end of 2017, with some provisions still awaiting final regulations to provide guidance on compliance
- Workforce restrictions and travel bans resulting from changing laws and regulations, from political decisions (such as Brexit, government elections), 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 (such as in Russia or China), counter or even conflicting sanctions (such as in the United States and Russia), and embargoes (such as in Iran) including, but not limited to, country-specific software certification requirements
- Violations of country-specific sanctions (such as the UN sanction against North Korea or the United States' sanction requirements against Iran and certain other countries)
- Compliance with and stringent enforcement of laws, as for example the EU GDPR or China's Cyber Security Law, 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 (such as the Threat and Vulnerability Risk Assessment issued by the Monetary Authority of Singapore)
- Expenses associated with the localization of our products and compliance with local regulatory requirements
- Difficulties enforcing intellectual property and contractual rights in certain jurisdictions

In 2017, an investigation was initiated and is ongoing with regards to potential sanctions violations. For more information relating to the

potential sanctions' violations noted above, see the Notes to the Consolidated Financial Statements, *Note (G.3)*.

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.

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 adequately 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, including claims and lawsuits involving customers or businesses we have acquired.
- We might be 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 certain 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.

- Some intellectual property might be vulnerable to disclosure or misappropriation by employees, partners or other third parties.

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 parties' 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.

Data Protection and Privacy: Non-compliance with increasingly complex and stringent, sometimes even conflicting, applicable data protection and privacy laws or failure to adequately 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 SAP does business. One of the relevant European data protection laws is the 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.

Furthermore, evolving regulations and laws globally (such as the California Consumer Privacy Act, 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 in particular to a compliant use of new technology, such as machine learning 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
- Fines of up to 4% of SAP's annual Group turnover, or unlimited fines
- Damage claims by customers and individuals or contract terminations
- Harm to SAP's reputation
- Increased complexity in times of digitalization with regards to legal requirements in the context of cross-border data transfer and data localization requirements
- Lack of digital frameworks such as in the context of machine learning or AI, which could lead to distortion of individual data or information

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, including risks in the following area, 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

Any of these events could have a material adverse effect on our reputation, business, financial performance, competitive or financial position, profit, and cash flows.

Corporate Governance and Compliance Risks

Unauthorized Disclosure of Information: Our controls and efforts to prevent the unauthorized disclosure of confidential information might not be effective.

Confidential information and internal information related to topics such as our strategy, new technologies, mergers and acquisitions, unpublished financial results, customer data, or personal data, could be disclosed prematurely or inadvertently and subsequently lead to market misperception and volatility.

We are subject to risks and associated consequences in the following areas, among others:

- Disclosure of confidential information and intellectual property, defective products, production downtimes, supply shortages, and

- compromised data (including personal data) through, for example, inappropriate usage of social media by employees
 - Requirement to notify multiple regulatory agencies and comply with applicable regulatory requirements and, where appropriate, the data owner
- Any of these events could have an adverse effect on our market position and lead to fines and penalties or shareholder lawsuits, including securities class action litigation.

In addition, this could have an adverse effect on our business, reputation, share price, financial position, profit, and cash flows.

Any such lawsuits against us, with or without merit, could result in substantial costs and the diversion of management's attention and resources, resulting in a decline in our results of operations and our stock price.

Ethical Behavior: Our global business exposes us to risks related to unethical behavior and noncompliance 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, as well as 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, anticorruption and antibribery 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 relating to alleged violations, see the Notes to the Consolidated Financial Statements, [Note \(G.3\)](#).

Human Capital Risks

Human Workforce: If we are unable to attract, develop, retain, and effectively manage our geographically dispersed workforce, we might not be able to run our business and operations efficiently and successfully, or develop successful new solutions and services.

Our success is dependent on appropriate alignment of our planning processes for our highly skilled and specialized workforce and leaders, adequate resource allocation, and our location strategy with our corporate strategy. In certain regions and specific technology and solution areas, we continue to set very high growth targets, depending on short-term and long-term skill requirements, taking infrastructure needs as well as local legal or tax regulations into consideration. Successful retention and expansion of our workforce in identified strategic areas are key success factors for our Intelligent Enterprise strategy. The availability of such personnel as well as business experts is limited and, as a result, competition in our industry is intense.

We are subject to risks and associated consequences in the following areas, among others:

- Failure to apply workforce planning processes, adequate resource allocation, and location strategy in alignment with our corporate strategy
- Failure to identify, attract, develop, motivate, adequately compensate, and retain well-qualified and engaged personnel to scale to targeted markets
- Failure to successfully maintain, upskill, and expand our highly skilled and specialized workforce
- Poor succession management or failure to find adequate replacements
- Loss of key personnel of acquired business
- Failure to meet short-term and long-term workforce and skill requirements including achievement of internal gender diversity objectives
- Lack of appropriate or inadequately executed benefit programs
- Lack of availability and scalability of business experts and consultants
- Mismatch of expenses and revenue due to changes in headcount and infrastructure needs, as well as local legal or tax regulations
- Challenges with effectively managing a large distribution network of third-party companies

Any of these events could reduce our ability to attract, develop, retain, and effectively manage our geographically dispersed workforce, which in turn could have an adverse effect on our business, competitive or financial position, profit, and cash flows.

Operational Business Risks

Sales and Services: Sales and implementation of SAP software and services, including cloud, are subject to a number of 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
 - Delayed customer payments due to differing perception on project outcome/results or customer solvency challenges
 - 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
- Any of these events could have an adverse effect on our business, financial position, profit, and cash flows.

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 partners supporting our scalability needs
- Failure to get the full commitment of our partners, which might reduce speed and impact in market reach
- Products or services model being less strategic or attractive compared to our competition

- Partners not renewing agreements with us, not entering into new agreements on terms acceptable to us or at all, or starting to compete with SAP
- Failure to enable or train sufficient partner resources to promote, sell, and support to scale to targeted markets
- Failure of partners to develop a sufficient number of new 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, 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 SAP
- Failure of partners to transform their business model in accordance with the transformation of SAP's business model in a timely manner
- Partners not being able or not having capacity to meet customer expectations in terms of service provisioning
- 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.

Cloud Operations: We may not be able to properly protect and safeguard our critical information and assets, business operations, cloud offerings and portfolio presentation, and related infrastructure against disruption or poor performance.

SAP is highly dependent on the availability of our infrastructure and the software used in our cloud portfolio is inherently complex.

We are subject to risks and associated consequences in the following areas, among others:

- Capacity shortages and SAP's inability to deliver and operate cloud services in a timely and efficient manner as expected by or committed to our customers
- Customer concerns about the ability to scale operations for large enterprise customers
- Incomplete cloud portfolio representation or strategic directions of cloud operations that may not fully meet customer demands and potentially lead to a disconnected customer orientation
- Lack of hyperscaler or infrastructure stability and availability or comprehensive contractual agreements, which may lead to challenges in meeting service level agreement (SLA) commitments
- Lack of sufficient "future skills" for delivering and operating hybrid environments
- Lack of automation, standardization, and tools to manage and optimize operations and infrastructure while providing a seamless, impeccable, and transparent end-to-end experience to customers

- Local legal requirements or changes to data sovereignty, which may lead to customers considering a relocation of their primary or disaster recovery landscapes to a different data center
- Defects or disruptions to data center operations or system stability and availability
- Interruptions in the availability of SAP's cloud applications portfolio, which could potentially impact customer service level agreements
- System outages or downtimes, SAP network failure due to human or other errors, security breaches, or variability in user traffic for cloud applications
- Hardware failures or system errors resulting in data loss, corruption, or incompleteness of the collected information
- Loss of the right to use hardware purchased or leased from third parties, which could result in delays in our ability to provide our cloud applications
- Scalability demands on infrastructure and operation, which could lead to cost increases and margin impacts
- Non-adherence to our quality standards in the context of partner co-location of data centers
- Increased TCO for SAP
- Customers' cloud service demands not matching our data center capacity or control investments
- Non-compliance with applicable certification requirements, such as the Payment Card Industry Data Security Standard (PCI DSS)

Any of these events could have a material adverse effect on our reputation, business, competitive or financial position, profit, and cash flows.

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.

As we continue to grow organically and through acquisitions, deliver a full portfolio of solutions via the cloud, host or manage elements of our customers' businesses in the cloud, process large amounts of data, and offer more mobile solutions to users, in each case 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, including 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. When we become aware of unauthorized access to our systems, we take steps 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, none of the incursions identified have had a material adverse effect on our business. However, we do not have visibility into all unauthorized incursions and our systems may be experiencing

ongoing incursions of 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 in order 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:

- Identified or undetected cybersecurity defects and vulnerabilities
- Increased complexity, risk of exploitation, and potential vulnerabilities due to utilization of open-source software components
- Exposure of our business operations and service delivery due to a number of 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
- Misuse of data, social engineering, or trespassers in our facilities, or systems being rendered unusable
- 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 to securely and successfully deliver cloud services by any cloud service provider 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
- Failure to maintain a sufficient complement of personnel with sufficient levels of knowledge, experience, and training in

- cybersecurity matters necessary to support SAP's evolving cybersecurity needs and commensurate with the increasingly complex and sophisticated threat landscape
- Increased challenges due to an expanding and morphing cyber-attack surface attributable to interconnected technologies such as IoT accompanied by an elevation of entry and endpoints
 - Expansion of cybersecurity attack surface due to increased connectivity of operational data
 - Material recovery costs as well as significant contractual and legal claims by customers, partners, authorities (including state, federal, and national), and third-party service providers which could expose us to significant expense and liability or result in the issuance of orders, judgments, or consent decrees that could require us to modify our business practices
 - 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
 - Increasing sophistication, proliferation, and escalation in frequency, severity, and impact of cybersecurity attacks
 - Inability to discover a cybersecurity breach or a loss of information either fully, in a timely manner, for a significant amount of time after the breach, or at all
 - 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 cybersecurity defects and vulnerabilities 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
 - Customer concerns and loss of confidence in the current or future security and reliability of our products and services, including cloud solutions and the resulting termination of key contracts by customers and partners
- 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.

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.

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 our customers renew their agreements with us when the initial contract term expires and purchase additional modules or additional capacity, as well as for us to attract new customers. Additionally, we need to bring new solutions to the market in line with demands and ahead of our competitors, for example, SAP BTP, to support new data-driven applications and the extension of the intelligent suite. In particular, innovative applications supporting the Intelligent Enterprise strategy include SAP Customer Experience solutions, as well as technologies such as IoT, machine learning, intelligent robotic process automation (intelligent RPA) (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 successfully engage with on-premise customers on their cloud transformation journey (both in cloud only and hybrid

- scenarios) with fully suitable solutions and transformation services
- Inability to successfully execute on our multi-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 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.
- 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
 - Material unidentified liabilities of acquired companies (including legal, tax, IP)
- Failure in implementing, restoring, or maintaining internal controls, disclosure controls and procedures, and policies within acquired companies
 - Incompatible practices or policies (compliance requirements)
 - Insufficient integration of the acquired company's accounting, HR, and other administrative systems
 - Failure to coordinate or successfully integrate the acquired company's research and development (R&D), sales, marketing activities, and security and cybersecurity protocols
 - Debt incurrence or significant unexpected cash expenditures
 - Non-compliance with existing SAP standards including applicable product standards such as our open source product standards
 - 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, 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.
- 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 concept 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, 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.

ITEM 4. INFORMATION ABOUT SAP

Our legal corporate name is SAP SE. SAP SE is translated in English to SAP European Company (Societas Europaea, or "SE"). SAP SE is organized in the Federal Republic of Germany under German and European law, see "[Item 10. Additional Information](#)." Where the context requires in the discussion below, SAP SE also refers to our predecessor or previous legal forms and names, as the case may be, i.e. Systemanalyse und Programmentwicklung GbR (1972-1976), SAP Systeme, Anwendungen, Produkte in der Datenverarbeitung GmbH (1976-1988), "SAP Aktiengesellschaft Systeme, Anwendungen, Produkte in der Datenverarbeitung" (1988 – 2005) and "SAP AG" (2005 – 2014). Our principal executive offices, headquarters and registered office are located at Dietmar-Hopp-Allee 16, 69190 Walldorf, Germany. Our telephone number is +49-6227-7-47474.

For (i) a description of our principal capital expenditures and divestitures and the amount invested (including interests in other companies) since January 1, 2021 until the date of this report and (ii) information concerning our principal capital expenditures and divestitures currently in progress, including the distribution of these investments geographically and the method of financing, see "[Item 4. Information About SAP – Description of Property – Capital Expenditures](#)."

The following table sets forth our most significant subsidiaries based on total revenues of SAP group in 2020. All of these subsidiaries are wholly owned or controlled by SAP SE.

Name of Subsidiary	Country of Incorporation
Germany	
SAP Deutschland SE & Co. KG, Walldorf	Germany
Rest of EMEA	
SAP (Schweiz) AG, Biel	Switzerland
SAP (UK) Limited, Feltham	United Kingdom
SAP España – Sistemas, Aplicaciones y Productos en la Informática, S.A., Madrid	Spain
SAP France, Levallois-Perret	France
SAP Italia Sistemi Applicazioni Prodotti in Data Processing S.p.A., Vimercate	Italy
SAP Nederland B.V., 's-Hertogenbosch	The Netherlands
United States	
Ariba, Inc., Palo Alto	USA
Concur Technologies, Inc., Bellevue	USA
SAP America, Inc., Newtown Square	USA
SAP Industries, Inc., Newtown Square	USA
SAP National Security Services, Inc., Newtown Square	USA
SuccessFactors, Inc., South San Francisco	USA
Qualtrics, LLC, Provo	USA
Rest of Americas	
SAP Canada, Inc., Toronto	Canada
Japan	
SAP Japan Co., Ltd., Tokyo	Japan
Rest of APJ	
SAP Australia Pty Ltd., Sydney	Australia
SAP China Co., Ltd., Shanghai	China
SAP India Private Limited, Bangalore	India

Strategy and Business Model

Overview of SAP

Founded in 1972, SAP is a global company headquartered in Walldorf, Germany. Our legal corporate name is SAP SE. SAP is a market leader in enterprise application software.¹ as well as in enterprise resource planning, supply chain management, data integration and quality, and master data management. 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, 2020, SAP was the 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 fourteenth consecutive year.

Our Purpose

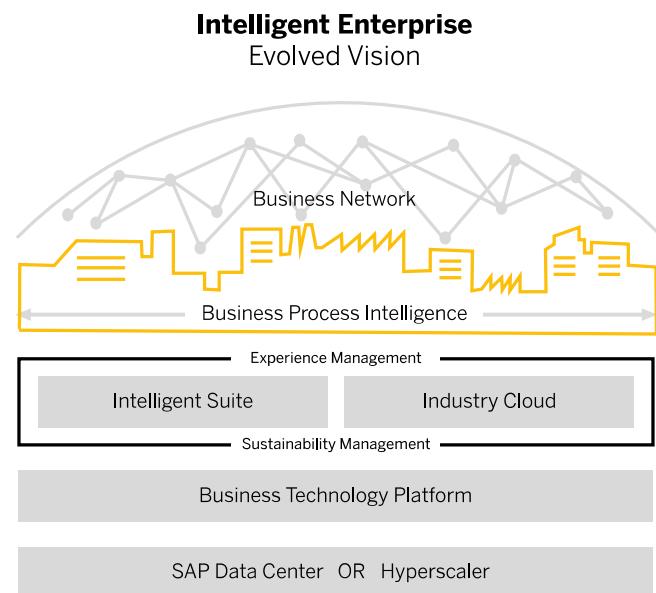
Our purpose at SAP is to "help the world run better and improve people's lives." Based on the conviction that technology and digitalization can help solve environmental, economic, and social challenges, SAP considers this overarching theme in our innovation efforts. Today's challenges, including demographic change, rapid technological change, climate change, and the COVID-19 pandemic, have led to disruptions of all kinds across the globe. SAP aims to fulfill the requirements created by a more complex economic environment for both our customers and ourselves. Therefore, our vision is tailored to a common goal of being an innovative and trusted partner for our customers – and to support them in reinventing the way their business runs. The dynamic expansion of our technological foundation serves the overarching objectives of creating resilient, profitable, and sustainable business outcomes for our customers. We also aspire to transform ourselves and help our customers become intelligent enterprises² that both respect the planet we live on and uphold human dignity across the entire value chain.

In line with our purpose, we are committed to supporting the United Nations Sustainable Development Goals (UN SDGs). Technology-driven innovation underpins how SAP, together with our customers and our partner ecosystem, can execute initiatives across all 17 of the UN SDGs. Examples of how we are doing this include the focus of social investments on building digital skills and our guiding principles for artificial intelligence (AI).

¹ Enterprise application software is computer software specifically developed to support and automate business processes.

Our Strategy – The Intelligent Enterprise

To serve our purpose and to respond to the changing market conditions, SAP has evolved our Intelligent Enterprise strategy by emphasizing key principles to drive innovation, integration, and agility, as well as speed. The evolution of our strategy is closely tied to the objective that every substantial business element is connected and interlinked. The components of our Intelligent Enterprise are detailed below.



- Our **business network** brings together cross-company business processes. The network builds on our digital supply chain, procurement, logistics, asset management, travel and expense, contingent workforce, and platform solutions.
- Our **business process intelligence** offerings aim to enable companies to quickly understand, improve, transform, and manage their business processes at scale. It provides one common foundation for a business process semantic layer, which contains capabilities for process insights and process improvements.
- Our **experience management** solutions bring experience data into an intelligent enterprise, connecting user, customer, brand, and employee sentiment in every decision and action.
- Our **intelligent suite** is the base on which to run agile, integrated end-to-end business processes. It helps manage business-critical elements of the organization – employees, customers, products, spend, finance, and IT.
- Our **industry cloud** allows customers to discover and deploy vertical solutions from SAP and our partners. We aim to apply industry best practices and extend current business processes.
- Our **sustainability management** solutions help our customers minimize carbon footprints, reduce waste through responsible

² 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.

- supply chain management, and enable diversity across all business practices.
- Our **business technology platform** is a foundation layer, which provides data management and analytics and is the hub for application integration and extension. It also allows customers to use embedded intelligent technologies such as AI, robotic process automation, machine learning, and the Internet of Things.
 - To complete our own technology provisioning, we pursue a balanced cloud approach by lifting our existing base of customers to state-of-the-art cloud delivery on an **SAP converged cloud** running in SAP data centers or on **hyperscalers**.

Reinventing How Businesses Run

To execute against this ambitious strategy, SAP defined strategic moves under the program called “**Reinvent How Businesses Run**.”

To that end, we focus our application portfolio on creating differentiating capabilities and on areas where we can win decisively. We are strongly committed to innovating in new markets by building on our core software and technology and by facilitating business change that addresses the future of work. We are aiming to vitalize agility, speed, and integration by creating a world-class business technology platform, together with a strong developer and partner ecosystem. We are linking to customer success by focusing on business outcomes. Furthermore, we are accelerating engagement with our active partner ecosystem.

In January 2021, SAP introduced **RISE with SAP**, a new single offer on a single contract that supports a customer’s transformation journey to an intelligent enterprise. RISE with SAP provides a path to the cloud for customers, without high upfront cost, and with faster time to value and the flexibility to decide which capabilities to use at what point in time. Together with our ecosystem, we aim to provide what companies need to holistically transform their business - from business process redesign to technical migration services and cloud infrastructure of choice up to our SAP Business Technology Platform, access to the Business Network, and SAP S/4HANA Cloud.

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

Our people are critical to the execution of our strategy, as our diverse workforce is key to delivering innovations to help our customers transform their businesses. For more information, see the *[Human Capital Resources](#)* section.

Subsidiaries, Acquisitions, and Divestitures

Subsidiaries

SAP SE is the parent company of the SAP Group. As at December 31, 2020, the SAP Group comprised 269 companies that develop, distribute, and provide our products, solutions, and

services. For a list of our subsidiaries, associates, and other equity investments, see the Notes to the Consolidated Financial Statements, *[Note \(G.9\)](#)*.

Qualtrics IPO

In July 2020, SAP announced its intention to take Qualtrics public through an initial public offering (IPO) in the United States. The primary objective for the IPO is to fortify Qualtrics’ ability to capture its full market potential within the Experience Management space. Trading commenced on the NASDAQ stock exchange in New York City on January 28, 2021, with a starting price of US\$30.00. For more information about the Qualtrics IPO, see *[Note \(G.8\), Events After the Reporting Period](#)*.

Acquisitions

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

In November 2020, SAP closed its acquisition of **Emarsys**, a leading omnichannel customer engagement platform provider. By enhancing the SAP Customer Experience portfolio, Emarsys solutions change how commerce is managed digitally to deliver hyperpersonalized, omnichannel engagements in real time. For more information about acquisitions, see *[Note \(D.1\), Business Combinations and Divestitures](#)*.

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

Divestitures

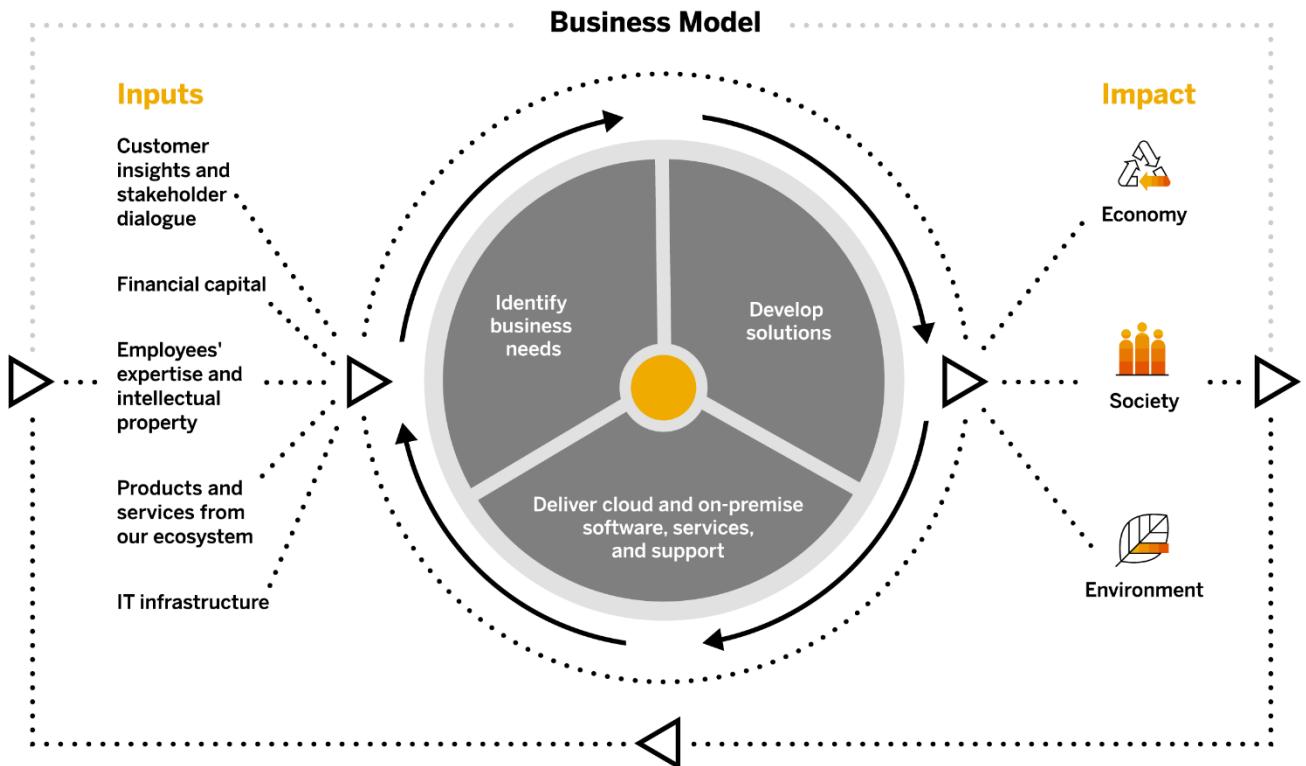
On May 5, 2020, SAP and Sinch AB (“Sinch”) announced that they had entered into an agreement for Sinch to acquire the **SAP Digital Interconnect** group. The business sold consists of several SAP subsidiaries as well as assets transferred from certain SAP entities. The transaction closed on November 1, 2020.

For more information about divestitures, 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\$4.2 billion and has invested in more than 170 companies. These include growth-stage technology companies and early-stage venture capital funds. 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.

SAP's Impact



Our Business Model

This section describes our business model as defined in the International Integrated Reporting Framework as "an organization's system of transforming inputs, through its business activities, into outputs and outcomes that aims to fulfil the organization's strategic purposes and create value over the short, medium, and long term."

We create value by identifying the business needs of our customers, then developing and delivering software solutions, services, and support that address these needs. By obtaining customer feedback, we strive to continuously improve our solutions, identify further business needs, and deliver enhanced value to our customers across the whole lifecycle.

Inputs

This process does not happen in a vacuum. It is enabled by internal and external inputs, and most importantly customer insights, customer experience and broader stakeholder dialogue, financial capital, employees' expertise, intellectual property, products, and services from our partner ecosystem, as well as the IT infrastructure we rely on.

Impact

Our solutions help create impact for our customers and – through them – in the world.

SAP software and programs primarily support the UN SDGs 3 (Good Health and Well-Being); 4 (Quality Education); 8 (Decent Work and Economic Growth); 9 (Industry, Innovation, and

Infrastructure); 10 (Reduced Inequalities); 12 (Responsible Consumption and Production); and 13 (Climate Action). For example, SAP software helps:

- Companies work better to bring economic prosperity and fairly paid jobs to people around the world.
- Organizations optimize resource utilization, aspiring for a world with zero waste.
- SAP customers increase their overall resource productivity and transform their businesses to reduce carbon footprint.

We are deeply committed to empowering the world's youth, experienced staff pursuing additional education, differently abled people, and the unemployed with the right skills to thrive in the digital economy. We offer programs that range from inspiring early stage innovation to scaling mature social enterprises.

Furthermore, we know there is power in collaboration and therefore we engage in a wide range of partnerships to address SDG 17 (Partnerships for the Goals).

Trade-Offs

We are also aware of potential negative impacts of our business activities and strive to mitigate these. For example:

- An acceleration of the digital divide could decouple societal groups from entire segments of the economy, impacting employment potential. Therefore, SAP focuses our social

investment activities on providing digital skills to underprivileged people. For more information, see the [Human Capital Resources](#) section.

- We expect increasing energy consumption due to our own growth and increasing digitization globally. Therefore, we offer a green cloud to help reduce the CO₂ footprint. For more information, see the [Energy and Emissions](#) section.

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 2020

Strategic Objective	KPI	2020 Outlook (non-IFRS, at constant currencies)	2020 Results (non-IFRS, at constant currencies)
Growth	Cloud revenue	€8.0 billion to €8.2 billion*	€8.24 billion
	Cloud and software revenue	€23.1 billion to €23.6 billion*	€23.72 billion
	Total revenue	€27.2 billion to €27.8 billion*	€27.90 billion
Profitability	Operating profit	€8.1 billion to €8.5 billion*	€8.50 billion
Customer Loyalty	Customer Net Promoter Score	-3 to -1	4
Employee Engagement	Employee Engagement Index	84% to 86%	86%
Carbon Impact	Net greenhouse gas emissions	150 kt**	135 kt

* The outlook for these metrics was communicated in January 2020 and was updated in April and October 2020 to reflect the expected impact of the COVID-19 pandemic on SAP's business results. The 2020 outlook numbers above reflect the updated outlook from October 2020.

** The outlook for net greenhouse gas emissions was communicated in January 2020 and was updated in July and October 2020 to reflect the expected impact of the COVID-19 pandemic on SAP's greenhouse gas emissions. The 2020 outlook numbers above reflect the updated outlook from October 2020.

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

Outlook for 2021

Strategic Objective	KPI	2020 Results (non-IFRS)	2021 Outlook (non-IFRS, at constant currencies)
Growth	Cloud revenue	€8.09 billion	€9.1 billion to €9.5 billion
	Cloud and software revenue	€23.23 billion	€23.3 billion to €23.8 billion
Profitability	Operating profit	€8.28 billion	€7.8 billion to €8.2 billion
Customer Loyalty	Customer Net Promoter Score	4	5 to 10
Employee Engagement	Employee Engagement Index	86%	84% to 86%
Carbon Impact	Net greenhouse gas emissions	135 kt	145 kt

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 (non-IFRS)
Growth	Cloud revenue	More than €22 billion
	Total revenue	More than €36 billion
Profitability	Operating profit	More than €11.5 billion
Customer Loyalty	Customer Net Promoter Score	Steady increase
Employee Engagement	Employee Engagement Index	84% to 86%
Carbon Impact	Net greenhouse gas emissions	0 kt (from 2023 onward)

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

Seasonality

Our business has historically experienced the highest revenue in the fourth quarter of each year, due primarily to year-end capital purchases by customers. Such factors have resulted in 2020, 2019, and 2018 first quarter revenue being lower than revenue in the prior year's fourth quarter. We believe that this trend will continue in the near future and that our total revenue will continue to peak in the fourth quarter of each year and decline from that level in the first quarter of the following year. Unlike our on-premise software revenues, our on-premise support revenues and cloud revenues are less subject to seasonality.

Products, Research & Development, and Services

Reinventing How Businesses Run

Our customers tell us that they want to be able to adapt to changing markets and business models; to increase profitability and aim to drive sustainable growth; and to innovate to stay ahead. Our customers want to succeed, and, even in a crisis, to be resilient, adaptable, and a best-run business.

To fulfill our purpose and respond to changing market conditions, SAP has evolved our strategy to support our customers in their transformation to intelligent enterprises, with a clear focus on driving innovation, integration, agility, and speed. Our product portfolio aims to deliver on this strategy. For a visual overview, see the [Strategy and Business Model](#) section.

Business Network

Interconnected value chains and business networks incorporate customers, suppliers, distributors, and other key stakeholders across businesses and beyond company and country borders. By sharing data and information in a global network, enterprises can gain real-time visibility to sense demand, anticipate risks, and manage business processes along the supply chain. In addition, adaptable networks aim to help companies adjust quickly and responsibly to meet changing market demands, and a flexible ecosystem of suppliers and partners can handle sudden shortfalls, or even produce new products that aim to help companies react quickly to change and disruption. **SAP Business Network** aims to bring end-to-end visibility, increased efficiency, and improved collaboration across supply chain processes – from design, planning, sourcing, and procurement, to manufacturing, logistics, and asset operations. The technology behind our network offering is designed to use insights from real-time ERP, advanced analytics, and existing network solutions – including **Ariba Network**, **SAP Asset Intelligence Network**, **SAP Logistics Business Network**, and **SAP Fieldglass** solutions – to deliver collective intelligence through an open, interoperable, and extensible business network. By creating a network of intelligent enterprises, we aim to help companies digitalize multi-enterprise business processes for insight and collaboration across the supply chain ecosystem.

Business Process Intelligence

Adjusting and redesigning business processes is key to any successful digital transformation. With **business process intelligence (BPI)**, we help ensure customers get the value out of their business processes in a data-driven and intelligent way, thanks to process and data mining. BPI describes a range of SAP offerings that help customers identify, analyze, and rectify business process events. Our software includes functionality for process discovery and recommendation and user behavior mining, along with services and support offerings. In addition, BPI is integrated in **SAP Intelligent Robotic Process Automation (SAP Intelligent RPA)** technology that aims to help customers get the most out of their business processes in cloud, on-premise, and hybrid environments.

Experience Management

Experience Management (XM) refers to both the technology and the discipline of seeking out and closing the experience gaps found

in the four core areas of businesses – customer, product, employee, and brand. With **Qualtrics XM** technology integrated into our intelligent suite and industry cloud solutions – spanning customer experience and human resources (HR), to procurement and supply chain – customers can bring real-time sentiment into decisions and actions.

Industry Cloud

Expanding our reach and expertise in more than 25 industries, SAP introduced new modular cloud solutions as part of our **industry cloud** strategy in the first half of 2020. Industry cloud solutions aim to digitalize and differentiate industry-specific processes, with a faster time to value for our customers. These cloud-native industry applications are built by SAP and our partners using technologies in **SAP Business Technology Platform**.

While we co-innovate with customers and partners to help meet the needs of an intelligent enterprise, system integration also remains a focus area for our teams. In 2020, we published SAP's integration plan in the cloud and made significant progress implementing planned integration qualities across organic and acquired cloud offerings.

Intelligent Suite

Customer

Our **SAP Customer Experience** solutions – integrated with XM capabilities from Qualtrics – bring together customer data, machine learning technology, and microservices to support real-time customer engagements across sales, service, marketing, and commerce.

With the recent acquisition of leading omnichannel customer engagement platform provider **Emarsys**, SAP aims to enhance our SAP Customer Experience portfolio and provide customers with a "commerce anywhere" strategy. More information on this acquisition can be found in the [Strategy and Business Model](#) section.

Also released in 2020, **SAP Customer Data Platform** equips companies with 360-degree customer profiles that will help them to know more about their customers – wherever they are in the customer lifecycle. Insights include real-time data from sources inside and outside the company, including online content and social channels. Combined with Emarsys technology, the solution aims to help customers collect and manage real-time customer data, translate these insights into tangible actions, and engage with customers in new ways – thanks to embedded capabilities for consent and identity management.

SAP S/4HANA

SAP S/4HANA is our next-generation 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 with real-time analytics to support rapid decision-making. The suite also provides software capabilities for HR, sales, service, procurement,

manufacturing, asset management, as well as research and development.

SAP offers a choice of SAP S/4HANA deployments – software as a service (SaaS), on premise, in a private cloud, or as a hybrid deployment. **SAP S/4HANA Cloud** offers the advantages of SaaS such as scalability and innovation updates quarterly, while on-premise SAP S/4HANA customers receive updates on an annual cycle.

In addition, in February 2020, SAP committed to the maintenance of SAP S/4HANA until the end of 2040. About 2,200 SAP S/4HANA customers were added in the year 2020, bringing the number of customers to approximately 16,000 and increasing total adoption 16% year over year.

Supply Chain

The **SAP Digital Supply Chain** portfolio offers an integrated suite of solutions that aim to help customers plan, design, manufacture, deliver, and operate products. These solutions address the following business functions:

Integrated Business Planning

SAP Integrated Business Planning for Supply Chain is a cloud-based solution powered by SAP HANA that aims to deliver real-time supply chain planning capabilities for sales and operations; demand, response, and supply planning; and inventory optimization.

Manufacturing

SAP Intelligent Asset Management solutions are designed to help define, plan, and monitor a service and maintenance strategy for physical products and assets along the manufacturing lifecycle.

Human Resources (HR)

SAP SuccessFactors

SAP SuccessFactors Human Experience Management (HXM) Suite is our cloud software that aims to help develop, manage, and engage people. **HXM solutions from SAP** provide offerings for core HR and payroll, talent management, employee experience, HR analytics, and workforce planning. Integrated functionality from Qualtrics solutions is featured in experience management bundles for HR as well.

Procurement

Our **Intelligent Spend Management** portfolio brings together **SAP Ariba**, **SAP Concur**, and **SAP Fieldglass** solutions. Integrated with SAP S/4HANA, these solutions aim to help customers manage the three primary categories of supplier spending: procurement of indirect and direct goods; travel and expense; and external workforce management.

SAP Ariba

SAP Ariba solutions offer a digital business-to-business marketplace that aims to help users collaborate on transactions and to enable customers to manage procurement processes.

SAP Concur

SAP Concur solutions for travel and expense spend management are cloud offerings designed to deliver a connected spend management system, which encompasses travel, expense, invoice, compliance, and risk.

SAP Fieldglass

SAP Fieldglass solutions are cloud applications for services procurement and contingent workforce management designed to help organizations optimize their use of external talent resources. These solutions aim to increase our customers' operational agility and accelerate business outcomes.

Sustainability Management

SAP has an opportunity and responsibility to use our position to create a lasting positive impact for future generations. By integrating sustainability data with business processes across industries and value chains to drive performance, new products, and new markets, we can have a significant impact in this area against a fragmented competition.

Embedding sustainability as a new dimension of success into analytical and transactional applications will help optimize resources across value chains. Our focus is on climate and natural capital accounting; resource efficiency, tracking, and reuse; protecting and developing people and communities; and next-generation sustainability steering and reporting.

Released in the first half of 2020, our **Climate 21** program focuses on software solutions for emissions management, carbon accounting, and the Greenhouse Gas Protocol (GHG). The program aims to define and develop business and solution capabilities to help our customers manage their "green line" for sustainable competitive performance.

Enterprise Information Management

SAP solutions for enterprise information management (EIM) provide capabilities to understand, integrate, cleanse, manage, associate, and archive data. This includes **SAP Data Intelligence** (available as a cloud service and on-premise software), technology that is designed to help businesses connect their siloed data assets and manage the discovery, refinement, governance, and orchestration of all data across a distributed landscape. The data landscape can include SAP software such as SAP S/4HANA, SAP Customer Experience solutions, and the **SAP BW/4HANA** solution, as well as third-party systems.

Business Technology Platform

SAP Business Technology Platform (SAP BTP) provides solutions across four key technology areas – database and data management, analytics, application development and integration, and intelligent technologies – on an open cloud platform running in SAP data centers and on selected public cloud providers (often called **hyperscalers**). The business-centric technologies that power SAP BTP aim to enable integration, extensibility, and innovation across the entire intelligent suite.

Database and Data Management

SAP HANA and SAP HANA Cloud

The architecture in SAP HANA allows both transactional processing for data capture and retrieval and analytical processing for business intelligence and reporting. It enables businesses to process and analyze live data and make business decisions based on the most up-to-date information. SAP HANA is available both on-premise and through the new **SAP HANA Cloud** data platform, which was released in March 2020.

Analytics

Business analytics tools from SAP are designed to help customers gain insights that will enable them to adapt their businesses in real time.

SAP Analytics Cloud

SAP Analytics Cloud is a cloud analytics solution running on SAP HANA that brings together the domains of business intelligence, predictive capabilities, and enterprise planning. Customers can discover, analyze, plan, and predict in one solution. It provides a single user experience across all devices to help customers make business decisions.

SAP BusinessObjects

SAP BusinessObjects Business Intelligence

(SAP BusinessObjects BI) is a suite of flexible and scalable self-service BI tools designed to give customers discovery and insights in real time.

SAP Data Warehouse Cloud

SAP Data Warehouse Cloud is a cloud data warehouse solution for business and IT users with capabilities for data integration, database, data warehousing, and analytics. As an open product, SAP Data Warehouse Cloud can be integrated into an existing customer landscape, while giving customers the ability to connect to SAP, third-party, cloud, and on-premise data sources. In addition, besides SAP Analytics Cloud, other consumption tools such as Microsoft Power BI, can also leverage the benefits of SAP Data Warehouse Cloud by connecting via SQL and APIs.

SAP BW/4HANA

SAP BW/4HANA is our on-premise data warehouse solution built entirely on SAP HANA. It includes an analytics layer that processes data directly in-memory in the database instead of the application layer, as is the case with traditional analytical engines.

Application Development and Integration

Our open SAP BTP extends and integrates SAP applications with third-party solutions and allows us and our partners to build new business applications with intelligent capabilities at scale. Going forward, SAP BTP will be our one technology platform to empower customers to become intelligent enterprises through integration, data to value, and extensibility. To that end, we have begun to sunset the SAP Cloud Platform brand in January 2021 with the proven capabilities from SAP Cloud Platform now available as products and services in the renamed SAP Integration Suite and SAP Extension Suite.

SAP Integration Suite

SAP Integration Suite is an enterprise integration suite for hybrid and heterogeneous environments that aims to help customers with holistic integration across different integration styles, such as process integration and data integration, as well as API-based and event-based integrations.

SAP Extension Suite

SAP Extension Suite is the extension layer for SAP BTP. The suite aims to help realize faster time to value by providing ready-to-use business services designed to accelerate and simplify the development of application extensions.

Intelligent Technologies

SAP uses the term "intelligent technologies" to describe tools and technology meant to turn intelligence into business outcomes. Examples include AI, the Internet of Things (IoT), blockchain, and robotic process automation (RPA). Intelligent technologies are embedded in many of our software offerings and applied to processes that integrate both SAP and third-party data and applications.

SAP Internet of Things

SAP Internet of Things (SAP IoT) offers a managed cloud solution that aims to generate business outcomes by combining real-world usage data from sensors and devices with business semantics, such as master and transactional data. SAP IoT enriches our offerings that address Industry 4.0 – SAP S/4HANA software, our **SAP solutions for digital manufacturing**, SAP Digital Supply Chain solutions, and the SAP Customer Experience portfolio – with real-world IoT context to assist decision-making and help customers respond to critical events. In addition, **SAP Edge Services** is customized technology that allows customers to deploy selected microservices at the edge of their networks and thereby help them execute IoT-enabled enterprise business processes locally.

Artificial Intelligence (AI)

AI functionality has been integrated into some of our product portfolio to provide intelligent capabilities in SAP S/4HANA as well as SAP Customer Experience, SAP Concur, SAP Fieldglass, and SAP SuccessFactors solutions, among others. We have continued to broaden AI integration throughout our software portfolio.

SAP Intelligent Robotic Process Automation

SAP Intelligent RPA technology refers to an automation suite in which software robots are designed to mimic human actions and responses, and where manual steps are replaced by automated, definable, and repeatable business processes across lines of business. Integrated with **SAP Intelligent Business Process Management** services and the **SAP Ruum** solution, SAP Intelligent RPA is intended to automate both SAP and third-party applications and provide prebuilt bots to automate tasks around SAP S/4HANA.

Offering Freedom of Choice Through Hyperscalers

As cloud adoption grows, so does the need for cloud services. We are working to meet this growing need through a multi-cloud strategy to give our customers the freedom to choose the cloud services they need, either within SAP's own cloud infrastructure, or from the hyperscalers that offer cloud infrastructure as a service. SAP maintains strategic relationships with major hyperscalers so that we can offer customers this flexibility and freedom of choice.

Ecosystem

Extending Our Reach Through a Broad Ecosystem

SAP's ecosystem consists of more than 22,000 partners worldwide that build, sell, service, and run SAP solutions and technology. Our partner ecosystem drives the bulk of our business presence among small and midsize enterprise (SME) customers. During 2020, we continued to build on the **Next-Generation**

Partnering initiative started last year to make partnerships simpler and more profitable for the ecosystem. The initiative aims to meet customers' specific needs by focusing on partner innovation that extends SAP technology and solutions. As SAP increases investments in the cloud, strategic partnerships with hyperscalers and others will help maximize innovation opportunities. One such opportunity was the expansion of SAP's partnership with Microsoft through the integration of Microsoft Teams across the portfolio, in SAP S/4HANA, SAP SuccessFactors, and SAP Customer Experience solutions, for example.

SAP Services and Support

Complementing our software and technology offerings, SAP provides services and support to help customers realize business outcomes and experiences. We provide proactive, predictive, and preventive support across cloud, on-premise, and hybrid landscapes to support customers' move to the cloud and business transformation into an intelligent enterprise.

Essential Business Services

To help customers maintain business continuity, we released a portfolio of **essential business services from SAP** in 2020 to help deliver business outcomes faster. The scenarios contained within this portfolio, created in collaboration with customers, are intended to help companies address business challenges and opportunities caused by the pandemic. Examples include scenarios designed to assess e-commerce performance, optimize inventory, and build technology-based solutions, such as applications for emergency aid.

Continuous Success Programs

We expanded SAP Enterprise Support offerings in 2020 with the release of the following:

- New **SAP Enterprise Support guides** provide a structured support approach for SAP S/4HANA deployments.
 - **SAP Cloud ALM** is an application lifecycle management tool that aims to help enable cloud-centric customers to efficiently implement and operate cloud solutions from SAP. This was released and included in **SAP Enterprise Support, cloud editions**.
 - Our **Next-Generation Support** approach has an expanded self-service digital support experience that now includes a support assistant that helps categorize a customer issue, an incident solution-matching service driven by AI and machine learning capabilities that automatically proposes solutions based on incident data, and automatic translation for **Expert Chat** and last incident interaction.
 - **Service bundles** were released to help customers address new challenges such as those posed by the pandemic. One example is that of services that aim to enable business continuity when companies experience spikes in sales and production.
- Also, in 2020, we continued a multiyear expansion of the **SAP Preferred Success** offering with the following products, services and assets:
- We extended the coverage of the offering to more cloud solutions and technologies from SAP, including SAP S/4HANA Cloud, extended edition; SAP Ariba solutions; and SAP Integrated Business Planning for Supply Chain.
 - We added new services and assets that aim to help with the adoption of cloud-based solutions and support the enablement

of better user experiences. These include success checks, online knowledge sessions, expert advisory services, release guidance, adoption journeys, value scorecards, and tools such as a usage analyzer for SAP S/4HANA.

Continued Focus on Security

SAP is committed to keeping customers' data safe, to processing it in compliance with local legislation, and to protecting it from malicious use.

During a routine cybersecurity review in the first half of 2020, we identified that some of our cloud products did not meet one or more contractually agreed or statutory IT security standards. All identified gaps were resolved by July 2020.

For more information on our strategy for the security and integrity of our customers' data, see the [Security, Data Protection, and Privacy](#) section. For more information on how SAP evaluates and handles risk, see the [Risk Factors](#) section.

COVID-19 Response

Supporting Customers and the Community Through Challenging Times and Beyond

SAP has been taking action to help customers adapt their businesses and prepare their organizations for the new and unexpected challenges that the coronavirus (COVID-19) pandemic presents. Our goal was to provide solutions that aim to help companies mitigate risks, ensure business continuity, and manage the needs brought on by a rapidly changing business and health environment. All these changes are intended to have a positive impact beyond 2020.

Working with Partners and the Public Sector to Disrupt the Spread

SAP, in close collaboration with Deutsche Telekom and other partners, developed the **Corona-Warn-App**. The app was designed to track COVID-19 infections and break transmission chains in Germany. Since its launch by the German government mid-2020, the app has been downloaded over 25 million times. The app is also connected to COVID-19 contact tracing apps in Croatia, Denmark, Italy, Latvia, Spain, Poland, and the Republic of Ireland, all enabled through a system called the European Union (EU) interoperability gateway – an intergovernmental and cross-border initiative set up in October 2020.

Helping Companies Run Safely and Efficiently

Solutions such as **Qualtrics Return to Work Pulse**, **Qualtrics Workforce Contact Tracing**, and **Qualtrics Digital XM for Telehealth** help companies address the types of challenges that have arisen in 2020. In addition, the **SAP Ariba Discovery** solution was offered free of charge to help buyers source suppliers, goods, and services globally, while SAP Concur solutions were made available to help curb the impact of global travel disruptions. Software updates were also delivered to help meet compliance with legal, tax, and payroll obligations brought about by the pandemic. With regards to support, new assets were added to SAP Preferred Success such as best practice guides, live and recorded enablement sessions, and adoption journey maps, with a number of assets aiming to help address cash flow management as well as supply

chain challenges that have come about during the COVID-19 pandemic.

Making Education Available and Attainable

SAP also views learning as crucially important. To underline this, we launched a digital learning initiative in 2020 that provides virtual education-related offerings and certifications for university students, professionals, subject-matter experts, or anyone wishing to continue their education during this critical time. These learning opportunities were made accessible through the [openSAP](#) platform.

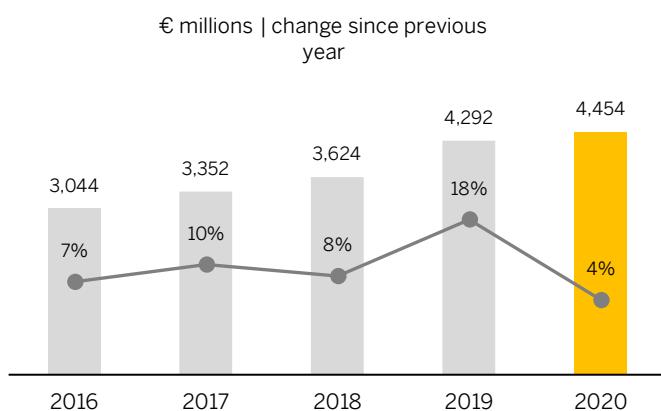
Additionally, customers, partners, and consultants can access live instructor-led training events in virtual **SAP Live Class** sessions; while **SAP Live Access** gives users a place to practice their skills and build experience in a live and fully supported SAP environment for free.

Ensuring Service and Support Continuity

We extended our off-site service delivery framework to provide services and the ability to run systems remotely at scale, and thereby eliminate the need for travel. Additionally, we activated business continuity plans so that we could deliver support from our home offices.

Investment in R&D

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



In 2020, our IFRS R&D ratio, reflecting R&D expenses as a portion of total operating expenses, increased by 2.9 percentage points (pp) to 21.5% (2019: 18.6%). Our non-IFRS R&D ratio increased by 2.0pp to 21.8% year over year (2019: 19.8%). At the end of 2020, our total full-time equivalent (FTE) headcount in development work was 29,580 (2019: 27,634). Measured in FTEs, our R&D headcount was 29% of total headcount (2019: 28%).

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, 2020, SAP held a total of more than 10,931 validated patents worldwide. Of these, 897 were granted and validated in 2020.

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.

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 and accordingly, it is accelerating digital transformation. Cybersecurity today is even more critical to IT security professionals and business leaders, particularly for those enterprises that have moved their core processes to the cloud.

The SAP strategy is based on helping customers transform into intelligent enterprises. Our **SAP Global Security** (SGS) organization supports this journey by aligning people, procedures, and technology to protect business processes and data, limiting risk and promoting regulatory compliance. The security team embraces and promotes a security-minded culture that embeds security in our development and deployment processes and to help secure digital transformation.

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

Data Protection

As part of 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. The 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; global data protection and privacy coordinator network; and the global data protection management system – and are all designed 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, executive protection, physical security, and a **Trust Office** that supports customers and partners with security-related issues.

The SAP Security Governance Model ensures 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 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 its affiliated businesses. Aligned with the overall SAP corporate strategy and vision, it sets the strategic goals and objectives for SAP security.

This policy, under the responsibility of the chief security officer, provides high-level requirements for numerous security domains including, but not limited to, access control, physical security, network security management, incident response, and acceptable use, while elaborating management intent, expectations, and strategic goals for maintaining high levels of security. It is applicable to, and mandatory for, all SAP employees and our contractors and 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 required to protect SAP, our own, and our customers' data and assets, as new threats, vulnerabilities, or changes to the risk profile are identified.

All SAP employees are required to make themselves familiar with and apply this internal policy. The **SAP Security Policy Framework** consists of several levels of security documents supporting the requirements set forth 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 his responsibilities, our global data protection officer (DPO) monitors the compliance of all 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 SAP 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 Committee of the Supervisory Board of SAP.

SAP has established a global network of data protection and privacy coordinators (DPPCs) across all SAP Group entities that process personal data ("DPPC network"). This **DPPC network** is designed to ensure data protection and privacy compliance on a local level. Local data protection and privacy coordinators increase awareness by conducting local training. Where new data protection laws evolve, they help the Data Protection and Privacy team (DPP) acting on behalf of the DPO identify and analyze them. If this requires compliance activities, they align with the affected LoBs of businesses 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 all 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 during their work.

SAP has implemented a data protection management system (DPMS) over our entire 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. It covers almost all LoBs (excluding Qualtrics) and is planned to be implemented in all acquired companies as well. The DPMS is designed as a framework covering all aspects of data protection compliance of SAP organizations and employees. It is used as SAP standard methodology to ensure compliance with data protection legislation. The maintenance of the framework is subject to a 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 all 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). Security compliance audits are conducted by independent, external auditing body partners. Our security, availability, privacy, confidentiality, and processing integrity controls are designed to achieve these control objectives.

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 improve our processes, 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 9001, 27001, 27017, 27018, and 22301, in addition to BS 10012
- In the first half of 2020, we identified that some of our cloud products did not meet one or more contractually agreed or statutory IT security standards. All identified gaps were resolved by July 2020. For more information, see the *Risk Factors* section, specifically the *Operational Business Risks* subsection.
- In addition, some SAP cloud services also comply with regional or industry-specific standards, for example:
 - Cloud Computing Compliance Controls Catalogue (C5) from the German Federal Office for Information Security (BSI); BSI C5
 - Trusted Information Security Assessment Exchange (TISAX)
 - GxP Compliance (via SOC2 Plus)
 - Payment Card Industry Data Security Standard (PCI DSS)
 - Federal Service for Technical and Export Control – FSTEC (Russia); Cybersecurity Criteria Protection Scheme – CCPS (China)

Data Protection

To help ensure necessary knowledge about data protection, the global data protection and privacy training is mandatory for all SAP employees globally. The latest training was rolled out in 2019.

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. SAP has been audited by the BSI annually and rewarded with certifications according to BS 10012 since 2011. The 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 of three main compliance criteria for data protection-relevant subprocessors: (i) contractual compliance; (ii) self-assessments based on questionnaire; 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 2020, SAP experienced no significant incidents in processing personal data – on our own behalf or on behalf of our customers – that were subject to GDPR only and were reported to the competent authorities.

Related Risks for SAP

For related risks, see the [Risk Factors](#) section, specifically the [Cybersecurity and Security](#) and [Data Protection and Privacy](#) subsections.

Customers

Focusing on Customer Success

In early 2020, SAP brought together customer-facing teams into one organization known as **Customer Success**. This move enables customer-facing groups to work more closely in unison, providing the foundation for SAP to deliver on the value and experience customers require to be successful. Additionally, we have introduced our new **operating model**, which aligns sales, services, and customer engagement activities for a seamless experience across customer interactions. Over the next three years, we will roll out this operating model with the aim of improving customers' adoption and consumption of our solutions and ultimately their business outcomes.

The year 2020 also brought a new challenge, with the world facing the COVID-19 pandemic that continues to strain the global economy. Throughout this unprecedented situation, SAP continues to provide our customers with support, reviewing their requirements and providing solutions where appropriate. Further, SAP has expanded our use of virtual customer-engagement tools to adapt to the impact of pandemic-related lockdowns and travel restrictions. To provide our customers with quick time-to-value, we rolled out **Project Amplify**, with over 30 solutions that aim to more quickly solve specific business challenges and to help ensure business continuity. These solutions enable customers to leverage existing SAP investments or get started quickly using SAP solutions with minimal upfront commitments.

Building Programs to Facilitate Customer Feedback

SAP has implemented numerous global initiatives to ensure our focus on customers remains paramount. This includes improvements in the way we work with and care for our customers, taking measures to provide a consistent, end-to-end experience.

SAP implements improvements based on the feedback we get from customer surveys, which we conduct using Qualtrics solutions. We have also launched a number of new tools to support the customer journey, including **SAP Road Map Explorer**, an interactive tool outlining SAP's future product portfolio. Additionally, we created a digital portal **SAP for Me** as a single source of information for interactions with SAP.

Our **Insights to Action** program continues to look in detail at customers' sentiment and informs how we can improve both account management, as well as our solutions and services. We have extended this program by launching an engagement process spanning regions, solutions, and services, enabling a holistic approach to how we operate as an organization, develop solutions, and support our customers. In this way, we can measure, manage, and improve the value and experience our customers – across regions and industries, and regardless of company size – derive from their relationship with SAP.

Through a focus on empathy, we aim to be a company that listens and responds to its customers. We want customers to experience an SAP that is continuously improving. Through this approach, we aim to improve customer loyalty, as measured by the **Customer Net Promoter Score** (Customer NPS).

How We Measure and Manage Our Performance

We use the Customer NPS as one feedback mechanism to measure customer loyalty. This allows 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 2020, our Customer NPS increased 10 points year over year to 4 (2019: -6), strongly exceeding our target of -3 to -1. Using Qualtrics technology has enabled us to listen more closely to our customers and take action on the things that matter to them.

We aim to continue to increase our Customer NPS to a range of 5 to 10 points in 2021. Further, we aim to increase the score steadily in the medium term.

Beginning in 2020, Customer NPS has been included as a KPI in Executive Board remuneration as part of the short-term incentive component. For more information about executive compensation, see the *Compensation Report* section. For more information about the Customer NPS, see the *Performance Management System* section.

