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Management's Report

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We are making our value chains, processes, products and business models more circular with our circular economy program.

For more information, see page 30

Overview

The Management's Report comprises the chapter of the same name on pages 16 to 166, as well as the disclosures required by takeover law, the Compensation Report and the Declaration of Corporate Governance, which are presented in the Corporate Governance chapter. The Nonfinancial Statement (NFS) is integrated into the Management's Report.

Nonfinancial Statement (NFS) in accordance with sections 315b and 315c of the German Commercial Code (HGB)

The NFS disclosures can be found in the relevant sections of the Management's Report and have been prepared in accordance with the appropriate frameworks: the Global Reporting Initiative Standards ("Comprehensive" application option) and the reporting requirements of the U.N. Global Compact.

The table on the following page shows the sections and subsections in which the individual disclosures can be found. In addition to a description of the business model, the NFS includes disclosures on the following matters, to the extent that they are required to understand the development and performance of the business, the Group's position and the impact of business development on the following matters:

- Environmental matters
- Employee-related matters
- Social matters
- Respect for human rights
- Anti-corruption and bribery matters

Within the scope of the annual audit, KPMG checked pursuant to section 317(2) sentence 4 HGB that the NFS was presented in accordance with the statutory requirements. KPMG also conducted a limited assurance of the NFS. An assurance statement of the limited assurance can be found online at basf.com/nfs-audit-2020. The assurance was conducted in accordance with ISAE 3000 (Assurance Engagements other than Audits or Reviews of Historical Financial Information) and ISAE 3410 (Assurance Engagements on Greenhouse Gas Statements), the relevant international assurance standards for sustainability reporting.

Compensation Report and disclosures in accordance with section 315a HGB¹

The Compensation Report including the description of the principles of the compensation system in accordance with section 315a(2) HGB can be found in the Corporate Governance chapter from page 183 onward, and the disclosures in accordance with section 315a(1) HGB (takeover-related disclosures) from page 174 onward. They form part of the Management's Report, which is audited as part of the annual audit.

Consolidated Declaration of Corporate Governance in accordance with section 315d HGB in connection with section 289f HGB¹

The Consolidated Declaration of Corporate Governance in accordance with section 315d HGB in connection with section 289f HGB can be found in the Corporate Governance chapter from page 167 onward and is a component of the Management's Report. It comprises the Corporate Governance Report including the description of the diversity concept for the composition of the Board of Executive Directors and the Supervisory Board (excluding the disclosures required by takeover law in accordance with section 315a(1) HGB), compliance reporting and the Declaration of Conformity pursuant to section 161 of the German Stock Corporation Act. Pursuant to





section 317(2) sentence 6 HGB, the auditor checked that the disclosures according to section 315d HGB were made.

Recommendations of the Task Force on Climate-related Financial Disclosures

BASF supports the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Disclosures recommended by the TCFD are presented in a number of places throughout this report. The table on page 19 shows the sections and subsections in which the relevant information can be found. The table is divided into four key areas in line with the TCFD recommendations: governance, strategy, risk management, and metrics and targets.

Further information

The following symbols indicate further information:

-  You can find more information in this report.
-  You can find more information online. The content of these links are voluntary disclosures that were not audited by the auditor.
-  The content of this section is not part of the statutory audit but has undergone a separate audit with limited assurance by our auditor.
-  The content of this section is voluntary, unaudited information, which was critically read by the auditor.

¹ In the version applicable to the Financial Statements and Management's Report for the 2020 fiscal year pursuant to Article 83 of the Introductory Act on the German Commercial Code (EGHGB)

Nonfinancial Statement (NFS) disclosures in the relevant chapters of the integrated report

NFS disclosure	Topics	Concepts and results
Business model	The BASF Group	Pages 20–23
Environmental matters	Process safety	Page 32 (targets)
		Pages 121 and 123–124 (targets, measures, results)
	Biodiversity	Page 142–143 (targets, measures, results)
	Energy and climate protection	Page 32 (targets)
		Pages 121 and 130–136 (targets, measures, results)
	Emergency response and corporate security	Pages 121 and 125 (targets, measures, results)
	Supplier management	Page 32 (targets)
		Page 113–115 (targets, measures, results)
	Emissions to air	Pages 121 and 137 (targets, measures, results)
	Product stewardship	Pages 121 and 126–128 (targets, measures, results)
	Steering of product portfolio	Page 32 (targets)
		Page 45–46 (targets, measures, results)
	Transportation and storage	Pages 121 and 129 (targets, measures, results)
	Management of waste and contaminated sites	Pages 121 and 137–138 (targets, measures, results)
	Water	Page 32 (targets)
		Pages 121 and 139–141 (targets, measures, results)
Employee-related matters	Occupational safety	Page 32 (targets)
		Pages 121 and 122–123 (targets, measures, results)
	Dialog with employee representatives	Page 150 (targets, measures, results)
	Inclusion of diversity	Page 32 (targets)
		Page 146–147 (targets, measures, results)
	What we expect from our leaders	Page 145–146 (targets, measures, results)
	Health protection	Pages 121 and 124 (targets, measures, results)
	International labor and social standards	Page 150–151 (targets, measures, results)
	Learning and development	Page 148 (targets, measures, results)
	Supplier management	Page 32 (targets)
		Page 113–115 (targets, measures, results)
	Employee engagement	Page 32 (targets)
		Page 145 (targets, measures, results)
	Competition for talent	Page 147–148 (targets, measures, results)
	Compensation and benefits	Page 149 (targets, measures, results)
Social matters	Social commitment	Page 47–49 (targets, measures, results)
Respect for human rights	International labor and social standards	Page 150–151 (targets, measures, results)
	Supplier management	Page 32 (targets)
		Page 113–115 (targets, measures, results)
	Responsibility for human rights	Page 111–112 (targets, measures, results)
Anti-corruption and bribery matters	Compliance	Page 177–179 (targets, measures, results)
	Supplier management	Page 32 (targets)
		Page 113–115 (targets, measures, results)

Recommendations of the Task Force on Climate-related Financial Disclosures in the relevant chapters of the integrated report

Topic	Recommended disclosures	Section/explanation	Page
Governance Disclose the organization's governance around climate-related risks and opportunities.	Describe the board's ^a oversight of climate-related risks and opportunities.	Corporate Governance Report – Direction and management by the Board of Executive Directors Report of the Supervisory Board – Supervisory Board meetings	Pages 168–169 Pages 204–205
	Describe management's ^b role in assessing and managing climate-related risks and opportunities.	Integration of Sustainability – Our organizational and management structures	Pages 42–43
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. ^c	Opportunities and Risks – Short-term opportunities and risks Opportunities and Risks – Long-term opportunities and risks	Pages 161–163 Pages 164–166
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Carbon management as a climate protection tool Integration of Sustainability – Steering of product portfolio based on sustainability performance Opportunities and Risks – Short-term opportunities and risks Opportunities and Risks – Long-term opportunities and risks	Pages 135–136 Pages 45–46 Pages 161–163 Pages 164–166
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	In 2020, we enhanced and refined our long-term strategic scenarios and worked on their quantitative implementation in order to include these in our strategic steering going forward.	
Risk management Disclose how the organization identifies, assesses, and manages climate-related risks.	Describe the organization's processes for identifying and assessing climate-related risks. ^d	Opportunities and Risks – Risk management process	Pages 159–160
	Describe the organization's processes for managing climate-related risks.	Opportunities and Risks – Risk management process Opportunities and Risks – Long-term opportunities and risks	Pages 159–160 Pages 164–166
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Opportunities and Risks – Risk management process	Pages 159–160
Metrics and targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Energy and climate protection – Global goals and measures Water – Global goal and measures Integration of Sustainability – Steering of product portfolio based on sustainability performance	Pages 131–133 Pages 139–140 Pages 45–46
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Energy and climate protection – Strategy Energy and climate protection – Global goals and measures	Pages 130–131 Pages 131–133
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Energy and climate protection – Strategy Water – Strategy Integration of Sustainability – Steering of product portfolio based on sustainability performance	Pages 130–131 Page 139 Pages 45–46

^a Refers to the Supervisory Board

^b Refers to the Board of Executive Directors and senior executives

^c We report comprehensively on climate-related opportunities and risks in reporting to CDP on data relevant to climate protection.

^d Climate-related risks are identified, assessed and managed as part of the general risk management process.

The BASF Group

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 110,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is divided into the Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions segments.

Organization of the BASF Group

We have 11 divisions grouped into six segments:

- **Chemicals:** Petrochemicals, Intermediates
- **Materials:** Performance Materials, Monomers
- **Industrial Solutions:** Dispersions & Pigments, Performance Chemicals
- **Surface Technologies:** Catalysts, Coatings
- **Nutrition & Care:** Care Chemicals, Nutrition & Health
- **Agricultural Solutions:** Agricultural Solutions

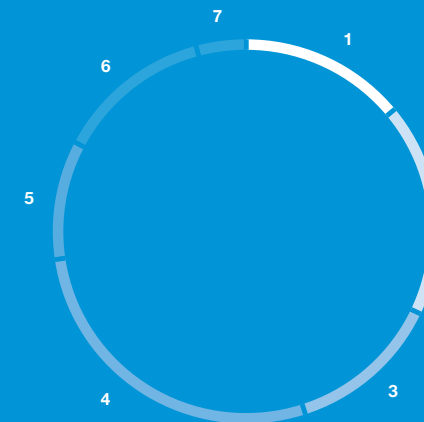
We take a differentiated approach to steering our businesses according to market-specific requirements and the competitive environment. We provide a high level of transparency around the results of our segments and show the importance of the Verbund and value chains to our business success. BASF aims to differentiate its businesses from their competitors and establish a high-performance organization to enable BASF to be successful in an increasingly competitive market environment.

In line with BASF's corporate strategy, the operating divisions, service units, the regions and a Corporate Center have formed the cornerstones of the BASF organization since January 1, 2020. We have streamlined our administration, sharpened the roles of ser-

Structure of BASF

Percentage of total sales in 2020

1	Chemicals	– Petrochemicals – Intermediates	14%
2	Materials	– Performance Materials – Monomers	18%
3	Industrial Solutions	– Dispersions & Pigments – Performance Chemicals	13%
4	Surface Technologies	– Catalysts – Coatings	28%
5	Nutrition & Care	– Care Chemicals – Nutrition & Health	10%
6	Agricultural Solutions	– Agricultural Solutions	13%
7	Other		4%



Smart Verbund concept

production, technology, market, digitalization

In around 90 countries

we contribute to our customers' success

Broad portfolio

6 segments, 11 operating divisions, 75 strategic business units

Organizational development

for greater customer proximity, increased competitiveness and profitable growth

vices and regions, and simplified procedures and processes. These organizational changes have created the conditions for greater customer proximity, increased competitiveness and profitable growth.

Our divisions bear operational responsibility here and are organized according to sectors or products. They manage our 52 global and regional business units and develop strategies for the 75 strategic business units.

The regional and country units represent BASF locally and support the growth of business units with local proximity to customers. For financial reporting purposes, we organize the regional divisions into four regions: Europe; North America; Asia Pacific; South America / Africa / Middle East.

Together with the development units in our operating divisions, the three global research divisions – Process Research & Chemical Engi-

neering, Advanced Materials & Systems Research and Bioscience Research – safeguard our innovative capacity and competitiveness.

Five service units provide competitive services for the operating divisions and sites: Global Engineering Services; Global Digital Services; Global Procurement; European Site & Verbund Management; Global Business Services (finance; human resources; environmental protection, health and safety; intellectual property; communications; procurement, supply chain and inhouse consulting services).

Following the bundling of services and resources and the implementation of a wide-ranging digitalization strategy, the number of employees in the Global Business Services unit worldwide will decline by up to 2,000 (from 8,000 currently) by the end of 2022. From 2023 onward, the division expects to achieve annual cost savings of over €200 million.

The Corporate Center units support the Board of Executive Directors in steering the company as a whole. These include central tasks from the following areas: strategy; finance; law, compliance and tax; environmental protection, health and safety; human resources; communications; investor relations and internal audit.

The ongoing Excellence Program is expected to contribute €2 billion to EBITDA annually from the end of 2021 onward compared with baseline 2018, including from the reduction of around 6,000 positions worldwide until the end of 2021. This decrease results from the organizational simplification and from efficiency gains in administration, the service units and the operating divisions. In addition, central, functional and regional structures are being streamlined in connection with portfolio changes.

 For more information on the products and services offered by the segments, see from pages 72, 78, 83, 89, 94 and 100 onward

For more information on the segment structure, see the Notes to the Consolidated Financial Statements from page 241 onward

For more information on portfolio changes, see page 50 onward

To increase reporting transparency, the figures for investments accounted for using the equity method were restated in the first quarter of 2020. Some investments are not an integral part of the BASF Group. These include, in particular, the shares in Wintershall Dea GmbH, Kassel/Hamburg, Germany, and Solenis UK International Ltd., London, United Kingdom. Since the first quarter of 2020, these have been classified as purely financial investments and reported separately from the shareholdings that are integral to the main business activities of the BASF Group. One material equity-accounted interest that has been classified as integral is BASF-YPC Company Ltd., Nanjing, China. Income from non-integral companies accounted for using the equity method is no longer presented in the BASF Group's EBIT and EBIT before special items, but under net income from shareholdings. Due to its increased significance, this will be presented as a separate subtotal within income before income taxes and is no longer part of the financial result. Integral and non-integral investments accounted for using the equity method are also presented separately in the balance sheet. The statement of income for 2019 has been restated accordingly.

