

# BASF Factbook

Information for investors  
and analysts

Published June 2020

 **BASF**

We create chemistry





## Cautionary note regarding forward-looking statements

This publication contains forward-looking statements. These statements are based on current estimates and projections of the Board of Executive Directors and currently available information. Forward-looking statements are not guarantees of the future developments and results outlined therein. These are dependent on a number of factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. Such risk factors include those discussed in Opportunities and Risks on pages 139 to 147 of the BASF Report 2019. BASF does not assume any obligation to update the forward-looking statements contained in this publication above and beyond the legal requirements.



As part of the "Helping Hands" aid campaign, BASF is contributing in numerous ways to fight the spread of the coronavirus. For example, BASF is donating hand sanitizer to healthcare facilities in many countries. The cover image shows the Sokalan and Uvinul plant in Ludwigshafen, Germany. Since mid-April, around 100 metric tons of hand sanitizer have been produced there per week – in addition to the usual production of UV absorbers as well as additives for different applications, such as detergents, cleaning agents and industrial formulations. Sanitizer is not normally part of BASF's product portfolio. In order to cope with the coronavirus pandemic, plants in Ludwigshafen and other locations therefore adapted their production in a very short time.

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# BASF Group

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## At a Glance

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 118,000 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.

### Intelligent Verbund concept

Production, technology, market, digitalization

### In 90+ countries

employees contribute to our success and that of our customers

### New segment structure

since January 1, 2019

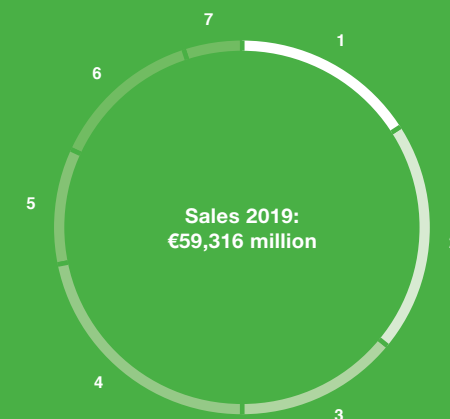
### Organizational realignment

for greater customer proximity, increased competitiveness and profitable growth

#### Well-balanced portfolio

Percentage of total sales and EBIT before special items in 2019

|   |                               |   | Sales | EBIT before special items |
|---|-------------------------------|---|-------|---------------------------|
| 1 | <b>Chemicals</b>              | – Petrochemicals<br>– Intermediates                 | 16%   | 17%                       |
| 2 | <b>Materials</b>              | – Performance Materials<br>– Monomers               | 20%   | 22%                       |
| 3 | <b>Industrial Solutions</b>   | – Dispersions & Pigments<br>– Performance Chemicals | 14%   | 18%                       |
| 4 | <b>Surface Technologies</b>   | – Catalysts<br>– Coatings                           | 22%   | 15%                       |
| 5 | <b>Nutrition &amp; Care</b>   | – Care Chemicals<br>– Nutrition & Health            | 10%   | 17%                       |
| 6 | <b>Agricultural Solutions</b> | – Agricultural Solutions                            | 13%   | 24%                       |
| 7 | <b>Other</b>                  |   | 5%    | (13%)                     |



## Key figures

Million €

|  | 2015   | 2016   | 2017                | 2018                | 2019               |       |
|--|--------|--------|---------------------|---------------------|--------------------|-------|
| Sales  | 70,449 | 57,550 | 61,223 <sup>1</sup> | 60,220 <sup>2</sup> | 59,316             |       |
| Income from operations before depreciation, amortization and special items | 10,508 | 10,327 | 10,738 <sup>1</sup> | 9,271 <sup>2</sup>  | 8,324 <sup>4</sup> |       |
| Income from operations before depreciation and amortization (EBITDA)       | 10,649 | 10,526 | 10,765 <sup>1</sup> | 8,970 <sup>2</sup>  | 8,185 <sup>4</sup> |       |
| Income from operations (EBIT) before special items                         | 6,739  | 6,309  | 7,645 <sup>1</sup>  | 6,281 <sup>2</sup>  | 4,643 <sup>4</sup> |       |
| Income from operations (EBIT)  | 6,248  | 6,275  | 7,587 <sup>1</sup>  | 5,974 <sup>2</sup>  | 4,201 <sup>4</sup> |       |
| Net income   | 3,987  | 4,056  | 6,078               | 4,707               | 8,421              |       |
| Return on capital employed (ROCE)  | %      | –      | 15.4 <sup>1</sup>   | 12.0 <sup>2</sup>   | 7.7                |       |
| Earnings per share (EPS)   | €      | 4.34   | 4.42                | 6.62 <sup>1</sup>   | 5.12 <sup>2</sup>  | 9.17  |
| Adjusted earnings per share (EPS)  | €      | 5.00   | 4.83                | 6.44 <sup>1</sup>   | 5.87 <sup>2</sup>  | 4.00  |
| Dividend per share   | €      | 2.90   | 3.00                | 3.10                | 3.20               | 3.30  |
| Dividend yield <sup>3</sup>  | %      | 4.1    | 3.4                 | 3.4                 | 5.3                | 4.9   |
| Cash flows from operating activities                                       |        | 9,446  | 7,717               | 8,785               | 7,939              | 7,474 |
| Free cash flow   |        | 3,634  | 3,572               | 4,789               | 4,045              | 3,650 |

<sup>1</sup> Figures for 2017 were restated with the presentation of the oil and gas activities as discontinued operations.

<sup>2</sup> Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations.

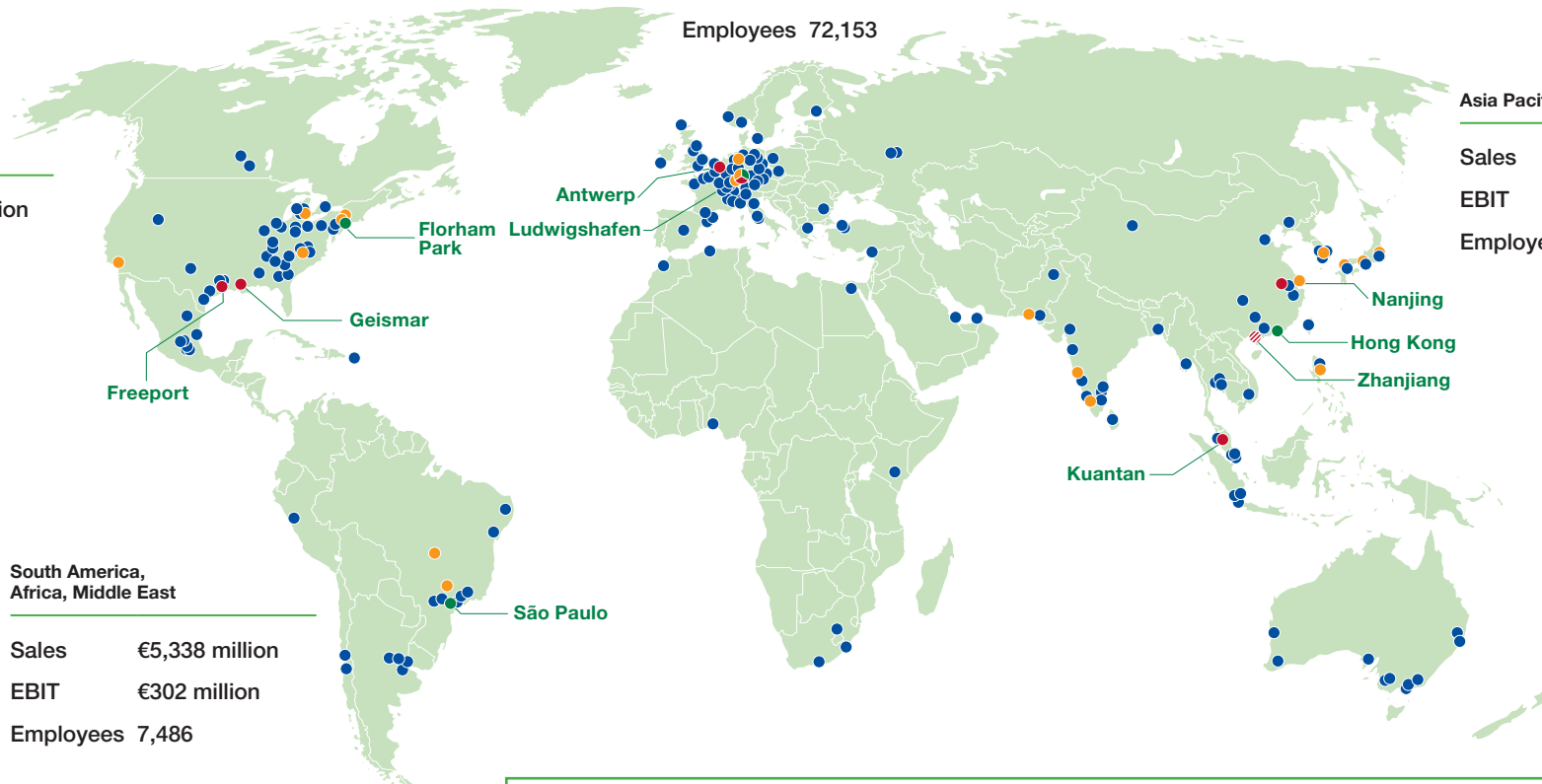
<sup>3</sup> Based on year-end share price

<sup>4</sup> The 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings. For more information, see BASF's Q1 2020 quarterly statement.

## Regional footprint 2019

### North America

Sales €15,948 million  
 EBIT €692 million  
 Employees 19,355



### Europe

Sales €23,827 million  
 EBIT €2,125 million  
 Employees 72,153

### Asia Pacific

Sales €14,203 million  
 EBIT €1,082 million  
 Employees 18,634

### South America, Africa, Middle East

Sales €5,338 million  
 EBIT €302 million  
 Employees 7,486

- Regional centers
- Selected sites
- Verbund sites
- ▨ Planned Verbund site
- Selected research and development sites

Sales by location of customer; EBIT by location of company; employees as of December 31, 2019

### Key facts

- Approximately 118,000 employees worldwide – including around 11,000 in research and development
- Around 100,000 customers from various sectors in almost every country in the world
- Top three market positions in around 75% of the business areas in which BASF is active
- Unique Verbund concept: production plants, infrastructure, logistics, value chains, research and development and customers are intelligently connected and benefit from progressing digitalization; six world-scale Verbund sites around the globe
- Know-How Verbund with eight academic research alliances, complemented by cooperations with around 300 universities and research institutes as well as collaborations with a large number of companies; around 1,000 new patents filed in 2019

# Management Board

## Board of Executive Directors of BASF SE



### Dr. Martin Bruder Müller

Chairman of the Board of Executive Directors and Chief Technology Officer

59 years old, 32 years at BASF

Responsibilities:

Corporate Legal, Compliance, Tax & Insurance; Corporate Development; Corporate Communications & Government Relations; Corporate Human Resources; Corporate Investor Relations



### Dr. Hans-Ulrich Engel

Vice Chairman of the Board of Executive Directors and Chief Financial Officer

61 years old, 32 years at BASF

Responsibilities:

Corporate Finance; Corporate Audit; Global Business Services; Global Digital Services; Global Procurement; Oil & Gas



### Saori Dubourg

48 years old, 23 years at BASF

Responsibilities:

Agricultural Solutions; Care Chemicals; Nutrition & Health; Construction Chemicals; Bioscience Research; Europe



### Michael Heinz

Industrial Relations Director

56 years old, 36 years at BASF

Responsibilities:

Corporate Environmental Protection, Health & Safety; European Site & Verbund Management; Global Engineering Services; South America



### Dr. Markus Kamieth

49 years old, 21 years at BASF

Responsibilities:

Catalysts; Coatings; Dispersions & Pigments; Performance Chemicals; Advanced Materials & Systems Research; BASF New Business; Greater China; South & East Asia, ASEAN & Australia/New Zealand; Megaprojects Asia



### Wayne T. Smith

60 years old, 16 years at BASF

Responsibilities:

Monomers; Performance Materials; Petrochemicals; Intermediates; Process Research & Chemical Engineering; North America



## Supervisory Board of BASF SE

### Shareholder representatives

**Dr. Kurt Bock**

Chairman of the Supervisory Board of BASF SE; Former Chairman of the Board of Executive Directors of BASF SE

**Franz Fehrenbach**

Vice Chairman of the Supervisory Board of BASF SE; Chairman of the Supervisory Board of Robert Bosch GmbH

**Prof. Dr. Thomas Carell**

Professor for Organic Chemistry at Ludwig Maximilian University Munich

**Dame Alison J. Carnwath DBE**

Senior Advisor Evercore Partners

**Dr. Alexander C. Karp**

CEO Palantir Technologies Inc.

**Anke Schäferkordt**

Supervisory Board member

### Employee representatives

**Sinischa Horvat**

Vice Chairman of the Supervisory Board of BASF SE; Chairman of the BASF Works Councils Ludwigshafen Site and Europe, and of BASF's Joint Works Council

**Tatjana Diether**

Member of the BASF Works Councils Ludwigshafen Site and Europe

**Waldemar Helber**

Deputy Chairman of the Works Council of BASF SE, Ludwigshafen Site

**Denise Schellemans**

Full-time trade union delegate at BASF Antwerpen N.V.

**Roland Strasser**

Regional Manager of the Rhineland-Palatinate/Saarland branch of the Mining, Chemical and Energy Industries Union (IG BCE)

**Michael Vassiliadis**

Chairman of the Mining, Chemical and Energy Industries Union (IG BCE)

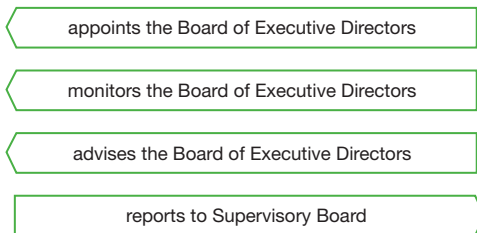
For further information, please refer to [basf.com/share/supervisory-board](https://basf.com/share/supervisory-board)

## Two-tier management system of BASF SE

### Board of Executive Directors



**6 members**  
appointed by the Supervisory Board  
**Chairman**  
appointed by the Supervisory Board



### Supervisory Board



**12 members**  
6 shareholder representatives elected by the Annual Shareholders' Meeting and 6 employee representatives  
**Chairman**  
elected by the Supervisory Board

The Supervisory Board works hand in hand with the Board of Executive Directors to ensure long-term succession planning for the composition of the Board of Executive Directors. BASF aims to fill most Board positions with candidates from within the company. It is the task of the Board of Executive Directors to propose a sufficient number of suitable candidates to the Supervisory Board.

The aim is to enable the Supervisory Board to ensure a reasonable level of diversity with respect to education and professional experience, cultural background, international representation, gender and age when appointing members of the Board of Executive Directors. Independent of these individual criteria, the Supervisory Board is convinced that ultimately, only a holistic approach can determine an individual's suitability for appointment to the Board of Executive Directors.

For more information on the competence profiles, diversity concepts and composition goals, see BASF Report 2019, page 150 onward.

# BASF Verbund

Our unique Verbund concept is one of BASF's greatest strengths. The driving principle of the Verbund concept is to add value through the efficient use of resources. At our Verbund sites, production plants, energy and material flows, logistics, and site infrastructure are all integrated. BASF currently operates six Verbund sites worldwide: two in Europe, two in North America and two in Asia.

The Verbund system creates efficient value chains that extend from basic chemicals all the way to consumer products. In this system, chemical processes make use of energy more efficiently, achieve higher product yields and conserve resources. By-products of one process are used as starting materials for another process. We thus save on raw materials and energy, minimize emissions, cut logistics costs and realize synergies. BASF operates an additional 361 production plants worldwide, but the six Verbund sites produce more than 50% of our volumes. This is a testament to the importance and strength of the Verbund concept within BASF.

The Verbund creates opportunities to reduce emissions, waste and resource consumption. Around half of the Verbund advantages stem from wastewater, steam and electricity savings compared to BASF's non-Verbund sites as well as compared to publicly available data on industry cost averages. The remaining 50% of the savings are achieved in logistics and material handling due to our chemical integration (using pipelines instead of filling and transporting via truck/railway/ship). These benefits make the Verbund sites our most efficient sites.

## Sustainability through the Verbund

Gas and steam turbines in combined heat and power plants enable us to fulfill more than 70% of the electricity demand of the BASF Group. Compared with separate methods of generating steam and



electricity, we saved 12.4 million MWh of fossil fuels and prevented 2.5 million metric tons of CO<sub>2</sub> emissions in 2019. In 2019, internally generated power in the BASF Group had a carbon footprint of around 0.26 metric tons of CO<sub>2</sub> per MWh of electricity and was below the national grid factor at most BASF Group locations. The figure for purchased electricity in 2019 was around 0.46 metric tons of CO<sub>2</sub> per MWh (market-based approach).

The use of waste heat is another important component of our energy efficiency strategy: Excess heat from one plant's production process is used as energy in other plants. In this way, the Energy Verbund saved us around 19.2 million MWh in 2019, which translates to 3.9 million metric tons less CO<sub>2</sub> released into the

environment. With combined power and steam generation as well as our optimized Energy Verbund, we were thus able to prevent a total of 6.4 million metric tons of CO<sub>2</sub> emissions in 2019.

## Verbund effects strengthen portfolio

The Verbund goes beyond **production**. It has several additional dimensions that all contribute across the businesses to strengthen our portfolio and to create value. By managing our **value chains**, we ensure the competitive and flexible supply of key raw materials and products to all segments.

We have strong **technological competence** in production processes but also in research, product development and our customers' applications. This know-how is available to all segments through our technology platforms.

We are building the **Digital Verbund** to harvest the benefits from the vast amount of data generated across BASF. Using and connecting this data intelligently, we can increase the efficiency of our processes. We are developing the necessary infrastructure, tools, best practices and rules to evolve into a data-driven company.

By offering the combined expertise of each of our businesses, we aim to create an unrivaled customer experience. **Customers** should think of BASF first when they seek a chemistry-related solution to a specific problem.

### Examples from our Technology Verbund

#### Expertise in catalysis

Developing and using chemical catalysts that vastly speed up chemical reactions has been a core competence of BASF since the realization of the first large-scale synthesis of ammonia in 1913. Today, catalysis is employed in almost every value chain at BASF. Catalysts are required to make more than 90% of our products in an efficient and sustainable way.

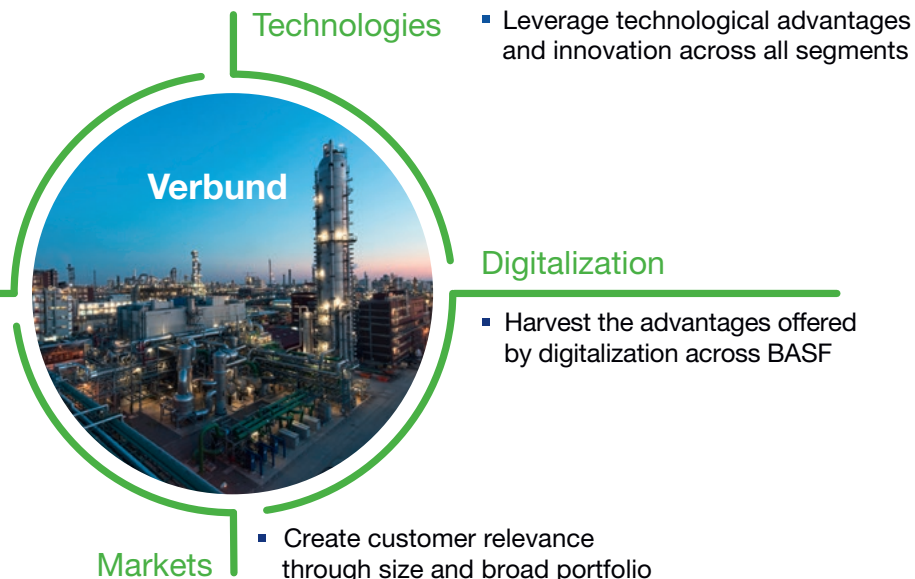
BASF is the global leader in catalyst production for chemical, automotive and refinery applications. The know-how to develop, manufacture and employ catalysts for all these different applications is bundled in one research platform, creating significant synergies across the company. For example, the same principles applied for the destruction of toxic compounds, such as nitrous oxides, with mobile emissions catalysts can be used in the cleanup of industrial off-gases from upstream plants.

- 6 integrated Verbund sites worldwide
- 6.4 million metric tons of CO<sub>2</sub> emissions prevented globally in 2019

#### Production

#### Value Chains

- Ensure competitive supply of key raw materials and products to all segments



In the future, due to an increasing focus on carbon emissions and waste recycling, even more robust catalysts will be needed to handle the impurities found in, for instance, bio-based raw materials and plastic waste. With our broad experience across many chemical value chains, BASF's catalyst R&D is well equipped to tackle these challenges.

#### Biodegradability research platform

Plastic waste is a major problem, especially for packaging applications. One way to solve this problem is to develop biodegradable polymers. This means that microorganisms metabolize the polymers to energy, water, biomass and CO<sub>2</sub>.

BASF is a leader in understanding biodegradability on a scientific level, and we have the capabilities to model biodegradation. We translate this knowledge into direct business success. We sell biodegradable plastics under the ecoflex®/ecovio® brand. These

products are used in packaging materials as well as in mulch films for farming. We leverage our expertise further, developing biodegradable materials and formulations for other applications.

### Verbund flexibility and adaptability

Despite its complexity, the Production Verbund can respond flexibly to fluctuating demand and changing markets. The Verbund Simulator is a proprietary digital tool that helps us optimize the Verbund. Within the Verbund, each business unit must create value for BASF. Therefore, we apply an internal market-based transfer pricing system that avoids cross-subsidization and provides transparency as we actively manage and optimize our value chains.