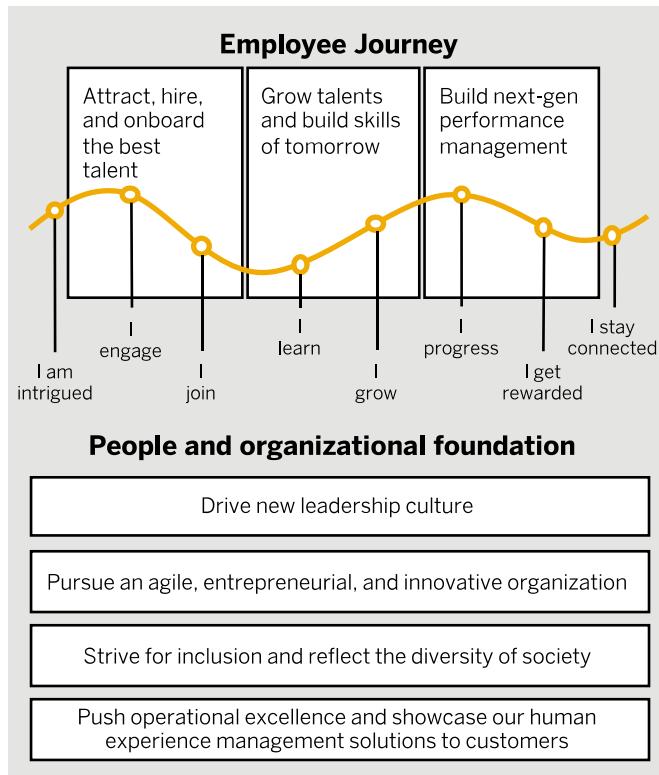
Human Capital Resources

Vision and Strategy

People are at the heart of our organization. By ensuring a highly engaged, diverse workforce equipped with the right skills, SAP aims at attracting the best talent, building great products, and winning the hearts of our customers.

Interlocked with our product and customer-related strategies, our **people strategy** is centered along the employee journey and lived experience. It introduces seven strategic pillars, three of them covering the employee journey and experience of each individual, the other four building the people and organizational foundation. The strategy describes how we build the cultural elements across our organization with all seven pillars contributing to our business strategy and value generation.

Our People Strategy with Seven Strategic Pillars



Due Diligence

Governance

Until the end of May 2020, our Human Resources (HR) Board area was led by Stefan Ries, Chief Human Resources Officer (CHRO) and member of the Executive Board of SAP. After his departure, SAP CEO Christian Klein assumed responsibility as interim CHRO. Since January 1, 2021, Sabine Bendiek has served as Chief People Officer and Labor Relations Director and has led the HR organization.

Our HR organization comprises HR Business Partner organizations for each Board area and region as well as the following functional areas: COO HR, HR Global Service Delivery, People

Sustainability (including Diversity & Inclusion as well as Global Health and Well-Being Management teams), Talent Attraction, ONE SAP Learning, and Total Rewards.

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 success of our people strategy is measured by seven KPIs. Five out of the seven KPIs are from our redesigned engagement survey program "**#Unfiltered**." With #Unfiltered, we strengthen our approach to continuously listen, understand, and act on the feedback of our employees. In 2020, we switched from an annual engagement measurement to gauging engagement multiple times throughout the year. The last data collection was in September 2020.

The **Employee Engagement Index** increased to 86% (+3pp compared to 2019) and reached the upper end of our target range. For 2020 through 2023, our ambition is to keep the Employee Engagement score between 84% and 86%. **Leadership Trust Net Promoter Score** increased to 62 in 2020 (2019: 59). For more information about the measurement of leadership trust, see the *Performance Management System* section. During 2020, we focused again on innovation and process simplification. Our **Innovation Index** was last measured in the annual employee survey in 2019 and thus remains at 79%. **Simplification of Processes** decreased by 6pp compared to 2019 to 58%. We also measure the progress of the individual and organizational health through the **Business Health Culture Index** (BHCI). In 2020, the BHCI was 80% (2019: 80%) and remains at the upper end of our target range. For 2020 through 2023, our ambition is a BHCI between 78% and 80%.

In addition, we measured a **Retention Rate** of 95.3% (2019: 93.3%). 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** increased to 27.5% compared to 26.4% in 2019. For 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 seven pillars of our people strategy and overall KPIs into practice.

Attracting, Hiring, and Onboarding the Best Talent

Talent is becoming increasingly scarce. Our unique employer value proposition is key for us to attract people with the right fit.

Due to the COVID-19 pandemic, our hiring activities have been impacted, resulting in a lower number of hirings. While 2020 remained a unique year, we were still able to build a highly inclusive workforce across various demographic aspects (generations, gender, and so on). Overall, we externally hired 8,486 (2019: 12,833) employees, thereof 29.4% (2019: 21.4%) are considered “**Early Talents**” (defined as new hires with 0–2 years of post-graduate non-professional experience) and 35.5% (2019: 37.5%) are women.

We continue to be successful in positioning SAP as a talent magnet. SAP has earned 125 employer awards, notably the **100 Best Companies by Fortune** and **Forbes Best Workplaces for Women** for SAP America.

To position SAP for future talent, we work closely with approximately 3,200 universities on events, executive lectures, office visits, competitions, student club sponsorships, and workshops to recruit top students and graduates. In 2020, more than 1,000 students were enrolled in SAP’s vocational training program (in Australia, Brazil, China, Germany, Hungary, India, Ireland, Japan,

New Zealand, Singapore, 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 67% in 2020 (2019: 71%).

We are passionate about developing deep and lasting relationships with all our employees. The average tenure with SAP remains at the same high level (2020: 7.6 years; 2019: 7.3 years).

Even when employees leave SAP, it is important that we stay connected. Our **SAP Alumni Network** offers a program to reconnect with former colleagues and to unleash the power of a trusted network for the benefit of SAP and our ecosystem. In 2020, our alumni community included 9,096 former and 4,082 current SAP employees.

Growing Talent and Building Skills of Tomorrow

SAP expects a shift from skills that will cease to exist and new capabilities that will be needed in the future. This requires that we establish an adaptive workforce management approach that focuses on continuous skill transformation to ensure our people become equipped for future work requirements. Our career and growth framework helps employees discover who they are, identify the areas where they want to grow, and develop an action plan to get there.

At SAP, learning mainly happens on the job – through interactions with colleagues and formal learning activities. Self-paced online programs, plus training courses for technical and soft skills, are open to all employees. Our peer-to-peer learning portfolio encompasses coaching, mentoring, job shadowing, and facilitation opportunities. In 2020, we provided 1,007,464 courses (excluding compliance training) to 81% of our employees.

Building Next-Generation Performance Management

Our next-generation performance management establishes a high-performance culture, linking business goals to 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.

During 2020, we continued with our performance appraisal approach called **SAP Talk** – a continuous, needs-driven, and flexible dialogue between employees and managers.

Move SAP and Own SAP are exemplary components of our reward offerings: **Move SAP** is our long-term incentive plan that rewards employees who provide a significant impact to business success. In addition, 76% of our employees overall participated in our global share purchase plan **Own SAP**, with an investment of 5,451,242 shares in 2020. For more information, see the Notes to the Consolidated Financial Statements, [Note \(B.3\)](#).

Driving New Leadership Culture

Strong, future-oriented leadership is key for us to successfully execute our strategy and become more adaptive, innovative, and collaborative as One SAP.

To guide our leaders, develop them, and hold them accountable, we began the rollout of an extended value framework, building on our “**How We Run**” behaviors. We added three **new leadership behaviors** to the established five behaviors: Unlock potential,

explore possibilities, and make it happen together. These relaunched "**How We Run and Lead**" behaviors ensure cultural consistency and clarity for leaders and employees.

We offer a career path for experts in parallel to our management development track. Due to COVID-19 restrictions, we provided a virtual version of our **flagship leadership program**, enabling our leaders to achieve better results and foster innovation. By the end of 2020, 5,170 SAP people managers (51%) and 4,283 SAP experts (17.4%) had completed it.

Pursuing an Agile, Entrepreneurial, and Innovative Organization

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 needs to evolve into a self-organized, agile organization fostering a culture of innovation. One initiative to achieve this is called "**Unlearning Hierarchy**." We support our teams and organizations in experimenting with self-organization including different pioneers across all Board areas at SAP. Furthermore, our "**New Work Movement**" community has over 2,400 members.

In addition, and in support of our entrepreneurial journey, **SAP.iO Venture Studio** helps us identify high-potential entrepreneurial employees at SAP and develop them into successful leaders, with the objective of building new ventures that will have a positive impact on business and society. In 2020, SAP.iO Venture Studio engaged more than 5,566 employees and was able to jump-start close to 535 venture ideas.

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 Customer Success (CS), Operational Excellence (OE), and Products and Technology (P&T). For 2020, the awards went to "Intelligent Case Routing" (CS), "Monitor of Monitors" (OE), and "Hidden Champion" (P&T). Winners were chosen from 220 nominations and with a total of 1,339 employees participating from 37 countries.

Striving for Inclusion and Reflecting the Diversity of Society

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. In 2020, we focused on inclusive career journeys to attract and retain the best diverse talent, as well as inclusive culture to build inclusive processes and encourage inclusive behaviors.

Gender inclusion, advancement, and equality: Currently, SAP's representation of women in the overall workforce is 33.6%, with the representation of women in management roles at 27.5%. One example confirming our ambition of gender inclusion and equality was the selection of SAP for the first time in the Bloomberg Gender-Equality Index in 2019 and again in 2020.

Autism inclusion: The **Autism at Work Program** and **Autism Inclusion Network** support and engage with a workforce that includes over 180 autistic colleagues across 34 locations in 16 countries. 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 progress toward better representation in accordance with required regulations in different countries and in line with our diversity and inclusion objectives. In 2020, SAP took a stand against racism to drive change inside and outside of our organization to promote social justice and equality. Among many efforts across the globe, this included the establishment of a new goal to double the share of Black and African American employees in the workforce in the United States within the next three years.

LGBTQ+ inclusion: SAP was among the first supporters of the United Nations Global LGBTI Standards of Conduct for Business and has been recognized by organizations including Human Rights Campaign, Stonewall, and Workplace Pride for our inclusion efforts.

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.

Caring for the Health and Well-Being of Our People

SAP fosters a culture that empowers people to run at their best supported by providing innovative health and well-being programs and solutions. When people are healthy, respected, and cared for, it results in higher productivity, engagement, innovation, and customer satisfaction.

In 2020, COVID-19 was the dominant topic. As early as January 2020, SAP installed a cross-Board area **Global Pandemic Taskforce** to establish and coordinate countermeasures around the globe. Frequent pulse checks help us understand how employees experience their individual situation and allow us to adjust our crisis management accordingly.

Furthermore, SAP is committed to a no stigma, inclusive culture that supports maintaining the mental health of our employees by prevention, early detection, case management support, and reintegration. The "**Are You OK? Mental Health Initiative**" helps counteract the increase of mental distress due to pandemic-related life challenges. It supports employees in fostering good mental health and in tackling mental health issues by supporting open dialogue inside and outside of SAP.

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 are key for delivering on our human experience management (HXM) solutions and services efficiently, with both empathy and compliance.

SAP runs SAP SuccessFactors solutions as the global software to manage our people data. Additionally, the adoption of Qualtrics solutions enables us to understand 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 in our **SAP Careers** site and in our internal HR chatbot to provide instant responses to HR-related questions around the clock.

Related Risks for SAP

For more information on employee-related risks, see the **Risk Factors** section in the **Human Capital Risks** subsection.

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, 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. Led by the chief sustainability officer, a dedicated sustainability team coordinates SAP's response to climate change (including assessing and managing climate-related risks through a quarterly risk review, setting reduction targets, quarterly measuring and monitoring of carbon emissions, and embedding sustainability-related initiatives across SAP). This happens in close cooperation with various other departments such as the global procurement organization that ensures purchasing energy-efficient, sustainable products and services. Global facility management designs and operates our facilities based on robust environmental standards such as ISO 14001. Global cloud services optimize the energy consumption in our data centers, while SAP's IT operations personnel is committed to responsible usage of IT equipment and business software.

To be able to innovate and embed sustainability further, we regularly engage internally with our sustainability council and externally with various stakeholder groups such as nongovernmental organizations (NGOs), nonprofit organizations (NPOs), and academia. This notably includes an external sustainability advisory panel comprised of expert representatives from our customers, investors, partners, NGOs, and academia.

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. Last updated in May 2019 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, investor, 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. 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)³ as well as a selected subset of indirect emissions from our value chain (Scope 3).⁴ 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 firmly 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 emissions of our products in use at our customers. This target reflects the level of decarbonization required to keep the global temperature increase below 1.5°C compared to preindustrial temperatures. This has been confirmed by the SBTi in a target reassessment in 2019.

Performance and Measures to Progress

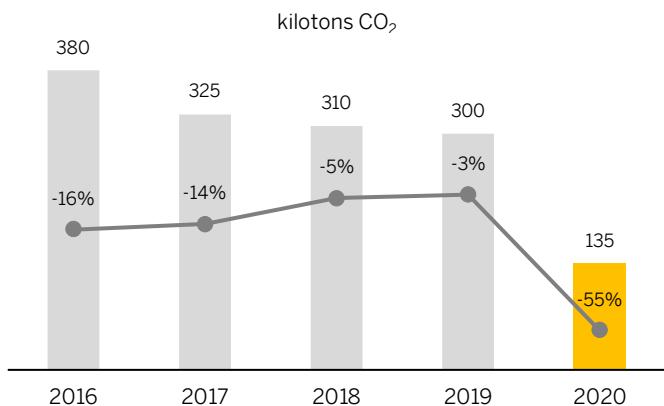
As a result of the COVID-19 pandemic, we have experienced a significant decrease in our 2020 carbon emissions due to a reduction in carbon-intensive business activities, in particular, business flights. Even though our employee headcount increased by 2.1%, our carbon emissions dropped to 135 kiloton (kt) (2019: 300 kt). That remains 10% below our latest target of 150 kt as updated in October 2020 to reflect the expected impact of the COVID-19 pandemic on SAP's business results (original target for 2020: 238 kt).

To consider the impact of COVID-19 on our carbon emissions, to uphold our 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 aimed for thus far.

³ 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

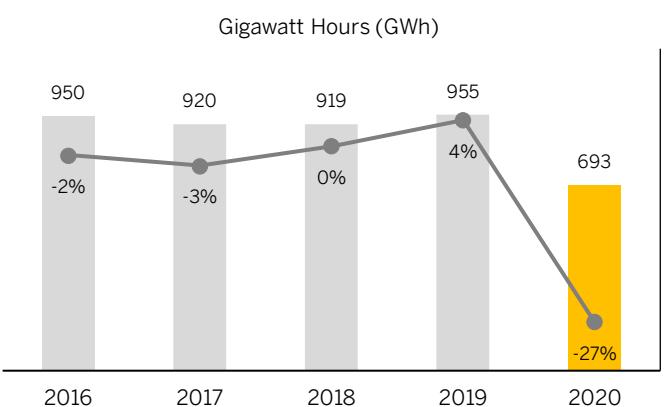
⁴ Scope 3 includes: Rental Cars, Business Flights, Train Travel, Business Trips with Private Cars, Employee Commuting, Electricity External Data Centers, Electricity Used by Hyperscale Services, Logistics, Paper Consumption, Data Download.

Total Net Carbon Emissions



Due to COVID-19, electricity consumption in our offices also dropped as the majority of employees moved to a remote working model.

Total Energy Consumption



In 2020, we conducted a “re-baselining” for our cumulative cost avoidance calculation with 2016 as the new base year for the business-as-usual scenario. As a result, our focus on climate action has contributed to a cumulative cost avoidance of €354.3 million in the past three years. We achieved 92% of this cost avoidance in 2020.

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 2020, key initiatives following this approach included:

Facilities, Data Centers and Renewable Electricity

To help reach SAP’s ambition to continuously increase sustainability in its own operations, we implemented an environmental management system (EMS) at 55 sites in 30 countries worldwide. The EMS is certified by the renowned ISO 14001:2015 standard and was successfully recertified in 2020. Its scope will be gradually increased from currently 75% to 100% of SAP’s major company-owned sites in 2025. SAP’s headquarters in Germany also implemented an effective energy management

system. This system is ISO 50001:2018-certified and enables us to continuously improve our energy performance.

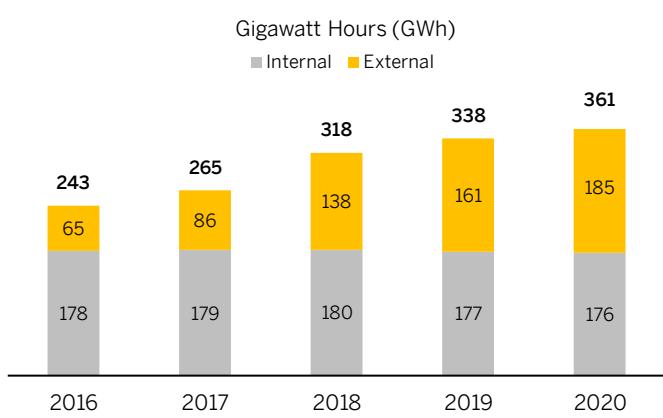
As more business moves to the cloud, data centers play an increasing key role in SAP providing solutions to our customers. Running solutions on SAP data centers and using hundreds of cloud solution transactions per day requires CPUs, memory, storage, and cooling, and therefore electricity – which ultimately results in carbon emissions. This is why our internal data centers have become a primary focus of our carbon reduction efforts. The term “data center” refers to both SAP-owned and external data centers (co-location data centers and hyperscalers).

We have introduced initiatives to drive efficiency and innovation with respect to our buildings, data center operations, and infrastructure (such as replacement of the old, uninterruptible power supply system 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 1.41. 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” powered by 100% renewable electricity – one major step towards achieving carbon neutrality and upholding our commitment towards the RE100 initiative.

We realize our green cloud by using two strategic levers: On the one hand, by investing in very high-quality, EKOenergy-certified renewable energy certificates (RECs) to foster renewable energy generation; and on the other hand, by producing renewable electricity in selective SAP locations worldwide through solar panels (in Palo Alto, CA, in the United States, and in Bangalore, India). This allows us to compensate all of our facility and data center emissions (2020: 198 kt). This is why customers can significantly reduce their carbon emissions (Scope 3) by using our green cloud solutions and services.

Total Data Center Electricity



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, the solutions in our portfolio, such as **SAP Environment, Health, and Safety Management** or **SAP Product Carbon Footprint Analytics**, the first application in the **Climate 21** program, enable our customers 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.

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, we continue to power all electric company cars with 100% renewable electricity, and we set the objective to have one-third of our car fleet consist of ecofriendly company cars, such as electric or fuel cell cars, by 2025. Our target to increase the number of electric vehicles (battery electric vehicles and plug-in hybrid electric vehicles) to 20% by the end of 2020 was not achieved (2020: 16%) due to the lagging appeal of electric vehicles in light of an insufficient public charging infrastructure, long delivery times, and a lack of models. To reach our 2025 e-mobility target, we aim to continue and strengthen our incentive offers for our employees such as:

- In Germany, we offer employees a battery subsidy that partially offsets the higher costs of an electric vehicle, and a subsidy to install a charging point at home (outlook 2021: SAP plans to set up a program to reimburse electricity for charging at home).
- Continuous expansion of the SAP charging infrastructure (2020: over 900 charging stations; 2019: 750 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 2020, we piloted a mobility budget approach in Berlin to foster inter-/multimodal mobility. A pilot group of employees received 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).

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 to compensate for these emissions (2020: 79 kt):

- A key part of SAP's compensation strategy is the long-term investment in the Livelihoods Carbon Funds (LCF) and their high-quality carbon credits. The funds have financed 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 the most trusted and demanding standards (such as the Gold Standard) and improved people's lives. SAP recently committed €3 million to the third LCF and will invest an additional €632,000 in the first LCF. In 2020, the carbon credits we received for our financial contribution to the LCF helped us offset 41.5 kt of our emissions, the majority of which was used to compensate for our business flights.

- 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 2015, 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.

- For employees who own a so-called climate neutral fuel card for their company car, SAP pays an additional fee per liter fuel purchased, which is then invested in Gold Standard-certified compensation projects or equivalent high quality standards (2020: 2.4 kt).

The investments in sustainable projects are equivalent to a certain amount of carbon reductions.

Furthermore, SAP pledged in 2018 to plant five million trees by 2025, as forests and their natural ability to capture and store carbon emissions play an important role in mitigating climate change. In 2020, we enabled the planting of almost 1.7 million trees worldwide as part of our carbon offsetting and donation initiatives (including SAP's holiday-related donation to three projects in the Eden Reforestation Projects program).

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 Factors](#) section. As part of our last analysis in 2019, no relevant risks have been identified potentially impacting our business operations, revenue, or expenditure.

Intellectual Property, Proprietary Rights and Licenses

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. For further details on risks related to SAP's intellectual property rights, see "*Item 3. Key Information – Risk Factors – Operational Risks*".

We may be dependent in the aggregate on technology that we license from third parties that is embedded into our products or that we resell to our customers. We have licensed and will continue to license numerous third-party software products that we incorporate into and/or distribute with our existing products. We endeavor to protect ourselves in the respective agreements by obtaining certain rights in case such agreements are terminated.

We are a party to patent cross-license agreements with several third parties.

We are named as a defendant or plaintiff in various legal proceedings for alleged intellectual property infringements. See *Note (G.3)* to our Consolidated Financial Statements for a more detailed discussion relating to certain of these legal proceedings.

Description of Property

Our principal office is located in Walldorf, Germany, where we own and occupy approximately 500,000 square meters of office and datacenter space including our facilities in neighboring St. Leon-Rot. We also own and lease office space in various other locations in Germany, totaling approximately 110,000 square meters. In approximately 80 countries worldwide, we occupy roughly 1,850,000 square meters. The space in most locations other than our principal office in Germany is leased. We also own certain real properties in Newtown Square, Palo Alto and Colorado Springs (United States); Bangalore (India); São Leopoldo (Brazil); London (UK); Ra'anana (Israel) and a few other locations.

The office and datacenter space we occupy includes approximately 365,000 square meters in the EMEA region, excluding Germany, approximately 470,000 square meters in the region North and Latin America, and approximately 405,000 square meters in the APJ Region.

The space is being utilized for various corporate functions including research and development, our data centers, customer support, sales and marketing, consulting, training and administration. Excluding interim office closure or restricted openings due to COVID-19, substantially all our facilities are being fully used or sublet. For a discussion on our non-current assets by geographic region see [Note \(D.7\)](#) to our Consolidated Financial

Statements. Also see, "[Item 6. Directors, Senior Management and Employees – Employees](#)," which discusses the numbers of our employees, in FTE's, by business area and by geographic region, which may be used to approximate the productive capacity of our workspace in each region.

We believe that our facilities are in good operating condition and adequate for our present usage. We do not have any significant encumbrances on our properties. We do not believe we are subject to any environmental issues that may affect our utilization of any of our material assets. We are currently undertaking construction activities in various locations to increase our capacity for future expansion of our business. We are also reviewing our portfolio to ensure that it covers the office space demands after the COVID-19 driven partial lockdowns and potential impact after COVID-19. Our significant construction activities are described below, under the heading "Principal Investments and Divestitures Currently in Progress."

Investments

Principal Investments and Divestitures Currently in Progress

In 2020, 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 12/31/2020	Estimated Completion Date
Germany	Berlin	New office building for approx. 1,000 employees	40	2	December 2022
Germany	Munich	New office building for approx. 600 employees	91	3	June 2023
Brazil	São Leopoldo	New office building for approx. 700 employees	33	6	September 2021
Bulgaria	Sofia	New office building for approx. 1,200 employees	54	0	May 2022
India	Bangalore	New office building for approx. 4,000 employees	84	0	December 2024
Japan	Tokyo	New office building for approx. 1,500 employees	29	0	August 2022
United States	Seattle	New office building for approx. 1,850 employees	52	37	January 2021

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

Principal Investments and Divestitures for the Last Three Years

Our principal investments for property, plant, and equipment (other than from business combinations) amounted to €1,006 million in 2020 (2019: €1,067 million; 2018: €1,302 million). Principal investments in 2020 for property, plant, and equipment decreased compared to 2019. Those investments decreased from 2019 to 2018 as well. In 2020 and 2019 the investments relate primarily to replacement and purchase of information technology equipment and the construction and leasing of buildings and data centers.

Our investments for intangible assets such as acquired technologies and customer relationships amounted to €314 million in 2020 compared to €1,954 million in 2019 (2018: €791 million). Our investments allocated to goodwill decreased to €417 million in 2020 from €5,014 million in 2019 (2018: €1,620 million). The decrease in 2020 mainly results from the Emarsys acquisition that was substantially smaller than the Qualtrics acquisition in 2019 (see [Note \(D.1\)](#) for additional information). For further details on investments related to acquisitions, see [Notes \(D.2\)](#) and [\(D.3\)](#) to our Consolidated Financial Statements.

For further information regarding the principal markets in which SAP conducts business, including a breakdown of total revenues by category of activity and geographic market for each of the last three years, see "[Item 5. Operating and Financial Review and Prospects – Operating Results \(IFRS\)](#)" of this report.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

Overview

For information on our principal sources of revenue and how the different types of revenue are classified in our income statement refer to [Note \(A.1\)](#) to our Consolidated Financial Statements.

See "[Item 4. Information about SAP – Products, Research & Development, and Services](#)" for a more detailed description of the products and services we offer.

The following discussion is provided to enable a better understanding of our operating results for the periods covered, including:

- the factors that we believe impacted our performance in 2020;
- our outlook for 2020 compared to our 2020 actual performance (non-IFRS);
- a discussion of our operating results for 2020 compared to 2019 and for 2019 compared to 2018;
- the factors that we believe will impact our performance in 2021; and

- our financial targets and prospects.

The preceding overview should be read in conjunction with the more detailed discussion and analysis of our financial condition and results of operations in this Item 5, "[Item 3. Key Information – Risk Factors](#)" and "[Item 18. Financial Statements](#)".

Economy and the Market

Worldwide economic activity showed a sharp decline in the first half of 2020 due to the COVID-19 pandemic. It then rebounded strongly in the third quarter and continued growth in the fourth. That is how the European Central Bank (ECB) summarizes the year in its December 2020 Economic Bulletin.¹ Advanced economies in particular deployed generous policy support at the peak of the pandemic to prop up private consumption, which allowed for the economic recovery in the third quarter. Emerging market economies, on the other hand, benefited from the resulting recovery in external demand, says the ECB.

The EMEA region suffered an unprecedented economic contraction in the second quarter, but the rebound in economic activity in the third quarter was stronger than expected, reports the ECB. This was the case particularly in the euro area, even though economic activity there remained well below pre-pandemic levels. However, the increase in infection rates and the new restrictions on social interaction and mobility significantly constrained the euro area economy again in the fourth quarter of 2020. Throughout the year, sectors performed unevenly, with the services sector more adversely affected than the industrial sector. In central and eastern Europe and Russia, real GDP rebounded in the third quarter when production normalized amid the easing of containment measures. Towards the end of the year, the ECB's indicators for those countries tightened and economic growth slowed again.

In the Americas region, reports the ECB, real GDP in the United States increased in the third quarter as well, driven by a strong recovery in consumption and investment, but did not reach pre-pandemic levels. However, the resurgence of COVID-19 infections and fading fiscal stimulus curbed development of the U.S. economy afterwards. Brazil opted to limit containment measures and instead featured strong monetary and fiscal support measures that were among the largest in Latin America. Thus, the economy rebounded from around the middle of the year, but the severity of the pandemic itself intensified further.

As for the Asia Pacific Japan (APJ) region, domestic and external demand temporarily supported economic recovery in Japan in the third quarter of 2020, yet the pace of expansion decelerated overall, says the ECB. The economic recovery in China, on the other hand, was swift and even broadened to the service sector. After a sharp rebound in the second quarter, China's GDP expanded at a moderate pace in the third and fourth quarter, driven by private investment and consumption. According to the ECB, China was the only large economy to record economic growth in 2020.

The IT Market

In 2020, the COVID-19 pandemic fundamentally changed the business landscape worldwide and accelerated the shift to digital, says International Data Corporation (IDC), a U.S.-based market research firm.² It was crucial for enterprises to drastically increase their resilience to overcome the disruptions. For this, it turned out to be vital that enterprises broaden their digital capabilities, innovate,

and adjust operations and processes.³ That is why, according to IDC, global spending on digital transformation technologies and services grew 10.4% in 2020 to \$1.3 trillion, while overall IT spending declined 5.1% to \$2.25 trillion.³

Faced with the need to accelerate their transformation, many enterprises had to shortcut their IT protocols to get digital solutions into place during the pandemic, reports IDC.² At the same time, this rapid innovation had to happen without incurring overall incremental costs. Therefore, while solving immediate problems, this approach created technical debt: infrastructure and systems became less robust, flexible, and scalable than IT solutions would be otherwise. At the end of 2020, it was already foreseeable that these interim solutions would need to be improved when the current pandemic situation had passed.

However, it became abundantly clear in 2020 that developing a digital business at record speed does not work with traditional, linear processes starting and ending in an organization. Instead – and especially in the long run – according to IDC², digital businesses require a shift toward platform-based, data driven value chains. Applications and data stretching from edge to network and core, the Internet of Things (IoT), mobile devices, artificial intelligence (AI), and machine learning turned out to be crucial elements of digital transformation. For sustained success in these outstanding circumstances, enterprises need to combine historical data with data from enterprise systems and with global information, and connect that data with external partner ecosystems, describes IDC.

In this context, cloud turned out to be much more than an alternative IT purchasing model which buyers had all too often regarded it as before. Instead, in 2020, it was adopted by more and more businesses as both a technology platform and an operational model, reports IDC.⁴ Cloud-centric operating models became integral components of many enterprises' IT environments: They facilitated flexibility and resilience in the face of the pandemic, delivered infrastructure, application, and data resources to edge locations, and allowed enterprises to react rapidly to customer and end-user demands.

Furthermore, companies increasingly used their cloud settings to develop new apps in-house (over 42% of all new apps developed in 2020, according to IDC).³ Many even found new business opportunities by commercializing the software they had developed internally to address problems resulting from the pandemic.

Sources:

¹ European Central Bank, Economic Bulletin, Issue 8/2020, Publication Date: January 7, 2021 (<https://www.ecb.europa.eu/pub/pdf/ecbu/eb202008.en.pdf>)

² IDC FutureScape: Worldwide IT Industry 2021 Predictions, Doc #US46942020, October 2020

³ IDC FutureScape: Worldwide Future of Digital Transformation 2021 Predictions, Doc #US46417320, October 2020

⁴ IDC FutureScape: Worldwide Cloud 2021 Predictions, Doc #US46420120, October 2020

Impact on SAP

The COVID-19 pandemic was an accelerator for transformation. Customers were looking to move to the cloud faster, for greater resiliency and agility, and SAP responded, providing the technology and expertise to help its customers migrate their existing IT environments to the cloud and truly transform their businesses end-to-end. A promising development in the first and second quarter was overshadowed by the first noticeable impact of the pandemic on SAP's business performance in the third quarter. Yet performance sequentially improved in the fourth quarter even as the COVID-19 situation persisted and lockdowns were reintroduced in many regions – with continued high demand for e-commerce, SAP Business Technology Platform, and Qualtrics solutions producing a strong finish to the year for SAP's cloud business. SAP also saw strong early acceptance of its new holistic business transformation offering RISE with SAP among pilot customers, contributing to the cloud performance in the fourth quarter.

Throughout the COVID-19 pandemic, SAP continued to serve its customers with an embedded virtual sales and remote implementation strategy. The Company continued with a disciplined approach to hiring and discretionary spend while capturing natural savings such as from lower travel, facility-related costs, and virtual instead of physical events. In combination with the strong topline performance, these actions drove higher operating profit (IFRS and non-IFRS at constant currencies) and operating margin despite the challenging macro environment.

Performance Against Our Outlook for 2020 (Non-IFRS)

As in previous years, our 2020 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 2020 (Non-IFRS)

The initial outlook for 2020, updated on April 21, 2020 (for more information, see the table "Comparison of Outlook and Results for 2020"), is based on the assumption that the difficult market environment, characterized by weak demand due to the COVID-19 pandemic, would deteriorate into the second quarter before gradually improving in the third and fourth quarters as countries reopened their economies and lockdowns ended. In this context, we anticipated non-IFRS cloud revenue in a range of €8.3 billion to €8.7 billion, and cloud and software revenue in a range of €23.4 billion to €24.0 billion. We expected total revenue to range between €27.8 billion and €28.5 billion, with more predictable revenue anticipated to make up 72% of this result. Furthermore, we projected our full-year 2020 operating profit (non-IFRS) would end between €8.1 billion and €8.7 billion.

In July 2020, we adjusted our outlook for the effective tax rate (IFRS) to between 28.5% and 29.5% and for the effective tax rate (non-IFRS) to between 27.5% and 28.5%. The increase in comparison to the previous outlook mainly resulted from changes in taxes for prior years.

In our quarterly statement published on October 25, 2020, we revised our outlook again to reflect the restrictions that had been placed on public and economic life during the ongoing pandemic. Further, and for the same reasons, we no longer expected to see a significant recovery in SAP Concur revenues in the remaining months of the year.

In October 2020, we therefore adjusted our projection for cloud revenue downward to range between €8.0 billion and €8.2 billion, which represented a growth rate of 14% to 17% at constant currencies. In addition, the Company then anticipated cloud and software revenue of between €23.1 billion and €23.6 billion. This range represented a growth rate of 0% to 2%. We also expected total revenue of between €27.2 billion to €27.8 billion, which represented a growth rate of -2% to 1% at constant currencies and assumed a share of more predictable revenue of 72%. We also set a target range of €8.1 billion to €8.5 billion for our operating profit, which represented a growth rate of -1% to 4% at constant currencies. We expected a full-year 2020 effective tax rate (IFRS) of 27.0% to 28.0% and an effective tax rate (non-IFRS) of 26.5% to 27.5%.

2020 Actual Revenue and Profit Performance Compared to Outlook (Non-IFRS)

On the revenue side, we exceeded the outlook adjusted in October 2020, and on the operating profit side, we reached the upper end of the guidance.

Comparison of Outlook and Results for 2020

	Results for 2019	Outlook for 2020 (Integrated Report 2019)	Revised Outlook for 2020 (Q1 Quarterly Statement)	Revised Outlook for 2020 (Half-Year Report)	Revised Outlook for 2020 (Q3 Quarterly Statement)	Results for 2020
Cloud revenue (non-IFRS, at constant currencies)	€7.01 billion	€8.7 billion to €9.0 billion	€8.3 billion to €8.7 billion	€8.3 billion to €8.7 billion	€8.0 billion to €8.2 billion	€8.24 billion
Cloud and software revenue (non-IFRS, at constant currencies)	€23.09 billion	€24.7 billion to €25.1 billion	€23.4 billion to €24.0 billion	€23.4 billion to €24.0 billion	€23.1 billion to €23.6 billion	€23.72 billion
Total revenue (non-IFRS, at constant currencies)	€27.63 billion	€29.2 billion to €29.7 billion	€27.8 billion to €28.5 billion	€27.8 billion to €28.5 billion	€27.2 billion to €27.8 billion	€27.90 billion
Operating profit (non-IFRS, at constant currencies)	€8.21 billion	€8.9 billion to €9.3 billion	€8.1 billion to €8.7 billion	€8.1 billion to €8.7 billion	€8.1 billion to €8.5 billion	€8.50 billion
Share of predictable revenue	67%	70%	72%	72%	72%	72%
Effective tax rate (IFRS)	26.7%	27.0% to 28.0%	27.0% to 28.0%	28.5% to 29.5%	27.0% to 28.0%	26.8%
Effective tax rate (non-IFRS)	26.2%	26.5% to 27.5%	26.5% to 27.5%	27.5% to 28.5%	26.5% to 27.5%	26.5%

In a global economic situation severely shaken by the COVID-19 pandemic, demand for our solutions and services was lower than expected in 2020. New and existing customers nevertheless continued to show a strong willingness to digitally transform their business processes with SAP and thus emerge from the situation with success.

Our current cloud backlog (contractually committed cloud revenue we expect to recognize over the upcoming 12 months) reached €7.61 billion at constant currencies (€7.15 billion at actual currencies; 2019: €6.68 billion). This was an increase of 14% on a constant currency basis.

At constant currencies, the resulting non-IFRS cloud revenue grew from €7.01 billion in 2019 to €8.24 billion in 2020 and therefore ended above our guidance range of €8.0 billion to €8.2 billion. That represented an increase of 18% at constant currencies.

Cloud and software revenue (non-IFRS) grew 3% at constant currencies to €23.72 billion (2019: €23.09 billion), and thus ended above our range forecasted for 2020 of €23.1 billion to €23.6 billion.

Thanks to the strong increase in cloud business described above, we were able to increase the share of more predictable revenue by 4.4pp to 72% (2019: 67%). As such, our total revenue (non-IFRS) increased slightly despite a decline in software license business as a result of the COVID-19 pandemic.

Total revenue (non-IFRS) on a constant currency basis rose 1% in 2020 to €27.90 billion (2019: €27.63 billion), thus exceeding the guidance for 2020 that had been amended in October (€27.2 billion to €27.8 billion).

Operating expenses (non-IFRS) in 2020 on a constant currency basis remained constant at €19.39 billion (2019: €19.43 billion). Not only did we demonstrate cost discipline in 2020 when it came to discretionary spend and employee hiring, we cut costs naturally through less travel, lower facility-related costs, and virtual rather than physical events. This enabled us to keep our 2020 operating expenses at the previous year's level.

Our expense base in 2020 was impacted by our transformation to a fast-growing cloud business. In our outlook for 2020, we expected to see an increasing cloud gross margin. The cloud gross margin for 2020 was 70%, an increase of 1.4pp on a constant currency basis year over year. The gross margin improvement was due to the increasing efficiency in the operation of our offerings as we continued to invest in the cloud.

All cloud gross margins on our various cloud offerings developed positively in 2020:

The cloud gross margin (non-IFRS) on our "Intelligent Spend" offerings improved slightly by 0.8pp (on a constant currency basis), resulting in 79% for 2020 (2019: 78%).

The cloud gross margin (non-IFRS) on our "infrastructure as a service" (IaaS) cloud offering continued to develop well in 2020, improving 4.9pp 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) cloud offerings was 71% at constant currencies (non-IFRS) for 2020. Despite ongoing investments in the further development and harmonization in the operation of our various SaaS/PaaS offerings on a single platform, we were able to increase the gross margin by 2.3pp.

We saw efficiency improvements in both our cloud and traditional on-premise business, which drove continued operating profit expansion.

Non-IFRS operating profit in 2020 was €8.50 billion on a constant currency basis (2019: €8.21 billion), reflecting an increase of 4%. As a result, we were able to surpass our excellent results from 2018 and 2019, despite our continued investment in our business transformation during the reporting year. The positive development of our operating profit was largely influenced by investment decisions focused on customers and products which, among other things, resulted in an increase in our overall headcount by 2,100 full-time equivalents or FTEs (1,319 thereof organic), primarily in

research and development. With these additional resources, we made targeted investments in our innovation areas and growth markets. Thus, constant currency non-IFRS operating profit amounting to €8.50 billion was at the top end of the target range adjusted in October (€8.1 billion to €8.5 billion).

We achieved an effective tax rate (IFRS) of 26.8% and an effective tax rate (non-IFRS) of 26.5%, which is slightly below the adjusted outlook of 27.0% to 28.0% (IFRS) and at the lower end of the range of 26.5% to 27.5% (non-IFRS).

Operating Results (IFRS)

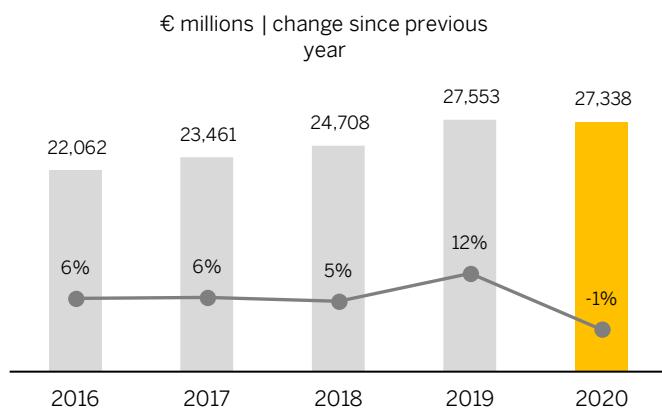
This section on operating results (IFRS) discusses results only in terms of IFRS measures.

Our 2020 Results Compared to Our 2019 Results (IFRS)

Revenue

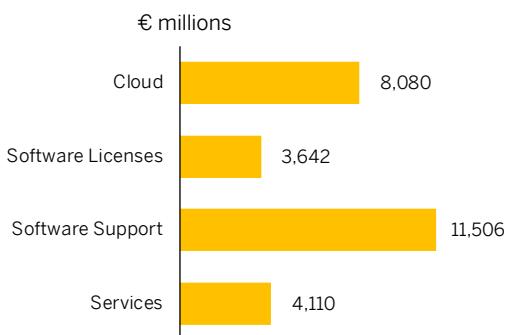
Total Revenue

Total revenue decreased from €27,553 million in 2019 to €27,338 million in 2020, representing a decrease of €215 million, or 1%.



Cloud and software revenue represented 85% of total revenue in 2020 (2019: 84%). Service revenue decreased 9% from €4,541 million in 2019 to €4,110 million in 2020, which was 15% of total revenue (2019: 16%).

Revenue by Revenue Type



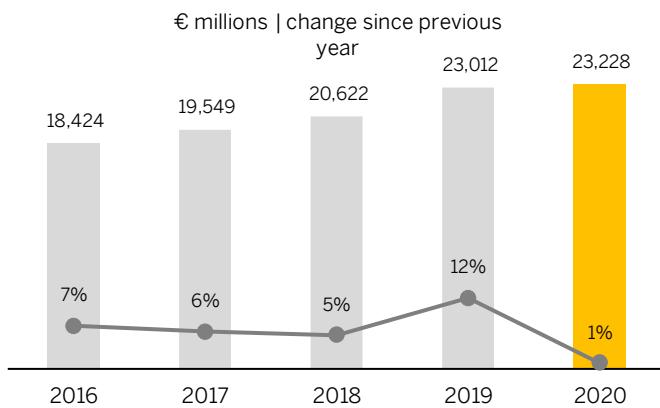
For more information about our regional performance, see the *Revenue by Region* section.

Cloud and Software Revenue

Cloud revenue refers to the income earned from contracts that permit the customer to access specific software solutions hosted 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 \(A.1\)](#).

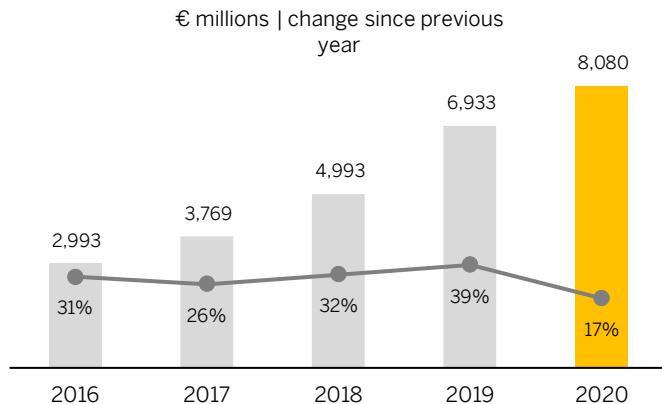
Cloud and software revenue grew from €23,012 million in 2019 to €23,228 million in 2020, an increase of 1%.

Cloud and Software



Cloud revenue increased by €1,148 million, or 17%, from €6,933 million in 2019 to €8,080 million in 2020. Continued lower transactional revenues, particularly in SAP Concur business, negatively impacted cloud growth.

Cloud Revenue



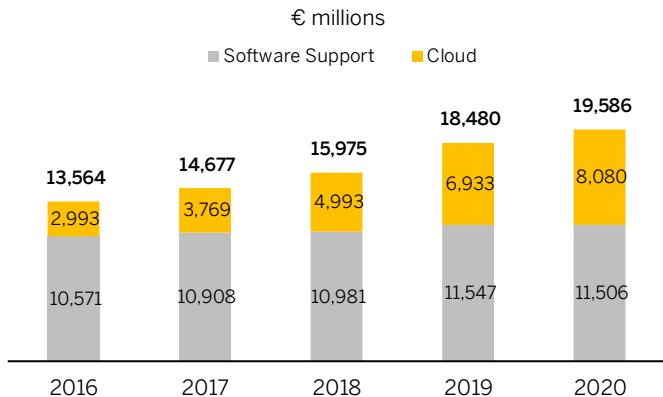
Our software licenses revenue declined by €891 million from €4,533 million in 2019 to €3,642 million in 2020. Our customer base continued to expand in 2020. Based on the number of contracts concluded, 11% of the orders we received for software licenses in 2020 were from new customers (2019: 13%). The total value of software licenses orders received decreased 20% year over year. The total number of contracts signed for new software licenses decreased by 13% to 45,616 (2019: 52,584), with an average order value of €82 thousand in 2020 (2019: €87 thousand). Of all our software licenses orders received in 2020, 30% were attributable to deals worth more than €5 million (2019: 32%), while 36% were attributable to deals worth less than €1 million (2019: 35%).

Our stable customer base, demand for our software throughout 2020 and the previous years, the accelerated cloud transition of our customers, and unfavorable changes in currency exchange rates resulted in support revenue of €11,506 million in 2020 (2019: €11,547 million). The SAP Enterprise Support offering was the largest contributor to our software support revenue.

Software licenses and software support revenue decreased by €932 million, or 6%, from €16,080 million in 2019 to €15,148 million in 2020.

We define more predictable revenue as the sum of our cloud revenue and our software support revenue. Compared to the previous year, our more predictable revenue increased from €18,480 million in 2019 to €19,586 million in 2020. This reflects a rise of 6%. More predictable revenue accounted for 72% of our total revenue in 2020 (2019: 67%).

More Predictable Revenue



Services Revenue

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 €431 million, or 9%, from €4,541 million in 2019 to €4,110 million in 2020. The revenue decrease was caused mainly by the investment decisions on some major customer projects and COVID-19-related limitations in personal contacts.

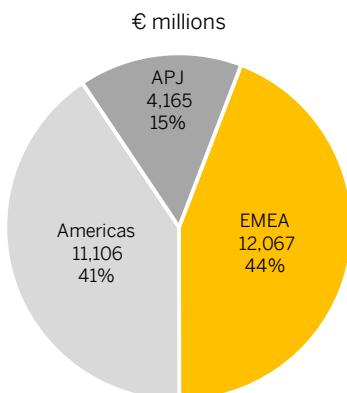
Consulting revenue and premium support revenue decreased by €288 million, or 8%, from €3,696 million in 2019 to €3,408 million in 2020. In 2020, consulting and premium support revenue contributed 83% of the total services revenue (2019: 81%) and 12% of total revenue (2019: 13%).

Revenue from other services decreased by €143 million, or 17%, to €702 million in 2020 (2019: €845 million).

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

Revenue by Region

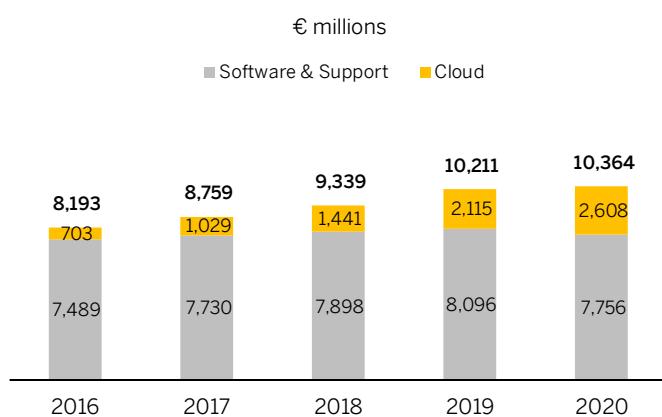
(based on customer location)



EMEA Region

In 2020, the EMEA region generated €12,067 million in revenue (2019: €12,105 million), which was 44% of total revenue (2019: 44%). Revenue in Germany increased 2% to €4,015 million (2019: €3,948 million). Germany contributed 33% (2019: 33%) of all EMEA region revenue. The remaining revenue in the EMEA region was primarily generated in France, Italy, the Netherlands, Switzerland, and United Kingdom. Cloud and software revenue generated in the EMEA region totaled €10,364 million (2019: €10,211 million). That was 86% of all revenue from the region (2019: 84%).

EMEA: Cloud and Software Revenue

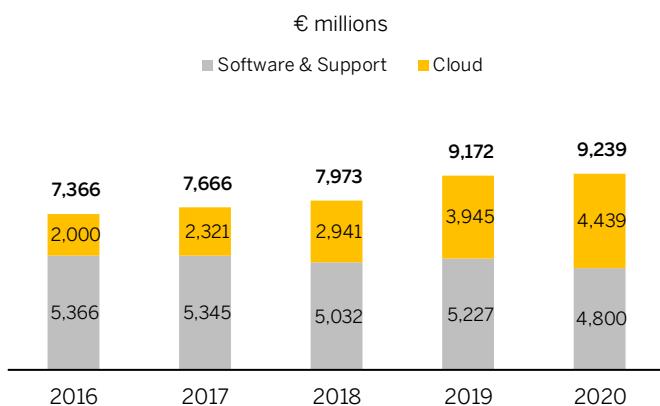


Cloud revenue in the EMEA region rose 23% to €2,608 million in 2020 (2019: €2,115 million). Software licenses and software support revenue decreased 4% to €7,756 million in 2020 (2019: €8,096 million).

Americas Region

In 2020, 41% of our total revenue was generated in the Americas region (2019: 41%). Total revenue in the Americas region decreased 1% to €11,106 million; revenue generated in the United States increased to €9,110 million. The United States contributed 82% (2019: 81%) of all revenue generated in the Americas region. In the remaining countries of the Americas region, revenue decreased 5% to €1,996 million. Revenue in the remaining countries of the Americas region was generated primarily in Brazil, Canada, and Mexico. Cloud and software revenue generated in the Americas region totaled €9,239 million (2019: €9,172 million). That was 83% of all revenue from the region (2019: 82%).

Americas: Cloud and Software Revenue

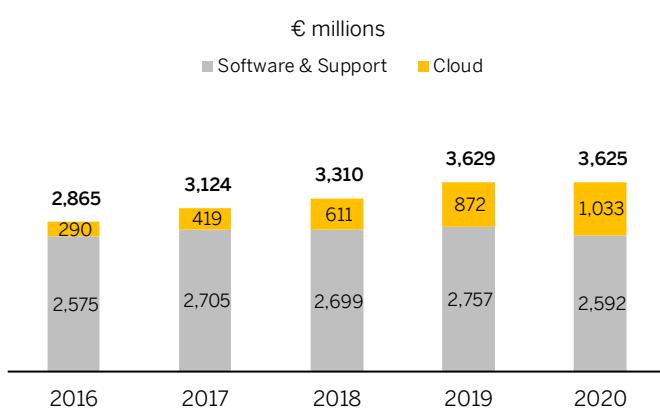


Cloud revenue in the Americas region rose 13% to €4,439 million in 2020 (2019: €3,945 million). Software licenses and software support revenue amounted to €4,800 million in 2020 (2019: €5,227 million).

APJ Region

In 2020, 15% of our total revenue was generated in the APJ region (2019: 15%). Total revenue in the APJ region decreased 2% to €4,165 million. In Japan, revenue increased 11% to €1,305 million. Revenue from Japan accounted for 31% of all revenue generated in the APJ region (2019: 28%). In the remaining countries of the APJ region, revenue declined 7%. Revenue in the remaining countries of the APJ region was generated primarily in Australia, China, and India. Cloud and software revenue in the APJ region totaled €3,625 million (2019: €3,629 million). That was 87% of all revenue from the region (2019: 85%).

APJ: Cloud and Software Revenue



Cloud revenue in the APJ region rose 18% to €1,033 million in 2020 (2019: €872 million). Software licenses and software support revenue decreased from €2,757 million in 2019 to €2,592 million in 2020. This reflects a decline of 6%.

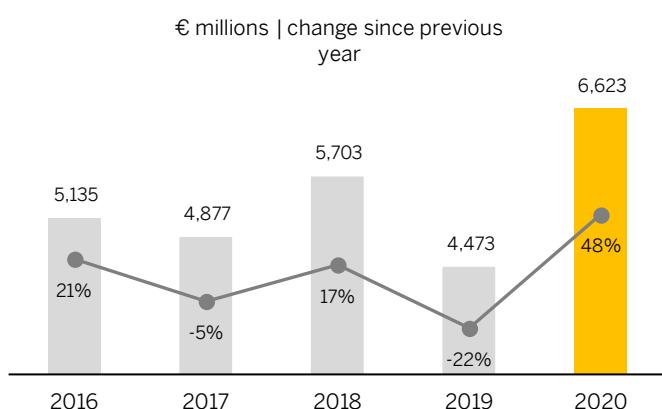
Operating Profit and Operating Margin

SAP continued to increase its cloud revenue in 2020, despite the challenging economic conditions. Total revenue decreased slightly by 1% to €27,338 million (2019: €27,553 million), representing a decrease of €215 million.

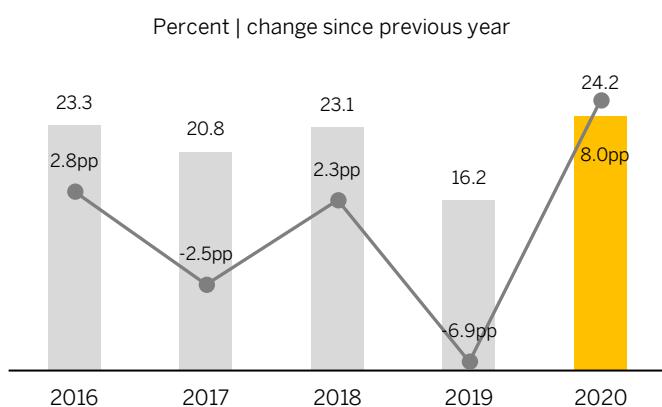
On the other hand, our operating expenses decreased €2,366 million, or 10%, to €20,715 million (2019: €23,081 million). The main contributors to that decrease were COVID-19-related travel restrictions and the change to virtual hosting of marketing events. Our employee headcount (measured in full-time equivalents, or FTEs) grew by 2,100 FTEs year over year to 102,430.

As a result of these effects, our operating profit increased by 48% to €6,623 million (2019: €4,473 million) and our operating margin increased by 8.0pp to 24.2% (2019: 16.2%).

Operating Profit



Operating Margin



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 2020, the cost of cloud and software increased slightly to €4,707 million (2019: €4,692 million) and our cloud margin widened by 3.1pp from 63.5% in 2019 to 66.6% in 2020.

A 6% decrease in software licenses and software support revenue to €15,148 million (2019: €16,080 million), primarily arising from a 20% decline in software revenue, and a corresponding decrease of 7% in the software licenses and software support costs to €2,008 million (2019: €2,159 million), saw our software licenses and software support margin at 86.7% (2019: 86.6%), slightly above the prior-year level. The gross margin on cloud and software, defined as cloud and software profit as a percentage of cloud and software revenue, increased by 0.1pp in 2020 to 79.7% (2019: 79.6%).

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 9% year over year to €4,110 million in 2020 (2019: €4,541 million). The cost of services declined 13% to €3,178 million (2019: €3,662 million). Our gross margin on services, defined as services profit as a percentage of services revenue, increased to 22.7% (2019: 19.4%). These developments are primarily due to COVID-19-related limitations in personal customer contacts and a correspondingly high remote delivery share of the consulting services. The current challenging economic environment influenced the investment decisions on some big customer projects. As our service business trends away from traditional software licensing and consulting revenue toward more subscription revenue from cloud solutions, we continue to invest by expanding capacities to meet the higher demand.

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 7% year-over-year increase in our R&D headcount, and due to continued strategic investments, our R&D expense rose by 4% to €4,454 million in 2020 from €4,292 million in 2019. R&D expense as a percentage of total revenue thus increased to 16.3% in 2020 (2019: 15.6%). 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 declined 8% from €7,693 million in 2019 to €7,106 million in 2020. This decline is primarily attributable to cancellation of in-person marketing events such as SAPPHIRE NOW and lower sales-related expenses.

Accordingly, the ratio of sales and marketing expense to total revenue, expressed as a percentage, decreased by 1.9pp in 2020 to 26.0% (2019: 27.9%).

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 declined 17% from €1,629 million in 2019 to €1,356 million in 2020. This decline is primarily the result of careful cost management combined with lower infrastructure costs. The ratio of general and administration expense to total revenue declined by 1.0pp year over year to 5.0% (2019: 5.9%).

Segment Information

At the end of 2020, SAP had four reportable segments: Applications, Technology & Support; Concur; Qualtrics; and Services. For more information about our segment reporting and the changes in the composition of our reportable segments in 2020, 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)	2020		2019		Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency		
Cloud revenue	6,254	6,379	5,259	5,259	19	21
Cloud gross margin (in %)	65.4	65.2	62.5	62.5	2.9pp	2.7pp
Segment revenue	21,680	22,144	21,664	21,664	0	2
Segment gross margin (in %)	80.5	80.5	80.5	80.5	-0.1pp	-0.1pp
Segment profit	9,423	9,633	9,454	9,454	0	2
Segment margin (in %)	43.5	43.5	43.6	43.6	-0.2pp	-0.1pp

The Applications, Technology & Support segment recorded a strong increase in cloud revenue of 19% in 2020 (21% at constant currencies). This led to an increase of the cloud gross margin of 2.9pp (2.7pp at constant currencies) to 65.4%. Software support revenue, ending 2020 with €11,502 million, remained flat and rose slightly by 1% at constant currencies. Including software licenses revenue, which decreased by 20% (17% at constant currencies) due to the impact of the COVID-19 pandemic and the shift toward cloud revenue, the segment achieved a total software licenses and support revenue of €15,138 million. Total segment revenue, however, stayed

on prior year level ending 2020 with €21,680 million and increased by 2% at constant currencies.