On September 30, 2020, BASF completed the divestiture of its construction chemicals business to an affiliate of Lone Star, a global private equity firm, as agreed in December 2019.¹ The purchase price on a cash and debt-free basis was €3.17 billion. The Construction Chemicals division was previously reported under the Surface Technologies segment. The divested construction chemicals business had around 7,500 employees and operated production sites and sales offices in more than 60 countries. It generated sales of around €2.6 billion in 2019. The disposal gain and the income after taxes of the construction chemicals business until closing are presented in the income after taxes of BASF Group as a separate item ("Income after taxes from discontinued operations").

 For more information on this divestiture, see the Notes to the Consolidated Financial Statements from page 237 onward

¹ The construction chemicals business was transferred in two steps, on September 30, 2020, and on November 30, 2020.

Sites and Verbund

BASF has companies in around 90 countries. We operate six Verbund sites and 241 additional production sites worldwide. Our Verbund site in Ludwigshafen, Germany, is the world's largest chemical complex owned by a single company that was developed as an integrated network. This was where the Verbund principle was originally established and continuously optimized. We then implemented it at additional sites. In 2020, we started construction of the first plants at the planned integrated Verbund site in Zhanjiang, China.

The Verbund system is one of BASF's great strengths. We add value by using our resources efficiently. The Production Verbund intelligently links production units and their energy supply so that, for example, the waste heat of one plant provides energy to others. Furthermore, one facility's by-products can serve as feedstocks elsewhere. This not only saves us raw materials and energy, it also avoids emissions, lowers logistics costs and leverages synergies.

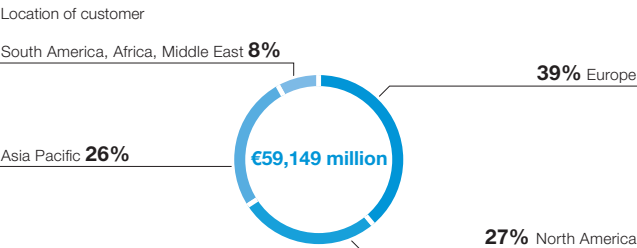
We also make use of the Verbund principle for more than production, applying it for technologies, the market and digitalization as well. Expert knowledge is pooled in our global research divisions.

For more information on the Verbund concept, see basf.com/en/verbund

BASF sites



BASF sales by region 2020



Procurement and sales markets

- Around 90,000 customers; broad customer portfolio
- More than 70,000 suppliers

BASF supplies products and services to around 90,000 customers¹ from various sectors in almost every country in the world. Our customer portfolio ranges from major global customers and small and medium-sized enterprises to end consumers.

We work with over 70,000 Tier 1 suppliers² from different sectors worldwide. They supply us with important raw materials, chemicals, investment goods and consumables, and perform a range of services. Important raw materials (based on volume) include naphtha, liquid gas, natural gas, benzene and caustic soda.

[For more information on customers, see page 27 onward; for more information on suppliers, see page 113 onward](#)

BASF sales by industry 2020

Direct customers

> 20%	Chemicals and plastics Transportation
10%–20%	Agriculture Consumer goods
< 10%	Construction Electronics Energy and resources Health and nutrition

Business and competitive environment

BASF's global presence means that it operates in the context of local, regional and global developments and a wide range of conditions. These include:

- Global economic environment
- Legal and political requirements (such as European Union regulations)
- International trade agreements
- Industry standards
- Environmental agreements (such as the E.U. Emissions Trading System)
- Social aspects (such as the U.N. Universal Declaration of Human Rights)

BASF holds one of the top three market positions in around 70% of the business areas in which it is active. Our most important global competitors include Arkema, Bayer, Clariant, Corteva, Covestro, Dow, Dupont, DSM, Evonik, Huntsman, Lanxess, SABIC, Sinopec, Solvay, Sumitomo Chemical, Syngenta, Wanhua and many hundreds of local and regional competitors. We expect competitors from Asia and the Middle East in particular to gain increasing significance in the years ahead.

Corporate legal structure

As the publicly traded parent company of the BASF Group, BASF SE takes a central position: Directly or indirectly, it holds the shares in the companies belonging to the BASF Group, and is also one of the largest operating companies. The majority of Group companies cover a broad spectrum of our business. In the BASF Group Consolidated Financial Statements, 273 companies including BASF SE are fully consolidated. We consolidate nine joint operations on a proportional basis, and account for 25 companies using the equity method.

[For more information, see the Notes to the Consolidated Financial Statements from page 233 onward](#)

¹ The number of customers refers to all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.

² BASF considers all direct suppliers of the BASF Group in the business year concerned as Tier 1 suppliers. These are suppliers that provide us with raw materials, investment goods, consumables and services. Suppliers can be natural persons, companies or legal persons under public law.

How We Create Value

The overview provides examples of how we create value for our shareholders, our company, the environment and society. It is modeled on the framework of the International Integrated Reporting Council (IIRC).¹

INPUTS

We use a wide range of resources to implement our customer-focused strategy.



Financial

Our aim is to ensure solvency, limit financial risks and optimize the cost of capital.

€80.3 billion
Total assets

42.8%
Equity ratio



Innovation

We develop innovative solutions for and with our customers to expand our leading position.

~10,000
R&D employees

€2.1 billion
R&D expenses



Operations

Safety, quality, and reliability are key to excellence in our production and plant operations.

€2.9 billion
Capex

55.0 million MWh
Electricity and steam demand



Environment

We use natural resources to manufacture products and solutions with high value added for our customers.

1.2 MMT
Renewable raw materials purchased

1,728 million m³
Total water usage



Employees

Everything we do is based on the expertise, knowledge, motivation and conduct of our employees.

110,302
Employees around the world

€10.6 billion
Personnel expenses



Partnerships

Trust-based relationships are crucial to our license to operate and our reputation

>250
Cooperations with research institutes

>70,000
Tier 1 suppliers

BUSINESS MODEL

Our corporate purpose:
We create chemistry for a sustainable future

Strategy

Innovation
Sustainability
Operations
Digitalization
Portfolio
People



Segments

Chemicals
Materials
Industrial Solutions
Surface Technologies
Nutrition & Care
Agricultural Solutions

Our core values:
creative, open, responsible, entrepreneurial

Innovative products and solutions

help to use resources more efficiently and overcome global challenges

Comprehensive product portfolio with high synergies

from basic chemicals to high value-added specialty products

Efficient production

thanks to integrated value chains and our Verbund system

Eleven divisions organized into six segments

aligned with value chains, customer needs and market requirements

Global, customer-focused presence

with around 250 production sites worldwide, including six Verbund sites

Differentiated business strategies

from cost leadership to custom system solutions

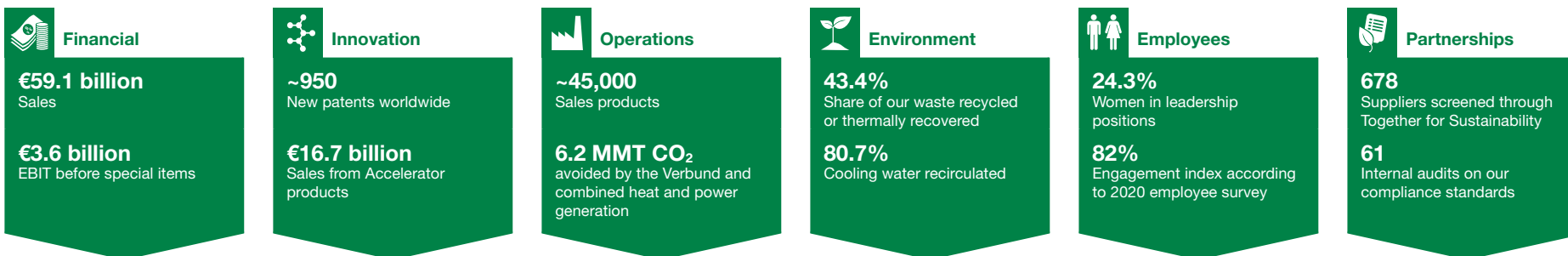
Effective corporate governance

ensures responsible conduct along the value chain

¹ The content of the graphic on pages 24 and 25 been audited within the scope of the relevant sections of the Management's Report in which they appear.

OUTPUTS

We focus on material sustainability topics and evaluate the opportunities and risks of our actions.



OUTCOMES

We want to increase our positive contributions, reduce negative impacts and carefully assess conflicting goals¹

	Economic	Environmental	Social
+	We make positive contributions by <ul style="list-style-type: none"> Driving forward growth, progress and value creation Strengthening our customers' competitiveness and innovative strength with products and technologies Accelerating the digital transformation of the industry Offering our investors an attractive dividend yield 	We make positive contributions by operating our plants efficiently and creating products that <ul style="list-style-type: none"> Help to use natural resources more efficiently Enable climate-smart mobility Improve the capabilities of renewable energy Reduce emissions and resource consumption 	We make positive contributions because we <ul style="list-style-type: none"> Offer products that improve people's quality of life Provide attractive jobs, train young people and promote lifelong learning, health and diversity Pay taxes and competitive wages and salaries Help to solve challenges (for example, COVID-19)
—	Potential negative impacts <ul style="list-style-type: none"> Weaker contributions to growth and value creation due to reduced demand from our customer industries as a result of the coronavirus pandemic A weaker share performance on the capital market 	Negative impacts <ul style="list-style-type: none"> The emission of CO₂ and other gases that damage the climate The consumption of raw materials and the creation of non-recyclable waste in our production The potential misuse of our products 	Potential negative impacts <ul style="list-style-type: none"> The risk of our suppliers violating labor, environmental and social standards in the production of raw materials Lower demand for employees in some areas as a result of digitalization and efficiency gains
	We limit negative impacts through <ul style="list-style-type: none"> The disciplined implementation of our corporate strategy Active portfolio management The acceleration of our Excellence Program Systematic cost management Reducing the cost of capital 	We limit negative impacts through <ul style="list-style-type: none"> Our carbon management Our Circular Economy Program Sustainable water and energy management Our Responsible Care management Product stewardship and training 	We limit negative impacts through <ul style="list-style-type: none"> Our sustainability-oriented supply chain management Projects to improve sustainability in the supply chain Our compliance program and our Code of Conduct Our training programs for employees

IMPACT

We achieve long-term business success by creating value for our shareholders, our company, the environment and society (see page 43).

¹ The outcomes category shows examples of positive contributions as well as negative impacts and the measures we take to mitigate them.

Our Strategy

Corporate Strategy

At BASF, we are passionate about chemistry and our customers. We want to be the world's leading chemical company for our customers, grow profitably and create value for society. Thanks to our expertise, our innovative and entrepreneurial spirit, and the power of our Verbund integration, we make a decisive contribution to changing the world for the better. This is our goal. This is what drives us and what we do best: We create chemistry for a sustainable future.

The world is facing major challenges. Climate change is advancing, the world's population is growing and so is its need for food. More and more people live in cities and the demand for individual mobility is rising. At the same time, natural resources are limited. More than ever before, we need solutions that make sustainable growth possible. Chemistry plays a key role here. It can help to overcome global challenges in almost all areas of life. By combining our expertise with our customers' competence, we can together develop sustainable and profitable solutions.

Our corporate purpose

We create chemistry for a sustainable future

Our innovations, products and technologies help to use natural resources more efficiently, produce enough food for everyone, reduce emissions, enable climate-smart mobility, improve the capabilities of renewable energy, and make buildings more energy efficient, among other things. Our purpose reflects what we do and why we do it: We create chemistry for a sustainable future.

Global trends provide opportunities for growth in the chemical industry

Population growth:

Driven by the emerging markets

+25%
2020 to 2050

Digitalization:

Rapid growth in volume of data

456
zettabytes in 2030

China the largest market:

Share of global chemical market

~50%
by 2030

Climate change:

Required reduction of global greenhouse gas emissions to achieve the 2°C goal

-70%
by 2050
(baseline 1990)

Circular economy:

Non-recycled plastic waste worldwide

~200
million metric tons per year

Electromobility:

Growing demand for battery materials until 2030

~25%
per year

Sources: U.N., IEA, Conversio, UBS Foresight, BASF

We want to continue to grow profitably and make a positive contribution to society and the environment. We see disruptive changes in the chemical industry – like the advance of digitalization, the development of circular economy models or the transformation to climate-neutral production – as an opportunity. We have set ourselves ambitious targets along the entire value chain (see page 32). Our customers and their needs are at the core of our strategy. We want to maintain our leading position in an increasingly competitive environment. To achieve this, we are accelerating our innovation processes and deepening cooperation with our customers. We are systematically aligning our portfolio with growth areas and integrating sustainability into our value chains even more strongly. Our Verbund

structure is the basis for efficient, safe and reliable production both now and in the future. We leverage digital technologies to continuously improve processes and customer relationships, for example. We create a working environment that best enables our employees to contribute to BASF's success.]