# Strategy

## Corporate strategy

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

Today, the world is changing more rapidly than ever before, driven by demographic change and new digital technologies. Our customers in different industries and regions face diverse social and environmental challenges due to limited natural resources, climate change and the increasing demands of a growing global population. Chemistry is key to solving many of these challenges. By combining our unique expertise with our customers' competence, we can jointly develop profitable, innovative and sustainable solutions for these global challenges.

Our purpose reflects what we do and why we do it: We create chemistry for a sustainable future. We want to contribute to a world that provides a viable future with enhanced quality of life for everyone. This is why we offer products and solutions that are designed to make the best use of available resources and help to overcome challenges.

## Corporate purpose

We create chemistry for a sustainable future

## Global trends provide opportunities for growth in the chemical industry

### Demographic change:

Share of population aged 60 and over worldwide

**+100%**  
2020 to 2050

### Digitalization:

Rapid growth in volume of data

**456**  
zettabytes in 2030

### Population growth:

Driven by the emerging markets

**+25%**  
2020 to 2050

### Climate change:

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

**-70%**  
by 2050

### China the largest market:

Share of global chemical market

**~50%**  
by 2030

### Electromobility:

Growing demand for battery materials until 2030

**+20–25%**  
per year

Sources: UN, IEA, UBS Foresight, BASF

Our aspiration is to be the world's leading chemical company and achieve profitable growth. We aim to primarily grow organically and thus are strengthening our customer focus. Our growth strategy is based on investment in strategic growth markets and innovation-driven sectors. The Asian market continues to play a key role here. With a share of more than 40%, China is already the world's largest chemical market and drives the growth of global chemical production.

By 2030, China's share will increase to nearly 50% – and we want to participate in this growth. To further our growth in this dynamic market, we plan to build an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. We also want to expand our existing joint venture with Sinopec at the Verbund site in Nanjing.

Status of Target Achievement in 2019<sup>1</sup>



1 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).  
 2 The 2019 figure has been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings. For more information, see BASF's Q1 2020 quarterly statement.  
 3 Return on capital employed (ROCE) is a measure of the profitability of our operations. We calculate this indicator as the EBIT generated by the segments as a percentage of the average cost of capital basis.  
 4 From 2019 onward, we have expanded our definition of water stress areas to regions in which more than 40% of available water is used by industry, household and agriculture. The definition is based on Aqueduct 3.0. This significantly increases the number of sites included in the water target and reduces the previous implementation level of BASF's water target accordingly.  
 5 Accelerator products are products that make a substantial sustainability contribution in the value chain.  
 6 We understand relevant spend as procurement volumes with suppliers defined as "relevant." For further information, see BASF Report 2019, page 102.



### Our strategic action areas

To reach our goals and be the leading company in the chemical industry for our customers, we are strengthening our performance in innovation and in operations as the leading chemical producer and plant operator. We leverage digital technologies and data to create additional value added for us and our customers. We are embedding sustainability even more deeply into the steering of our business. We want to foster a passion for our customers in all employees. We are expanding our portfolio and refining our organization to better meet customer needs using the power of our Verbund integration. To this end, we have defined strategic action areas on which we will continue to base our activities.

#### Portfolio

We will sharpen our portfolio and focus our capital allocation toward growth areas. We will focus primarily on organic growth through capital expenditures and innovation. We also make targeted acquisitions where this makes strategic sense and creates value and divest businesses that are no longer a strategic match. Our segment structure creates a high level of transparency regarding the steering of our businesses, the importance of value chains and the role of our Verbund. The physical, technological, market and digital integration of the Verbund is at the core of our portfolio and our strengths.

#### Innovation

Our ambition is to be the most attractive partner for our customers whenever they are confronted with challenges that can be approached with chemistry. Our research and development competences are industry-leading. We aim to build on and leverage this strength to develop innovations together with our customers. We want to continuously improve our innovation processes so that we can bring products to the market more quickly.



#### Sustainability

We are successful in the long term when our products, solutions and technologies add value to the environment, society and the economy. We want to be a thought leader in sustainability, which is why we are increasing the relevance of sustainability in our steering processes and business models. This secures the long-term success of our company, creates business opportunities and establishes us as a key partner supporting our customers.

#### Operations

We produce safely, efficiently and reliably so that we can deliver products to our customers on spec and on time. We strive to continually improve the reliability and availability of our plants, as well as our agility. Above and beyond this, continuous process improvements and effective debottlenecking of our existing asset base are paramount to ensure our competitiveness.

#### Digitalization

Digitalization is an integral part of our business. This creates value added for our customers, grows our business and improves efficiency. We are extensively promoting digital skills among our employees to ensure that the necessary resources are always available to leverage the opportunities of digitalization to the benefit of our customers.

#### Employees

We aim to clearly position each business against its relevant competitors and establish a high-performance organization to enable us to be successful in an increasingly competitive market environment. Our people are what will make the implementation of our strategy successful. We rely on the engagement of our employees and give them the tools and skills necessary to be able to offer our customers differentiated and customized products, services and solutions. Our tailored business models and organizational structures ensure that each business unit can optimally serve its market segment.

### Guidance on the use of cash

- |   |  |
|---|--|
| <p><b>1 Organic growth</b></p> <p>We strive to organically grow above global chemical production via innovation and capital expenditures.</p>   | <p><b>2 Progressive dividend policy</b></p> <p>We aim to increase our dividend per share every year.</p>             |
| <p><b>3 Portfolio upgrading</b></p> <p>We strive to enhance BASF's portfolio through selective acquisitions in distinct growth businesses or segments and further focus the portfolio through continued pruning measures.</p> | <p><b>4 Share buybacks</b></p> <p>Share buybacks are part of our toolbox but are currently not being considered.</p> |

## Customer focus

**Our customers are our number one priority. We want to view everything we do through the lens of customer relevance. BASF supplies products and services to around 100,000 customers<sup>1</sup> from various sectors in almost every country in the world. Our customer portfolio ranges from major global customers and medium-sized businesses to end consumers.**

**Around 100,000**

customers from almost all sectors and countries in the world

**Innovations and tailored solutions**

in close partnership with our customers

**Flexible**

thanks to in-depth expertise and wide range of resources

## Customer industry orientation

To be the world's leading chemical company for our customers, we want to further strengthen our customer focus throughout the entire organization. This is why we are aligning our business even closer with the needs of our customers.

Our diverse portfolio – from basic chemicals to high value-added products and system solutions – means that we are active in many value chains and value creation networks. As a result, we apply various business strategies, which we flexibly adapt to the needs of individual industries. These range from cost leadership to tailored, customer-specific solutions for downstream products. This industry orientation is primarily driven forward and enhanced by the divisions.

## Business Segments

We are continually refining our organization to even better meet the different needs of our customers. In 2019, we embedded significant parts of our functional services – including parts of research and development, IT, procurement, human resources and communications – into the operating divisions. This makes the operating divisions more agile, enabling them to target specific market demands and differentiate themselves from the competition. We also simplified processes to make the way we work more effective, more efficient and more agile. The objective is to satisfy customer requests in a more focused and targeted way and improve our reaction times so that our customers experience a new BASF.

We aim to put the customer at the center of our decisions and everything we do. Our ability to optimally combine our in-depth expertise with our wide range of resources reflects our ambition to be more than just a supplier. We position ourselves as a solution-oriented system provider. We want to work closely with our partners to develop custom solutions that are both profitable and sustainable. We contribute our expertise to optimize processes and applications together with our customers.

To even better understand our customers' needs, we regularly ask them for feedback on our performance. In 2019, we rolled out the Net Promoter System® worldwide to establish ongoing, closer dialog with customers and further increase customer satisfaction and customer loyalty. This digital platform creates a framework to learn from feedback and respond quickly.

In 2019, we also worked on an expanded IT-based customer relationship management system. We want to roll out this state-of-the-art, even more user-friendly application in 2020 to help sales employees deliver customer support.

We are also pursuing a series of measures that will increase transparency for our customers, enhance customer service and explore joint growth potential. Our comprehensive understanding of value

## Financials

chains and value creation networks as well as our global setup and market knowledge remain key success factors.

Our customers' satisfaction is the basis for our business 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.<sup>2</sup> In addition, we also meet industry and customer-specific quality requirements that go beyond the ISO standard.

In 2019, we once again received awards from a number of satisfied customers.

[For more information on customer awards, see BASF Report 2019, page 26.](#)

## Sales by industry

### >20%

- Chemicals and plastics

### 10–20% (in each case)

- Agriculture
- Consumer goods
- Transportation

### <10% (in each case)

- Construction
- Electronics
- Energy and resources
- Health and nutrition

<sup>1</sup> The method used to calculate customers in the previous year has been adjusted to the "sold-to" parties of our consolidated companies. The updated figure for 2017 is over 80,000 customers.

<sup>2</sup> ISO 9001 is a standard published by the International Organization for Standardization (ISO) and sets out the requirements for a quality management system.

## Portfolio

BASF actively manages its portfolio. In recent years, we have continuously optimized our portfolio through acquisitions, divestitures, partnerships and investments.

With a world market share of more than 40%, China is already the largest chemical market and drives the growth of global chemical production. We expect China's share to increase to nearly 50% by 2030. To continue to participate in this growth in Asia in the future, we are investigating the possibility of building an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. A framework and investment agreement for the project was signed with Guangdong provincial government in January 2019.

In addition, we are refining our portfolio through acquisitions that promise above-average profitable growth as part of the BASF Verbund to help reach a relevant market position. A key consideration is that these are innovation-driven or offer a technological differentiation, and make new, sustainable business models possible. Investments and acquisitions alike are prepared by interdisciplinary teams and assessed using various criteria. In this way, we ensure that economic, environmental and social concerns are included in strategic decision-making.

### Investments

We invested €3,839 million in property, plant and equipment in 2019 (previous year: €3,615 million). Capex<sup>1</sup> accounted for €3,349 million of this amount (previous year: €3,498 million). Our investments in 2019 focused on the Chemicals, Materials, Surface Technologies and Nutrition & Care segments.

In **Europe**, we strengthened the Verbund by replacing our acetylene plant in Ludwigshafen, Germany, which plays a central role for many products and value chains, with a modern, highly efficient plant.

### Business Segments

Construction continued for another production plant for vitamin A, which is scheduled for startup in 2021.

In Antwerp, Belgium, we are expanding our ethylene oxide complex. The project also includes several downstream plants, for example, for the production of surfactants.

In February 2020, BASF announced a new battery materials production site in Schwarzheide, Germany, as part of its multi-step investment plan to support the European electric vehicle (EV) value chain. This state-of-the-art plant will produce cathode active materials (CAM) with an initial capacity enabling the supply of around 400,000 full electric vehicles per year with BASF battery materials. The plant in Schwarzheide will use precursors (PCAM) from BASF's planned plant in Harjavalta, Finland. Startup of the two plants is scheduled for 2022.

In March 2020, Fortum, BASF, and Nornickel signed a letter of intent to plan a battery recycling cluster in Harjavalta, Finland. BASF intends to use recycled materials from the processes developed by the companies within this cooperation in its planned battery materials precursor plant in Harjavalta.

In **North America**, we continued construction of an MDI synthesis unit in Geismar, Louisiana. Startup is scheduled for 2020. We are expanding the output of the ibuprofen plant in Bishop, Texas.

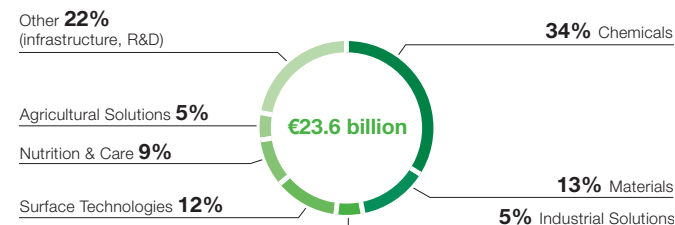
In **Asia**, we officially commenced the smart Verbund project in Zhanjiang, Guangdong province. In addition, we started up a plant for plastics additives in Shanghai, China in 2019.

[For more information on the planned Verbund site in Zhanjiang, see page 17.](#)

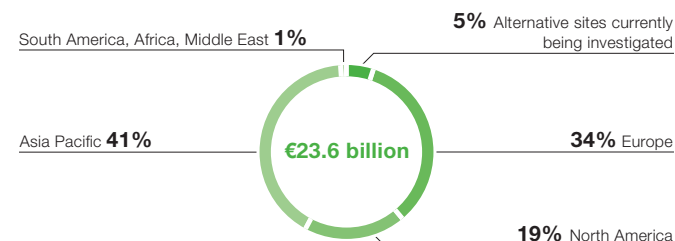
In October 2018, BASF and Sinopec signed a memorandum of understanding to expand the existing 50-50 joint venture, BASF-YPC Company Limited (BYC), at the Verbund site in Nanjing, China.

### Financials

#### Capex by segment 2020–2024



#### Capex by region 2020–2024



We are also evaluating a joint investment in a chemical complex in Mundra, India, together with our partners the Abu Dhabi National Oil Company (ADNOC), Abu Dhabi, United Arab Emirates; the Adani group, Ahmedabad, India; and Borealis AG, Vienna, Austria. The parties signed a memorandum of understanding to undertake a joint feasibility study in October 2019. BASF's main focus is the investment in the acrylics value chain. In line with BASF's stated goal of CO<sub>2</sub>-neutral growth until 2030, the partners are evaluating a globally unique concept to fully power the site with renewable energy.

<sup>1</sup> Additions to property, plant and equipment excluding acquisitions, restoration obligations, IT investments and right-of-use assets arising from leases.

**Capex: selected projects**

| Location   | Project  |
|--|--|
| Antwerp, Belgium                                 | Capacity expansion: integrated ethylene oxide complex<br>Gradual capacity expansion: alkoxylates |
| Geismar, Louisiana                               | Capacity expansion: MDI plant  |
| Harjavalta, Finland, and<br>Schwarzeide, Germany | Investment: battery materials  |
| Ludwigshafen, Germany                            | Construction: production plant for vitamin A   |
| Mundra, India                                    | Planned investment: acrylics value chain <sup>1</sup>  |
| Zhanjiang, China                                 | Planned construction: integrated Verbund site  |

<sup>1</sup> In cooperation with Adani Group

We are planning capital expenditures (additions to property, plant and equipment excluding acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases) of around €2.8 billion for the BASF Group in 2020. For the period from 2020 to 2024, we have planned capital expenditures totaling €23.6 billion. Of the planned capital expenditures, €8.2 billion relate to our major investment projects in Zhanjiang, China, and Mundra, India, and in our battery materials business.

**Acquisitions**

We also look into opportunities to selectively acquire businesses or assets to strengthen distinct growth areas or segments.

We added €3 million worth of property, plant and equipment through acquisitions in 2019. Additions to intangible assets was negative, at minus €37 million, due to the adjustment of the purchase price allocation for the businesses acquired from Bayer.

On September 26, 2019, we acquired Isobionics B.V., Geleen, Netherlands, an innovation leader in biotechnology. The company

**Business Segments**

develops and produces a wide range of natural flavors and fragrances with a focus on citrus oil components. The acquisition strengthens the Nutrition & Health division.

On January 31, 2020, BASF closed the acquisition of Solvay's integrated polyamide business, which was announced in September 2017. The acquisition broadens BASF's polyamide capabilities with innovative and well-known products such as Technyl® and enhances access to growth markets in Asia as well as in North and South America. Through the backward integration into the key raw material adiponitrile (ADN), BASF now has production plants along the entire value chain for polyamide 6.6. The transaction includes production sites in Germany, France, China, India, South Korea, Brazil and Mexico as well as research and development centers and technical consultation centers. Moreover, it includes shares in Butachimie SNC, a joint operation with Invista to produce ADN and hexamethylenediamine (HMD), and in Alsachimie S.A.S., a joint operation between BASF and Domo Chemicals to produce adipic acid. BASF acquired the polyamide business for a purchase price of €1.3 billion (on a cash and debt-free basis) and will integrate it into the Performance Materials and Monomers divisions within the Materials segment.

**Strategic acquisition criteria**

We want to acquire businesses which

- create more value as part of BASF's Verbund
- help achieve relevant market positions
- drive innovation or technological differentiation
- enable new and sustainable business models

**Financials**

**Divestitures**

On January 31, 2019, BASF and Solenis completed the transfer of BASF's paper and water chemicals business to Solenis as announced in May 2018. Since February 1, 2019, we have held a 49% share in Solenis, which is accounted for using the equity method. An equity-accounted interest in the amount of €590 million was added in this connection.

Following the approval of all relevant authorities, BASF and LetterOne completed the merger of Wintershall and DEA effective May 1, 2019. In September 2018, BASF and LetterOne had signed a transaction agreement to merge their respective oil and gas businesses in a joint venture. Shareholder loans were replaced by bank loans in the course of the merger. BASF and LetterOne intend to list Wintershall Dea on the stock exchange by way of an initial public offering (IPO). Since May 1, 2019, BASF's 72.7% interest in Wintershall Dea has been reported in the Consolidated Financial Statements of the BASF Group according to the equity method, with an initial valuation at fair value. The gain of €5.7 billion from the transition from full consolidation to the equity method is included in income after taxes from discontinued operations for the second quarter of 2019.

🔗 For more information, see page 67.

**Financial acquisition criteria**

We want to acquire businesses which

- provide a return on capital employed above the WACC after full integration into BASF Group
- are EPS accretive by year three at the latest
- contribute to growth of EBITDA before special items

On December 6, 2019, BASF India Limited sold its stilbene-based optical brightening agents (OBA) business for paper and powder detergent applications to Archroma India Private Limited, Mumbai, India. The production plant was part of the Performance Chemicals division and the stilbene-based OBA business was allocated to the Performance Chemicals and Care Chemicals divisions.

We completed the sale of the ultrafiltration membrane business to DuPont Safety & Construction (DuPont) on December 31, 2019. The divestiture includes the shares of Inge GmbH, the business' headquarters and production site in Greifenberg, Germany, including all employees, its international sales force and certain intangible assets. The ultrafiltration membrane business had been part of the Performance Chemicals division.

**Agreed transactions**

On August 29, 2019, BASF and DIC, Tokyo, Japan, reached an agreement on the acquisition of BASF's global pigments business. The purchase price on a cash and debt-free basis is €1.15 billion. The assets and liabilities to be divested were reclassified to a disposal group in the Dispersions & Pigments division as of this date. The transaction is expected to close in the fourth quarter of 2020, subject to the approval of the relevant competition authorities.

On December 21, 2019, we signed an agreement with an affiliate of Lone Star, a global private equity firm, on the sale of our construction chemicals business. The purchase price on a cash and debt-free basis is €3.17 billion. The transaction is expected to close in the third quarter of 2020, subject to the approval of the relevant competition authorities. The planned sale comprises the Construction Chemicals division, including more than 7,000 employees and production sites and sales offices in more than 60 countries.

The construction chemicals business generated sales of €2,553 million and EBITDA of €214 million in 2019. On signing of the agreements, a disposal group was established and the statement of income adjusted retroactively as of January 1, 2019, and for the comparative year 2018.

**Selected, closed transactions 2010 – June 2020**

**Acquisitions**

- Functional crop care
- Personal care and food ingredients
- Omega-3 fatty acids
- Enzymes
- Battery materials
- Specialty plastics
- Refinish coatings
- Surface treatment
- Seeds and crop protection
- Polyamide business

**~€8.8 billion sales**  
in emerging and innovation-driven businesses

Until closing, the income after taxes of the construction chemicals business will be presented in the income after taxes of BASF Group as a separate item ("Income after taxes from discontinued operations").

**Divestitures**

- Styrenics
- Fertilizers
- Natural gas trading and storage
- Custom synthesis business
- Textile chemicals
- Polyolefin catalysts
- Industrial coatings
- Leather chemicals
- Water and paper chemicals
- Oil & gas

**~€26.0 billion sales**  
in businesses with decreased differentiation potential

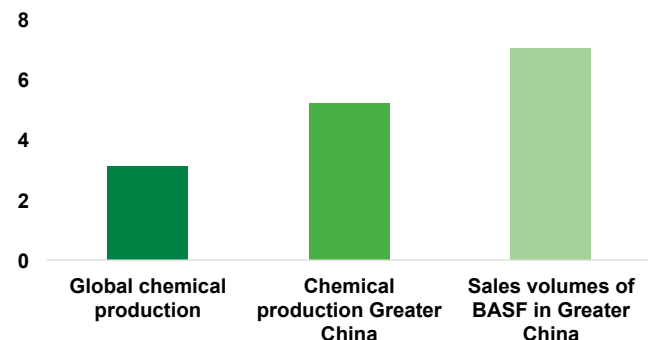


### New Verbund site in Zhanjiang

In recent years, market growth in China has been driven by increased domestic consumption, higher standards of living as well as more local value creation. China is the key market in Asia as well as globally – both for BASF and for the chemical industry overall.

### BASF's sales volumes outgrew Greater China's chemical production during the last five years

Real chemical production growth<sup>1</sup> (CAGR 2015-2019)  
%



<sup>1</sup> Source: BASF, real chemical production excluding pharmaceuticals (base year 2015)

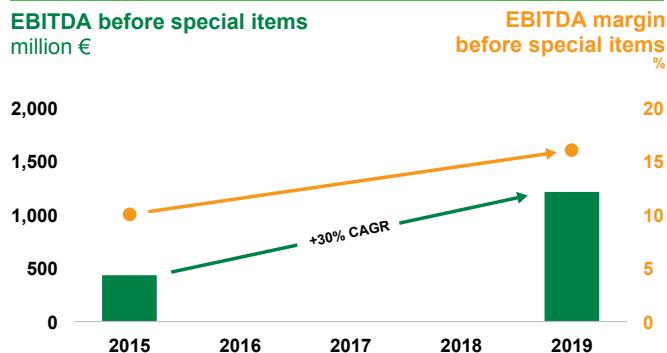
BASF is very well prepared to capture future growth in China. We have built an extensive network throughout the country:

- Shanghai is home to our Greater China headquarters and the Innovation Campus as well as the Caojing production site.
- Nanjing is the location of our Verbund site in a joint venture with Sinopec as well as a wholly owned site.
- In Chongqing, we operate a wholly owned MDI production complex.