Overall, the share of more predictable revenue in this segment increased by 4.4pp from 77.5% in 2019 to 81.9% in 2020.

The segment's cost of revenue remained flat compared to the prior year, ending 2020 with €4,230 million, and increased by 3% at constant currencies due to increasing efficiency in cloud operations.

Segment profit increased by 2% at constant currencies. Both, the segment gross margin as well as the segment margin decreased slightly by 0.1pp at constant currencies.

Concur

€ millions, unless otherwise stated (Non-IFRS)	2020		2019		Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency		
Cloud revenue	1,288	1,306	1,373	1,373	-6	-5
Cloud gross margin (in %)	88.0	87.9	86.8	86.8	1.2pp	1.1pp
Segment revenue	1,505	1,526	1,609	1,609	-6	-5
Segment gross margin (in %)	78.8	78.7	78.3	78.3	0.5pp	0.4pp
Segment profit	564	569	620	620	-9	-8
Segment margin (in %)	37.5	37.3	38.5	38.5	-1.0pp	-1.2pp

The Concur segment, which comprises SAP's travel management solutions, suffered from the COVID-19 pandemic and related travel restrictions in 2020. Nevertheless, the segment was able to improve its cloud gross margin by 1.2pp (1.1pp at constant currencies) to 88.0%. While total segment revenue decreased by 6% (5% at constant currencies) to €1,505 million (2019: €1,609 million), the

segment's cost of revenue decreased by 9% in 2020 (7% at constant currencies) to €319 million. As a result, the Concur segment achieved a segment gross margin of 78.8% (78.7% at constant currencies), reflecting an increase of 0.5pp (0.4pp at constant currencies).

Qualtrics

€ millions, unless otherwise stated
(Non-IFRS)

	2020	2019	Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency
Cloud revenue	518	529	371	40
Cloud gross margin (in %)	91.8	91.9	91.1	0.6pp
Segment revenue	681	696	508	34
Segment gross margin (in %)	77.6	77.7	78.3	-0.6pp
Segment profit	19	20	8	>100
Segment margin (in %)	2.8	2.8	1.6	1.2pp

The Qualtrics segment, which comprises SAP's experience management solutions, closed 2020 with a strong cloud revenue growth of 40% (42% at constant currencies). The cloud gross margin improved slightly by 0.6pp (0.7pp at constant currencies) to 91.8%. Including services revenue, the total segment revenue increased by 34% (37% at constant currencies) to €681 million.

Overall, the Qualtrics segment profit was €19 million in 2020, more than double compared to the prior year (2019: €8 million). This resulted in a segment margin increase of 1.2pp.

For more information about the initial public offering of Qualtrics International Inc., see the Notes to the Consolidated Financial Statements, [Note \(G.8\)](#).

Services

€ millions, unless otherwise stated
(Non-IFRS)

	2020	2019	Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Constant Currency
Services revenue	3,153	3,203	3,442	-8
Services gross margin (in %)	32.2	32.0	27.2	5.0pp
Segment revenue	3,157	3,208	3,447	-8
Segment gross margin (in %)	29.1	28.8	24.1	5.0pp
Segment profit	499	494	362	38
Segment margin (in %)	15.8	15.4	10.5	5.3pp

The Services segment was introduced in 2020, comprising major parts of SAP's services business. In 2020, the segment recorded services revenue of €3,153 million, representing a decline of 8% (7% at constant currencies). The respective cost of services, however, decreased by 15% (13% at constant currencies) to €2,136 million. As a result, the services gross margin increased by 5.0pp (4.7pp at constant currencies) to 32.2% in 2020. This margin improvement was primarily attributable to the positive development of SAP's

consulting and premium engagement business due to COVID-19-related travel restrictions, the inability to visit the customers, and a correspondingly higher remote delivery share of the consulting services.

Overall, the segment profit and the segment margin benefitted from this development as well, ending the year with a segment profit of €499 million and a segment margin of 15.8%.

Reconciliation of Cloud Revenues and Margins

€ millions, unless otherwise stated (Non-IFRS)		2020	2019	Δ in %	Δ in %
		Actual Currency	Constant Currency	Actual Currency	Constant Currency
Cloud revenue – SaaS/PaaS ¹	Intelligent Spend ³	2,722	2,772	2,692	1 3
	Thereof Concur segment	1,288	1,306	1,373	-6 -5
	Other ⁴	4,522	4,611	3,625	25 27
	Total	7,244	7,383	6,317	15 17
Cloud revenue – IaaS ²		841	857	695	21 23
Cloud revenue		8,085	8,241	7,013	15 18
Cloud gross margin – SaaS/PaaS ¹ (in %)	Intelligent Spend ³	78.9	78.9	78.1	0.9pp 0.8pp
	Thereof Concur segment	78.8	78.7	78.3	0.5pp 0.4pp
	Other ⁴	70.7	70.7	68.5	2.2pp 2.3pp
	Total	73.8	73.8	72.6	1.2pp 1.2pp
Cloud gross margin – IaaS ² (in %)		34.3	33.8	28.9	5.4pp 4.9pp
Cloud gross margin (in %)		69.7	69.6	68.2	1.5pp 1.4pp

¹Software as a service/platform as a service

²Infrastructure as a service; completely included in the Applications, Technology & Support segment

³"Intelligent Spend" includes the Concur segment and further Intelligent Spend offerings mainly in the Applications, Technology & Support segment.

⁴Other includes all other SaaS/PaaS offerings that do not belong to Intelligent Spend.

Note: The individual revenue and margin numbers for segments are disclosed on the previous pages.

Financial Income, Net

Financial income, net, changed to €776 million (2019: €198 million). Our finance income was €1,473 million (2019: €787 million) and our finance costs were €697 million (2019: €589 million).

Finance income mainly consists of gains from disposal of equity securities and IFRS 9-related fair value adjustments, mainly of Sapphire Ventures investments, totaling €1,360 million (2019: €596 million).

Finance costs mainly consist of interest expense on financial liabilities amounting to €179 million (2019: €207 million), negative effects from derivatives amounting to €76 million (2019: €155 million), and losses from disposal or IFRS 9-related fair value adjustments of Sapphire Ventures investments totaling €345 million (2019: €152 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 2020 was 26.8% (2019: 26.7%). For more information about income taxes, see the Notes to the Consolidated Financial Statements, [Note \(C.5\)](#).

Our 2019 Results Compared to Our 2018 Results (IFRS)

Total Revenue

Total revenue increased from €24,708 million in 2018 to €27,553 million in 2019, representing an increase of €2,845 million, or 12%.

The growth in revenue resulted primarily from a €1,939 million increase in cloud revenue to €6,933 million. Cloud and software revenue represented 84% of total revenue in 2019 (2018: 83%). Service revenue increased 11% from €4,086 million in 2018 to €4,541 million in 2019, which was 16% of total revenue (2018: 17%).

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

Cloud and Software Revenue

Cloud and software revenue grew from €20,622 million in 2018 to €23,012 million in 2019, an increase of 12%.

Cloud Revenue

Cloud revenue increased from €4,993 million in 2018 to €6,933 million in 2019.

Software Licenses and Support

Our software licenses revenue declined by €114 million from €4,647 million in 2018 to €4,533 million in 2019. Our customer base continued to expand in 2019. Based on the number of contracts concluded, 13% of the orders we received for software licenses in 2019 were from new customers (2018: 15%). The total value of software licenses orders received decreased 5% year over year. The total number of contracts signed for new software licenses decreased 10% to 52,584 (2018: 58,530), with an average order value of €87 thousand in 2019 (2018: €82 thousand). Of all our software licenses orders received in 2019, 32% were attributable to deals worth more than €5 million (2018: 29%), while 35% were attributable to deals worth less than €1 million (2018: 39%).

Our stable customer base, the continued demand for our software throughout 2019 and the previous years, and the continued interest in our support offerings resulted in an increase in support revenue from €10,981 million in 2018 to €11,547 million in 2019. The SAP Enterprise Support offering was the largest contributor to our software support revenue. The €566 million, or 5%, growth in software support revenue is primarily attributable to our SAP Product Support for Large Enterprises services and our SAP Enterprise Support services.

Software licenses and software support revenue rose €452 million, or 3%, from €15,628 million in 2018 to €16,080 million in 2019.

We define more predictable revenue as the sum of our cloud revenue and our software support revenue. Compared to the previous year, our more predictable revenue increased from €15,975 million in 2018 to €18,480 million in 2019. This reflects a rise of 16%. More predictable revenue accounted for 67% of our total revenue in 2019 (2018: 65%).

Services Revenue

Services revenue combines revenue from consulting services, premium support services, and other services such as training services and messaging services. Consulting services primarily relate to the implementation of our cloud subscriptions and on-premise software products. Our premium support offering consists of high-end support services tailored to customer requirements. Messaging services are primarily the transmission of electronic text messages from one mobile phone provider to another.

Services revenue increased €455 million, or 11%, from €4,086 million in 2018 to €4,541 million in 2019.

A solid market demand led to a 10% increase of €340 million in consulting revenue and premium support revenue from €3,356 million in 2018 to €3,696 million in 2019. In 2019, consulting and premium support revenue contributed 81% of the total services revenue (2018: 82%) and 13% of total revenue (2018: 14%).

Revenue from other services increased €114 million, or 16%, to €845 million in 2019 (2018: €731 million).

Revenue by Region

EMEA Region

In 2019, the EMEA region generated €12,105 million in revenue (2018: €11,104 million), which was 44% of total revenue (2018: 45%). This represents a year-over-year increase of 9%. Revenue in Germany increased 8% to €3,948 million (2018: €3,658 million). Germany contributed 33% (2018: 33%) of all EMEA region revenue. The remaining revenue in the EMEA region was primarily generated in the United Kingdom, France, Switzerland, the Netherlands, and Italy. Cloud and software revenue generated in the EMEA region totaled €10,211 million (2018: €9,339 million). That was 84% of all revenue from the region (2018: 84%).

Cloud revenue in the EMEA region rose 47% to €2,115 million in 2019 (2018: €1,441 million). Software licenses and software support revenue rose 3% to €8,096 million in 2019 (2018: €7,898 million).

Americas Region

In 2019, 41% of our total revenue was generated in the Americas region (2018: 39%). Total revenue in the Americas region increased 15% to €11,194 million; revenue generated in the United States increased 15% to €9,085 million. The United States contributed 81%

(2018: 81%) of all revenue generated in the Americas region. In the remaining countries of the Americas region, revenue increased 15% to €2,109 million. Revenue in the remaining countries of the Americas region was generated primarily in Canada, Brazil, and Mexico. Cloud and software revenue generated in the Americas region totaled €9,172 million (2018: €7,973 million). That was 82% of all revenue from the region (2018: 82%).

Cloud revenue in the Americas region rose 34% to €3,945 million in 2019 (2018: €2,941 million). Software licenses and software support revenue was €5,227 million in 2019 (2018: €5,032 million).

APJ Region

In 2019, 15% (2018: 16%) of our total revenue was generated in the APJ region. Total revenue in the APJ region increased 9% to €4,254 million. In Japan, revenue increased 23% to €1,180 million. Revenue from Japan was 28% (2018: 25%) of all revenue generated in the APJ region. In the remaining countries of the APJ region, revenue increased 5%. Revenue in the remaining countries of the APJ region was generated primarily in Australia, China, and India. Cloud and software revenue in the APJ region totaled €3,629 million (2018: €3,310 million). That was 85% of all revenue from the region (2018: 85%).

Cloud revenue in the APJ region rose 43% to €872 million in 2019 (2018: €611 million). Software licenses and software support revenue increased from €2,699 million in 2018 to €2,757 million in 2019. This reflects a rise of 2%.

Operating Profit and Operating Margin

SAP posted record revenues in 2019, particularly in Cloud and Services. Total revenue grew 12% to €27,553 million (2018: €24,708 million), representing an increase of €2,845 million.

On the other hand, our operating expenses increased €4,076 million, or 21%, to €23,081 million (2018: €19,005 million). The main contributors to that increase were the costs of the SAP restructuring program, totaling €1,130 million (2018: €19 million), our continued investment in research and development, and our revenue-related cloud subscriptions and support activities. We also continued our investments in the Services area in line with the increased revenue. Acquisition-related charges of €689 million (2018: €577 million) and share-based compensation of €1,835 million (2018: €830 million), arising chiefly from the acquisition of Qualtrics, also had a negative impact on operating profit. Our employee headcount (measured in full-time equivalents, or FTEs) grew by 3,832 FTEs year over year to 100,330.

We see the increased operating expenses largely as investments in the future that will help secure our operating profit in the long term.

As a result of these effects, our operating profit decreased by 22% to €4,473 million (2018: €5,703 million) and our operating margin decreased by 6.9pp to 16.2% (2018: 23.1%).

Cost of Cloud and Software

In 2019, the cost of cloud and software increased 13% to €4,692 million (2018: €4,160 million).

Significant costs arose through the expansion of the cloud business in response to strong customer demand, leading to the cost of delivering and operating our cloud applications increasing by an additional €466 million year over year. These investments contributed to revenue growth. Our cloud margin widened by 4.9pp

from 58.6% in 2018 to 63.5% in 2019. This improvement in margin is attributable to strong growth in cloud revenue of 39% to €6,933 million (2018: €4,993 million) with a lower increase in cost of cloud of 22% to €2,534 million (2018: €2,068 million). Additional positive impacts on the cloud margin resulted from our Qualtrics acquisition and completion of the SuccessFactors migration to SAP S4/HANA.

A 3% increase in software licenses and software support revenue to €16,080 million (2018: €15,628 million) and a corresponding increase of 3% in the software licenses and software support costs to €2,159 million (2018: €2,092 million) saw our software licenses and software support margin remain constant at 86.6% (2018: 86.6%). The gross margin on cloud and software, defined as cloud and software profit as a percentage of cloud and software revenue, narrowed by 0.2pp in 2019 to 79.6% (2018: 79.8%). This decline was mainly driven by the change in the revenue mix, which now has a higher proportion of cloud revenues. Due to infrastructure costs, these revenues currently deliver a lower margin simultaneously with a declining proportion of higher-margin software and support revenues.

Cost of Services

We were able to increase our services revenue by 11% year over year to €4,541 million in 2019 (2018: €4,086 million). As our service business trends away from traditional software licensing and consulting revenue toward more subscription revenue from cloud solutions, we continue to invest by expanding capacities to meet the higher demand. As a result, cost of services rose 11% to €3,662 million (2018: €3,302 million). Our gross margin on services, defined as services profit as a percentage of services revenue, increased slightly to 19.4% (2018: 19.2%).

Research and Development Expense

Due to growing personnel costs driven by a 4% increase on average for the year in our R&D headcount, and due to a higher proportion of employees in more cost-intensive countries as a result of the acquisition of Qualtrics, our R&D expense rose by 18% to €4,292 million in 2019 from €3,624 million in 2018. R&D expense as a percentage of total revenue thus increased to 15.6% in 2019 (2018: 14.7%). For more information, see the *Products, Research & Development, and Services* section.

Sales and Marketing Expense

Our sales and marketing expense rose 13% from €6,781 million in 2018 to €7,693 million in 2019. This increase is mainly attributable to the expansion of the global sales force, partly as a result of acquiring Qualtrics, and to greater expenditure on bonus payments prompted by strong revenue growth.

Accordingly, the ratio of sales and marketing expense to total revenue, expressed as a percentage, rose to 27.9% in 2019 (2018: 27.4%), an increase of 0.5pp.

General and Administration Expense

General and administration expense rose 48% from €1,098 million in 2018 to €1,629 million in 2019, despite careful cost management. This increase is primarily the result of higher personnel costs related to job creation in administrative areas, based on the increased business volume related to our growth. The ratio of general and administration expense to total revenue rose by 1.5pp year over year to 5.9% (2018: 4.4%).

Segment Information

The segment information below for 2019 and 2018 is presented based on the reportable segments Applications, Technology & Support, Concur, Qualtrics and Services. Since we acquired Qualtrics on January 23, 2019, financial data for the Qualtrics segment is only presented from this acquisition date onwards. For

more information about our segment reporting, 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)

	2019	2018	Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency
Cloud revenue	5,259	5,098	3,905	35
Cloud gross margin (in %)	62.5	62.5	58.5	4.0pp
Segment revenue	21,664	21,132	19,873	9
Segment gross margin (in %)	80.5	80.5	81.0	-0.5pp
Segment profit	9,454	9,201	8,583	10
Segment margin (in %)	43.6	43.5	43.2	0.4pp
				0.3pp

The Applications, Technology & Support segment recorded a strong increase in cloud revenue in 2019. It was up by 35% (31% at constant currencies) to €5,259 million, primarily as a result of high demand in our Intelligent ERP solutions. Our software support revenue improved slightly in 2019. It rose 5% (3% at constant currencies) to €11,542 million. Including software licenses revenue, which remained 3% (5% at constant currencies) below the prior-year level due to the shift toward cloud revenue, we achieved a total software licenses and support revenue of €16,064 million in 2019.

Overall, the share of more predictable revenue in this segment increased 2.6pp from 74.9% in 2018 to 77.5% in 2019. The segment's cost of revenue during the same period increased 12% (9% at constant currencies) to €4,214 million (2018: €3,776 million). This increase in expenses was primarily the result of greater investment in expanding our cloud infrastructure and in providing and operating our cloud applications. The cloud gross margin nevertheless grew 4.0pp to 62.5% mainly driven by the growth in revenue whereas the overall segment margin ended the fiscal year with a growth of 0.4pp (0.3pp at constant currencies) to 43.6%.

Concur

€ millions, unless otherwise stated
(Non-IFRS)

	2019		2018		Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	
Cloud revenue	1,373	1,313	1,107	24	19	
Cloud gross margin (in %)	86.8	86.8	85.5	1.3pp	1.3pp	
Segment revenue	1,609	1,539	1,338	20	15	
Segment gross margin (in %)	78.3	78.2	76.1	2.2pp	2.1pp	
Segment profit	620	590	482	29	22	
Segment margin (in %)	38.5	38.4	36.0	2.5pp	2.3pp	

The Concur segment was able to increase its cloud revenue in 2019 by 24% (19% at constant currencies) to €1,373 million also leading to an improvement of its cloud gross margin by 1.3pp to 86.8%. The segment's total revenue was up by 20% (15% at constant currencies) to €1,609 million, whereas segment's cost of revenue increased 9% in 2019 (5% at constant currencies) to

€350 million. As a result, the segment's gross margin improved by 2.2pp (2.1pp at constant currencies) to 78.3%.

The Concur segment's profit strongly increased by 29% (22% at constant currencies). This led to an overall margin improvement of 2.5pp (2.3pp at constant currencies), ending the year 2019 with a segment margin of 38.5%.

Qualtrics

€ millions, unless otherwise stated
(Non-IFRS)

	2019		2018 ¹⁾		Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency	Constant Currency	
Cloud revenue	371	353	NA	NA	NA	NA
Cloud gross margin (in %)	91.1	91.1	NA	NA	NA	NA
Segment revenue	508	483	NA	NA	NA	NA
Segment gross margin (in %)	78.3	78.1	NA	NA	NA	NA
Segment profit	8	9	NA	NA	NA	NA
Segment margin (in %)	1.6	2.0	NA	NA	NA	NA

¹⁾ There are no prior-period numbers presented for the Qualtrics segment, since Qualtrics was acquired in 2019.

Qualtrics was acquired on January 23, 2019, as the leading provider of Experience Management (XM) solutions.

In 2019, the Qualtrics segment realized cloud revenue of €371 million (€353 million at constant currencies) with a cloud gross margin of 91.1%. Including the services revenue, total segment revenue was €508 million (€483 million at constant currencies), whereas the segment's cost of revenue was €110 million (€106

million at constant currencies). As a result, the Qualtrics segment achieved a segment gross margin of 78.3% (78.1% at constant currencies) in 2019.

For more information about the initial public offering of Qualtrics International Inc., see the Notes to the Consolidated Financial Statements, [Note \(G.8\)](#).

Services

€ millions, unless otherwise stated (Non-IFRS)	2019	2018	Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency
Services revenue	3,442	3,354	3,161	9
Services gross margin (in %)	27.2	26.9	24.7	2.5pp
Segment revenue	3,447	3,359	3,165	9
Segment gross margin (in %)	24.1	23.7	20.8	3.3pp
Segment profit	362	340	249	45
Segment margin (in %)	10.5	10.1	7.9	2.6pp

The Services segment realized services revenue of €3,442 million in 2019, representing an increase of 9% (6% at constant currencies). The respective cost of services increased by 5% (3% at constant currencies) to €2,506 million. As a result, the services gross margin was up by 2.5pp (2.1pp at constant currencies) to 27.2%. Overall, the

segment profit increased by 45% (37% at constant currencies) to €362 million also driving the segment margin to improve by 2.6pp (2.3pp at constant currencies) to 10.5% in 2019.

Reconciliation of Cloud Revenues and Margins

€ millions, unless otherwise stated (Non-IFRS)	2019	2018	Δ in %	Δ in %
	Actual Currency	Constant Currency	Actual Currency	Actual Currency
Cloud revenue – SaaS/PaaS ¹⁾				
Intelligent Spend ³⁾	2,692	2,584	2,184	23
Thereof Concur segment	1,373	1,313	1,107	24
Other ⁴⁾	3,625	3,516	2,355	54
Total	6,317	6,100	4,539	39
Cloud revenue – IaaS ²⁾	695	673	488	43
Cloud revenue	7,013	6,773	5,027	40
Cloud gross margin – SaaS/PaaS ¹⁾ (in %)				
Intelligent Spend ³⁾	78.1	78.0	77.9	0.2pp
Thereof Concur segment	86.8	86.8	85.5	1.3pp
Other ⁴⁾	68.5	68.5	59.9	8.6pp
Total	72.6	72.5	68.5	4.0pp
Cloud gross margin – IaaS ²⁾ (in %)	28.9	28.3	12.4	16.5pp
Cloud gross margin (in %)	68.2	68.1	63.1	5.1pp

¹⁾ Software as a service/platform as a service

²⁾ Infrastructure as a service; completely included in the Applications, Technology & Support segment.

³⁾ Intelligent Spend includes the Concur segment and further Intelligent Spend offerings mainly included in the Applications, Technology & Support segment.

⁴⁾ Other includes all other SaaS/PaaS offerings that do not belong to the Intelligent Spend.

The individual revenue and margin numbers for segments are disclosed on the previous pages.

Financial Income, Net

Financial income, net, changed to €198 million (2018: –€47 million). Our finance income was €787 million (2018: €371 million) and our finance costs were €589 million (2018: €418 million).

Finance income mainly consists of gains from disposal of equity securities and IFRS 9-related fair value adjustments, mainly of Sapphire Ventures investments, totaling €596 million (2018: €227 million).

Finance costs mainly consist of interest expense on financial liabilities amounting to €207 million (2018: €106 million), negative effects from derivatives amounting to €155 million (2018: €206 million), and losses from disposal or IFRS 9-related fair value adjustments of Sapphire Ventures investments totaling €152 million (2018: €45 million). For more information about financing instruments, see the 2019 Annual Report on Form 20-F, Part III, Notes to the Consolidated Financial Statement, [Note \(E.3\)](#).

Income Taxes

The effective tax rate in 2019 was 26.7% (2018: 27.0%). For more information about income taxes, see the 2019 Annual Report on Form 20-F, Part III, Notes to the Consolidated Financial Statement, [Note \(C.5\)](#).

Foreign Currency Exchange Rate Exposure

Although our reporting currency is the euro, a significant portion of our business is conducted in currencies other than the euro. Since the Group's entities usually conduct their business in their respective functional currencies, our risk of exchange rate fluctuations from ongoing ordinary operations is not considered significant. However, occasionally we generate 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 in [Note \(F.1\)](#) to our Consolidated Financial Statements. Also see [Note \(F.1\)](#) for additional information on foreign currencies.

Approximately 72% of our total revenue in 2020 (2019: 73%) was attributable to operations in non-euro participating countries. We translated that revenue into euros for financial reporting purposes. Fluctuations in the exchange value of the euro had an unfavorable impact of €554 million on our total revenue for 2020, a favorable impact of €724 million on our total revenue for 2019 and an unfavorable impact of €1,219 million on our total revenue for 2018.

The impact of foreign currency exchange rate fluctuations discussed in the preceding paragraph is calculated by translating current period figures in local currency to euros at the monthly average exchange rate for the corresponding month in the prior year. Our revenue analysis, included within the "[Operating Results section of Item 5](#)", discusses at times the effect of currency movements which are calculated in the same manner.

Liquidity and Capital Resources

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 [\(F.2\)](#).

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, 2020, 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 2020.

We believe that our liquid assets combined with our undrawn credit facilities are sufficient to meet our operating financing needs in 2021 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.

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 Notes to the Consolidated Financial Statements, [Note \(E.1\)](#).

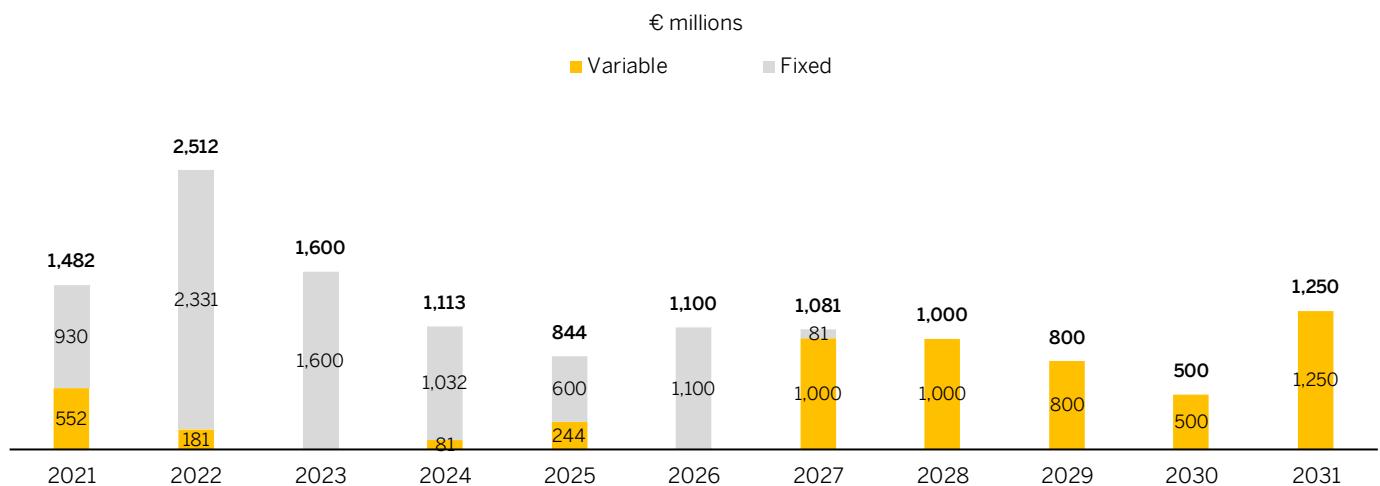
The long-term credit rating for SAP SE is "A2" by Moody's and "A" by Standard & Poor's, both with a stable outlook.

Capital returns in addition to SAP's regular dividend policy will be decided on an annual basis in line with SAP's capital allocation priorities, market conditions, company performance, and other factors.

Financial Debts

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

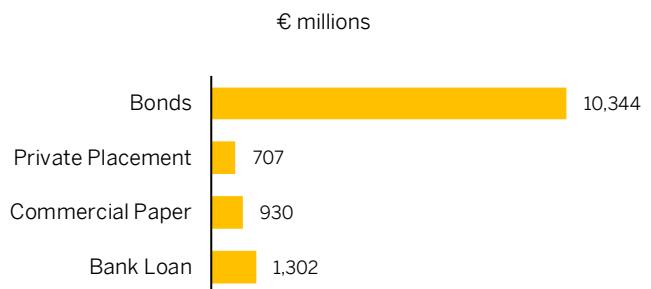
Maturity Profile of Financial Debts



Nominal volume of financial debt on December 31, 2020, included amounts in euros (€12,329 million) and U.S. dollars (€955 million). On December 31, 2020, approximately 58% 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



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

Cash Flows and Liquidity

2020 Actual Cash Flow and Liquidity Performance Compared to Outlook

We met or exceeded the revised outlook for 2020 that we published in October 2020.

€ billions	Results 2019 (Integrated Report 2019)	Outlook	Revised Outlook (Quarterly Statement)			Results 2020
			Q1	Q2	Q3	
Operating cash flows	3.5	Around 6	Around 5	Above 5.0	Around 6.0	7.2
Free cash flow	2.3	Around 4.5	Around 3.5	Around 4.0	Above 4.5	6.0
Restructuring payouts	-0.9	Lower				-0.2
Income taxes payouts	-2.3	Lower extraordinary				-1.2
Net debt (-)	-8.3	Around -7				-6.5
Ratio of net debt divided by operating profit plus depreciation and amortization	1.3	< 0.9				0.8

Group Liquidity and Net Debt

€ millions	2020	2019	Δ
Cash and cash equivalents	5,311	5,314	-4
Current time deposits and debt securities	1,470	67	1,402
Group liquidity	6,781	5,382	1,399
Current financial debt	-1,482	-2,529	1,046
Non-current financial debt	-11,801	-11,139	-662
Financial debt	-13,283	-13,668	384
Net debt (-)	-6,503	-8,286	1,783
Lease liability	-2,120	-2,203	83
Net debt including lease liability	-8,623	-10,489	1,866

Group liquidity consists of cash and cash equivalents (for example, cash at banks, money market funds, and time deposits

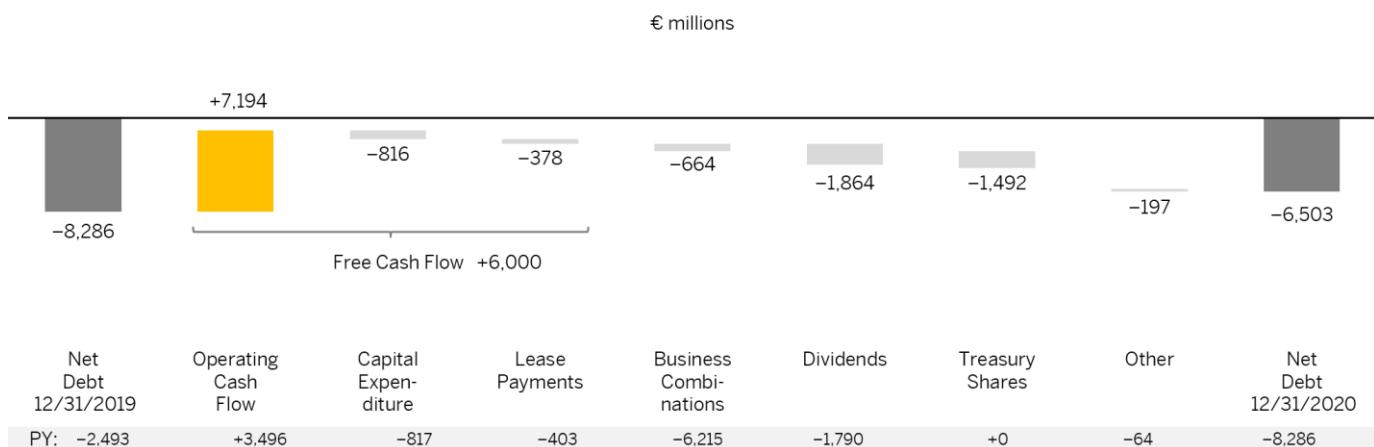
with original maturity of three months or less) and current investments (for example, time deposits and debt securities with original maturities of greater than three months, and remaining maturities of less than one year included in other financial assets) as reported in our Consolidated Financial Statements. Group liquidity on December 31, 2020, primarily comprised amounts in euros and U.S. dollars.

The increase in group liquidity compared to 2019 was mainly due to the cash inflows from our operations.

Net debt is financial debt less group liquidity. 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



Analysis of Consolidated Statements of Cash Flows

€ millions	Years ended December 31,			Δ in % 2020 vs. 2019	Δ in % 2019 vs. 2018
	2020	2019	2018		
Net cash flows from operating activities	7,194	3,496	4,303	>100	-19
Net cash flows from investing activities	-2,986	-7,021	-3,066	-57	>100
Net cash flows from financing activities	-3,997	102	3,283	<-100	-97

Analysis of Consolidated Statements of Cash Flows: 2020 compared to 2019

In 2020, cash inflows from operating activities increased by €3,699 million to €7,194 million (2019: €3,496 million). This is particularly due to an increase in cash collected from customer contracts, lower income tax payments (€1.2 billion in 2020 compared to €2.3 billion in 2019), lower payments related to restructuring (€0.2 billion in 2020 versus €0.9 billion in 2019), and lower interest paid, net payments (€0.1 billion in 2020 compared to €0.2 billion in 2019). Our DSO for receivables, defined as the average number of days from the raised invoice to cash receipt from the customer, increased in 2020 to 78 days (2019: 71 days).

Cash outflows from investing activities were €2,986 million in 2020 (2019: €7,021 million). We paid, net of cash received, a total of €0.6 billion mainly for the Emarsys acquisition in 2020, compared to €6.1 billion mainly for the Qualtrics acquisition in 2019. Capital expenditure on intangible assets and property, plant, and equipment remained at a comparable level.

In 2020, free cash flow more than doubled to €6,000 million (2019: €2,276 million). The free cash flow conversion rate, defined as free cash flow as a percentage of profit after tax, increased to 114% compared to 68% in 2019.

Net cash outflows from financing activities were €3,997 million in 2020, compared to €102 million in cash inflows in 2019. The buyback of treasury shares with a volume of €1.5 billion in 2020 is included herein. Apart from the buyback of treasury shares, cash outflows in 2020 resulted from repayments of €1.15 billion in Eurobonds, the repayment of €0.75 billion in the acquisition term loan for Qualtrics, which was drawn in 2019, and US\$0.29 billion in U.S. private placements when they matured. Further, we repaid €0.17 billion of a commercial paper program (Commercial Paper) that we launched in 2019. In 2020, we issued €2.0 billion in Eurobonds. The cash outflows in 2019 resulted from repayments of €0.75 billion in Eurobonds when they matured.

The dividend payment of €1,864 million made in 2020 exceeded the respective amount of €1,790 million paid in the prior year, while the dividend paid per share increased from €1.50 to €1.58.

Analysis of Consolidated Statements of Cash Flows: 2019 Compared to 2018

In 2019, cash inflows from operating activities decreased by €807 million to €3,496 million (2018: €4,303 million). This is particularly due to an increase in income tax payments (€2.3 billion in 2019 and €1.7 billion in 2018), higher payments related to restructuring (€0.9 billion in 2019 and €0.1 billion in 2018), and higher share-based payments (€1.3 billion in 2019 and €1.0 billion in 2018). Our days sales outstanding (DSO) for receivables, defined as the average number of days from the raised invoice to cash receipt from the customer, remained flat in 2019 at 71 days (2018: 70 days).

Following the new lease accounting rules (IFRS 16), we had a positive impact on operating cash flow from the reclassification of leasing payments into cash flows from financing of €0.4 billion.

Cash outflows from investing activities were €7,021 million in 2019 (2018: €3,066 million). We paid, net of cash received, a total of €6.1 billion for the Qualtrics acquisition in 2019, compared to €2.1 billion in 2018, mainly for Callidus. Instead of investing in the expansion of our data centers, there was a strong focus on improving capacity utilization, resulting in a decrease in capital expenditures on purchases of intangible assets and property, plant, and equipment by €642 million to €817 million. For more information about current and planned capital expenditures, see *Item 4. Description of Property - Investments* and the *Investment Goals* section.

Net cash inflows from financing activities were €102 million in 2019, compared to €3,283 million in 2018. In 2019, we drew €2.5 billion of an acquisition term loan for Qualtrics. We refinanced €0.5 billion of the acquisition term loan through the issuance of the same amount under a commercial paper program (Commercial Paper) we launched in September 2019. This program enables SAP SE to issue short-term notes up to €2.5 billion. The cash outflows resulted from repayments of €0.75 billion in Eurobonds when they matured, whereof we refinanced €0.6 billion through Commercial Paper. In 2018, we issued €6.0 billion in Eurobonds financing the acquisition of Callidus and Qualtrics, and a US\$0.3 billion USD bond. Cash outflows in 2018 resulted from repayments of €1.15 billion in Eurobonds and US\$0.15 billion in U.S. private placements when they matured.

The dividend payment of €1,790 million made in 2019 exceeded the respective amount of €1,671 million paid in the prior year, the dividend paid per share increased from €1.40 to €1.50.

Credit Facilities

Other sources of capital 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, 2020, SAP SE had additional available credit facilities totaling €433 million. Several other SAP entities have credit facilities available that allow them to borrow funds at prevailing interest rates.

Resulting from the acquisition of Qualtrics, a term loan of €1.25 billion was still outstanding on December 31, 2020. The amount can be flexibly repaid until maturity of the loan on January 23, 2022.

Contractual Obligations

€ millions	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Lease liabilities ¹⁾	2,361	426	621	383	931
Other financial liabilities ¹⁾	14,384	1,982	4,340	2,129	5,933
Derivative financial liabilities ¹⁾	70	63	4	3	0
Purchase obligations ²⁾	3,791	975	1,400	970	445
Capital contribution commitments ²⁾	237	237	0	0	0
Other non-current non-financial liabilities ³⁾	770	0	523	40	207
Total	21,613	3,683	6,888	3,526	7,516

¹⁾ Excludes certain low-value and short-term leases as mentioned in [Note \(D.5\)](#). For more information on lease liabilities, other financial liabilities and derivative financial liabilities see [Notes \(E.3\)](#) and [\(F.1\)](#) to our Consolidated Financial Statements.

²⁾ See [Notes \(D.6\)](#) and [\(D.8\)](#) to our Consolidated Financial Statements for additional information about capital contribution commitments and purchase obligations. Our expected contributions to our pension and other post-employment benefit plans are not included in the table above. For more information on these contributions see [Note \(B.4\)](#) to our Consolidated Financial Statements.

³⁾ For more information on other non-current non-financial liabilities see [Notes \(B.3\)](#), [\(B.5\)](#), and [\(G.2\)](#) to our Consolidated Financial Statements.

We expect to meet these contractual obligations with our existing cash, our cash flows from operations and our financing activities. The timing of payments for the above contractual obligations is based on payment schedules for those obligations where set payments exist. For other obligations with no set payment schedules, estimates for the most likely timing of cash payments have been made. The ultimate timing of these future cash flows may differ from these estimates.

Obligations under Indemnifications and Guarantees

Our software license agreements and our cloud subscription agreements generally include certain provisions for indemnifying customers against liabilities if our software products infringe a third party's intellectual property rights. In addition, we occasionally provide function or performance guarantees in routine consulting contracts and development arrangements. We also generally provide a six to twelve-month warranty on our software and a subscription-length warranty on cloud services with a 90 day claim cut off. Our warranty liability is included in other provisions. For more information on other provisions see [Notes \(A.4\)](#), [\(B.5\)](#), and [\(B.6\)](#) to our Consolidated Financial Statements. For more information on obligations and contingent liabilities refer to [Notes \(A.4\)](#), [\(D.6\)](#), [\(D.8\)](#) and [\(G.3\)](#) in our Consolidated Financial Statements.

Off-Balance Sheet Arrangements

We do not believe we have forms of material off-balance sheet arrangements that would require disclosure other than those already disclosed.

Contractual Obligations

The table below presents our on- and off-balance sheet contractual obligations as of December 31, 2020:

Payments due by period

€ millions	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Lease liabilities ¹⁾	2,361	426	621	383	931
Other financial liabilities ¹⁾	14,384	1,982	4,340	2,129	5,933
Derivative financial liabilities ¹⁾	70	63	4	3	0
Purchase obligations ²⁾	3,791	975	1,400	970	445
Capital contribution commitments ²⁾	237	237	0	0	0
Other non-current non-financial liabilities ³⁾	770	0	523	40	207
Total	21,613	3,683	6,888	3,526	7,516

Research and Development

For information on our R&D activities see "[Item 4. Information about SAP – Products, Research & Development, and Services](#)." For information on our R&D costs see "[Item 5. Operating and Financial Review and Prospects – Operating Results \(IFRS\)](#)" and for information related to our R&D employees see [Note \(B.1\)](#) to our Consolidated Financial Statements.

Critical Accounting Estimates

See [Note \(IN.1\)](#) to our Consolidated Financial Statements for the discussion on our critical accounting estimates and critical accounting policies.

New Accounting Standards not yet Adopted

See [Note \(IN.1\)](#) to our Consolidated Financial Statements for our discussion on new accounting standards not yet adopted.

Expected Developments

Future Trends in the Global Economy

A number of headwinds cloud the near-term outlook for the global economy, states the European Central Bank (ECB) in its December 2020 Economic Bulletin.¹ The most significant among these are the renewed containment measures in response to rising numbers of COVID-19 infections, although these measures are expected to be more targeted and less disruptive to economic activity than those implemented during earlier stages of the pandemic. Furthermore, the unwinding of government support might negatively affect economic growth in 2021, particularly in advanced economies, the ECB predicts.

On the other hand, effective medical solutions such as vaccines against the coronavirus may become increasingly available, allowing for a gradual relaxation of the containment measures and thus triggering financial market optimism in the latter half of 2021. Overall, the ECB expects global economic growth to rebound in 2021 and achieve moderate growth again in 2022 and 2023. However, the pace of recovery will likely vary across regions, with emerging market economies projected to make the largest contribution in this regard.

Economic developments in the EMEA region will most likely remain uneven across countries and sectors. In the euro area, the ECB forecasts that weaker corporate balance sheets and uncertainty about the economic outlook could weigh on business investment. Nevertheless, over the medium term, containment measures will probably come to an end. Favorable financing conditions and an expansionary fiscal stance might then support the recovery of the euro area economy. In central and eastern Europe, the ECB expects economic recovery to come to a halt until early 2021 due to the worsening pandemic situation. Thereafter, the easing of restrictions together with fiscal and monetary measures could revive growth, which might however remain below its year-end 2019 level until early 2022. In Russia, the pace of recovery in 2021 could slow further amid an ongoing high number of infections and reduced room for fiscal support, says the ECB.

Regarding the Americas region, the resurgence of COVID-19 infections and fading fiscal stimulus impair the near-term outlook in the United States. In Brazil, according to the ECB, elevated infection rates and limited fiscal space might drag on investment and consumption in the short and medium term, ultimately moderating the path of economic recovery.

As for the APJ region, the ECB expects the economic recovery in Japan to continue in 2021, albeit at a moderate pace. A third supplementary budget for the fiscal year 2020 should provide some additional support in the coming months. China, on the other hand, could account for about half of the region's post-pandemic recovery,

reflecting the country's role in supplying medical and technology goods worldwide, says the ECB.

With regard to growth rates, the International Monetary Fund (IMF) projects the following economic trends for the mid-term horizon until the end of 2021:

Economic Trends GDP Growth Year Over Year

%	2019	2020p	2021p
World	2.8	-3.5	5.5
Advanced Economies	1.6	-4.9	4.3
Emerging Markets and Developing Economies	3.6	-2.4	6.3
Regions (according to IMF taxonomy)			
Euro Area	1.3	-7.2	4.2
Germany	0.6	-5.4	3.5
Emerging and Developing Europe	2.2	-2.8	4.0
Middle East and Central Asia	1.4	-3.2	3.0
Sub-Saharan Africa	3.2	-2.6	3.2
United States	2.2	-3.4	5.1
Canada	1.9	-5.5	3.6
Latin America and the Caribbean	0.2	-7.4	4.1
Japan	0.3	-5.1	3.1
Emerging and Developing Asia	5.4	-1.1	8.3
China	6.0	2.3	8.1

p = projection

Source: International Monetary Fund (IMF), World Economic Outlook Update January 2021, Policy Support and Vaccines Expected to Lift Activity (<https://www.imf.org/-/media/Files/Publications/WEO/2021/Update/January/English/text.ashx>) . p. 4.

The IT Market: Outlook for 2021 and Beyond

While the ECB's outlook for the global economy in the immediate future is not very optimistic, International Data Corporation (IDC), a U.S.-based market research firm, suggests a more positive outlook for the global IT market. Shaken by the COVID-19 pandemic experience, organizations are rethinking what their future will look like and what it will take for them to thrive in a changed business landscape. In a current IDC study, 60% of organizations report that they are planning to focus on new business and operating models following the pandemic.²

With these plans comes a strong focus on digital technologies for remote access and communications. That is because these technologies can lead enterprises safely through lockdowns, movement restrictions, social distancing, and supply disruptions, should this become necessary again. Fueled by the pandemic, products, services, and relationships might therefore shift from face-to-face to digital permanently. According to IDC, 65% of global GDP will be digitalized by 2022,² with enterprises not only introducing

new applications but also modernizing over half of their existing installations by then to gain business agility.⁴

This transition will require IT to evolve from a service provider to an element deeply integrated into core processes.³ To IDC, this means that organizations will use IT to effectively transform data into insight and deliver lessons learned and predictions that improve decision-making and resilience. However, IDC also identifies an ethical dimension in advancing competitiveness through artificial intelligence (AI) and the governance of data.²

For the coming years, resulting from these pandemic-driven new realities in a digital economy, IDC describes two main long-term, sustainable trends: platform thinking and the cloud shift. By the end of 2021, therefore, most enterprises (80%) will shift to cloud-centric infrastructures and applications twice as fast as compared to their pre-pandemic strategies. By 2024, the adoption of cloud-native architectures for core business applications might multiply by five.²

Over the same period, 25% of organizations will further expand their cloud platforms to improve their business agility,⁴ according to IDC, and use cloud applications not only for integrating edge data but also for industry- and ecosystem-wide data sharing, paving the way for commercializing internally developed software.³ As a result, software co-developed and owned by an industry consortium might displace 15% of the current enterprise application market by 2025, projects IDC.²

Sources:

¹ European Central Bank, Economic Bulletin, Issue 8/2020, Publication Date: January 7, 2021 (<https://www.ecb.europa.eu/pub/pdf/ecbu/eb202008.en.pdf>)

² IDC FutureScape: Worldwide IT Industry 2021 Predictions, Doc #US46942020, October 2020

³ IDC FutureScape: Worldwide Future of Digital Transformation 2021 Predictions, Doc #US46417320, October 2020

⁴ IDC FutureScape: Worldwide Cloud 2021 Predictions, Doc #US46420120, October 2020

Impact on SAP

SAP continues to be a key technology partner in helping customers and the broader community address challenges related to the COVID-19 pandemic. Despite the current macroeconomic uncertainties caused by the pandemic, the majority of SAP customers are taking advantage of the digital transformation to transform their business models, increase market share, and increase efficiency.

With our new RISE with SAP offering, we took a strategic step forward to accelerate the business transformation of our customers to the cloud to help make them more successful, become more agile, and improve resiliency. Furthermore, the faster adoption of new technologies and innovations helps enable our customers to differentiate better, increase competitiveness, and develop new business models.

This offering aligns well with the observed market shift to a stronger cloud adoption and platform adoption. In addition, our strategic cooperation projects with technology leaders as well as industry alliances in dedicated verticals aims to strengthen SAP's ecosystem and to create new market opportunities in the future.

Financial Targets and Prospects

Revenue and Operating Profit Targets and Prospects (Non-IFRS)

Outlook 2021

SAP provides the following full-year 2021 outlook reflecting its solid business momentum and best estimates concerning the timing and pace of recovery from the COVID-19 pandemic. This outlook assumes the pandemic will begin to recede as vaccine programs roll out globally, leading to a gradually improving demand environment in the second half of 2021.

- SAP expects non-IFRS cloud revenue of between €9.1 billion and €9.5 billion at constant currencies (2020: €8.09 billion), up 13% to 18% at constant currencies.
- SAP expects non-IFRS cloud and software revenue of between €23.3 billion and €23.8 billion at constant currencies (2020: €23.23 billion), representing a growth rate of flat to 2% at constant currencies.
- SAP expects non-IFRS operating profit of between €7.8 billion and €8.2 billion at constant currencies (2020: €8.28 billion), down 1% to 6% 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 75% (2020: 72%).

We expect CCB to grow at a moderately higher rate than non-IFRS cloud revenue in 2021 reflecting customers' accelerating transformation into the cloud. Non-IFRS cloud revenue is expected to reach approximately three times the amount of non-IFRS software license revenue.

While SAP's full-year 2021 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 2021 expected currency impacts. These currency expectations for the full-year 2021 are based on the December 2020 level.

In percentage points (pp)	2021
Cloud subscriptions and support	-3pp to -5pp
Cloud and software	-2pp to -4pp
Operating profit	-2pp to -4pp

The following table shows the estimates of the items that represent the differences between our non-IFRS financial measures and our IFRS financial measures.

Non-IFRS Measures

€ millions	Estimated Amounts for 2021	Actual Amounts for 2020
Revenue adjustments	0–30	5
Share-based payment expenses	2,000–2,500	1,084
Acquisition-related charges	540–640	577
Restructuring	150–200	-3

The Company expects 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%). The difference between the effective tax rate (IFRS) and the effective tax rate (non-IFRS) results from tax effects on non-deductible expenses for share-based payments, which are only recognized under IFRS.

Proposed Dividend

In line with our dividend policy of distributing at least a dividend totaling 40% or more of the prior year's profit after tax, we intend to pay a dividend of €1.85 per share (subject to shareholder approval at the Annual General Shareholders Meeting in May 2021). For more information, see the *Financial Performance: Review and Analysis* section.

Medium-Term Prospects

In this section, all numbers are based exclusively on non-IFRS measures.

SAP expects to grow its more predictable revenue while steadily increasing operating profit. Our strategic objectives are focused primarily on our main financial and non-financial objectives: growth, profitability, customer loyalty, and employee engagement.

On October 25, 2020, we replaced our previous midterm ambition issued on April 24, 2019, with a new 2025 ambition. The midterm ambition reflects the following factors:

- Changes in currency exchange rates (as at October 2020) which translated to a negative 3% to 4% effect on revenue and operating profit since April 2019
- The COVID-19 pandemic is expected to impact the demand environment, particularly in hard-hit industries, through at least the first half of 2021, pushing out the achievement of key metrics such as non-IFRS cloud revenue, total revenue, and operating profit, by one to two years.
- The acceleration of customers' move to the cloud and subsequent business transformations
- The accelerated harmonization of SAP's cloud delivery infrastructure, which is expected to require an incremental investment of a mid-triple-digit million euro amount over the course of 2021 and 2022

As a consequence of SAP's accelerated cloud transition, the Company expects software licenses revenue to continue to trend lower from 2020 levels. In addition to other margin effects, specifically the accelerated cloud transition and the subsequent business transformations are expected to negatively impact the 2023 operating margin by approximately 4pp to 5pp relative to the

previous midterm ambition. Additionally, we expect to modestly increase our non-IFRS cloud gross margins in 2021 and 2022 and expect a significant step-up as of 2023 due to expected efficiency gains.

Also, we expect the RISE with SAP offering to be a material contributor to non-IFRS cloud revenue growth. Through 2025, we estimate an approximately 2pp to 3pp contribution to the non-IFRS cloud revenue growth rate, both from each the conversion of established maintenance and from the conversion of software licenses sales to cloud subscriptions. We expect a non-IFRS cloud revenue growth rate for the rest of our portfolio outside of RISE with SAP in the high teens.

The combined impact of the above factors and the mechanics of the associated business model switch are expected to lead to muted non-IFRS total revenue growth as well as flat or slightly lower non-IFRS operating profit over the next two years, followed by accelerated non-IFRS total revenue and double-digit non-IFRS operating profit growth from 2023 onwards.

By 2025, this trajectory is expected to take SAP to:

- More than €22 billion in non-IFRS cloud revenue
- More than €36 billion in non-IFRS total revenue
- More than €11.5 billion in 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%

Investment Goals

Our planned investment expenditures for 2020 and 2021, other than for business combinations, consist primarily of the purchase of IT infrastructure and the construction activities described in [Item 4. Information About SAP – Description of Property – Capital Expenditures](#).

We expect investments in IT infrastructure of approximately €480 million and in construction activities of approximately €240 million in 2021. In 2021, we expect total capital expenditures of approximately €950 million. In 2022, capital expenditures are expected to stay at a similar level as in 2021.

Goals for Liquidity and Finance

As at December 31, 2020, we had a net debt of €6,503 million. We believe that our liquid assets, combined with our undrawn credit facilities, are sufficient to meet our operating financing needs in 2021 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 2021, compared to 2020, we expect a decline of operating cash flow from €7.2 billion to around €6.0 billion due to a moderately lower profit, higher income tax payments, and adverse foreign exchange impacts. Free cash flow is expected to decrease to a level of above €4.5 billion. For 2025, we expect around €8 billion in free cash flow.

We intend to repay €500 million in Eurobonds in 2021. In addition, we plan to repay the full or portions of the currently outstanding €1.25 billion Qualtrics acquisition term loan. The ratio of net debt as at December 31, 2020, of around €6.5 billion divided by the total of operating profit (IFRS) plus depreciation and amortization was below 0.8. For the years beyond 2021, we expect to reduce gross debt in line with our current maturity profile.

Non-Financial Goals 2021 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 2021 through 2025, we aim to maintain employee engagement, as measured by the Employee Engagement Index, at a high level between 84% and 86% (2020: 86%).

We measure customer loyalty using the Customer Net Promoter Score (Customer NPS). We are targeting to increase the Customer NPS to a score of 5 to 10 in 2021 and to steadily increase the Customer NPS through 2025 (2020: 4).

We aim to reach net greenhouse gas emissions of 145 kilotons (kt) in 2021 (2020: 135 kt) with a steady decrease further on, reaching 0 kt by 2023 and maintaining a net-zero carbon footprint from that point onward.

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.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

Supervisory Board

The current members of the Supervisory Board of SAP SE, each member's principal occupation, the year in which each was first elected and the year in which the term of each expires, respectively, are as follows:

Name	Age	Principal Occupation	Year First Elected	Year Term Expires
Prof. Dr. h.c. mult. Hasso Plattner, Chairman(1)(3)(6)(7)	77	Chairman of the Supervisory Board	2003	2022
Margret Klein-Magar, Vice Chairperson(2)(3)(4)	56	Employee, Vice President, Head of SAP Alumni Relations	2012	2024
Pekka Ala-Pietilä(1)(3)(7)(8)	64	Chairman of the Board of Directors, Huhtamaki Oyj	2002	2022
Panagiotis Bissiritsas(2)(3)(4)(5)	52	Employee, Member of SAP SE Works Council and Member of SAP SE Works Council (Europe)	2007	2024
Aicha Evans(1)(3)(6)(8)	52	Chief Executive Officer and Member of the Board of Directors, Zoox, Inc.	2017	2024
Prof. Dr. Gesche Joost(1)(6)(8)	46	Professor for Design Research and Head of the Design Research Lab, University of Arts Berlin	2015	2023
Monika Kovachka-Dimitrova(2)(6)(8)	45	Employee, Chief Project Expert Development, Member of SAP SE Works Council (Europe)	2019	2024
Lars Lamadé(2)(3)(6)	49	Employee, Head of Sponsorships Europe and Asia	2002	2024
Bernard Liautaud(1)(3)(6)(7)	58	Managing Partner Balderton Capital	2008	2023
Dr. Qi Lu(10)	59	CEO, MiraclePlus	2020	2021
Gerhard Oswald(1)(4)(5)(6)(7)	67	Managing Director of Oswald Consulting GmbH	2019	2024
Christine Regitz(2)(3)(5)(6)	54	Employee, Vice President User Experience, Chief Product Expert	2015	2024
Dr. Friederike Rotsch(1)(3)(4)(5)	48	Group General Counsel and Head of Group Legal & Compliance, Merck KGaA	2018	2024
Heike Steck(2)(6)(8)	59	Employee, Senior Operations Manager, Member of SAP SE Works Council and Member of SAP SE Works Council (Europe)	2019	2024
Christa Vergien-Knoppf(2)(6)(8)	59	Employee, Member of SAP SE Works Council and Member of SAP SE Works Council (Europe)	2019	2024
Dr. Gunnar Wiedenfels(1)(4)(5)(9)	43	Chief Financial Officer, Discovery, Inc.	2019	2022
James Wright(2)(4)(5)(6)	58	Employee, Chairman of the SE Works Council (Europe)	2019	2024
Ralf Zeiger(2)(3)(8)	52	Employee, Chairman of SAP SE Works Council and Member of SAP SE Works Council (Europe)	2019	2024

(1) Elected by SAP SE's shareholders on May 15, 2019.