[For more information on our strategic action areas, see page 28 onward](#)

[For more information on our strategy, see basf.com/strategy](https://www.basf.com/strategy)

Customer focus

Our customers are our number one priority. BASF supplies products and services to around 90,000 customers¹ from various sectors in almost every country in the world (see page 23). Our customer portfolio ranges from major global customers and small and medium-sized enterprises to end consumers. Our comprehensive product portfolio means that we are active in many value chains and value creation networks. We use various business strategies, which we adapt to the needs of individual industries and markets. These range from cost leadership in basic chemicals to tailored, customer-specific system solutions.

Innovations and tailored solutions

in close partnership with our customers

We want to be our customers' most attractive partner for all challenges that can be solved with chemistry. This is why we continue to drive forward our focus on customers and their needs. We are refining our organizational structure so that our operating divisions can flexibly address specific market requirements and differentiate themselves from the competition (see page 20). In addition, we are simplifying and digitalizing our processes to make the way we work more effective, more efficient and more agile.

We are continuously increasing transparency for our customers and improving our customer service with a range of measures. For instance, we have used the Net Promoter System® since 2019. We are constantly improving our problem-solving skills, product quality and delivery reliability based on customer feedback. In 2020, we also started the global rollout of Salesforce, a new, integrated IT-based customer relationship management system. The user-friendly

application helps sales employees deliver even better customer support and simplifies their work.

Above and beyond this, we want to intensify cooperation with our customers and leverage growth potential together with them. For instance, we have created interdisciplinary teams in our business units to even better and more quickly address the needs of our most important customers. Cooperation and innovation are also the focus at our Creation Centers in Ludwigshafen, Germany; Mumbai, India; Shanghai, China; and Yokohama, Japan. These creative centers bring together our comprehensive materials, design, and – in particular – our digital development expertise in high-performance plastics using the latest visualization and collaboration technologies. This enables us to transform our customers' ideas into tailored products and applications even more quickly – everything in one place, from initial inspiration to solution.

Customer awards

We again received awards from a number of satisfied customers in 2020. In North America, for example, BASF was recognized by General Motors (GM) in June as a 2019 Supplier of the Year for the fifteenth time since 2002. The award is presented to suppliers who exceed GM's expectations around quality, execution, innovation and total enterprise cost. GM also honored us with the Overdrive Award for our sustainable construction solutions. BASF products help GM to meet key sustainability targets – such as a smaller carbon footprint and water and energy savings – at two of its plants.

In Europe, the global surface treatments business in our Coatings division, which operates under the Chemetall brand, received the Airbus Supply Chain & Quality Improvement award in February for the sixth time. It acknowledges Chemetall's performance, strong continuous improvement and customer-oriented approach in line with Airbus' targets and expectations.



Ultrasim®: Shorter development times thanks to virtual simulation

Technical progress requires innovative materials. This is why engineering plastics are being used in more and more sectors and applications. They are often significantly lighter than conventional materials, are usually easier to process and offer advantages such as heat and impact resistance or mechanical strength. As a leading manufacturer, BASF not only offers a comprehensive portfolio of high-performance plastics, but also has extensive expertise in computer-aided engineering (CAE). Ultrasim, our virtual simulation tool, covers the entire process chain – from the selection of suitable materials and the development of virtual prototypes to the optimal production process for the component. Our customers find out quickly, precisely and reliably how our materials behave in specific applications. This reduces development times and saves costs for complex tests.

For more information on Ultrasim, see basf.com/en/ultrasim

¹ The number of customers refers to all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.

In Asia Pacific, we received an award from Godrej Interio, India's leading home and commercial furniture brand, in the category "Best Overall Performance" in July. BASF has supplied Godrej with Elastoflex and Ultramid products since 2008. The award particularly recognizes delivery reliability and innovation. In September, this was followed by the CIIF New Materials Award, presented by the organizers of the China International Industry Fair in Shanghai. The award recognizes BASF for its modification of the intermediate PolyTHF, which is used to produce elastic spandex textile fibers. The next generation offers our customers easier processing and products with improved stretch characteristics.

In Brazil, we received several awards in 2020. BASF's Coatings division markets a broad portfolio of decorative paints here under the Suviniil brand. The national association of construction material traders (Associação Nacional dos Comerciantes de Material de Construção) selected Suviniil as the most popular brand for wall, ceiling and exterior paints with the Anamaco award in the wholesale category. The award was based on a survey of more than 1,600 traders conducted by the industry association. The market research institute Instituto Melhores Empresas em Satisfação do Cliente (MESOC) also confirmed that Suviniil customers are satisfied customers. According to a poll of over 250 companies and 41,000 customers conducted by the institute, Suviniil is one of the brands with the highest customer satisfaction ratings in the construction and decorative materials segment.

Quality management

Our customers' satisfaction is the basis for our success, which is why quality management is of vital significance for BASF. We strive to continually improve processes and products. This is also reflected in our Global Quality Policy. The majority of our production sites and business units are certified according to ISO 9001. In addition, we

also meet industry and customer-specific quality requirements such as IATF 16949 certification for the automotive industry.

Our strategic action areas

Innovation is the bedrock of our success. BASF is an innovation leader in the chemical industry, with around 10,000 employees in research and development and R&D spending of around €2.1 billion (see page 35). We continue to build on these strengths by bringing research and development closer together and making our customers' demands a greater part of our innovation process. We involve them at an earlier stage and are expanding our partnerships with customers and external partners. Our balanced innovation pipeline lays the foundation for future growth: We are working intensively on pioneering product, process and business model innovations, for example in chemical recycling, battery technologies, the low-carbon production of basic chemicals and the digitalization of agriculture. At the same time, we are driving forward incremental product improvements in all business units that offer our customers sustainability and/or cost advantages, such as in lightweight construction for the automotive industry and energy-efficient building materials.

A key driver here is **sustainability**. We want to create value for the environment, society and business with our products, solutions and technologies. We pledged our commitment to sustainability in 1994 and since then, have systematically aligned our actions with the principles of sustainability. We want to further cement our position as a thought leader in sustainability, which is why we are increasing the relevance of sustainability in our steering processes and business models (see page 42). This establishes us as a key partner supporting our customers, opens up new growth areas and secures the long-term success of our company. Our approach covers the entire value chain – from responsible procurement (see page 113) and safety and resource efficiency in production (see page 121) to sustainable solutions for our customers (see page 35). We have already almost halved our carbon emissions since 1990 while simul-

taneously doubling sales product volumes. We want to achieve CO₂-neutral growth until 2030 with our ambitious carbon management (see page 135). In addition, we have set ourselves the target of significantly increasing sales of products that make a substantial sustainability contribution in the value chain (Accelerator products) to €22 billion by 2025 (see page 45). A particular focus is the circular economy. For instance, we want to increase the use of recycled raw materials in production, close materials cycles with innovations and develop new, circular business models (see page 30).

Our core business is the **production** and processing of chemicals. Our strength here lies – both now and in the future – in the Verbund and its integrated value chains. The Verbund offers us many technological, market, production-related and digital advantages. Our comprehensive product portfolio, which ranges from basic chemicals to custom system solutions, enables us to meet the increasingly diverse needs of our customers with a differentiated offering. This is complemented by our global presence and our many decades of experience, which have allowed us to develop an in-depth understanding of the needs and landscape of local markets. At the same time, value chains in integrated Verbund structures can be steered efficiently to conserve resources and optimize CO₂. Thanks to our Verbund structures, we were able to avoid 6.2 million metric tons of CO₂ globally in 2020 (see page 133). We want to invest around €22.9 billion worldwide between now and 2025 to expand capacities based on market demand and to increase the availability, efficiency and flexibility of our plants. Our aim here is to be close to our customers and to grow with them.

Digitalization is an integral part of our business. We want to significantly improve the availability and quality of our process data. To achieve this, we will digitalize processes at more than 420 plants worldwide by 2022. We will systematically analyze this data to further automate processes and in this way, increase efficiency, for example with predictive maintenance. In addition, combining internal and external data provides many new opportunities to manage our

businesses more efficiently, improve processes and create value added for our customers. We are already using artificial intelligence to collate data from various sources, for example to accelerate innovation processes, optimize our supply chains and logistics concepts, and to simulate product applications for our customers. The combination of products, services and digital offerings also gives rise to new business models and advantages for our customers, such as in agriculture or 3D printing. We want to leverage this growth potential and seize the opportunities offered by digitalization to the benefit of our customers. To do so, we are making digital technologies and practices an even more integral part of our processes, extensively promoting digital skills among our employees, and cooperating with external partners on specific topics.

The acquisitions and divestitures made in the past few years have oriented our **portfolio** toward innovation-driven growth areas. The acquisition of the integrated polyamide business from Solvay and the purchase of various businesses from Bayer further strengthened our position in engineering plastics and in the agricultural sector. We completed the divestiture of our construction chemicals business to Lone Star in 2020 as planned and aim to close the sale of our pigments business to DIC in the first half of 2021 (see page 50). The Asian market will play a key role in our future growth. With a share of more than 40%, China is already the world's largest chemical market and drives the growth of global chemical production. We expect this share to increase to around 50% by 2030. Our strong innovation, production and sales base in China enables us to respond to the needs of our customers in a differentiated way. To further strengthen our position in this dynamic growth market, we plan to build an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. Construction of the first plants started in 2020. We are also systematically expanding our battery materials business to serve the fast-growing e-mobility market. We steer our six segments along the value chain. This creates a high level of transparency around our business activities. Our operating divisions drive forward our industry and customer orientation with differentiated strategies.

Our **employees** are key to BASF's success. That is why we believe that it is important to have a working environment that fosters employees' individual talents and enables them and their teams to perform at their best. We are pursuing three action areas to make our high-performance organization even more so: empowerment, differentiation and simplification. We are giving our employees more individual freedom. At the same time, we encourage and promote a leadership culture that empowers our employees to respond to customer needs quickly and efficiently with a solution orientation. We are simplifying our processes and continually refining our organizational structure. Significant parts of the functional services that were previously performed centrally by a total of around 20,000 employees have been integrated into our 11 operating divisions. This and greater entrepreneurial freedom enable our business units to take a differentiated, flexible approach to market requirements with tailored business models. The aim is to increase both customer satisfaction and the profitability of our business. We value diversity in people, opinions and experience as being crucial to creativity and innovation. We embrace bold ideas, help our employees to implement them and learn from setbacks. This is why we foster a feedback culture based on honesty, respect and mutual trust.

「The BASF brand」

We want BASF to be seen as a leading brand in the chemical industry. Our corporate purpose – We create chemistry for a sustainable future – and our values (see page 31) together form the basis of BASF's brand value proposition. This is connectedness, which embodies one of BASF's core strengths: our Verbund concept. The BASF Verbund is what makes innovative solutions for a sustainable future possible. We want to communicate this worldwide and make it tangible. The claim "We create chemistry," as stated in the BASF logo, helps us embed our solution-oriented strategy and our expertise in the public perception. Wherever our stakeholders encounter our brand, we want to convince them that BASF stands for innovation and sustainability. This builds trust with

our customers, contributes to our reputation and to our company value. We regularly measure our brand and communication success. This gives us relevant and meaningful insights into how the BASF brand is perceived among target groups. This enables us to further refine the brand profile and develop strategies and measures to continually improve our brand status.

「Circular economy」



The circular economy model has gained importance in politics, industry and society in recent years. It describes the transition from a linear “take-make-dispose” model to a system of closed loops. We want to actively drive this transition forward and make our value chains, processes, products and business models more circular. By 2030, we want to double our sales of solutions for the circular economy to €17 billion. Sales of circular solutions include products based on renewable or recycled raw materials, that close new material cycles or increase products’ resource efficiency or service life. In addition, we aim to process 250,000 metric tons of recycled and waste-based raw materials in our production plants annually from 2025, replacing fossil raw materials.

The core elements of a circular economy include reusing resources, avoiding waste and optimizing product features with respect to the entire product life cycle. BASF’s Circular Economy Program focuses on three action areas: increasing the use of recycled and renewable feedstocks, innovative material cycles and new business models for the circular economy, including digital and service-based models.

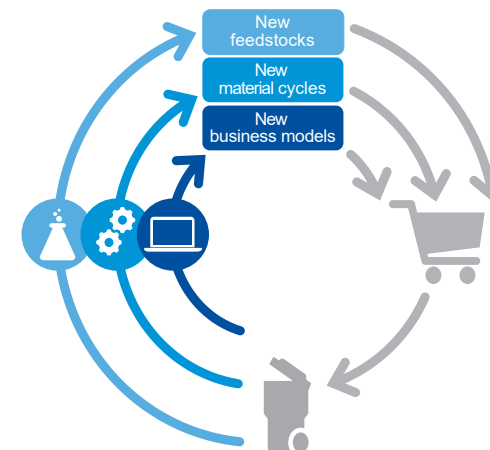
Core elements of the circular economy at BASF

We are driving forward the use of recycled raw materials with projects such as ChemCycling™, in which we use the pyrolysis oil extracted by our technology partners from mixed plastic waste or used tires to produce new products. The project is currently in the scale-up phase. We already have many years’ experience in the industrial recycling of mobile emissions catalysts, where we recover precious metals and use them to produce new mobile and process emissions catalysts. We are working on other innovative material cycles in over 20 initiatives. These include our chemical recycling process for used polyurethane foam mattresses and the development of plastic additives to improve the quality of mechanically recycled plastics. In addition to these projects, we established a Group-wide co-funding program for circular economy projects. It supports our employees in developing new business models for the circular economy – from the initial idea to market launch. The program aims to create additional products and solutions that close loops, establish new loops or extend the life of a product.