These sites are the backbone of our activities in the region. In total, BASF has more than 9,000 employees in Greater China and 29 production sites close to our customers.

In 2019, our Greater China operations generated EBITDA before special items of more than €1.2 billion, which corresponds to an EBITDA margin before special items of 16%.

### Strong earnings development of BASF in Greater China



In January 2019, BASF and Guangdong province signed a framework agreement setting out details of BASF's plan to establish a new Verbund site in Zhanjiang. The new Verbund site will be BASF's largest investment and will be operated under the sole responsibility of BASF. On November 23, 2019, BASF officially launched its smart Verbund project and commenced building its first plants. The first plants will produce engineering plastics and thermoplastic polyurethane (TPU) to serve the increasing needs of various growth industries in the southern China market and throughout Asia.

Guangdong is home to fast-growing industries that are key customers for chemicals. For example, it is the province with the largest automotive production in China. The transportation industry has a very substantial presence: Automotive, high-speed railway and aviation companies form a strong customer base. Many internationally active electronics producers also have their production facilities there. Chemistry has been recognized by Guangdong authorities as a driving force for numerous downstream industries,

with BASF's new integrated site contributing to the industrial transformation of the province.

The new BASF Verbund site will benefit from Zhanjiang's natural resources, deepwater port, excellent transportation links and engaged workforce, as well as its cultural heritage and commitment to sustainable development.

According to the framework agreement, fundamental circular economy concepts will be incorporated into the new Verbund site in Zhanjiang to support customers in the region with sustainably produced solutions. At a Verbund site, resources are conserved through the use of waste and by-products as raw materials. As BASF's first implementation of a fully digital smart Verbund concept in a large-scale Verbund project globally, the site will be built on the basis of cutting-edge technologies that maximize resource and energy efficiency and reduce environmental impact. The site will be built in accordance with BASF's high global EHS standards and local laws and regulations.

The total BASF investment in Zhanjiang is estimated to reach up to US\$10 billion until 2030 and will be implemented in phases. The project will include a wholly owned steam cracker with a well-planned industrial cluster that will ensure better use of resources not only in production, but also in logistics and infrastructure. The start-up of the first plants is expected for 2022/2023 and the upstream plants are expected to begin operations around 2025.



## Innovation

**A growing need for food, energy and clean water for a booming world population, limited resources and protecting the climate – reconciling all these factors is the greatest challenge of our time. Innovations based on chemistry play a key role here, as they contribute decisively to new solutions. Effective and efficient research and development is a prerequisite for innovation as well as an important growth engine for BASF. We develop innovative processes, technologies and products for a sustainable future and drive forward digitalization in research worldwide. This is how we ensure our long-term business success with chemistry-based solutions for our customers in almost all industry sectors.**

Innovation has always been the key to BASF's success, especially in a challenging market environment. Our innovative strength is based on a global team of highly qualified employees with various specializations. We had approximately 11,000 employees involved in research and development in 2019. 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 using new technologies to tap into attractive markets and new business models for BASF.

In 2019, 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 further increase sales and earnings with new and improved products – especially with Accelerator products, which make a substantial sustainability contribution in the value chain.

### Global network in science and industry

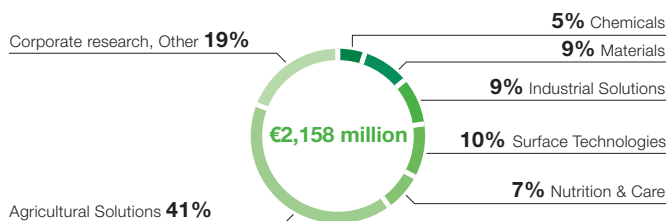
Our global network of outstanding universities, research institutes and companies forms an important part of our Know-How Verbund. It gives us direct access to external scientific expertise, talented minds from various disciplines as well as new technologies, and helps us to quickly develop targeted,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

Our eight academic research alliances bundle partnerships with several research groups in a region or with a specific research focus. The alliances are complemented by cooperations with around 300 universities and research institutes as well as collaborations with a large number of companies.

### Strategic focus

In 2019, research and development expenses amounted to €2,158 million, above the prior-year level (€1,994 million). The increase was mainly attributable to the research-intensive seed business, which BASF acquired from Bayer in August 2018. The operating divisions accounted for 81% of total research and development expenses in 2019. The remaining 19% related to cross-divisional corporate research focusing on long-term topics of strategic importance to the BASF Group.

### Research and development expenses by segment 2019



Our focus is on the development of value-adding innovations for our customers to secure our long-term competitiveness. In 2019, we brought research and development even closer together from an organizational perspective. Our aim is to continue to shorten the time to market and accelerate the company's organic growth.

We are fine-tuning our innovation strategies to ensure a balanced portfolio of incremental and breakthrough innovation, as well as of process, product and business model innovation. One of the steps taken in 2018 to further promote breakthrough innovation was the establishment of BASF's incubator, Chemovator GmbH, based in Mannheim, Germany. This actively nurtures promising business ideas with the help of external experts, who act as consultants, coaches, mentors or intermediaries. Above and beyond this, we are working on overarching projects with a high technological, social or regulatory relevance. For instance, our Carbon Management R&D Program is focusing on the energy-intensive production processes for basic chemicals. These account for around 70% of the CO<sub>2</sub> emissions produced by the European chemical industry. The program covers topics such as the development of new catalysts for dry reforming methane with CO<sub>2</sub> to produce syngas, and using methane pyrolysis to produce hydrogen from natural gas.

Our global research and development presence is vital to our success. 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.

The number and quality of our patents also attest to our power of innovation and long-term competitiveness. In 2019, we filed around 1,000 new patents worldwide. Also in 2019, we once again ranked among the leading companies in the Patent Asset Index, a method that compares patent portfolios industry-wide.

## Innovations in the segments – examples

**Chemicals:** In a research project on an **alternative production method for sodium acrylate**, we are investigating the use of CO<sub>2</sub> as a chemical feedstock. The focus is on finding more efficient and more resource-friendly synthesis methods. Sodium acrylate is an important starting material for superabsorbents, which are widely used in diapers and other hygiene products. Unlike the current propylene-based production method, the new process uses CO<sub>2</sub> and ethylene, which are converted using a catalyst. BASF experts have since made significant progress on this process. The use of CO<sub>2</sub> in the new process could replace around 30% of the fossil fuels.

**Materials:** The new insulation material **Cavipor® FTX 1** combines the advantages of a mineral-based insulation material with the easy, safe and clean processability of a foam system. Cavipor® FTX 1 offers an insulation performance comparable to mineral wool and expanded polystyrene (EPS) and is particularly suitable for the energetic renovation of buildings with double-wall masonry. One of its main advantages is how simple it is to process: The three aqueous initial components are aerated at the site, resulting in a flowable foam free from dust and fibers. It is then injected into the cavity of the wall. There, the foam cures and dries without further expansion, fixing it as a seamless insulating layer. These process advantages, plus the fact that Cavipor® FTX 1 is non-combustible, fiber-free and low-emission, make it a groundbreaking innovation.

**Industrial Solutions:** Preventing coatings from yellowing is key for automotive refinish coatings. **Basonat® HI NG** is an aliphatic polyisocyanate hardener for two-component polyurethane (2C PU) coatings. It provides outstanding durability and resistance against light and weather, enabling complex formulations with significantly reduced yellowing compared with standard HI-grade hardeners. With this new product, BASF fulfils the market's highest technical performance requirements.

**Surface Technologies:** Styrene is a building block of the plastics industry. With the recently launched styrene catalyst **StyroStar® S6-42 Select**, BASF has brought to market an innovation that reduces the formation of by-products such as benzene and toluene thanks to improved selectivity. StyroStar® S6-42 Select is a robust and durable catalyst, combining excellent mechanical stability with exceptional performance.

**Nutrition & Care:** **Nephydrat®** is a bioactive ingredient that supports the skin's barrier function and helps it to retain moisture, creating an even, fresh complexion. BASF sources the active ingredient from the spiny peel of the rambutan fruit, grown organically in close cooperation with local partners in Vietnam as part of a socially and environmentally responsible supply chain. Nephydrat® is preservative-free, 100% natural origin and certified according to the COSMOS standard for organic and natural cosmetics.

**Agricultural Solutions:** In 2019, we invested €879 million in research and development in the Agricultural Solutions division, representing around 11% of sales for the segment. Our well-stocked innovation pipeline now has an even stronger focus on sustainable solutions. We estimate the peak sales potential<sup>1</sup> of products with launch dates between 2019 and 2029 to be more than €7.5 billion. More than 30 pipeline products will be launched worldwide by 2029. In 2019, we successfully launched our new fungicide **Revysol®**. It meets the highest level of regulatory standards and offers outstanding biological performance against a range of difficult-to-control pathogens in specialty and row crops. **Luximo®** and **Tirexor®**, our herbicides to manage difficult-to-control grasses and broadleaf weeds, are expected to enter the market from 2020 onward. **Broflanilide**, our insecticide to help farmers protect specialty and field crops from insects such as potato beetles and caterpillars, is scheduled for market launch from 2020. We also launched **Poncho® Votivo® 2.0** seed treatment in 2019. It includes a systemic insecticide and two biological components to control insect pests and protect corn (maize) seed from disease-causing nematodes.

For seeds and traits, we will further strengthen our innovation pipeline with new traits, including the soybean technology in our **LibertyLink® GT27™** trait platform<sup>2</sup> that has been available to growers under the **Credenz®** brand as well as under licensee brands since 2019. We are constantly improving the seed genetics and trait innovations for our **FiberMax®** and **Stoneville®** cotton brands, for example with a proprietary herbicide tolerance product, which will be launched before mid-decade. New breeding tools will continue to speed up our innovation cycles for **InVigor®** canola seed. **LibertyLink®** yellow-seed canola can be grown under more challenging conditions and will provide new rotation options for wheat growers in drier areas of North America.

From mid-decade, **hybrid wheat seed** will help growers in North America and Europe to optimize yield, production stability and grain quality, as well as to improve profitability and sustainability. Recently launched vegetable seed innovations contribute to a healthy lifestyle and help reduce the environmental impact of food production.

Innovative breeding processes ensure a constant supply of commercially successful vegetable seed varieties, mainly marketed under the **Nunhems®** brand.

BASF will also apply precision technologies and digitalization to seize future innovation opportunities in agriculture. This includes new, outcome-based business models marketed under the **xarvio®** brand. These will enable farmers to achieve yield forecasts that have been agreed in advance.

<sup>1</sup> Peak sales describes the highest sales value to be expected in one year.

<sup>2</sup> GT27™ traits are developed and marketed in cooperation with MS Technologies LLC, West Point, Iowa.

**Growth opportunity battery materials**

In battery materials, BASF focuses on high-energy cathode active materials (CAM). In this business, chemical innovation is the biggest lever to improve energy density, reliability and safety and to reduce the cost of batteries for electric vehicles. BASF is the largest chemicals supplier to the automotive industry, with around 20% of sales to this market in 2019 and leading market positions in OEM coatings, engineering plastics and mobile emissions catalysts. BASF's unmatched access to OEMs and their suppliers enables an early understanding of market needs, leading to product development from a well-established position in the two key CAM technologies, NCA (Nickel-Cobalt-Aluminum) and NCM (Nickel-Cobalt-Manganese).

Headquartered in Shanghai, China, BASF's battery materials business unit currently generates annual sales in the triple-digit million-euro range. Battery materials is a very dynamic market, as OEMs have more than 300 electric vehicle models lined up for introduction in the next three to five years. The lithium-ion battery market is expected to grow at about 20-25% per year to 2030 (measured by GWh required). For 2030, we anticipate annual sales of around 25 million electric vehicles. Depending on the mix of powertrains and technological progress, this corresponds to a 1,500-2,500 kt market for cathode active materials, valued at €45-60 billion. BASF has the commitment and the financial strength required to drive the expansion of a global, cost-competitive asset footprint. A growing network of R&D and production assets in all major regions enables BASF's business growth in battery materials.

To complement its own assets, BASF has also entered into collaborations with TODA KOGYO. The partners jointly established two BASF majority-owned and controlled companies, BASF TODA Battery Materials LLC in Japan and BASF TODA America LLC in the United States. Founded in 2015 with a focus on the Asia Pacific region, BASF TODA Battery Materials tripled its capacity at the Onoda site in Japan in 2017. BASF TODA America combined BASF's and TODA KOGYO's North American production assets and was established in March 2018.

BASF has contracted the required base metal raw material supply with Nornickel and announced the construction of a precursor-CAM plant in Harjavalta, Finland, enabling a secure supply of locally sourced nickel and cobalt. The new plant will utilize locally generated renewable energy sources, including potential use of hydro, wind and biomass sources. Startup is planned for 2022.

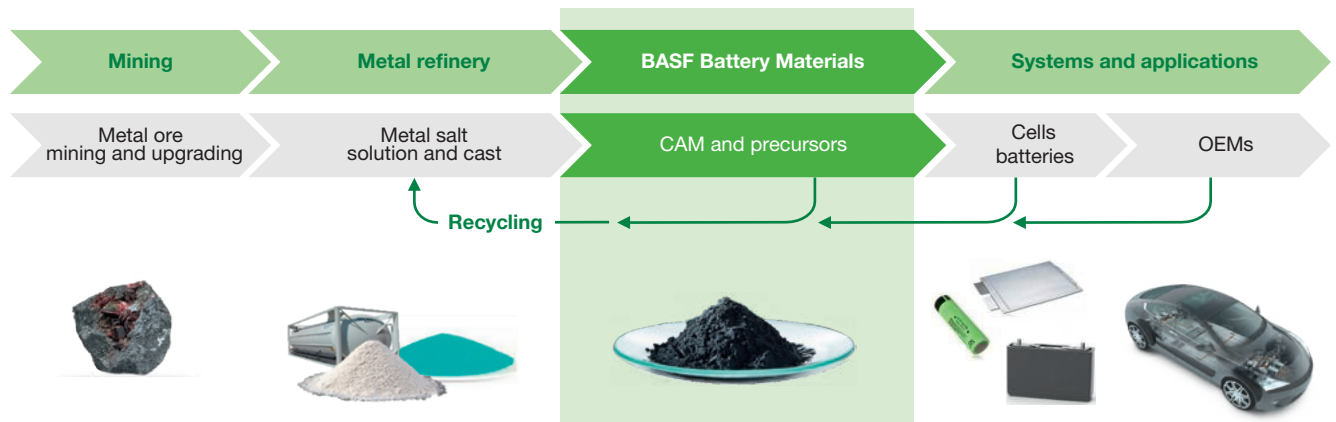
In February 2020, BASF announced further investment in Europe to strengthen its position in battery materials for electric vehicles. Specifically, it was announced that Schwarzheide, Germany, would be the location for CAM production in Europe enabling the supply of around 400,000 electric vehicles per year. The plant in Schwarzheide will use precursors manufactured in the Harjavalta plant. The Schwarzheide production plant will also use an industry-leading energy mix, lowering the CO<sub>2</sub> footprint, with startup also planned for 2022.

Together with Fortum and Nornickel, BASF has signed a letter of intent to plan a battery recycling cluster in Harjavalta to create a "closed loop" solution serving the electric vehicle market. BASF intends to use recycled materials from the processes developed within this cooperation at its planned battery materials precursor plant. The use of recycled material not only offers significant CO<sub>2</sub> reduction potential in the production of electric vehicles, additional emissions can also be avoided by using electricity from renewable sources in Finland for the recycling process.

Around the world, experts in the research division Process Research & Chemical Engineering are working on innovative cathode materials for lithium-ion batteries to meet the growing demand for powerful, reliable and low-cost electric vehicles. They aim to create the highest-density cathode materials on the market by making selective changes to the chemical composition, structure and the manufacturing process. The 2025 goal is to double the on-road range of a mid-size electric vehicle from 300 to 600 kilometers on a single battery charge, halve battery size and reduce charging time to 15 minutes.

**Electromobility value chain**

**BASF is well-positioned in the value chain with strategic partnerships to secure high-purity raw materials**



The chemistry of cathode active materials is key to addressing electromobility challenges

## Sustainability

**We are successful in the long term when we create 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. Using the various tools of our sustainability management, we carry out our company purpose: “We create chemistry for a sustainable future.”**

Based on our corporate strategy and the global targets derived from this, from the 2020 business year onward, we will integrate the main sustainability targets (CO<sub>2</sub>-neutral growth until 2030 and achieve €22 billion in Accelerator sales by 2025) into short-term Group-level steering as well, as most important key performance indicators. We started to establish the necessary steering mechanisms and control systems in 2019.

Our products, solutions and technologies help to achieve the United Nations’ Sustainable Development Goals (SDGs), for example, through climate protection measures. We also contribute to other goals, such as No poverty, Zero hunger, Good health and well-being, and Clean water and sanitation.

In 2019, we updated our materiality analysis, which is used to evaluate sustainability topics. Our material topics include climate and energy, health and safety/product stewardship, and human rights.

The integration of sustainability into core business activities and decision-making processes is steered by the Corporate Development unit. The Board of Executive Directors is regularly informed of the current status of individual sustainability topics, makes decisions, and monitors the implementation of strategic plans and target achievement. The Corporate Sustainability Board, which is composed of the heads of business, corporate and service units, and

regions, supports the Board of Executive Directors and discusses operational matters. A member of the Board of Executive Directors serves as chair.

We also established an external, independent Stakeholder Advisory Council in 2013. Here, international experts from academia and society contribute their perspectives to discussions with BASF’s Board of Executive Directors.

### Climate protection with carbon management

Climate protection is firmly embedded in our corporate purpose, “We create chemistry for a sustainable future,” and is a cornerstone of our strategy. We are committed to the Paris Climate Agreement and its goal of limiting global warming to below 2 degrees Celsius. Our innovative climate protection products, such as insulation materials for buildings or battery materials for

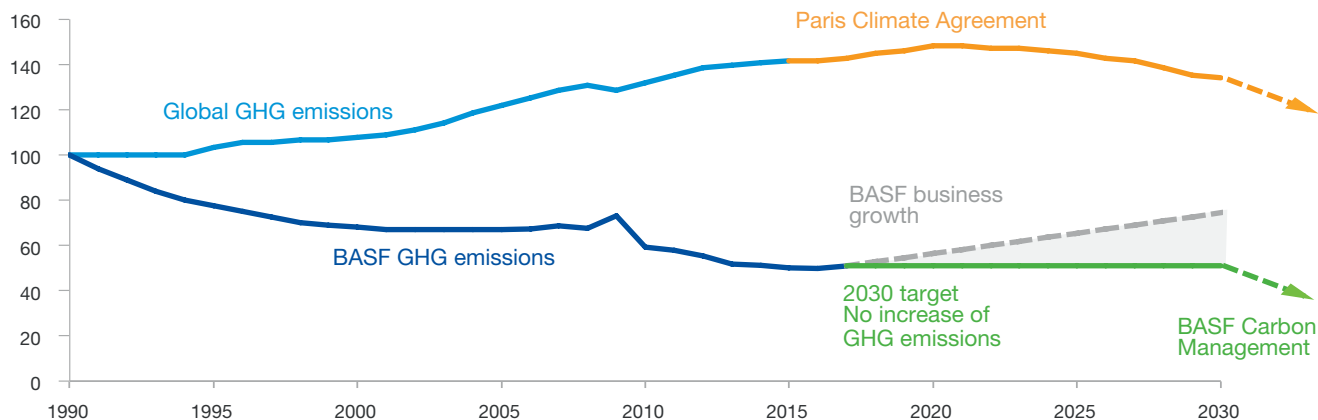
electromobility play a role here. We are also continually working to reduce our own carbon emissions. We have already almost halved our carbon emissions since 1990 through improvements to processes and methods – while simultaneously doubling sales product volumes.

### Reconciling climate protection and growth

Until 2030, we want to continue to grow our production without adding further CO<sub>2</sub> emissions.<sup>1</sup> Global activities to reach this climate protection target and reduce our greenhouse gas emissions over the long term are bundled in our carbon management. We have adopted a three-pronged approach: We aim to increase production and process efficiency, purchase electricity from renewable sources, and develop completely new low-emission technologies and processes. We want to use these to significantly reduce CO<sub>2</sub> emissions from 2030 onward.

## Absolute greenhouse gas (GHG) emissions

Indexed (1990 = 100)



<sup>1</sup> The goal includes other greenhouse gas emissions according to the Greenhouse Gas Protocol, which are converted into CO<sub>2</sub> equivalents.



### Further improving process and energy efficiency

We aim to make our plants even more efficient and further optimize resource use in our processes. That is why we have increased our budget for operational excellence from €250 million to €400 million annually, among other measures. Part of this goes toward initiatives to reduce our greenhouse gas emissions. When constructing new plants or developing new sites, we draw on our expertise and innovative technologies to optimize the use of raw materials and in this way, reduce CO<sub>2</sub> emissions.

CO<sub>2</sub> prevented by the Verbund and combined heat and power generation in 2019

**6.4** million metric tons

BASF's Verbund concept also plays a key role in increasing efficiency. It helps us to realize synergies across all segments and to efficiently steer value chains. Intelligently linking production and energy demand enables us to use fewer resources and reduce our emissions. Together, combined power and steam generation and our continuously enhanced Energy Verbund prevented a total of 6.4 million metric tons of carbon emissions in 2019. That is why we will continue to invest in the creation and optimization of Verbund structures and drive forward the consolidation of production at highly efficient sites.