(2) Appointed by the SAP SE Works Council Europe on April 3, 2019.

(3) Member of the General and Compensation Committee.

(4) Member of the Audit Committee.

(5) Member of the Finance and Investment Committee.

(6) Member of the Technology and Strategy Committee.

(7) Member of the Nomination Committee.

(8) Member of the People and Organization Committee.

(9) Audit Committee financial expert.

(10) Appointed by the Court on December 21, 2020 for a limited term up to the close of the General Meeting of Shareholders on May 12, 2021, as required by German Law. Dr. Lu was appointed to replace Diane Greene who resigned her seat on the Supervisory Board with effect as of December 9, 2020.

For detailed information on the Supervisory Board committees and their tasks, including the Audit Committee and the General and Compensation Committee, please refer to "[Item 10 Additional Information – Corporate Governance](#)".

Pursuant to the Articles of Incorporation of SAP SE and the Agreement on the Involvement of Employees in SAP SE, members of the Supervisory Board of SAP SE consist of nine representatives of the shareholders and nine representatives of the European

employees. The current nine employees' representatives were appointed by the SAP SE Works Council Europe on April 3, 2019.

Certain current members of the Supervisory Board of SAP SE were members of supervisory boards and comparable governing bodies of enterprises other than SAP SE in Germany and other countries as of December 31, 2020 See [Note \(G.4\)](#) to our Consolidated Financial Statements for more detail. Apart from pension obligations for employees, SAP SE has not entered into contracts with any member of the Supervisory Board that provide for benefits upon a termination of the employment or service of the member.

Executive Board

The current members of the Executive Board, the year in which each member was first appointed and the year in which the term of each expires, respectively, are as follows:

Name ⁽¹⁾	Year First Appointed	Year Current Term Expires
Christian Klein, CEO	2018	2025
Sabine Bendiek	2021	2023
Luka Mucic	2014	2026
Jürgen Müller ⁽¹⁾	2019	2022
Scott Russell	2021	2024
Thomas Saueressig	2019	2022
Julia White	2021	2024

⁽¹⁾ On February 24, 2021 the Supervisory Board extended the contract of Jürgen Müller, Chief Technology Officer and member of the SAP Executive Board, for three years through the end of 2024.

A description of the management responsibilities and backgrounds of the current members of the Executive Board are as follows:

Christian Klein, CEO (Vorstandssprecher), 40 years old, holds a diploma in international business administration from the University of Cooperative Education in Mannheim, Germany. He joined SAP in 1999 and became a member of the Executive Board in 2018. On October 10, 2019 he became co-CEO alongside Jennifer Morgan and on April 20, 2020 he was appointed sole CEO. Christian is Chief Operating Officer (COO) of SAP and oversees corporate development and strategy, security and secrecy, as well as compliance.

Sabine Bendiek, 54 years old, holds a graduate degree in management science from the Massachusetts Institute of Technology (MIT) and a business administration degree from University of Mannheim, Germany. She first joined SAP in January 2021 as member of the Executive Board. Sabine is Chief People Officer with global responsibility for Human Resources including HR strategy, business transformation, leadership development, and talent development. She also serves as Labor Relations Director. Before joining SAP, Sabine was Managing Director of Microsoft Germany.

Luka Mucic, 49 years old, holds a degree in law from the University of Heidelberg, Germany, and a joint executive MBA from ESSEC, France, and Mannheim Business School, Germany. He joined

SAP in 1996 and became Chief Financial Officer (CFO), and a member of the Executive Board in July 2014. He is responsible for finance and administration including investor relations, internal audit, data protection and privacy as well as business process intelligence.

Jürgen Müller, 38 years old, holds a PhD in IT systems engineering from the Hasso Plattner Institute (HPI) for Software Engineering, University of Potsdam, Germany. He joined SAP in 2013 and became a member of the Executive Board in 2019. Jürgen is Chief Technology Officer (CTO) of SAP and leads the board area Technology and Innovation. He is responsible for the technology and innovation strategy, HANA database, SAP Cloud Platform, Analytics, and cloud infrastructure. Before joining SAP, Jürgen was co-representative of Hasso Plattner's research chair at the HPI.

Scott Russell, 48 years old, is a graduate of Australia's Deakin University. He joined SAP in 2010 and became a member of the Executive Board in 2021. He leads Customer Success, SAP's global commercial, partner and customer engagement organization. Prior to being named to the Executive Board, Scott most recently served as President of SAP Asia Pacific Japan (APJ). Before joining SAP, he was a Partner at PwC and a senior executive at IBM Corp.

Thomas Saueressig, 35 years old, holds a degree in Business Information Technology from the University of Cooperative Education in Mannheim, Germany, and a joint executive MBA from ESSEC, France, and Mannheim Business School, Germany. He joined SAP in 2004 and became a member of the Executive Board in 2019. Thomas leads the Board area SAP Product Engineering and has global responsibility for all SAP applications, cloud operations and product support, cross-development functions as well as enterprise cloud services.

Julia White, 47 years old, holds a master of business administration from Harvard Business School, Boston, USA. She first joined SAP in March 2021 as member of the Executive Board. Julia is Chief Marketing and Solutions Officer and is responsible for global and regional marketing, global corporate affairs, and government affairs. Before joining SAP, Julia was Corporate Vice President of Microsoft Corp., responsible for product marketing for Azure, Windows server and other cloud products.

The members of the Executive Board of SAP SE as of December 31, 2020 that are members on other supervisory boards and comparable governing bodies of enterprises, other than SAP, in Germany and other countries, are set forth in [Note \(G.4\)](#) to our Consolidated Financial Statements. SAP SE has not entered into contracts with any member of the Executive Board that provide for benefits upon a termination of the employment of service of the member, apart from pensions, benefits payable in the event of an early termination of service, and abstention compensation for the postcontractual noncompete period.

To our knowledge, there are no family relationships among any of the Supervisory Board and Executive Board members.

Compensation Report

Compensation for Executive and Supervisory Board Members

This compensation report describes the two compensation systems, outlines the criteria that apply to the compensation for the year 2020, and discloses the amount of compensation. Both compensation systems were approved by the Annual General Meeting on May 20, 2020.

Compensation for Executive Board Members

Compensation System for 2020

The compensation for Executive Board members is intended to reflect the demanding role of Executive Board members leading a global company in a rapidly evolving sector. The compensation level is aimed to be competitive to support SAP in the global market for highly skilled executives, especially in the context of the international software industry. It is our goal that our Executive Board compensation provides sustainable incentive for committed, successful work in a dynamic business environment.

The Supervisory Board – supported by its General and Compensation Committee – determines the compensation for each Executive Board member based on their individual role and performance in its first regular meeting of each fiscal year, following the principles that the compensation:

- Promotes the business strategy
- Ensures that extraordinary performance is appropriately rewarded and any failure to achieve specific targets triggers a tangible reduction in the compensation
- Is in line with market standards in terms of its level and structure and reflects the Company's size, complexity, and economic situation
- Takes account of the pay structure in the Company as a whole. In this context, the compensation is compared with the pay of SAP executives and non-executive SAP employees to ensure that the principle of proportionality is observed within SAP.

The compensation system is, to a major extent, already aligned with the compensation agreements currently in place, with the exception of a few provisions relating to fringe benefits and/or pension commitments. When, in future, new members are appointed or members are reappointed, the Supervisory Board will ensure that the specific total compensation is aligned with the compensation system.

The compensation contains performance-based elements and non-performance-based elements, as follows:

Compensation

Non-performance-based compensation

Fixed compensation

Fringe benefits

Retirement pension

Performance-based compensation

STI – Short-term incentive

LTI – Long-term incentive

The amount of performance-based compensation depends primarily on SAP's performance against predefined target values (Key Performance Indicators, KPIs) and on the SAP share price, and is subject to hurdles and caps. These KPIs and their target values as well as their weighting are set by the Supervisory Board each year and are aligned to the SAP budget for that year or to SAP's externally communicated financial ambitions.

The Supervisory Board sets the individual total target compensation for each Executive Board member, comprised of the fixed compensation element and the two performance-based elements. This target compensation is benchmarked based on SAP's global strategy, market position, business performance and future prospects of economy, and the compensation paid at comparable national and international companies. The benchmarking was conducted in February 2020 based on the compensation data from the DAX 30 companies as well as U.S.-based IT and other technology companies¹. The performance-based elements each correspond to a target achievement of 100% of all KPIs. The Supervisory Board reviews, assesses, and sets these compensation targets, in its first meeting of each fiscal year (February 19, 2020, for 2020). The Supervisory Board is of the opinion that this approach ensures that the compensation is appropriate.

¹ The following US-based companies were included: Adobe, Amazon.com, Apple, Automatic Data Processing, Cisco Systems, Cognizant Technology Solutions, Dell Technologies, DXC Technology, Facebook, Hewlett Packard Enterprise, International Business Machines, Microsoft, Netflix, Oracle, salesforce.com, ServiceNow, VMware, Western Digital, Workday.

The compensation system is designed to support the growth in value for the Company over the long term. The long-term incentive element therefore has significant weighting, making up about two-thirds of the CEO's compensation target, and more than 50% of each Executive Board member's compensation target.

In the case of any extraordinary, unforeseeable events, the Supervisory Board is entitled, at its reasonable discretion, to adjust the performance-based compensation before payout upwards or downwards in the interest of SAP. This discretion is limited to +/-20% for the STI and to +/-10% for the LTI. No corrections to the payout amounts paid in May 2020 were made.

The individual elements of SAP's Executive Board compensation are described in more detail below.

Non-Performance-Based Compensation

Fixed Compensation

The fixed compensation is paid monthly in 12 equal installments in the Executive Board member's home currency².

Fringe Benefits

The contractually guaranteed fringe benefits mainly comprise additional benefits such as insurance contributions, benefits in kind, expenses for maintenance of two households, use of aircraft, and tax gross-ups according to local conditions. The recurring fringe benefits are limited in terms of value to 10% of fixed compensation for ordinary Executive Board members and to 20% for the CEO. Executive Board members who have their permanent residence abroad are granted reimbursement of expenses for tax advice with a limited value of 15% of fixed compensation for ordinary Executive Board members and 30% for the CEO. In case of a relocation to Germany from abroad, a relocation package of up to 15% of fixed compensation for ordinary Executive Board members and up to 30% for the CEO can be granted.

Additionally, to the extent that compensation benefit earned prior moving to the SAP Executive Board is lost due to this move, a one-off payment (sign-on bonus) could be granted in an amount of up to 200% of the fixed compensation.

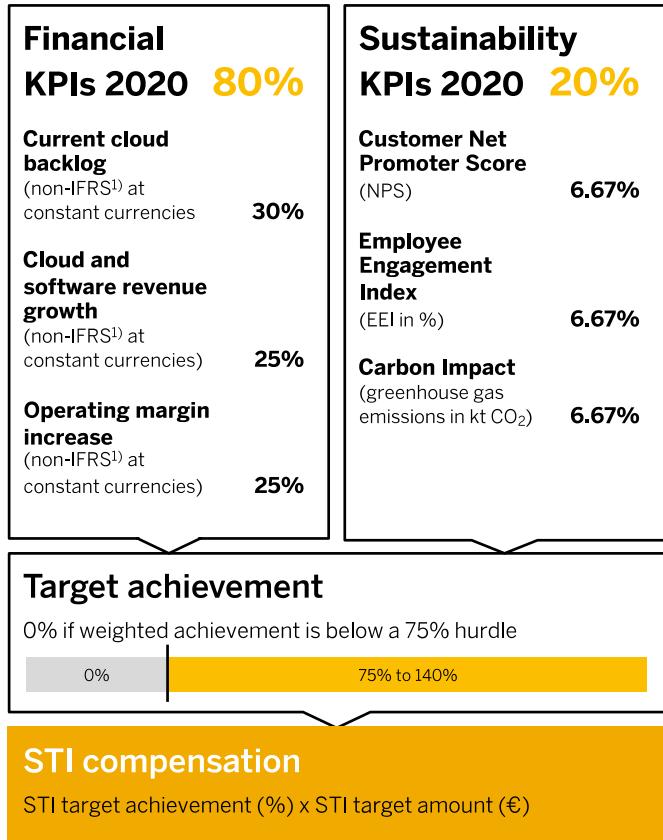
Retirement Pension

The retirement pension plan that applies at SAP is based on defined contributions. For Executive Board members whose permanent place of residence is abroad, SAP may specify a retirement pension plan that applies for employees at a company belonging to the SAP Group in the relevant country, limited to 30% of fixed compensation.

² Home currency is the currency of the Executive Board member's primary place of residence.

Performance-Based Compensation

Short-Term Incentive



¹ Based on SAP's non-IFRS metrics as defined for use in SAP's 2019 full-year external financial reporting

The short-term, one-year performance-based compensation (Short-Term Incentive, STI) is determined based on a set of financial targets (financial KPIs) and sustainability targets (sustainability KPIs).

For the STI 2020, the financial KPIs have a total weighting of 80% and comprise non-IFRS constant currency current cloud backlog in 2020; year-over-year growth in non-IFRS constant currency cloud and software revenue in 2020; and non-IFRS constant currency operating margin development in 2020 year over year.

The sustainability KPIs have a total weighting of 20%, and comprise Customer Net Promoter Score, which measures SAP's customer loyalty; Employee Engagement Index, which measures SAP's employee commitment, pride, and loyalty; and Carbon Impact, which measures SAP's greenhouse gas emissions.

The KPIs and their respective target values are derived from SAP's budget for the respective year. For more information about KPIs, see the *Performance Management System* section.

If the weighted target achievement is below 75%, there is no STI payout. In this case, the target achievement for these KPIs is set to zero. As of the 2021 financial year, the percentage required for total target achievement will be reduced from 75% to 50%.

On February 24, 2021, the Supervisory Board assessed SAP's performance against the agreed targets and determined the amount of the STI 2020 for the entire Executive Board. The target achievement is based on targets set in February 2020. These targets were not adjusted despite significant negative impacts of COVID-19 on SAP's business performance leading to external guidance being lowered during the course of the year. The target achievement was as follows:

- 69.5% for cloud and software revenue growth (100% target equals +7.0%),
- 100.0% for operating margin increase (100% target equals +60 bp to +92 bp),
- 0% for current cloud backlog (100% target equals €8,215 million) due to a target achievement below the 50% hurdle,
- 105.7% for customer Net Promoter Score (100% target equals a change of -3 points to +3 points),
- 116% for Employee Engagement Index (100% target equals 84%), and
- 140% for Carbon Impact (100% target equals 238 kt CO₂).

As the weighted target achievement of 66.5% for the KPIs is below the 75% hurdle, there is no STI payout.

Long-Term Incentive

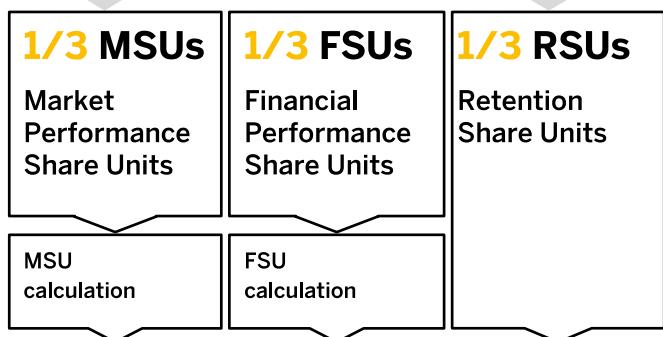
The Supervisory Board introduced a new long-term multi-year performance-based compensation plan effective from January 1, 2020, and onwards: the SAP Long-Term Incentive Program 2020 (LTI 2020). The LTI 2020 is awarded in annual tranches and reflects SAP's long-term strategy and thus sets uniform incentives 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 designed 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 awarded, a certain grant amount specified in the Executive Board member's service contract is converted into virtual shares (Share Units) in each case. The grant amount cannot exceed 700% of the fixed compensation (based on the relevant euro amounts when determining the specific compensation). For this purpose, the grant amount is divided by the SAP share price, which corresponds to the arithmetic mean on the 20 trading days after scheduled publication of the preliminary results for the fourth quarter and the year as a whole (grant price). In 2020, the preliminary results were published on January 28, 2020. The Share Units so 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 Unit have a vesting period of approximately four years.

LTI Grant Process

Grant amount is converted into Share Units

$$= \text{grant amount (€)} \div \text{grant price (€)}$$



Payout after four years

$$\begin{aligned} &\text{Final number of all Share Units} \\ &x (\text{payout price (€)} + \text{dividend amount per share (€)}) \\ &\text{Cap of payout per share} = 200\% \text{ of grant price} \end{aligned}$$

In contrast to RSUs, FSUs and MSUs are subject to numerical changes. Moreover, FSUs, MSUs, and RSUs may be forfeited in whole or in part. In this context, the following applies:

Numerical Change in FSUs

The final number of FSUs changes depending on SAP's performance against the three equally weighted financial KPI targets over the entire three-year performance period. The financial KPIs for the FSU tranche granted for 2020 are derived from SAP's communicated mid-term ambition for 2023 as published in April 2019. Cloud revenue and total revenue have a cap of 120% and a hurdle of 80% target achievement, while operating income has a cap of 110% and a hurdle of 90% target achievement.

1/3 FSUs Originally granted

SAP's financial target achievement

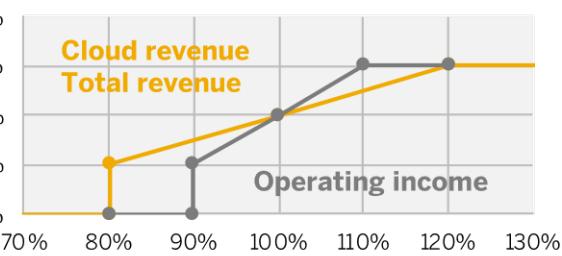
100% = SAP achieves 100% of the three equally weighted financial targets

1/3
Cloud revenue
(non-IFRS¹⁾ at constant currencies)

1/3
Total revenue
(non-IFRS¹⁾ at constant currencies)

1/3
Operating income
(non-IFRS¹⁾ at constant currencies)

resulting in a
Financial performance factor



Final number of FSUs after three years

Originally granted number x financial performance factor (%)

¹⁾ Based on SAP's non-IFRS metrics as defined for use in SAP's 2019 full-year external financial reporting.

The following examples of the FSU calculation illustrate possible outcomes assuming 1,000 FSUs granted:

SAP financial performance is better than targets

Total revenue performance factor	100%
Cloud revenue performance factor	125%
Operating income performance factor capped at	150%
Financial performance factor	$(100\% + 125\% + 150\%) / 3$
Final number of FSUs	$125\% \times 1,000$

SAP financial performance does not meet the targets

Total revenue performance factor below 50%	0%
Cloud revenue performance factor	65%
Operating income performance factor	100%
Financial performance factor	$(0\% + 65\% + 100\%) / 3$
Final number of FSUs	$55\% \times 1,000$

Numerical Change in MSUs

The number of MSUs initially awarded is likewise multiplied by a performance factor. The performance factor depends on the amount of the total shareholder return (TSR) on the SAP share, measured for an entire performance period of approximately three years, and ranked in relation to the TSR performance of the companies of the NASDAQ-100 Index (Index). TSR means the performance of the share, combining share price development and granted and reinvested dividends. The market performance factor has a cap at 150% at the 75th percentile (P-75) and a hurdle of 50% at 25th percentile (P-25); below the hurdle, no MSUs are considered.

1/3 MSUs Originally granted

TSR performance: SAP relative to Index

100% = SAP is ranked to the median of the index companies

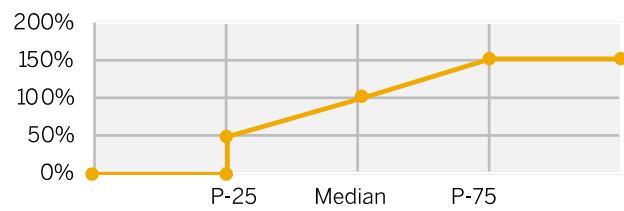
Index TSR performs better than SAP TSR

SAP is ranked less than the **median** of the index companies

SAP TSR performs better than Index TSR

SAP is ranked better than the **median** of the index companies.
Performance factor is only higher than 100% when SAP TSR performance is positive.

resulting in a
Market performance factor



Final number of MSUs after three years

Originally granted number x market performance factor (%)

The following examples of the MSU calculation illustrate possible outcomes assuming 1,000 MSUs granted:

SAP TSR performs better than TSR of NASDAQ-100 companies

SAP TSR performance	+10%
Performance factor	55th percentile 110%
Final number of MSUs	110% x 1,000 1,100

SAP TSR performs better than TSR of NASDAQ-100 companies; cap is triggered

SAP TSR performance	+18%
Performance factor	80th percentile 160%
	Cap 75th percentile 150%
Final number of MSUs	150% x 1,000 1,500

SAP TSR performs better than TSR of NASDAQ-100 companies; in a downwards market trend

SAP TSR performance	-5%
Performance factor	60th percentile 120%
	Cap due to required positive performance 100%
Final number of MSUs	100% x 1,000 1,000

TSR of NASDAQ-100 companies performs better than SAP TSR; low hurdle is triggered

SAP TSR performance	-5%
Performance factor	20th percentile 40%
	Hurdle 25th percentile 0%
Final number of MSUs	0% x 1,000 0

Payout of FSUs, RSUs, and MSUs

The value of the existing FSUs, MSUs, and RSUs will be paid out in euros following the Annual General Meeting of SAP, which accepts the financial statements for the third financial year following the financial year in which the Share Units were awarded. 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 (subject to the specifics described below) which equals the then-current SAP share price plus those dividends that were 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 payout price.

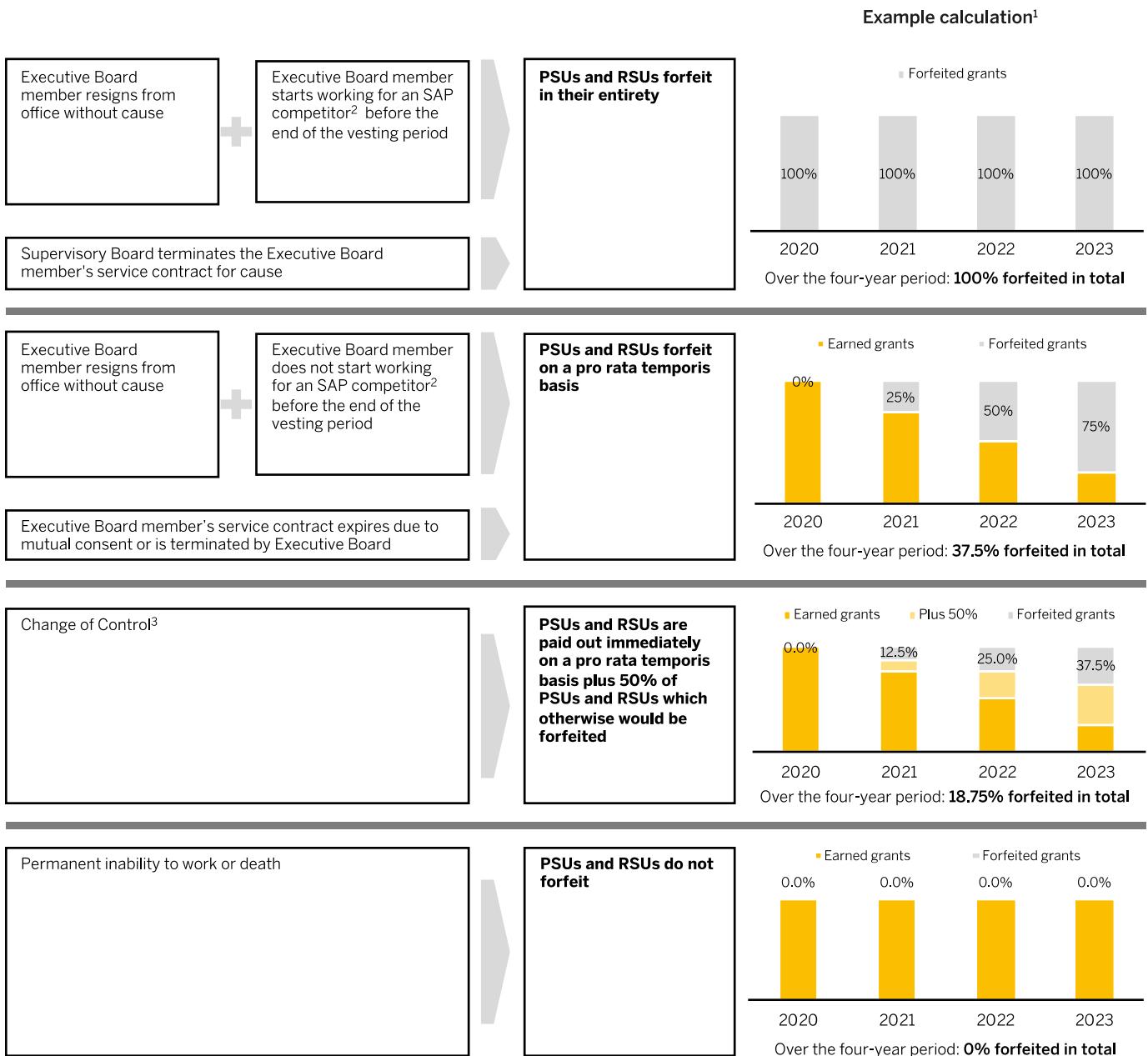
The payout amount per Share Unit, including the dividend amounts due on the Share Units, is capped at 200% of the grant price. Due to the potential change in the number of FSUs and MSUs, the maximum possible payout amount under any of the annual tranches of the LTI 2020 thus equals, arithmetically, approximately 267% of the grant amount. Any potential foreign currency exchange rate risk is borne by the Executive Board members themselves.

However, all types of Share Unit may expire during the entire term of a tranche under certain conditions.

LTI Forfeiture Rule

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 PSUs (FSUs, MSUs) and RSUs are forfeited in whole or in part, depending on the circumstances of the relevant resignation from office or termination of the service contract. In case Share Units are forfeited in part, the percentage of the forfeiture is proportional to the four-year vesting period of each grant. This means that 25% of the grant is earned each year of the vesting period. Unearned grants are forfeited.

LTI Forfeiture Rules



¹ Example calculation with four tranches (grant allocation of 100%, stable share price from grant to vest, and no consideration of performance condition); Executive Board member's contract terminates after year four (December 31, 2023).

² As defined in the individual Executive Board members' contracts.

³ For the definition, see the [Early End-of-Service Undertakings](#) section.

Foreign Currency Exchange Rate Cap

Where the fixed compensation and the STI are paid out in the Executive Board member's home currency, the total (gross) payout amount resulting from the fixed compensation and the STI for a financial year is limited to a maximum euro equivalent in case of exchange rate fluctuations. The euro cap for a full financial year equals 120% each for the sum of the fixed compensation and STI

target amount converted into euro plus 20% of the grant amount for a tranche under the LTI 2020.

Target and Maximum Compensation

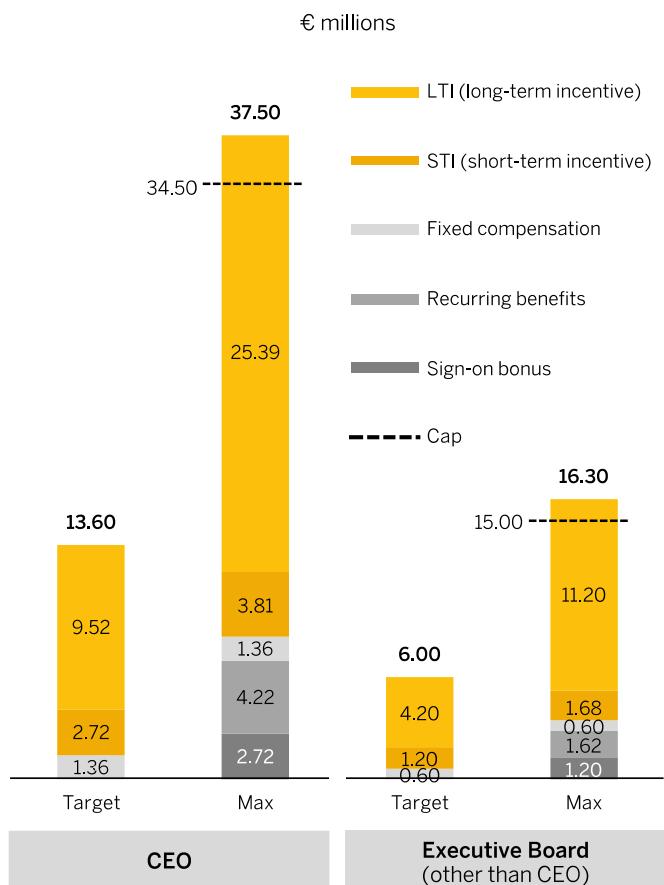
The compensation system allows for total target compensation (not considering any fringe benefits, retirement pension, and foreign currency exchange rate cap) of up to €6.0 million for ordinary Executive Board members and up to €13.6 million for the CEO.

The proportion of total target compensation consisting of fixed compensation, the STI, and the LTI (without fringe benefits and retirement pension) must be within the following ranges:

- Fixed compensation: 10% to 20%
- STI: 20% to 30%
- LTI: 50% to 70%

Maximum compensation is the maximum amount which may be paid to an Executive Board member in total for a financial year. The maximum compensation (not considering any fringe benefits, retirement pension, and foreign currency exchange rate cap) is €13.2 million for ordinary Executive Board members and €29.8 million for one CEO. The maximum total compensation including all maximum possible fringe benefits, is €15.0 million for ordinary Executive Board members and €34.5 million for one CEO. When determining the compensation structure and the target compensation for the individual members of the Executive Board, the Supervisory Board must ensure that the potential payments, taking the STI and LTI caps into account, cannot exceed the maximum compensation and the maximum total compensation.

To illustrate the maximum total compensation, the LTI is allocated as high as the defined ranges allow, and the fixed compensation is allocated as low as the defined ranges allow. For this purpose, the recurring benefits include retirement pension, foreign currency exchange rate cap, and other fringe benefits.



Clawback Provisions

SAP has the contractual right to request that the Executive Board member returns any payments made from the STI or LTI if it subsequently emerges that the payment was not justified in whole or in part because targets were not achieved at all or not achieved in the scope assumed when calculating the payment amount due on account of false information having been provided. In such case, the Executive Board member is obliged to repay to SAP the amount by which the payment actually made exceeds the payment amount due on the basis of the targets actually achieved. Such contractually agreed claim to repayment supplements the claim for restitution of unjustified enrichment pursuant to section 812 of the German Civil Code (BGB).

Offsetting Compensation in Case of Roles Assumed Inside and Outside the Group

At the request of the Supervisory Board, the Executive Board member will assume roles on the supervisory board or similar bodies at affiliates of SAP without receiving separate compensation. If, in exceptional cases, it is impossible to rule out compensation for a role assumed within the Group, it will be offset against the other compensation due to the Executive Board member. The Supervisory Board has to agree before an Executive Board member assumes any roles on supervisory boards or similar bodies at companies outside the Group and will decide in the individual case whether and to what extent any compensation is to be offset against compensation paid by SAP.

Adjustment of Compensation

Based on the annual compensation review, the Supervisory Board may reduce the total compensation or individual compensation components, but only in the scope required by applicable law. No adjustments were made in 2020.

In its February meeting, the Supervisory Board resolved granting and payout of supplementary compensation, as permitted under the Compensation system in exceptional situations. Despite unprecedented challenges posed by the COVID-19 pandemic, related restrictions, and the ensuing economic crisis, the Executive Board exhibited extraordinary performance, ensuring the company remains profitable and positioned for long-term, sustainable success.

Specifically, the Executive Board members responded swiftly to the dynamic situation, ensuring the safety of employees, partners and customers while safeguarding business continuity, amongst others, by facilitating virtual sales and remote implementations. A Pandemic Taskforce was set-up to stay close to employee needs and ensure their well-being, including through mental health initiatives. This focus on customers and employees is reflected in an increase of the Customer Net Promoter Score (NPS) by 10 points and an increase in Employee Engagement Index. In a completely virtual setting, the Executive Board increased the speed of transformation for SAP. The IPO of Qualtrics and the strategic partnership with Microsoft Teams are just two examples. The Executive Board did not reduce employee hours, consider lay-offs, or accept large state aid packages. It safeguarded profitability by ensuring cloud and software revenue growth and applying cost-savings measures where appropriate, which have increased the Company's operating profit. In 2020, the company exceeded all revised 2020 revenue targets and hit the high end of its operating profit outlook, even as the

COVID-19 crisis persisted. In fact, except for cloud revenue the company ultimately reached the guidance provided in April 2020. Cloud revenue continued to be the major growth driver, growing 18% at constant currencies. This was impacted by a decline in transactional revenue in the Intelligent Spend business mainly due to a decrease in business travel. Excluding this, cloud revenue growth across the Company's Software-as-a-Service and Platform-as-a-Service Cloud solutions was 27% at constant currencies.

In addition, the company achieved record cash flow results with a 106% increase in Operating Cash Flow and a 164% increase in Free Cash Flow, paid an increased dividend (55% payout ratio) and completed a €1.5 billion share buyback program in 2020. The Supervisory Board considers the supplementary compensation a positive signal to current and future members of the Executive Board, presenting an opportunity to strengthen their commitment to SAP and contributing to safeguarding the Company's long-term success.

The Supervisory Board decided on the supplementary compensation for: Christian Klein (€1,100,000), Adaire Fox-Martin (€800,000), Luka Mucic (€700,000), Juergen Mueller: (€700,000), and Thomas Saueressig (€700,000). The supplementary compensation will be paid out after the Annual General Meeting of Shareholders in May 2021. All Executive Board members are obliged to purchase SAP shares worth at least the net payout amount in accordance with appropriate trading period regulations. These shares are subject to a three-year holding period.

Overview of the Relations Between Target and Payout for Performance-Based Compensation

The total target achievements of the STI reflect the relation between the target amount and the payout amount. The STIs for the years 2016 to 2019 were already paid out.

STI Total Target Achievement

Percentage	2020	2019	2018	2017	2016
	0	82.4	93.0	88.2	104.4

The relation between the LTI target amounts for the 2017 to 2020 tranches and the theoretical payout amounts are based on SAP's share price at year end. The 2016 tranche discloses the relation between the respective target amount and the actual payout amount in May 2020. The payout price for the tranche 2016 was calculated as the average share price between January 29 and February 25, 2020.

Relation Between Target Amount and Payout Amount of the LTI

Percentage	LTI 2020	LTI 2016 Plan				
		2020 Tranche ¹	2019 Tranche ¹	2018 Tranche ¹	2017 Tranche ¹	2016 Tranche
12/31/2020	45.5	100.9	48.0	49.9	79.2	
12/31/2019	NA	156.6	126.4	110.5	138.7	

¹Consideration of theoretical payout amounts based on SAP's share price at year end

Amount of Compensation for 2020

We present the Executive Board compensation disclosures in accordance with the recommendations of the German Corporate Governance Code ("GCGC"). Furthermore, the tables below provide a reconciliation statement following the requirements of sections 314 and 315 of the German Commercial Code (*Handelsgesetzbuch*, or "HGB") as specified in the German Accounting Standards ("GAS 17"). Pursuant to the recommendations of the GCGC, the value of benefits granted for the year under review as well as the benefits received, that is, the amounts disbursed for the year under review, are disclosed below based on the reference tables recommended in the GCGC (version 2017). In contrast to the disclosure rules stipulated in the German HGB and GAS 17, the GCGC includes the pension expense, that is, the service cost according to IAS 19, in the Executive Board compensation and requires the additional disclosure of the target value for the one-year variable compensation and the maximum and minimum compensation amounts achievable for the variable compensation elements.

Executive Board Members' Compensation

German Corporate Governance Code

	Christian Klein CEO						Adaire Fox-Martin Member of the Executive Board					
	Benefits Granted			Benefits Received			Benefits Granted			Benefits Received		
	2020	2020 (Min)	2020 (Max)	2019	2020	2019	2020	2020 (Min)	2020 (Max)	2019	2020	2019
Fixed compensation	1,100.0	1,100.0	1,100.0	789.9	1,100.0	789.9	800.0	800.0	800.0	700.0	800.0	700.0
Fringe benefits ²	17.9	17.9	17.9	14.8	17.9	14.8	28.3	28.3	28.3	31.0	28.3	31.0
Total	1,117.9	1,117.9	1,117.9	804.7	1,117.9	804.7	828.3	828.3	828.3	731.0	828.3	731.0
Supplementary compensation	1,100.0	1,100.0	1,100.0				800.0	800.0	800.0			
One-year variable compensation	1,900.0	0	2,660.0	1,301.8	1,072.7	1,046.9	1,200.0	0	1,680.0	1,125.8	927.6	1,046.9
Multi-year variable compensation												
LTI 2020	5,095.8	0	14,667.0				3,705.9	0	10,666.6			
LTI 2016 Plan				3,407.9						2,823.1		
RSU Milestone Plan 2015												
Total	9,213.7	2,217.9	19,544.9	5,514.4	2,190.6	1,851.6	6,534.2	1,628.3	13,974.9	4,679.9	1,755.9	1,777.9
Service cost												
Total according to GCGC	9,213.7	2,217.9	19,544.9	5,514.4	2,190.6	1,851.6	6,534.2	1,628.3	13,974.9	4,679.9	1,755.9	1,777.9
€ thousands	Michael Kleinemeier Member of the Executive Board (until 4/30/2020)						Jennifer Morgan Co-CEO and Member of the Executive Board (until 4/30/2020)					
	Benefits Granted			Benefits Received			Benefits Granted			Benefits Received		
	2020	2020 (Min)	2020 (Max)	2019	2020	2019	2020 ¹	2020 (Min)	2020 (Max)	2019 ¹	2020 ¹	2019 ¹
Fixed compensation	233.3	233.3	233.3	700.0	233.3	700.0	353.1	353.1	353.1	762.1	353.1	762.1
Fringe benefits ²	1.3	1.3	1.3	29.0	1.3	29.0	106.4	106.4	106.4	125.8	106.4	125.8
Total	234.6	234.6	234.6	729.0	234.6	729.0	459.5	459.5	459.5	887.9	459.5	887.9
Supplementary compensation												
One-year variable compensation	1,125.8	0	1,576.1	1,125.8	927.6	1,046.9	1,703.2	0	2,384.5	1,251.5	1,031.2	978.4
Multi-year variable compensation												
LTI 2020	2,199.6	0	6,330.9				5,095.8	0	14,667.0			
LTI 2016 Plan				2,387.0	1,880.1					3,731.2		
RSU Milestone Plan 2015						473.8						
Total	3,560.0	234.6	8,141.6	4,241.7	3,042.3	2,249.7	7,258.5	459.5	17,511.0	5,870.5	1,490.7	1,866.2
Service cost							1.1	1.1	1.1	104.6	1.1	104.6
Total according to GCGC	3,560.0	234.6	8,141.6	4,241.7	3,042.3	2,249.7	7,259.6	460.6	17,512.1	5,975.1	1,491.8	1,970.8

German Corporate Governance Code

€ thousands	Luka Mucic Member of the Executive Board												Juergen Mueller Member of the Executive Board											
	2020		2020 (Min)		Benefits Granted 2020 (Max)		Benefits Received 2020 (Max)		2020		2020 (Min)		Benefits Granted 2020 (Max)		2020		2020 (Max)		2019		2019			
	2020	2020	2020	2020	2019	2019	2020	2020	2020	2020	2020	2020	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	
Fixed compensation	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0		
Fringe benefits ²	15.7	15.7	15.7	12.0	15.7	12.0	18.7	18.7	18.7	18.7	18.7	18.7	13.5	18.7	13.5	18.7	13.5	18.7	13.5	18.7	13.5	18.7	13.5	
Total	715.7	715.7	715.7	712.0	715.7	712.0	718.7	718.7	718.7	718.7	718.7	718.7	713.5	718.7	713.5	718.7	713.5	718.7	713.5	718.7	713.5	718.7	713.5	
Supplementary compensation	700.0	700.0	700.0				700.0	700.0	700.0															
One-year variable compensation	1,125.8	0	1,576.1	1,125.8	927.6	1,046.9	1,125.8	0	1,576.1	1,125.8	927.6													
Multi-year variable compensation																								
LTI 2020	2,199.6	0	6,330.9				2,014.4	0	5,798.0															
LTI 2016 Plan				2,387.0	1,880.1																			2,185.8
RSU Milestone Plan 2015						3,732.5																		
Total	4,741.1	1,415.7	9,322.7	4,224.7	3,523.4	5,491.4	4,558.9	1,418.7	8,792.8	4,025.1	1,646.3	713.5												
Service cost																								
Total according to GCGC	4,741.1	1,415.7	9,322.7	4,224.7	3,523.4	5,491.4	4,558.9	1,418.7	8,792.8	4,025.1	1,646.3	713.5												
€ thousands	Stefan Ries Member of the Executive Board (until 5/31/2020)												Thomas Saueressig Member of the Executive Board											
	2020		2020 (Min)		Benefits Granted 2020 (Max)		Benefits Received 2020 (Max)		2020		2020 (Min)		Benefits Granted 2020 (Max)		2020		2020 (Max)		2019		2020		2019	
	2020	2020	2020	2020	2019	2019	2020	2020	2020	2020	2020	2020	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
Fixed compensation	291.7	291.7	291.7	700.0	291.7	700.0	700.0	700.0	700.0	700.0	700.0	700.0	116.7	700.0	116.7	700.0	116.7	700.0	116.7	700.0	116.7	700.0	116.7	
Fringe benefits ²	10.4	10.4	10.4	21.8	10.4	21.8	17.6	17.6	17.6	17.6	17.6	17.6	2.1	17.6	2.1	17.6	2.1	17.6	2.1	17.6	2.1	17.6	2.1	
Total	302.1	302.1	302.1	721.8	302.1	721.8	717.6	717.6	717.6	717.6	717.6	717.6	118.8	717.6	118.8	717.6	118.8	717.6	118.8	717.6	118.8	717.6	118.8	
Supplementary compensation							700.0	700.0	700.0															
One-year variable compensation	1,125.8	0	1,576.1	1,125.8	927.6	1,046.9	1,125.8	0	1,576.1	1,125.8	927.6	0	1,576.1	1,125.8	927.6	0	1,576.1	1,125.8	927.6	0	1,576.1	1,125.8	927.6	
Multi-year variable compensation																								
LTI 2020	769.5	0	2,214.8				2,014.4	0	5,798.0															
LTI 2016 Plan				2,010.7	1,190.0																			515.2
RSU Milestone Plan 2015																								
Total	2,197.3	302.1	4,093.0	3,858.3	2,419.7	1,768.7	4,557.8	1,417.6	8,791.7	822.1	872.6	118.8												
Service cost																								
Total according to GCGC	2,197.3	302.1	4,093.0	3,858.3	2,419.7	1,768.7	4,557.8	1,417.6	8,791.7	822.1	872.6	118.8												

German Corporate Governance Code

€ thousands

Total Executive Board

	Benefits Granted 2020	2019	Benefits Received 2020	2019
Fixed compensation	4,878.1	5,168.6	4,878.1	5,168.6
Fringe benefits ²	216.3	250.0	216.3	250.0
Total	5,094.4	5,418.5	5,094.4	5,418.6
Supplementary compensation	4,000.0	0		
One-year variable compensation	10,432.0	8,370.2	6,896.9	6,213.1
Multi-year variable compensation				
LTI 2020	23,095.0			
LTI 2016 Plan		19,447.9	4,950.2	
RSU Milestone Plan 2015				4,206.3
Total	42,621.4	33,236.6	16,941.5	15,838.0
Service cost	1.1	104.6	1.1	104.6
Total according to GCGC	42,622.5	33,341.2	16,942.6	15,942.6

¹ The value of the fixed and one-year variable compensation is granted in U.S. dollars. For conversion purposes from U.S. dollars into euro, for fixed compensation the average exchange rate and for the one-year variable compensation the year-end exchange rate of the respective period applies.

² Insurance contributions, the private use of company cars and aircraft, benefits in kind, compensation for unused vacation, expenses for maintenance of two households, reimbursement of costs for preparation of tax returns, and tax gross-ups according to local conditions.

Reconciliation Reporting of Total Compensation Pursuant to Section 314(1)(6a) HGB in Connection with GAS 17

€ thousands	Christian Klein		Adaire Fox-Martin		Michael Kleinemeier	
	2020	2019	2020	2019	2020	2019
Total according to GCGC	9,213.7	5,514.4	6,534.2	4,679.9	3,560.0	4,241.7
Less granted annual variable compensation	-1,900.0	-1,301.8	-1,200.0	-1,125.8	-1,125.8	-1,125.8
Plus allocated actual annual variable compensation	0	1,072.7	0	927.6	0	927.6
Less service cost						
Total compensation	7,313.7	5,285.3	5,334.2	4,481.7	2,434.2	4,043.6

€ thousands	Jennifer Morgan		Luka Mucic		Juergen Mueller	
	2020	2019	2020	2019	2020	2019
Total according to GCGC	7,259.6	5,975.1	4,741.1	4,224.7	4,558.9	4,025.1
Less granted annual variable compensation	-1,703.2	-1,251.5	-1,125.8	-1,125.8	-1,125.8	-1,125.8
Plus allocated actual annual variable compensation	0	1,031.2	0	927.6	0	927.6
Less service cost	-1.1	-104.6				
Total compensation	5,555.3	5,650.2	3,615.3	4,026.6	3,433.1	3,826.9

€ thousands	Stefan Ries		Thomas Saueressig		Total Executive Board	
	2020	2019	2020	2019	2020	2019
Total according to GCGC	2,197.3	3,858.3	4,557.8	822.1	42,622.5	33,341.2
Less granted annual variable compensation	-1,125.8	-1,125.8	-1,125.8	-188.1	-10,432.0	-8,370.2
Plus allocated actual annual variable compensation	0	927.6	0	155.0	0	6,896.9
Less service cost					-1.1	-104.6
Total compensation	1,071.6	3,660.1	3,432.0	788.9	32,189.4	31,763.3

Vertical Pay Ratio

The vertical pay ratio compares the total target compensation granted to the CEO and the Executive Board members other than CEO with the total target compensation granted to the Executives and all employees collectively who were employed at year end. In order to ensure comparability, only fixed compensation, one-year and multi-year variable compensation are considered. The Executives comprise the first and second management levels below the Executive Board, that is, the Global Executive Team (GET) and the Senior Executive Team (SET).

2020			
Ratio	CEO	Executive Board (other than CEO)	
	Average Annual Compensation (in € thousands)	8,095.8	4,352.9
Executives	915	9	5
Employees including Executives	103	78	42

2019			
Ratio	Co-CEO ¹	Executive Board (Other Than Co-CEO) ¹	
	Average Annual Compensation (in € thousands)	8,604.5	4,196.4
Executives	915	9	5
Employees including Executives	103	84	41

¹Due to the changes on the Executive Board during 2019, we have annualized the target compensation for our calculation.

2018			
Ratio	CEO	Executive Board (other than CEO)	
	Average Annual Compensation (in € thousands)	10,384.3	3,942.3
Executives	906	11	4
Employees including Executives	99	105	40

2017			
Ratio	CEO	Executive Board (other than CEO)	
	Average Annual Compensation (in € thousands)	11,209.2	3,880.0
Executives	923	12	4
Employees including Executives	101	111	39

2016			
Ratio	CEO	Executive Board (other than CEO)	
	Average Annual Compensation (in € thousands)	11,785.4	4,090.8
Executives	823	14	5
Employees including Executives	99	119	41

Share-Based Payment Information Relating to Long-Term Incentives

Members of the Executive Board received, hold, or held Share Units issued to them under the LTI 2020 and hold or held Share Units issued to them under the LTI 2016 Plan. For more information

about the terms and details of these programs, see the Notes to the Consolidated Financial Statements, [Note \(B.3\)](#).

Grants Under the LTI 2020

	Year Granted	Total Share Units	MSUs (½)	FSUs (½)	RSUs (½)	Fair Value at Time of Grant
		Quantity	Quantity	Quantity	Quantity	€ thousands
Christian Klein (CEO)	2020	44,502	14,834	14,834	14,834	5,096 ¹
Adaire Fox-Martin	2020	32,364	10,788	10,788	10,788	3,706 ¹
Michael Kleinemeier (until 4/30/2020)	2020	19,209	6,403	6,403	6,403	2,200 ¹
Jennifer Morgan (until 4/30/2020)	2020	44,502	14,834	14,834	14,834	5,096 ¹
Luka Mucic	2020	19,209	6,403	6,403	6,403	2,200 ¹
Juergen Mueller	2020	17,592	5,864	5,864	5,864	2,014 ¹
Stefan Ries (until 5/31/2020)	2020	6,720	2,240	2,240	2,240	770 ¹
Thomas Saueressig	2020	17,592	5,864	5,864	5,864	2,014 ¹
Total	2020	201,690	67,230	67,230	67,230	23,095

¹ Fair value at time of grant: €122.22 per MSU, €110.65 per FSU/RSU

Grants Under the LTI 2016 Plan

	Year Granted	Total Share Units	RSUs (40%)	PSUs (60%)	Fair Value at Time of Grant		
		Quantity	Quantity	Quantity	€ per RSU	€ per PSU	€ thousands
Christian Klein (CEO)	2019 ¹	7,797	3,119	4,678	117.39	139.97	1,021
	2019	26,047	10,419	15,628	88.54	93.71	2,387
Adaire Fox-Martin	2019 ²	3,970	1,588	2,382	101.98	115.10	436
	2019	26,047	10,419	15,628	88.54	93.71	2,387
Michael Kleinemeier (until 4/30/2020)	2019	26,047	10,419	15,628	88.54	93.71	2,387
Jennifer Morgan (until 4/30/2020)	2019 ¹	6,378	2,552	3,826	117.39	139.97	835
	2019 ²	4,634	1,853	2,781	101.98	115.10	509
	2019	26,047	10,419	15,628	88.54	93.71	2,387
Luka Mucic	2019	26,047	10,419	15,628	88.54	93.71	2,387
Juergen Mueller	2019	23,852	9,541	14,311	88.54	93.71	2,186
Stefan Ries (until 5/31/2020)	2019	21,941	8,776	13,165	88.54	93.71	2,011
Thomas Saueressig	2019	3,986	1,594	2,392	114.67	138.96	515
Total	2019	202,793	81,118	121,675			19,448

¹ Additional grant due to appointment as Co-CEO

² Additional grant due to extension of responsibilities

Executive Board Members' Holdings

LTI 2020

Quantity of Share Units	Year Granted	Holding on 1/1/2020	Granted			Forfeited	Holding on 12/31/2020
			MSUs (1/3)	FSUs (1/3)	RSUs (1/3)		
Christian Klein (CEO)	2020	0	14,834	14,834	14,834	0	44,502
Adaire Fox-Martin	2020	0	10,788	10,788	10,788	0	32,364
Michael Kleinemeier (until 4/30/2020) ¹	2020	0	6,403	6,403	6,403	0	19,209
Jennifer Morgan (until 4/30/2020) ²	2020	0	14,834	14,834	14,834	29,790	14,712
Luka Mucic	2020	0	6,403	6,403	6,403	0	19,209
Juergen Mueller	2020	0	5,864	5,864	5,864	0	17,592
Stefan Ries (until 5/31/2020) ³	2020	0	2,240	2,240	2,240	0	6,720
Thomas Saueressig	2020	0	5,864	5,864	5,864	0	17,592
Total		0	67,230	67,230	67,230	29,790	171,900

¹In connection with Michael Kleinemeier's extension agreement, a vesting period of one year has been agreed. Forfeiture assuming termination as at 12/31/2020

²Forfeiture under the leaver rules assuming termination as at 4/30/2025

³Forfeiture under the leaver rules assuming termination as at 3/31/2024

The Share Units granted in 2020 have a remaining term of 3.2 years

LTI 2016 Plan

Quantity of Share Units	Year Granted	Holding on 1/1/2020	Exercised	Forfeited ¹	Adjustment Based on Target Achievement	Balanced PSUs ²	Holding on 12/31/2020
Christian Klein (CEO)	2019	33,844	0	0	0	0	33,844
	2018	22,385	0	0	0	0	22,385
Adaile Fox-Martin	2019	30,017	0	0	0	0	30,017
	2018	26,574	0	0	0	0	26,574
	2017	18,539	0	0	0	0	18,539
Michael Kleinemeier (until 4/30/2020) ³	2019	26,047	0	13,015	0	12,556	25,588
	2018	26,574	0	6,639	0	3,983	23,918
	2017	27,619	0	0	0	0	27,619
	2016	37,898	15,159	0	-22,739	0	0
Jennifer Morgan (until 4/30/2020) ⁴	2019	37,059	0	0	0	0	37,059
	2018	26,574	0	0	0	0	26,574
	2017	18,539	0	0	0	0	18,539
Luka Mucic	2019	26,047	0	0	0	0	26,047
	2018	26,574	0	0	0	0	26,574
	2017	27,619	0	0	0	0	27,619
	2016	37,898	15,159	0	-22,739	0	0
Juergen Mueller	2019	23,852	0	0	0	0	23,852
Stefan Ries (until 5/31/2020) ⁵	2019	21,941	0	0	0	0	21,941
	2018	22,385	0	0	0	0	22,385
	2017	23,265	0	0	0	0	23,265
	2016	23,987	9,595	0	-14,392	0	0
Thomas Saueressig	2019	3,986	0	0	0	0	3,986
Total		569,223	39,913	19,654	-59,870	16,539	466,325

¹Forfeiture according to leaver rules

²To balance disadvantages from leaver rules under the LTI 2016 Plan

³Forfeiture under the leaver rules assuming termination as at 12/31/2020

⁴Forfeiture under the leaver rules assuming termination as at 4/30/2025

⁵Forfeiture under the leaver rules assuming termination as at 3/31/2024

The Share Units granted in 2019 have a remaining term of 2.1 years, the Share Units granted in 2018 have a remaining term of 1.1 years, and the Share Units granted in 2017 have a remaining term of 0.1 years.

Total Expense for Share-Based Payment

€ thousands	2020	2019
Christian Klein (CEO)	1,438.6	1,924.8
Adaile Fox-Martin	673.6	2,667.3
Michael Kleinemeier (until 4/30/2020)	2,552.8	3,253.4
Jennifer Morgan (until 4/30/2020)	3,597.2	2,893.9
Luka Mucic	44.3	3,390.6
Juergen Mueller	719.6	767.5
Stefan Ries (until 5/31/2020)	1,738.5	2,645.5
Thomas Saueressig	408.4	128.3
Total	11,173.0	17,671.3

Total expense for the share-based payment plans of Executive Board members was determined in accordance with IFRS 2 (Share-

Based Payments) and consists exclusively of obligations arising from Executive Board activities.

End-of-Service Benefits

Regular End-of-Service Undertakings

Retirement Pension Plan

The following retirement pension agreements apply to the individual members of the Executive Board:

- Adaire Fox-Martin, Christian Klein, Michael Kleinemeier, Luka Mucic, Juergen Mueller, Stefan Ries, and Thomas Saueressig are entitled to receive a retirement pension when they reach the retirement age of 62 and retire from their Executive Board seat; or a disability pension depending on a health examination if, before reaching the regular retirement age, they become subject to occupational disability or permanent incapacity. A surviving dependent's pension is paid on the death of a former member of the Executive Board. The disability pension is 100% of the vested retirement pension entitlement and is payable until the beneficiary's 62nd birthday, after which it is replaced by a
- SAP made contributions to a third-party pension plan for Jennifer Morgan, as disclosed in the tables 'German Corporate Governance Code'. SAP's matching contributions are based on payments by Jennifer Morgan into this pension plan.

retirement pension. The surviving dependent's pension is 60% of the retirement pension or vested disability pension entitlement at death. Entitlements are enforceable against SAP SE. Current pension payments are reviewed annually for adjustments and, if applicable, increased according to the surplus in the pension liability insurance. If service is ended before the retirement age of 62, pension entitlement is reduced in proportion as the actual length of service stands in relation to the maximum possible length of service. The applied retirement pension plan is contributory. The contribution is 4% of applicable compensation up to the applicable income threshold plus 14% of applicable compensation above the applicable income threshold. For this purpose, applicable compensation is 180% of annual base salary. The applicable income threshold is the statutory annual income threshold for the state pension plan in Germany (West), as amended from time to time.