Using plastics responsibly

Our circular feedstock target is part of our commitment to the Ellen MacArthur Foundation’s New Plastics Economy initiative. This explores the design, use and reuse of plastics in the transition toward a circular economy. BASF has been a member of the non-profit organization since 2017 and is working on various cooperative projects together with other members. In 2020, we were in continual contact with the Ellen MacArthur Foundation on topics such as our target on the use of recycled raw materials or the mass balance

Core elements of the circular economy at BASF



approach. We support the responsible use of plastics and are a co-founder and active member of the Alliance to End Plastic Waste (AEPW) to help effectively reduce plastic pollution around the world.

[For more information on the ChemCycling™ project, see page 73](#)

[For more information on recycled feedstocks, see page 118](#)

[For more information on the Alliance to End Plastic Waste, see page 138](#)

[For more information on the circular economy at BASF, see \[basf.com/circular-economy\]\(https://www.basf.com/circular-economy\)](#)

Our values and global standards

How we act is critical to the successful implementation of our strategy and how our stakeholders perceive us. This is what our four core values represent: creative, open, responsible, entrepreneurial. They guide our actions and define how we want to work together – as a team, with our customers and our partners.

Our values and standards

are binding for all employees and provide the framework for our actions

Creative: We make great products and solutions for our customers. This is why we embrace bold ideas and give them space to grow. We act with optimism and inspire one another.

Open: We value diversity, in people, opinions and experience. This is why we foster feedback based on honesty, respect and mutual trust. We learn from setbacks.

Responsible: We value the health and safety of people above all else. We make sustainability part of every decision. We are committed to strict compliance and environmental standards.

Entrepreneurial: We focus on our customers, as individuals and as a company. We seize opportunities and think ahead. We take ownership and embrace personal accountability.

Our standards fulfill and in some cases, exceed existing laws and regulations and take internationally recognized principles into account. We respect and promote:

- The 10 principles of the U.N. Global Compact
- The Universal Declaration of Human Rights and the two U.N. Human Rights Covenants

- The core labor standards of the ILO and the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy (MNE Declaration)
- The OECD Guidelines for Multinational Enterprises
- The Responsible Care® Global Charter
- The German Corporate Governance Code

We stipulate rules for our employees with standards that apply throughout the Group. We set ourselves ambitious goals with voluntary commitments and monitor our performance in terms of environmental protection, health and safety using our Responsible Care Management System. We mainly approach our adherence to international labor and social standards using three elements: the Compliance Program including our Code of Conduct and compliance hotlines, close dialog with our stakeholders, and the global management process to respect international labor norms. Our business partners are expected to comply with prevailing laws and regulations and to align their actions with internationally recognized principles. We have established appropriate monitoring systems to ensure this.

[For more information on responsible conduct along the value chain, see page 110 onward](#)

[For more information on corporate governance and compliance, see page 167 onward](#)

Our targets









Business success tomorrow means creating value for the environment, society and business. That is why we have set ourselves ambitious global targets along our entire value chain and the three dimensions of sustainability. We report transparently on our target achievement so that our customers, investors, employees and other stakeholders can track our progress.

We want to grow faster than the market, further increase our profitability, achieve a return on capital employed (ROCE) considerably above the cost of capital percentage and increase the dividend per share every year based on a strong free cash flow. In addition to these financial targets, we pursue broad sustainability targets. For example, we have resolved to limit total greenhouse gas emissions from our production sites and our energy purchases to the 2018 level while growing production volumes. We want to strengthen the sustainability focus of our product portfolio and significantly increase sales of Accelerator products. We also strive to strengthen sustainability in our supply chains and use natural resources responsibly. We want to further improve safety in production. In addition, we aim to promote diversity within the company and create a working environment in which our employees feel that they can thrive and perform at their best.

The objective of these targets is to steer our business into a sustainable future, and at the same time, contribute to the implementation of the United Nations' Sustainable Development Goals (SDGs) (see page 42). We are focusing on issues where we as a company can make a significant contribution, such as climate protection, sustainable consumption and production, and fighting hunger.

Status of Target Achievement in 2020

Profitable growth

	Target	2020 status	SDG ¹
Achieve a return on capital employed (ROCE) considerably above the cost of capital percentage every year	>9%	1.7%	 
Grow sales volumes faster than global chemical production every year	> -0.4%	-0.5%	 
Increase EBITDA before special items by 3%–5% per year	3%–5%	-10.7%	 
Increase the dividend per share every year based on a strong free cash flow	>€3.30	€3.30 ²	 


For more information, see page 56

For more information, see page 56

For more information, see page 58 onward





For more information, see page 13

Effective climate protection

	Target	2020 status	SDG
Grow CO₂-neutrally until 2030 (Development of carbon emissions compared with baseline 2018)	≤21.9 MMT	20.8 MMT	




For more information, see page 130 onward

Sustainable product portfolio

	Target	2020 status	SDG
Achieve €22 billion in Accelerator sales by 2025	€22.0 billion	€16.7 billion	   

For more information, see page 45 onward

Responsible procurement

	Target	2020 status	SDG
Cover 90% of our relevant spend with sustainability evaluations by 2025	90%	80%	 
Have 80% of our suppliers improve their sustainability performance upon re-evaluation	80%	68%	 

For more information, see page 113

Resource efficiency and safe production

	Target	2020 status	SDG
Reduce worldwide process safety incidents per 200,000 working hours to ≤0.1 by 2025	≤0.1	0.3	 
Reduce the worldwide lost-time injury rate per 200,000 working hours to ≤0.1 by 2025	≤0.1	0.3	
Introduce sustainable water management at our production sites in water stress areas and at our Verbund sites by 2030	100%	46.2%	 

For more information, see page 139

Employee engagement and diversity

	Target	2020 status	SDG
Increase the proportion of women in leadership positions with disciplinary responsibility to 30% by 2030	30%	24.3%	
More than 80% of our employees feel that at BASF, they can thrive and perform at their best	>80%	82%	

For more information, see page 145

Most important key performance indicators

¹ For more information on the Sustainable Development Goals (SDGs), see page 42 and sustainabledevelopment.un.org

² Dividend proposed by the Board of Executive Directors

Value-Based Management

A company can only create value in the long term if it generates earnings that exceed the cost of the capital employed. This is why we encourage and support all employees in thinking and acting entrepreneurially in line with our value-based management concept. Our key financial management indicator is the return on capital employed (ROCE). Based on our corporate strategy and the global targets derived from this, we have used CO₂-neutral growth and Accelerator sales as additional key performance indicators since January 1, 2020. These are the BASF Group's most important nonfinancial key performance indicators.

The BASF Group's steering concept

We follow a value-oriented steering concept with our financial targets. We use the return on capital employed (ROCE) for operational steering as a key target and management indicator for the BASF Group, its operating divisions and business units. As stated in our strategic goals, we aim to achieve a ROCE considerably above the cost of capital percentage every year. With ROCE, the same logic and data is used for internal management, external communication with the capital markets and variable compensation. This improves the consistency of the indicators used for BASF's value-based management with variable compensation and pension systems, and our shareholders' objectives.

As part of our corporate strategy and the global targets derived from this, we have also used CO₂-neutral growth and Accelerator sales as the most important nonfinancial key performance indicators since the 2020 business year. Two targets are based on these indicators: sustainability-oriented portfolio management with our Sustainable Solution Steering method and CO₂-neutral growth.

Calculating ROCE and cost of capital

ROCE is calculated as the EBIT of the segments as a percentage of the average cost of capital basis at each month-end.

To calculate the **EBIT of the segments**, we take the BASF Group's EBIT and deduct the EBIT of activities recognized under Other, which are not allocated to the divisions.

The **cost of capital basis** consists of the operating assets of the segments and is calculated using the month-end figures. Operating assets comprise the current and noncurrent asset items of the segments. These include tangible and intangible fixed assets, integral investments accounted for using the equity method, inventories, trade accounts receivable, other receivables and other assets generated by core business activities and, where appropriate, the assets of disposal groups. The cost of capital basis also includes customer and supplier financing.

The **cost of capital percentage**, which we have integrated into our ROCE target as a comparative figure, is determined using the weighted cost of capital from equity and borrowing costs (weighted average cost of capital, WACC). To calculate a pre-tax figure similar to EBIT, it is adjusted using the projected tax rate for the BASF Group for the business year. In addition, the projected net expense of Other is already provided for by an adjustment to the cost of capital percentage. The cost of equity is ascertained using the capital asset pricing model. Borrowing costs are determined based on the financing costs of the BASF Group. The cost of capital percentage for 2021 is 9% (2020: 9%).

Calculation of the indicator "CO₂-neutral growth until 2030"

We calculate the indicator CO₂-neutral growth on the basis of CO₂ emissions, which are the sum of direct emissions from production processes and the generation of steam and electricity, as well as indirect emissions from the purchase of energy. Direct emissions

from the generation of energy for third parties are not considered here. Relevant emissions include other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO₂ equivalents. We aim to grow CO₂-neutrally until 2030 compared with baseline 2018.

[For more information on CO₂-neutral growth, see page 130 onward](#)

Calculation of Accelerator sales¹

Accelerator sales refer to sales generated by the BASF Group from products in our strategic portfolio to third parties in the business year concerned. As part of our corporate strategy, we set ourselves the global target of achieving €22 billion in Accelerator sales by 2025.

[For more information on sustainability-oriented portfolio management, see page 45 onward](#)

Value-based management throughout the company

An important part of our value management is the target agreement process, which aligns individual employee targets with BASF's targets. As of 2019, the most important financial performance indicator in the operating units is ROCE. The other units' contribution to value is also assessed according to effectiveness and efficiency on the basis of quality and cost targets. To assess this, we use metrics such as BASF's internal service score in the service and research units.

We use **ROCE** as the BASF Group's most important financial key performance indicator for measuring economic success as well as for steering the BASF Group and its operating units. EBIT before special items and capex (capital expenditure) are key performance indicators for BASF that have a direct impact on ROCE and as such, support its management.

– **EBIT before special items** is used to steer profitability at Group and segment level. This is calculated by adjusting the EBIT reported in the Consolidated Financial Statements for special items, making it especially suitable for assessing economic

¹ The definition and further information can be found in the Sustainable Solution Steering manual at basf.com/en/sustainable-solution-steering

development over time. **Special items** arise from the integration of acquired businesses, restructuring measures, certain impairments, gains or losses resulting from divestitures and sales of shareholdings, and other expenses and income that arise outside of ordinary business activities.

- **Capital expenditures (capex)** comprise additions to property, plant and equipment excluding additions from acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases. It is used to manage capital employed in the BASF Group. Capex is not just relevant to ROCE management, but also supports our long-term goal of increasing our dividend each year based on a strong free cash flow.

Furthermore, we comment on and forecast **sales** at Group and segment level in our financial reporting as a significant driver for EBIT before special items and thus ROCE.

[🔗](#) For more information on the development of these indicators, see Results of Operations from page 56 onward

Innovation

Supplying a fast-growing global population with food, energy and clean water, making the best use of limited natural resources and protecting our climate are among the greatest challenges of our time. Innovations based on chemistry play a pivotal role in overcoming these. New, resource-efficient solutions and business models are needed to decouple growth from the consumption of finite resources. Together with our customers from almost all sectors, we are working on innovative processes, technologies and products for a sustainable future. This is how we ensure our long-term business success and that of our customers.

Innovation has always been the key to BASF's success, especially in a challenging market environment. The knowledge and skills of our highly qualified employees is our most valuable resource here and the source of our innovative strength. We had approximately 10,000 employees involved in research and development worldwide in 2020.

Our three global research divisions are run from our key regions – Europe, Asia Pacific and North America: Process Research & Chemical Engineering (Ludwigshafen, Germany); Advanced Materials & Systems Research (Shanghai, China); and Bioscience Research (Research Triangle Park, North Carolina). Together with the development units in our operating divisions, they form the core of our global Know-How Verbund. BASF New Business GmbH and BASF Venture Capital GmbH supplement this network with the task of developing new technologies, attractive markets and new business models for BASF.

In 2020, we generated sales of around €10 billion with products launched on the market in the past five years that stemmed from research and development activities. In the long term, we aim to continue significantly increasing sales and earnings with new and

improved products – especially with Accelerator products, which make a substantial sustainability contribution in the value chain.