### Increasing use of renewable energy

As part of carbon management, we aim to increase the proportion of renewable energy in the electricity purchased for our production sites. Twenty-three sites in Europe, North America and Asia already source emission-free electricity from suppliers.

Number of sites partially or fully powered by emission-free electricity in 2019

**23**

Together with our partners, we are also conducting a feasibility study to evaluate a pioneering supply concept for our planned chemical complex in Mundra, India. The aim is for the new site (scheduled production startup: 2024) to be entirely supplied with renewable energy, primarily from an attached wind and solar park. If realized, it would, to our knowledge, be the world's first petrochemical site with carbon-neutral energy supply.

### Pioneering research and development program

Most of our production processes and methods are already highly optimized, making further improvements to existing plants an increasingly difficult task. As a result, completely new technologies are needed to avoid greenhouse gas emissions over the long term and on a large scale. This is where our Carbon Management R&D Program comes in. The focus here is on the production of basic chemicals, which are used in many products and innovations and account for around 70% of the chemical industry's greenhouse gas emissions.

As part of this R&D program, we are developing an innovative, climate-friendly production process for hydrogen (methane pyrolysis) together with partners from academia and industry in a joint project sponsored by the German Federal Ministry of Education and Research. In a separate project, BASF developed a climate-friendly production process for methanol for which it filed an international patent in 2019. Other examples from our Carbon Management R&D Program include dry reforming methane to produce syngas as the basis for the production of olefins with a significantly lower carbon footprint, the development of an electrical heating concept for our steam crackers, or using CO<sub>2</sub> to produce sodium acrylate.

### Chemical recycling

The ChemCycling™ project launched by BASF in 2018 aims to manufacture products from chemically recycled plastic waste on an industrial scale. To do this, our partners use thermochemical processes to transform plastic waste into secondary raw materials such as pyrolysis oil. We can feed these into our production Verbund at the beginning of the value chain, reducing the use of fossil raw materials. The percentage of recycled materials can be allocated to certain products manufactured in the Verbund using a mass balance approach, and we can offer our customers certified products. These are indistinguishable from products manufactured from fossil feedstock.

In 2019, BASF invested €20 million in Quantafuel AS, a startup based in Oslo, Norway, that specializes in the pyrolysis of mixed plastic waste and the purification of the resulting oil. In the future, chemical recycling can help to reduce the amount of plastic waste that is disposed of in landfill or burned to produce energy. Chemical recycling complements mechanical recycling and is particularly suited to recycling mixed plastics or plastics with residues.

### Renewable resources

In 2019, around 5.3% of the raw materials we purchased worldwide were from renewable resources. We work on product innovations based on renewable raw materials, and we further established our biomass balance approach on the market in 2019. This approach aims to replace natural gas and naphtha at the beginning of the value chain with biomethane and bio-naphtha from certified sustainable production.

We aim to ensure that palm oil, palm kernel oil and their derivatives come from certified sustainable sources, and we actively support the Roundtable on Sustainable Palm Oil (RSPO). We purchased 140,400 metric tons of certified palm kernel oil in 2019, around 83.5% of our total purchase volume.

<sup>1</sup> Excluding the construction chemicals activities presented as discontinued operations; the figures for 2018 have been adjusted accordingly

**Portfolio steering based on sustainability performance**

A significant steering tool for our product portfolio, based on the sustainability performance of our products, is the Sustainable Solution Steering method. By the end of the 2019 business year, we had conducted sustainability analyses and assessments for 96.3% of our relevant portfolio<sup>1</sup> of more than 50,000 specific product applications, accounting for €51.9 billion in sales.<sup>2</sup> 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 is why we regularly re-assess our product portfolio.

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. Based on our corporate strategy, we have therefore 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. 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. In 2019, we achieved sales of €15.0 billion with Accelerator products (2018: €14.3 billion).<sup>2</sup> 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.

**Stakeholder engagement**

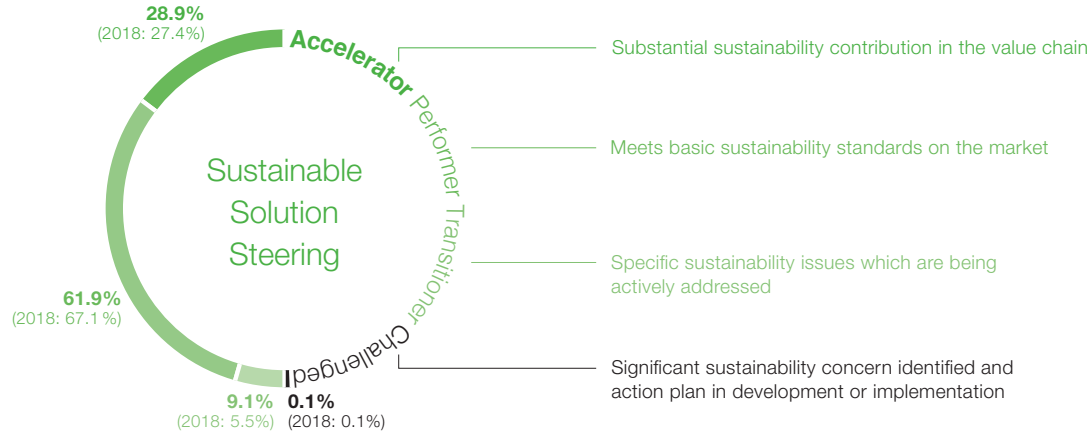
We are active in worldwide initiatives with various stakeholder groups. We have been a member of the U.N. Global Compact since its establishment in 2000. We support projects such as the U.N. Global Compact's Action Platforms on Decent Work in Global Supply Chains (SDG 8) and on Good Health and Well-being (SDG 3), and are a member of the U.N. Global Compact Expert Network. In addition, BASF is a founding member of a global sustainable finance initiative launched in December 2019 by a CFO taskforce. BASF is also active in 15 local Global Compact networks.

We advocate climate protection by supporting initiatives to this end. For instance, BASF spearheaded the World Economic Forum's initiative on Collaborative Innovation for Low-Carbon Emitting Technologies in the Chemical Industry.

In January 2019, BASF co-founded the Alliance to End Plastic Waste (AEPW) together with other companies from along the value chain – from plastics producers and consumer goods manufacturers to waste disposal companies. The AEPW has over 40 members, who together aim to develop solutions that avoid the discharge of plastic waste into the environment, especially the ocean. The focus is on four action areas: development of waste collection infrastructure, promotion of innovative recycling methods, education and engagement of various stakeholder groups, and clean-up of areas heavily affected by plastic waste. The AEPW intends to invest up to \$1.5 billion in various projects and cooperative ventures over the next five years, mainly in Asia and Africa.

Since 2004, we have participated in the international non-profit organization CDP's program for reporting on data relevant to climate protection. BASF achieved a score of A– in CDP's rating for 2019, thus attaining Leadership status again.

**Classification of relevant portfolio<sup>1,2</sup> according to the Sustainable Solution Steering method**



<sup>1</sup> The relevant portfolio is defined in the Sustainable Solution Steering Manual at [basf.com/en/sustainable-solution-steering](https://www.basf.com/en/sustainable-solution-steering)  
<sup>2</sup> Excluding the construction chemicals activities presented as discontinued operations; the figures for 2018 have been adjusted accordingly

BASF also supports the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In 2019, we shared learnings and best practices on the implementation of the TCFD recommendations with four industry peers at a TCFD Preparer Forum for Chemicals.

Our political advocacy is conducted in accordance with our publicly stated positions. For instance, in 2019 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.

For more information on the Industry Associations Review, see: [basf.com/corporategovernance](https://basf.com/corporategovernance)

### Responsibility for human rights

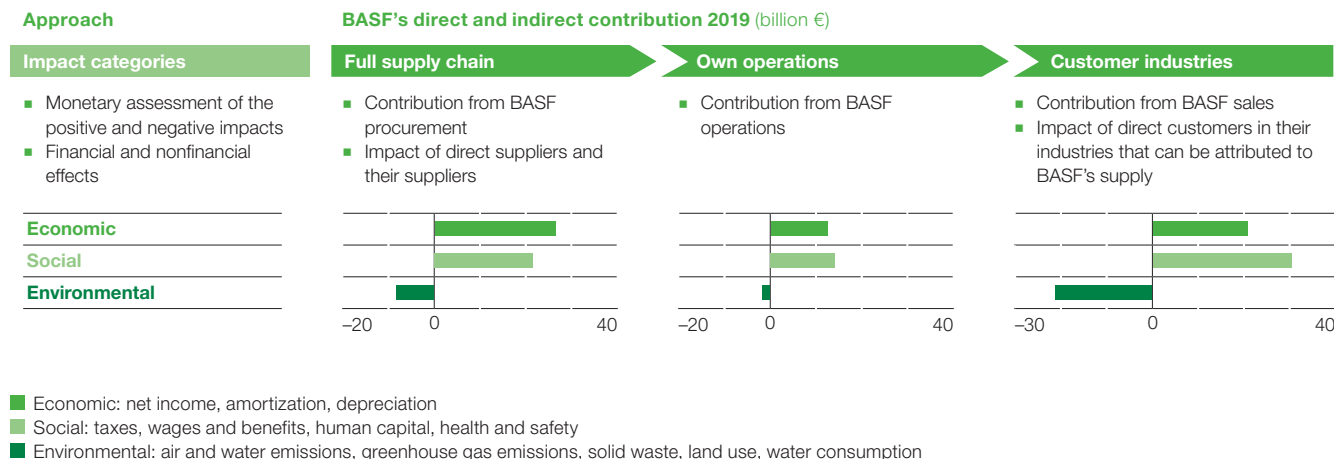
BASF acknowledges its responsibility to respect internationally recognized human rights. In 2019, we updated our human rights position based on the U.N. Guiding Principles on Business and Human Rights. To systematically incorporate external expertise, we decided to establish a Human Rights Advisory Council with independent, international human rights experts in 2020.

See [basf.com/humanrights](https://basf.com/humanrights) for more information

### Impact valuation

We are aware that our business activities have an impact on the environment and society, and we strive to increase our positive contribution and minimize the negative effects. We already have many years of experience from using methods such as Eco-Efficiency Analysis, the Sustainable Solution Steering portfolio analysis, or BASF's corporate carbon footprint. We also developed a method together with external experts to perform a monetary assessment of the economic, ecological, and social impacts of our business activities along the value chain – the Value-to-Society approach. This allows us to compare the significance of financial and nonfinancial effects of our business activities on society and show interdependencies.

#### Value-to-Society: BASF's economic, social and environmental contribution



In 2019, we founded the value balancing alliance e.V. together with other international companies. With the support of major auditing firms, the Organisation for Economic Co-operation and Development (OECD), leading universities and other partners, the cross-industry alliance aims to develop an accounting and reporting standard within the next three years 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 in monetary terms on the basis of a standardized, uniform framework.

## Employees

**Our employees make a significant contribution to BASF's long-term success. We want to attract and retain talented people and support them in their development.**

### Strategy

Our employees are key to the successful implementation of BASF's strategy. We are convinced of the value of excellent employees, leaders and working conditions. Our new corporate strategy promotes a working atmosphere based on mutual trust, in which employees are given the space to optimally develop their individual talents and potential. This positions us to meet the challenges of a rapidly changing environment, demographic change and the digital workplace. In everything we do, we are committed to complying with internationally recognized labor and social standards. We want our working conditions to be a motor for innovation, and one way of achieving this is through inclusion of diversity.

For us, diversity means, among other things, having people from different backgrounds who can draw on their individual perspectives and skills. This diversity is important to us because it enables our employees to better meet our customers' needs. By valuing and promoting employee diversity, we boost our teams' performance and power of innovation, and increase creativity and motivation.

We also promote diversity in leadership development. Since 2015, BASF has set itself global quantitative goals for increasing the percentage of women in leadership positions. Our target was to increase this ratio to 22–24% worldwide by 2021. In the BASF Group, the global proportion of female leaders with disciplinary responsibility was 23.0% at the end of 2019 (2018: 21.7%). To further strengthen diversity, BASF is setting a new, more ambitious target. By 2030, we aim to increase the proportion of women in leadership positions with disciplinary responsibility to 30%.

### Business Segments

BASF can rely on the engagement of its employees. This is shown by, for example, a passion for the job, a dedication to top performance and a commitment to BASF. Global employee surveys are an established feedback tool in the BASF Group. The results are communicated to employees, the Board of Executive Directors and the Supervisory Board. As part of the BASF strategy, we set ourselves the following goal in 2018: More than 80% of our employees feel that at BASF, they can thrive and perform at their best. We regularly calculate employee engagement level as an index score based on five questions on set topics in our employee surveys. Our 2019 employee survey showed an engagement index of 79%. Despite significant challenges associated with restructuring measures, this score is already close to the target we set ourselves. We continue to aim to increase this score to over 80%.

We act responsibly toward our employees. Part of this is our voluntary commitment to respecting international labor and social standards, which we have embedded in our global Code of Conduct. This encompasses internationally recognized labor norms as stipulated in the United Nations' Universal Declaration of Human Rights, the OECD Guidelines for Multinational Enterprises, and Social Policy of the International Labour Organization (ILO). BASF is committed to complying with these standards worldwide.

### Number of employees

As of December 31, 2019, the number of employees decreased to 117,628 employees compared with 122,404 employees as of December 31, 2018. That includes 6,964 employees in the disposal group for the construction chemicals business as of December 31, 2019 (December 31, 2018: 2,017 employees in the disposal group for the oil and gas business). We employed 3,161 apprentices<sup>1</sup> (2018: 3,174). 2,606 employees were on temporary contracts (of whom 44.0% were women).

### Financials

#### BASF Group employees by region

|                                    | December 31, 2019 | %    |
|------------------------------------|-------------------|------|
| Europe                             | 72,153            | 61.3 |
| Thereof Germany                    | 54,028            | 45.9 |
| North America                      | 19,355            | 16.5 |
| Asia Pacific                       | 18,634            | 15.8 |
| South America, Africa, Middle East | 7,486             | 6.4  |

The BASF Group hired 8,026 new employees in 2019. The percentage of employees who resigned during their first three years of employment – the early turnover rate – was 1.4% worldwide in 2019. This turnover rate was 0.7% in Europe, 2.1% in North America, 2.8% in Asia Pacific and 2.0% in South America, Africa, Middle East. Our early turnover rate is therefore at a desirable low level.

### Compensation and benefits

We want to attract engaged and qualified employees, retain them and motivate them to achieve top performance with an attractive package including market-oriented compensation, individual development opportunities and a good working environment. Our employees' compensation is based on global compensation principles according to position, market and performance. As a rule, compensation comprises fixed and variable components as well as benefits that often exceed legal requirements. In many countries, these benefits include company pension benefits, supplementary health insurance and share programs. We regularly review our compensation systems at local and regional levels.

We want our employees to contribute to the company's long-term success. This is why the compensation granted to the vast majority of our employees includes variable compensation components, with which they participate in the success of the BASF Group as a whole and are recognized for their individual performance.

<sup>1</sup> At BASF, the apprenticeship program trains students for technical, scientific and business vocations as well as for trade and craft professions.

We use the BASF Group's return on capital employed (ROCE) to measure economic success for the purposes of variable compensation. This links variable compensation to our ROCE target.<sup>1</sup> Individual performance is assessed as part of a globally consistent performance management process.

**BASF Group personnel expenses**

| Million €   | 2019          | 2018          | +/-         |
|---|---------------|---------------|-------------|
| Wages and salaries                                    | 8,825         | 8,470         | 4.2%        |
| Social security contributions and assistance expenses | 1,545         | 1,459         | 5.9%        |
| Pension expenses                                      | 554           | 730           | (24.1%)     |
| <b>Total personnel expenses</b>                       | <b>10,924</b> | <b>10,659</b> | <b>2.5%</b> |

**Compliance Program and Code of Conduct**

In a rapidly changing and highly competitive world, it is vital to stay focused on what really matters to us at BASF. Our values – creative, open, responsible, and entrepreneurial – help us do this. They remind us of what BASF stands for and serve as a yardstick for how we do business.

We are strictly committed to high standards of legal compliance and business ethics. Our Code of Conduct defines the boundaries within which BASF employees must act to comply with laws and internal policies. By doing so, it protects BASF and each employee.

Our Code of Conduct guides us to put our values and commitments into practice – throughout the company, and in everything we do. It helps us navigate through areas and situations where responsible conduct and ethical decision-making are critically important. Only when we fully comply with our Code of Conduct, and all laws and

**BASF's Code of Conduct**



**We care**

- Our Code of Conduct
- How we make decisions
- We always speak up
- We lead integrity



**We earn trust**

- Anti-corruption
- Trade control
- Anti-money laundering



**We play fair**

- Antitrust laws
- Gifts and entertainment
- Conflicts of interest



**We respect**

- Human rights, labor and social standards
- Environmental protection, health and safety



**We protect**

- Sensitive company information
- Personal data
- Digital responsibility
- Company property
- Accurate books and records

regulations, we can achieve our aspiration to be the world's leading chemical company, respected and trusted by our customers, investors, employees and all other stakeholders.

Our efforts are principally aimed at preventing violations from the outset. We perform systematic risk assessments to identify the risk of compliance violations, including corruption risks. These are conducted at divisional, regional and country levels. The regular compliance audits performed by the Corporate Audit department are another source for the systematic identification of risks. These risks are documented in the relevant risk or audit report. The same applies to specific risk minimization measures as well as the time frame for their implementation.

One key element in the prevention of compliance violations is compulsory training and workshops held as classroom or online courses. All employees are required within a prescribed time frame to take part in basic compliance training, refresher courses and special tutorials dealing with, for example, antitrust legislation, taxes or trade control regulations. Training senior executives is a particular focus. For instance, all newly appointed senior executives attend

mandatory classroom training. Course materials and formats are constantly updated, taking into account the specific risks of individual target groups and business areas. In total, more than 55,000 participants worldwide received around 64,000 hours of compliance training in 2019.

[For more information on the BASF Code of Conduct, see basf.com/code\\_of\\_conduct](https://www.basf.com/code_of_conduct)

**Code of Conduct**  
forms core of our Compliance Program

**More than 55,000**  
participants in compliance training

**86 internal audits**  
conducted on compliance

<sup>1</sup> In calculating ROCE, adjustments are made for negative and positive special items resulting from acquisitions and divestitures (e.g., integration costs in connection with acquisitions and gains or losses from the divestiture of businesses) when these exceed a corridor of plus or minus 1% of the average cost of capital basis. An adjustment of the ROCE (in the first 12 months after closing) therefore only occurs in cases of exceptionally high special items resulting from acquisitions and divestitures.





2

# Business Segments

|   |           |
|---|-----------|
| <b>Business Segments</b>                            | <b>30</b> |
| <b>Chemicals</b>                                    | <b>32</b> |
| Petrochemicals                                      | 34        |
| Intermediates                                       | 36        |
| <b>Materials</b>                                    | <b>38</b> |
| Performance Materials                               | 40        |
| Monomers  | 42        |
| <b>Industrial Solutions</b>                         | <b>44</b> |
| Dispersions & Pigments                              | 46        |
| Performance Chemicals                               | 48        |
| <b>Surface Technologies</b>                         | <b>50</b> |
| Catalysts   | 52        |
| Coatings  | 54        |
| <b>Nutrition &amp; Care</b>                         | <b>56</b> |
| Care Chemicals                                      | 58        |
| Nutrition & Health                                  | 60        |
| <b>Agricultural Solutions</b>                       | <b>62</b> |
| Agricultural Solutions                              | 64        |
| <b>Other</b>  | <b>66</b> |
| <b>Non-integral Shareholding in Wintershall Dea</b> | <b>67</b> |

# Business Segments

Since January 1, 2019, BASF's eleven divisions are grouped into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. This segment structure sharpens our portfolio and increases transparency. Businesses are clustered to improve customer experience and to fully realize Verbund synergies as exemplified by the "connectors" in the graphic below:

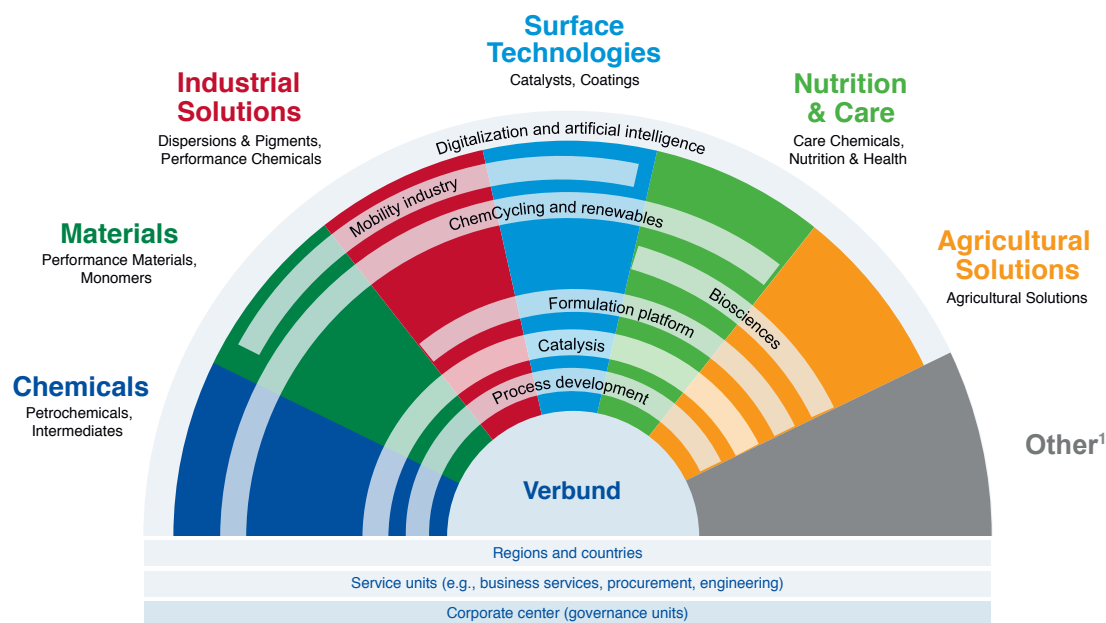
- We develop our production processes using a central R&D platform. As a result, plants in different businesses can benefit from the experiences of others.
- Catalysis is a core technology that is fundamental to more than 90% of our production.