Total Defined Benefit Obligations (DBO) and Net Defined Benefit Liability (Asset) to Executive Board Members

€ thousands	Christian Klein (CEO) ¹	Adaire Fox-Martin ¹	Michael Kleinemeier (until 4/30/2020) ¹	Luka Mucic ¹	Juergen Mueller ¹	Stefan Ries (until 5/31/2020) ¹	Thomas Saueressig ¹	Total
DBO 1/1/2019	112.8	183.4	338.6	543.8	0	277.4	0	1,456.0
Less plan assets market value 1/1/2019	141.3	257.0	507.6	635.7	0	419.3	0	1,960.9
Net defined benefit liability (asset) 1/1/2019	-28.5	-73.6	-169.0	-91.9	0	-141.9	0	-504.9
DBO change in 2019	244.7	207.6	205.9	475.0	149.7	251.4	41.9	1,576.2
Plan assets change in 2019	145.9	160.6	171.2	147.2	0	144.9	0	769.8
DBO 12/31/2019	357.5	391.0	544.5	1,018.8	149.7	528.8	41.9	3,032.2
Less plan assets market value 12/31/2019	287.2	417.6	678.8	782.9	0	564.2	0	2,730.7
Net defined benefit liability (asset) 12/31/2019	70.3	-26.6	-134.3	235.9	149.7	-35.4	41.9	301.5
DBO change in 2020	410.6	174.9	-544.5	129.7	133.1	17.1	166.4	487.3
Plan assets change in 2020	147.9	163.7	-678.8	167.5	301.5	75.9	163.7	341.4
DBO 12/31/2020	768.1	565.9	0	1,148.5	282.8	545.9	208.3	3,519.5
Less plan assets market value 12/31/2020	435.1	581.3	0	950.4	301.5	640.1	163.7	3,072.1
Net defined benefit liability (asset) 12/31/2020	333.0	-15.4	0	198.1	-18.7	-94.2	44.6	447.4

¹ The values shown here only reflect the pension entitlements that Christian Klein, Adaire Fox-Martin, Michael Kleinemeier, Luka Mucic, Juergen Mueller, Stefan Ries and Thomas Saueressig will receive from the retirement pension plan for Executive Board members.

The table below shows the annual pension entitlement earned during the Executive Board membership of each member of the Executive Board on reaching the scheduled retirement age of 62, based on entitlements from SAP under performance-based and salary-linked plans.

Annual Pension Entitlement

€ thousands	Vested on 12/31/2020	Vested on 12/31/2019
Christian Klein (CEO)	14.7	8.2
Adaire Fox-Martin	17.2	11.8
Michael Kleinemeier (until 4/30/2020)	-	20.0
Luka Mucic	33.0	27.6
Juergen Mueller	9.7	4.8
Stefan Ries (until 5/31/2020)	18.8	16.8
Thomas Saueressig	4.9	0.2

These are vested entitlements. To the extent that members continue to serve on the Executive Board and that therefore more contributions are made for them in the future, pensions actually payable at the scheduled retirement age will be higher than the amounts shown in the table.

Postcontractual Non-Compete Provisions

Each Executive Board member's contract includes a 12-month postcontractual non-compete agreement. During this non-compete period, Executive Board members receive abstention payments corresponding to 50% of their average contractual compensation as members. This average is calculated on the basis of the preceding three years. Any other occupational income generated by the Executive Board member is deducted from their compensation. In accordance with the GCGC, the Supervisory Board will offset any severance payments against such compensation for abstention.

The following table presents the theoretical amounts for the net present values of the postcontractual non-compete abstention payments. The calculation assumes the following:

- The Executive Board member leaves SAP at the end of their respective current contract term.
- Their final average contractual compensation prior to their departure equals their compensation in 2020.

Actual postcontractual non-compete payments will likely differ from these amounts depending on the time of departure and the compensation levels and target achievements at the time of departure.

Net Present Values of the Postcontractual Non-Compete Abstention Payments

€ thousands	Contract Term Expires	Net Present Value of Postcontractual Non-Compete Abstention Payment ¹
Christian Klein (CEO)	4/30/2025	3,109
Adaire Fox-Martin	6/30/2021	2,270
Luka Mucic	3/31/2026	1,452
Juergen Mueller	12/31/2021	1,370
Thomas Saueressig	10/31/2022	1,372
Total		9,574

¹For the purpose of this calculation, the following discount rates have been applied: Christian Klein –0.02%; Adaire Fox-Martin –0.31%; Luka Mucic 0.07%; Juergen Mueller –0.28%; Thomas Saueressig –0.23%.

Early End-of-Service Undertakings

Severance Payments

The standard contract for all Executive Board members provides that on termination before full term (for example, by the Company without cause where the member's appointment is revoked, where the member becomes occupationally disabled, or in connection with a change of control), SAP SE will pay to the member the outstanding part of the compensation target for the entire remainder of the term, appropriately discounted for early payment. In accordance with the GCGC, section G.13, payments made to an Executive Board member due to early termination must not exceed twice the annual total compensation. In the case of change of control, the payment must not exceed 150% of the severance payment cap. Members are not entitled to that severance payment if they have not served SAP as a member of the Executive Board for at least one year or if they leave SAP SE for reasons for which they are responsible.

If an Executive Board member's appointment to the Executive Board expires or ceases to exist because of, or as a consequence of, change or restructuring, or due to a change of control, SAP SE and each Executive Board member has the right to terminate the employment contract within eight weeks of the occurrence by giving six months' notice. A change of control is deemed to occur when:

- A third party is required to make a mandatory takeover offer to the shareholders of SAP SE under the German Securities Acquisition and Takeover Act;
- SAP SE merges with another company and becomes the subsumed entity;

- A control or profit transfer agreement is concluded with SAP SE as the dependent company.

An Executive Board member's contract can also be terminated before full term if their appointment as an Executive Board member of SAP SE is revoked in connection with a change of control.

Postcontractual Non-Compete Provisions

Abstention compensation for the postcontractual non-compete period as described above is also payable on early contract termination.

Payments to Executive Board Members Resigning in 2020

Michael Kleinemeier reached a mutual agreement with the Supervisory Board to end his employment at SAP effective April 30, 2020. The STI 2020 was handled according to plan terms. He received the following payments in connection with his retirement for the remainder of the term of appointment until December 31, 2020:

- A severance payment equaling the appropriately discounted target salary (base salary plus target STI) totaling € 1,220,242.
- Granted rights under the LTI 2016 Plan were handled according to plan terms with respect to the performance criteria and the payout schedule.
- Granted rights under the LTI 2020 were handled according to plan terms. The already granted tranche 2020 was not reduced according to the leaver rules.
- For a period of 12 months, monthly abstention compensation for the postcontractual non-compete period totaling € 2,062,298.

Jennifer Morgan reached a mutual agreement with the Supervisory Board to end her employment at SAP with effect on April 30, 2020. The STI 2020 was handled according to plan terms. She received the following payments in connection with her retirement for the remainder of the term of appointment until April 30, 2025:

- She received a severance payment of the target salary (base salary plus target STI) for the remainder of the term until April 30, 2025, totaling US\$16,500,000 (equaling €15,000,000).
- Granted rights under the LTI 2016 Plan and the LTI 2020 were handled according to plan terms with respect to the performance criteria and the payout schedule. The tranche 2020 was reduced on a pro rata temporis basis.
- The post-contractual non-compete obligation applied, and the abstention compensation has been offset against the severance payment in accordance with section G. 13 of the GCGC.

Stefan Ries reached a mutual agreement with the Supervisory Board to end his employment at SAP with effect on May 31, 2020. The STI 2020 was handled according to plan terms. He received the following payments in connection with his retirement for the remainder of the term of appointment until March 31, 2024:

- A severance payment equaling the appropriately discounted target salary (base salary plus target STI) totaling € 6,998,708.
- Granted rights under the LTI 2016 Plan and the LTI 2020 were handled according to plan terms with respect to the performance criteria and the payout schedule.
- For a period of 12 months, monthly abstention compensation for the postcontractual non-compete period totaling € 1,828,155.

Permanent Disability

In case of permanent disability, an Executive Board member's contract will end at the end of the quarter in which the permanent inability to work was determined. The Executive Board member receives, in addition to a potential disability pension under the retirement plan described above, the monthly basic salary (fixed compensation) for a further 12 months starting from the date the permanent disability is determined.

Payments to Former Executive Board Members

In 2020, we paid pension benefits of €3,009,600 to Executive Board members who had retired before January 1, 2020 (2019: €2,081,100). At the end of 2020, the DBO for former Executive Board members who had retired or left SAP before January 1, 2020, was €44,042,900 (2019: €44,306,300). Plan assets of €32,758,400 are available to meet these obligations (2019: €31,074,600).

Executive Board: Other Information

We did not grant any compensation advance or credit to, or enter into any commitment for the benefit of, any member of our Executive Board in 2020 or the previous year.

As far as the law permits, SAP SE and its affiliated companies in Germany and elsewhere indemnify and hold harmless their respective directors and officers against and from the claims of third parties. To this end, we maintain directors' and officers' (D&O) group liability insurance. The policy is annual and is renewed from year to year. The insurance covers the personal liability of the insured group for financial loss caused by its managerial acts and omissions. The current D&O policy includes an individual deductible for Executive Board members of SAP SE as required by section 93 (2) of the AktG.

Compensation for Supervisory Board Members

Compensation System

Supervisory Board members' compensation is governed by our Articles of Incorporation, section 16.

Each member of the Supervisory Board receives, in addition to the reimbursement of their expenses, an annual basic compensation of €165,000. The chairperson receives €275,000 and the deputy chairperson €220,000 annually. In addition, we reimburse members of the Supervisory Board for the value-added tax payable on their compensation.

For membership of the Audit Committee, Supervisory Board members receive an additional fixed annual compensation of €16,500, and for membership of any other Supervisory Board committee €11,000, provided that the committee concerned has met in the year. The chairperson of the Audit Committee receives €27,500, and the chairpersons of the other committees receive €22,000. The fixed remuneration is payable after the end of the year.

Any members of the Supervisory Board who have served for less than the entire year receive one-twelfth of the annual remuneration for each month of service commenced. This also applies to the increased compensation of the chairperson and the deputy chairperson(s) and to the remuneration for the chairperson and the members of a committee.

Supervisory Board Members' Compensation in 2020

€ thousands	2020			2019		
	Fixed Compensation	Compensation for Committee Work	Total	Fixed Compensation	Compensation for Committee Work	Total
Prof. Dr. h.c. mult. Hasso Plattner (chairperson)	275.0	66.0	341.0	275.0	53.2	328.2
Margret Klein-Magar (deputy chairperson)	220.0	27.5	247.5	220.0	26.6	246.6
Pekka Ala-Pietilä	165.0	33.0	198.0	165.0	18.3	183.3
Panagiotis Bissiritsas	165.0	38.5	203.5	165.0	39.4	204.4
Martin Duffek (until 5/15/2019)	NA	NA	NA	68.8	16.0	84.8
Aicha Evans	165.0	33.0	198.0	165.0	33.0	198.0
Diane Greene (until 12/9/2020)	165.0	17.4	182.4	110.0	11.0	176.0
Andreas Hahn (until 5/15/2019)	NA	NA	NA	68.8	9.2	77.9
Prof. Dr. Gesche Joost	165.0	22.0	187.0	165.0	22.0	187.0
Monika Kovacka-Dimitrova (from 5/15/2019)	165.0	22.0	187.0	110.0	14.7	124.7
Lars Lamadé	165.0	22.0	187.0	165.0	22.9	187.9
Bernard Liautaud	165.0	33.0	198.0	165.0	22.0	187.0
Dr. Qi Lu (from 12/21/2020)	13.8	NA	13.8	NA	NA	NA
Gerhard Oswald	165.0	66.0	231.0	165.0	52.3	217.3
Christine Regitz	165.0	33.0	198.0	165.0	30.3	195.3
Dr. Friederike Rotsch	165.0	49.5	214.5	165.0	43.1	208.1
Dr. Erhard Schipporeit (until 5/15/2019)	NA	NA	NA	68.8	20.6	89.4
Robert Schuschnig-Fowler (until 5/15/2019)	NA	NA	NA	68.8	9.2	77.9
Dr. Sebastian Sick (until 5/15/2019)	NA	NA	NA	68.8	9.2	77.9
Heike Steck (from 5/15/2019)	165.0	22.0	187.0	110.0	14.7	124.7
Pierre Thiollet (until 5/15/2019)	NA	NA	NA	68.8	4.6	73.3
Christa Vergien-Knopf (from 5/15/2019)	165.0	22.0	187.0	110.0	14.7	124.7
Dr. Gunnar Wiedenfels (from 5/15/2019)	165.0	38.5	203.5	110.0	25.7	135.7
James Wright (from 5/15/2019)	165.0	38.5	203.5	110.0	25.7	135.7
Ralf Zeiger (from 5/15/2019)	165.0	22.0	187.0	110.0	14.7	124.7
Total	3,148.8	605.9	3,754.7	3,217.5	552.7	3,770.2

In 2020, 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 €1,625,800 (2019: €1,976,000).

Long-Term Incentives for the Supervisory Board

We do not offer members of the Supervisory Board share-based payment for their Supervisory Board work. Any share-based payment awards received by employee-elected members relate to their position as SAP employees and not to their work on the Supervisory Board.

Supervisory Board: Other Information

We did not grant any compensation advance or credit to, or enter into any commitment for the benefit of, any member of our Supervisory Board in 2020 or the previous year.

Hasso Plattner, the chairperson of the Supervisory Board, entered into a consulting contract with SAP after joining the Supervisory Board in May 2003. The contract does not provide for any compensation. The only cost we incurred under the contract was the reimbursement of expenses.

As far as the law permits, we indemnify Supervisory Board members against, and hold them harmless from, claims brought by third parties. To this end, we maintain directors' and officers' (D&O) group liability insurance. In accordance with our Articles of Incorporation, the premiums for the insurance policy are paid by SAP.

Employee

Headcount and Personnel Expense

The year 2020 was overshadowed by COVID-19 and the pandemic has affected our headcount development as well, resulting in a lower number of hirings. As at December 31, 2020, we employed 102,430 full-time equivalent (FTE) employees worldwide (2019: 100,330). This represents an increase in headcount of 2,100 FTEs (781 thereof from acquisitions) in comparison to 2019. The average number of employees in 2020 was 101,476 (2019: 99,157).

We define headcount in FTE as the number of people on permanent employment contracts considering their staffing percentage. Students, individuals employed by SAP 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 decreased to approximately €132,000 in 2020 (2019: approximately €150,000). This reduction is primarily attributable to a decrease of restructuring expenses and 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 2020, we had 1,037 restructuring-related terminations (1%) compared to 2,859 in 2019 (2.9%).

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 \(B.2\)](#).

Employee and Labor Relations

On a worldwide basis, we believe that our employee and labor relations are excellent.

On a corporate level, all employees of SAP in the member states of the European Union (including the United Kingdom for a transition period until May 2025) and in the contract states of the European Economic Area are represented by the SAP SE Works Council (WoC) (Europe). By law and agreement with SAP, the SAP SE WoC (Europe) is entitled to receive information on certain transnational matters and to consult with the Executive Board or a representative thereof. On the legal entity level, the SAP SE works council (Germany) represents the employees of SAP SE. The employees of SAP Deutschland SE & Co. KG (SAP Germany), hybris GmbH (Germany) and Concur (Germany) GmbH are represented by separate works councils. Other employee representatives include the group works council (composed of members of the works councils of SAP SE, SAP Germany and hybris GmbH), the representatives of severely disabled persons in all entities and on a group level (Germany) and the spokespersons committee as the representation of the executives.

Employees of each of SAP France, SAP France Holding, SAP Labs France SAS and SAP Concur France are subject to the same collective agreement: "SYNTEC". In France, effective December 31, 2019 the Workers Council, the Health and Safety Committee and the employee representative were replaced by a single instance named the "Economic and Social Committee". Today, SAP France/SAP France Holding (in the same legal entity), SAP Labs France SAS and Concur (France) SAS are represented by an Economic and Social

Committee. The represented unions negotiate agreements with each of SAP France/SAP France Holding and SAP Labs France SAS. For Concur (France) SAS the agreements are negotiated with the Economic and Social Committee. In addition, the employees of various other SAP entities, including SAP España – Sistemas, Aplicaciones y Productos en la Informática, S.A., SAP Belgium NV/SA., SAP Israel, SAP Nederland B.V., SAP Italia Sistemi Applicazioni Prodotti in Data Processing S.p.A., SAP China Beijing, all entities in the Czech Republic (SAP ČR, spol. s r.o., SAP Services s.r.o., Ariba Czech s.r.o. and Concur Czech (s.r.o.)), SAP Brasil Ltda, SAP Korea Ltd. (Korea), SAP Slovensko s.r.o. (Slovakia), SAP sistemi, aplikacije in produkti za obdelavo podatkov d.o.o. (Slovenia), SAP Romania SRL, SAP Argentina S.A., SAP Svenska Aktiebolag (Sweden), SAP UK Ltd. and SAP Ireland Ltd. are represented by works councils, worker representatives, employee consultation forums and/or unions. In addition, some of these employees are subject to a collective bargaining agreement.

Share Ownership

Beneficial Ownership of Shares

The ordinary shares beneficially owned by the persons listed in "[Item 6. Directors, Senior Management and Employees – Compensation Report](#)" are disclosed in "[Item 7. Major Shareholders and Related-Party Transactions – Major Shareholders](#)".

Share-Based Compensation Plans

Share-Based Compensation

We maintain certain share-based compensation plans. The share-based compensation from these plans result from cash-settled and equity-settled awards issued to employees. For more information on our share-based compensation plans refer to "[Item 6. Directors, Senior Management and Employees – Compensation Report](#)" and [Note \(B.3\)](#) to our Consolidated Financial Statements.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED-PARTY TRANSACTIONS

Major Shareholders

The share capital of SAP SE consists of ordinary shares, which are issued only in bearer form. Accordingly, SAP SE generally cannot determine the identity of its shareholders or how many shares a particular shareholder owns. SAP's ordinary shares are traded in the United States by means of ADRs. Each ADR currently represents one SAP SE ordinary share. On February 12, 2021, based on information provided by the Depository there were 53,752,205 ADRs held of record by 753 registered holders. The ordinary shares underlying

such ADRs represented 4.38% of the then-outstanding ordinary shares (including treasury stock). Because SAP's ordinary shares are issued in bearer form only, we are unable to determine the number of ordinary shares directly held by persons with U.S. addresses.

The following table sets forth certain information regarding the beneficial ownership of the ordinary shares to the extent known to SAP as of February 12, 2021 of: (i) each person or group known by SAP SE to own beneficially 5% or more of the outstanding ordinary shares; and (ii) the beneficial ownership of all individuals who are currently members of the Supervisory Board and all members of the Executive Board, individually and as a group, in each case as reported to SAP SE by such persons. There was, as far as we are able to tell given the nature of our shares, no significant change in the percentage ownership held by any major shareholder during the past three years. None of the major shareholders have special voting rights.

Major Shareholders

	Ordinary Shares Beneficially Owned	
	Number	% of Outstanding
Dietmar Hopp, collectively ⁽¹⁾	61,935,965	5.04
Hasso Plattner, Chairperson Supervisory Board, collectively ⁽²⁾	74,278,676	6.046
Executive Board Members as a group (6 persons)	18,475	0.002
Supervisory Board Members as a group (18 persons)	74,299,494	6.048
Executive Board Members and Supervisory Board Members as a group (24 persons) ⁽³⁾	74,317,969	6.049
BlackRock, Inc. ⁽⁴⁾	70,321,649	5.7

⁽¹⁾ The foregoing information is based on a Schedule 13G filed by Dietmar Hopp and other affiliated persons and companies on February 12, 2021.

⁽²⁾ Includes HP Endowment GmbH & Co. KG and Hasso Plattner Single Asset KG in which Hasso Plattner exercises sole voting and dispositive power.

⁽³⁾ We believe that, other than Hasso Plattner, each of the members of the Supervisory Board and the Executive Board beneficially owns less than 1% of SAP SE's ordinary shares as of February 12, 2021.

⁽⁴⁾ As required under German law, BlackRock, Inc. informed SAP that they own more than 5% of SAP's outstanding ordinary shares. BlackRock, Inc. is not required to provide SAP with the number of shares owned as of February 12, 2021, and has not provided such information. The foregoing information is based on a Schedule 13G filed by BlackRock, Inc. on February 1, 2021.

Currently we are not aware of any arrangements, the operation of which may, at a subsequent date, result in a change in control of the company.

Related-Party Transactions

For information on related-party transactions see [Note \(G.6\)](#) to our Consolidated Financial Statements.

ITEM 8. FINANCIAL INFORMATION

Consolidated Financial Statements and Financial Statement Schedule

See "[Item 18. Financial Statements](#)" and pages F-1 through F-78.

Other Financial Information

Legal Proceedings

We are subject to a variety of legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business, including claims and lawsuits involving businesses we have acquired.

Refer to [Note \(G.3\)](#) to our Consolidated Financial Statements for a detailed discussion of our material legal proceedings.

Dividend Policy

For more information on dividend policy see the disclosure in "[Item 3. Key Information – Dividends](#)".

Significant Changes

Executive Board Changes

Adaire Fox-Martin departed the Executive Board of SAP as of January 31, 2021 and will depart the Company at the end of June, 2021.

The Supervisory Board of SAP appointed Sabine Bendiek, Scott Russell and Julia White to the SAP Executive Board, with effect from January 1, 2021, February 1, 2021 and March 1, 2021, respectively.

On February 24, 2021 the Supervisory Board extended the contract of Jürgen Müller, Chief Technology Officer and member of the SAP Executive Board, for three years through the end of 2024.

Rise With SAP

In January 2021, SAP introduced RISE with SAP, a new single offer on a single contract that supports a customer's transformation journey to an intelligent enterprise. RISE with SAP gives customers the choice of deciding which capabilities to use at what point in time. The offering bundles services to redesign business processes with business process intelligence, support migration of data, and a cloud infrastructure of choice. Key aspects of SAP's vision for an intelligent enterprise are included as part of this offering including access to SAP Business Technology Platform, an SAP S/4HANA Cloud deployment of choice, including public and private cloud, access to SAP's supplier, logistics and asset intelligent networks, and an extensive partner ecosystem.

Qualtrics IPO

On January 28, 2021, Qualtrics International Inc. successfully issued 12% of the shares on the NASDAQ Stock Market. Qualtrics placed 82 million new shares with a total placement volume of 2.3 billion US\$ including a private placement transaction. Since SAP did not participate in the capital increase, SAP's ownership decreased to 83%. However, SAP continues to hold high vote Class B common stock and, as a result, its current voting power is in excess of 98%. In connection with the IPO, Qualtrics conducted a voluntary exchange

offer to exchange existing share-based payment awards of Qualtrics employees (Qualtrics Rights and Move SAP RSUs) for awards with underlying shares of Qualtrics at an exchange ratio based upon the IPO price of Qualtrics Class A common stock; the exchange ratio is designed to preserve the intrinsic value of the Qualtrics Rights and Move SAP RSUs that will be tendered. The exchange offer is limited to eligible employees and is subject to various terms and conditions as more fully described in the prospectus relating to such exchange offer published by Qualtrics.

Organizational Changes

At the beginning of 2021, SAP modified its organizational structure to further drive simplification and integration. The organizational changes which will also affect SAP's segment reporting. SAP has already started the process of redefining its management reporting under the new organizational structure, which the segment reporting will follow.

Restructuring

To accelerate the modernization of its cloud infrastructure and to harmonize its platform structure, SAP will undertake a restructuring program in the Global Cloud Services area. The execution started in Q1 2021 and will continue until the end of 2022. Total restructuring expenses are projected to be €150 million to €200 million. The majority of these expenses will be impairments of data centers and related assets.

ITEM 9. THE OFFER AND LISTING

Our ordinary shares are officially listed on the Frankfurt Stock Exchange, the Berlin Stock Exchange and the Stuttgart Stock Exchange. The principal trading market for the ordinary shares is Xetra, the electronic dealing platform of Deutsche Boerse AG.

ADRs representing SAP SE ordinary shares are listed on the New York Stock Exchange (NYSE) under the symbol "SAP," and currently each ADR represents one ordinary share.

ITEM 10. ADDITIONAL INFORMATION

Articles of Incorporation

Organization and Register

SAP SE is a European Company (Societas Europaea, or "SE") organized in the Federal Republic of Germany under German and European law, including Council Regulation (EC) No. 2157/2001 on the Statute for a European Company (the "SE Regulation"), the German Act on the Implementation of Council Regulation No. 2157/2001 of October 8, 2001 on the Statute for a European Company (Gesetz zur Ausführung der Verordnung (EG) Nr. 2157/2001 des Rates vom 8. Oktober 2001 über das Statut der Europäischen Gesellschaft (SE) – SE-Ausführungsgesetz; "SE-AG") of December 22, 2004, and the German Stock Corporation Act (Aktiengesetz). SAP SE is registered in the Commercial Register (Handelsregister) at the Lower Court of Mannheim, Germany, under the entry number "HRB 719915." SAP SE publishes its official notices in the Federal Gazette (www.bundesanzeiger.de).

Objects and Purposes

SAP's Articles of Incorporation state that our objects involve, directly or indirectly, the development, production and marketing of products and the provision of services in the field of information technology, including:

- developing and marketing integrated product and service solutions for e-commerce;
- developing software for information technology and the licensing of its use to others;
- organization and deployment consulting, as well as user training, for e-commerce and other software solutions;
- selling, leasing, renting and arranging the procurement and provision of all other forms of use of information technology systems and related equipment; and
- making capital investments in enterprises active in the field of information technology to promote the opening and advancement of international markets in the field of information technology.

SAP is authorized to act in all the business areas listed above and to delegate such activities to affiliated entities within the meaning of the German Stock Corporation Act; in particular SAP is authorized to delegate its business in whole or in part to such entities. SAP SE is authorized to establish branch offices in Germany and other countries, as well as to form, acquire or invest in other companies of the same or related kind and to enter into collaboration and joint venture agreements. SAP is further authorized to invest in enterprises of all kinds principally for investment purposes. SAP is authorized to dispose of investments, to consolidate the management of enterprises in which it participates, to enter into affiliation agreements with such entities, or to limit its activities to manage its shareholdings.

Corporate Governance

Introduction

SAP SE, as a European Company with a two-tier board system, is governed by three separate bodies: the Supervisory Board, the Executive Board and the Annual General Meeting of Shareholders. Their rules are defined by European and German law, by the Agreement on the Involvement of Employees in SAP SE ("Employee Involvement Agreement", "EIA"), by the German Corporate Governance Code and by SAP's Articles of Incorporation (Satzung) and are summarized below. See "[Item 16G. Differences in Corporate Governance Practices](#)" for additional information on our corporate governance practices.

The Supervisory Board

The Supervisory Board appoints and removes the members of the Executive Board and oversees and advises the management of the corporation. At regular intervals it meets to discuss current business as well as business development and planning. The SAP Executive Board must consult with the Supervisory Board concerning the corporate strategy, which is developed by the Executive Board. Types of transactions for which the Executive Board requires the Supervisory Board's consent are listed in the Articles of Incorporation; in addition, the Supervisory Board has specified further types of transactions that require its consent. Accordingly, the Supervisory Board must also approve the annual budget of SAP upon submission by the Executive Board and certain subsequent deviations from the approved budget. The Supervisory Board is also responsible for representing SAP SE in transactions between SAP SE and Executive Board members.

The Supervisory Board, based on a recommendation by its Audit Committee, provides its proposal for the election of the external independent auditor to the Annual General Meeting of Shareholders. The Supervisory Board is responsible for auditing the SAP SE financial statements, the consolidated financial statements, the combined management report, as well as the combined non-financial report. The Supervisory Board is also responsible for monitoring the auditor's independence and the audit quality, a task it has delegated to its audit committee.

Pursuant to Article 40 (3) sentence 1 of the SE Regulation, the number of members of the supervisory board and the rules for determining this number are to be laid down in the Articles of Incorporation. Furthermore, pursuant to Section 17 (1) SE-AG, the size of supervisory boards of companies which, like SAP SE, have a capital stock exceeding € 10,000,000, is limited to 21 members. In line with these provisions as well as the EIA, the Articles of Incorporation of SAP SE provide that the Supervisory Board shall be composed of 18 members. Furthermore, it is provided in the EIA that the shareholders of SAP SE have the possibility to reduce the size of the Supervisory Board in the future (i.e. at the earliest in the Annual General Meeting of Shareholders in 2019, with effect from the Annual General Meeting of Shareholders in 2020; such decision has neither been taken in the Annual General Meeting of Shareholders in 2019 nor in the Annual General Meeting of Shareholders in 2020) to 12 members.

The current Supervisory Board of SAP SE consists of eighteen members, nine of whom are elected by the Annual General Meeting of Shareholders as shareholders' representatives with the remaining nine being appointed as employees' representatives by the SAP SE

Works Council Europe in accordance with the EIA (see below for details). Pursuant to Section 17(2) SE-AG, the Supervisory Board of SAP SE must have a minimum of 30% men and 30% women. This quota for the Supervisory Board must be observed for any new appointment to the Supervisory Board. In 2020, there were four women on the shareholder representatives' side of the Supervisory Board and five women on the employee representatives' side. Thus, the percentage of women on the Supervisory Board exceeded the minimum quota of 30% throughout 2020.

The procedure for the appointment of the employee representatives on the Supervisory Board of SAP SE is governed by the EIA. In accordance with the EIA, the nine seats on the Supervisory Board reserved for employees' representatives ("Employee Seats") are allocated as follows: the first seven of the Employee Seats are allocated in proportion to the numbers of SAP employees employed in the individual countries (d'Hondt method), provided that if the first six seats are allocated to one country, the seventh seat is for the country with the second highest number of SAP employees. The eighth seat is allocated to the country represented in the SE works council with the highest number of SAP employees. The ninth seat is allocated to a country not already allocated a seat in the Supervisory Board but represented on the SE works council. In 2020 the first six seats were allocated to Germany, the seventh seat was allocated to the UK, the eighth seat was also allocated to Germany, and the ninth seat was allocated to a European country not represented by the first eight seats, as determined by the SAP SE Works Council Europe. The employees' representatives for the first six seats allocated to Germany were determined by direct vote by all SAP employees with their principal place of employment in Germany. According to the EIA, the employees' representative for the seventh seat allocated to the UK is generally determined according to the applicable provisions of the UK law on the election or appointment of employees' representatives on a supervisory board. With regard to the eighth and ninth seats, members of the SAP SE Works Council Europe from Germany and Bulgaria were appointed by the SE Works Council as employees' representatives.

Any Supervisory Board member elected by the shareholders at the Annual General Meeting of Shareholders may be removed by three-quarters of the votes cast at the Annual General Meeting of Shareholders. Any Supervisory Board member appointed in accordance with the EIA may be removed by the SAP SE Works Council Europe upon application by the body that nominated the respective employees' representative for appointment by the SE Works Council or, in case the employees' representative was directly elected, the majority of the employees entitled to vote.

The Supervisory Board elects a chairperson and one or two deputy chairperson(s) among its members by a majority of the votes cast. Only a shareholders' representative may be elected as chairperson of the Supervisory Board. When electing the chairperson of the Supervisory Board, the oldest member in terms of age of the shareholders' representatives on the Supervisory Board will chair the meeting and, in the event of a tied vote, will have the casting vote.

Unless otherwise mandatorily prescribed by law or the Articles of Incorporation, resolutions of the Supervisory Board are adopted by simple majority of the votes cast. In the event of a tie, the vote of the chairperson and, in the event that the chairperson does not participate in passing the resolution, the vote of the deputy

chairperson, provided that he or she is a shareholders' representative, will be decisive (casting vote).

The members of the Supervisory Board cannot be elected or appointed, as the case may be, for a term longer than six years. Other than for the employees' representatives on the first Supervisory Board of SAP SE, the term expires at the close of the Annual General Meeting of Shareholders giving its formal approval of the acts of the Supervisory Board for the fourth fiscal year following the year in which the term of office of the Supervisory Board members commenced. Re-election is possible. Our Supervisory Board normally meets four times a year. The compensation of the members of the Supervisory Board is set in the Articles of Incorporation.

All of the shareholder representatives are considered independent from SAP and the Supervisory Board. This is in compliance with the German Corporate Governance Code (GCGC), which stipulates that an adequate number of the shareholder representatives on our Supervisory Board be independent. To be considered for appointment to the Supervisory Board and for as long as they serve, members must comply with certain criteria concerning independence, conflicts of interest and multiple memberships of management, and supervisory and other governing bodies. They must be loyal to SAP in their conduct and must not accept any position in companies that are in competition with SAP. Members are subject to insider trading prohibitions and the respective directors' dealing rules of the European Regulation (EU) No 596/2014 of the European Parliament and the Council of 16 April 2014 on market abuse and the German Securities Trading Act. A member of the Supervisory Board may not vote on matters relating to certain contractual agreements between such member and SAP SE. Further, as the compensation of the Supervisory Board members is set in the Articles of Incorporation, Supervisory Board members are unable to vote on their own compensation, with the exception that they are able to exercise voting rights in a General Meeting of Shareholders in connection with a resolution amending the Articles of Incorporation.

The Supervisory Board may appoint committees from among its members and may, to the extent permitted by law, entrust such committees with the authority to make decisions on behalf of the Supervisory Board. Currently the Supervisory Board maintains the following committees:

The Audit Committee

The focus of the Audit Committee (Prüfungsausschuss) is the oversight of SAP's external financial reporting as well as SAP's risk management, internal controls (including internal controls over the effectiveness of the financial reporting process), corporate audit, corporate security (including cybersecurity matters) and compliance matters. According to German Law, SAP's Audit Committee includes at least one independent member with expertise in the fields of financial reporting or auditing. Among the tasks of the Audit Committee are the discussion of SAP's quarterly statements and year-end financial reporting prepared under German and U.S. regulations, including this report. The Audit Committee recommends to the Supervisory Board the appointment of the external independent auditor, determines focus audit areas, discusses critical accounting policies and estimates with the auditors, and reviews the audit reports issued and audit issues identified by the auditor. The Audit Committee also negotiates the

audit fees with the auditor and monitors the auditor's independence and quality. SAP's Corporate Audit Office, SAP's Office of Ethics and Compliance, SAP's Global Security Office and SAP's Global Risk and Assurance Services Office report regularly to the Audit Committee, as well as upon request or the occurrence of certain findings. In addition to making regular reports to the CFO and the Audit Committee, the Corporate Audit Office, the Office of Ethics and Compliance, the Global Security Office and the Global Risk and Assurance Services Office report to the Executive Board annually.

The Audit Committee has established procedures regarding the prior approval of all audit and non-audit services provided by our external independent auditor. See "[Item 16C. Principal Accountant Fees and Services](#)" for details.

The Audit Committee also does preparatory work for the full Supervisory Board's deliberations and resolutions on the adoption of the annual financial statements, the approval of the consolidated annual financial statements and the Integrated Report, and on the dividend proposal. Furthermore, the Audit Committee and the Finance and Investment Committee jointly prepare the full Supervisory Board's resolution to approve the group annual plan.

The Supervisory Board has determined Dr. Gunnar Wiedenfels, the Audit Committee's chairperson, to be an audit committee financial expert as defined by the regulations of the SEC issued under Section 407 of the Sarbanes-Oxley Act as well as an independent financial expert as defined by the German Stock Corporation Act. See "[Item 16A. Audit Committee Financial Expert](#)" for details.

The General and Compensation Committee

The General and Compensation Committee (Präsidial- und Personalausschuss) coordinates the work of the Supervisory Board, prepares its meetings and deals with corporate governance issues. In addition, it carries out the preparatory work necessary for the personnel decisions made by the Supervisory Board, notably those concerning compensation for the Executive Board members and the conclusion, amendment and termination of the Executive Board members' contracts of appointment.

The German Stock Corporation Act prohibits the Compensation Committee from deciding on the compensation of the Executive Board members on behalf of the Supervisory Board and requires that such decision is made by the entire Supervisory Board. This Act also provides the General Meeting of Shareholders with the right to vote on the system for the compensation of Executive Board members, such vote, however, not being legally binding for the Supervisory Board.

The Finance and Investment Committee

The Finance and Investment Committee (Finanz- und Investitionsausschuss) addresses general financing issues. Furthermore, it regularly discusses acquisitions of intellectual property and companies, venture capital investments and other investments with the Executive Board and reports to the Supervisory Board on such investments. It is also responsible for the approval of such investments if the individual investment amount exceeds certain specified limits, as well as – together with the Audit Committee – for the preparation of the full Supervisory Board's resolution to approve the group annual plan.

The Technology and Strategy Committee

The Technology and Strategy Committee (Technologie- und Strategieausschuss) monitors technology transactions and provides the Supervisory Board with in-depth technical advice.

The Nomination Committee

The Nomination Committee (Nominierungsausschuss) is exclusively composed of shareholder representatives and is responsible for identifying suitable candidates for membership of the Supervisory Board for recommendation to the Annual General Meeting of Shareholders.

The People and Organization Committee

The People and Organization Committee (Ausschuss für Mitarbeiter- und Organisationsangelegenheiten) deliberates and advises the Executive and Supervisory Board on key personnel matters and major organizational changes at the management level below the Executive Board. It also advises on equal opportunities for women at SAP.

The duties and procedures of the Supervisory Board and its committees are specified in their respective rules of procedure, if any, which reflect the requirements of European and German law, including the SE Regulation and the German Stock Corporation Act, the Articles of Incorporation and the recommendations of the GCGC.

According to the provisions of the Sarbanes-Oxley Act, SAP does not grant loans to the members of the Executive Board or the Supervisory Board.

The China Strategy Committee

The China Strategy Committee is responsible for supporting and advising the Executive Board in developing and evaluating a successful business strategy for the Chinese market. This committee was established effective January 1, 2021 for a period of six months.

The Executive Board

The Executive Board manages the Company's business, is responsible for preparing its strategy and represents it in dealings with third parties. The Executive Board reports regularly to the Supervisory Board about SAP operations and business strategies and prepares special reports upon request. A person may not serve on the Executive Board and on the Supervisory Board at the same time.

The Executive Board and the Supervisory Board cooperate closely for the benefit of the Company. The Executive Board is required to provide the Supervisory Board regular, prompt and comprehensive information about all of the essential issues affecting the SAP Group's business progress and its potential business risks. Furthermore, the Executive Board must maintain regular contact with the chairperson of the Supervisory Board and vice versa. The Executive Board must inform the chairperson of the Supervisory Board promptly about exceptional events that are of significance to SAP's business. The Supervisory Board chairperson must inform the Supervisory Board accordingly and shall, if required, convene an extraordinary meeting of the Supervisory Board.

Pursuant to the Articles of Incorporation, the Executive Board must consist of at least two members. SAP SE's Executive Board is currently comprised of seven members. Any two members of the Executive Board jointly or one member of the Executive Board and

the holder of a special power of attorney (Prokurist) jointly may legally represent SAP SE. The Supervisory Board appoints each member of the Executive Board for a maximum term of five years, with the possibility of re-appointment. Under certain circumstances, a member of the Executive Board may be removed by the Supervisory Board prior to the expiration of that member's term. A member of the Executive Board may not vote on matters relating to certain contractual agreements between such member and SAP SE, and may be liable to SAP SE if such member has a material interest in any contractual agreement between SAP and a third party which was not previously disclosed to and approved by the Supervisory Board. Further, as the compensation of the Executive Board members is set by the Supervisory Board, Executive Board members are unable to vote on their own compensation, with the exception that they are able to exercise voting rights in a General Meeting of Shareholders resolving a non-binding vote on the system for the compensation of Executive Board members.

Under German law SAP SE's Supervisory Board members and Executive Board members have a duty of loyalty and care towards SAP SE. They must exercise the standard of care of a prudent and diligent businessman and bear the burden of proving they did so if their actions are contested. Both bodies must consider the interest of SAP SE shareholders and our employees and, to some extent, the common good. Those who violate their duties may be held jointly and severally liable for any resulting damages, unless they acted pursuant to a lawful resolution of the Annual General Meeting of Shareholders.

SAP has implemented a Code of Business Conduct for employees (see "[Item 16B. Code of Ethics](#)" for details). The employee code is equally applicable to managers and members of the Executive Board. Its rules are observed as well by members of the Supervisory board as applicable.

Under German law the Executive Board of SAP SE has to assess all major risks for the SAP Group. In addition, all measures taken by management to reduce and handle the risks have to be documented. Therefore, SAP's management has adopted suitable measures such as implementing an enterprise-wide risk monitoring system to ensure that adverse developments endangering the corporate standing are recognized at a reasonably early point in time.

The Office of Ethics and Compliance was created by the SAP Executive Board in 2006 to oversee and coordinate legal and regulatory policy compliance at SAP. The Chief Global Compliance Officer heading the Office of Ethics and Compliance reports directly to CEO Christian Klein and also has direct communication channels and reporting obligations to the Audit Committee of the Supervisory Board. The Office of Ethics and Compliance manages a network of more than 100 local subsidiary Compliance Officers who act as the point of contact for local questions or issues under the SAP Code of Business Conduct for employees. The Office of Ethics and Compliance provides training and communication to SAP employees to raise awareness and understanding of legal and regulatory compliance policies. Employee help lines are also supported in each region where questions can be raised or questionable conduct can be reported without fear of retaliation.

The Annual General Meeting of Shareholders

Shareholders of the Company exercise their voting rights at shareholders' meetings. The Executive Board calls the Annual General Meeting of Shareholders, which must take place within the

first six months of each fiscal year. The Supervisory Board or the Executive Board may call an extraordinary meeting of the shareholders if the interests of the stock corporation so require. Additionally, shareholders of SAP SE holding in the aggregate a minimum of 5% of SAP SE's issued share capital may call an extraordinary meeting of the shareholders. Shareholders as of the record date are entitled to attend and participate in shareholders' meetings if they have provided timely notice of their intention to attend the meeting.

At the Annual General Meeting of Shareholders, the shareholders are asked, among other things, to formally approve the actions taken by the Executive Board and the Supervisory Board in the preceding fiscal year, to approve the appropriation of the corporation's distributable profits and to appoint an external independent auditor. Shareholder representatives of the Supervisory Board are generally elected at the Annual General Meeting of Shareholders for a term of approximately five years. Shareholders may also be asked to grant authorization to repurchase treasury shares, to resolve on measures to raise or reduce the capital of the Company or to ratify amendments of our Articles of Incorporation. The Annual General Meeting of Shareholders can make management decisions only if requested to do so by the Executive Board.

Change in Control

There are no provisions in the Articles of Incorporation of SAP SE that would have the effect of delaying, deferring or preventing a change in control of SAP SE and that would only operate with respect to a merger, acquisition or corporate restructuring involving it or any of its subsidiaries.

According to the German Securities Acquisition and Takeover Act (Wertpapiererwerbs- und Übernahmegesetz) a bidder seeking control of a company with its corporate seat in Germany or another state of the European Economic Area (EEA) and its shares being traded on an EEA stock exchange must publish an advance notice of its decision to make a tender offer, submit an offer statement to the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) for review, and obtain certification from a qualified financial institution that adequate financing is in place to complete the offer. The offer statement must be published upon approval by the Federal Financial Supervisory Authority or expiry of a certain time period without such publication being prohibited by the Federal Financial Supervisory Authority. Once a shareholder has acquired shares representing at least 30% of the voting rights in an EEA-listed company, it must make an offer for all remaining shares. The Securities Acquisition and Takeover Act requires the executive board of the target company to refrain from taking any measures that may frustrate the success of the takeover offer. However, the target executive board is permitted to take any action that a prudent and diligent management of a company that is not the target of a takeover bid would also take. Moreover, the target executive board may search for other bidders and, with the prior approval of the supervisory board, may take other defensive measures, provided that both boards act within the parameters of their general authority under the German Stock Corporation Act. An executive board may also adopt specific defensive measures if such measures have been approved by the supervisory board and were specifically authorized by the general shareholders' meeting no earlier than 18 months in advance of such measures by a resolution of at least 75% of the shares represented.

Under the European Takeover Directive of 2004 member states had to choose whether EU restrictions on defensive measures apply to companies that are registered in their territory. Germany decided to opt out and to retain its current restrictions on a board implementing defensive measures (as described above). As required by the Directive if a country decides to opt out the German Securities Acquisition and Takeover Act grants companies the option of voluntarily applying the European standard by a change of the Articles of Incorporation (opt-in). SAP SE has not made use of this option.

Change in Share Capital

Under German law, the capital stock may be increased in consideration of contributions in cash or in kind, or by establishing authorized capital or contingent capital or by an increase of the company's capital reserves. Authorized capital provides the Executive Board with the flexibility to issue new shares for a period of up to five years. The Executive Board must obtain the approval of the Supervisory Board before issuing new shares with regard to the authorized capital. Contingent capital allows the issuance of new shares for specified purposes, including stock option plans for Executive Board members or employees and the issuance of shares upon conversion of convertible bonds and exercise of stock options. By law, the Executive Board may only issue new shares with regard to the contingent capital for the specified purposes. Capital increases require an approval by at least 75% of the valid votes cast at the General Meeting of Shareholders in which the increase is proposed, and requires an amendment to the Articles of Incorporation.

The share capital may be reduced by an amendment to the Articles of Incorporation approved by at least 75% of the valid votes cast at the General Meeting of Shareholders. In addition, the Executive Board of SAP SE is allowed to authorize a reduction of the company's capital stock by canceling a defined number of repurchased treasury shares if this repurchasing and the subsequent reduction have already been approved by the General Meeting of Shareholders.

The Articles of Incorporation do not contain conditions regarding changes in the share capital that are more stringent than those provided by applicable European and German law.

Rights Accompanying our Shares

There are no limitations imposed by German law or the Articles of Incorporation of SAP SE on the rights to own securities, including the rights of non-residents or foreign holders to hold the ADRs or ordinary shares, to exercise voting rights or to receive dividends or other payments on such shares.

According to the German stock corporation law, the rights of shareholders cannot be amended without shareholders' consent. The Articles of Incorporation do not provide more stringent conditions regarding changes of the rights of shareholders than those provided by applicable European and German law.

Voting Rights

Each ordinary SAP SE share represents one vote. Cumulative voting is not permitted under applicable European and German law. A corporation's Articles of Incorporation may stipulate a majority necessary to pass a shareholders' resolution differing from the majority provided by law, unless the law mandatorily requires a

certain majority. Section 21 (1) of SAP SE's Articles of Incorporation provides that resolutions may be passed at the General Meeting of Shareholders with a majority of valid votes cast, unless a larger majority is prescribed by law or the Articles of Incorporation. SAP SE's Articles of Incorporation as well as applicable European and German law require that the following matters, among others, be approved by at least 75% of the valid votes cast at the General Meeting of Shareholders in which the matter is proposed:

- changing the corporate purpose of the company set out in the Articles of Incorporation;
- capital increases and capital decreases;
- excluding preemptive rights of shareholders to subscribe for new shares or for treasury shares;
- dissolution;
- a merger into, or a consolidation with, another company;
- a transfer of all or virtually all of the assets;
- a change of corporate form, including re-conversion into a German stock corporation;
- a transfer of the registered seat to another EU member state; and
- any other amendment to the Articles of Incorporation (pursuant to section 21 (2) sentence 1 of the Articles of Incorporation). For any amendments of the Articles of Incorporation which require a simple majority for stock corporations established under German law, however, section 21 (2) sentence 2 of SAP SE's Articles of Incorporation provides that 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 (i.e. two thirds of the votes cast, pursuant to sec. 59 of the SE Regulation) is sufficient.

Dividend Rights

See "[Item 3. Key Information — Dividends](#)."

Preemptive Rights

Shareholders have preemptive rights to subscribe (Bezugsrecht) for any issue of additional shares in proportion to their shareholdings in the issued capital. The preemptive rights may be excluded under certain circumstances by a shareholders' resolution (approved by at least 75% of the valid votes cast at the General Meeting of Shareholders) or by the Executive Board authorized by such shareholders' resolutions and subject to the consent of the Supervisory Board.

Liquidation

If SAP SE were to be liquidated, any liquidation proceeds remaining after all of our liabilities were paid would be distributed to our shareholders in proportion to their shareholdings.

Disclosure of Shareholdings

SAP SE's Articles of Incorporation do not require shareholders to disclose their shareholdings. The German Securities Trading Act (Wertpapierhandelsgesetz), however, requires holders of voting securities of SAP SE to notify SAP SE and the Federal Financial Supervisory Authority of the number of shares they hold if that number reaches, exceeds or falls below specified thresholds. These thresholds are 3%, 5%, 10%, 15%, 20%, 25%, 30%, 50% and 75% of the corporation's outstanding voting rights. In respect of certificates representing shares, the notification requirement shall apply exclusively to the holder of the certificates. In addition, the

German Securities Trading Act also obliges anyone who holds, directly or indirectly, financial instruments that convey an unconditional entitlement to acquire under a legally binding agreement, shares in SAP SE, to notify SAP SE and the Federal Financial Supervisory Authority if the thresholds mentioned above have been reached, exceeded or fallen below, with the exception of the 3% threshold. This notification obligation also exists for the holder of a financial instrument which merely de facto enables its holder or a third party to acquire shares in SAP SE, subject to the thresholds mentioned in the preceding sentence. In connection with this notification, obligation positions in voting rights and other financial instruments have to be aggregated.

Exchange Controls and Other Limitations Affecting Security Holders

The euro is a fully convertible currency. At the present time, Germany does not restrict the export or import of capital, except for investments in certain areas in accordance with applicable resolutions adopted by the United Nations and the European Union. However, for statistical purposes only, every individual or corporation residing in Germany ("Resident") must report to the German Central Bank (Deutsche Bundesbank), subject only to certain immaterial exceptions, any payment received from or made to an individual or a corporation residing outside of Germany ("Non-Resident") if such payment exceeds €12,500 (or the equivalent in a foreign currency). In addition, German Residents (except for individuals and certain financial institutions) must report any accounts payable to or receivable from Non-Residents if such payables or receivables, in the aggregate, exceed €5 million (or the equivalent in a foreign currency) at the end of any calendar month. Furthermore, companies resident in Germany with accounts payable to or receivable from Non-Residents in excess of €500 million have to report any payables or receivables to/from Non-Residents arising from derivative instruments at the end of each calendar quarter. Residents are also required to report annually to the German Central Bank any shares or voting rights of 10% or more which they hold directly or indirectly in non-resident corporations with total assets of more than €3 million. Corporations residing in Germany with assets in excess of €3 million must report annually to the German Central Bank any shares or voting rights of 10% or more held directly or indirectly by a Non-Resident.

Taxation

General

The following discussion is a summary of certain material German tax and U.S. federal income tax consequences of the acquisition, ownership and disposition of our ADRs or ordinary shares to a U.S. Holder. In general, a U.S. Holder (as hereinafter defined) is any beneficial owner of our ADRs or ordinary shares that (i) is a citizen or resident of the U.S. or a corporation organized under the laws of the U.S. or any political subdivision thereof, an estate whose income is subject to U.S. federal income tax regardless of its source or a trust, if a U.S. court can exercise primary supervision over its administration and one or more U.S. persons are authorized to control all substantial decisions of the trust; (ii) is not a resident of Germany for purposes of the income tax treaty between the U.S. and Germany (Convention between the Federal Republic of Germany and the United States of America for the Avoidance of Double Taxation

and the Prevention of Fiscal Evasion with respect to Taxes on Income and Capital and to certain other Taxes, as amended by the Protocol of June 1, 2006 and as published in the German Federal Law Gazette 2008 vol. II pp. 611/851; the "Treaty"); (iii) owns the ADRs or ordinary shares as capital assets; (iv) does not hold the ADRs or ordinary shares as part of the business property of a permanent establishment or a fixed base in Germany; and (v) is fully entitled to the benefits under the Treaty with respect to income and gain derived in connection with the ADRs or ordinary shares. Special rules which are not discussed in the following summary apply to pension funds and certain other tax-exempt investors.

THE FOLLOWING IS NOT A COMPREHENSIVE DISCUSSION OF ALL GERMAN TAX AND U.S. FEDERAL INCOME TAX CONSEQUENCES THAT MAY BE RELEVANT FOR U.S. HOLDERS OF OUR ADRS OR ORDINARY SHARES. THEREFORE, U.S. HOLDERS ARE STRONGLY URGED TO CONSULT THEIR OWN TAX ADVISORS REGARDING THE OVERALL GERMAN TAX AND U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR ADRS OR ORDINARY SHARES IN LIGHT OF THEIR PARTICULAR CIRCUMSTANCES, INCLUDING THE EFFECT OF ANY STATE, LOCAL OR OTHER FOREIGN OR DOMESTIC LAWS.

German Taxation

The summary set out below is based on German tax laws, interpretations thereof and applicable tax treaties to which Germany is a party and that are in force at the date of this report; it is subject to any changes in such authority occurring after that date, potentially with retroactive effect, that could result in German tax consequences different from those discussed below. This discussion is also based, in part, on representations of the Depositary and assumes that each obligation of the Deposit Agreement and any related agreements will be performed in accordance with its terms. For additional information on the Depositary and the fees associated with SAP's ADR program see "[Item 12. Description of Securities Other Than Equity Securities – American Depository Shares](#)".

For purposes of applying German tax law and the applicable tax treaties to which Germany is a party, a holder of ADRs will generally be treated as owning the ordinary shares represented thereby.

German Taxation of Dividends

Under German income tax law, the full amount of dividends distributed by an incorporated company is generally subject to German withholding tax at a domestic rate of 25% plus a solidarity surtax of 5.5% thereon (effectively 1.375% of dividends before withholding tax), resulting in an aggregate withholding tax rate from dividends of 26.375%. From January 1, 2017 onwards, taxes are incurred on the third bank working day after the annual general meeting, or at a later date as may be stipulated by SAP's Articles of Incorporation or by the annual general meeting's decision on dividends. Non-resident corporate shareholders will generally be entitled to a refund in the amount of two-fifths of the withholding tax (including solidarity surtax thereon). This does not preclude a further reduction or refund of withholding tax, if any, available under a relevant tax treaty.

Generally, for many non-resident shareholders the withholding tax rate is currently reduced under applicable income tax treaties. Rates and refund procedures may vary according to the applicable treaty. To reduce the withholding tax to the applicable treaty tax rate a non-resident shareholder must apply for a refund of withholding

taxes paid. Claims for refund, if any, are made on a special German claim for refund form, which must be filed with the German Federal Tax Office (Bundeszentralamt für Steuern, D-53221 Bonn, Germany; <http://www.bzst.de>). The relevant forms can be obtained from the German Federal Tax Office. For details, such non-resident shareholders are urged to consult their own tax advisors. Special rules apply for the refund to U.S. Holders (we refer to the below section "Refund Procedures for U.S. Holders").

Refund Procedures for U.S. Holders

Under the Treaty, a partial refund of the 25% withholding tax equal to 10% of the gross amount of the dividend and a full refund of the solidarity surtax can be obtained by a U.S. Holder. Thus, for each US\$100 of gross dividends paid by SAP SE to a U.S. Holder, the dividends (which are dependent on the euro/U.S. dollar exchange rate at the time of payment) will be initially subject to a German withholding tax of US\$26.375, of which US\$11.375 may be refunded under the Treaty. As a result, a U.S. Holder effectively would receive a total dividend of US\$85 (provided the euro/U.S. dollar exchange rate at the time of payment of the dividend is the same as at the time of refund, otherwise the effective dividend may be higher or lower). Further relief of German withholding tax under the Treaty may be available for corporate U.S. Holders owning at least 10% of the voting stock of SAP or U.S. Holders qualifying as pension fund within the meaning of the Treaty, subject to further requirements being met, in particular certain holding requirements.

To claim the refund of amounts withheld in excess of the Treaty rate, a U.S. Holder must submit (either directly or, as described below, through the Data Medium Procedure participant) a claim for refund to the German tax authorities, with, in the case of a direct claim, the original bank voucher (or certified copy thereof) issued by the paying entity documenting the tax withheld, within four years from the end of the calendar year in which the dividend is received. Claims for refund are made on a special German claim for refund form, which must be filed with the German Federal Tax Office (Bundeszentralamt für Steuern, D-53221 Bonn, Germany). The German claim for refund forms may be obtained from the German tax authorities at the same address where applications are filed or can be downloaded from the homepage of the German Federal Tax Office (<http://www.bzst.de>).

U.S. Holders must also submit to the German tax authorities a certification of their U.S. residency status (IRS Form 6166). This certification can be obtained from the Internal Revenue Service by filing a request for certification (generally on an IRS Form 8802, which will not be processed unless a user fee is paid) with the Internal Revenue Service, P.O. Box 71052, Philadelphia, PA 19176-6052. U.S. Holders should consult their own tax advisors regarding how to obtain an IRS Form 6166.