Employees in research and development worldwide

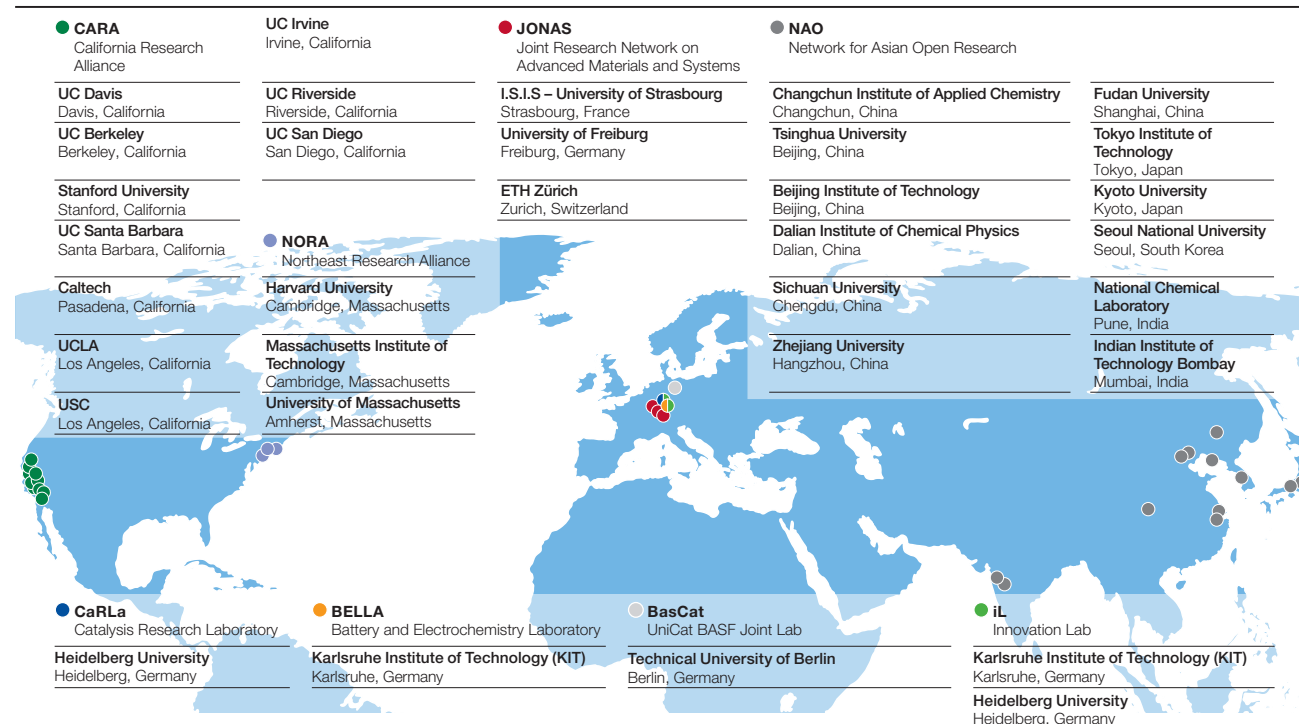
~10,000

Global network

- Close cooperation with universities, research institutes and companies
- Academic Research Alliances bundle partnerships by topic and region

Our global network of outstanding universities, research institutes and companies forms an important part of our Know-How Verbund. It gives us direct access to external scientific expertise, talented minds from various disciplines as well as new technologies, and helps us to quickly develop targeted, marketable innovations,

Global network: eight Academic Research Alliances



strengthen our portfolio with creative new projects, and in this way, reach our growth targets.

Our eight academic research alliances bundle partnerships with several research groups in a region or with a specific research focus.

Eight Academic Research Alliances

to bundle cooperation

The Northeast Research Alliance (NORA) and the California Research Alliance (CARA) are located in the United States. NORA focuses on materials science and biosciences, catalysis research, digitalization and cooperation with startups. The computer models developed together with our partners suggest new synthesis pathways for molecules and enable us to better predict molecular properties, for example for selecting test substances for crop protection products. Big data from BASF and novel algorithms were used to optimize these models. Teams at the interdisciplinary CARA research center are working on new functional materials, formulations, digital methods, catalysis, chemical synthesis, and in engineering sciences and biosciences. As part of this cooperative venture, BASF researchers and partners are investigating catalyst nanoparticles made of palladium and platinum, among other things. With the help of computer-based calculations, the team developed a completely new understanding of how catalysts work, enabling us to produce new, more powerful catalysts.

The Joint Research Network on Advanced Materials and Systems (JONAS) research center is active in Europe. Research here concentrates on supramolecular chemistry, polymer chemistry and the incubation of sustainable technologies. Biopolymer synthesis and research into the full biodegradability of biopolymers in various biospheres have been a focus area of BASF's research for many years.

In cooperation with ETH Zürich, we have developed an analysis tool that can be used to evaluate biodegradable polymers with respect to both their technical properties and stakeholder acceptance at an early stage of our innovation process. The aim is to concentrate on the development of such sustainable, biodegradable polymers.

At the Network for Asian Open Research (NAO) in the Asia Pacific region, research focuses on polymer and colloid chemistry, catalysis, machine learning and smart manufacturing.

We are working on innovative components and materials for electrochemical energy storage with the Karlsruhe Institute of Technology (KIT) at the Battery and Electrochemistry Laboratory (BELLA). At the joint Catalysis Research Laboratory (CaRLa), BASF is researching homogeneous catalysis in cooperation with the University of Heidelberg. Researchers there have discovered a new approach to using CO₂ as a chemical feedstock. They identified the catalysts and process conditions to produce sodium acrylate from ethylene and CO₂, a crucial step toward scaling the process for industrial use. BasCat is a joint laboratory operated by the UniCat cluster of excellence and BASF at the Technical University of Berlin, where new heterogeneous catalysis concepts are being explored together with the Fritz Haber Institute of the Max Planck Society. The iL (Innovation Lab) in Heidelberg, Germany, focuses on functional printing, printed sensors and IoT (internet of things) applications.

Our eight Academic Research Alliances are complemented by cooperations with around 250 universities and research institutes as well as collaborations with a large number of companies.

For more information on our collaboration initiatives, see basf.com/innovate-with-us

Strategic focus

- Close cooperation between research and business units
- Strong customer focus
- Further development of our innovation strategies

Research and development **expenses** amounted to €2,086 million in 2020 (2019: €2,158 million). The operating divisions accounted for 82% of total research and development expenses in 2020. The remaining 18% related to cross-divisional corporate research focusing on long-term topics of strategic importance to the BASF Group.

As part of our corporate strategy, we combined research and development at an organizational level, making it better aligned with the needs of our customers. Our aim is to continue to shorten the time to market and accelerate the company's organic growth. A strong customer focus, digitalization, creativity, efficiency and collaboration with external partners are among the most important success factors here. In order to bring promising ideas to market as quickly as possible, we regularly assess our research projects using a multistep process and prioritize our focus areas accordingly.

Our success factors

Customer focus, digitalization, creativity, efficiency and collaboration with external partners

Our cross-divisional corporate research remains closely aligned with the requirements of our operating divisions and allows space to review creative research approaches quickly and in an agile way. We strengthen existing and continually develop new, key technologies that are of central significance for our operating divisions, such as polymer technologies, catalyst processes or biotechnological methods.

We are fine-tuning our innovation strategies in all of our business areas to ensure a balanced portfolio of incremental and disruptive innovation, as well as of process, product and business models.

We have also identified additional, far-sighted topics that go above and beyond the current focus areas of our divisions. The aim is to use these to leverage new business opportunities within the next few years. In addition, we are working on overarching projects with a high technological, social or regulatory relevance. For instance, one global research and development program, the Carbon Management R&D Program, is focusing on the underlying energy-intensive production processes for basic chemicals. These basic chemicals account for around 70% of the CO₂ emissions produced by the European chemical industry.¹ The program covers topics such as the development of new catalysts for dry reforming methane with CO₂ to produce syngas, and using methane pyrolysis to produce hydrogen from natural gas or biogas.

Our global research and development presence is vital to our success. In Asia in particular, we want to continue advancing our research and development activities with a focus on growth in regional markets. A stronger presence outside Europe creates new opportunities for developing and expanding customer relationships and scientific collaborations as well as for gaining access to talented employees. This strengthens our Research and Development Verbund and makes BASF an even more attractive partner and employer. The Ludwigshafen site in Germany is and will remain the largest in our Research Verbund. This was once again underlined with the investment in a combined laboratory building for cleanroom and elemental analysis. The new building is scheduled to open in 2022 and will enable us to continue to drive forward Analytics 4.0 with innovative digitalization and automation solutions.

The number and quality of our patents also attest to our power of innovation and long-term competitiveness. In 2020, we filed around 950 new patents worldwide. The Patent Asset Index, a method that compares patent portfolios, once again ranked us among the leading companies in the chemical industry in 2020.

[For a multiyear overview of research and development expenditures, see the Ten-Year Summary on page 314](#)

Research focus areas – examples

- **Innovative recycling method for lithium-ion batteries**
- **Sustainable fungal disease control**
- **Solvent-free polyurethane system for synthetic leather**

Our focus areas in research are derived from the three major areas in which chemistry-based innovations will play a key role in the future:

- Resources, environment and climate
- Food and nutrition
- Quality of life



Recycling lithium-ion batteries

- Recovery of high-purity lithium
- High yields

Employees from the Process Research & Chemical Engineering research division in Ludwigshafen, Germany, are developing a new chemical process to recycle lithium-ion batteries. It enables the lithium contained in the battery to be recovered in high purity and with high yields. The batteries are first disassembled and shredded, which creates a substance known as “black mass.” This contains valuable resources such as lithium, cobalt and nickel. In BASF's new process, lithium is extracted directly from the black mass as lithium hydroxide, not initially as lithium carbonate like in other processes. After purification to battery quality, with foreign ions removed to trace level, the lithium hydroxide can be used directly to produce cathode active materials. The process avoids waste and has lower CO₂ emissions and energy costs than existing methods. The team successfully completed the first pilot tests in 2020 and are currently designing a pilot plant.

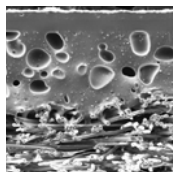
¹ Sources: JRC (Energy efficiency and GHG emissions: Prospective scenarios for the Chemical and Petrochemical Industry 2017, Boulamanti A., Moya J.A.); DECHEMA Technology Study (Low carbon energy and feedstock for the European chemical industry, 2017)



Revysol®

- Fungicide protects key crops against fungal diseases
- Higher yield

Triazole fungicides are crucial to fungal disease control in key crops such as wheat, corn (maize) and rice. Developing a new, sustainable active ingredient in this class of fungicides requires new approaches to research and development and the use of cutting-edge scientific tools to overcome increasing resistances and meet high regulatory requirements. No new triazole fungicide has been registered for more than 10 years. An interdisciplinary team from the research division Bioscience Research and the Agricultural Solutions segment adopted a new research approach to test and optimize the biological efficacy and the toxicological parameters of triazole fungicides at an early stage of development. Thousands of compounds were designed, synthesized and tested using 3D modeling. Today, BASF's Revysol® fungicide offers farmers around the world an effective, innovative crop protection product that protects their crops against fungal diseases and increases their yield. In 2020, the team won BASF's internal innovation award for their work.



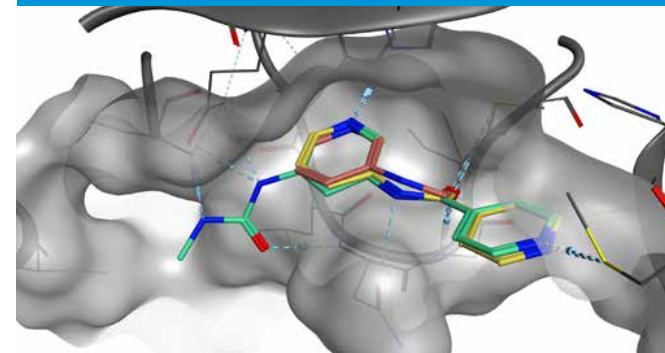
Haptex®

- Solvent-free polyurethane solution for synthetic leather
- Simplified production process

Haptex®, a solvent-free polyurethane system for synthetic leather, was developed by a team from the Advanced Materials & Systems Research research division and the Performance Materials division. Until now, polyurethane resin for synthetic leather has mainly been produced using the solvent dimethylformamide. BASF researchers have now succeeded in modifying the polyurethane formulation so that synthetic leather can be produced without organo-tin catalysts or organic solvents. Thanks to its optimized formulation, Haptex® is also low-emission and well compatible with water-based top layers in synthetic leather. Custom Haptex® synthetic leather grades do not yellow, are chemically resistant, very soft and the surface can be structured using embossing techniques. In cooperation with our customers, our experts also simplified the complex production process. Its many customizable properties mean that our customers can use Haptex® for a wide range of synthetic leather applications in industries such as furniture, automotive, footwear, sporting equipment, clothing and accessories.