- We have unique formulation know-how that is used in many businesses and allows us to support customers.
- Biosciences and the markets for nutritional products combine elements of the Nutrition & Care segment and the Agricultural Solutions segment.
- In many cases, different businesses supply the same customer industry. The most prominent example is the automotive industry.
- We are building up a Digital Verbund to harvest advantages from the vast amount of data we collect across all segments.

Information on the business development of the segments in 2020, including impacts of the coronavirus pandemic, can be found in BASF's quarterly statements.

### Key facts

- 6 segments comprising 11 operating divisions with 76 strategic business units
- Our portfolio ranges from basic petrochemicals to agricultural solutions
- The divisions and strategic business units are organized according to business models and value chains
- In around 70% of our businesses, we are in one of the top three market positions



<sup>1</sup> Since the signing of a divestment agreement, Construction Chemicals is reported as a discontinued operation and the respective assets are reported under Other

## Key figures

Percentage 2019

|                               |                          | Sales | EBIT before special items |
|-------------------------------|--------------------------|-------|---------------------------|
| <b>Chemicals</b>              | - Petrochemicals         | 16%   | 17%                       |
|                               | - Intermediates          |       |                           |
| <b>Materials</b>              | - Performance Materials  | 20%   | 22%                       |
|                               | - Monomers               |       |                           |
| <b>Industrial Solutions</b>   | - Dispersions & Pigments | 14%   | 18%                       |
|                               | - Performance Chemicals  |       |                           |
| <b>Surface Technologies</b>   | - Catalysts              | 22%   | 15%                       |
|                               | - Coatings               |       |                           |
| <b>Nutrition &amp; Care</b>   | - Care Chemicals         | 10%   | 17%                       |
|                               | - Nutrition & Health     |       |                           |
| <b>Agricultural Solutions</b> | - Agricultural Solutions | 13%   | 24%                       |
| <b>Other</b>                  |                          | 5%    | (13%)                     |

## Organization of the BASF Group

BASF's segment structure allows for a differentiated steering of our businesses according to their market-specific competitive environment. It increases transparency regarding the results of our segments and divisions and highlights the importance of the Verbund and value chains to our business success. BASF aims to clearly position its businesses against their relevant competitors and establish a high-performance organization to enable BASF to be successful in an increasingly competitive market environment.

The **Chemicals** segment comprises the Petrochemicals and Intermediates divisions and is the cornerstone of BASF's Verbund structure. It supplies the other segments with basic chemicals and intermediates, contributing to the organic growth of our key value chains. Alongside internal transfers, customers include the chemical and plastics industries. The segment's competitiveness is strengthened by technological leadership and operational excellence.

The **Materials** segment is composed of the Performance Materials division and the Monomers division. The segment offers advanced materials and their precursors for new applications and systems. Its product portfolio includes isocyanates and polyamides as well as inorganic basic products and specialties for plastics and plastics processing.

The **Industrial Solutions** segment consists of the Dispersions & Pigments and the Performance Chemicals divisions. The segment develops and markets ingredients and additives for industrial applications, such as polymer dispersions, pigments, resins, electronic materials, antioxidants and additives. Its customers come from key industries such as automotive, plastics and electronics.

The **Surface Technologies** segment bundles chemical solutions for surfaces with the Catalysts and Coatings divisions. Its product spectrum includes catalysts and battery materials for the automotive and chemical industries, surface treatments, colors and coatings.

### Business Segments

Business Segments

The **Nutrition & Care** segment comprises the Care Chemicals division and the Nutrition & Health division. The segment produces ingredients and solutions for consumer applications in the areas of nutrition, home and personal care. Its customers include food and feed producers as well as the pharmaceutical, cosmetics, detergent and cleaner industries.

The **Agricultural Solutions** segment consists of the division of the same name. As an integrated provider, its portfolio comprises fungicides, herbicides, insecticides and biological crop protection products, as well as seeds and seed treatment products. Furthermore, Agricultural Solutions offers farmers innovative solutions, including those based on digital technologies, combined with practical advice.

Activities that are not allocated to any of the segments are recorded under **Other**. These include other businesses, which comprise commodity trading, engineering and other services, as well as rental income and leases. Discontinued operations and all remaining activities after divestitures not previously reported under Other have also been reported here since January 1, 2019.

Some of the investments accounted for using the equity method 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. To increase reporting transparency, these are classified since January 2020 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. Consequently, in the future, income from non-integral companies accounted for using the equity method will no longer be presented in the BASF Group's EBIT and EBIT before special items (reported under "Other"), 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 will also be shown separately in the balance sheet. The statement of income for 2019 has been restated accordingly.

## Each segment has a clear and compelling path forward

|                  | Chemicals                 | Materials                  | Industrial Solutions | Surface Technologies               | Nutrition & Care                    | Agricultural Solutions  |
|------------------|---------------------------|----------------------------|----------------------|------------------------------------|-------------------------------------|---|
| Core theme       | Verbund                   | Advanced materials         | Additives platform   | Surface modification platform      | Consumer ingredients                | Integrated offering of crop protection, seeds & traits, digital farming |
| Innovation focus | Improved or new processes | Applications, biomaterials | Formulations         | Battery materials, surface effects | Biotechnology, formulations         | Crop protection, seeds & traits, digital farming                        |
| Capex relevance  |                           |                            |                      |                                    |                                     |   |
| M&A relevance    |                           |                            |                      |                                    |                                     |   |
| Sustainability   | ChemCycling™              | Bio-based materials        | More from less       | Low-emission mobility              | Bio-based and natural, traceability | Better with less  |



# Chemicals

The Chemicals segment consists of the Petrochemicals and Intermediates divisions. It supplies the other segments with basic chemicals and intermediates, contributing to the organic growth of our key value chains. Alongside internal transfers, our customers mainly come from the chemical and plastics industries. We aim to expand our competitiveness through technological leadership and operational excellence.

## Divisions

### Petrochemicals

Broad portfolio of high-quality basic chemicals and specialties tailored to the needs of internal and external customers from industries such as chemicals and plastics

[page 34](#)

### Intermediates

Comprehensive portfolio of intermediates and specialties, which are used as precursors for products such as coatings, plastics, textile fibers, pharmaceuticals and crop protection products

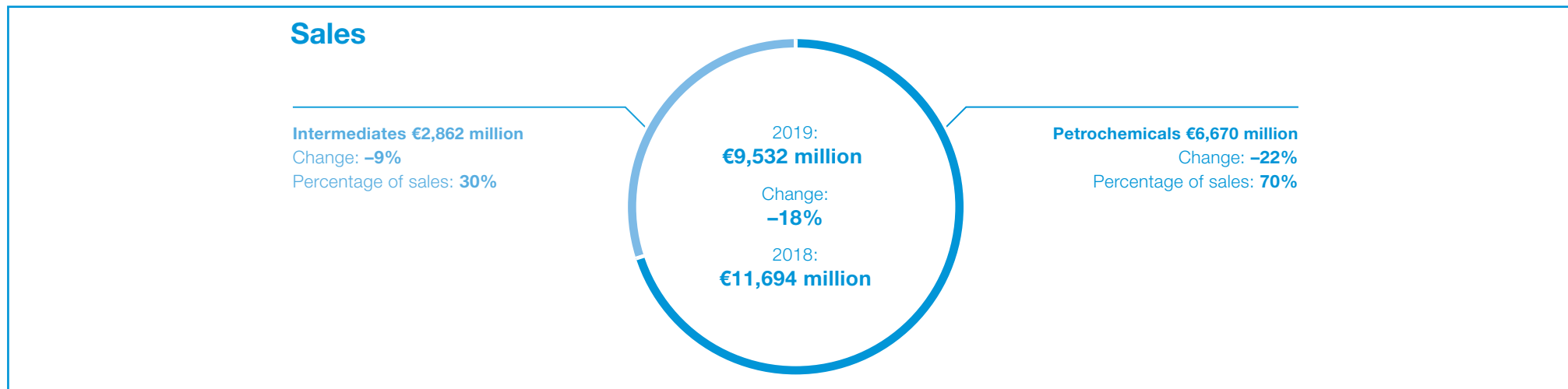
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In Ludwigshafen, Germany, BASF has started up a replacement acetylene plant with an annual capacity of 90,000 metric tons. This further strengthens the long-term competitiveness of the site.

BASF has developed a proprietary, multi-stage chemical process. Compared with the old plant, the new plant uses around 10% less fossil feedstock (such as natural gas) for this process per metric ton of end product. In addition, the new plant also generates less by-product per metric ton of end product.

## Sales 2019



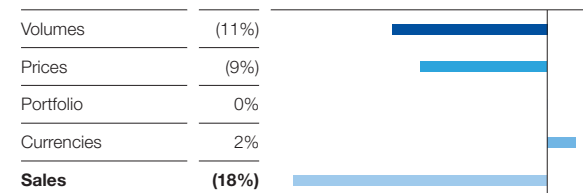
## Segment data Chemicals

Million €

|   | 2019  | 2018   |
|---|-------|--------|
| Sales to third parties  | 9,532 | 11,694 |
| Share of total BASF sales   | % 16  | 19     |
| of which Petrochemicals   | 6,670 | 8,561  |
| Intermediates   | 2,862 | 3,133  |
| Income from operations before depreciation and amortization (EBITDA) before special items | 1,574 | 2,245  |
| Income from operations before depreciation and amortization (EBITDA)                      | 1,545 | 2,234  |
| EBITDA margin   | % 16  | 19     |
| Income from operations (EBIT) before special items  | 791   | 1,587  |
| EBIT before special items margin  | % 8   | 14     |
| Income from operations (EBIT)   | 622   | 1,573  |
| EBIT margin   | % 7   | 13     |
| Return on capital employed (ROCE)   | % 6.8 | 17.7   |

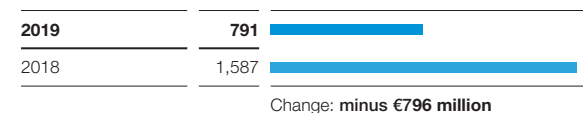
## Factors influencing sales

2019 versus 2018



## EBIT before special items

Million €



## Petrochemicals

The Petrochemicals division is the cornerstone of BASF's petrochemical-based value chains throughout the regions. The division manufactures and markets a broad portfolio of high-quality basic chemicals and tailored specialties for internal and external customers.

### Portfolio

#### Cracker products

BASF produces the entire range of cracker products from ethylene and propylene to butadiene, butenes and benzene. Propylene is the most important starting product for BASF's value chains.

#### Acrylic monomers and superabsorbent polymers

BASF is a technology leader in acrylic acid and the world's largest and most widespread producer of acrylic monomers, which are sold to internal and external customers in the form of acrylic acid, acrylic esters and specialty acrylates. Acrylic monomers are used as precursors to manufacture acrylic polymers and polymer dispersions for various applications such as:

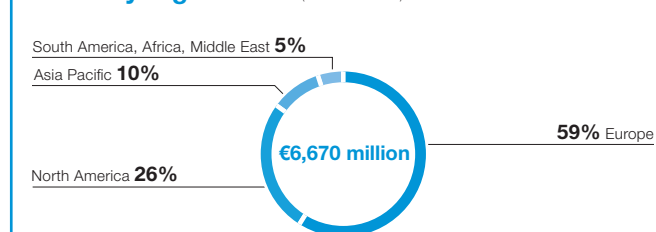
- Superabsorbent polymers
- Adhesives
- Flocculants
- Coatings
- Surfactants

BASF supplies innovative hygiene solutions globally that contribute to sustainable development. Superabsorbent polymers (SAP) are used in various hygiene applications, such as baby diapers, adult incontinence products and feminine hygiene articles. With our global production network, we are close to our customers. Through our market knowledge and R&D expertise, we aim to foster trusted relationships with customers and partners in the global hygiene industry.

### Business Segments

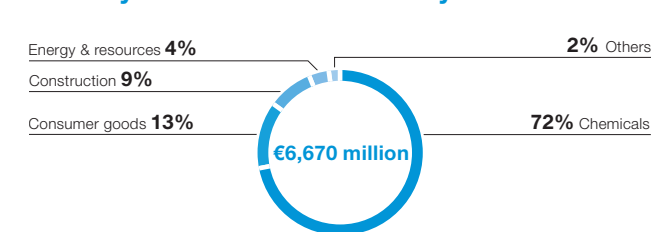
#### Chemicals

#### Sales by region 2019 (location of customer)



### Financials

#### Sales by direct customer industry 2019



#### Alkylene oxides and glycols

Ethylene oxide derived from ethylene is used mainly to produce surfactants, ethanolamines, glycols, glycol ethers and polyols. Ethylene glycol is used in antifreeze applications and the production of fibers, films and PET (polyethylene terephthalate) plastic bottles.

#### Alcohols and solvents

BASF is the world's largest producer of oxo alcohols and is also a major producer of oxygenated solvents in Europe, including acetates, glycol ethers, glycol ether acetates and specialty solvents. Our major customer industries are paints and coatings, pharmaceuticals and cosmetics.

#### Plasticizers

BASF manufactures general purpose and special purpose plasticizers, which are used to make rigid PVC flexible. One product is the plasticizer Hexamol<sup>®</sup> DINCH, whose excellent toxicological profile makes it ideal for applications with close human contact, such as toys and medical products.

#### Styrenic foams

Styrenic foams include expandable polystyrene (EPS), Styropor<sup>®</sup> and its refinement Neopor<sup>®</sup> as well as Styrodur<sup>®</sup> (XPS). These insulating materials are at the forefront of eco-efficient construction. Styropor<sup>®</sup> products offer high stability as well as good shock absorption and are therefore particularly suitable for packaging of

technical applications or food. Styrene and polystyrene are produced mainly for captive use with some additional external sales.

#### BASF's market position

- Acrylic monomers: No. 1 globally
- Oxo alcohols: No. 1 globally
- Ethylene oxide and ethylene glycols: No. 2 in Europe
- Solvents: No. 2 in Europe
- Plasticizers: No. 3 in Europe
- Superabsorbents: No. 2 globally
- Expandable polystyrene: No. 1 (grey), No. 2 (white) in Europe

#### Main competitors

- Cracker products: SABIC, Dow, ExxonMobil Chemical, Sinopec, LyondellBasell
- Acrylic monomers: Dow, Nippon Shokubai, Arkema
- Ethylene oxide and glycols: Dow, SABIC, Sinopec, INEOS Oxide, Shell Chemicals
- Alcohols and solvents: Dow, Eastman, ExxonMobil Chemical, Oxea, Evonik, Sinopec
- Plasticizers: ExxonMobil Chemical, Eastman, Evonik
- Superabsorbents: Evonik, Nippon Shokubai, Sanyo, LG Chem
- Expandable polystyrene: Loyal, Wuxi Xingda, Synthos

## Focus of research and development

To be the leading producer of petrochemicals, we aim to set the benchmark for cost competitiveness and environmental footprint. The focus is on developing new processes and optimizing our existing ones. We want to be a thought and action leader in sustainability with a special focus on CO<sub>2</sub>-neutral growth. In terms of product innovation, we advance research in the field of superabsorbent polymers and styrenics.

## Key capabilities of BASF

- Strong Verbund sites with world-scale production facilities
- Leading process technology and operational excellence
- Strong global market position with regional production
- Highly qualified and experienced personnel
- Outstanding market knowledge and technical capabilities

## Acquisitions/JVs/investments/divestitures

from 2017 onward

| Product group                   | Description  | Year       |
|---------------------------------|--|------------|
| Superabsorbents                 | New technology SAVIVA® in Antwerp, Belgium   | 2017       |
| Styrenic foams                  | Closure of XPS production in Schwarzheide, Germany   | 2017       |
| Palatino® DOTP                  | Conversion of plasticizer production in Pasadena, Texas, to DOTP   | 2017       |
| Ethylene, propylene             | Feedstock flexibilization of steam cracker in Antwerp, Belgium   | 2019       |
| Ethylene oxide                  | Expansion of integrated EO complex in Antwerp, Belgium   | 2022       |
| Cracker products and downstream | Establishment of an integrated Verbund site in Zhanjiang, Guangdong, China (framework agreement)                   | until 2030 |
| Acrylics value chain            | Joint investment in acrylics value chain in Mundra, India, together with Adani Group (memorandum of understanding) | 2025       |

## Innovation



### CO<sub>2</sub> as chemical feedstock for sodium acrylate

Sodium acrylate is an important starting material for superabsorbents. Unlike the current propylene-based production method, a new process uses CO<sub>2</sub> and ethylene, which are converted using a catalyst. BASF experts have demonstrated that it can be successfully implemented at laboratory scale. The use of CO<sub>2</sub> could replace around 30% of the fossil fuels, provided that a larger-scale process also proves to be stable and energetically favorable.

## Major nameplate capacities of BASF

thousand metric tons per year

| Product group                        | Location         |                  |                  |                 |                    |                  |                   |                       |                  |                 |                    |                  |                    | Total |
|--------------------------------------|------------------|------------------|------------------|-----------------|--------------------|------------------|-------------------|-----------------------|------------------|-----------------|--------------------|------------------|--------------------|-------|
|                                      | Antwerp, Belgium | Camaçari, Brazil | Cornwall, Canada | Freeport, Texas | Geismar, Louisiana | Rayong, Thailand | Kuantan, Malaysia | Ludwigshafen, Germany | Nanjing, China   | Pasadena, Texas | Port Arthur, Texas | Tarragona, Spain | Ulsan, South Korea |       |
| Ethylene                             | 1,080            | –                | –                | –               | –                  | –                | –                 | 620                   | 740 <sup>1</sup> | –               | 1,040 <sup>4</sup> | –                | –                  | 3,480 |
| Propylene                            | 650              | –                | –                | –               | –                  | –                | –                 | 350                   | 370 <sup>1</sup> | –               | 890 <sup>4</sup>   | 350 <sup>3</sup> | –                  | 2,610 |
| Butadiene                            | 155              | –                | –                | –               | –                  | –                | –                 | 105                   | 130 <sup>1</sup> | –               | 290 <sup>4</sup>   | –                | –                  | 680   |
| Benzene                              | 280              | –                | –                | –               | –                  | –                | –                 | 300                   | 130 <sup>1</sup> | –               | 200 <sup>4</sup>   | –                | –                  | 910   |
| Cyclohexane                          | –                | –                | –                | –               | –                  | –                | –                 | 130                   | –                | –               | –                  | –                | –                  | 130   |
| Ethylene oxide (equivalents)         | 500              | –                | –                | –               | 220                | –                | –                 | 345                   | 380 <sup>1</sup> | –               | –                  | –                | –                  | 1,445 |
| Oxo C4 alcohols                      | –                | –                | –                | 300             | –                  | –                | 330 <sup>2</sup>  | 560                   | 305 <sup>1</sup> | 130             | –                  | –                | –                  | 1,625 |
| Plasticizers (incl. Hexamoll® DINCH) | –                | –                | 35               | –               | –                  | –                | –                 | 500                   | –                | 60              | –                  | –                | –                  | 595   |
| Acrylic acid                         | 320              | 160              | –                | 230             | –                  | –                | 160 <sup>2</sup>  | 320                   | 320 <sup>1</sup> | –               | –                  | –                | –                  | 1,510 |
| Superabsorbents                      | 210              | 60               | –                | 215             | –                  | 20               | –                 | 25                    | 60 <sup>1</sup>  | –               | –                  | –                | –                  | 590   |
| Styropor/Neopor                      | –                | –                | –                | –               | –                  | –                | –                 | 460                   | –                | –               | –                  | –                | 85                 | 545   |

All capacities in the table illustrate 100% capacity of the operations. BASF's share might be lower.

1 BASF 50%; Sinopec 50%

2 BASF 60%; PETRONAS 40%

3 BASF 51%; Sonatrach 49%

4 BASF 60%; Total 40%

## Intermediates

The Intermediates division manufactures about 700 products, which are sold worldwide. These include butanediol and its derivatives, amines, organic acids, polyalcohols, life science intermediates, solvents and OASE® gas treatment solutions. They are generally quite resilient to economic cycles and are often the result of multistep production processes within BASF. Customers typically purchase them as precursors for their downstream chemicals, and they are widely used for BASF's own downstream products. The Intermediates division focuses primarily on the C1 and C2 value chains.

### Portfolio

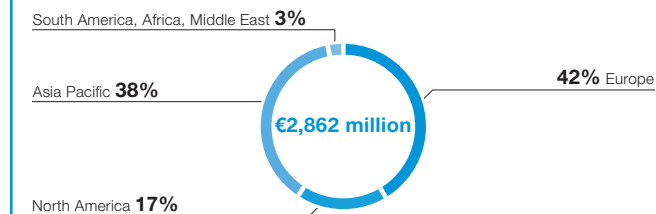
#### Butanediol and its derivatives

BASF is the world's largest manufacturer of 1,4-butanediol, which is a chemical building block for products such as polyesters and polyurethanes. Its derivatives are used to manufacture products ranging from fibers to paints and pharmaceuticals, and include captive produced products such as polybutylene terephthalate (PBT), tetrahydrofuran (THF), PolyTHF® and gamma-butyrolactone as well as N-methylpyrrolidone.