An IT-supported quick-refund procedure is available for dividends received (the "Data Medium Procedure — DMP"). If the U.S. Holder's bank or broker elects to participate in the DMP, it will perform administrative functions necessary to claim the Treaty refund for the beneficiaries. The refund beneficiaries must confirm to the DMP participant that they meet the conditions of the Treaty provisions and that they authorize the DMP participant to file applications and receive notices and payments on their behalf. Further each refund beneficiary must confirm that (i) it is the beneficial owner of the dividends received; (ii) it is resident in the U.S. in the meaning of the Treaty; (iii) it does not have its domicile, residence or place of

management in Germany; (iv) the dividends received do not form part of a permanent establishment or fixed base in Germany; and (v) it commits, due to its participation in the DMP, not to claim separately for refund.

The beneficiaries also must provide an IRS Form 6166 certification with the DMP participant. The DMP participant is required to keep these documents in its files and prepare and file a combined claim for refund with the German tax authorities by electronic media. The combined claim provides evidence of a U.S. Holder's personal data including its U.S. Tax Identification Number.

The German tax authorities reserve the right to audit the entitlement to tax refunds for several years following their payment pursuant to the Treaty in individual cases. The DMP participant must assist with the audit by providing the necessary details or by forwarding the queries to the respective refund beneficiaries.

The German tax authorities will issue refunds denominated in euros. In the case of shares held through banks or brokers participating in the Depository, the refunds will be issued to the Depository, which will convert the refunds to U.S. dollar. The resulting amounts will be paid to banks or brokers for the account of the U.S. Holders.

German Taxation of Capital Gains

Under German income tax law, a capital gain derived from the sale or other disposition of ADRs or ordinary shares by a non-resident shareholder is subject to income tax in Germany only if such non-resident shareholder has held, directly or indirectly, ADRs or ordinary shares representing 1% or more of the registered share capital of a company at any time during the five-year period immediately preceding the sale or other disposition.

However, a U.S. Holder of ADRs or ordinary shares that qualifies for benefits under the Treaty is not subject to German income or corporate income tax on the capital gain derived from the sale or other disposition of ADRs or ordinary shares.

German Gift and Inheritance Tax

Generally, a transfer of ADRs or ordinary shares by a shareholder at death or by way of gift will be subject to German gift or inheritance tax, respectively, if (i) the decedent or donor, or the heir, donee or other transferee is resident in Germany at the time of the transfer, or with respect to German citizens who are not resident in Germany, if the decedent or donor, or the heir, donee or other transferee has not been continuously outside of Germany for a period of more than five years; (ii) the ADRs or ordinary shares are part of the business property of a permanent establishment or a fixed base in Germany; or (iii) the ADRs or ordinary shares subject to such transfer form part of a portfolio that represents 10% or more of the registered share capital of the Company and has been held, directly or indirectly, by the decedent or donor, respectively, at the time of the transfer, actually or constructively together with related parties.

However, the right of the German government to impose gift or inheritance tax on a non-resident shareholder may be limited by an applicable estate tax treaty. In the case of a U.S. Holder, a transfer of ADRs or ordinary shares by a U.S. Holder at death or by way of gift generally will not be subject to German gift or inheritance tax by reason of the estate tax treaty between the U.S. and Germany (Convention between the Federal Republic of Germany and the United States of America for the Avoidance of Double Taxation with respect to Estate, Gift and Inheritance Taxes, German Federal Law Gazette 1982 vol. II page 846, as amended by the Protocol of

December 14, 1998 and as published on December 21, 2000, German Federal Law Gazette 2001 vol. II, page 65; the "Estate Tax Treaty") so long as (i) the decedent or donor, and (ii) the heir, donee or other transferee was not domiciled in Germany for purposes of the Estate Tax Treaty at the time the gift was made, or at the time of the decedent's death, and the ADRs or ordinary shares were not held in connection with a permanent establishment or a fixed base in Germany. In general, the Estate Tax Treaty provides a credit against the U.S. federal gift or estate tax liability for the amount of gift or inheritance tax paid in Germany, subject to certain limitations, in a case where the ADRs or ordinary shares are subject to German gift or inheritance tax and U.S. federal gift or estate tax.

Other German Taxes

There are currently no German net worth, transfer, stamp or other similar taxes that would apply to a U.S. Holder on the acquisition, ownership, sale or other disposition of our ADRs or ordinary shares.

U.S. Taxation

The following discussion applies to U.S. Holders only if the ADRs and ordinary shares are held as capital assets for tax purposes. It does not address tax considerations applicable to U.S. Holders that may be subject to special tax rules, such as dealers or traders in securities, financial institutions, insurance companies, tax-exempt entities, regulated investment companies, U.S. Holders that hold ordinary shares or ADRs as a part of a straddle, conversion transaction or other arrangement involving more than one position, U.S. Holders that own (or are deemed for U.S. tax purposes to own) 10% or more (by vote or value) of the stock of SAP SE, U.S. Holders subject to special tax accounting rules as a result of any item of gross income with respect to the ADRs or shares being taken into account in the applicable financial statement, U.S. Holders that have a principal place of business or "tax home" outside the United States or U.S. Holders whose "functional currency" is not the U.S. dollar and U.S. Holders that hold ADRs or ordinary shares through partnerships or other pass-through entities.

The summary set out below is based upon the U.S. Internal Revenue Code of 1986, as amended (the "Code"), the Treaty and regulations, rulings and judicial decisions thereunder at the date of this report. Any such authority may be repealed, revoked or modified, potentially with retroactive effect, so as to result in U.S. federal income tax consequences different from those discussed below. No assurance can be given that the conclusions set out below would be sustained by a court if challenged by the IRS. The discussion below is based, in part, on representations of the Depositary, and assumes that each obligation in the Deposit Agreement and any related agreements will be performed in accordance with its terms.

For U.S. federal income tax purposes, a U.S. Holder of ADRs will be considered to own the ordinary shares represented thereby. Accordingly, unless the context otherwise requires, all references in this section to ordinary shares are deemed to refer likewise to ADRs representing an ownership interest in ordinary shares.

U.S. Taxation of Dividends

Subject to the discussion below under "Passive Foreign Investment Company Considerations", distributions made by SAP SE with respect to ordinary shares (other than distributions in liquidation and certain distributions in redemption of stock),

including the amount of German tax deemed to have been withheld in respect of such distributions, will generally be taxed to U.S. Holders as ordinary dividend income.

As discussed above, a U.S. Holder may obtain a refund of German withholding tax under the Treaty to the extent that the German withholding tax exceeds 15% of the dividend distributed. Thus, for each US\$100 of gross dividends paid by SAP SE to a U.S. Holder, the dividends (which are dependent on the euro/U.S. dollar exchange rate at the time of payment) will be initially subject to German withholding tax of US\$25 plus US\$1.375 solidarity surtax, and the U.S. Holder will receive US\$73.625. A U.S. Holder who obtains the Treaty refund will receive from the German tax authorities an additional amount in euro that would be equal to US\$11.375. For U.S. tax purposes, such U.S. Holder will be considered to have received a total distribution of US\$100, which will be deemed to have been subject to German withholding tax of US\$15 (15% of US\$100) resulting in the net receipt of US\$85 (provided the euro/U.S. dollar exchange rate at the time of payment of the dividend is the same as at the time of refund, otherwise the effective dividend may be higher or lower).

In the case of a distribution in euro, the amount of the distribution generally will equal the U.S. dollar value of the euro distributed (determined by reference to the spot currency exchange rate on the date of receipt of the distribution, or receipt by the Depositary in the case of a distribution on ADRs), regardless of whether the holder in fact converts the euro into U.S. dollar, and the U.S. Holder will not realize any separate foreign currency gain or loss (except to the extent that such gain or loss arises on the actual disposition of foreign currency received). However, a U.S. Holder may be required to recognize foreign currency gain or loss on the receipt of a refund in respect of German withholding tax to the extent the U.S. dollar value of the refund differs from the U.S. dollar equivalent of that amount on the date of receipt of the underlying dividend.

Dividends paid by SAP SE generally will constitute "portfolio income" for purposes of the limitations on the use of passive activity losses (and, therefore, generally may not be offset by passive activity losses) and as "investment income" for purposes of the limitation on the deduction of investment interest expense. Dividends paid by SAP SE will not be eligible for the dividends received deduction generally allowed to U.S. corporations under Section 243 of the Code. Dividends paid by SAP SE to an individual are treated as "qualified dividends" (assuming the holding requirement is met) subject to capital gains rates, i.e. at a maximum rate of 20%, if SAP SE was not in the prior year and, is not in the year in which the dividend is paid, a passive foreign investment company ("PFIC"). Based on our audited financial statements and relevant market and shareholder data, we believe that we were not treated as a PFIC for U.S. federal income taxes with respect to our 2020 tax year. In addition, based on our audited financial statements and our current expectations regarding the value and nature of our assets, the sources and nature of our income, and relevant market and shareholder data, we do not anticipate becoming a PFIC for the 2021 tax year. Certain US holders who are individuals, trusts, or estates, must pay a Medicare tax at a rate of 3.8% on the lesser of (i) net investment income such as dividends and (ii) the excess of modified adjusted gross income over the statutory thresholds.

U.S. Taxation of Capital Gains

In general, assuming that SAP SE at no time is a PFIC, upon a sale or exchange of ordinary shares to a person other than SAP SE, a U.S. Holder will recognize gain or loss in an amount equal to the difference between the amount realized on the sale or exchange and the U.S. Holder's adjusted tax basis in the ordinary shares. Such gain or loss will be a capital gain or loss and will be considered a long-term capital gain (taxable at a reduced rate for individuals) if the ordinary shares were held for more than one year. Capital gains may also be subject to the Medicare tax at a rate of 3.8%. The deductibility of capital losses is subject to significant limitations. Upon a sale of ordinary shares to SAP SE, a U.S. Holder may recognize a capital gain or loss or, alternatively, may be considered to have received a distribution with respect to the ordinary shares, in each case depending upon the application to such sale of the rules of Section 302 of the Code.

Deposit and withdrawal of ordinary shares in exchange for ADRs by a U.S. Holder will not result in its realization of gain or loss for U.S. federal income tax purposes.

U.S. Information Reporting and Backup Withholding

Dividend payments made to holders and proceeds paid from the sale of shares or ADRs are subject to information reporting to the Internal Revenue Service and will be subject to backup withholding taxes (currently imposed at a 24% rate for 2020-2025) unless the holder (i) is a corporation or other exempt recipient or (ii) provides a taxpayer identification number on a properly completed IRS Form W-9 and certifies that no loss of exemption from backup withholding has occurred. Holders that are not U.S. persons are not subject to information reporting or backup withholding. However, such a holder may be required to provide a certification of its non-U.S. status in connection with payments received within the United States or through a U.S.-related financial intermediary.

Backup withholding is not an additional tax and any amounts withheld as backup withholding may be credited against a holder's U.S. federal income tax liability. A holder may obtain a refund of any excess amounts withheld under the backup withholding rules by

timely filing the appropriate claim for refund with the Internal Revenue Service and furnishing any required information.

Shareholders may be subject to other U.S. information reporting requirements and should consult their own tax advisors for application of these reporting requirements to their own facts and circumstances.

U.S. Foreign Tax Credit

In general, in computing its U.S. federal income tax liability, a U.S. Holder may elect for each taxable year to claim a deduction or, subject to the limitations on foreign tax credits generally, a credit for foreign income taxes paid or accrued by it. For U.S. foreign tax credit purposes, subject to the applicable limitations under the foreign tax credit rules, German tax withheld from dividends paid to a U.S. Holder, up to the 15% provided under the Treaty will be eligible for credit against the U.S. Holder's federal income tax liability or, if the U.S. Holder has elected to deduct such taxes, may be deducted in computing taxable income. U.S. Holders should consult their tax advisors about potential U.S. tax consequences of German tax withheld and/or refunded, including with respect to fluctuation of the euro/U.S. dollar exchange rate.

For U.S. foreign tax credit purposes, dividends paid by SAP SE generally will be treated as foreign-source income and as "passive category income". Gains or losses realized by a U.S. Holder on the sale or exchange of ordinary shares generally will be treated as U.S.-source gain or loss.

Passive Foreign Investment Company Considerations

Special and adverse U.S. tax rules apply to a U.S. Holder that holds an interest in a passive foreign investment company (PFIC). Based on current projections concerning the composition of SAP SE's income and assets, SAP SE does not believe that it will be treated as a PFIC for its current or future taxable years. However, because this conclusion is based on our current projections and expectations as to its future business activity, SAP SE can provide no assurance that it will not be treated as a PFIC in respect of its current or any future taxable years.

Material Contracts

See "*Item 5. Operating and Financial Review and Prospects—Liquidity and Capital Disclosures*", for information on our credit facilities.

Documents on Display

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended. In accordance with these requirements, we file reports and furnish other information as a foreign private issuer with the SEC. These materials, including this report and the exhibits thereto, are available at www.sec.gov. In addition, information about us is available at our Web site: www.sap.com.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to various financial risks, such as market risks, including changes in foreign currency exchange rates, interest rates and equity prices, as well as credit risk and liquidity risk. We manage these risks on a Group-wide basis. Selected derivatives are exclusively used for this purpose and not for speculation, which is defined as entering into derivative instruments without a corresponding underlying transaction. Financial risk management is done centrally. See [Note \(F.1\)](#) to our Consolidated Financial Statements for our quantitative and qualitative disclosures about market risk.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

American Depository Shares

Fees and Charges Payable by ADR Holders

Deutsche Bank Trust Company Americas is the Depositary for SAP SE's ADR program. ADR holders may be required to pay the following charges:

- taxes and other governmental charges;
- registration fees as may be in effect from time to time for the registration of transfers of SAP ordinary shares on any applicable register to the Depositary or its nominee or the custodian or its nominee in connection with deposits or withdrawals under the Deposit Agreement;
- applicable air courier, cable, telex and facsimile expenses of the Depositary;
- expenses incurred by the Depositary in the conversion of foreign currency;
- US \$5.00 or less per 100 ADSs (or portion thereof) to the Depositary for the execution and delivery of ADRs (including in

connection with the depositing of SAP ordinary shares or the exercising of rights) and the surrender of ADRs;

- a maximum aggregate service fee of US \$3.00 per 100 ADSs (or portion thereof) per calendar year to the Depositary for the services performed by the Depositary in administering the ADR program, including for processing any cash dividends and other cash distributions; and
- US \$5.00 or less per 100 ADSs (or portion thereof) to the Depositary for distribution of securities other than SAP ordinary shares or rights.

These fees may at any time and from time to time be changed by agreement between SAP SE and the Depositary. These charges are described more fully in Section 5.9 of the Amended and Restated Deposit Agreement dated as of November 25, 2009, as amended by Amendment No. 1 dated as of March 18, 2016 and as may be further amended from time to time, incorporated by reference as Exhibits 4.1.1 and 4.1.2 to this report.

Applicable service fees are either deducted from any cash dividends or other cash distributions or charged separately to holders in a manner determined by the Depositary, depending on whether ADSs are registered in the name of investors (whether certificated or in book-entry form) or held in brokerage and custodian accounts (via DTC). In the case of distributions of securities, the Depositary charges the applicable ADS record date holder concurrent with the distribution. In the case of ADSs registered in the name of the investor, whether certificated or in book entry form, the Depositary sends invoices to the applicable record date ADS holders. For ADSs held in brokerage and custodian accounts via DTC, the Depositary may, if permitted by the settlement systems provided by DTC, collect the fees through those settlement systems from the brokers and custodians holding ADSs in their DTC accounts. The brokers and custodians who hold their clients' ADSs in DTC accounts in such case may in turn charge their clients' accounts the amount of the service fees paid to the Depositary.

In the event of a refusal to pay applicable fees, the Depositary may refuse the requested services until payment is received or may set off the amount of the fees from any distribution to be made to the ADR holder, all in accordance with the Deposit Agreement.

If any taxes or other governmental charges are payable by the holders and/or beneficial owners of ADSs to the Depositary, the Depositary, the custodian or SAP may withhold or deduct from any distributions made in respect of the deposited SAP ordinary share and may sell for the account of the holder and/or beneficial owner any or all of the deposited ordinary shares and apply such distributions and sale proceeds in payment of such taxes (including applicable interest and penalties) or charges, with the holder and the beneficial owner thereof remaining fully liable for any deficiency.

Fees and Other Payments Payable by the Depositary to SAP

In connection with the ADR program, the Depositary has agreed to make certain payments to SAP and waive certain costs of providing ADR administrative and reporting services, including reporting of ADR program activity, distribution of information to investors and managing the ADR program. For the period beginning November 25, 2019 and ending October 28, 2020, the Depositary made direct and indirect payments to SAP in an aggregate amount of US\$2,276,363.25 related to the ADR program.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

None.

ITEM 15. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Disclosure controls and procedures are controls and other procedures of SAP that are designed to ensure that information required to be disclosed by SAP in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by SAP in the reports that it files or submits under the Exchange Act is accumulated and communicated to SAP management, including SAP's principal

executive and financial officers (i.e. SAP's chief executive officer (CEO) and chief financial officer (CFO)), or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. SAP's management evaluated, with the participation of SAP's CEO and CFO the effectiveness of SAP's disclosure controls and procedures as of December 31, 2020. The evaluation was led by SAP's Global Risk & Assurance Services function, including dedicated "SOX Champions" in all of SAP's major entities and business units with the participation of process owners, SAP's key corporate senior management, senior management of each business group, and as indicated above under the supervision of SAP's CEO and CFO. Based on the foregoing, SAP's management, including SAP's CEO and CFO, concluded that as of December 31, 2020, SAP's disclosure controls and procedures were effective.

Management's Annual Report on Internal Control Over Financial Reporting

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 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 of December 31, 2020. 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 of December 31, 2020, the Company's internal control over financial reporting was effective.

KPMG AG Wirtschaftsprüfungsgesellschaft, our independent registered public accounting firm, has issued its audit report on the effectiveness of SAP's internal control over financial reporting, which is included in [Item 18. Financial Statements, "Report of Independent Registered Public Accounting Firm."](#)

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting framework during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. [RESERVED]

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our Supervisory Board has determined that Dr. Gunnar Wiedenfels is an "audit committee financial expert", as defined by the regulations of the Commission issued pursuant to Section 407 of the Sarbanes-Oxley Act of 2002 and meeting the requirements of Item 16A. He is "independent", as such term is defined in Rule 10A-3 under the Exchange Act.

ITEM 16B. CODE OF ETHICS

In 2003, SAP adopted a Code of Business Conduct that applies to all employees (including all personnel in the accounting and controlling departments), managers and the members of SAP's Executive Board (including our CEO and CFO). Our Code of Business Conduct constitutes a "code of ethics" as defined in Item 16.B of Form 20-F. Our Code of Business Conduct sets standards for all dealings with customers, partners, competitors and suppliers and includes, among others, regulations with regard to confidentiality, loyalty, preventing conflicts of interest, preventing bribery, data protection and privacy and avoiding anti-competitive practices. International differences in culture, language, and legal and social systems make the adoption of uniform Codes of Business Conduct across an entire global company challenging. As a result, SAP has set forth a master code containing minimum standards. In turn, each company within the SAP Group has been required to adopt a similar code that meets at least these minimum standards, but may also include additional or more stringent rules of conduct. Newly acquired companies also are required to meet the minimum standards set forth in the Code of Business Conduct. SAP amends its Code of Business Conduct as necessary, including in February 2012 and December 2016, and most recently in March 2018. We have made our amended Code of Business Conduct publicly available by posting the full text on our Web site under <http://www.sap.com/corporate-en/investors/governance/policies-statutes.epx>.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Audit Fees, Audit Related Fees, Tax Fees and All Other Fees

Refer to [Note \(G.7\)](#) to our Consolidated Financial Statements for information on fees charged by our independent registered public accounting firm, KPMG, for audit services and other professional services.

Audit Committee's Pre-Approval Policies and Procedures

As required under German law, our shareholders appoint our external independent auditors to audit our financial statements, based on a proposal that is legally required to be submitted by the Supervisory Board. The Supervisory Board's proposal is based on a recommendation by the Audit Committee. See also the description in "[Item 10. Additional Information – Corporate Governance](#)."

In 2002 our Audit Committee adopted a policy with regard to the pre-approval of audit and non-audit services to be provided by our external independent auditors. This policy, which is designed to assure that such engagements do not impair the independence of our auditors, was amended several times since 2002 with the latest changes made to reflect the provisions on audit and non-audit services introduced by European Union in 2014. The policy requires prior approval of the Audit Committee for all services to be provided by our external independent auditors for any entity of the SAP Group. With regard to non-audit services the policy distinguishes among three categories of services:

- "Prohibited services:" This category includes services that our external independent auditors must not be engaged to perform. These are services that are not permitted by applicable law or that would be inconsistent with maintaining the auditors' independence.
- "Services requiring universal approval:" Services of this category may be provided by our external independent auditors up to a certain aggregate amount in fees per year that is determined by the Audit Committee.
- "Services requiring individual approval:" Services of this category may only be provided by our external independent auditors if they have been individually (specifically) pre-approved by the Audit Committee or an Audit Committee member who is authorized by the Audit Committee to make such approvals.

Our Chief Accounting Officer or individuals empowered by him review all individual requests to engage our external independent auditors as a service provider in accordance with this policy and determines the category to which the requested service belongs. All requests for engagements with expected fees over a specified limit are additionally reviewed by our CFO. Based on the determination of the category the request is (i) declined if it is a "prohibited service," (ii) approved if it is a "service requiring universal approval" and the maximum aggregate amount fixed by the Audit Committee has not been reached or (iii) forwarded to the Audit Committee for individual

approval if the "service requires individual approval" or is a "service requiring universal approval" and the maximum aggregate amount fixed by the Audit Committee has been exceeded.

Our Audit Committee's pre-approval policies also include information requirements to ensure the Audit Committee is kept aware of the volume of engagements involving our external independent auditors that were not individually pre-approved by the Audit Committee itself.

Substantially all of the work performed to audit our Consolidated Financial Statements was performed by our principal independent public accounting firm's full-time, permanent employees.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Rule 10A-3 of the Exchange Act requires that all members of our audit committee be independent, subject to certain exceptions. In accordance with German law, the Audit Committee consists of both employee and shareholder elected members. Rule 10A-3 provides an exception for an employee of a foreign private issuer such as SAP who is not an executive officer of that issuer and who is elected to the supervisory board or audit committee of that issuer pursuant to the issuer's governing law. In this case, the employee is exempt from the independence requirements of Rule 10A-3 and is permitted to sit on the audit committee.

We rely on this exemption. Our Audit Committee includes three employee representatives, Panagiotis Bissiritsas, Margret Klein-

Magar and James Wright, who were appointed to our Supervisory Board pursuant to the Agreement on the Involvement of Employees in SAP SE (see "[Item 6. Directors, Senior Management and Employees](#)." for details). We believe that our reliance on this exemption does not materially adversely affect the ability of our Audit Committee to act independently and to satisfy the other requirements of Rule 10A-3.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

At the Annual General Meeting of Shareholders on May 17, 2018, the Executive Board was authorized to acquire, on or before May 16, 2023, up to 120 million shares of SAP. The authorization from May 17, 2018 replaced the authorization from June 4, 2013.

The authorization is subject to the provision that the shares to be purchased, together with any other shares already acquired and held by SAP or which are attributable to SAP pursuant to Section 71d and Section 71e AktG (German Stock Corporation Act), do not account for more than 10% of SAP's capital stock.

We did not purchase any ADRs in 2020. The following table sets out information concerning repurchases of SAP's ordinary shares. We completed a share buyback program in the first quarter of 2020, totaling approximately €1.5 billion. The maximum number of SAP shares that SAP could additionally purchase under existing repurchase programs was 73,925,531 as of December 31, 2020.

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid per Share (in €)	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans and Programs	(d) Maximum Number of Shares that May Yet Be Purchased Under these Plans and Programs
January 2020	0	—	0	87,996,069
February 2020	0	—	0	87,996,069
March 2020	14,070,538	106.04	14,070,538	73,925,531
April 2020	0	—	0	73,925,531
May 2020	0	—	0	73,925,531
June 2020	0	—	0	73,925,531
July 2020	0	—	0	73,925,531
August 2020	0	—	0	73,925,531
September 2020	0	—	0	73,925,531
October 2020	0	—	0	73,925,531
November 2020	0	—	0	73,925,531
December 2020	0	—	0	73,925,531
Total	14,070,538	106.04	14,070,538	

ITEM 16F. CHANGES IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. DIFFERENCES IN CORPORATE GOVERNANCE PRACTICES

The following summarizes the principal ways in which our corporate governance practices differ from the NYSE corporate governance rules applicable to U.S. domestic issuers (the NYSE Rules).

Introduction

SAP is incorporated under the laws of the European Union and Germany, with securities publicly traded on markets in Germany, including the Frankfurt Exchange and in the United States on the NYSE.

The NYSE Rules permit foreign private issuers to follow applicable home country corporate governance practices in lieu of the NYSE corporate governance standards, subject to certain exceptions. Foreign private issuers electing to follow home country corporate governance rules are required to disclose the principal differences in their corporate governance practices from those required under the NYSE Rules. This Item 16G summarizes the principal ways in which SAP's corporate governance practices differ from the NYSE Rules applicable to domestic issuers.

Legal Framework

The primary sources of law relating to the corporate governance of a European Company are the Council Regulation (EC) No. 2157/2001 on the Statute for a European Company (the "SE Regulation"), the German Act on the Implementation of Council Regulation No. 2157/2001 of October 8, 2001 on the Statute for a European Company (Gesetz zur Ausführung der Verordnung (EG) Nr. 2157/2001 des Rates vom 8. Oktober 2001 über das Statut der Europäischen Gesellschaft (SE) – SE-Ausführungsgesetz; "SE-AG") of December 22, 2004, and the German Stock Corporation Act (Aktiengesetz). Additionally, the European Regulation (EU) No 596/2014 of the European Parliament and the Council on market abuse (the "MAR"), the German Securities Trading Act (Wertpapierhandelsgesetz), the German Securities Purchase and Take Over Act (Wertpapiererwerbs- und Übernahmegesetz), the Stock Exchange Admission Regulations, the German Commercial Code (Handelsgesetzbuch) and certain other German statutes contain corporate governance rules applicable to SAP. In addition to these mandatory rules, the German Corporate Governance Code ("GCGC") summarizes the mandatory statutory corporate governance principles found in the German Stock Corporation Act

and other provisions of German law. Further, the GCGC contains supplemental recommendations and suggestions for standards on responsible corporate governance intended to reflect generally accepted best practices.

The German Stock Corporation Act requires the executive and the supervisory board of publicly listed companies like SAP to declare annually that the recommendations set forth in the GCGC have been and are being complied with or which of the recommendations have not been or are not being complied with and why not. SAP disclosed and reasoned deviations from a few of the GCGC recommendations in its Declaration of Implementation on a yearly basis from 2003 onwards. In its most recent Declaration of Implementation issued in October 2020, SAP declared that it has complied with all recommendations set out in the GCGC since the last declaration. However, since July 1, 2020 no deductible (Selbstbehalt) has been agreed in the D&O insurance for the members of the Supervisory Board since the relevant recommendation is no longer contained in the current version of the Code. In the future, SAP will comply with the recommendations set out in the Code with the following exception: Disbursement of remaining variable remuneration components if an Executive Board member's service contract is terminated (precautionary declaration of non-conformity with recommendation G.12 GCGC). The service contracts for Executive Board members and the renumeration system in place for the Executive Board of SAP provide that in the event of a premature termination of the service contract for Executive Board members due to a change of control (as defined in the service contract for Executive Board members) the tranches already granted under the SAP Long-Term Incentive program 2020 (LTI 2020) will be disbursed without undue delay. The disbursement will be made pro rata temporis in the proportion which the actual term that was shortened due to the change of control bears to the four-year-term of a tranche plus 50% of the portion which should be forfeited if pro rata temporis aspects alone were considered. In view of the above, SAP declares, by way of precaution, non-conformity with the recommendation set out in section G.12 GCGC. The reason for the provision described above is that a change of control regularly entails changes within a company that let it appear unjustified to make the disbursement amount from long-term variable remuneration components dependent on the performance of the company and its share price after the change of control. In addition, SAP is convinced that the intended linkage of the remuneration to sustainable and long-term development is not lost due to this provision since the Executive Board members, during their term of service, cannot expect a change of control to later occur. Declarations from 2012 forward are available on the SAP website.

Significant Differences

We believe the following to be the significant differences between applicable European and German corporate governance practices, as SAP has implemented them, and those applicable to domestic companies under the NYSE Rules.

SAP SE is a European Company With a Two-Tier Board System

SAP is governed by three separate bodies: (i) the Supervisory Board, which counsels, supervises and controls the Executive Board;

(ii) the Executive Board, which is responsible for the management of SAP; and (iii) the General Meeting of Shareholders. The rules applicable to these governing bodies are defined by European and German law and by SAP's Articles of Incorporation. This corporate structure differs from the unitary board of directors established by the relevant laws of all U.S. states and the NYSE Rules. Under the SE Regulation and the German Stock Corporation Act, the Supervisory Board and Executive Board are separate and no individual may be a member of both boards. See "[Item 10. Additional Information – Corporate Governance](#)" for additional information on the corporate structure.

Director Independence Rules

The NYSE Rules require that a majority of the members of the board of directors of a listed issuer and each member of its nominating, corporate governance, compensation and audit committee be "independent." As a foreign private issuer, SAP is not subject to the NYSE board, compensation committee and corporate governance committee independence requirements but instead can elect to follow its home country rules. With respect to the audit committee, SAP is required to satisfy Rule 10A-3 of the Exchange Act, which provides certain exemptions from the audit committee independence requirements in the case of employee board representatives. The NYSE Rules stipulate that no director qualifies as "independent" unless the board of directors has made an affirmative determination that the director has no material direct or indirect relationship with the listed company. However, under the NYSE Rules a director may still be deemed independent even if the director or a member of a director's immediate family has received during a 12-month period within the prior three years up to \$120,000 in direct compensation. In addition, a director may also be deemed independent even if a member of the director's immediate family works for the company's auditor in a non-partner capacity and not on the company's audit.

By contrast, the German Stock Corporation Act and the GCGC require that the Supervisory Board ensure that its members collectively have the knowledge, competencies and professional experience required to properly perform their duties. Additionally, the GCGC recommends that the Supervisory Board must have an appropriate number of independent shareholder representative members, as determined by those members, that also reflects the shareholder structure (C.6 GCGC), and determine annually whether such numbers have been met. More than half of the shareholder representatives must be independent from the company and from the Executive Board (C.7 GCGC). According to this definition, a Supervisory Board member is considered independent if s/he is independent from the company and the Executive Board, and independent from any controlling shareholder (C.6 GCGC). In the absence of a controlling shareholder at SAP, this last proviso does not apply. Supervisory Board members are considered independent from the company and the Executive Board if they have no personal or business relationship with the company or the Executive Board that may cause a substantial and not merely temporary conflict of interest (C.7 GCGC). Independence is assessed against a set of indicators (C.7 GCGC). The assessment should particularly take into consideration whether the Supervisory Board member (or a close family member) (i) was a member of the company's Executive Board in the two years prior to the appointment to the Supervisory Board; (ii) has, or in the year prior to the appointment, had, directly

or as a shareholder, or in a leading position at a non-group entity, a material business relationship with the company or one of the entities dependent on the company (for example, as a customer, supplier, lender, or advisor); (iii) is a close family member of a member of the Executive Board; (iv) has been a member of the Supervisory Board for more than 12 years. Under the Code, a Supervisory Board member can still be deemed independent even if one or more of the indicators applies; if one or more of the indicators applies and the Supervisory Board member concerned is still considered independent, the reasons for this must be given in the Corporate Governance Statement (C.8 GCGC). According to section C.10 GCGC, the chairpersons of the Supervisory Board, the Audit Committee, and the committee that addresses Executive Board compensation should be independent from the company and the Executive Board. The members of the Supervisory Board must ensure that they have enough time to perform their board duties and must carry out their duties carefully and in the company's best interests. They must be loyal to SAP in their conduct, and the GCGC recommends that they should not accept appointment to governing bodies of, or exercise advisory functions at, companies that are in significant competition with SAP. The GCGC further recommends that each member of the Supervisory Board should inform the Supervisory Board of any conflicts of interest, and that material and sustained conflicts of interest involving a member of the Supervisory Board should result in the termination of that member's Supervisory Board mandate. Supervisory Board members must disclose any planned conclusion of advisory or other service agreements or contracts for work with SAP, or loan agreements between them or persons closely related to them and SAP to the Supervisory Board promptly. Such agreements require the consent of the Supervisory Board. The Supervisory Board may grant its permission for any such transaction only if it is based on terms and conditions that are standard for the type of transaction in question and if the transaction is not contrary to SAP's interest.

SAP complies with the director independence requirements and recommendations described above. In particular, the Supervisory Board of SAP SE determined in fiscal year 2020 that the shareholder representatives are all independent in the meaning of the recommendations at sections C.6 and C.7 of the Code, and, likewise, in accordance with the recommendation at section C.7 of the Code, more than half of the shareholder representatives are independent from the company and the Executive Board. In this context, the shareholder representatives determined that five (and thus more than half their total number) constitutes an appropriate number of independent shareholder representative members. Consequently, they determined that, when also considering the company's shareholder structure, the Supervisory Board has an appropriate number of independent members in the meaning of section C.6 of the Code.

Section D.4 of the GCGC recommends that the chairperson of the Audit Committee of the Supervisory Board should have specific knowledge and experience in applying accounting principles and internal control procedures, and should be independent. Furthermore, the chairperson of the Audit Committee should not simultaneously chair the Supervisory Board as a whole. Dr. Gunnar Wiedenfels who is the current Chairman of the Audit Committee meets these recommendations. However, applicable European and German corporate law does not require the Supervisory Board to make an affirmative determination for each individual member that

it is independent or that a majority of Supervisory Board members or the members of a specific committee are independent. As described above, the GCGC only recommends that the shareholder representatives on the Supervisory Board determine whether they are independent in the meaning of and in compliance with the Code.

The NYSE independence requirements are closely linked with risks specific to unitary boards of directors that are customary for U.S. companies. In contrast, the two-tier board structure requires a strict separation of the executive board and supervisory board. In addition, the supervisory board of a European Company formed by conversion from a large German stock corporation which was subject to the principle of employee codetermination as outlined in the German Co-Determination Act of 1976 (*Mitbestimmungsgesetz*) is subject to at least the same level of employee participation which formerly existed in the German stock corporation that was converted to an SE. The terms of employee participation with regard to the Supervisory Board of SAP SE are, among others, set out in the Agreement on the Involvement of Employees in SAP SE. As a result, the Supervisory Board of SAP SE consists of 18 members, of which nine are representatives of SAP SE's shareholders elected at the Annual General Meeting and nine members are representatives of the European employees. Only a shareholders' representative may be elected as chairperson of the Supervisory Board. In case of a tied vote, the vote of the chairperson and, in the event that the chairperson does not participate in passing the resolution, the vote of the deputy chairperson, provided that he or she is a shareholders' representative, will be decisive (casting vote). This board structure creates a different system of checks and balances, including employee participation, and cannot be directly compared with a unitary board system.

Audit Committee Independence

As a foreign private issuer, the NYSE Rules require SAP to establish an Audit Committee that satisfies the requirements of Rule 10A-3 of the Exchange Act with respect to audit committee independence. SAP is in compliance with these requirements. The Chairman of SAP's Audit Committee, Gerhard Oswald and Dr. Friederike Rotsch meet the independence requirements of Rule 10A-3 of the Exchange Act. The other three Audit Committee members, Panagiotis Bissiritsas, Margret Klein-Magar and James Wright, are employee representatives who are eligible for the exemption provided by Rule 10A-3 (b) (1) (iv) (C) (see "*Item 16D Exemptions from the listing standards for audit committees*" for details).

The Audit Committee independence requirements are similar to the Board independence recommendations of the GCGC. See the section above under "Director Independence Rules." Nonetheless, SAP meets the NYSE Rules on audit committee independence applicable to foreign private issuers.

Rules on Non-Management Board Meetings are Different

Section 303 A.03 of the NYSE Rules stipulates that the non-management board of each listed issuer must meet at regularly scheduled executive sessions without the management. Under applicable European and German corporate law and the GCGC the Supervisory Board is entitled but not required to exclude Executive Board members from its meetings. The Supervisory Board exercises this right generally during its meetings.

Rules on Establishing Committees Differ

Pursuant to Section 303 A.04 and 303 A.05 of the NYSE Rules listed companies are required to set up a Nominating/Corporate Governance Committee and a Compensation Committee, each composed entirely of independent directors and having a written charter specifying the committee's purpose and responsibilities. In addition, each committee's performance must be reviewed annually. Applicable European and German corporate law does not mandate the creation of specific supervisory board committees. The GCGC recommends that the Supervisory Board establish an Audit Committee and a Nomination Committee. SAP has the following committees, which are in compliance with the GCGC: General and Compensation Committee, Audit Committee, Technology and Strategy Committee, Finance and Investment Committee, Nomination Committee and People and Organization Committee (See "*Item 10. Additional Information – Corporate Governance*" for more information).

Rules on Shareholders' Compulsory Approval are Different

Section 312 of the NYSE Rules requires U.S. companies to seek shareholder approval of all equity-compensation plans, including certain material revisions thereto (subject to certain exemptions as described in the rules), issuances of common stock, including convertible stock, if the common stock has, or will have upon issuance, voting power of or in excess of 20% of the then outstanding common stock, and issuances of common stock if they trigger a change of control.

According to applicable European law, the German Stock Corporation Act and other applicable German laws, shareholder approval is required for a broad range of matters, such as amendments to the articles of association, certain significant corporate transactions (including inter-company agreements and material restructurings), the offering of stock options and similar equity compensation to its Executive Board members or its employees by a way of a conditional capital increase or by using treasury shares (including significant aspects of such an equity compensation plan as well as the exercise thresholds), the issuance of new shares, the authorization to purchase the corporation's own shares, and other essential issues, such as transfers of all, or substantially all, of the assets of the stock corporation, including shareholdings in subsidiaries.

Specific Principles of Corporate Governance

Under the NYSE Rules Section 303A.09 listed companies must adopt and disclose corporate guidelines. Since October 2007, SAP has applied, with few exceptions, and since February 2018 without any exceptions, the recommended corporate governance standards of the GCGC rather than company-specific principles of corporate governance. The GCGC recommendations differ from the NYSE Standards primarily as outlined in this Item 16G.

Specific Code of Business Conduct

NYSE Rules Section 303 A.10 requires listed companies to adopt and disclose a code of business conduct and ethics for directors, officers and employees, and to disclose promptly any waivers of the code for directors or executive officers. Although not required under applicable European and German law, SAP has adopted a Code of Business Conduct, which is equally applicable to employees, managers and members of the Executive Board. SAP complies with the requirement to disclose the Code of Business Conduct and any waivers of the code with respect to directors and executive officers. See "[*Item 16B. Code of Ethics*](#)" for details.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

The Consolidated Financial Statements are included herein on pages F-1 through F-78.

The following are filed as part of this report:

- Report of Independent Registered Public Accounting Firm.
- Consolidated Financial Statements
 - Consolidated Income Statements for the years ended December 31, 2020, 2019, and 2018.
 - Consolidated Statements of Comprehensive Income for the years ended December 31, 2020, 2019, and 2018.
 - Consolidated Statements of Financial Position as of December 31, 2020 and 2019.
 - Consolidated Statements of Changes in Equity for the years ended December 31, 2020, 2019, and 2018.
 - Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019, and 2018.
 - Notes to the Consolidated Financial Statements.

ITEM 19. EXHIBITS

The following documents are filed as exhibits to this report:

- 1 Articles of Incorporation (Satzung) of SAP SE, effective as of June 4, 2018 (English translation).⁽¹⁾
 - 2.1 Form of global share certificate for ordinary shares (English translation).⁽²⁾
Certain instruments which define rights of holders of long-term debt of SAP SE and its subsidiaries are not being filed because the total amount of securities authorized under each such instrument does not exceed 10% of the total consolidated assets of SAP SE and its subsidiaries. SAP SE and its subsidiaries hereby agree to furnish a copy of each such instrument to the Securities and Exchange Commission upon request.
 - 4.1.1 Amended and Restated Deposit Agreement dated as of November 25, 2009, by and among SAP SE, Deutsche Bank Trust Company Americas as Depositary, and all owners and holders from time to time of American Depository Receipts issued thereunder.⁽³⁾
 - 4.1.2 Amendment No. 1 dated March 18, 2016 to the Amended and Restated Deposit Agreement, by and among SAP SE, Deutsche Bank Trust Company Americas as Depositary, and all owners and holders from time to time of American Depository Receipts issued thereunder, including the form of American Depository Receipt.⁽⁴⁾
 - 8 For a list of our subsidiaries see [Note \(G.9\)](#) to our Consolidated Financial Statements in "[Item 18. Financial Statements](#)".
 - 12.1 Certification of Christian Klein, Chief Executive Officer, required by Rule 13a-14(a) or Rule 15d-14(a).
 - 12.2 Certification of Luka Mucic, Chief Financial Officer, required by Rule 13a-14(a) or Rule 15d-14(a).
 - 13.1 Certification of Christian Klein, Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
 - 13.2 Certification of Luka Mucic, Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
 - 15 Consent of Independent Registered Public Accounting Firm.
- 101.INS iXBRL Instance Document
101.SCH iXBRL Taxonomy Schema Linkbase Document
101.CAL iXBRL Taxonomy Calculation Linkbase Document
- 101.DEF iXBRL Taxonomy Definition Linkbase Document
101.LAB iXBRL Taxonomy Labels Linkbase Document

101.PRE iXBRL Taxonomy Presentation Linkbase Document

104.Cover Page Interactive Data File (formatted as Inline XBRL and included in Exhibit 101)

(1) Incorporated by reference to SAP SE's Annual Report on Form 20-F filed with the SEC on February 28, 2019.

(2) Incorporated by reference to Exhibit 2.1 to SAP SE's 2014 Annual Report on Form 20-F filed with the SEC on March 20, 2015.

(3) Incorporated by reference to Exhibit 99.(a)(2) of Post Effective Amendment #1 to SAP SE's Registration Statement on Form F-6 filed on November 25, 2009.

(4) Incorporated by reference to Exhibit 99.(a)(2) of Post Effective Amendment #2 to SAP SE's Registration Statement on Form F-6 filed on March 18, 2016.

Signatures

The Registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this report on its behalf.

SAP SE
(Registrant)
By: /s/ CHRISTIAN KLEIN

Name: Christian Klein
Title: Chief Executive Officer

Dated: March 4, 2021

By: /s/ LUKA MUCIC

Name: Luka Mucic
Title: Chief Financial Officer

Dated: Mach 4, 2021

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Supervisory Board of SAP SE:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated statements of financial position of SAP SE and subsidiaries (the Company) (SAP) as of December 31, 2020 and 2019, the related consolidated income statements, and the related consolidated statements of comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020 based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; 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 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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Software license revenue recognition

As discussed in note A.1 to the consolidated financial statements, SAP generated revenue in 2020 of EUR 27,338 million, of which EUR 15,148 million relate to revenues from sales of software licenses and support.

We identified the evaluation of software license revenue recognition as a critical audit matter due to the complex nature of SAP's customer contracts. A high degree of auditor judgment was required, in particular, to evaluate SAP's assessment of the following:

- whether various contracts were economically interrelated
- whether product and services qualified as separate performance obligations
- the allocation of the transaction price of a customer contract to the performance obligations in the contract based on standalone-selling prices.

The following are the primary procedures we performed to address this critical audit matter. 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 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 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.

Assessment of the Group's uncertain tax treatments

As discussed in note C.5 to the consolidated financial statements, SAP operates in multiple tax jurisdictions with complexities and uncertainties due to different interpretations of tax laws, such as those involving revenue sharing and cost reimbursement arrangements between SAP Group entities, changing tax laws, and intercompany financing transactions. The nature of these activities can result in uncertainties in the estimation of the related tax exposures. As of December 31, 2020, SAP disclosed contingent liabilities relating to tax uncertainties of EUR 1,221 million.

We identified the assessment of the Group's tax uncertainties as a critical audit matter because complex auditor judgment and specialized skills were required to evaluate the Group's interpretations of tax law and estimate of related exposures.

The following are the primary procedures we performed to address this critical audit matter. 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 Group's 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 the courts.

Assessment of the carrying amount of goodwill for the Concur Segment

As discussed in note D.2 to the consolidated financial statements, SAP performs its annual goodwill impairment test at the level of its operating segments as there are no lower levels within SAP at which goodwill is monitored. As of December 31, 2020, SAP reported goodwill of EUR 27,560 million, of which EUR 3,307 million was allocated to the Concur segment.

We identified the assessment of the carrying amount of goodwill for the Concur Segment as a critical audit matter. Specifically, complex and significant auditor judgement was required to test the budgeted revenue growth and budgeted operating margin. Minor changes to those key assumptions had a significant effect on the fair value less cost of disposal.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the impairment process including budgeted revenue growth and budgeted operating margin assumptions for the Concur Segment. We evaluated SAP's budgeted revenue growth and budgeted operating margin assumptions by comparing them to publicly available market data for comparable companies. We performed an independent sensitivity analysis for each assumption listed above using our own assumptions that we have developed based on external sources.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

We have served as the Company's auditor since 2002.

Mannheim, Germany
February 24, 2021

Consolidated Financial Statements IFRS

■ Consolidated Income Statements of SAP Group for the Years Ended December 31

€ millions, unless otherwise stated	Notes	2020	2019	2018
Cloud		8,080	6,933	4,993
Software licenses		3,642	4,533	4,647
Software support		11,506	11,547	10,981
Software licenses and support		15,148	16,080	15,628
Cloud and software		23,228	23,012	20,622
Services		4,110	4,541	4,086
Total revenue	(A.1), (C.2)	27,338	27,553	24,708
Cost of cloud		-2,699	-2,534	-2,068
Cost of software licenses and support		-2,008	-2,159	-2,092
Cost of cloud and software		-4,707	-4,692	-4,160
Cost of services		-3,178	-3,662	-3,302
Total cost of revenue		-7,886	-8,355	-7,462
Gross profit		19,453	19,199	17,246
Research and development		-4,454	-4,292	-3,624
Sales and marketing		-7,106	-7,693	-6,781
General and administration		-1,356	-1,629	-1,098
Restructuring	(B.6)	3	-1,130	-19
Other operating income/expense, net		84	18	-20
Total operating expenses		-20,715	-23,081	-19,005
Operating profit		6,623	4,473	5,703
Other non-operating income/expense, net	(C.3)	-179	-74	-56
Finance income		1,473	787	371
Finance costs		-697	-589	-418
Financial income, net	(C.4)	776	198	-47
Profit before tax	(C.2)	7,220	4,596	5,600
Income tax expense	(C.5)	-1,938	-1,226	-1,511
Profit after tax		5,283	3,370	4,088
Attributable to owners of parent		5,145	3,321	4,083
Attributable to non-controlling interests		138	50	6
Earnings per share, basic (in €)	(C.6)	4.35	2.78	3.42
Earnings per share, diluted (in €)	(C.6)	4.35	2.78	3.42

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Under the adoption method we chose for IFRS 16, 2018 numbers are not restated to conform to the new accounting policies. For more information, see Note (IN.1).

Consolidated Statements of Comprehensive Income of SAP Group for the Years Ended December 31

€ millions	Notes	2020	2019	2018
■ Profit after tax		5,283	3,370	4,088
Items that will not be reclassified to profit or loss				
Remeasurements on defined benefit pension plans, before tax		39	-57	12
Income taxes relating to remeasurements on defined benefit pension plans		-9	5	-1
Remeasurements on defined benefit pension plans, net of tax		30	-52	11
Other comprehensive income for items that will not be reclassified to profit or loss, net of tax		30	-52	11
Items that will be reclassified subsequently to profit or loss				
Exchange differences, before tax		-2,792	537	910
Income taxes relating to exchange differences on translation		1	0	0
Exchange differences, net of tax	(E.2)	-2,791	537	910
Gains (losses) on cash flow hedges/cost of hedging, before tax		20	-24	-10
Reclassification adjustments on cash flow hedges/cost of hedging, before tax		-6	22	-22
Cash flow hedges/cost of hedging, before tax	(F.1)	14	-2	-32
Income taxes relating to cash flow hedges/cost of hedging		-4	0	9
Cash flow hedges/cost of hedging, net of tax	(E.2)	10	-1	-23
Other comprehensive income for items that will be reclassified to profit or loss, net of tax		-2,781	536	887
Other comprehensive income, net of tax		-2,751	483	898
Total comprehensive income		2,532	3,854	4,986
Attributable to owners of parent		2,394	3,804	4,980
Attributable to non-controlling interests		138	50	6

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Under the adoption method we chose for IFRS 16, 2018 numbers are not restated to conform to the new accounting policies. For more information, see [Note \(IN.1\)](#)

¶ Consolidated Statements of Financial Position of SAP Group as at December 31

€ millions	Notes	2020	2019
Cash and cash equivalents	(E.3)	5,311	5,314
Other financial assets	(D.6), (E.3)	1,635	297
Trade and other receivables	(A.2)	6,593	7,908
Other non-financial assets	(A.3), (G.1)	1,321	1,188
Tax assets		210	506
Total current assets		15,069	15,213
Goodwill	(D.2)	27,560	29,159
Intangible assets	(D.3)	3,784	4,491
Property, plant, and equipment	(D.4), (D.8)	5,041	5,496
Other financial assets	(D.6), (E.3)	3,512	2,336
Trade and other receivables	(A.2)	137	129
Other non-financial assets	(A.3), (G.1)	1,926	1,701
Tax assets		271	435
Deferred tax assets	(C.5)	1,173	1,251
Total non-current assets		43,402	44,999
Total assets		58,472	60,212
Trade and other payables		1,213	1,581
Tax liabilities		414	255
Financial liabilities	(E.3), (D.5)	2,348	3,273
Other non-financial liabilities	(B.3), (B.5), (G.2)	4,643	4,839
Provisions	(A.4), (B.4), (B.5), (B.6)	73	247
Contract liabilities	(A.1)	4,150	4,266
Total current liabilities		12,842	14,462
Trade and other payables		98	8
Tax liabilities		667	538
Financial liabilities	(E.3), (D.5)	13,605	12,923
Other non-financial liabilities	(B.3), (B.5), (G.2)	770	957
Provisions	(A.4), (B.4), (B.5), (B.6)	368	335
Deferred tax liabilities	(C.5)	158	79
Contract liabilities	(A.1)	36	89
Total non-current liabilities		15,702	14,929
Total liabilities		28,544	29,390
Issued capital		1,229	1,229
Share premium		545	545
Retained earnings		32,026	28,783
Other components of equity		-1,011	1,770
Treasury shares		-3,072	-1,580
Equity attributable to owners of parent		29,717	30,746
Non-controlling interests		211	76
Total equity	(E.2)	29,928	30,822
Total equity and liabilities		58,472	60,212

The accompanying Notes are an integral part of these Consolidated Financial Statements.

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)			
1/1/2018	1,229	570	24,987	347	-1,591	25,542	31	25,573
■ Profit after tax			4,083			4,083	6	4,088
Other comprehensive income			11	887		898		898
Comprehensive income			4,093	887		4,980	6	4,986
Share-based payments		-40				-40		-40
Dividends			-1,671			-1,671	-13	-1,684
Reissuance of treasury shares under share-based payments		13			11	24		24
Shares to be issued			7			7		7
Hyperinflation			-8			-8		-8
Changes in non-controlling interests					0	19		19
Other changes			-2			-2	3	1
12/31/2018	1,229	543	27,407	1,234	-1,580	28,832	45	28,877
Adoption of IFRS 16			-71			-71		-71
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	-2,781		-2,751		-2,751
Comprehensive income			5,175	-2,781		2,394	138	2,532
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	-1,011	-3,072	29,717	211	29,928

The accompanying Notes are an integral part of these Consolidated Financial Statements. Under the adoption method we chose for IFRS 16, 2018 numbers are not restated to conform to the new accounting policies. For more information, see [Note \(IV.1\)](#).

Consolidated Statements of Cash Flows of SAP Group for the Years Ended December 31

€ millions	Notes	2020	2019	2018
■ Profit after tax		5,283	3,370	4,088
Adjustments to reconcile profit after tax to net cash flow from operating activities:				
Depreciation and amortization	(D.2)–(D.4)	1,831	1,872	1,362
Share-based payment expenses	(B.3)	1,084	1,835	830
■ Income tax expense	(C.5)	1,938	1,226	1,511
■ Financial income, net	(C.4)	-776	-198	47
Decrease/increase in allowances on trade receivables		68	14	-67
Other adjustments for non-cash items		-198	-54	3
Decrease/increase in trade and other receivables		821	-1,469	136
Decrease/increase in other assets		-651	-583	-477
Increase/decrease in trade payables, provisions, and other liabilities		293	328	240
Increase/decrease in contract liabilities		128	984	-561
Share-based payments		-1,310	-1,257	-971
Interest paid		-244	-341	-251
Interest received		122	97	99
Income taxes paid, net of refunds		-1,194	-2,329	-1,687
Net cash flows from operating activities		7,194	3,496	4,303
Cash flows for business combinations, net of cash and cash equivalents acquired	(D.1)	-662	-6,215	-2,140
Proceeds from sale of subsidiaries or businesses		203	61	0
Purchase of intangible assets and property, plant, and equipment		-816	-817	-1,458
Proceeds from sales of intangible assets or property, plant, and equipment		88	71	57
Purchase of equity or debt instruments of other entities		-2,535	-900	-1,013
Proceeds from sales of equity or debt instruments of other entities		735	778	1,488
Net cash flows from investing activities		-2,986	-7,021	-3,066
Dividends paid	(E.2)	-1,864	-1,790	-1,671
Dividends paid on non-controlling interests		-2	-17	-7
Purchase of treasury shares	(E.2)	-1,492	0	0
Proceeds from changes in ownership interests in subsidiaries that do not result in the loss of control		95	0	0
Proceeds from borrowings	(E.3)	2,132	3,622	6,368
Repayments of borrowings	(E.3)	-2,430	-1,309	-1,407
Payments of lease liabilities		-378	-403	0
Transactions with non-controlling interests		-59	0	0
Net cash flows from financing activities		-3,997	102	3,283
Effect of foreign currency rates on cash and cash equivalents		-214	110	97
Net decrease/increase in cash and cash equivalents		-4	-3,313	4,617
¶ Cash and cash equivalents at the beginning of the period	(E.3)	5,314	8,627	4,011
¶ Cash and cash equivalents at the end of the period	(E.3)	5,311	5,314	8,627

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Under the adoption method we chose for IFRS 16, 2018 numbers are not restated to conform to the new accounting policies. For more information, see [Note \(IN.1\)](#).

Notes to the Consolidated Financial Statements IFRS

(IN.1) Basis for Preparation

General Information

The registered seat of SAP SE is in Walldorf, Germany (Commercial Register of the Lower Court of Mannheim HRB 719915). The Consolidated Financial Statements for 2020 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, 2020. There were no standards or interpretations as at December 31, 2020, impacting our Consolidated Financial Statements for the years ended December 31, 2020, 2019, and 2018, 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 24, 2021, 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.

Comparative Figures

Effective January 1, 2019, we started to apply IFRS 16 'Leases' using the modified retrospective transition approach. We recognized the cumulative effect of the initial application of the standard as an adjustment to the opening balance of retained earnings on the date of initial application while the prior year figures for the financial year 2018 were not adjusted.

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.

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.3)	Liquidity
(F.1)	Financial Risk Factors and Risk Management
(F.2)	Fair Value Disclosures on Financial Instruments
(G.1)	Prepaid Expenses and Other Tax Assets
(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		
		2020	2019	2020	2019	2018
U.S. dollar	USD	1.2271	1.1234	1.1413	1.1196	1.1815
Japanese yen	JPY	126.49	121.94	121.78	122.06	130.41
Pound sterling	GBP	0.8990	0.8508	0.8892	0.8773	0.8847
Swiss franc	CHF	1.0802	1.0854	1.0703	1.1127	1.1549
Canadian dollar	CAD	1.5633	1.4598	1.5294	1.4857	1.5302
Australian dollar	AUD	1.5896	1.5995	1.6554	1.6106	1.5799

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 \(A.3\)](#).

recognition of internally generated intangible assets from development, see [Note \(D.3\)](#).

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, costs for third-party resources, and costs for enabling mobile information and mobile commerce services.

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.

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

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 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)

Our management periodically discusses these significant accounting policies with the Audit 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 assessing 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 currently unforeseeable global consequences of the COVID-19 pandemic, these management judgments and estimates are subject to increased uncertainty. Actual amounts may differ from the management judgments and estimates; changes can 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 to evolve, it is 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, and applied a scenario that assumes the COVID-19 situation will begin to recover as vaccine programs roll out globally, leading to a gradually improving demand environment in the second half of 2021.

For more information about the impact on goodwill, see [Note \(D.2\)](#).