[For more information on research and development, see \[basf.com/innovations\]\(https://www.basf.com/innovations\)](https://www.basf.com/innovations)

BASF supports search for active ingredients to combat the SARS-CoV-2 coronavirus

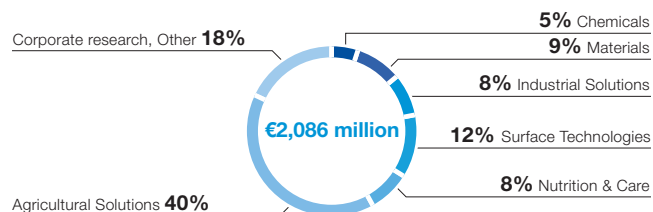


In 2020, BASF experts supported the search for improved derivatives of active ingredients to combat the SARS-CoV-2 coronavirus and provided academic working groups with free access to substances from its compound library, comprising several million entries. Our researchers were additionally involved in the global search for a substance that inhibits what is known as the viral main protease, an essential enzyme of the virus. This inhibitor aims to stop the virus from multiplying in the human body. Using an internally developed computer program and the supercomputer Curiosity, our researchers were able to identify and optimize numerous new molecules. With the help of the supercomputer, BASF also tested around 1.2 billion synthetically producible compounds for their potential to inhibit the main protease of the SARS-CoV-2 virus. BASF does not develop or produce its own vaccine. We are involved in numerous development projects to treat or prevent COVID-19 with our pharmaceutical ingredients.

[For more information on our aid measures during the coronavirus pandemic, see page 49](#)

Innovations in the segments – examples

Research and development expenses by segment 2020



Chemicals

BASF's **Styrodur® Hybrid** is the next generation of the green insulation boards made from extruded polystyrene for customers in the construction industry. The hybrid version has vertical grooves on one side to bond better with the concrete. The simpler and cleaner processing leads to considerable time and cost savings in construction, for example by eliminating the need for full-surface adhesion. These advantages are in addition to the general benefits offered by Styrodur, such as high compressive strength, low moisture absorption, and excellent thermal insulation properties, which play a significant role in reducing CO₂ emissions and cutting heating costs.



Styrodur® Hybrid

- Insulation board with excellent thermal insulation properties
- Reduces CO₂ emissions and cuts heating costs

In 2020, BASF launched **OASE® sulfexx™** – a new, energy-efficient amine gas treatment technology developed in cooperation with ExxonMobil Catalysts and Licensing LLC. The new OASE® sulfexx™

branded technology helps refiners and gas processors to meet their sulfur removal targets while reducing their carbon footprint. It ensures the highly selective removal of hydrogen sulfide (H₂S) from gas streams while minimizing carbon dioxide (CO₂) co-absorption. This provides a competitive advantage by increasing plant capacity and lowering investment and production costs.



OASE® sulfexx™

- Energy-efficient amine gas treatment technology
- Highly selective removal of hydrogen sulfide (H₂S)

Materials



Elastollan®

- New generation of recyclable bicycle tubes based on Elastollan®
- Around 40% lighter than alternatives on the market

Together with our partner Schwalbe, we have developed a new generation of bicycle tubes based on the thermoplastic polyurethane (TPU) **Elastollan®**. The new Aerothan bicycle tube offers exceptional performance, puncture resistance and stable handling thanks to the special mechanical properties of Elastollan®. It is around 40% lighter than the established alternatives on the market, is easy to assemble and has a small packing size. Another advantage of the Aerothan bicycle tubes is that they are recyclable. They are made entirely of thermoplastic polyurethane and can be returned to the manufacturer, easily and free of charge, via the tube recycling program. The material of the old tubes is processed and then reused as sealing or insulating material.

BASF's new additive for the asphalt industry, **B2Last®**, has been designed for sustainable road construction. It extends pavement life while cutting CO₂ emissions along the production chain. B2Last®

meets additional health and safety requirements by enabling asphalt to be produced and processed at significantly lower process temperatures. The innovative additive enables faster completion times and reduces emissions, improving the carbon footprint and making roads more durable.

Industrial Solutions

Demand for biocide-free products with high scrub resistance and low levels of volatile organic compounds (VOC) has become a driving force in the European market for water-based interior paints in recent years. For 20 years, the market has been dominated by ethylene vinyl acetate dispersions, which cannot be used in biocide-free paints. BASF offers an attractive alternative: **Acronal® 6292**. Acronal® 6292 is a styrene-acrylate binder that makes it possible to produce environmentally friendly, biocide-free and low-VOC paints. This has enabled BASF to successfully open up a new market segment that addresses customers' requirements around avoiding allergic reactions while maintaining the same product properties.

BASF and IntelliSense.io, a leading industrial artificial intelligence (AI) company, have combined their expertise in mineral processing, ore beneficiation chemistry and industrial AI technology. The joint offering is called the **BASF Intelligent Mine powered by IntelliSense.io** and delivers AI solutions embedded with BASF's mineral processing and chemical expertise. The solution helps customers to make their mine operations more efficient, sustainable and safe, while offering a real-time decision-making platform. Each mining process, such as grinding, thickening, flotation and pumping, is supported by an Optimization as a Service application that predicts and simulates future performance, generating process-specific recommendations for optimization. This enables customers to realize efficiency gains across the entire value chain.

Surface Technologies

The **Fourtune™ FCC catalyst** is the latest addition to the refining catalysts portfolio. It is based on BASF's Multiple Framework Topology technology. Fourtune has been optimized to deliver superior butylene over propylene selectivity while maintaining catalyst activity and performance. The technology provides an answer to the increased demand for octane since today's tighter sulfur regulations often require post treatment on the gasoline stream. This can negatively impact the octane pool. The higher butylene selectivity enables refineries to optimize gasoline octane and with it, their profitability.



Glasurit® 100 Line and R-M® AGILIS

- Waterborne basecoat technology
- Reduces volatile organic compounds (VOC)

With **Glasurit® 100 Line** and **R-M® AGILIS**, BASF has introduced the most advanced waterborne basecoat technology for refinish coatings, offering outstanding efficiency and environmental advantages. The focus in product development was on sustainability, with the result that VOC levels are consistently below 250g/l. This is the lowest VOC level on the market, making the new product line the eco-friendliest automotive refinish coatings available. The innovative formulation optimizes the processing properties for fast and efficient application, enabling customers to cut process times by up to 35%. Another 20% can be saved from the reduction in material consumption. This allows body shops to reduce their CO₂ emissions through faster application and shorter drying cycles. At the same time, they can increase profitability and improve their environmental footprint.

Nutrition & Care

Together with other quality ingredients from the BASF Home Care and Industrial & Institutional Cleaning portfolio, the cellulase **Lavergy® C Bright 100 L** harnesses the combined power of different technologies to achieve a sustainable, performance-differentiated solution. Lavergy® C Bright 100 L can be combined with other selective ingredients to prevent fabrics from graying. Whether whites or colors, cotton or synthetic fibers – clothes look like new even after multiple washes. Lavergy® C Bright 100 L also meets the criteria for various ecolabeling systems including EU Ecolabel and Blue Angel. Excellent cleaning performance and good environmental compatibility, as well as suitability for use with many types of fabric are the hallmarks of BASF's one-fits-all solution.

BASF has launched the new fragrance **Isobionics® Santalol**, an alternative to sandalwood oil. Isobionics® Santalol is produced on a biotechnological basis from renewable raw materials and is 100% free of endangered sandalwood. Our fermentation technology ensures consistent high quality, effective production and year-round availability. Isobionics® Santalol resembles the floral heart of sandalwood oil and is particularly suitable for use in perfumes and exclusive personal care products thanks to its woody odor profile.

Agricultural Solutions

We leverage the potential of digitalization in agriculture to help farmers grow their business profitably and reduce their environmental footprint. Launched in 2020, the new outcome-based business model **xarvio® HEALTHY FIELDS** provides a tailored, optimized field and season-specific crop protection strategy. By measuring and classifying externally induced plant stress, automatically defining buffer zones and recording biodiversity on and off arable land, it guarantees plant health and enables farmers to achieve agreed yield forecasts. This way, we respond to modern farming challenges, requirements by society and political action plans and contribute to more sustainable farming.

In 2020, xarvio® HEALTHY FIELDS received the Crop Science Award, one of the most important and renowned awards in the agricultural industry worldwide, for the "Best Innovation in Digital Farming Technology."

Wheat is one of the most produced crops in the world and demand continues to increase based on the growing world population. Our agricultural innovations for wheat production contribute to food security, which will help to reach the U.N. Sustainable Development Goals (SDGs). Our R&D pipeline comprises solutions that help farmers to achieve better yield – balancing the needs of the environment, society and agriculture.

In 2020, we received the first registration worldwide for the new herbicide active ingredient **Tirexor®**. It will give wheat growers in Australia more choice for effective weed control to combat resistance and enable climate-smart, no-till farming. Further dossier submissions in other countries across Asia, South and North America are planned.

Our recently launched fungicide **Revysol®** will also play a crucial role in future resistance management in wheat, helping growers to better protect their crops, manage resistances and increase their yield in a sustainable way.



Hybrid wheat

- Improved harvest quality and stability
- Securing high yield in the long term

With market entry expected by mid-decade, we will introduce **hybrid wheat**,¹ supporting the nutritional needs of a growing world population. Hybrid wheat will bring much needed innovation to wheat production and start a journey to transform this crop for long-term success to deliver high performance in yield, quality and stability to meet the agronomic needs of farmers and the value chain in North America and Europe. The hybrid approach will give breeders new opportunities to adapt and improve plant characteristics and will play an important role in addressing the environmental challenges of the future.



InVigor® technologies for hybrid canola

- For pod shatter reduction and resistance to plant diseases
- More flexibility at harvest

BASF's **InVigor® hybrid canola** pod shatter reduction and clubroot resistant trait technologies help to protect yield potential from clubroot and deliver more flexibility for growers at harvest. In addition, we launched the 300 series of InVigor hybrid canola for the 2020 growing season, featuring three new hybrids that offer growers improvements in yield, pod shatter reduction protection, or clubroot resistance.

Various innovative crop protection products, such as the recently acquired L-glufosinate ammonium herbicide technology and seed treatment in combination with digital products, help farmers to manage weeds, pests and diseases and also enable higher yield.

BASF joined the AGROS program in 2020, a collaboration between the Netherlands-based Wageningen University & Research and 26 private partners looking into **autonomous vegetable growing**. The aim is to make best use of technology and accelerate innovation in order to meet the growing demand for food, while preserving natural resources. We are focusing even more strongly on the needs of our consumers with the joint development of a connected, data-driven, automated and sustainable production system. Further research relates to optimized cultivation methods for growing cucumbers based on sensors, plant physiology and artificial intelligence.

¹ R&D expenses reported under Other

「Integration of Sustainability」

We are successful in the long term when we create value added for the environment, society and the economy with products, solutions and technologies. Sustainability is firmly anchored in our strategy and corporate governance. We carry out the company purpose “We create chemistry for a sustainable future” using the various tools of our sustainability management. We systematically incorporate sustainability into our business and our assessment, steering and compensation systems. We identify sustainability trends at an early stage and derive appropriate measures for our business to seize new business opportunities and minimize risks along the value chain.

Strategy

■ Sustainability further integrated into governance, compensation systems and business models

We achieve long-term business success by creating value added for the environment, society and the economy. Sustainability is at the core of what we do, a driver for growth and value as well as an element of our risk management. That is why sustainability is firmly anchored into the organization as part of governance, compensation systems and business models.

Based on our corporate strategy and the global targets derived from this, we steer the sustainability targets (CO₂-neutral growth until 2030 and achieve €22 billion in Accelerator sales by 2025) as most important key performance indicators. We have established the necessary steering mechanisms and control systems at Group level. Carbon management bundles our global activities to reduce greenhouse gas emissions (see page 135). We use the Sustainable Solution Steering method to manage our product portfolio (see page 45). To assess the sustainability performance of our products and identify solutions that make a substantial sustainability contribu-

tion in the value chain (Accelerator products), we regularly reassess our product portfolio.

In addition to the two climate protection and Accelerator sales targets, we have also set ourselves further sustainability targets on responsible procurement, engaged employees, women in leadership positions, occupational health and safety, process safety and water management.

As a co-founder of the U.N. Global Compact and a recognized LEAD company, we contribute to the implementation of the United Nations' Agenda 2030 on an ongoing basis. Our products, solutions and technologies help to achieve the U.N. Sustainable Development Goals (SDGs), especially SDG 2 (Zero hunger), SDG 5 (Gender equality), SDG 6 (Clean water and sanitation), SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation and infrastructure), SDG 12 (Responsible consumption and production) and SDG 13 (Climate action). The SDG focus areas are prioritized by internal experts. In doing so, they assess the impacts and positive contributions of our products, our corporate targets and strategic action areas. The contribution of our activities is measured using the Value to Society approach. This assesses our positive and negative impacts on the environment, society and the economy (see page 44).

We evaluate key sustainability topics with our comprehensive materiality analysis. The graphic on page 43 shows how we identify and assess relevant topics. Here, we take into account topics that we have an impact on, topics that have an impact on us, and topics that our stakeholders consider important.

The relevant topics identified based on the three dimensions of materiality include climate and energy, resource efficiency and waste, health and safety / product stewardship, emissions to air and soil, and responsibility along the value chain.