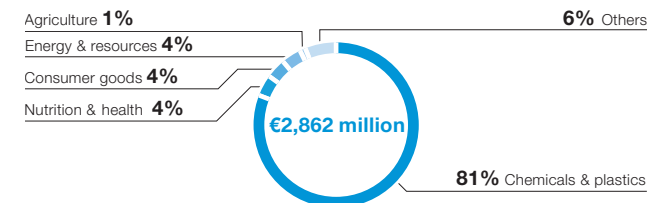
#### Amines

With about 300 different amines, we have the world's most diverse portfolio of this type of chemical intermediates. Along with alkyl-, alkanol-, alkoxyalkylamines and ethylene amines, we offer heterocyclic and aromatic as well as specialty amines. The range is completed by a portfolio of chiral amines of high optical and chemical purity. The versatile products are used mainly to manufacture process chemicals, pharmaceuticals and crop protection agents, as well as cosmetic products and detergents. They also serve to produce coatings, specialty plastics, composites and specialty fibers.

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



#### Acids and polyalcohols

BASF is the world's leading manufacturer of polyalcohols such as neopentylglycol and 1,6 hexanediol, carbonates and carboxylic acids, such as formic and propionic acid. Carboxylic acids are used as preservatives for the feed and food industries, as auxiliaries for textile and leather applications and as deicing agents. The portfolio also includes higher carboxylic acids such as 2-ethylhexanoic acid and isononanoic acid, which are primarily utilized in synthetic lubricants, paint dryer and PVC plasticizer applications. Polyalcohols are mainly offered for the production of a wide range of coatings. Carbonates serve as building blocks for superabsorbent polymers, as solvents for lubricants and for the formulation of battery electrolytes.

#### Acetylenics and carbonyl derivatives

These specialty intermediates are based on raw materials from BASF's Verbund, such as acetylene and chlorine. Among the acetylene derivatives are vinyl monomers, acetylenic alcohols and higher alkylypyrrolidones. Chlorine-based intermediates include acid chlorides and chloroformates. Further specialty intermediates are glyoxal, glutaraldehyde, cyclododecanone (CDon), imidazoles and triphenylphosphine. The products serve as building blocks for crop protection agents and pharmaceuticals or as monomers and performance additives for polymers, coatings and printing inks.

#### Intermediates innovation pipeline

Based on the needs of our customers we follow a differentiated innovation strategy to further grow the businesses. Sustainability is a major driver. We strive to expand our product portfolio as well as the application fields of our existing products where appropriate. At the same time, we are looking for opportunities to improve the efficiency of our processes:

- New products: We are expanding our portfolio of biomass balance (BMB) products with a particularly favorable product carbon footprint. In addition to our methanol BMB, we recently launched monomethylamine (MMA) BMB, based on the same concept. This has enabled one of our customers to produce a completely bio-based fragrance molecule. Versatile MMA proves itself in numerous applications, for example, in the production of crop protection agents, solvents, pharmaceuticals and personal care products.
- We have developed new applications for our epoxy curing agent methylcyclohexanediamine (MCDA) for our customers in the construction industry. With a favorable toxicological profile and



with a very low sensitization potential, MCDA shows good results as a product for flooring.

- Improved processes: One recent example is the new acetylene plant at the Ludwigshafen Verbund site. Compared to the old process, we use about 10% less fossil resources for each ton of product and produce less by-products. We additionally use the excess heat to generate energy.

### BASF's market position

BASF's Intermediates division is among the top three producers worldwide of its products in all strategic business units.

### Main competitors

- Amines: Dow, Eastman, Shandong Liangmeng, Huntsman, Ineos, Nouryon
- Butanediol/derivatives: Dairen, LyondellBasell, Xinjiang Lanshan Tunhe
- Acids and polyalcohols: Eastman, Perstorp, Oxea
- Acetylenics and carbonyl derivatives: Evonik, Ashland, Altivia, Weylchem

### Focus of research and development

The main aim of process innovation is to optimize existing production technologies and develop new, highly efficient processes offering considerable cost and environmental advantages.

### Key capabilities of BASF

- World-scale plants based on leading process technology
- Competitive raw material sourcing and/or backward integration
- Operational, logistical as well as commercial excellence
- Strong market position with regional setup
- Highly qualified and experienced personnel

### Innovation



### New methanol production process without CO<sub>2</sub> emissions

As part of the Carbon Management R&D Program, BASF developed a climate-friendly production process for methanol. In this new process, the waste gas streams from methanol synthesis are incinerated. The resulting CO<sub>2</sub> is isolated and fed back into the process as feedstock. The syngas needed is also generated without CO<sub>2</sub> emissions through partial oxidation, and thus all of the carbon from the raw material ends up in the methanol. Unlike conventional methods, this process does not produce any greenhouse gas emissions. In 2019, an international patent was filed.

### Acquisitions/JVs/investments

from 2017 onward

| Product group    | Description                                   | Year |
|------------------|---|------|
| Acetylene        | Replacement of plant in Ludwigshafen, Germany | 2019 |
| Propionic acid   | Capacity expansion in Nanjing, China          | 2019 |
| Specialty amines | New plant in Nanjing, China                   | 2019 |
| Neopentylglycol  | Capacity expansion in Nanjing, China          | 2020 |
| tert-Butylamine  | Capacity expansion in Nanjing, China          | 2022 |

### Divestitures/shutdowns

from 2017 onward

| Product group           | Description  | Year |
|-------------------------|--|------|
| Inorganic specialties   | Divestiture incl. site in Evans City, Pennsylvania | 2017 |
| Specialty intermediates | Closure of site in Zachary, Louisiana              | 2019 |

### Major nameplate capacities of BASF

thousand metric tons per year

| Product group                 | Capacity |
|-------------------------------|----------|
| Alkylamines                   | 250      |
| Ethanolamines and derivatives | 430      |
| Butanediol equivalents        | 670      |
| PolyTHF®                      | 350      |
| Neopentylglycol (Neol®)       | 205      |
| Formic acid                   | 305      |
| Propionic acid                | 180      |
| Specialty amines              | >100     |

## Materials

The Materials segment is composed of the Performance Materials division and the Monomers division. The segment's portfolio comprises advanced materials and their precursors for new applications and systems. These include isocyanates and polyamides as well as inorganic basic products and specialties for the plastics and plastics processing industries. We want to focus primarily on organic growth through differentiation via specific technological expertise, industry know-how and customer proximity to maximize value in the isocyanate and polyamide value chains.

## Divisions

### Performance Materials

Polyurethanes, thermoplastics and foam specialties for sectors such as the transportation, construction and consumer goods industries, as well as for industrial applications

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### Monomers

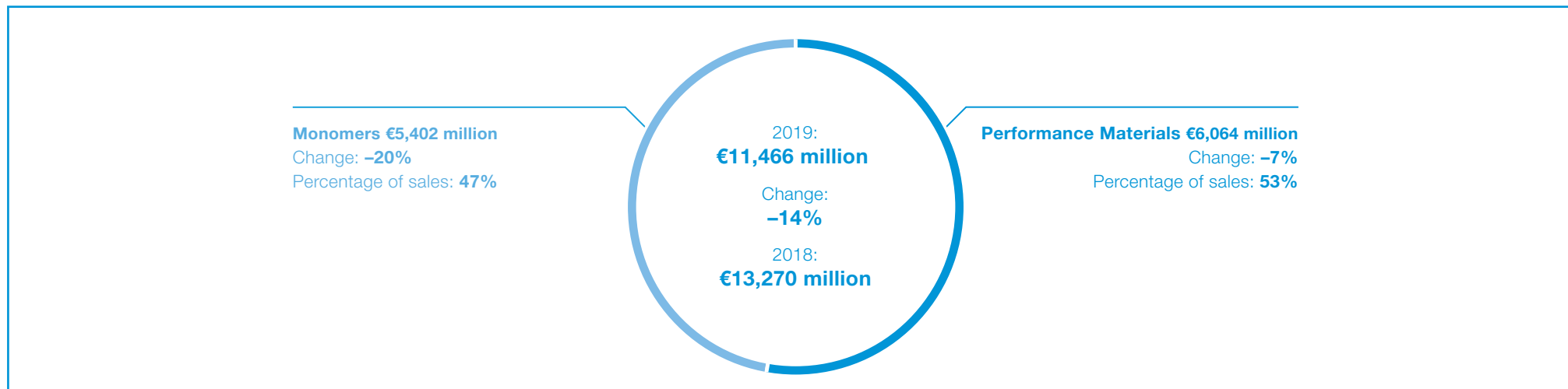
Isocyanates and polyamides as well as inorganic basic products and specialties for sectors such as the plastics, automotive and construction industries

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The VisionVenture, co-created by BASF and HYMER, is a near-production glimpse into the future of van life. Using the development expertise of the BASF Creation Center, a new class of van has been created that blazes a trail in lightweight construction, independence, travel experience and design. The vehicle celebrated its world premiere at the Caravan Salon in Düsseldorf, Germany, in August 2019.



## Sales 2019



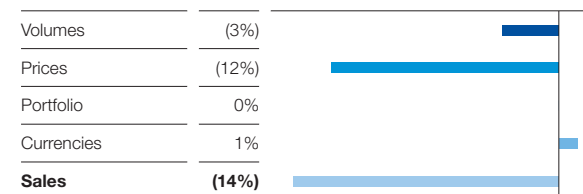
## Segment data Materials

Million €

|   | 2019   | 2018   |
|---|--------|--------|
| Sales to third parties  | 11,466 | 13,270 |
| Share of total BASF sales   | % 20   | 22     |
| of which Performance Materials  | 6,064  | 6,517  |
| Monomers  | 5,402  | 6,753  |
| Income from operations before depreciation and amortization (EBITDA) before special items | 1,719  | 3,020  |
| Income from operations before depreciation and amortization (EBITDA)                      | 1,691  | 2,993  |
| EBITDA margin   | % 15   | 23     |
| Income from operations (EBIT) before special items  | 1,003  | 2,400  |
| EBIT before special items margin  | % 9    | 18     |
| Income from operations (EBIT)   | 973    | 2,374  |
| EBIT margin   | % 8    | 18     |
| Return on capital employed (ROCE)   | % 10.7 | 26.1   |

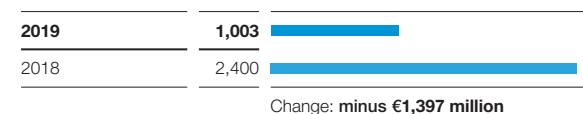
## Factors influencing sales

2019 versus 2018



## EBIT before special items

Million €



## Performance Materials

The Performance Materials division brings together BASF's entire materials know-how regarding innovative, customized plastics under one roof. Active in four major industry sectors – transportation, consumer goods, industrial applications and construction – the division has a strong portfolio of products and services combined with a deep understanding of application-oriented system solutions.

### Portfolio

#### Polyurethanes

Polyurethane solutions make life more comfortable, safer and more pleasant, while helping to save energy. They contribute towards improved insulation of buildings and more attractive, lightweight design of cars. Producers of shoes, cars and household goods as well as sports equipment use the unique advantages of polyurethanes provided with the knowledge and experience of BASF's polyurethane experts worldwide. This product group includes PU systems, TPU (thermoplastic polyurethanes) and MPU (Cellasto®) technologies.

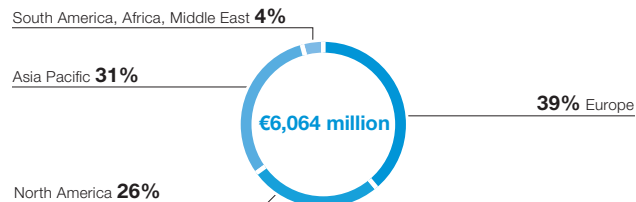
#### Engineering plastics

Engineering plastics are used in numerous applications, such as automotive engineering, the electrical and electronics sectors, household appliances and precision technology as well as in medical technology. This product group includes Ultraform® based on polyoxymethylene (POM), Ultradur® based on polybutylene terephthalate (PBT) and Ultramid® based on polyamide (PA).

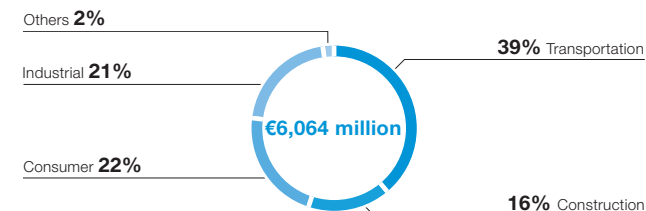
#### Specialty plastics

Specialty plastics include biodegradable co-polyesters, mainly used in various packaging applications and sold under the ecoflex® and ecovio® brands, as well as Ultrason®, a high-temperature plastic based on polyarylsulfone (PPSU, PSU, PESU).

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



#### Functional foams

Functional foams include Basotect®, a flexible, open-cell foam made from melamine resin, as well as the particle foam Neopolen® P. Basotect® is used for sound and thermal insulation in the construction and transportation industries and as a cleaning sponge in the consumer industry.

#### Industry focus

Performance Materials approaches the market with a strong industry orientation, focusing on innovation to address important needs of key market segments. We work jointly with our customers and stakeholders in the industries to introduce innovative solutions by combining our comprehensive portfolio of products with application, engineering, simulation and manufacturing know-how. Customer intimacy and close collaboration are the basis for our solution-selling approach, which is a key driver for profitable growth.

| Product/Industry       | Transportation | Construction | Consumer | Industrial |
|------------------------|----------------|--------------|----------|------------|
| PU systems             | ■              | ■            | ■        | ■          |
| TPU                    | ■              | ■            | ■        | ■          |
| MPU                    | ■              |              | ■        | ■          |
| Engineering plastics   | ■              | ■            | ■        | ■          |
| Polysulfones           | ■              |              | ■        | ■          |
| Functional foams       | ■              | ■            | ■        |            |
| Biodegradable plastics |                |              | ■        |            |

#### BASF's market position

- TPU: No. 1 globally
- MPU: No. 1 globally
- Polyamide 6 and 6.6 compounds: No. 1 globally
- PBT compounds: No. 1 globally

**Main competitors**

- PU specialties: Covestro, Dow, Huntsman, Lubrizol
- Polyamide 6 and 6.6 compounds: Lanxess, Dow, EMS

**Focus of research and development**

Our innovation focus is on developing new products and applications in key target industries to improve existing solutions and find new ones. Development is driven by local market needs and is coordinated globally to ensure leveraging of key capabilities across regions. Our innovation pipeline focuses on creating solutions for unmet market needs, particularly in developing markets with strong growth potential.

**Key capabilities of BASF**

- Close collaboration with key customers in target industries worldwide
- Innovation in products, applications, processes and business models
- Technical, engineering and application competence
- Operational excellence ensuring reliability and consistent quality
- Focused specialty businesses

**Innovation**



**Ultramid® Vision**

This semi-crystalline polyamide offers very high light transmission with low light scattering compared to opaque standard polyamides. Its high UV and temperature resistance, scratch resistance and chemical resistance make Ultramid® Vision an important building block wherever visual control or light design play a role, for example, in backlit switches or buttons in cars. Ultramid® Vision can be repeatedly exposed to aggressive media such as sun-screen, cleaning agents and solvents without sustaining damage.

**Acquisitions/JVs/investments**

from 2017 onward

| Product group        | Description   | Year |
|----------------------|---|------|
| Polyurethanes        | Cellasto capacity expansion in Wyandotte, Michigan                                | 2018 |
|                      | TPU capacity expansion in Lemförde, Germany                                       | 2019 |
|                      | MPU capacity expansion in Dahej, India  | 2019 |
| Engineering plastics | Expansion of compounding capacity in Altamira, Mexico                             | 2017 |
|                      | Expansion of compounding capacity in Schwarzheide, Germany                        | 2017 |
|                      | Ultraform® (POM) 50-50 production JV with Kolon Plastics in Gimcheon, South Korea | 2018 |
|                      | Acquisition of Solvay's polyamide business  | 2020 |
| Specialty plastics   | Expansion of Ultrason capacity in Yeosu, South Korea                              | 2018 |

**Divestitures/shutdowns**

from 2017 onward

| Product group        | Description  | Year |
|----------------------|--|------|
| Engineering plastics | Shutdown of Ultraform® (POM) production plant in Ludwigshafen, Germany | 2018 |

**Major nameplate capacities of BASF**

thousand metric tons per year

| Product group        | Capacity |
|----------------------|----------|
| Engineering plastics | 750      |



## Monomers

The Monomers division supplies a broad portfolio of large-volume monomers, basic polymers and inorganic chemicals. Major products include MDI (methylene diphenyl diisocyanate), TDI (toluene diisocyanate), propylene oxide, caprolactam, adipic acid, hexamethylenediamine, ammonia, polyamide 6 and 6.6, nitric acid, sulfur and chlorine products, inorganic salts, urea, melamine, glues and impregnating resins. The products are used in a broad spectrum of industries, such as the automotive, furniture, construction, woodworking, food, feed, solar, packaging and textile industries.

### Portfolio

#### Isocyanates and propylene oxide

The portfolio of isocyanates consists of MDI and TDI. BASF is the world leader in isocyanates, which are key components to produce soft or rigid foams. MDI is a versatile isocyanate that can be used to make flexible foams as well as semi-rigid and rigid polyurethane plastics. Its primary applications are construction, consumer appliances, automotive components and shoe soles. TDI is an isocyanate used primarily in the manufacturing of flexible foams. Its main applications include mattresses and cushions for furniture and automotive seating.

The portfolio also includes propylene oxide, the main raw material for polyether polyols. Polyols are – together with isocyanates – the second key component for polyurethane foams. Other applications for propylene oxide are propylene glycols, surfactants and amines.

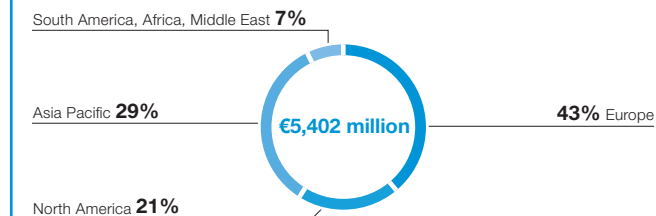
#### Polyamides and precursors

BASF is the world's leading supplier of high-quality polyamides, with the trade name Ultramid®, and polyamide precursors such as caprolactam, hexamethylenediamine or adipic acid. BASF started manufacturing Ultramid® polyamides over 50 years ago. Today, BASF offers a wide product range of polyamides for injection mold-

### Business Segments

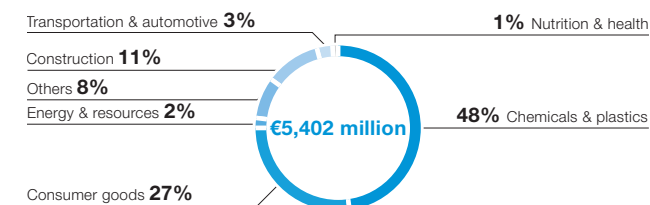
#### Materials

#### Sales by region 2019 (location of customer)



### Financials

#### Sales by direct customer industry 2019



ing and extrusion. The product range includes PA 6 grades (Ultramid® B), PA 6.6 grades (Ultramid® A) and special grades based on copolyamides (Ultramid® C).

BASF's polyamides are the materials of choice for many applications:

- Engineering plastics: Ultramid® is used to produce molding compounds. Due to their outstanding properties, these materials have become indispensable in almost all fields of engineering for the most varied components and machine parts, as high-quality electrical insulating materials and for many special applications.
- Films for food packaging: Ultramid® is especially well-suited for the packaging sector due to its high strength, outstanding thermoformability, high thermal stability and very good barrier properties towards gases, especially oxygen, flavors and aromas.
- Textiles and carpets: The variety of Ultramid® grades for textiles enables the manufacturing of superior quality textiles for hosiery, swimwear and high-tech outdoor garments as well as high-end polyamide carpets and technical fiber applications.

#### Inorganic chemicals

Inorganic chemicals are mainly used as precursors for plastics, amines and other high-value chemicals. The product portfolio ranges from basic chemicals to inorganic salts:

- Ammonia
- Chlorine
- Caustic soda
- Nitric acid
- Sulfuric acid
- Standard alcoholates
- Ammonium salts

More than half of these products are for captive use within BASF's Verbund. The remaining products are sold primarily to other chemical companies. Additionally, we are one of the leading suppliers of sodium nitrate (used as a component for solar thermal power plant storage media), sodium methylate (a catalyst used for the production of biodiesel) and a variety of inorganic salts for different industries such as food, feed, textiles and paper.

#### Glues and impregnating resins

BASF offers a wide variety of tailor-made glues and impregnating resins, which are used to manufacture many different types of panel boards and laminated flooring for the woodworking industry. Additionally, the unit produces AdBlue®, a high-purity urea solution that is used in trucks and passenger cars to reduce NO<sub>x</sub> emissions from diesel engines.

## BASF's market position

- Isocyanates (TDI/MDI): No. 1 globally
- Polyamide film: No. 1 globally
- Glues and impregnating resins: No. 1 in glues in Europe
- Inorganic chemicals: No. 1 in inorganic salts in Europe and South America

## Main competitors

- Isocyanates: Covestro, Wanhua, Dow, Huntsman
- Polyamide film: DSM, Ube, YueYang, AdvanSix
- Glues and impregnating resins: Dynea, Sadepan
- Inorganic chemicals: Evonik, Esseco
- Polyols: Dow, Covestro, Shell

## Focus of research and development

The main aim of process innovation is to optimize existing production technologies and develop new, highly efficient processes offering considerable cost advantages.