We will continue to analyze possible future effects on the measurement of individual assets and liabilities.

SAP's customers, particularly those in hard-hit industries, continue to be impacted by the economic consequences of the COVID-19 pandemic. Due to lockdowns in certain countries/regions, the level of impact and recovery is diverse and companies continue to face business uncertainty. Software as a service revenues (defined in [Note \(A.1\)](#)) were impacted by lower pay-as-you-go transactional revenues, mainly as a result of decreased worldwide travel affecting SAP's Concur business, in 2020.

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 hosted 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 infrastructure to develop, run, 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 beyond the regular support that is embedded in the basic cloud subscription fees
- 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, training services, and messaging 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.

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. The license period starts when such access is granted. We recognize revenue for these on-premise licenses at the point in time when 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.

- For agreements that combine the delivery of software and the obligation to deliver, in the future, unspecified 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, messaging 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).

Total Revenue by Region

€ millions	2020	2019	2018
Germany	4,015	3,948	3,658
Rest of EMEA	8,052	8,158	7,446
EMEA	12,067	12,105	11,104
United States	9,110	9,085	7,880
Rest of Americas	1,996	2,109	1,832
Americas	11,106	11,194	9,713
Japan	1,305	1,180	963
Rest of APJ	2,859	3,074	2,928
APJ	4,165	4,254	3,891
SAP Group	27,338	27,553	24,708

Major Revenue Classes by Region

€ millions	Cloud Revenue			Cloud and Software Revenue		
	2020	2019	2018	2020	2019	2018
EMEA	2,608	2,115	1,441	10,364	10,211	9,339
Americas	4,439	3,945	2,941	9,239	9,172	7,973
APJ	1,033	872	611	3,625	3,629	3,310
SAP Group	8,080	6,933	4,993	23,228	23,012	20,622

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 are unsatisfied or partially unsatisfied as at December 31, 2020, is €33.4 billion (December 31, 2019: €33.3 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.⁵

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

Contract liabilities as at December 31, 2020, were €4.2 billion (December 31, 2019: €4.4 billion).

Increases in contract liabilities mainly result from billing and invoices becoming due (€8.5 billion). Decreases in contract liabilities mainly result from satisfying performance obligations (€8.4 billion).

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 €3.5 billion (December 31, 2019: €2.6 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 in that, 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 include income/expenses from expected credit loss allowances from applying the provision matrix, from credit-impaired customer balances, and from write-offs and related reversals which 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.

In applying this judgment, we evaluate available information about a particular customer's financial situation to determine whether it is probable that a credit loss had occurred and, if so, whether the amount of the loss is reasonably estimable. If it is, an allowance for that specific account is then necessary. 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 prognosis for future development.

Trade and Other Receivables

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Trade receivables, net	6,199	33	6,232	7,561	21	7,582
Other receivables	395	103	498	346	108	454
▪ Total	6,593	137	6,730	7,908	129	8,037

Contract assets as at December 31, 2020, were €295 million (December 31, 2019: €234 million).

For more information about financial risk, how we manage credit risk, and details of our trade receivables and contract assets allowances, see [Note \(F.1\)](#).

⁵ The prior year number was revised to conform to this definition of remaining performance obligations for services.

(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. 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.

Typically, we either do not pay sales commissions for customer contract renewals or such commissions are 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 respective renewal history adjusted for indications that the renewal history is not fully indicative of future renewals. The amortization periods range from 18 months to eight years depending on the type of offering and reflect our strategy as communicated in 2020 to expedite our customers' transition from the on-premise business model of perpetual license and support towards the cloud subscription model. Amortization of the capitalized costs of obtaining customer contracts is classified 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 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 and including expected renewals. Derived from our respective renewal history, and considering indications that the renewal history is not fully indicative of future renewals, the amortization period is typically seven to eight years. 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 direct or indirect 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	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Capitalized cost of obtaining customer contracts	491	1,536	2,028	414	1,318	1,732
Capitalized cost to fulfill customer contracts	91	151	242	66	117	183
Capitalized contract cost	583	1,687	2,270	480	1,435	1,915
⌚ Other non-financial assets	1,321	1,926	3,247	1,188	1,701	2,889
Capitalized contract cost as % of ⌚ other non-financial assets	44	88	70	40	84	66

Amortization Expense

€ millions	2020	2019
Capitalized cost of obtaining customer contracts	450	367
Capitalized cost to fulfill customer contracts	129	81

(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.

⌚ Customer-Related Litigation and Claims

Furthermore, these 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 a provision is to be recorded and what the appropriate amount for such provision should be. Notably, judgment is required in the following:

- Determining whether an obligation exists
- 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 is 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)* as well as “*Item 6 Directors, Senior Management and Employees – Compensation Report*”.

(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	12/31/2020				12/31/2019				12/31/2018			
	EMEA	Americas	APJ	Total	EMEA	Americas	APJ	Total	EMEA	Americas	APJ	Total
Cloud and software	6,278	4,589	5,525	16,392	6,501	4,426	5,361	16,288	6,341	4,268	5,374	15,983
Services	8,175	5,934	5,733	19,842	8,250	6,018	5,971	20,239	8,120	5,736	5,620	19,476
Research and development	13,705	6,094	9,781	29,580	12,710	5,793	9,131	27,634	12,478	5,651	8,930	27,060
Sales and marketing	10,348	10,485	5,000	25,834	10,205	10,368	5,209	25,781	9,843	9,452	4,918	24,213
General and administration	3,285	2,161	1,243	6,689	3,161	2,123	1,246	6,530	2,906	1,970	1,147	6,024
Infrastructure	2,291	1,107	696	4,094	2,220	984	654	3,859	2,160	951	631	3,742
SAP Group (December 31)	44,082	30,369	27,979	102,430	43,048	29,712	27,571	100,330	41,848	28,029	26,620	96,498
Thereof acquisitions	609	97	75	781	338	1,638	137	2,113	657	952	434	2,043
SAP Group (months' end average)	43,340	30,306	27,830	101,476	42,697	29,368	27,092	99,157	40,496	27,454	25,759	93,709

(B.2) Employee Benefits Expenses

Components of Employee Benefits Expenses

€ millions	2020	2019	2018
Salaries	10,413	10,031	9,025
Social security expenses	1,439	1,477	1,339
Share-based payment expenses	1,084	1,835	830
Pension expenses	419	369	330
Employee-related restructuring expenses	-7	1,111	19
Termination benefits outside of restructuring plans	72	47	52
Employee benefits expenses	13,420	14,870	11,595

(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 employees perform. Where we economically hedge our exposure to cash-settled awards, changes in the fair value of the respective hedging instruments are also recognized as employee benefits expenses in

profit or loss. The fair values of hedging instruments are based on market data reflecting current market expectations. For more information about the equity price risk, see *Note (F.1)*.

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 LTI¹2020 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. Changes in these factors could significantly affect the estimated fair values as calculated by the valuation model, and the future payout.

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 no longer 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	2020	2019	2018
Cost of cloud	40	56	27
Cost of software	55	82	51
Cost of services	175	246	142
Research and development	296	429	210
Sales and marketing	360	562	312
General and administration	157	461	88
Share-based payment expenses	1,084	1,835	830
Thereof cash-settled share-based payments	893	1,664	674
Thereof equity-settled share-based payments	191	171	156

In 2020, we paid €46²million (2019: €79 million) in share-based payments that became fully vested because of terminations due to operational reasons in connection with our restructuring plan in 2019. These payments as well as the expense portion initially allocated to future services were classified as share-based payments and not as restructuring expenses.

a) Cash-Settled Share-Based Payments

Our major share-based payment plans are described below.

SAP Long-Term Incentive Program 2020 (LTI 2020)

The LTI 2020 is a long-term, multi-year performance-based compensation element that is awarded 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 designed to ensure long-term retention of our Executive Board members.

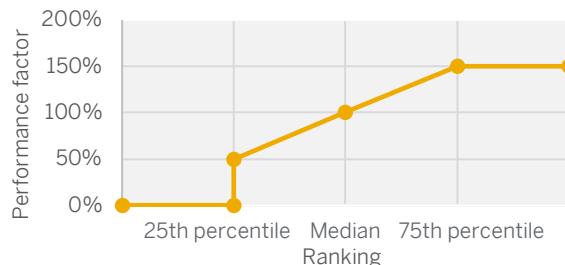
The LTI 2020 is a virtual share program under which annual tranches with a term of approximately four years each are granted. When the individual tranches are awarded, a certain grant amount specified in the Executive Board member's service contract is converted into virtual shares (share units) in each case. 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 so 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 unit 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 factors relating to the three non-IFRS KPIs at constant currencies, namely: 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 KPIs are derived from SAP's long-term strategy.



The number of MSUs initially awarded is likewise multiplied by a performance factor. The performance factor depends on the amount of the total shareholder return (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 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% Performance Share Units (PSUs) and 40% Retention Share Units (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 and Grow SAP Plan (RSU Plan)

To retain and motivate 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, 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.

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)

The number of performance-based share units (PSUs) that will vest under the different tranches were contingent upon achievement of the operating profit (non-IFRS at constant currencies) KPI target in the year of grant. Depending on performance, the number of PSUs vesting ranges between 0% and 200% of the number initially granted. Performance against the KPI target was 100.4% in 2020 (2019: 118.7%, 2018: 106.7%). 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).

The replacement awards closely mirror the terms of the replaced awards except that:

- The replaced awards were planned to be settled by issuing equity instruments, whereas the replacement awards are settled in cash.

- RSAs, RSUs, PSUs, and options granted before 2018 and unvested as at the closing date of the Qualtrics acquisition were converted into the right to receive, at the originally agreed vesting dates, an amount in cash equal to the number of RSAs and RSUs held as at the vesting date multiplied by US\$35.00 per share. The respective amount of options equals the number of options held as at the vesting date multiplied by US\$35.00 per share less the originally agreed exercise price.

- RSUs, PSUs, and options granted in 2018 and thereafter and unvested as at the closing date of the Qualtrics acquisition were converted into awards that are indexed to SAP's share price as follows: SAP's consideration per share (US\$35.00) was divided by the average closing price of the SAP share over the five trading days on the closing date (€91.28), translated into US\$ (US\$103.75), and the result (Equity Award Exchange Ratio of 0.3373) was multiplied by

the average closing price of the SAP share over the five trading days prior to the exercise or vesting date.

There were 24.7 million unvested RSAs, RSUs, PSUs, and options as at the closing date of the Qualtrics acquisition, representing a fair value of €793 million after considering expected forfeitures dependent on grant dates and remaining vesting periods. Of the total fair value, €237 million was allocated to consideration transferred, while €556 million was allocated to future services to be provided. Post-acquisition compensation expense will be recognized as the awards vest over the remainder of the original vesting terms. The remaining vesting periods for such Qualtrics Rights are in a range of up to five years from closing date.

The unvested RSUs include grants as at the closing date of 6.1 million replacement RSUs. These RSUs have a two-year service period.

The unrecognized expense related to Qualtrics Rights was €60 million as at December 31, 2020 (2019: €225 million), and will be recognized over a remaining vesting period of up to three years (2019: four years).

The valuation of our outstanding cash-settled plans was based on the following parameters and assumptions:

Fair Value and Parameters Used at Year End 2020 for Cash-Settled Plans

€, 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	Monte Carlo	Monte Carlo	Other ¹	Other ¹
Share price	107.22	107.22	107.22	107.22
Risk-free interest rate, depending on maturity (in %)	–0.75 to –0.11	NA	–0.77 to –0.32	–0.77 to –0.37
Expected volatility (in %)	34 to 42	30	NA	NA
Expected dividend yield (in %)	1.54	NA	1.54	1.54
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.

Fair Value and Parameters Used at Year End 2019 for Cash-Settled Plans

€, unless otherwise stated	LTI 2016 Plan (2016–2019 Tranches)	SOP 2010 (2014–2015 Tranches)	RSU Plan (2016–2019 Tranches)	Qualtrics Rights
Weighted average fair value as at 12/31/2019	94.06	49.51	118.72	37.55
Information how fair value was measured at measurement date				
Option pricing model used	Monte Carlo	Monte Carlo	Other ¹	Other ¹
Share price	120.32	120.32	120.32	120.32
Risk-free interest rate, depending on maturity (in %)	–0.68 to –0.57	–0.25 to –0.08	–0.68 to –0.31	–0.55 to –0.35
Expected volatility (in %)	20 to 25	27 to 36	NA	NA
Expected dividend yield (in %)	1.26	1.26	1.26	1.26
Weighted average remaining life of awards outstanding as at 12/31/2019 (in years)	1.9	0.3	1.0	1.7

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, 2020, was US\$481.65 (2019: US\$363.63); the expected dividend yield of the index of 1.14% (2019: 1.17%), the expected volatility of the index of 26% to 31% (2019: 18% to 22%), and the expected correlation of the SAP share price and the index price of 27% to 30% (2019: 38% to 40%) 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, 2020, was US\$15,072.29. The expected volatility of

the NASDAQ-100 companies of 36%, and the expected correlation of SAP and the NASDAQ-100 companies of 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.

Changes in Outstanding Awards Under Our Cash-Settled Plans

Thousands, unless otherwise stated	LTI 2016 Plan (2016–2019 Tranches)	LTI 2020 (2020 Tranche)	SOP 2010 (2013–2015 Tranches)	RSU Plan (2016–2020 Tranches)	Qualtrics Rights
12/31/2018	926	NA	7,086	15,264	NA
Granted ¹	344	NA	0	9,339	24,666
Adjustment based upon KPI target achievement	NA	NA	NA	122	NA
Exercised	0	NA	-3,904	-7,540	-7,776
Forfeited	-160	NA	-144	-1,057	-883
12/31/2019	1,110	0	3,039	16,128	16,007
Granted	0	202	0	9,238	0
Adjustment based upon KPI target achievement	-211	NA	NA	-5	NA
Exercised	-129	0	-1,773	-7,204	-7,791
Forfeited	-3	-30	-66	-1,164	-699
12/31/2020	767	172	1,200	16,993	7,518
¹ Granted includes additions from business combinations					
Outstanding awards exercisable as at					
12/31/2019	0	NA	3,039	0	0
12/31/2020	0	0	1,200	0	0
Total carrying amount (in € millions) of liabilities as at					
12/31/2019	73	NA	150	1,100	377
12/31/2020	49	6	42	1,027	193
Total intrinsic value of vested awards (in € millions) as at					
12/31/2019	51	NA	155	0	0
12/31/2020	32	3	42	0	0
Weighted average share price (in €) for awards exercised in					
2019	NA	NA	111.58	98.11	106.15
2020	124.03	NA	121.49	109.75	113.34
Total expense (in € millions) recognized in					
2018	8	NA	43	611	NA
2019	44	NA	66	1,087	461
2020	-9	6	2	760	132

Share-Based Payment Balances

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Share-based payment liabilities	863	454	1,317	1,130	605	1,735
Other non-financial liabilities	4,643	770	5,413	4,839	957	5,796
Share-based payment liabilities as % of Other non-financial liabilities	19	59	24	23	63	30

b) Equity-Settled Share-Based Payments

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.

Number of Shares Purchased

Millions	2020	2019	2018
Own	5.5	5.2	5.3

As a result of our equity-settled share-based payments transactions, 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.

Recognized Expense for Equity-Settled Plans

€ millions	2020	2019	2018
Own	191	171	149

(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.

Total Expense of Pension Plans

€ millions	2020	2019	2018
Defined contribution plans	326	314	280
Defined benefit pension plans	93	55	50
Pension expenses	419	369	330

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
	2020	2019	2020	2019	2020	2019	2020	
Present value of the DBO	1,127	1,026	616	533	189	156	1,932	1,715
Fair value of the plan assets	1,112	1,009	506	411	73	65	1,691	1,485
Net defined benefit liability (asset)	15	17	110	122	116	91	241	230
Net defined benefit liability (asset) as % of:								
Non-current other financial assets	0	0	0	0	0	0	0	0
Non-current provisions	4	5	31	37	32	27	66	70

Of the present value of the DBO of our domestic plans, €1,054 million (2019: €951 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, €479 million (2019: €459 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		
	2020	2019	2018	2020	2019	2018	2020	2019	2018
Discount rate	0.9	0.8	2.3	0.4	0.3	1.0	3.0	3.7	4.2

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
	2020	2019	2018	2020	2019	2018	2020	2019	2018	2020	2019	2018	
Present value of all defined benefit obligations if:													
Discount rate was 50 basis points higher	1,066	968	836	573	495	391	185	154	126	1,824	1,617	1,353	
Discount rate was 50 basis points lower	1,195	1,090	940	663	576	450	204	159	141	2,062	1,825	1,531	

Investments in Plan Assets

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	2020		2019	
	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	485	1,207	445	1,040
Thereof: Asset category				
Equity investments	149	0	137	0
Corporate bonds	151	0	156	0
Insurance policies	7	1,207	6	1,040

Our expected contribution in 2021 to our domestic and foreign defined benefit pension plans is immaterial. The weighted duration of our defined benefit plans amounted to 12 years as at December 31, 2020, and 13 years as at December 31, 2019.

Total future benefit payments from our defined benefit plans as at December 31, 2020, are expected to be €1,969 million (2019: €1,831 million). Of this amount, 77% (2019: 77%) has maturities of over five years, and 64% (2019: 61%) 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	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Other employee-related liabilities	3,147	316	3,464	3,059	352	3,411
⌚ Other non-financial liabilities	4,643	770	5,413	4,839	957	5,796
Other employee-related liabilities as % of ⌚ other non-financial liabilities	68	41	64	63	37	59

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.

We have reclassified our employee-related provisions mainly consisting of time credits accumulated in the working time account,

severance payments outside restructuring programs, and jubilee expenses from other provisions to other non-financial liabilities. Prior-year amounts (December 31, 2019: €21 million (current) and €143 million (non-current)) have been reclassified accordingly. We believe that a classification as Other non-financial liabilities reflects the substance of these liabilities more appropriately than a classification under Other provisions.

(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.

Restructuring expenses primarily include the following components:

Restructuring Expenses

€ millions	2020	2019	2018
Employee-related restructuring expenses	7	-1,111	-19
Onerous contract-related restructuring expenses and restructuring related impairment losses	-4	-19	0
Restructuring expenses	3	-1,130	-19

Restructuring provisions are predominantly short-term in nature. They primarily include employee termination benefits.

Restructuring Provisions

€ millions	Restructuring Provisions
1/1/2020	208
Addition	8
Utilization	-181
Release	-6
Currency impact	-1
12/31/2020	28
Total provisions	441
Restructuring provisions as % of total provisions	6

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	2020	2019	2018
Cost of cloud	0	-20	0
Cost of software licenses and support	1	-118	-2
Cost of services	-3	-154	-3
Research and development	1	-467	-3
Sales and marketing	3	-299	-11
General and administration	2	-71	0
Restructuring expenses	3	-1,130	-19

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 2020, 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, travel management offerings or experience management solutions, or cover other activities of our business.

The former Applications, Technology & Services segment was renamed at the beginning of 2020 to Applications, Technology & Support, while the services functions were bundled into the new Services segment. 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 new Services segment covers most of SAP's services activities. It was established by bringing together services delivery and services sales functions to a new global services unit. 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 2020, the former Intelligent Spend Group segment was renamed to the Concur segment. This was the result of the integration of SAP Ariba and SAP Fieldglass offerings as well as major parts of the Concur engineering functions into the Applications, Technology & Support segment and the Services segment. The Concur segment derives its revenues mainly from transaction fees charged for the use of SAP's cloud-based Concur travel management offerings and related services.

The Qualtrics segment derives its revenues mainly from the sale of experience management cloud solutions (offerings of Qualtrics) that run front-office functions across the experience data and from the sale of related services. For more information about the initial public offering of Qualtrics International Inc., see [Note \(G.8\)](#).

On November 4, 2020, we acquired Emarsys eMarketing Systems AG ("Emarsys"), an innovative and easy-to-use cloud-based marketing platform, to complement and enhance our existing SAP Customer Experience solutions. Consequently, this acquisition led to a new operating segment called Emarsys. Due to its size, however, Emarsys is not a reportable segment. The Emarsys segment derives its revenues mainly from the sales of cloud-based customer experience offerings and from the sale of related services.

Further, in the fourth quarter of 2020, we sold our former non-reportable Digital Interconnect segment which derived its revenues from the sale of telephony, video chat, and routing offerings.

The segment information for 2020 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. However, the accounting policies applied in the measurement of operating segment revenue and profit differ as follows from the IFRS accounting principles used to determine the operating profit measure in our income statement:

- The measurements of segment revenue and results include the recurring revenues that would have been recorded by acquired entities had they remained stand-alone entities but which are not recorded as revenue under IFRS due to fair value accounting for customer contracts in effect at the time of an acquisition.
- 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

- Certain activities are exclusively managed on corporate level, including finance, accounting, legal, human resources, global business operations, and global marketing. They are not included in the results of our reportable segments.

Revenues and expenses of our operating but non-reportable segment, 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 \(D.2\)](#).

Applications, Technology & Support

€ millions	2020		2019		2018
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency
Cloud	6,254	6,379	5,259	5,098	3,905
Software licenses	3,637	3,765	4,523	4,422	4,645
Software support	11,502	11,707	11,542	11,279	10,981
Software licenses and support	15,138	15,472	16,064	15,700	15,626
Cloud and software	21,392	21,852	21,323	20,798	19,531
Services	288	292	341	335	342
Total segment revenue	21,680	22,144	21,664	21,132	19,873
Cost of cloud	-2,165	-2,218	-1,972	-1,913	-1,620
Cost of software licenses and support	-1,756	-1,790	-1,910	-1,872	-1,835
Cost of cloud and software	-3,922	-4,008	-3,882	-3,784	-3,455
Cost of services	-308	-313	-332	-326	-321
Total cost of revenue	-4,230	-4,321	-4,214	-4,111	-3,776
Segment gross profit	17,450	17,823	17,450	17,022	16,096
Other segment expenses	-8,026	-8,190	-7,996	-7,821	-7,513
Segment profit	9,423	9,633	9,454	9,201	8,583

¹The 2020 constant currency amounts are only comparable to 2019 actual currency amounts; 2019 constant currency amounts are only comparable to 2018 actual currency amounts.

Concur

€ millions	2020		2019		2018
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency
Cloud	1,288	1,306	1,373	1,313	1,107
Software licenses	0	0	0	0	0
Software support	0	0	0	0	0
Software licenses and support	0	0	0	0	0
Cloud and software	1,288	1,306	1,373	1,313	1,107
Services	217	221	236	226	231
Total segment revenue	1,505	1,526	1,609	1,539	1,338
Cost of cloud	-154	-158	-181	-173	-160
Cost of software licenses and support	0	0	0	0	0
Cost of cloud and software	-154	-158	-181	-173	-160
Cost of services	-165	-167	-169	-162	-160
Total cost of revenue	-319	-325	-350	-335	-320
Segment gross profit	1,186	1,201	1,260	1,204	1,019
Other segment expenses	-622	-632	-640	-614	-537
Segment profit	564	569	620	590	482

¹The 2020 constant currency amounts are only comparable to 2019 actual currency amounts; 2019 constant currency amounts are only comparable to 2018 actual currency amounts.

Qualtrics

€ millions	2020		2019		2018 ²
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency
Cloud	518	529	371	353	NA
Software licenses	0	0	0	0	NA
Software support	0	0	0	0	NA
Software licenses and support	0	0	0	0	NA
Cloud and software	518	529	371	353	NA
Services	162	166	137	130	NA
Total segment revenue	681	696	508	483	NA
Cost of cloud	-43	-43	-33	-31	NA
Cost of software licenses and support	0	0	0	0	NA
Cost of cloud and software	-43	-43	-33	-31	NA
Cost of services	-110	-112	-78	-74	NA
Total cost of revenue	-152	-155	-110	-106	NA
Segment gross profit	528	541	398	377	NA
Other segment expenses	-509	-521	-389	-368	NA
Segment profit	19	20	8	9	NA

¹The 2020 constant currency amounts are only comparable to 2019 actual currency amounts; 2019 constant currency amounts are only comparable to 2018 actual currency amounts.

²There are no prior-period numbers presented for the Qualtrics segment for 2018, since Qualtrics was acquired in 2019.

Services

€ millions	2020		2019		2018
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	
Cloud	0	1	0	0	0
Software licenses	0	0	0	0	0
Software support	4	4	5	5	3
Software licenses and support	4	4	5	5	3
Cloud and software	5	5	5	5	4
Services	3,153	3,203	3,442	3,354	3,161
Total segment revenue	3,157	3,208	3,447	3,359	3,165
Cost of cloud	-70	-72	-57	-56	-51
Cost of software licenses and support	-33	-34	-55	-54	-77
Cost of cloud and software	-103	-106	-112	-110	-128
Cost of services	-2,136	-2,179	-2,506	-2,453	-2,379
Total cost of revenue	-2,240	-2,285	-2,618	-2,562	-2,507
Segment gross profit	918	923	829	796	658
Other segment expenses	-419	-429	-467	-456	-409
Segment profit	499	494	362	340	249

¹The 2020 constant currency amounts are only comparable to 2019 actual currency amounts; 2019 constant currency amounts are only comparable to 2018 actual currency amounts.

Segment Revenue by Region

€ millions	EMEA				Americas				APJ				Total Segment Revenue		
	2020		2019		2020		2019		2020		2019		2020		2019
	Actual Currency	Constant Currency	Actual Currency	Constant Currency	Actual Currency										
Applications, Technology & Support	10,249	10,356	10,083	7,964	8,245	8,056	3,467	3,542	3,525	21,680	22,144	21,664			
Concur	228	232	260	1,103	1,117	1,176	175	177	174	1,505	1,526	1,609			
Qualtrics	97	99	68	528	540	403	55	56	37	681	696	508			
Services	1,432	1,448	1,530	1,340	1,370	1,447	385	391	470	3,157	3,208	3,447			
Total reportable segments	12,006	12,136	11,941	10,935	11,272	11,081	4,082	4,166	4,207	27,023	27,574	27,229			

€ millions	EMEA				Americas				APJ				Total Segment Revenue		
	2019		2018		2019		2018		2019		2018		2019		2018
	Actual Currency	Constant Currency	Actual Currency	Constant Currency	Actual Currency										
Applications, Technology & Support	10,083	10,015	9,416	8,056	7,699	7,226	3,525	3,419	3,231	21,664	21,132	19,873			
Concur	260	246	152	1,176	1,125	1,061	174	168	125	1,609	1,539	1,338			
Qualtrics ¹	68	65	NA	403	383	NA	37	36	NA	508	483	NA			
Services	1,530	1,473	1,471	1,447	1,441	1,227	470	444	467	3,447	3,359	3,165			
Total reportable segments	11,941	11,798	11,038	11,081	10,648	9,515	4,207	4,067	3,823	27,229	26,513	24,376			

¹There are no prior-period numbers presented for the Qualtrics segment for 2018, since Qualtrics was acquired in 2019.

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	2020		2019		2018
	Actual Currency	Constant Currency ¹	Actual Currency	Constant Currency ¹	Actual Currency
Applications, Technology & Support	21,680	22,144	21,664	21,132	19,873
Services	3,157	3,208	3,447	3,359	3,165
Qualtrics	681	696	508	483	NA
Concur	1,505	1,526	1,609	1,539	1,338
Total segment revenue for reportable segments	27,023	27,574	27,229	26,513	24,376
Other revenue	320	323	405	393	366
Adjustment for currency impact	0	-554	0	728	0
Adjustment of revenue under fair value accounting	-5	-5	-81	-81	-33
■ Total revenue	27,338	27,338	27,553	27,553	24,708
Applications, Technology & Support	9,423	9,633	9,454	9,201	8,583
Services	499	494	362	340	249
Qualtrics	19	20	8	9	NA
Concur	564	569	620	590	482
Total segment profit for reportable segments	10,506	10,716	10,444	10,141	9,314
Other revenue	320	323	405	393	366
Other expenses	-2,538	-2,536	-2,642	-2,580	-2,517
Adjustment for currency impact	0	-216	0	255	0
Adjustment for					
Revenue under fair value accounting	-5	-5	-81	-81	-33
Acquisition-related charges	-577	-577	-689	-689	-577
Share-based payment expenses	-1,084	-1,084	-1,835	-1,835	-831
■ Restructuring	3	3	-1,130	-1,130	-19
■ Operating profit	6,623	6,623	4,473	4,473	5,703
■ Other non-operating income/expense, net	-179	-179	-74	-74	-56
■ Financial income, net	776	776	198	198	-47
■ Profit before tax	7,220	7,220	4,596	4,596	5,600

¹ The 2020 constant currency amounts are only comparable to 2019 actual currency amounts; 2019 constant currency amounts are only comparable to 2018 actual currency amounts.

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(C.3) Other Non-Operating Income/Expense, Net

€ millions	2020	2019	2018
Foreign currency exchange gain/loss, net	-154	-51	-31
Thereof from financial assets at fair value through profit or loss	601	358	444
Thereof from financial assets at amortized cost	-134	194	148
Thereof from financial liabilities at fair value through profit or loss	-487	-396	-415
Thereof from financial liabilities at amortized cost	-34	-176	-202
Miscellaneous income/expense, net	-25	-23	-25
■■■ Other non-operating income/expense, net	-179	-74	-56

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.

(C.4) Financial Income, Net

€ millions	2020	2019	2018
Finance income	1,473	787	371
Thereof gains from financial assets at fair value through profit or loss	1,360	596	227
Finance costs	-697	-589	-418
Thereof interest expense from financial liabilities at amortized cost	-179	-207	-106
Thereof interest expense from financial liabilities at fair value through profit or loss	-76	-155	-206
■■■ Financial income, net	776	198	-47

(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.

Tax Expense by Geographic Location

€ millions	2020	2019	2018
Current tax expense			
Germany	895	625	733
Foreign	1,001	1,153	1,019
Total current tax expense	1,896	1,778	1,752
Deferred tax expense/income			
Germany	-38	-3	57
Foreign	80	-549	-298
Total deferred tax expense/income	42	-552	-241
■■■ Total income tax expense	1,938	1,226	1,511

Major Components of Tax Expense

€ millions	2020	2019	2018
Current tax expense/income			
Tax expense for current year	1,653	1,818	1,665
Taxes for prior years	243	-40	87
Total current tax expense	1,896	1,778	1,752
Deferred tax expense/income			
Origination and reversal of temporary differences	47	-710	-501
Unused tax losses, research and development tax credits, and foreign tax credits	-5	158	260
Total deferred tax expense/income	42	-552	-241
■■■ Total income tax expense	1,938	1,226	1,511

Profit Before Tax by Geographic Location

€ millions	2020	2019	2018
Germany	2,481	2,012	3,106
Foreign	4,739	2,584	2,494
■■■ Total	7,220	4,596	5,600

The following table reconciles the expected income tax expense, computed by applying our combined German tax rate of 26.3% (2019: 26.4%; 2018: 26.4%), to the actual income tax expense. Our 2020 combined German tax rate includes a corporate income tax rate of 15.0% (2019: 15.0%; 2018: 15.0%), plus a solidarity surcharge

of 5.5% (2019: 5.5%; 2018: 5.5%) thereon, and trade taxes of 10.5% (2019: 10.6%; 2018: 10.6%).

Relationship Between Tax Expense and Profit Before Tax

	2020	2019	2018
€ millions, unless otherwise stated			
■ Profit before tax	7,220	4,596	5,600
Tax expense at applicable tax rate of 26.3% (2019: 26.4%; 2018: 26.4%)	1,901	1,212	1,478
Tax effect of:			
Foreign tax rates	-166	-171	-131
Non-deductible expenses	254	116	106
Tax-exempt income	-282	-131	-54
Withholding taxes	105	138	91
Research and development and foreign tax credits	-100	-89	-33
Prior-year taxes	128	80	-17
Reassessment of deferred tax assets, research and development tax credits, and foreign tax credits	41	48	58
Other	57	23	13
■ Total income tax expense	1,938	1,226	1,511
Effective tax rate (in %)	26.8	26.7	27.0

Components of Recognized Deferred Tax Assets and Liabilities

	2020	2019
Deferred tax assets		
Intangible assets	455	504
Property, plant, and equipment	19	19
Other financial assets	11	11
Trade and other receivables	115	61
Pension provisions	194	135
Share-based payments	197	268
Other provisions and obligations	1,155	1,330
Contract liabilities	631	553
Carryforwards of unused tax losses	108	131
Research and development and foreign tax credits	57	56
Other	108	152
Total deferred tax assets	3,050	3,220
Deferred tax liabilities		
Intangible assets	854	1,006
Property, plant, and equipment	529	544
Other financial assets	239	221
Trade and other receivables	178	148
Pension provisions	21	13
Share-based payments	0	1
Other provisions and obligations	87	50
Contract liabilities	4	6
Other	123	59
Total deferred tax liabilities	2,035	2,048
Total deferred tax assets, net	1,015	1,172

Items Not Resulting in a Deferred Tax Asset

	2020	2019	2018
Unused tax losses			
Not expiring	572	688	575
Expiring in the following year	25	63	7
Expiring after the following year	481	373	476
Total unused tax losses	1,078	1,124	1,058
Deductible temporary differences			
Not expiring	26	28	54
Expiring after the following year	17	17	18
Total unused tax credits	43	45	72

Of the unused tax losses, €264 million (2019: €187 million; 2018: €213 million) relate to U.S. state tax loss carryforwards.

We have not recognized a deferred tax liability on approximately €18.37 billion (2019: €17.41 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 €1,221 million (2019: €2,013 million) in total (including related interest expenses and penalties of €648 million (2019: €982 million)). The contingent liabilities decreased in 2020 mainly due to changes in foreign currency exchange rates for our few foreign disputes and due to a German Federal Fiscal Court decision in a tax dispute involving intercompany financing matters.

(C.6) Earnings per Share

€ millions, unless otherwise stated	2020	2019	2018
Profit attributable to equity holders of SAP SE	5,145	3,321	4,083
Issued ordinary shares ¹	1,229	1,229	1,229
Effect of treasury shares ¹	-46	-35	-35
Weighted average shares outstanding, basic ¹	1,182	1,194	1,194
Dilutive effect of share-based payments ¹	0	0	0
Weighted average shares outstanding, diluted ¹	1,182	1,194	1,194
Earnings per share, basic, attributable to equity holders of SAP SE (in €)	4.35	2.78	3.42
Earnings per share, diluted, attributable to equity holders of SAP SE (in €)	4.35	2.78	3.42

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.

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.

The initial accounting for the Emarsys business combination is incomplete because the acquisition occurred shortly before the end of the fiscal year and thus, we are still obtaining the information necessary to identify and measure items such as tax-related assets and liabilities, as well as intangible assets of Emarsys. Accordingly,

the amounts recognized in our financial statements for these items are regarded provisional as at December 31, 2020.

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
At the end of 2020, Emarsys was a non-reportable segment and the goodwill arising from the business combination was – on a preliminary basis – allocated to this segment. For more information, see [Note \(D.2\)](#).

For more information about our segments and about the changes in our segment structure, see [Note \(C.1\)](#).

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 (also see [Note \(B.3\)](#)).

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. For more information, see [Note \(D.2\)](#).

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.

2018 Acquisitions

On April 5, 2018, following satisfaction of applicable regulatory and other approvals, we acquired 100% of the shares of Callidus Software Inc. ("Callidus") (NDSQ: CALD), a leading provider of customer relationship management (CRM) solutions. SAP paid US\$36 per share, representing consideration transferred in cash of approximately US\$2.4 billion. The acquisition aimed to accelerate and strengthen SAP's position and solution offerings in the sales performance management (SPM) and configure-price-quote (CPQ) spaces.

Callidus Acquisition: Consideration Transferred

€ millions	
Cash paid	1,957
Liabilities incurred	47
Total consideration transferred	2,004

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 Callidus with cash-settled share-based payment awards, which are subject to forfeiture. The respective liabilities represented 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 2018 and 2019 were not material.

The following table summarizes the values of identifiable assets acquired and liabilities assumed in connection with the acquisition of Callidus, as at the acquisition date:

Callidus Acquisition: Recognized Assets and Liabilities

€ millions	
Cash and cash equivalents	63
Other financial assets	64
Trade and other receivables	32
Other non-financial assets	11
Property, plant, and equipment	26
Intangible assets	515
Thereof acquired technology	121
Thereof customer relationship and other intangibles	390
Thereof software and database licenses	4
Total identifiable assets	711
Trade and other payables	59
Current and deferred tax liabilities	71
Provisions and other non-financial liabilities	15
Contract liabilities/deferred income	55
Total identifiable liabilities	200
Total identifiable net assets	511
Goodwill	1,493
Total consideration transferred	2,004

The goodwill arising from our acquisitions consists largely of synergies and the know-how and skills of the acquired businesses' workforces.

For the Callidus acquisition, synergies particularly relate to the following areas:

- Cross-selling opportunities of Callidus products to existing SAP customers across all regions, using SAP's sales organization
- Integrating Callidus products into SAP Customer Experience portfolio to strengthen SAP's customer experience suite of solutions
- Improved profitability in Callidus sales and operations

After the acquisition, we had allocated the Callidus goodwill and intangibles to the newly established Customer Experience segment. For more information about our segments and about the changes in our segment structure after the allocation, see [Note \(C.1\)](#).

Impact of the Business Combination on Our Financial Statements

The amounts of revenue and profit or loss of the Callidus business acquired in 2018 since the acquisition date are included in the 2018 consolidated income statements as follows:

Callidus Acquisition: Impact on SAP's Financials

€ millions	2018 as Reported	Contribution of Callidus
Revenue	24,708	180
Profit after tax	4,088	-60

Had Callidus been consolidated as at January 1, 2018, our estimated 2018 pro forma revenue would have been €24,766 million, and pro forma profit after tax would have been €4,071 million.

These amounts were calculated after applying SAP's accounting policies and after adjusting the results for Callidus to reflect significant effects from, for example:

- Additional depreciation and amortization that would have been charged assuming the fair value adjustment to property, plant, and equipment, and to intangible assets had been applied from January 1, 2018
- The impact of fair value adjustments on contract liabilities/deferred income on a cumulative basis
- The borrowing costs on the funding levels and debt/equity position of SAP after the business combination
- Employee benefits, such as share-based compensation
- Transaction expenses incurred as part of the acquisition
- Related income taxes

These pro forma numbers have been prepared for comparative purposes only. The pro forma revenue and profit numbers are not necessarily indicative either of the results of operations that would have actually occurred had the acquisition been in effect at the beginning of the respective period, or of future results.

(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).

Goodwill

€ millions	
Historical cost	
1/1/2019	23,838
Foreign currency exchange differences	417
Additions from business combinations	5,014
Retirements/disposals	-9
12/31/2019	29,260
Foreign currency exchange differences	-2,010
Additions from business combinations	417
Retirements/disposals	-9
12/31/2020	27,658
 Accumulated amortization	
1/1/2019	102
Foreign currency exchange differences	-1
12/31/2019	101
Foreign currency exchange differences	-3
12/31/2020	98
 Carrying amount	
12/31/2019	29,159
12/31/2020	27,560

Goodwill by Operating Segment

€ millions	Applications, Technology & Support (formerly Applications, Technology & Services)	Services	Concur (formerly Intelligent Spend Group)	Qualtrics	Other ¹	Total
12/31/2019	18,509	0	7,762	2,879	9	29,159
12/31/2020	20,844	355	3,307	2,637	417	27,560

¹ The non-reportable Digital Interconnect segment was sold in 2020 for further information, see [Note \(D.1\)](#). The 2020 balance relates to Emarsys.

Due to the changes in our segments in 2020, a portion (€4,173 million) of the Intelligent Spend Group goodwill was moved to the former Applications, Technology & Services segment. A portion (€368 million) of the goodwill in this segment was then moved to the newly formed Services segment.

For more information about our segments and the changes in 2020, see [Note \(C.1\)](#).

Throughout 2020 (particularly in light of the COVID-19 pandemic and its development), we have – through a qualitative and quantitative analysis – been continuously monitoring the existence of triggering events.

Based on the analysis updated in the fourth quarter, which served as the basis for our regular goodwill impairment test, we assume the economic impact of the current COVID-19 situation will continue through at least the first half of 2021, but that vaccine programs rolled out globally will lead to a gradually improving demand environment. 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 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 (formerly Applications, Technology & Services)	Services		Concur ¹ (formerly Intelligent Spend Group)		Qualtrics		
		2020	2019	2020	2019	2020	2019	
Budgeted revenue growth (average of the budgeted period)	5.4	3.0	3.4	NA	16.7	13.3	20.6	22.6
After-tax discount rate	8.8	9.1	7.2	NA	9.3	10.4	9.7	11.1
Terminal growth rate	3.0	3.0	3.0	NA	3.0	3.0	3.0	3.0
Detailed planning period (in years)	5	5	5	NA	9	9	13	13

¹ The assumptions represent those used for the former Intelligent Spend Group segment in the 2019 impairment test – given the segment changes, comparability to the previous year is limited.

On October 1, 2020, we performed a goodwill impairment test for the segments mentioned above.

Applications, Technology & Support Segment and Services Segment

For more information about our 2020 segment changes, see [Note \(C.1\)](#).

Given the close proximity to the 2019 test and the significant headroom, no formal impairment test was performed on the carve-out date of the Services segment.

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 32.4% (Applications, Technology & Support) (2019: 35.9 %) and 2.4% (Services) 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 €1,416 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
	2020
Budgeted revenue growth (change in pp)	-0.6
Target operating margin at the end of the budgeted period (change in pp)	-2

Concur Segment (former Intelligent Spend Group Segment)

For more information about our 2020 segment changes, see [Note \(C.1\)](#) (since a major part of the Concur engineering functions was also moved, adjustments were made accordingly for impairment testing purposes). Given the close proximity to the 2019 test and the significant headroom, no formal impairment test was performed on the date of the move.

When performing the impairment test, 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 31.1% (2019: 30.6% – relating to the former Intelligent Spend Group segment) was used in the valuation).

The recoverable amount exceeded the carrying amount by €11,514 million (the 2019 number is not comparable as it had been calculated for the former Intelligent Spend Group segment).

The following table shows the amounts by which the key assumptions could – at the time of the impairment test – have changed individually (that is, without changing the other key assumptions) for the recoverable amount to be at least 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

Concur ¹	2020
Budgeted revenue growth (change in pp)	-4.1
Target operating margin at the end of the budgeted period (change in pp)	-26

¹ Given the segment changes and the limited comparability to the previous year we only provide sensitivity numbers for 2020 for Concur.

Qualtrics 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 22.4% (2019: 21.5%) was used in the valuation).

Given the fact that the Qualtrics 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.

As at October 1, 2020, the calculation of the recoverable amount resulted in an amount that exceeded the carrying amount multiple times. Subsequently, Qualtrics International Inc. completed its initial public offering ("IPO") on January 28, 2021, with an implied market capitalization of more than \$20 billion based on shares outstanding of approximately 511 million and the closing share price on the first day of trading.

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

Qualtrics	2020	2019
Budgeted revenue growth (change in pp)	-2.3	-1.6

(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 of up to 12 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.

Acquired in-process research and development project assets are typically amortized over five to seven years (starting upon completion / marketing of the respective projects).

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 produce 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 and in-process research and development (IPRD).

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.

Intangible Assets

€ millions	Software and Database Licenses	Acquired Technology/IPRD	Customer Relationship and Other Intangibles	Total
Historical cost				
1/1/2019	996	2,178	5,212	8,386
Foreign currency exchange differences	4	48	100	152
Additions from business combinations	2	574	1,226	1,802
Other additions	84	0	68	152
Retirements/disposals	-182	-48	-166	-396
Transfers	25	0	-25	0
12/31/2019	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
Accumulated amortization				
1/1/2019	679	1,775	2,705	5,159
Foreign currency exchange differences	5	33	39	77
Additions amortization	94	271	395	760
Retirements/disposals	-180	-48	-163	-391
12/31/2019	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
Carrying amount				
12/31/2019	331	721	3,439	4,491
12/31/2020	270	522	2,992	3,784

Significant Intangible Assets

€ millions, unless otherwise stated

	Carrying Amount	Remaining Useful Life (in years)
	2020	2019
SuccessFactors – Customer relationships	132	184
Ariba – Customer relationships	203	273
Concur – Customer relationships	786	955
Callidus – Customer relationships	262	336
Qualtrics – Acquired technologies	360	495
Qualtrics – Customer relationships	991	1,152
Emarsys – Customer relationships	174	NA
Total significant intangible assets	2,908	3,395

(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.

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

Useful Lives of Property, Plant, and Equipment

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
12/31/2019	1,537	1,929	1,956	38	36	5,496
12/31/2020	1,457	1,816	1,628	41	99	5,041
Additions						
2019	85	360	586	19	17	1,067
2020	66	404	424	25	87	1,006

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 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	12/31/2020	12/31/2019
Right-of-use assets		
Right-of-use assets – land and buildings	1,816	1,929
Right-of-use assets – other property, plant, and equipment	41	38
Total right-of-use assets	1,857	1,967
Non-current assets	43,402	44,999
Right-of-use assets as % of non-current assets	4	4
Lease liabilities		
Current lease liabilities	380	389
Current financial liabilities	2,348	3,273
Current lease liabilities as % of current financial liabilities	16	12
Non-current lease liabilities	1,740	1,814
Non-current financial liabilities	13,605	12,923
Non-current lease liabilities as % of non-current financial liabilities	13	14

Equity Investments

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Equity securities	0	3,113	3,113	0	1,996	1,996
Investments in associates	0	14	14	0	16	16
Equity investments	0	3,127	3,127	0	2,012	2,012
Other financial assets	1,635	3,512	5,147	297	2,336	2,633
Equity investments as % of other financial assets	0	89	61	0	86	76

For a list of the names of other equity investments, see [Note \(G.9\)](#).

SAP is committed to future minimum lease payments in the amount of €161 million for facility leases that had not yet commenced as at December 31, 2020. For data centers, we have future commitments to spend €217 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	2020	2019
Lease expenses within operating profit		
Depreciation of right-of-use assets	396	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. Judgment is required particularly in estimating the fair values of equity securities that are not listed publicly.

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.

Financial Commitments in Venture Capital Funds

€ millions	2020	2019
Investments in venture capital funds	237	206

SAP invests and holds interests in unrelated parties that manage investments in venture capital. On December 31, 2020, total commitments to make such investments amounted to €607 million (2019: €517 million), of which €370 million had been drawn (2019: €312 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	12/31/2020
Investments in Venture Capital Funds	
Due 2021	237
Total	237

(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

€ millions	2020	2019
Germany	4,350	4,486
Rest of EMEA	5,821	5,386
EMEA	10,171	9,872
United States	26,829	29,741
Rest of Americas	379	411
Americas	27,208	30,151
APJ	1,216	1,276
SAP Group	38,595	41,299

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

€ millions	2020	2019
Contractual obligations for acquisition of property, plant, and equipment and intangible assets	106	342
Other purchase obligations	3,685	2,251
Purchase obligations	3,791	2,592

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

€ millions	12/31/2020	Purchase Obligations
Due 2021		975
Due 2022 to 2025		2,371
Due thereafter		445
Total		3,791

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 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.

	12/31/2020		12/31/2019		Δ in %
	€ millions	% of Total Equity and Liabilities	€ millions	% of Total Equity and Liabilities	
Equity	29,928	51	30,822	51	-3
Current liabilities	12,842	22	14,462	24	-11
Non-current liabilities	15,702	27	14,929	25	5
Liabilities	28,544	49	29,390	49	-3
Thereof financial debt	13,283	23	13,668	23	-3
Thereof lease liabilities	2,120	4	2,203	4	-4
Total equity and liabilities	58,472	100	60,212	100	-3

In 2020, we drew €2,000 million of Eurobonds. At maturity, we repaid €1,150 million in Eurobonds and US\$290 million in private placements, as well as €750 million in acquisition loan and €170 million in commercial paper (CP). Thus, the ratio of total nominal volume of financial debt to total equity and liabilities remained stable.

(E.2) Total Equity

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.

Number of Shares

Millions	Issued Capital	Treasury Shares
1/1/2018	1,228.5	-35.1
Reissuance of treasury shares under share-based payments	0	0.2
12/31/2018	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

For information about the share buyback in 2020, see "[Item 16E Purchase of Equity Securities by the Issuer and Affiliated Purchasers](#)".

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, 2020, €100 million, representing 100 million shares, was still available for issuance (2019: €100 million).

Other Components of Equity

€ millions	Exchange Differences	Cash Flow Hedges/Cost of Hedging	Total
1/1/2018	330	18	347
Other comprehensive income for items that will be reclassified to profit or loss, net of tax	910	-23	887
12/31/2018	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	-2,791	10	-2,781
12/31/2020	-1,015	4	-1,011

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.

For information about the share buyback in 2020, see "[Item 16E Purchase of Equity Securities by the Issuer and Affiliated Purchasers](#)".

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 2020, we distributed €1,864 million (€1.58 per share) in dividends for 2019 compared to €1,790 million (€1.50 per share) paid in 2019 for 2018 and €1,671 million (€1.40 per share) paid in 2018 for 2017. Aside from the distributed dividend, in 2020, we also returned €1,492 million to our shareholders by repurchasing treasury shares.

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, 2020, the Executive Board intends to propose that a dividend of €1.85 per share (that is, an estimated total dividend of €2,182 million), be paid from the profits of SAP SE.

(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 commercial paper (CP), 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, 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, CP, private placements, and bonds. Net debt is group liquidity less financial debt.

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.

Group Liquidity and Net Debt

€ millions	2020	2019	Δ
Cash and cash equivalents	5,311	5,314	-4
Current time deposits and debt securities	1,470	67	1,402
Group liquidity	6,781	5,382	1,399
Current financial debt	-1,482	-2,529	1,046
Non-current financial debt	-11,801	-11,139	-662
Financial debt	-13,283	-13,668	384
Net debt (-)	-6,503	-8,286	1,783

Cash and Cash Equivalents

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Cash at banks	2,732	0	2,732	2,877	0	2,877
Time deposits	927	0	927	1,093	0	1,093
Money market and other funds	1,655	0	1,655	1,347	0	1,347
Expected credit loss allowance	-3	0	-3	-3	0	-3
Cash and cash equivalents	5,311	0	5,311	5,314	0	5,314

Non-Derivative Financial Debt Investments

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Time deposits	1,448	0	1,448	44	0	44
Debt securities	24	0	24	27	0	27
Financial instruments related to employee benefit plans	0	162	162	0	183	183
Loans and other financial receivables	83	107	190	100	117	217
Expected credit loss allowance	-3	0	-3	-3	0	-3
Non-derivative financial debt investments	1,552	269	1,822	167	300	467
¶ Other financial assets	1,635	3,512	5,147	297	2,336	2,633
Non-derivative financial debt investments as % of ¶ other financial assets	95	8	35	56	13	18

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 \(F.1\)](#).

Financial Debt

€ millions	2020						2019				
	Nominal Volume			Carrying Amount			Nominal Volume			Carrying Amount	
	Current	Non-Current	Current	Non-Current	Total	Current	Non-Current	Current	Non-Current	Total	
Bonds	500	9,844	500	9,868	10,369	1,150	8,367	1,150	8,283	9,433	
Private placement transactions	0	707	0	742	742	258	772	259	808	1,067	
Commercial Papers	930	0	931	0	931	1,100	0	1,100	0	1,100	
Bank loans	52	1,250	52	1,250	1,302	21	2,000	22	1,995	2,017	
Financial debt	1,482	11,801	1,484	11,860	13,344	2,529	11,139	2,531	11,086	13,617	
¶ Financial liabilities			2,348	13,605	15,953			3,273	12,923	16,196	
Financial debt as % of ¶ financial liabilities			63	87	84			77	86	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 0.87% in 2020, 1.09% in 2019, and 1.33% in 2018.

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)	Carrying Amount (in € millions)	2020	2019
Eurobond 8 – 2014	2023	99.478%	1.125% (fix)	1.24%	€1,000	998	997	
Eurobond 9 – 2014	2027	99.284%	1.750% (fix)	1.87%	€1,000	1,006	985	
Eurobond 11 – 2015	2020	100.000%	0.000% (var.)	0.07%	€650	0	650	
Eurobond 12 – 2015	2025	99.264%	1.000% (fix)	1.13%	€600	597	596	
Eurobond 14 – 2018	2021	100.519%	0.000% (var.)	-0.15%	€500	500	501	
Eurobond 15 – 2018	2026	99.576%	1.000% (fix)	1.06%	€500	498	498	
Eurobond 16 – 2018	2030	98.687%	1.375% (fix)	1.50%	€500	510	491	
Eurobond 17 – 2018	2020	100.024%	0.000% (var.)	-0.01%	€500	0	500	
Eurobond 18 – 2018	2022	99.654%	0.250% (fix)	0.36%	€900	899	898	
Eurobond 19 – 2018	2024	99.227%	0.750% (fix)	0.89%	€850	845	844	
Eurobond 20 – 2018	2028	98.871%	1.250% (fix)	1.38%	€1,000	1,009	982	
Eurobond 21 – 2018	2031	98.382%	1.625% (fix)	1.78%	€1,250	1,279	1,224	
Eurobond 22 – 2020	2023	99.794%	0.000% (fix)	0.07%	€600	599	0	
Eurobond 23 – 2020	2026	99.200%	0.125% (fix)	0.26%	€600	596	0	
Eurobond 24 – 2020	2029	98.787%	0.375% (fix)	0.51%	€800	789	0	
Eurobonds							10,125	9,166
USD bond – 2018	2025	100.000%	0.721% (var.)	0.83%	US\$300	243	267	
Bonds							10,369	9,433

All of our Eurobonds are listed for trading on the Luxembourg Stock Exchange.

Private Placements

	Maturity	Coupon Rate	Effective Interest Rate	Nominal Volume (in respective currency in millions)	Carrying Amount (in € millions)	2020	2019
U.S. private placements							
Tranche 6 – 2012	2020	2.82% (fix)	2.86%	US\$290	0	259	
Tranche 7 – 2012	2022	3.18% (fix)	3.22%	US\$444.5	373	406	
Tranche 8 – 2012	2024	3.33% (fix)	3.37%	US\$323	281	305	
Tranche 9 – 2012	2027	3.53% (fix)	3.57%	US\$100	88	97	
Private placements						742	1,067

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, 2020, we had €930 million of CP outstanding with maturities generally less than six months and the carrying amount

amounted to €931 million (December 31, 2019: €1,100.5 million). The weighted average interest rate of our CP was -0.40% as at December 31, 2020 (December 31, 2019: -0.38%).

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	1/1/2020	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

€ millions	1/1/2019	Cash Flows	Business Combinations	Foreign Currency	Fair Value Changes	Other	12/31/2019
Current financial debt	759	-188	0	-6	0	1,963	2,529
Non-current financial debt	10,572	2,500	0	30	0	-1,963	11,139
Financial debt (nominal volume)	11,331	2,312	0	25	0	0	13,668
Basis adjustment	42	0	0	1	-30	0	13
Transaction costs	-70	0	0	0	0	5	-64
Financial debt (carrying amount)	11,303	2,312	0	25	-30	5	13,616
Accrued interest	47	0	0	1	0	19	67
Interest rate swaps	-7	0	0	0	14	0	7
Lease ¹	2,168	-403	52	38	0	348	2,204
Total liabilities from financing activities	13,512	1,910	52	64	-16	373	15,895

¹ Other includes new lease liabilities

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 element 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 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, and IFRS 7 – Interest Rate Benchmark Reform

The IASB issued amendments to IFRS 9, IAS 39, and IFRS 7 on September 26, 2019, completing Phase 1 of the Interest Rate Benchmark Reform project. SAP holds interest rate receiver swaps which are designated in fair value hedging relationships that are directly impacted by the IBOR Reform. The interest rate swaps have floating legs which are indexed to either EONIA or USD Fed Funds Rate which will be amended to Euro Short-Term Rate and Secured Overnight Financing Rate, respectively. We are monitoring the latest developments to manage the transition to the new interest rate benchmarks. We do not expect material impacts from the change of interest rate benchmarks. As at December 31, 2020, SAP's exposure to EONIA designated in hedging relationships was €3.75 billion nominal amount, representing both the nominal amount of the hedging interest rate swap and the principal amount of the hedged Eurobonds maturing between 2027 and 2031. The exposure to USD Fed Funds Rate designated in hedging relationships was US\$322.25 million nominal amount (€262.6 million), representing both the nominal amount of the hedging interest rate swaps and the principal amount of the hedged U.S. private placements maturing between 2022 and 2024.