For more information on our materiality analysis, see basf.com/materiality

For more information on our Value to Society approach, see basf.com/en/value-to-society

For more information on the metastudy on sustainability trends, see basf.com/sustainability-trends

Our organizational and management structures

We are constantly working to broaden our positive impact on key sustainability topics and reduce the negative impact of our business activities. The Corporate Development unit, which is part of the Corporate Center, has steered the integration of sustainability into core business activities and decision-making processes since 2020 (see page 21). Global steering of climate-related matters is also bundled in this unit, such as coordinating measures to reach our climate protection target and steering the target on making our product portfolio more sustainable.

The Board of Executive Directors and the Supervisory Board are regularly briefed on the current status of individual sustainability topics. In addition, the Board of Executive Directors is informed about sustainability evaluations in business processes, for example, in the case of proposed investments and acquisitions. It makes decisions with strategic relevance for the Group and monitors the implementation of strategic plans and target achievement. The Corporate Sustainability Board, which is composed of heads of business and Corporate Center units and regions, supports the Board of Executive Directors on sustainability topics and discusses operational matters. A member of the Board of Executive Directors serves as chair.

We also established an external, independent Stakeholder Advisory Council (SAC) in 2013 and a Human Rights Advisory Council (HRAC) in 2020. In the SAC, international experts from academia and society

contribute their perspectives to discussions with BASF's Board of Executive Directors. The HRAC is led by our Chief Compliance Officer. It comprises external human rights specialists and internal experts, who advise senior management. This helps us to build on our strengths in how we handle human rights and address potential for improvement.

We systematically evaluate sustainability criteria, including the effects of climate change, as an integral part of decisions on acquisitions and investments in property, plant and equipment or financial assets. In this way, we not only assess economic dimensions, but also the potential impacts on areas such as the environment, human rights or the local community. We evaluate both the potential impacts of our activities as well as which effects we are exposed to.

For more information on our financial and sustainability targets, see page 32

For more information on our risk management, see pages 158 to 166

For more information on compensation structures, see the Compensation Report on page 183 onward

For more information on the organization of our sustainability management, see basf.com/sustainabilitymanagement

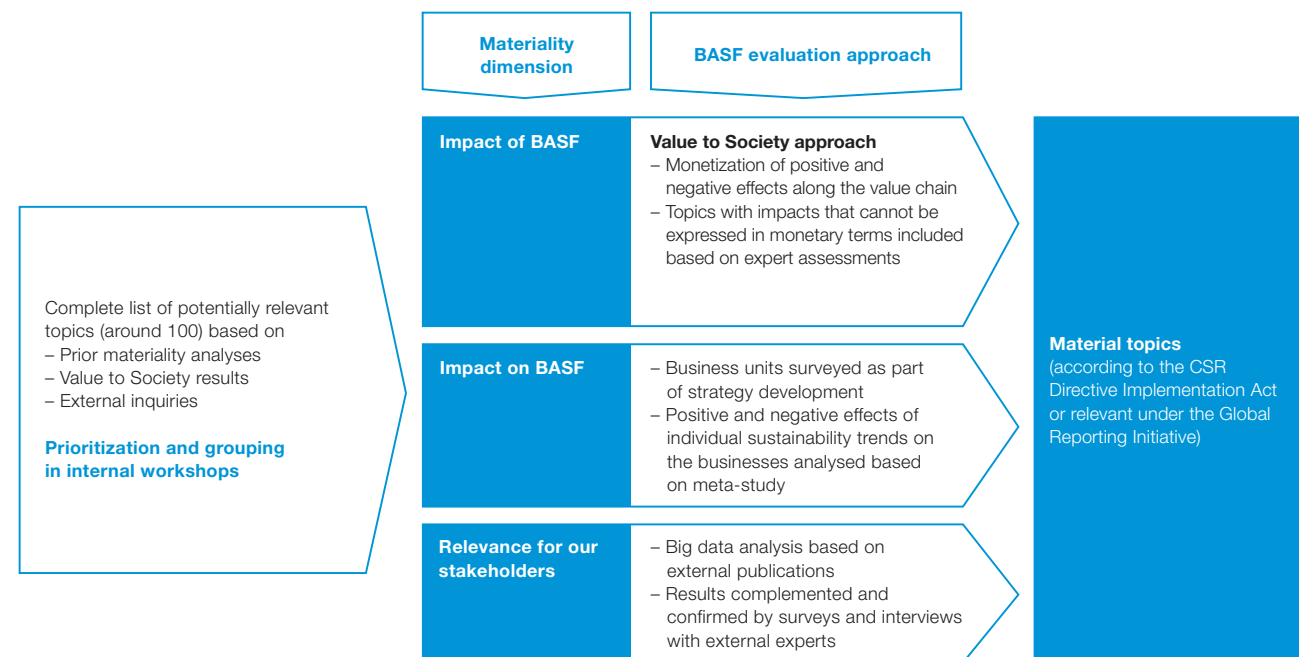
Harnessing business opportunities and measuring value added by sustainability

■ Product Carbon Footprints (PCFs) for around 45,000 sales products by the end of 2021

We take advantage of business opportunities by offering our customers innovative products and solutions that support their sustainability goals. We ensure that the business units automatically evaluate and take into account relevant sustainability criteria when they develop and implement strategies, research projects and innovation processes.

We want to measure the value proposition of our actions along the entire value chain. We are aware that our business activities have an impact on the environment and society, and so we strive to increase

Identifying and assessing sustainability topics^{1,2}



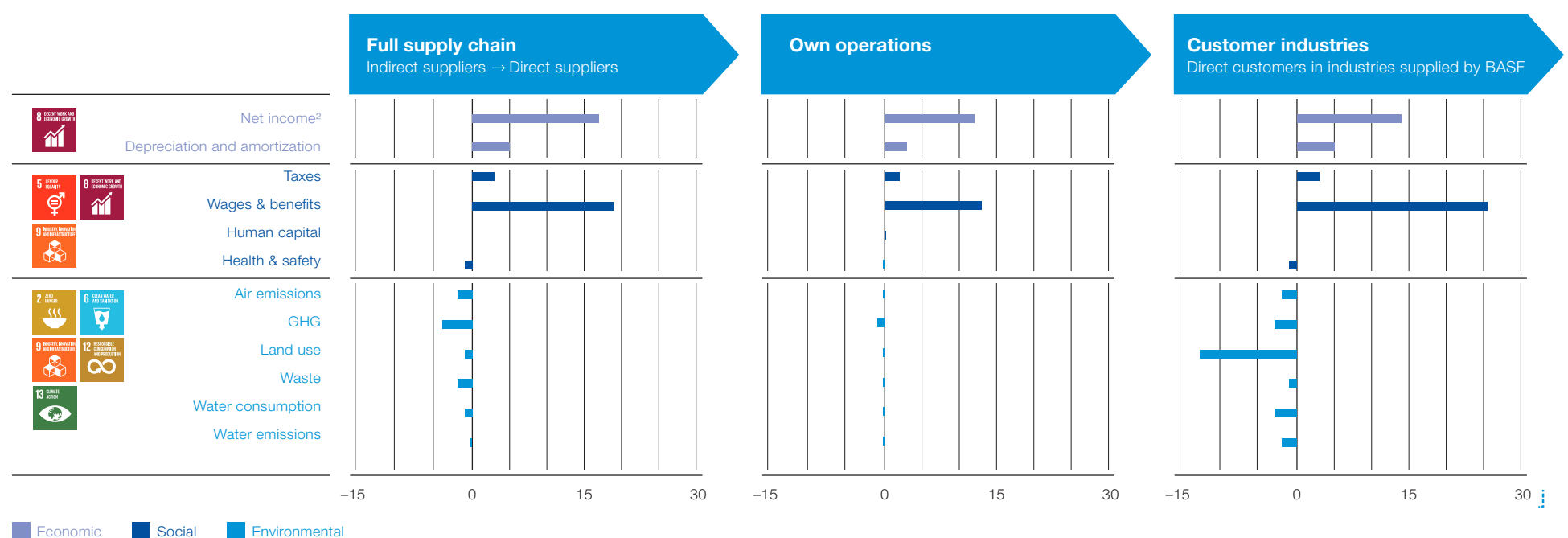
¹ Our stakeholders also confirmed the materiality of the nonfinancial topics that the Value to Society approach identified as having an impact along the value chain.

² Quantitative thresholds for defining material topics have not been set due to the complexity of the assessment methods used for each dimension of materiality. The final list of topics is based on an expert comparison of the results of all the assessment approaches described.

the positive contribution and minimize the negative effects of our business activities.

To achieve this, we need to continually improve our understanding of how our actions impact society and the environment. We already have many years of experience of this from evaluating our products and processes using methods such as Eco-Efficiency Analyses, the SEEBalance® Socio-Eco-Efficiency Analysis, our Sustainable Solution Steering portfolio analysis, or BASF's corporate carbon footprint.

BASF also plans to make the individual carbon footprints for around 45,000 sales products available by the end of 2021 with the help of a new, in-house digital solution. PCFs comprise all product-related greenhouse gas emissions that occur until the BASF product leaves the factory gate for the customer: from the purchased raw material to the use of energy in production processes (Scope 1–3). Calculating PCFs creates transparency for our customers and partners, enabling us to develop plans together to reduce CO₂ emissions along the value chain up to the end product.

Our Value to Society approach¹ (figures in billion €)

¹ Value to Society results are calculated annually following the publication of the BASF Report. Consequently, the results shown in the BASF Report 2020 are based on the figures for the 2019 business year ("human capital" category currently only assessed for BASF production).

² The net income of BASF's production presented in the Value to Society is calculated using the BASF Group's net income, adjusted for the interest result, the other financial result and noncontrolling interests.

We want to understand the value we contribute to society and make this transparent. However, there are still no uniform, global standards for measuring and reporting on companies' overall impact that cover economic, environmental and social aspects of business activities along the value chain. This is why we developed the Value to Society approach in 2013 together with external experts. It allows us to better understand our contribution to a sustainable future. In addition, we can use it to compare the significance of financial and nonfinancial impacts of our business activities on society and show their interdependencies.

The results illustrate the positive contributions and negative effects, both at BASF and in our value chains. Positive factors include taxes paid, wages, social benefits, employee training and our net income.² Negative contributions include environmental impacts such as carbon emissions, land use and emissions to air, soil and water, as well as health and safety incidents. We aim to increase the positive contributions of our business activities along the value chain and minimize the negative impacts. The Value to Society approach also enables us to continually monitor our progress. It complements

existing concepts for assessing risks and business opportunities by providing a macro perspective.

We share our experiences in networks and initiatives such as the Impact Valuation Roundtable and are involved in the corresponding standardization processes within the International Organization for Standardization (ISO). We are also a founding member of the value balancing alliance e.V. (vba), a cross-industry initiative. The vba is working to develop an accounting and reporting standard that makes the value companies provide to society transparent and

comparable. The aim is to present the financial, ecological, and social impacts of business activities on the basis of a standardized framework. The vba is supported by the E.U., major auditing firms, the Organisation for Economic Co-operation and Development (OECD), leading universities and other partners. BASF is currently one of the pilot companies testing the method using its own business data. The vba receives the results of our evaluation to enhance and refine the Value to Society method.

For more information on this method and the results of Value to Society, see basf.com/en/value-to-society

For more information on our sustainability tools, see basf.com/en/measurement-methods

For more information on value balancing alliance e.V., see value-balancing.com

Steering of product portfolio based on sustainability performance

■ Increase sales from Accelerator products

A significant steering tool for the product portfolio, based on the sustainability performance of our products, is the Sustainable Solution Steering method. By the end of the 2020 business year, we had evaluated 98.4%¹ of the relevant portfolio.² This refers to the BASF Group's sales from products in its strategic portfolio to third parties in the business year concerned. By the end of 2020, sustainability analyses and assessments had been conducted for more than 57,000 specific product applications, accounting for €54.1 billion in sales. These consider the products' application in various markets and sectors. New market requirements arise as a result of the continuous development of new product solutions in the industry or changing regulatory frameworks. This has an effect on comparative assessments, which is why we regularly reassess our product portfolio.

Classification of relevant portfolio² according to the Sustainable Solution Steering method



Year	Sales	Million €
2020	<div></div>	16,740
2019	<div></div>	15,017
2020	<div></div>	30,519
2019	<div></div>	32,148
2020	<div></div>	6,799
2019	<div></div>	4,705
2020	<div></div>	72
2019	<div></div>	64

Transparently classifying our products on the basis of their contribution to sustainability enables us to systematically improve them. Accelerator products make a substantial sustainability contribution in the value chain. These include catalysts that reduce emissions to the environment, biodegradable mulch films for agricultural applications, and high-performance insulation materials for higher energy savings and reduced material use in building construction. Based on our corporate strategy, we have set ourselves a global target: We aim to make sustainability an even greater part of our innovation power and achieve €22 billion in Accelerator sales by 2025.

2025 target

Increase sales from Accelerator products to

€22 billion

In 2020, we generated sales of €16.7 billion with Accelerator products (2019: €15.0 billion). Accelerator products account for 30.9% of the evaluated relevant portfolio. Performer products account for 56.4% and Transitioner products for 12.6% of the solutions assessed. Sales of Accelerator products rose by 11%

¹ Parts of the relevant portfolio have not yet been evaluated, including the integrated polyamide business acquired from Solvay in 2020.