## Key capabilities of BASF

- World-scale plants based on leading process technology
- Competitive raw material sourcing and/or backward integration
- Operational, logistical as well as commercial excellence
- Strong market position with regional setup
- Highly qualified and experienced personnel

## Innovation



### CO<sub>2</sub>-neutral coffee packaging

The Swiss packaging manufacturer O. Kleiner AG, in collaboration with BASF, has developed an aluminum-free sustainable coffee packaging that uses not only a bio-polyethylene but also the bio-based copolyamide Ultramid® Flex F38. BASF's polyamide ensures the mechanical stability and puncture resistance of the packaging. The amount of fossil raw materials for the innovative packaging was significantly reduced, thereby significantly reducing CO<sub>2</sub> emissions. Ultramid® Flex F 38 makes an important contribution with its high bio-based content of up to 34% canola oil from regional sources. With the help of compensation measures and the use of a bio-polyethylene, the coffee packaging is completely CO<sub>2</sub>-neutral.

## Acquisitions/JVs/investments

from 2017 onward

| Product group               | Description   | Year      |
|-----------------------------|---|-----------|
| Ammonia                     | New world-scale ammonia plant in Freeport, Texas, JV with Yara  | 2018      |
| Polyamide and intermediates | Acquisition of Solvay's polyamide business  | 2020      |
| MDI                         | Expansion of MDI JV in Caojing, China   | 2018      |
|                             | Expansion of MDI production in Geismar, Louisiana   | 2020–2021 |
| TDI and precursors          | New world-scale TDI plant in Ludwigshafen, Germany, including expanded backward integration into chlorine and nitric acid | 2015–2017 |
| Sodium methylate            | Expansion of sodium methylate plant in Guaratinguetá, Brazil  | 2020      |

## Divestitures/shutdowns

from 2017 onward

| Product group | Description   | Year |
|---------------|---|------|
| Caprolactam   | Capacity reduction by 100,000 metric tons per year, Ludwigshafen, Germany | 2017 |
| TDI           | Shutdown TDI plant in Schwarzeide, Germany                                | 2020 |

## Major nameplate capacities of BASF

thousand metric tons per year

| Product group                 | Capacity |
|-------------------------------|----------|
| Ammonia                       | 1,765    |
| Adipic acid <sup>1</sup>      | 720      |
| Chlorine                      | 595      |
| Glues and impregnating resins | 750      |
| Sulfuric acid                 | 920      |
| Urea                          | 545      |
| Caprolactam                   | 700      |
| Polyamide                     | 925      |
| MDI                           | 1,830    |
| TDI                           | 780      |
| Propylene oxide               | 675      |

<sup>1</sup> Including joint ventures

## Industrial Solutions

The Industrial Solutions segment consists of the Dispersions & Pigments and the Performance Chemicals divisions. The segment develops and markets ingredients and additives for industrial applications, such as fuel and lubricant solutions, polymer dispersions, pigments, resins, electronic materials, antioxidants, light stabilizers, oilfield chemicals, and mineral processing and hydrometallurgical chemicals. We aim to drive organic growth in key industries such as automotive, plastics, electronics, and energy and resources, and expand our position in value-enhancing additives and solutions by leveraging our comprehensive industry expertise and application know-how.

### Divisions

#### Dispersions & Pigments

Raw materials used to formulate products in the coatings, construction, paper, printing and packaging, adhesives and electronics industries

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#### Performance Chemicals

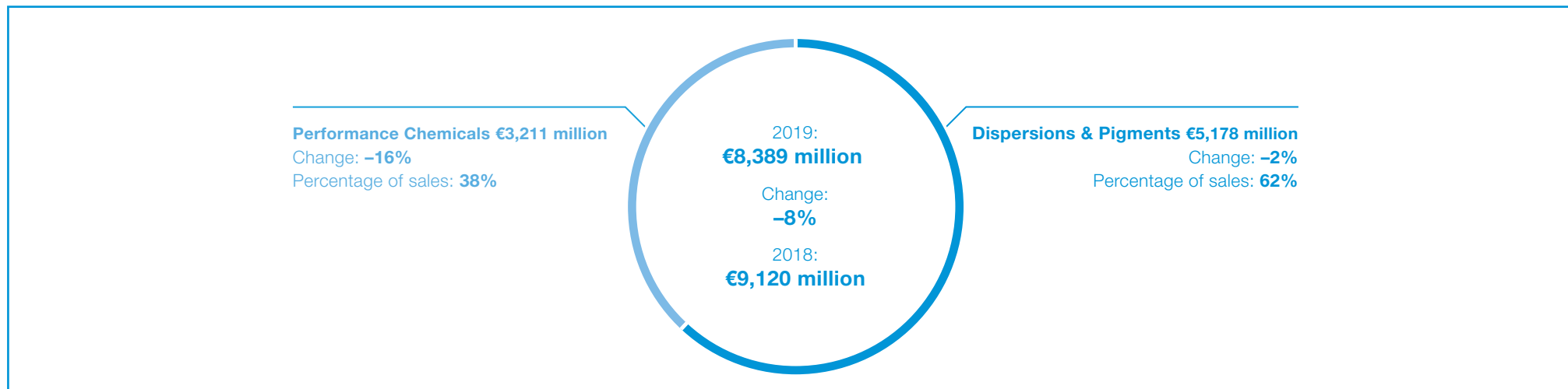
Customized products for various customer industries such as chemicals, plastics, consumer goods, energy and resources, as well as automotive and transportation

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BASF offers a comprehensive portfolio of resins and additives for specific printing and packaging applications. In view of customer requirements regarding performance and sustainability, our Joncryl® portfolio increases the effectiveness and structural qualities of packaging. The portfolio offers high performance resins that enable flexible packaging printers and converters to switch from solvent-based to water-based technologies.

## Sales 2019



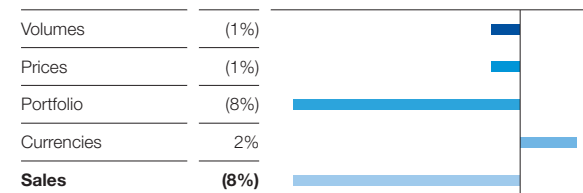
## Segment data Industrial Solutions

Million €

|   | 2019   | 2018  |
|---|--------|-------|
| Sales to third parties  | 8,389  | 9,120 |
| Share of total BASF sales   | % 14   | 15    |
| of which Dispersions & Pigments   | 5,178  | 5,292 |
| Performance Chemicals   | 3,211  | 3,828 |
| Income from operations before depreciation and amortization (EBITDA) before special items | 1,249  | 1,090 |
| Income from operations before depreciation and amortization (EBITDA)                      | 1,327  | 1,076 |
| EBITDA margin   | % 16   | 12    |
| Income from operations (EBIT) before special items  | 820    | 668   |
| EBIT before special items margin  | % 10   | 7     |
| Income from operations (EBIT)   | 889    | 653   |
| EBIT margin   | % 11   | 7     |
| ROCE  | % 12.5 | 8.7   |

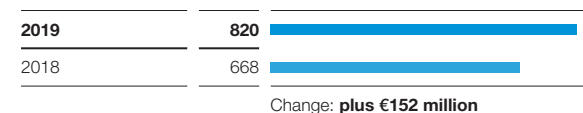
## Factors influencing sales

2019 versus 2018



## EBIT before special items

Million €



## Dispersions & Pigments

The Dispersions & Pigments division is the leading global supplier of raw materials used in formulations for a number of industries, including coatings, construction, adhesives, printing and packaging, electronics and paper. Our portfolio encompasses dispersions, pigments, resins and a broad range of additives, such as performance and formulation additives as well as electronic materials. We put a strong emphasis on environmentally friendly systems, such as low-VOC (volatile organic compound) water-based coatings.

### Portfolio

#### Dispersions

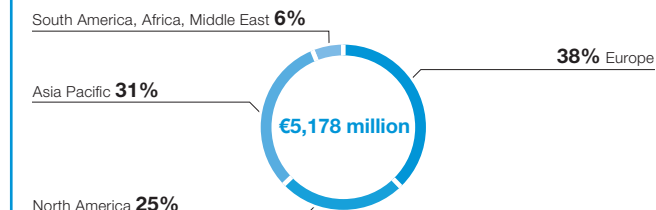
Polymer dispersions are water-based systems used in the production of adhesives, sealants, architectural coatings, paper coatings, construction materials and fiber bonding materials. Our strength lies in our backward integration into acrylics, strong technical expertise and application know-how. In addition, our worldwide presence is a key advantage in serving our global customer base.

#### Pigments

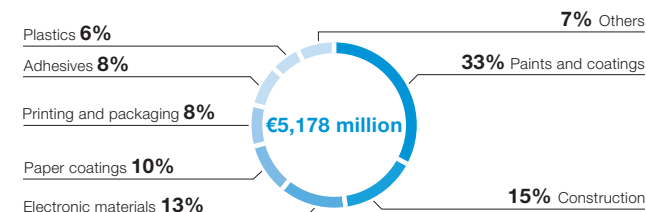
Pigments are insoluble coloring and iridescent materials used in paints, inks and special applications. BASF is the leading pigment supplier worldwide, with a particular strength in high-performance pigments. Our product portfolio comprises a wide range of organic and inorganic pigments, effect pigments and pigment preparations.

On August 29, 2019, BASF and DIC, a chemical company headquartered in Tokyo, Japan, reached an agreement on the acquisition of BASF's global pigments business. The assets and liabilities to be divested were reclassified to a disposal group in the Dispersions & Pigments division as of this date. The transaction is expected to close in the fourth quarter of 2020, subject to the approval of the relevant competition authorities.

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



#### Resins

Resins are film-forming components used in energy-curable coatings, urethane or melamine water-based coatings and inks. The comprehensive product portfolio includes water-based resins, acrylic oligomers, polyisocyanates, amino resins, aldehyde resins, vinyl chloride copolymers and high-solid polyols. Our portfolio offers customers a wide range of environmentally friendly water-based technologies that fulfill regulatory requirements regarding VOC.

#### Additives

BASF offers a broad range of performance and formulation additives that significantly improve the quality and performance of paints and coatings. BASF is the market leader for performance additives, particularly in light stabilizers. Light stabilizers protect paint films against degradation and a number of undesirable effects, including changes in appearance from long-term exposure to UV radiation. Our formulation additives offer solutions in the range of dispersing agents, wetting agents and surface modifiers, defoamers, rheology modifiers and film-forming agents to improve the properties of coatings. Our unique portfolio is based on a broad technology platform and helps performance-driven products to meet the latest and most stringent environmental regulations.

#### Electronic materials

BASF is able to deliver fully customized solutions for next-generation semiconductor and display manufacturing processes and metal systems. Our portfolio includes ultra-pure process chemicals, advanced materials for semiconductor manufacturing, high-end formulations for displays as well as Catamold® and carbonyl iron powder for metal systems. We provide reliable services and innovative solutions to customers in the fast-paced electronics industry.

#### BASF's market position

- Dispersions: No. 1 globally for water-based dispersions in the focus industries architectural coatings, adhesives, construction, fiber bonding materials and paper coatings
- Pigments: No. 1 globally; broadest portfolio of colors and effect pigments
- Resins: No. 4 globally in high-performance resins technologies
- Additives: No. 3 globally in performance and formulation additives
- Electronic materials: leading market position in ultra-pure materials for the semiconductor industry



## Main competitors

- Dispersions: Dow, Synthomer, Trinseo, Wacker, Arkema, Wanhua
- Pigments: Clariant, DIC/Sun, Sudarshan
- Resins: Allnex, Covestro, DSM, Indulor
- Additives: ALTANA (Byk), Dow, Everlight, Evonik (Tego), Elementis, Ashland
- Electronic materials: DuPont, Entegris, Merck, Cabot

## Focus of research and development

We invest in research and development to create innovative, differentiating and more sustainable products and solutions. Our innovations allow our customers to offer environmentally friendly solutions with dispersions for applications in the coatings, printing, adhesives and construction industries. In addition, customers benefit from new and improved resins, pigments and formulation additives, which enable them to upgrade the performance of their product portfolio. In electronic materials, the focus is on developing innovative solutions for the electronics industries, for example, for semiconductors. We advance digital and automation solutions in our laboratory environment to optimize our efficiency.

## Key capabilities of BASF

- Leading technology and cost position enable consistent product quality, reliability and competitiveness
- Comprehensive portfolio of raw materials for coatings, printing and packaging inks, adhesives and construction materials
- Strong technical and application know-how, professional service, close to our customers
- Global production footprint close to relevant markets

## Business Segments

Industrial Solutions

## Innovation



## Financials

### Basonat® HI NG

Preventing coatings from yellowing is key for automotive refinish coatings. Basonat® HI NG is an aliphatic polyisocyanate hardener for two-component polyurethane (2C PU) coatings. It provides outstanding durability and resistance against light and weather, enabling complex formulations with significantly reduced yellowing compared with standard HI-grade hardeners. With this new product, BASF fulfils the market's highest technical performance requirements.

## Acquisitions/JVs/investments

from 2017 onward

| Product group        | Description                                     | Year      |
|----------------------|---|-----------|
| Dispersions          | Capacity expansion in Ludwigshafen, Germany     | 2018      |
|                      | Capacity expansion in Pasir Gudang, Malaysia    | 2020      |
|                      | Capacity expansion in Castellbisbal, Spain      | 2020      |
|                      | Capacity expansion in Dahej, India              | 2021      |
| Pigments             | Capacity expansion in Besigheim, Germany        | 2017      |
| Resins               | Capacity expansion in Ludwigshafen, Germany     | 2016–2019 |
| Electronic materials | Acquisition of Rolic AG, Allschwil, Switzerland | 2017      |
|                      | New plant in Yeosu, South Korea                 | 2017      |
|                      | New plant in Jiaxing, China                     | 2018      |

## Divestitures/shutdowns

from 2017 onward

| Product group | Description                                   | Year |
|---------------|---|------|
| Dispersions   | Divestiture of the Pischelsdorf site, Austria | 2018 |
|               | Closure of plant in Callao, Peru              | 2020 |
| Micronal® PCM | Divestiture of the Micronal® PCM business     | 2017 |
| Pigments      | Divestiture of the pigments business          | 2020 |

## Major production sites

BASF's dispersions, pigments, resins, additives and electronic materials are produced at 60 sites worldwide. Our most important sites for each product group are listed below.

| Product group        | Site  |
|----------------------|---|
| Dispersions          | Ludwigshafen, Germany; Monaca, Pennsylvania; Shanghai, China; Guaratinguetá, Brazil; Cengkareng, Indonesia; Chattanooga, Tennessee; Wyandotte, Michigan; Heerenveen, Netherlands; Hamina, Finland; Dagang, China; Freeport, Texas; Tarragona, Spain; Dahej, India; Huizhou, China |
| Pigments             | Ludwigshafen, Besigheim and Cologne, Germany; Monthey, Switzerland; Newport, Delaware; Ulsan, South Korea; Peekskill, New York; North Charleston, South Carolina; Hartwell, Georgia; Huningue, France; Maastricht, Netherlands; Shanghai, China; Guaratinguetá, Brazil            |
| Resins               | Ludwigshafen and Schwarzeide, Germany; Shanghai, China  |
| Additives            | Heerenveen, Netherlands; Schweizerhalle, Switzerland; Nanjing, China  |
| Electronic materials | Ludwigshafen, Germany; Singapore; Taichung and Kuan Yin, Taiwan; Shanghai, China; Yeosu, South Korea  |

## Performance Chemicals

As an innovative partner, BASF's Performance Chemicals division offers chemicals for various customer industries, such as plastics, automotive, refineries, lubricants, oilfield and mining.

### Portfolio

#### Plastic additives

BASF is a globally leading supplier for stabilizers and additive blends to the plastics and rubber industries. The product range includes high-performance light and thermal stabilizers, antioxidants, process stabilizers, UV absorbers and other specialty additives for those industries. The main fields of application are:

- Automotive molded parts
- Agricultural films
- Construction materials
- Packaging
- Electronics and consumer goods
- Fibers and tapes

#### Fuel and lubricant solutions

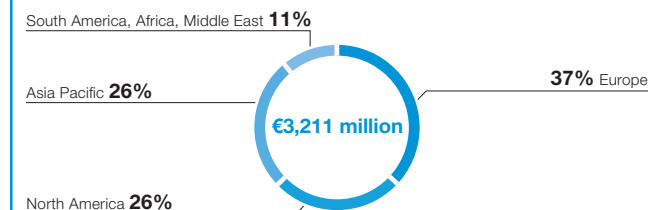
BASF is one of the leading suppliers of performance chemicals for the automotive and mineral oil industries. Our portfolio includes:

- Brake fluids and engine coolants
- Fuel and refinery additives, lubricant additives and additive packages, base stocks, lubricants
- Low, medium and high molecular weight polyisobutene (PIB)

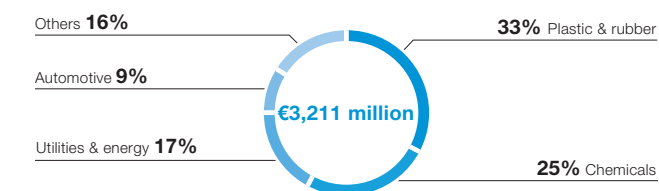
#### Kaolin minerals

Kaolin is a naturally occurring white mineral that BASF converts to a high-performance material for automotive, construction, printing and agricultural applications. BASF is one of the largest calcined kaolin producers and a global leader in segments such as paints, inks, coatings, plastics and rubber, thermal paper and catalytic substrates.

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



#### Oilfield chemicals and mining solutions

For the oilfield industry, we offer a wide range of products that help our customers develop efficient formulations for the oil and gas industry. Our product portfolio includes:

- Additives for drilling, cementing and stimulation for the completion of production wells
- Production additives to ensure an efficient flow of valuable oil and gas resources
- Standard surfactants and polymers as well as next-generation products for enhanced oil recovery

For the mining industry, our offer includes reagents, equipment and process technologies focusing on applications such as solid/liquid separation, solvent extraction, tailings management, flotation, materials handling and grinding. Our mineral processing expertise can help to achieve operational, economic and environmental benefits.

#### BASF's market position

BASF holds a leading market position in most industry segments.

#### Main competitors

- Plastic additives: Songwon, Sabo, Solvay, SI Group
- Fuel and lubricant solutions: Afton, Clariant, Lanxess
- Kaolin minerals: KaMin, Burgess, Imerys
- Oilfield chemicals and mining solutions: Nalco, Solvay, SNF

## Focus of research and development

Developing solutions together with our customers and ensuring technology leadership to improve our cost position are key to the success of Performance Chemicals. By leveraging the breadth of our competencies, we develop products that help improve the performance of our customers' products and processes. We utilize advances in data analytics, modelling and automation to accelerate development and enable faster implementation of innovations.

## Key capabilities of BASF

- Excellent innovation platform and application know-how
- Customer proximity and market focus
- Highly qualified and experienced team with outstanding market knowledge
- Technological competence to provide excellent solutions to our customers
- Continuous improvements in cost competitiveness in production

## Major production sites

| Product group                           | Site  |
|---|---|
| Plastic additives                       | Lampertheim, Germany; Kaisten, Switzerland; Pontecchio Marconi, Italy; Puebla, Mexico; McIntosh, Alabama; Singapore; Manama, Bahrain; Shanghai, China   |
| Fuel and lubricant solutions            | Ludwigshafen and Lampertheim, Germany; Kaisten, Switzerland; Antwerp, Belgium; Meaux, France; McIntosh, Alabama; Geismar, Louisiana; Cincinnati, Ohio; Puebla, Mexico; Shanghai and Nanjing, China; Dahej, India; Singapore; Kuantan, Malaysia; Guaratinguetá and Jacarei, Brazil |
| Oilfield chemicals and mining solutions | Cork, Ireland; Nanjing, China; Ludwigshafen and Trostberg, Germany; Jacarei, Brazil   |
| Kaolin minerals                         | Several sites in Middle Georgia, United States  |

## Innovation



## RegXcellence™ for fuel and lubricant solutions

Offering tailor-made sustainability and regulatory services, we answer customer needs. The sustainability services help customers to identify opportunities and risks and enable fact-based decision making. Our sustainability services include eco-efficiency analyses, life cycle assessments and recommendations for more sustainable product offerings.

The newly launched regulatory service RegXcellence™ for fuel and lubricant solutions provides simple access to high-quality product and substance-related information directly from BASF's expert network.

## Acquisitions/JVs/investments

from 2017 onward

| Product group                | Description   | Year      |
|------------------------------|---|-----------|
| Plastic additives            | Global investments in capacity expansions and operational excellence                                      | 2016–2021 |
|                              | New production lines for formgiving and blending with automated packaging in Jurong Island, Singapore     | 2017      |
|                              | New world-scale antioxidants plant in Shanghai, China   | 2019      |
|                              | Capacity expansion for antioxidants in Pontecchio Marconi, Italy  | 2021      |
| Fuel and lubricant solutions | New plant for highly reactive polyisobutene in Kuantan, Malaysia (together with PETRONAS Chemicals Group) | 2017      |
|                              | Engine coolants expansion in Shanghai, China  | 2018      |
|                              | Capacity expansion for antioxidants in Puebla, Mexico   | 2018      |
|                              | Investment for engine coolants in Cincinnati, Ohio  | 2019      |
| Mining solutions             | New production line for polyacrylamide powder in Nanjing, China   | 2019      |

## Divestitures/shutdowns

from 2017 onward

| Product group                     | Description   | Year |
|-----------------------------------|---|------|
| Leather and textile chemicals     | Leather chemicals business became part of the Stahl Group                   | 2017 |
| Paper and water chemicals         | Transfer of BASF's paper wet-end and water chemicals business to Solenis    | 2019 |
| Ultrafiltration membrane business | Transfer to DuPont Safety & Construction, including the shares of Inge GmbH | 2019 |

# Surface Technologies

The Surface Technologies segment comprises the Catalysts and Coatings divisions. The segment bundles the chemical surface solution businesses. Its portfolio includes coatings, surface treatments, catalysts and battery materials for the automotive and chemical industries. The aim is to drive organic growth by leveraging our portfolio of technologies and establishing BASF as a leading and innovative solution provider in fields such as battery materials.