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 and analysis 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, 2020, relating to items designated as hedged items were as follows:

Designated Hedged Items in Foreign Currency Exchange Rate Hedges

	Forecasted License Payments
€ millions	2020
Change in value used for calculating hedge ineffectiveness	5
Cash flow hedge	5
Cost of hedging	-1
Balances remaining in cash flow hedge reserve for which hedge accounting is no longer applied	0

The amounts as at December 31, 2020, designated as hedging instruments were as follows:

Designated Hedging Instruments in Foreign Currency Exchange Rate Hedges

	Forecasted License Payments
€ millions	2020
Nominal amount	436
Carrying amount	
Other financial assets	7
Other financial liabilities	-1
Change in value recognized in OCI	5
Hedge ineffectiveness recognized in finance income, net	0
Cost of hedging recognized in OCI	1
Amount reclassified from cash flow hedge in OCI to other non-operating income, net	6
Amount reclassified from cost of hedging in OCI to finance income, net	-4

On December 31, 2020, we held the following instruments to hedge exposures to changes in foreign currency:

Details on Hedging Instruments in Foreign Currency Exchange Rate Hedges

	Maturity	
	2020	
	1 – 6 months	7 – 12 months
Forward exchange contracts		
Net exposure in € millions	290	146
Average EUR:GBP forward rate	0.90	0.91
Average EUR:JPY forward rate	122.33	125.06
Average EUR:CHF forward rate	1.07	1.07
Average EUR:AUD forward rate	1.69	0

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, 2020, was as follows:

Foreign Currency Exposure

€ billions	2020	2019
Year-end exposure toward all our major currencies	0.9	1.0
Average exposure	0.9	0.7
Highest exposure	1.0	1.0
Lowest exposure	0.9	0.6

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 (2019: +/-10% of the foreign currency exchange rate between the euro and all other major currencies; 2018: +/-10% of the foreign currency exchange rate between the euro and all other major currencies). If, on December 31, 2020, 2019, and 2018, 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		
	2020	2019	2018	2020	2019	2018
Derivatives held within a designated cash flow hedge relationship						
All major currencies -10% (2019: all major currencies -10%; 2018: all major currencies -10%)				43	53	62
All major currencies +10% (2019: all major currencies +10%; 2018: all major currencies +10%)				-43	-53	-62
Embedded derivatives						
All currencies -10%	40	53	11			
All currencies +10%	-49	-53	-11			
FX option held in connection with the acquisition of Qualtrics						
USD -10%	0	0	-29			
USD +10%	0	0	559			

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 (2020: 67%; 2019: 80%) and most of our financing transactions are based on fixed rates and long maturities (2020: 85%; 2019: 69%).

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.

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, 48% (2019: 35%) of our total interest-bearing financial liabilities outstanding as at December 31, 2020, had a fixed interest rate.

The amounts as at December 31, 2020, relating to items designated as hedged items were as follows:

Designated Hedged Items in Interest Rate Hedges

	2020	
€ millions	Fixed-Rate Borrowing in EUR	Fixed-Rate Borrowing in USD
Notional amount	4,550	263
Carrying amount	4,503	262
Accumulated fair value adjustments in Other financial liabilities	-90	-36
Change in fair value used for measuring ineffectiveness	-90	-16
Accumulated amount of fair value hedge adjustments for hedged items ceased to be adjusted for hedging gains/losses	0	-20

The amounts as at December 31, 2020, designated as hedging instruments were as follows:

Designated Hedging Instruments in Interest Rate Hedges

	2020	
€ millions	Interest Rate Swaps for EUR Borrowing	Interest Rate Swaps for USD Borrowing
Notional amount	4,550	263
Carrying amount		
Other financial assets	99	15
Other financial liabilities	0	0
Change in fair value used for measuring ineffectiveness	99	15

As at December 31, 2020, we held the following instruments to hedge exposures to changes in interest rates:

Details on Hedging Instruments in Interest Rate Hedges

€ millions	2022	2024	2027	2028	2029	2030	2031	Maturity
EUR interest rate swaps								
Nominal amounts			1,000	1,000	800	500	1,250	
Average variable interest rate			1.476%	0.900%	0.240%	0.875%	1.038%	
USD interest rate swaps								
Nominal amounts	181	81						
Average variable interest rate	1.031%	0.910%						

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	2020				2019			
	Year-End	Average	High	Low	Year-End	Average	High	Low
Fair value interest rate risk								
From investments	0.02	0.02	0.02	0.02	0.03	0.05	0.07	0.03
Cash flow interest rate risk								
From investments (including cash)	4.58	5.14	5.77	4.58	4.32	4.32	5.04	3.89
From financing	1.99	3.18	3.93	1.99	3.92	4.25	4.43	3.92
From interest rate swaps	4.81	4.78	5.10	4.30	4.29	3.05	5.06	1.28

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 +50/+10 basis points (bps) for the U.S. dollar/euro area (2019: +50/+10bps for the U.S. dollar/euro area; 2018: +100/+30bps for the U.S. dollar/euro area), and a yield curve downward shift of -50/-20bps for the U.S. dollar/euro area (2019: -50/-20bps for the U.S. dollar/euro area; 2018: -25/-10bps for the U.S. dollar/euro area).

If, on December 31, 2020, 2019, and 2018, 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.

Interest Rate Sensitivity

€ millions	Effects on Financial Income, Net		
	2020	2019	2018
Derivatives held within a designated fair value hedge relationship			
Interest rates +50bps for U.S. dollar area/+10bps for euro area (2019: +50/+10bps for U.S. dollar/euro area; 2018: +100/+30bps for U.S. dollar/euro area)	-41	-41	-20
Interest rates -50bps for U.S. dollar/-20bps for euro area (2019: -50/-20bps for U.S. dollar/euro area; 2018: -25/-10bps for U.S. dollar/euro area)	79	76	5
Variable-rate financing			
Interest rates +50bps for U.S. dollar area/+10bps for euro area (2019: +50/+10bps for U.S. dollar/euro area; 2018: +100/+30bps for U.S. dollar/euro area)	-6	-8	-24
Interest rates -50bps for U.S. dollar/-20bps for euro area (2019: -50/-20bps for U.S. dollar/euro area; 2018: -25/-10bps for U.S. dollar/euro area)	6	8	4

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 hedge certain cash flow exposures associated with these plans by purchasing derivative instruments, but we do not establish a designated hedge relationship.

Equity Price Exposure

On December 31, 2020, our exposure from our investments in equity securities was €3,113 million (2019: €1,996 million; 2018: €1,248 million).

For information about the exposure from our share-based payments plans, see [Note \(B.3\)](#).

Equity Price Sensitivity

In our sensitivity analysis for our share-based payments plans, we include the hedging instruments and the underlying share-based payments even though the latter are scoped out of IFRS 7, as we believe that taking only the derivative instrument into account would not properly reflect our equity price risk exposure.

Our sensitivity towards a fluctuation in equity prices is as follows:

Equity Price Sensitivity

€ millions	2020	2019	2018
Investments in equity securities			
Increase in equity prices and respective unobservable inputs of 10% - increase of financial income, net by	259	156	65
Decrease in equity prices and respective unobservable inputs of 10% - decrease of financial income, net by	-259	-156	-65
Share-based payments			
Increase in equity prices of 20%			
- Increase of share-based payment expenses by	-272	-298	-279
- Increase of offsetting gains from hedging instruments by	24	48	57
Decrease in equity prices of 20%			
- Decrease of share-based payment expenses by	271	307	262
- Decrease of offsetting gains from hedging instruments by	-23	-46	-44

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 2020 and 2019. The weighted average rating of our financial assets is in the range A to 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, 2020, 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

€ 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	2020
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	

€ 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	2019
Risk class 1 - low risk	AAA to BBB-	-0.1%	3,838	0	-3	
Risk class 2 - high risk	BB to D	0.0%	23	0	0	
Risk class 3 - unrated	NA	-5.0%	52	0	-3	
Total		-0.2%	3,913	0	-6	

As at December 31, 2020, 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, 2020, 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	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

€ millions, unless otherwise stated	Weighted Average Loss Rate	Gross Carrying Amount Not Credit-Impaired	Gross Carrying Amount Credit-Impaired	ECL Allowance
AR not due and due	-0.2%	5,226	0	-9
AR overdue 1 to 30 days	-0.5%	733	36	-4
AR overdue 30 to 90 days	-0.8%	668	23	-5
AR overdue more than 90 days	-11.1%	869	158	-114
Total	-1.7%	7,496	217	-131

For 2020, 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

	2020	2019
€ millions	ECL Allowance	ECL Allowance
Balance as at 01/01	-131	-107
Net credit losses recognized	-97	-38
Amounts written off	42	13
Balance as at 12/31	-186	-131

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 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, 2020, we had €930 million of CP outstanding with maturities generally less than six months (2019: €1,099.5 million).

Additionally, as at December 31, 2020, and 2019, we had available lines of credit totaling €372 million and €430 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, 2020. 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, 2020. 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					
		12/31/2020	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
€ millions	Carrying Amount	Contractual Cash Flows					
		12/31/2019	2020	2021	2022	2023	2024
Non-derivative financial liabilities							
Trade payables	-1,283	-1,283	0	0	0	0	0
Lease liabilities	-2,203	-431	-363	-284	-224	-190	-1,019
Other financial liabilities	-13,912	-2,888	-630	-3,414	-1,095	-1,231	-5,467
Total of non-derivative financial liabilities	-17,398	-4,602	-993	-3,698	-1,319	-1,421	-6,486

Contractual Maturities of Derivative Financial Liabilities and Financial Assets

€ millions	Carrying Amount 12/31/2020	Contractual Cash Flows		Carrying Amount 12/31/2019	Contractual Cash Flows			
		2021	Thereafter		2020	Thereafter		
Derivative financial liabilities and assets								
Derivative financial liabilities								
Currency derivatives not designated as hedging instruments	-61			-55				
Cash outflows		-2,902	-7		-2,865	-3		
Cash inflows		2,842	0		2,816	0		
Currency derivatives designated as hedging instruments	-1			-11				
Cash outflows		-141			-415	0		
Cash inflows		139			401	0		
Interest rate derivatives designated as hedging instruments	0			-16				
Cash outflows				-28		-536		
Cash inflows				36		515		
Total of derivative financial liabilities	-63	-62	-7	-82	-55	-24		
Derivative financial assets								
Currency derivatives not designated as hedging instruments	38			33				
Cash outflows		-2,452			-3,442	0		
Cash inflows		2,493			3,468	0		
Currency derivatives designated as hedging instruments	7			3				
Cash outflows		-291			-114	0		
Cash inflows		297			117	0		
Interest rate derivatives designated as hedging instruments	114			9				
Cash outflows		-48	-398		-14	-18		
Cash inflows		69	495		17	24		
Total of derivative financial assets	158	68	97	44	32	6		
Total of derivative financial liabilities and assets	95	6	90	-37	-23	-18		

(F.2) Fair Value Disclosures on Financial Instruments

⌚ 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.

Fair Values of Financial Instruments and Classification Within the Fair Value Hierarchy

€ millions	Category	12/31/2020							
		Carrying Amount	Measurement Categories			Fair Value			
			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	

Fair Values of Financial Instruments and Classification Within the Fair Value Hierarchy

€ millions	Category	12/31/2019							
		Carrying Amount	Measurement Categories			Fair Value			
			At Amortized Cost	At Fair Value	Level 1	Level 2	Level 3	Total	
Assets									
Cash and cash equivalents		5,314							
Cash at banks ¹	AC	2,877	2,877						
Time deposits ¹	AC	1,090	1,090						
Money market and similar funds	FVTPL	1,347		1,347	1,347			1,347	
Trade and other receivables		8,037							
Trade receivables ¹	AC	7,582	7,582						
Other receivables ²	—	454							
Other financial assets		2,633							
Debt securities	AC	27	27		27			27	
Equity securities	FVTPL	1,996		1,996	25	89	1,882	1,996	
Investments in associates ²	—	16							
Time deposits	AC	41	41			41		41	
Financial instruments related to employee benefit plans ²	—	183							
Loans and other financial receivables	AC	217	217			217		217	
Derivative assets									
Designated as hedging instrument									
FX forward contracts	—	3		3		3		3	
Interest rate swaps	—	9		9		9		9	
Not designated as hedging instrument									
FX forward contracts	FVTPL	33		33		33		33	
Call options for share-based payments	FVTPL	95		95		95		95	
Call option on equity shares	FVTPL	15		15		15		15	
Liabilities									
Trade and other payables		-1,589							
Trade payables ¹	AC	-1,283	-1,283						
Other payables ²	—	-306							
Financial liabilities		-16,196							
Non-derivative financial liabilities									
Loans	AC	-2,016	-2,016		-2,016		-2,016		
Bonds	AC	-10,533	-10,533		-10,003	-1,100		-11,103	
Private placements	AC	-1,067	-1,067			-1,078		-1,078	
Other non-derivative financial liabilities ³	AC	-2,498	-2,498		-296		-296		
Derivatives									
Designated as hedging instrument									
FX forward contracts	—	-11		-11		-11		-11	
Interest rate swaps	—	-16		-16		-16		-16	
Not designated as hedging instrument									
FX forward contracts	FVTPL	-55		-55		-55		-55	
Total financial instruments, net		-1,801	-5,564	3,416	-8,604	-4,086	1,896	-10,794	

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.

Fair Values of Financial Instruments by Instrument Classification

€ millions	Category	12/31/2020	
		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

Fair Values of Financial Instruments by Instrument Classification

€ millions	Category	12/31/2019	
		Carrying Amount	At Amortized Cost
			At Fair Value
Financial assets			
At fair value through profit or loss	FVTPL	3,486	3,486
At amortized cost	AC	11,834	11,834
Financial liabilities			
At fair value through profit or loss	FVTPL	-55	-55
At amortized cost	AC	-17,398	-17,398

Determination of Fair Values

A description of the valuation techniques and the inputs used in the fair value measurement is given below:

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
Unlisted equity securities	Level 3	Market approach. Comparable company valuation using revenue multiples derived from companies comparable to the investee.	Peer companies used (revenue multiples range from 1.3 to 21.4) Revenues of investees Discounts for lack of marketability (10% to 30%)	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)
		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.	NA	NA
		Last financing round valuations	NA	NA
		Liquidation preferences	NA	NA
		Net asset value/fair market value as reported by the respective funds	NA	NA
Call options for share-based payment plans	Level 2	Monte Carlo model. Calculated considering risk-free interest rates, the remaining term of the derivatives, the dividend yields, the share price, and the volatility of our share.	NA	NA
Call option on equity shares	Level 3	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.	NA	NA
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
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 €91 million in 2020 (2019: €5 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	2020	2019
1/1	1,896	1,202
Transfers		
Into Level 3	0	0
Out of Level 3	-201	-39
Purchases	728	487
Sales	-233	-183
Gains/losses		
Included in financial income, net in profit or loss	501	411
Included in exchange differences in other comprehensive income	-183	18
12/31	2,508	1,896
Change in unrealized gains/losses in profit or loss for equity investments held at the end of the reporting period	376	318

Transfers out of Level 3 are due to initial public offerings of the respective investee. 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.

Section G – Other Disclosures

This section provides additional disclosures on miscellaneous topics, including information pertaining to the Executive Board, Supervisory Board, related party transactions, and other corporate governance topics.

(G.1) Prepaid Expenses and Other Tax Assets

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Prepaid expenses	495	187	682	427	179	606
Other tax assets	209	52	261	225	87	312
Total	704	239	943	652	266	918
¶ Other non-financial assets	1,321	1,926	3,247	1,188	1,701	2,889
Prepaid expenses and other tax assets as % of ¶ other non-financial assets	53	12	29	55	16	32

Prepaid expenses primarily consist of prepayments for operating leases, support services, and software royalties. Other tax assets primarily consist of VAT.

(G.2) Other Tax Liabilities

€ millions	2020			2019		
	Current	Non-Current	Total	Current	Non-Current	Total
Other tax liabilities	632	0	632	650	0	650
¶ Other non-financial liabilities	4,643	770	5,413	4,839	957	5,796
Other tax liabilities as % of ¶ other non-financial liabilities	14	0	12	13	0	11

Other tax liabilities primarily consist of VAT, payroll tax, and sales tax.

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.

(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.

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, 2020, 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

⌚ 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

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, 2020 and 2019. 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, 2020, 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 alleges that SAP misappropriated trade secrets of Teradata, infringed Teradata's copyrights (claim now withdrawn), and violated U.S. antitrust laws. Teradata seeks unspecified monetary damages and injunctive relief. In 2019, SAP asserted patent infringement counterclaims against Teradata seeking monetary damages and injunctive relief. Trial is scheduled for late 2021. In 2020, Teradata initiated a second civil lawsuit against SAP asserting patent infringement, seeking monetary damages and injunctive relief. Trial in the second lawsuit is scheduled for late 2022.

The legal proceedings instituted in 2010 by United States-based TecSec, Inc. against SAP (including our subsidiary Sybase) and many other defendants in the United States, in which TecSec sought unspecified monetary damages and permanent injunctive relief, were settled in 2020.

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 €154 million (2019: €189 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.

Furthermore, we continue to investigate separate allegations regarding conduct that certain SAP partners violated SAP contractual terms and sold SAP products and services in embargoed countries and to sanctioned entities. These SAP partners presumably did not adhere to SAP's strict procedures for indirect business activities. To the extent any company independent from SAP chooses not to follow SAP's licensing procedures, SAP is ultimately limited in its ability to stop their activities. SAP devotes considerable resources to prevent and mitigate such activities should they occur. We are also investigating allegations regarding direct sales from SAP to certain customers, who may have engaged in unauthorized activities in embargoed countries. The investigations are being conducted by SAP's OEC and SAP's Export Control team, with the assistance of an external law firm and forensic advisors.

In this context, SAP voluntarily self-disclosed potential export controls and economic sanctions violations to the U.S. DOJ and the U.S. Department of 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 an SEC comment letter on export restriction matters in October 2017. SAP has also provided disclosure to the U.S. Department of Commerce's Bureau of Industry and Security (BIS) based on the same alleged facts. The alleged conduct may result in monetary penalties or other sanctions under U.S. sanctions and export control laws. SAP is currently engaging with U.S. authorities regarding resolution of these matters.

The comprehensive and exhaustive investigations and the corresponding remediation activities are ongoing, and considering the complexity of individual factors and the large number of open questions, it is not entirely possible at this point in time to comprehensively assess the risks.

For the reasons outlined above, it is impossible at this point in time to determine whether the potential anti-bribery law violations and the potential export restriction 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 2020. It is also not practicable to estimate the financial effect of any contingent liabilities that may result from these potential violations.

(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, 2020

Christian Klein

Chief Executive Officer
Corporate Development and Strategy, Security and Secrecy, Compliance, Global Corporate Affairs, Global Marketing

Supervisory Board, adidas AG, Herzogenaurach, Germany (from August 11, 2020)

Sabine Bendiek (from January 1, 2021)

Chief People 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

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, Partners, and Customer Engagement

Thomas Saueressig

SAP Product Engineering
Global Responsibility for all SAP Applications, Cloud Operations and Product Support, Cross-Development Functions, Enterprise Cloud Services

Executive Board Members Who Left During 2020 and 2021

Michael Kleinemeier (until April 30, 2020)
Jennifer Morgan (until April 30, 2020)
Stefan Ries (until May 31, 2020)
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, 2020

Prof. Dr. h.c. mult. Hasso Plattner^{2, 4, 6}

Chairman

Margret Klein-Magar^{1, 2, 3}

Deputy Chairperson
Vice President, Head of SAP Alumni Relations
Chairperson of the Spokespersons' Committee of Senior Managers of SAP SE

Dr. h. c. mult. Pekka Ala-Pietilä^{2, 6, 7}

Chairman of the Board of Directors, Huhtamäki Oyj, Espoo, Finland
Chairman of the Board of Directors, Sanoma Corporation, Helsinki, Finland

Panagiotis Bissiritsas^{1, 2, 3, 5}

Member of the SAP SE Works Council and Member of the SAP SE Works Council (Europe)

Aicha Evans^{2, 4, 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 (from December 23, 2020)

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

Monika Kovachka-Dimitrova^{1, 4, 7}

Chief Project Expert Development
Member of the SAP SE Works Council (Europe)

Lars Lamadé^{1, 2, 4} Head of Sponsorships Europe and Asia Supervisory Board, Rhein-Neckar Loewen GmbH, Kronau, Germany	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 Board of Directors, OWN LLC, West Hollywood, CA, United States Board of Directors, Magnolia Discovery Ventures, LLC, Waco, Texas, United States
Bernard Liautaud^{2, 4, 6} Managing Partner Balderton Capital, London, United Kingdom Board of Directors, nlyte Software Ltd., London, United Kingdom Board of Directors, Vestiaire Collective SA, Levallois-Perret, France Board of Directors, Dashlane, Inc., New York, NY, United States Board of Directors, Qubit Digital Ltd., London, United Kingdom Board of Directors, Aircall.io, New York City, NY, United States Board of Directors, Virtuo Technologies, Paris, France Board of Directors, The Hut Group, Manchester, United Kingdom (until August 26, 2020) Board of Directors, Peakon Aps, Copenhagen, Denmark 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	James Wright^{1, 3, 4, 5} Chairman of the SAP SE Works Council (Europe)
Ralf Zeiger^{1, 2, 7} Chairman of the SAP SE Works Council and Member of the SAP SE Works Council (Europe)	
Dr. Qi Lu (from December 21, 2020) CEO, MiraclePlus Ltd., Beijing, China Board of Directors, Pinduoduo Inc., Shanghai, China Chairman of the Board of Directors, Pine Field Holding Limited, Cayman Islands Chairman of the Board of Directors, Pine Field Holding Limited, Hong Kong, China Chairman of the Board of Directors, Pine Field Ltd., Peking, China	Supervisory Board Members Who Left During 2020 Diane Greene (until December 9, 2020)
Gerhard Oswald^{3, 4, 5, 6, 7} Managing Director of Oswald Consulting GmbH, Walldorf, Germany Advisory Board, TSG 1899 Hoffenheim Fußball-Spielbetriebs GmbH, Sinsheim, Germany	<p>¹ Appointed by the SAP SE Works Council (Europe) ² Member of the Company's General and Compensation Committee ³ Member of the Company's Audit Committee ⁴ Member of the Company's Technology and Strategy Committee ⁵ Member of the Company's Finance and Investment Committee ⁶ Member of the Company's Nomination Committee ⁷ Member of the Company's People and Organization Committee</p>
Christine Regitz^{1, 2, 4, 5} Vice President User Experience Chief Product Expert	(G.5) Executive and Supervisory Board Compensation
Dr. Friederike Rotsch^{2, 3, 5} Group General Counsel and Head of Group Legal & Compliance, Merck KGaA, Darmstadt, Germany	<p>⌚ 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 2020, share units were issued to the Executive Board members under the LTI 2020 and in 2019 and 2018 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.</p>
Heike Steck^{1, 4, 7} Senior Operations Manager Member of the SAP SE Works Council and Member of the SAP SE Works Council (Europe)	
Christa Vergien-Knopf^{1, 4, 7} Member of the SAP SE Works Council and Member of the SAP SE Works Council (Europe)	

The total compensation of the Executive Board members for each of the years 2020, 2019, and 2018 was as follows:

Executive Board Compensation

€ thousands	2020	2019	2018
Short-term employee benefits	5,094	17,378	18,652
Share-based payment ¹	23,095	32,393	23,646
Subtotal¹	28,189	49,771	42,298
Post-employment benefits	488	2,825	1,106
Thereof defined-benefit	487	2,056	250
Thereof defined-contribution	1	769	856
Total¹	28,677	52,596	43,404

¹ Portion of total executive compensation allocated to the respective year

Share-Based Payment for Executive Board Members

	2020	2019	2018
Number of share units granted	201,690	344,047	295,178
Total expense in € thousands	11,173	44,447	8,054

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	2020	2019	2018
DBO 12/31	3,520	5,497	3,441
Annual pension entitlement	98	215	192

The total annual compensation of the Supervisory Board members is as follows:

Supervisory Board Compensation

€ thousands	2020	2019	2018
Total compensation	3,755	3,770	3,702
Thereof fixed compensation	3,149	3,218	3,162
Thereof committee remuneration	606	553	540

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, 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	2020	2019	2018
Payments	3,010	2,081	2,054
DBO 12/31	44,043	44,306	38,374

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 2020, 2019, or 2018.

(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, Chairman 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 €3 million (2019: €9 million), we bought products and services from such companies in the amount of €2 million (2019: €2 million), and we provided sponsoring and other financial support to such companies in the amount of €4 million (2019: €4 million). Outstanding balances at year end from transactions with such companies were €0 million (2019: €0 million) for amounts owed to such companies and €0 million (2019: €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 three years) made by us to purchase further goods or services from these companies and to provide further sponsoring and other financial support amount to €10 million as at December 31, 2020 (2019: €14 million).

In total, we sold services to members of the Executive Board and the Supervisory Board in the amount of €0 million (2019: €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 (2019: €2 million). Amounts owed, but not yet paid, to Supervisory Board members from these transactions were €0 million as at December 31, 2020 (2019: €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 \(G.5\)](#).

(G.7) Principal Accountant Fees and Services

At the Annual General Meeting of Shareholders held on May 20, 2020, our shareholders elected KPMG AG Wirtschaftsprüfungsgesellschaft (KPMG) as SAP's independent

auditor for 2020. KPMG has been the Company's principal auditor since the fiscal year 2002. KPMG and other firms in the global KPMG network charged the following fees to SAP for audit and other professional services related to 2020 and the previous years:

€ millions	2020			2019			2018		
	KPMG AG (Germany)	Foreign KPMG Firms	Total	KPMG AG (Germany)	Foreign KPMG Firms	Total	KPMG AG (Germany)	Foreign KPMG Firms	Total
Audit fees	3	9	12	3	7	10	3	6	9
Audit-related fees	0	1	2	0	1	1	0	0	0
Tax fees	0	0	0	0	0	0	0	0	0
All other fees	0	0	0	0	0	0	0	0	0
Total	3	10	14	3	8	10	3	6	9

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, as well as audit fees regarding the initial public offering of Qualtrics. 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

Qualtrics Initial Public Offering (IPO)

On January 28, 2021, Qualtrics International Inc. (Qualtrics) successfully issued 12% of its shares on the Nasdaq Stock Market (NASDAQ). Qualtrics placed 82 million new shares with a total placement volume of US\$2.3 billion including a private placement transaction. Since SAP did not participate in the capital increase, SAP's ownership decreased to 83%. However, SAP continues to hold high-vote Class B common stock and, as a result, its current voting power exceeds 98%.

In connection with the IPO, Qualtrics conducted a voluntary exchange offer to exchange existing share-based payment awards of Qualtrics employees (Qualtrics Rights and Move SAP RSUs) for awards with underlying shares of Qualtrics at an exchange ratio based upon the IPO price of Qualtrics Class A common stock; the exchange ratio is designed to preserve the intrinsic value of the Qualtrics Rights and Move SAP RSUs that will be tendered. The exchange offer is limited to eligible employees and is subject to various terms and conditions as more fully described in the prospectus relating to such exchange offer published by Qualtrics.

Organizational Changes

At the beginning of 2021, SAP modified its organizational structure to further drive simplification and integration. The organizational changes which will also affect SAP's segment reporting. SAP has already started the process of redefining its management reporting under the new organizational structure, which the segment reporting will follow.

Restructuring

To accelerate the modernization of its cloud infrastructure and to harmonize its platform structure, SAP will undertake a restructuring program in the Global Cloud Services area. The execution started in Q1 2021 and will continue until the end of 2022. Total restructuring expenses are projected to be €150 million to €200 million. The majority of these expenses will be impairments of data centers and related assets.

Acquisition of Signavio

In January 2021, SAP announced it had entered into an agreement to acquire Signavio GmbH, a leader in the enterprise business process intelligence and process management space. The initial purchase price is €950 million. The transaction is expected to close in the first quarter of 2021, subject to regulatory approval.

(G.9) Scope of Consolidation, Subsidiaries and Other Equity Investments

Entities Consolidated in the Financial Statements

	Total
12/31/2018	265
Additions	20
Disposals	-21
12/31/2019	264
Additions	17
Disposals	-12
12/31/2020	269

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.

Subsidiaries

Major Subsidiaries

Name and Location of Company	Owner-ship %	Total Revenue in 2020 ¹ € thousands	Profit/Loss (-) After Tax for 2020 ¹ € thousands	Total Equity as at 12/31/2020 ¹ € thousands	Number of Employees as at 12/31/2020 ²	Foot-note
Ariba Technologies India Private Limited, Bangalore, India	100.0	71,814	5,856	27,694	1,163	
Ariba, Inc., Palo Alto, CA, United States	100.0	1,364,062	393,506	4,384,584	1,905	
Concur Technologies, Inc., Bellevue, WA, United States	100.0	1,704,448	69,886	7,093,719	3,734	
Qualtrics, LLC, Wilmington, DE, United States	100.0	687,972	-595,614	5,490,095	2,431	
SAP (China) Co., Ltd., Shanghai, China	100.0	948,426	2,287	-189,703	5,750	16
SAP (UK) Limited, Feltham, United Kingdom	100.0	1,189,692	81,641	74,774	1,738	10
SAP America, Inc., Newtown Square, PA, United States	100.0	6,038,852	176,711	18,092,145	8,352	
SAP Argentina S.A., Buenos Aires, Argentina	100.0	160,724	-9,749	2,164	955	16
SAP Asia Pte Ltd, Singapore, Singapore	100.0	499,457	80	-12,285	1,102	16
SAP Australia Pty Ltd, Sydney, Australia	100.0	694,917	27,323	36,783	1,218	
SAP Brasil Ltda, São Paulo, Brazil	100.0	463,326	-43,524	-39,474	2,138	16
SAP Canada Inc., Toronto, Canada	100.0	957,871	71,104	525,856	2,985	
SAP Deutschland SE & Co. KG, Walldorf, Germany	100.0	4,571,609	926,552	1,843,908	4,580	7.9
SAP España – Sistemas, Aplicaciones y Productos en la Informática, S.A., Madrid, Spain	100.0	507,960	40,841	311,958	740	
SAP France S.A., Levallois-Perret, France	100.0	1,089,190	220,940	1,717,909	1,482	
SAP Hungary Rendszerek, Alkalmazások és Termékek az Adatfeldolgozásban Informatikai Kft., Budapest, Hungary	100.0	119,694	2,145	19,777	1,004	
SAP India Private Limited, Bangalore, India	100.0	642,886	111,812	383,157	2,002	
SAP Industries, Inc., Newtown Square, PA, United States	100.0	647,524	138,575	933,749	297	
SAP Italia Sistemi Applicazioni Prodotti in Data Processing S.p.A., Vimercate, Italy	100.0	582,922	41,776	378,505	723	
SAP Japan Co., Ltd., Tokyo, Japan	100.0	1,275,694	139,717	369,854	1,306	
SAP Labs India Private Limited, Bangalore, India	100.0	567,938	46,409	194,632	9,087	
SAP Labs, LLC, Palo Alto, CA, United States	100.0	562,386	22,091	414,651	1,921	
SAP México S.A. de C.V., Mexico City, Mexico	100.0	413,748	44,125	78,011	908	16
SAP National Security Services, Inc., Newtown Square, PA, United States	100.0	760,560	149,624	479,669	536	
SAP Nederland B.V., 's-Hertogenbosch, the Netherlands	100.0	701,572	68,342	262,769	591	11
SAP Service and Support Centre (Ireland) Limited, Dublin, Ireland	100.0	191,745	15,292	66,607	1,625	
SAP Services s.r.o., Prague, Czech Republic	100.0	71,524	729	12,875	1,074	
SuccessFactors, Inc., Newtown Square, PA, United States	100.0	816,597	317,427	4,131,532	931	

Other Subsidiaries³

Name and Location of Company	Owner-ship %	Foot-note
"SAP Kazakhstan" LLP, Almaty, Kazakhstan	100.0	
110405, Inc., Newtown Square, PA, United States	100.0	
Abakus Ukraine Limited Liability Company, Kiev, Ukraine	100.0	
Ambin Properties Proprietary Limited, Johannesburg, South Africa	100.0	
Apex Expert Solutions LLC, Chantilly, VA, United States	100.0	
Ariba Czech s.r.o., Prague, Czech Republic	100.0	
Ariba India Private Limited, Gurgaon, India	100.0	
Ariba International Holdings, Inc., Wilmington, DE, United States	100.0	
Ariba International Singapore Pte Ltd, Singapore, Singapore	100.0	
Ariba International, Inc., Wilmington, DE, United States	100.0	
Ariba Slovak Republic, s.r.o., Košice, Slovakia	100.0	
Ariba Software Technology Services (Shanghai) Co., Ltd., Shanghai, China	100.0	
Ariba Technologies Netherlands B.V., 's-Hertogenbosch, the Netherlands	100.0	¹¹
Business Objects Holding B.V., 's-Hertogenbosch, the Netherlands	100.0	¹¹
Business Objects Option, LLC, Wilmington, DE, United States	100.0	
Business Objects Software Limited (Trading as SAP Solutions), Dublin, Ireland	100.0	
Callidus Software Inc., Dublin, CA, United States	100.0	
Callidus Software Ltd., Feltham, United Kingdom	100.0	¹⁰
Callidus Software Pty. Ltd., Sydney, Australia	100.0	
CallidusCloud (India) Private Limited, Hyderabad, India	100.0	
CallidusCloud (Malaysia) Sdn. Bhd., Kuala Lumpur, Malaysia	100.0	
CallidusCloud Holdings Pty. Ltd., Sydney, Australia	100.0	
CallidusCloud Pty. Ltd., Sydney, Australia	100.0	
Christie Partners Holding C.V., 's-Hertogenbosch, the Netherlands	100.0	
C-Learning Pty. Ltd., Sydney, Australia	100.0	
ClearTrip Inc. (Mauritius), Ebene, Mauritius	100.0	
ClearTrip Inc., George Town, Cayman Islands	57.0	
ClearTrip MEA FZ LLC, Dubai, United Arab Emirates	100.0	
ClearTrip Packages and Tours Private Limited, Mumbai, India	100.0	
ClearTrip Private Limited, Mumbai, India	100.0	
ClearTrip Travel & Holidays LLC, Dubai, United Arab Emirates	49.0	⁵
Clicktools Limited, Feltham, United Kingdom	100.0	¹⁰
CNQR Operations Mexico S. de R.L. de C.V., Mexico City, Mexico	100.0	
Concur (Canada), Inc., Toronto, Canada	100.0	
Concur (Czech) s.r.o., Prague, Czech Republic	100.0	¹⁶
Concur (France) S.A.S., Paris, France	100.0	
Concur (Germany) GmbH, Frankfurt am Main, Germany	100.0	^{8,9}
Concur (Japan) Ltd., Tokyo, Japan	97.1	
Concur (New Zealand) Limited, Wellington, New Zealand	100.0	¹⁴
Concur (Philippines) Inc., Makati City, Philippines	100.0	
Concur (Switzerland) GmbH, Zurich, Switzerland	100.0	¹³
Concur Holdings (France) S.A.S., Paris, France	100.0	
Concur Holdings (Netherlands) B.V., Amsterdam, the Netherlands	100.0	¹¹
Concur Technologies (Australia) Pty. Limited, Sydney, Australia	100.0	
Concur Technologies (Hong Kong) Limited, Hong Kong, China	100.0	
Concur Technologies (India) Private Limited, Bangalore, India	100.0	
Concur Technologies (Singapore) Pte Ltd, Singapore, Singapore	100.0	¹⁶
Concur Technologies (UK) Limited, London, United Kingdom	100.0	¹⁰
ConTgo Consulting Limited, London, United Kingdom	100.0	¹⁰
ConTgo Limited, London, United Kingdom	100.0	¹⁰
Crystal Decisions (Ireland) Limited, Dublin, Ireland	100.0	¹²
Crystal Decisions (UK) Limited, London, United Kingdom	100.0	¹⁰
Crystal Decisions Holdings Limited, Dublin, Ireland	100.0	¹²
Datahug Limited, Dublin, Ireland	100.0	
Delighted, LLC, Wilmington, DE, United States	100.0	
Ebreez Egypt LLC, Cairo, Egypt	100.0	
Emarsys Beijing Limited, Beijing, China	100.0	⁴
Emarsys eMarketing Systems AG, Vienna, Austria	100.0	⁴
Emarsys İletişim Sistemleri Tic. Ltd Şti., Istanbul, Turkey	100.0	⁴
Emarsys Interactive Services GmbH, Berlin, Germany	100.0	⁴
Emarsys Limited, Hong Kong, China	100.0	⁴
Emarsys North America, Inc., Indianapolis, IN, United States	100.0	⁴
Emarsys Pte Ltd, Singapore, Singapore	100.0	⁴
Emarsys Pty Ltd, Sydney, Australia	100.0	⁴
Emarsys S.A.S., Levallois-Perret, France	100.0	⁴
Emarsys Schweiz GmbH, Zurich, Switzerland	100.0	⁴
Emarsys UK Ltd, London, United Kingdom	100.0	⁴
EMARSYS-Technologies Informatikai Szolgáltató Kft., Budapest, Hungary	100.0	⁴
ESS Cubed Procurement Proprietary Limited, Johannesburg, South Africa	100.0	
Extended Systems, Inc., San Ramon, CA, United States	100.0	
Financial Fusion, Inc., San Ramon, CA, United States	100.0	
Flyin Holding Limited, Dubai, United Arab Emirates	100.0	
Flyin Travel and Tourism Private Limited, Hyderabad, India	100.0	
Flyin Travel Limited, Limassol, Cyprus	100.0	

Flyin Travel S.A.E, Cairo, Egypt	100.0	
FreeMarkets Ltda., São Paulo, Brazil	100.0	
Gigya UK Ltd, Feltham, United Kingdom	100.0	¹⁰
Hipmunk, Inc., San Francisco, CA, United States	100.0	
hybris (US) Corp., Wilmington, DE, United States	100.0	
hybris GmbH, Munich, Germany	100.0	^{8,9}
Inxight Federal Systems Group, Inc., Wilmington, DE, United States	100.0	
IP Asset Holdings, LLC, Provo, UT, United States	100.0	
LeadFormix, Inc., Dublin, CA, United States	100.0	
Learning Heroes Ltd., Feltham, United Kingdom	100.0	¹⁰
Learning Seat Borrowings Pty. Ltd., Sydney, Australia	100.0	
Learning Seat Group Pty. Ltd., Sydney, Australia	100.0	
Learning Seat Holdings Pty. Ltd., Sydney, Australia	100.0	
Learning Seat Pty. Ltd., Sydney, Australia	100.0	
LLC "Emarsys", Moscow, Russia	100.0	⁴
LLC "SAPLabs", Moscow, Russia	100.0	
LLC "SAP Ukraine", Kiev, Ukraine	100.0	¹⁶
Loyalsys GmbH, Vienna, Austria	100.0	⁴
Loyalsys Technologies Israel Ltd., Tel Aviv, Israel	100.0	⁴
Nihon Ariba K.K., Tokyo, Japan	100.0	
NoteShark, LLC, Chantilly, VA, United States	51.0	
OrientDB Limited, Feltham, United Kingdom	100.0	¹⁰
Outerjoin, Inc., Dublin, CA, United States	100.0	
OutlookSoft Deutschland GmbH, Walldorf, Germany	100.0	^{8,9}
Plat.One Inc., Newtown Square, PA, United States	100.0	
Plat.One Lab S.r.l., Genoa, Italy	100.0	
PT SAP Indonesia, Jakarta, Indonesia	99.0	
Q(AGF2) Inc., Wilmington, DE, United States	100.0	
QAL Technologies Pty Ltd, Sydney, Australia	100.0	
QCL Techonologies Ltd., Toronto, Canada	100.0	
QDL Technologies GmbH, Munich, Germany	100.0	
QFL Technologies S.A.R.L., Paris, France	100.0	
QIL Technologies Limited, Dublin, Ireland	100.0	
QPL Technologies sp. z o.o., Kraków, Poland	100.0	
QL Technologies Pte. Ltd., Singapore, Singapore	100.0	
Quadrem Africa Pty. Ltd., Johannesburg, South Africa	100.0	
Quadrem Brazil Ltda., Rio de Janeiro, Brazil	100.0	
Quadrem Chile Ltda., Santiago de Chile, Chile	100.0	
Quadrem International Ltd., Hamilton, Bermuda	100.0	
Quadrem Netherlands B.V., Amsterdam, the Netherlands	100.0	¹¹
Quadrem Overseas Cooperatief U.A., Amsterdam, the Netherlands	100.0	¹¹
Quadrem Peru S.A.C., Lima, Peru	100.0	
Qualtrics Holdings Inc., Wilmington, DE, United States	100.0	⁴
Qualtrics International Inc., Wilmington, DE, United States	99.0	¹⁷
Qualtrics Japan LLC, Tokyo, Japan	100.0	
Qualtrics Sweden AB, Stockholm, Sweden	100.0	
Qualtrics Technologies Spain, S.L.U., Madrid, Spain	100.0	
QUL Technologies Limited, London, United Kingdom	100.0	¹⁰
SAP (Beijing) Software System Co., Ltd., Beijing, China	100.0	
SAP (China) Holding Co., Ltd., Beijing, China	100.0	
SAP (Schweiz) AG, Biel, Switzerland	100.0	
SAP Andina y del Caribe C.A., Caracas, Venezuela	100.0	¹⁸
SAP AZ LLC, Baku, Azerbaijan	100.0	¹⁸
SAP Belgium – Systems, Applications and Products SA, Brussels, Belgium	100.0	
SAP Beteiligungs GmbH, Walldorf, Germany	100.0	
SAP Bulgaria EOOD, Sofia, Bulgaria	100.0	
SAP Business Services Center Nederland B.V., 's-Hertogenbosch, the Netherlands	100.0	¹¹
SAP Chile Limitada, Santiago de Chile, Chile	100.0	¹⁶
SAP CIS, LLC, Moscow, Russia	100.0	
SAP Colombia S.A.S., Bogotá, Colombia	100.0	¹⁸
SAP Costa Rica, S.A., San José, Costa Rica	100.0	¹⁸
SAP ČR, spol. s r.o., Prague, Czech Republic	100.0	
SAP Cyprus Limited, Nicosia, Cyprus	100.0	
SAP d.o.o., Zagreb, Croatia	100.0	
SAP Danmark A/S, Copenhagen, Denmark	100.0	
SAP Dritte Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100.0	
SAP East Africa Limited, Nairobi, Kenya	100.0	¹⁸
SAP Egypt LLC, Cairo, Egypt	100.0	¹⁸
SAP EMEA Inside Sales S.L., Madrid, Spain	100.0	
SAP Erste Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100.0	^{8,9}
SAP Estonia OÜ, Tallinn, Estonia	100.0	
SAP Financial, Inc., Toronto, Canada	100.0	
SAP Finland Oy, Espoo, Finland	100.0	
SAP Foreign Holdings GmbH, Walldorf, Germany	100.0	
SAP France Holding S.A., Levallois-Perret, France	100.0	
SAP Global Marketing, Inc., New York, NY, United States	100.0	
SAP Hellas Single Member S.A., Athens, Greece	100.0	
SAP Hong Kong Co., Ltd., Hong Kong, China	100.0	¹⁸
SAP Hosting Beteiligungs GmbH, St. Leon-Rot, Germany	100.0	^{8,9}
SAP India (Holding) Pte Ltd, Singapore, Singapore	100.0	
SAP International Panama, S.A., Panama City, Panama	100.0	
SAP International, Inc., Miami, FL, United States	100.0	
SAP Investments, Inc., Wilmington, DE, United States	100.0	
SAP Ireland Limited, Dublin, Ireland	100.0	¹²

SAP Ireland US - Financial Services Designated Activity Company, Dublin, Ireland	100.0	
SAP Israel Ltd., Ra'anana, Israel	100.0	¹⁶
SAP Korea Ltd., Seoul, South Korea	100.0	
SAP Labs Bulgaria EOOD, Sofia, Bulgaria	100.0	
SAP Labs France S.A.S., Mouguis, France	100.0	
SAP Labs Israel Ltd., Ra'anana, Israel	100.0	
SAP Labs Korea, Inc., Seoul, South Korea	100.0	
SAP Latvia SIA, Riga, Latvia	100.0	
SAP Malaysia Sdn. Bhd., Kuala Lumpur, Malaysia	100.0	
SAP Middle East and North Africa L.L.C., Dubai, United Arab Emirates	49.0	^{5,18}
SAP Middle East FZ L.L.C., Dubai, United Arab Emirates	100.0	¹⁶
SAP Nederland Holding B.V., 's-Hertogenbosch, the Netherlands	100.0	¹¹
SAP New Zealand Limited, Auckland, New Zealand	100.0	
SAP Norge AS, Lysaker, Norway	100.0	
SAP North West Africa Ltd., Casablanca, Morocco	100.0	¹⁶
SAP Österreich GmbH, Vienna, Austria	100.0	
SAP Perú S.A.C., Lima, Peru	100.0	¹⁶
SAP Philippines, Inc., Taguig City, Philippines	100.0	¹⁶
SAP Polska Sp. z o.o., Warsaw, Poland	100.0	
SAP Portals Europe GmbH, Walldorf, Germany	100.0	
SAP Portals Holding Beteiligungs GmbH, Walldorf, Germany	100.0	
SAP Portals Israel Ltd., Ra'anana, Israel	100.0	
SAP Portugal – Sistemas, Aplicações e Produtos Informáticos, Sociedade Unipessoal, Lda., Porto Salvo, Portugal	100.0	
SAP Projektverwaltungs- und Beteiligungs GmbH, Walldorf, Germany	100.0	
SAP Public Services, Inc., Washington, DC, United States	100.0	
SAP Puerto Rico GmbH, Walldorf, Germany	100.0	^{8,9,16}
SAP Retail Solutions Beteiligungsgesellschaft mbH, Walldorf, Germany	100.0	
SAP Romania SRL, Bucharest, Romania	100.0	
SAP Saudi Arabia Software Services Ltd, Riyadh, Kingdom of Saudi Arabia	100.0	
SAP Saudi Arabia Software Trading Ltd, Riyadh, Kingdom of Saudi Arabia	75.0	¹⁶
SAP Sechste Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100.0	^{8,9}
SAP Siebte Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100.0	^{8,9}
SAP sistemi, aplikacije in produkti za obdelavo podatkov d.o.o., Ljubljana, Slovenia	100.0	
SAP Slovensko s.r.o., Bratislava, Slovakia	100.0	
SAP Software and Services LLC, Doha, Qatar	49.0	^{5,16}
SAP Svenska Aktiebolag, Stockholm, Sweden	100.0	
SAP System Application and Products Asia Myanmar Limited, Yangon, Myanmar	100.0	
SAP Systems, Applications and Products in Data Processing (Thailand) Ltd., Bangkok, Thailand	100.0	
SAP Taiwan Co., Ltd., Taipei, Taiwan	100.0	
SAP Technologies Inc., Palo Alto, CA, United States	100.0	
SAP Training and Development Institute FZCO, Dubai, United Arab Emirates	100.0	¹⁶
SAP Türkiye Yazılım Üretim ve Ticaret A.Ş., Istanbul, Turkey	100.0	
SAP UAB, Vilnius, Lithuania	100.0	
SAP Ventures Investment GmbH, Walldorf, Germany	100.0	^{8,9}
SAP Vierte Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100.0	
SAP Vietnam Company Limited, Ho Chi Minh City, Vietnam	100.0	
SAP West Balkans d.o.o., Belgrade, Serbia	100.0	
SAP Zweite Beteiligungs- und Vermögensverwaltungs GmbH, Walldorf, Germany	100.0	^{8,9}
SAP.io Fund, L.P., Palo Alto, CA, United States	0	⁶
Sapphire Fund Investments II Holdings, LLC, Palo Alto, CA, United States	100.0	⁶
Sapphire Fund Investments II, LP, Palo Alto, CA, United Stated	0	⁶
Sapphire Fund Investments III, L.P., Palo Alto, CA, United States	0	⁶
Sapphire SAP HANA Fund of Funds, L.P., Palo Alto, CA, United States	0	⁶
Sapphire Ventures Fund I, L.P., Palo Alto, CA, United States	0	⁶
Sapphire Ventures Fund II, L.P., Palo Alto, CA, United States	0	⁶
Sapphire Ventures Fund III, L.P., Palo Alto, CA, United States	0	⁶
Sapphire Ventures Fund IV, L.P., Palo Alto, CA, United States	0	⁶
Sapphire Ventures Fund V L.P., Palo Alto, CA, United States	0	^{4,6}
SAPV (Mauritius), Ebene, Mauritius	100.0	⁶
Saudi Ebreez Company for Electronic Services LLC, Riyadh, Kingdom of Saudi Arabia	100.0	
Statwing, LLC, Wilmington, DE, United States	100.0	
SuccessFactors (Philippines), Inc., Pasig City, Philippines	100.0	¹⁶
SuccessFactors Cayman, Ltd., Grand Cayman, Cayman Islands	100.0	
Sybase Angola, LDA, Luanda, Angola	100.0	¹⁵
Sybase Iberia, S.L., Madrid, Spain	100.0	
Sybase India, Ltd., Wilmington, DE, United States	100.0	
Sybase International Holdings Corporation, LLC, San Ramon, CA, United States	100.0	
Sybase Philippines, Inc., Makati City, Philippines	100.0	
Sybase Software (India) Private Limited, Bangalore, India	100.0	
Sybase, Inc., San Ramon, CA, United States	100.0	
Systems Applications Products (Africa Region) Proprietary Limited, Johannesburg, South Africa	100.0	
Systems Applications Products (Africa) Proprietary Limited, Johannesburg, South Africa	100.0	

Systems Applications Products (South Africa) Proprietary Limited, Johannesburg, South Africa	70.0	¹⁶
Systems Applications Products Nigeria Limited, Victoria Island, Nigeria	100.0	¹⁶
Technology Management Associates Inc., Chantilly, VA, United States	100.0	
Temkin Group, LLC, Wilmington, DE, United States	100.0	
TM Property Holdings, LLC, Wilmington, DE, United States	100.0	
TomorrowNow, Inc., Bryan, TX, United States	100.0	
TRX Europe Limited, London, United Kingdom	100.0	¹⁰
TRX Technologies India Private Limited, Raman Nagar, India	100.0	
TRX UK Limited, London, United Kingdom	100.0	¹⁰
TRX, Inc., Bellevue, WA, United States	100.0	
Volume Integration, Inc., Reston, VA, United States	100.0	

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, 2020, 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 2020.

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., 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 sections 479A to 479C of the UK Companies Act 2006, the entity is exempt from having its financial statements audited on the basis that SAP SE has provided a guarantee of the entity's liabilities in respect of its financial year ended December 31, 2020, or in respect of its financial year ended September 30, 2020, respectively.

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, 2020, or in respect of its financial year ended September 30, 2020, 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, 2020.

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, 2020, or in respect of its financial year ended September 30, 2020, 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, 2020.

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, 2020.

¹⁶ Entity with support letter issued by SAP SE.

¹⁷ Due to conditions in the share purchase agreement, no effects on the non-controlling interests were considered from an accounting point of view as at December 31, 2020.

Other Equity Investments

Name and Location of Company	Ownership %
Joint Arrangements and Investments in Associates	
China DataCom Corporation Limited, Guangzhou, China	28.30
Convergent, Inc., Denver, CO, United States	36.97
Procurement Negócios Eletrônicos S/A, Rio de Janeiro, Brazil	17.00

Name and Location of Company
Equity Investments with Ownership of at Least 5%
83North IV, L.P., Herzliya, Israel
Adverity GmbH, Vienna, Austria
Alation, Inc., Redwood City, CA, United States
Alchemist Accelerator Fund I LLC, San Francisco, CA, United States
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
Auth0, Inc., Bellevue, WA, United States
BGS Holdings, Inc., Austin, TX, United States
Blue Yard Capital I GmbH & Co. KG, Berlin, Germany
Brightfield Holdings, Inc., New York, NY, United States
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
Chalfen Ventures Fund I L.P., Jersey, United Kingdom
CircleCI, Inc., San Francisco, CA, United States
Clari, Inc., Sunnyvale, CA, United States
Contentful GmbH, Berlin, Germany
Coscreen, Inc., Menlo Park, CA, United States
Costanoa Venture Capital II L.P., Palo Alto, CA, United States
Costanoa Venture Capital QZ, LLC, Palo Alto, CA, United States
Costanoa Venture Capital III L.P., Palo Alto, CA, United States
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	Point Nine Annex GmbH & Co. KG, Berlin, Germany
Data Collective IV, L.P., Palo Alto, CA, United States	Point Nine Capital Fund II GmbH & Co. KG, Berlin, Germany
DataRobot, Inc., Boston, MA, United States	Point Nine Capital Fund III GmbH & Co. KG, Berlin, Germany
Digital Hub Rhein-Neckar GmbH, Ludwigshafen, Germany	Point Nine Capital Fund IV GmbH & Co. KG, Berlin, Germany
Dremio Corporation, Santa Clara, CA, United States	Point Nine Capital Fund V GmbH & Co. KG, Berlin, Germany
FeedZai S.A., Lisbon, Portugal	Project 44, Inc., Chicago, IL, United States
Felix Capital Fund III, London, United Kingdom	PubNub, Inc., San Francisco, CA, United States
Felix Ventures II, L.P., London, United Kingdom	Punchh, Inc., San Mateo, CA, United States
Finco Services, Inc. (dba Current), New York, NY, United States	Reitio, Inc., Redwood Shores, CA, United States
Follow Analytics, Inc., San Francisco, CA, United States	Restream, Inc., Austin, Texas, United States
Greater Pacific Capital (Cayman) L.P., Grand Cayman, Cayman Islands	Ridge Ventures IV, L.P., San Francisco, CA, United States
Haystack Ventures V, L.P., Mill Valley, CA, United States	Scryer, Inc., New York, NY, United States
IDG Ventures USA III, L.P., San Francisco, CA, United States	Side, Inc., San Francisco, CA, United States
IEX Group, Inc., New York, NY, United States	Smart City Planning, Inc., Tokyo, Japan
InfluxData, Inc., San Francisco, CA, United States	Splashtop, Inc., San Jose, CA, United States
InnovationLab GmbH, Heidelberg, Germany	SportsTech Fund, L.P., Palo Alto, CA, United States
innoWerft Technologie- und Gründerzentrum Walldorf Stiftung GmbH, Walldorf, Germany	SportsTech Parallel Fund, L.P., Palo Alto, CA, United States
JFrog, Ltd., Netanya, Israel	Spring Mobile Solutions, Inc., Salt Lake City, UT, United States
Jibe, Inc., New York, NY, United States	StackHawk, Inc., Denver, CO, United States
Kaltura, Inc., New York, NY, United States	Storm Ventures V, L.P., Menlo Park, CA, United States
Kavacha TopCo LLC, New York, NY, United States	SumoLogic, Inc., Redwood City, CA, United States
Landlog Limited, Tokyo, Japan	Sun Basket, Inc., San Francisco, CA, United States
LeanData, Inc., Sunnyvale, CA, United States	SV Angel IV, L.P., San Francisco, CA, United States
LGVP F I LLC, Dover, DE, United States	The Currency Cloud Group Limited, London, United Kingdom
Local Globe Opportunity Fund, L.P., St. Peter Port, Guernsey, Channel Islands	The SaaS Fund II, L.P., Palo Alto, CA, United States
Local Globe VII, L.P., St. Peter Port, Guernsey, Channel Islands	The SaaS Fund, L.P., Palo Alto, CA, United States
Local Globe VIII, L.P., St. Peter Port, Guernsey, Channel Islands	Third Kind Venture Capital II, L.P., New York, NY, United States
Local Globe X, L.P., St. Peter Port, Guernsey, Channel Islands	Third Kind Venture Capital III, L.P., New York, NY, United States
Local Globe XI, L.P., St. Peter Port, Guernsey, Channel Islands	Tribe Capital LLC Series 3, Redwood City, CA, United States
Mango Capital 2018, L.P., Los Altos, CA, United States	Tribe Capital LLC Series 8, Redwood City, CA, United States
Mango Capital 2020, L.P., Los Altos, CA, United States	UJET, Inc., San Francisco, CA, United States
Matillion Ltd., Altrincham, United Kingdom	Upfront V, L.P., Santa Monica, CA, United States
Medable Inc., Palo Alto, CA, United States	Uptycs, Inc., Waltham, MA, United States
Mosaic Ventures I, L.P., London, United Kingdom	Verbit, Inc., New York, NY, United States
Narrative Science, Inc., Chicago, IL, United States	Vistex, Inc., Hoffman Estates, IL, United States
Notation Capital II, L.P., Brooklyn, NY, United States	Wandera, Inc., San Francisco, CA, United States
Notation Capital III, L.P., Brooklyn, NY, United States	
Notation Capital, L.P., Brooklyn, NY, United States	
OpenX Software Limited, Pasadena, CA, United States	
OpsRamp, Inc., San Jose, CA, United States	
Outreach Corporation, Seattle, WA, United States	
Pendo.io, Inc., Raleigh, NC, United States	
PivotNorth Early Fund I, L.P., Atherton, CA, United States	

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