² The definition of the relevant portfolio and further information can be found in the Sustainable Solution Steering manual at basf.com/en/sustainable-solution-steering

compared with the previous year. This is primarily attributable to the positive development of Accelerator sales in the Surface Technologies and Agricultural Solutions segments. In the Agricultural Solutions segment, the first-time assessment of the seed business acquired from Bayer contributed to the increase.

If, during reassessment of our portfolio, we identify products with substantial sustainability concerns, we classify these as "Challenged." Challenged products account for around 0.1% of the evaluated relevant portfolio. We develop and implement action plans for all products in this category. These include research projects and reformulations to optimize products, or even replacing the product with an alternative. To systematically align our portfolio with contributions to sustainability, as of 2018, we will phase out all Challenged products within five years of initial classification as such at the latest. We strive to offer products that make a greater contribution to sustainability in their area of application to live up to our own commitments and meet our customers' demands. This is why our Sustainable Solution Steering method is used in areas such as our research and development pipeline, in business strategies as well as in merger and acquisition projects.

For more information on Sustainable Solution Steering, see basf.com/en/sustainable-solution-steering

Stakeholder engagement

■ Continuous dialog with our stakeholders

Our stakeholders include customers, employees, partners and suppliers, investors, representatives from academia, industry, politics and society, as well as from the communities surrounding our production sites. Parts of our business activities, such as the use of certain new technologies or our environmental impacts, are often viewed by stakeholders with a critical eye. We take these questions seriously, initiate dialogs and participate in discussions. Such ongoing exchange with our stakeholders helps us to even better understand what matters to groups of society, what they

expect of us and which measures we need to pursue in order to establish and maintain trust, build partnerships, and increase societal acceptance for and the sustainability of our business activities. In doing so, we want to harness potential for mutual value creation and strengthen the legitimacy of our business activities – our license to operate. For important topics, we systematically identify key stakeholders at an early stage to discuss critical questions with them. Relevant considerations include their topic-specific expertise and willingness to engage in constructive dialog.

BASF was awarded the 2020 CSR Prize by the German federal government, which highlighted BASF's long-standing commitment to CSR (corporate social responsibility) and its comprehensive sustainability strategy. In its justification, it emphasized BASF's pioneering role, particularly in integrated reporting and the disclosure of CO₂ emissions, and the fact that BASF also encourages the

implementation of sustainability at other companies in the industry through transparency.

We draw on the competence of global initiatives and networks, and contribute our own expertise. We are active in worldwide initiatives with various stakeholder groups. For instance, we have been a member of the U.N. Global Compact (UNGC) since its establishment in 2000. As a recognized LEAD company, we contribute to the implementation of the Agenda 2030 and the associated goals. We support UNGC Action Platforms, for example on Good Health and Well-being (SDG 3), and contribute to the UNGC Expert Network. To celebrate the 75th anniversary of the United Nations on September 21, 2020, we reaffirmed our commitment to the UNGC and pledged our support for the Women's Empowerment Principles and the CFO Principles on Integrated SDG Investments and Finance. BASF is also active in 16 local Global Compact networks.

Stakeholder demands and expectations of BASF



Customers

- Innovative and sustainable solutions
- Reliable partner



Investors

- Attractive dividend yield
- Strong long-term share performance



Society: politics, NGOs, media

- Responsible and trustworthy partner
- Production of safe products in compliance with environmental and social standards
- Jobs and taxes



Suppliers

- Fair and reliable business relationship
- Support in complying with our Supplier Code of Conduct (environmental and social requirements)



Community

- Support for local communities
- Safe, disruption-free operations
- Attractive jobs



Employees and management

- Attractive and fair employer
- Health protection
- Opportunities for professional development

In 2020, we once again met with the Stakeholder Advisory Council to discuss important aspects of sustainability. The main topics were climate protection, circular economy and sustainable finance. The Human Rights Advisory Council discussed impacts on selected aspects of our products' value chains and interacting with vulnerable groups.

Our political advocacy is conducted in accordance with transparent guidelines and our publicly stated positions. The same applies to our activities in associations. For instance, we published an Industry Associations Review comparing the energy and climate protection positions of BASF and the most important associations of which we are a member, with explanations on our approach.

BASF does not financially support political parties. In the United States, employees at BASF Corporation have exercised their right to establish a Political Action Committee (PAC). The BASF Corporation Employee PAC is an independent, federally registered employee association founded in 1998. It collects donations for political purposes and independently decides how these are used, in accordance with U.S. law.

We have a particular responsibility toward our production sites' neighbors. With the established community advisory panels, we promote open exchange between citizens and our site management and strengthen trust in our activities. Our globally binding requirements for community advisory panels are based on the grievance mechanism standards in the United Nations' Guiding Principles on Business and Human Rights. We keep track of their implementation through the existing global databank of the Responsible Care Management System.

We also use digital formats to initiate dialog on sustainability topics. The first Climathon was held in November 2020 as an initiative for employees. During the one-day hackathon, teams of (IT) experts developed digital solutions for sustainability issues, from calculating

personal carbon footprints to supporting customer-focused business ideas.

For more information on stakeholder dialog, see basf.com/en/stakeholder-dialog

For more information on our guidelines for responsible lobbying, see basf.com/guidelines_political_communication

For more information on the Industry Associations Review, see basf.com/corporategovernance

For more information on the BASF Climathon, see climathon.basf.com

Social engagement

- **BASF as a responsible neighbor at our sites worldwide**
- **Contribution to the United Nations' Sustainable Development Goals**

Through our social engagement, we want to take into account the needs of the communities surrounding our production sites worldwide, help achieve the United Nations' Sustainable Development Goals (SDGs), and have a positive long-term impact on the environment and society. This is why social engagement is a cornerstone of our corporate social responsibility. Our social engagement policy was updated in 2020 and provides the guardrails for our activities. It stipulates that all social engagement measures worldwide must be conducted in line with our compliance policy, BASF's strategy and our sustainability commitments. We want to have a positive impact on society in our three focus areas: future health, future skills and future resources. We support projects that aim to have a lasting impact on specific target groups and offer learning opportunities for participating cooperation partners and BASF.

As a responsible neighbor at our Ludwigshafen site and a partner in the Rhine-Neckar metropolitan region, our social engagement in Germany includes strengthening participation and integration of disadvantaged groups as well as promoting research and discovery. It is particularly important to us that we work together with our partners to increase the impact of individual measures. In the project *#WirGestaltenSchule*, for example, we are working with our partners to improve education equality. We promote cooperation between

nonprofit organizations with the *Gemeinsam Neues schaffen* program.

We are a member of *Wissensfabrik – Unternehmen für Deutschland e.V.*, a network of over 130 companies and organizations with close links to business that supports children, young people, students and young entrepreneurs through its involvement with educational institutions and start-ups. The focus is on school projects that provide hands-on experience with STEM (science, technology, engineering and mathematics). Due to the coronavirus pandemic, the project's initiatives (such as *IT2School – Gemeinsam IT entdecken* and *KiTec – Kinder entdecken Technik*) were also offered in digital formats, allowing these educational programs to continue even as school operations were restricted.

We foster societal integration, particularly of low-achieving young people and refugees, with our *Start in den Beruf* and *Start Integration* programs. In 2020, 106 young people in the BASF Training Verbund participated in these two programs in cooperation with partner companies in the Rhine-Neckar metropolitan region. The goal is to prepare participants for an apprenticeship within one year, and ultimately secure the long-term supply of qualified employees for BASF and in the region as a whole. Since being launched at the end of 2015, BASF's *Start Integration* program has supported around 420 refugees with a high probability of being granted the right to remain in Germany, helping to integrate them into the labor market. We spent around €2.6 million on the BASF Training Verbund in 2020.

We support the *Espérance Banlieues* program in France for children from elementary and high schools in 17 low socioeconomic areas with our Kids' Lab program. The hands-on program provides a play-based introduction to science and teaches topics such as a healthy diet. The program ultimately aims to prevent early school leaving and to make it easier to access further education. During the coronavirus pandemic, BASF France supported partner schools with donations of protective face masks and disinfectant.

We aim to create long-term value for BASF and society with new business models and cross-sector partnerships. Our Starting Ventures program helps people with precarious livelihoods to improve their income-earning opportunities and their quality of life. At the same time, the program provides access to new markets and partners, and strengthens our contribution to reaching the SDGs. For example, we support the Waste-2-Chemicals project in Lagos, Nigeria, in which citizens help to keep the city clean by collecting and sorting plastic waste. The plastic waste is converted into pyrolysis oil in a chemical recycling process and used as feedstock in the production of high-quality chemical products. BASF cooperates with the organizations Wecyclers and RecyclePoints to make this circular value creation process possible. We are also planning to build centers where plastic waste can be collected and converted into pyrolysis oil. In this way, we want to provide local collectors and their families with a regular income in the future.

We promote resource stewardship with different programs around the world, such as our Water Producer Program. This was established in 2011 through a partnership between BASF's Guaratinguetá site in Brazil, the organization Fundação Espaço ECO® and local government. BASF sponsors the program and wants to strengthen the local community and environment with the initiative. The program aims to support conservation measures usually performed by farmers – such as the reforestation of riverbank woodlands, soil restoration and protecting native plants and water sources – with financial assistance and training from the organization's environmental consultants. Since being founded, the program has supported more than 60 farmers. It directly contributes to water conservation in the Ribeirão Guaratinguetá basin, which supplies 90% of communities in the area. The Fundação Espaço ECO® was founded by BASF in Brazil and supports BASF business units and other customers on their journey to becoming more sustainable. The organization celebrated its 15th anniversary in 2020.

In the area of international development work, we support BASF Stiftung, an independent nonprofit organization, with donations for its projects with various U.N. organizations. The 2020 year-end donation campaign in favor of BASF Stiftung supported the United Nations World Food Programme's (WFP) efforts to deliver humanitarian food aid in Yemen. A total of around €396,600 was raised for WFP from donations by the employees of participating German Group companies and BASF. A donation of €65 can feed a family in Yemen for one month.

BASF Group expenses for social engagement activities¹

~€76 million

For more information on Starting Ventures, see basf.com/en/starting-ventures

For more information on social engagement at our sites, see ludwigshafen.basf.de/commitment

For more information on our social engagement around the world, see basf.com/en/engagement

¹ As of 2020, we report a total figure for our social engagement activities. Consequently, a graphic representation of individual expenses, as shown in the 2019 report, is no longer provided. The figure includes all consolidated companies with employees, including joint operations. A large part of the expenses in 2020 related to activities in connection with the Helping Hands initiative.

「Helping Hands – our aid measures during the coronavirus pandemic」



Civil society, government, business and the nonprofit sector must work closely together to overcome the coronavirus pandemic. Our Helping Hands aid campaign contributed to the fight against the novel coronavirus – as part of society, as a partner at our sites and as an international company. We used our expertise in research, production, procurement and logistics to help during the crisis.

Our activities to fight the coronavirus were wide-ranging: We produced and donated disinfectant, supplied personal protective equipment, supported medical facilities and food bank initiatives, and contributed our expertise to medical research.

Production and donation of disinfectants

Within a very short period of time, we modified production processes at plants in different countries to manufacture urgently needed disinfectants – products that are not usually part of BASF's portfolio. Employees in countries such as Brazil, Germany, France, the Netherlands, Switzerland, Spain, Turkey and the United States helped to avoid local bottlenecks with their team spirit and great flexibility. In Europe alone, BASF produced more than 900,000 liters of disinfectant between March and December and donated this to hospitals, medical workers, care homes, local government, educational institutions and nonprofit initiatives such as UNO-Flüchtlingshilfe, the German partner of the U.N. refugee agency.

Using our procurement networks

Given the strained supply situation at the beginning of the pandemic, we used our procurement networks to purchase more than 100 million protective masks and donate these to the Federal Republic of Germany and the state of Rhineland-Palatinate. We also supported local healthcare facilities in many other countries, including Belgium, Brazil, China and the United States, by providing masks, protective eyewear, protective clothing and materials to protective visors free of charge.

Assistance initiatives and programs for those in need

Together, BASF SE and BASF Stiftung also established assistance initiatives and programs for those in need. An assistance fund focused on organizations that provide and distribute food to those in need. Other institutions, individuals and BASF employees could also donate to the fund. BASF Stiftung provided assistance to those who have suffered long-term loss of income due to COVID-19 illness or

whose households were in financial distress as a result of the pandemic. We also donated to hospitals and healthcare providers in the communities surrounding our sites in China, India, Italy, South Korea, Poland and Spain, for example.

BASF infrastructure supports search for active ingredients

We also made our expertise and infrastructure available for research into the virus, for example, in the search for active ingredients to treat COVID-19 patients. Our supercomputer Quiriosity identified and optimized promising molecules for public research projects (see page 38 for more information). In addition, we opened our expertise and laboratory facilities to TÜV Nord at the BASF Innovation Campus in Shanghai, China, where quality checks on protective face masks were conducted on behalf of the German Federal Ministry of Health.

[For more information on the Helping Hands aid campaign, see \[basf.com/en/helping-hands\]\(https://www.basf.com/en/helping-hands\)](https://www.basf.com/en/helping-hands)