## Divisions

### Catalysts

Automotive and process catalysts, battery materials, precious and base metal trading, recycling

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### Coatings

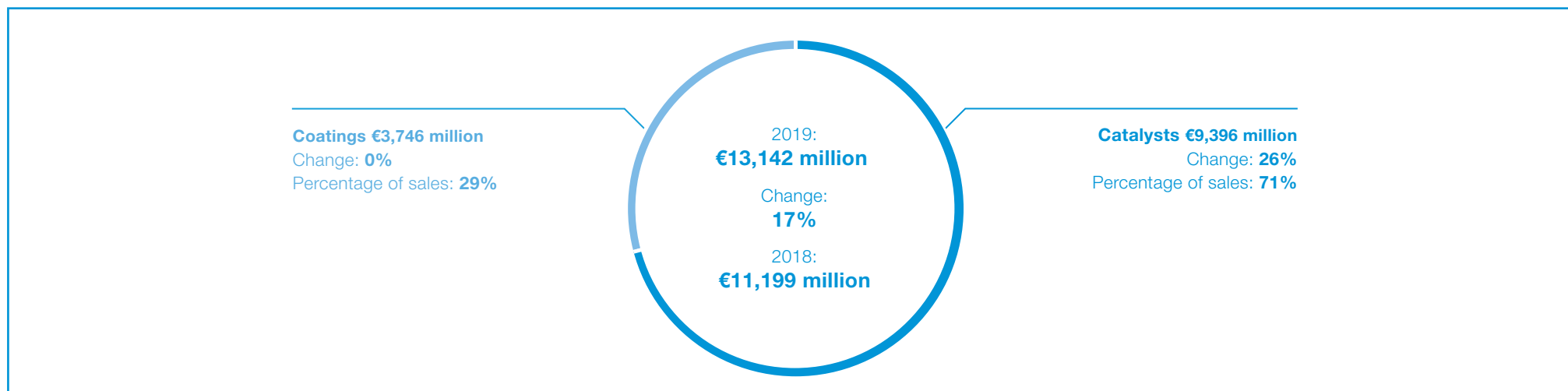
Coatings solutions, surface treatments, decorative paints

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At the BASF Engine Lab in Union, New Jersey, two employees replace a catalyst in a heavy duty diesel truck exhaust system for the next drive cycle evaluation.

## Sales 2019



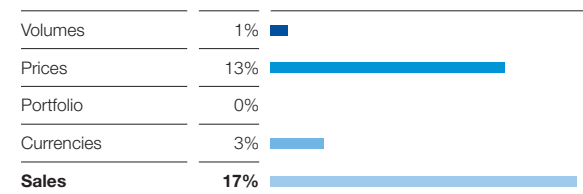
## Segment data Surface Technologies

Million €

|   | 2019   | 2018   |
|---|--------|--------|
| Sales to third parties  | 13,142 | 11,199 |
| Share of total BASF sales   | % 22   | 19     |
| of which Catalysts  | 9,396  | 7,469  |
| Coatings  | 3,746  | 3,730  |
| Income from operations before depreciation and amortization (EBITDA) before special items | 1,173  | 995    |
| Income from operations before depreciation and amortization (EBITDA)                      | 1,120  | 953    |
| EBITDA margin   | % 9    | 9      |
| Income from operations (EBIT) before special items  | 722    | 617    |
| EBIT before special items margin  | % 5    | 6      |
| Income from operations (EBIT)   | 663    | 574    |
| EBIT margin   | % 5    | 5      |
| Return on capital employed (ROCE)   | % 5.7  | 5.3    |

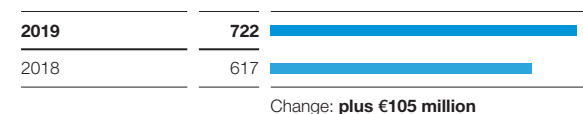
## Factors influencing sales

2019 versus 2018



## EBIT before special items

Million €





## Catalysts

BASF's Catalysts division is the global market leader in catalyst technologies. The division develops and produces mobile emissions catalysts as well as process catalysts and technologies. It is also the home of BASF's battery materials business and provides precious and base metals sourcing, recycling and management services. BASF expands its leading role in catalyst technology through continuous process and product innovation.

### Portfolio

#### Mobile emissions catalysts

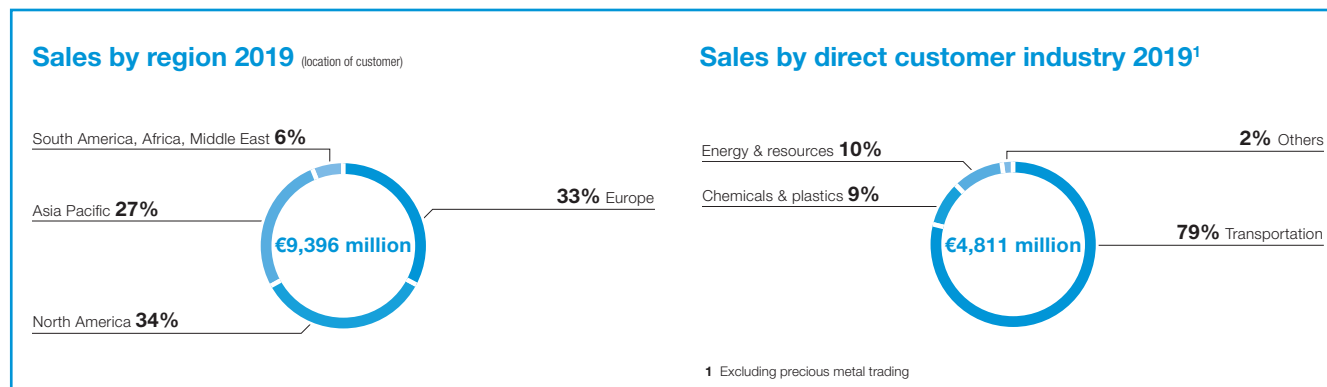
BASF's emissions abatement catalysts enable cost-effective regulatory compliance, providing technologies that control emissions from gasoline and diesel-powered passenger cars, trucks, buses, off-road vehicles and motorcycles.

#### Process catalysts and technologies

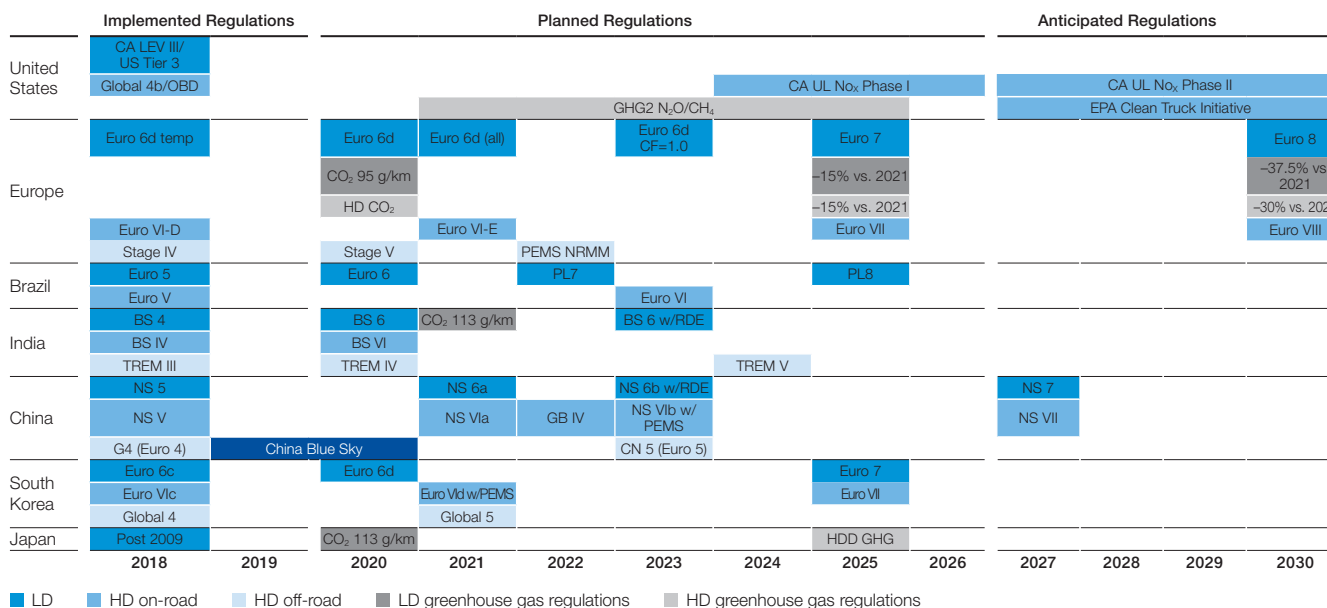
BASF is the leading global manufacturer of catalysts for the chemical industry, with solutions across the chemical value chain. The business also provides oil refining technology catalysts, including fluid catalytic cracking (FCC) catalysts, co-catalysts and additives. It also offers adsorbents, which are used for purification, moisture control and sulfur recovery.

#### Battery materials

BASF is a leading global supplier of advanced cathode active materials (CAM) for the lithium-ion batteries market, providing high-energy density CAM to the world's largest cell producers and into leading platforms of OEMs. BASF has a global presence with R&D and production capacity operating or announced in all regions, often leveraging partnerships. BASF is a frontrunner in developing innovative solutions and conducting next-generation battery materials research.



### Emissions catalysts market – regulation remains primary demand driver<sup>1,2</sup>



<sup>1</sup> Impact of current pandemic: six months delay in NS-6a regulation in China; potential delayed implementation of greenhouse gas regulation in the EU to ease burden on OEMs; discussion of delay to Brazilian Euro VI regulation  
<sup>2</sup> Greenhouse gas regulations expected to further tighten after 2025



### Precious and base metal services

The global business unit precious and base metal services supports BASF's mobile emissions catalysts and battery materials businesses and their customers with services related to precious and base metals sourcing and management. It purchases, refines, sells, distributes, stores and offers transportation services for metals. The business produces precious metals chemicals and is a global leader in precious metals recycling and refining. In addition, it also provides a variety of pricing and delivery arrangements to meet logistical, financial and price-risk management requirements.

### BASF's market position

- Mobile emissions catalysts: No. 2 globally
- Chemical catalysts: No. 1 globally
- FCC refinery catalysts: No. 2 globally

### Main competitors

- Mobile emissions catalysts: Johnson Matthey, Umicore
- Chemical catalysts: Clariant, Johnson Matthey
- FCC refinery catalysts: W.R. Grace, Albemarle
- Battery materials: Umicore, Nichia

### Focus of research and development

For mobile emissions catalysts, the focus is on improved products to meet future vehicle emission standards. In the process catalysts business, priority is given to developing new and improved products. For battery materials, the focus is on offering comprehensive products meeting customer's requirements for e-mobility applications, including improving energy density to extend driving range as well as stability, safety and cost.

### Innovation



### New catalysts for olefin production using CO<sub>2</sub>

In collaboration with Linde and academic partners, we successfully produced syngas from methane and CO<sub>2</sub> in a process known as "dry reforming." This can be converted into dimethyl ether (DME) in an intermediate step and then into olefins, one of the main intermediates in the chemical industry. New catalysts from BASF are used in both the production of syngas and its subsequent conversion into DME. BASF scientists also developed proprietary production processes for the catalysts. Together with employees from the Catalysts division, the researchers transferred the new catalysts to production and worked on pilot tests in 2019.

### Key capabilities of BASF

- Global R&D footprint covering catalysts and battery materials
- Technology leadership in mobile emissions, process catalysts and battery materials
- Recognized precious metals expertise
- Strong and growing position in Asia through fully owned entities and joint ventures
- Operational excellence in catalyst and battery materials production and use

### Divestitures/shutdowns

from 2017 onward

| Product group     | Description   | Year |
|-------------------|---|------|
| Process catalysts | Divestiture of the bleaching clay and mineral adsorbents business   | 2017 |
| Battery materials | Divestiture of the electrolytes manufacturing site in Suzhou, China | 2017 |

### Acquisitions/JVs/investments

from 2017 onward

| Product group              | Description   | Year |
|----------------------------|---|------|
| Mobile emissions catalysts | New manufacturing plant in Chennai, India                                 | 2017 |
|                            | New manufacturing plant in Rayong, Thailand                               | 2018 |
|                            | New specialty zeolites manufacturing plant in Ludwigshafen, Germany       | 2019 |
|                            | New manufacturing plant in Shanghai, China                                | 2019 |
|                            | Capacity expansion in Środa Śląska, Poland                                | 2020 |
| Process catalysts          | New chemical catalysts manufacturing plant in Caojing, China              | 2017 |
| Battery materials          | Expansion of cathode materials plant in Onoda, Japan                      | 2017 |
|                            | BASF TODA America LLC formed  | 2018 |
|                            | New cathode material precursor manufacturing plant in Harjavalta, Finland | 2022 |
|                            | New cathode material manufacturing plant in Schwarzheide, Germany         | 2022 |

## Coatings

BASF's Coatings division offers innovative and ecologically viable solutions for the automotive industry, including both the original equipment manufacturer (OEM) and refinish markets, as well as surface treatment solutions for a variety of markets. BASF also develops and markets decorative paints in Brazil for interior and exterior use in residential and commercial buildings. We combine protection and aesthetics with eco-efficiency in tailor-made customer products and processes.

### Portfolio

#### Automotive OEM coatings solutions

BASF provides complete automotive coatings solutions, including:

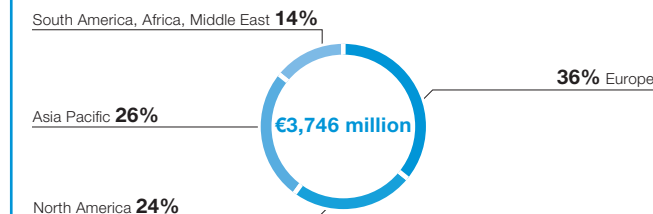
- E-coats
- Primers
- Basecoats
- Clearcoats

In addition to offering extensive technical support, BASF is a valued innovation and design partner for nearly all leading automobile manufacturers worldwide.

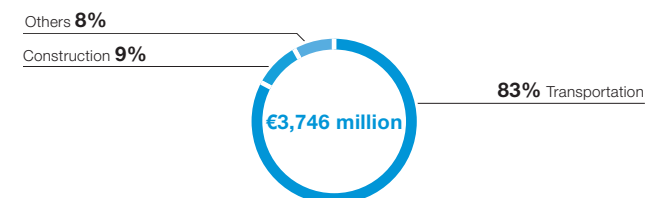
#### Automotive refinish coatings solutions

For the refinishing of passenger cars and trucks, BASF offers top- and undercoat materials sold under the global premium brands Glasurit® and R-M® as well as the value-for-money brands baslac®, LIMCO®, Norbin® and Yinfan®, which are sold to paint distributors and automotive repair shops. BASF is a leader in the fields of waterborne coatings and high-solid systems, enhanced by value-added services and tools for end users.

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



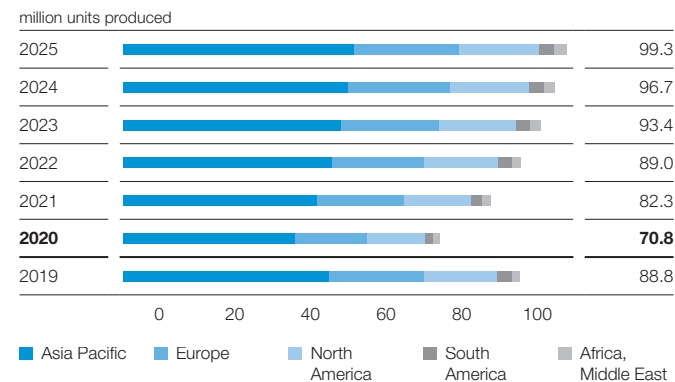
#### Surface treatment solutions

BASF is a globally leading solution provider for applied surface treatment. Under our Chemetall brand, we offer customized technology and system solutions to protect metals from corrosion, facilitate forming and machining, allow parts to be optimally prepared for the painting process and ensure proper coating adhesion. These products are used in a wide range of industries and markets, such as automotive, aerospace, aluminum finishing and metal forming.

#### Decorative paints

For interior and exterior use in buildings, BASF offers decorative paints, marketed, for example, under the premium brand Suviniil®, which is one of Brazil's best-known brands. With constant innovation launches, such as super-concentrated premium interior and exterior paint, Suviniil® continues to strengthen its role as a pioneer in the area of innovative paints.

### Passenger car and light commercial vehicle production



Source: Global automotive production forecast May 2020 (LMCA)

Automotive is the most important customer industry for BASF's coatings business. The number of cars and light commercial vehicles produced globally is expected to grow in the medium term. The main growth driver is Asia – in particular China – where BASF is well positioned to participate in the growth opportunities.

## BASF's market position

- Automotive OEM coatings: No. 2 globally
- Automotive refinish coatings: No. 3 globally
- Surface treatment: No. 2 globally
- Decorative paints: No. 1 in Brazil

## Main competitors

- Automotive OEM coatings: PPG, Axalta, Kansai Paint
- Automotive refinish coatings: Axalta, PPG, AkzoNobel, Sherwin Williams
- Surface treatment: Henkel, PPG, Nihon Parkerizing, Nippon Paint
- Decorative paints South America: AkzoNobel, Sherwin Williams

## Focus of research and development

Our innovation efforts for the automotive industry are focused on close partnerships with our customers in order to formulate, for instance, new coatings solutions for integrated processes, unique eco-efficient coatings and clearcoats with extremely improved durability by using the latest crosslinking technologies. Additional research topics include improved products for new technology markets (for example, functional films) and environmentally friendly applications.

## Key capabilities of BASF

- Innovative long-term cooperation with leading OEM customers
- Technical on-site support at customer locations, creating additional value and long-term relationships
- Services and tools within automotive industry to deal with color complexity
- Leveraging strong market position and application know-how from mature markets into growing markets
- Global production and market presence

## Business Segments

Surface Technologies

## Innovation



## Financials

### Coatings for overspray-free application

The overspray-free painting process is new to the automotive industry. It has been designed for two-tone coatings, allowing paint application on defined areas like car roofs, with a 100% transfer efficiency. We have developed a matching basecoat system for our customers which enables this innovative coating application. With overspray-free application, both the design variety and individualization of a car can be increased while achieving significant savings in manual work, time, costs and material in the paint line.

## Acquisitions/JVs/investments

from 2017 onward

| Product group  | Description  | Year |
|----------------|--|------|
| Automotive OEM | Paint production in Bangpoo, Thailand                            | 2017 |
|                | Basecoats and intermediates production in Shanghai, China        | 2017 |
|                | Waterborne capacity expansion in Tultitlan, Mexico               | 2019 |
|                | Construction of automotive application center in Shanghai, China | 2019 |
|                | Resin capacity expansion in Caojing, China                       | 2020 |
|                | Expansion of e-coat production in Greenville, Ohio               | 2020 |
|                | Spraybooth capacity upgrade in Windsor, Canada                   | 2020 |
|                | Upgrade of e-coat application center in Münster, Germany         | 2021 |
| Refinish       | Application center upgrade in Guadalajara, Spain                 | 2022 |
|                | Acquisition of UBench BV, Turnhout, Belgium                      | 2019 |
|                | New laboratory facility in Münster, Germany                      | 2021 |
|                | Capacity expansion in Jiangmen, China                            | 2022 |

## Acquisitions/JVs/investments (continued)

from 2017 onward

| Product group            | Description  | Year |
|--------------------------|--|------|
| Surface treatment        | Capacity increase for Naftoseal <sup>®</sup> aircraft sealant production in Langelsheim, Germany | 2019 |
|                          | New surface treatment site in Pinghu, China  | 2021 |
| New business development | New production for functional films in Münster, Germany  | 2020 |

## Major production sites

BASF Coatings manufactures its products at more than 70 sites worldwide. Our most important sites are listed below.

| Product group     | Site  |
|-------------------|---|
| Automotive OEM    | Münster, Germany; Guadalajara, Spain; Shanghai, China; Greenville, Ohio; Tultitlán, Mexico                                |
| Refinish          | Münster, Germany; Clermont de l'Oise, France; Windsor, Canada; Jiangmen, China  |
| Surface treatment | Langelsheim, Germany; Sens, France; Guissano, Italy; Boksburg, South Africa; Shanghai, China; Blackman Township, Michigan |
| Decorative paints | Demarchi and Jabotão, Brazil  |

## Nutrition & Care

In the Nutrition & Care segment – consisting of the Care Chemicals and Nutrition & Health divisions – we serve the growing and increasingly sophisticated demands for fast-moving consumer goods. Our customers include food and feed producers as well as the pharmaceutical, cosmetics, detergent and cleaner industries. We strive to expand our position as a leading provider of ingredients and solutions for consumer applications in the areas of nutrition, home and personal care. Our goal is to drive organic growth by focusing on emerging markets, new business models and sustainability trends in consumer markets, supported by targeted acquisitions.

### Divisions

#### Care Chemicals

Ingredients for the cosmetics, detergent and cleaner industries, agrochemical and technical applications

[page 58](#)

#### Nutrition & Health

Products for the food and feed industries, the flavor and fragrance industry, the pharmaceutical industry and the ethanol industry

[page 60](#)



BASF has launched three digital virtual assistants to cover key customer needs:

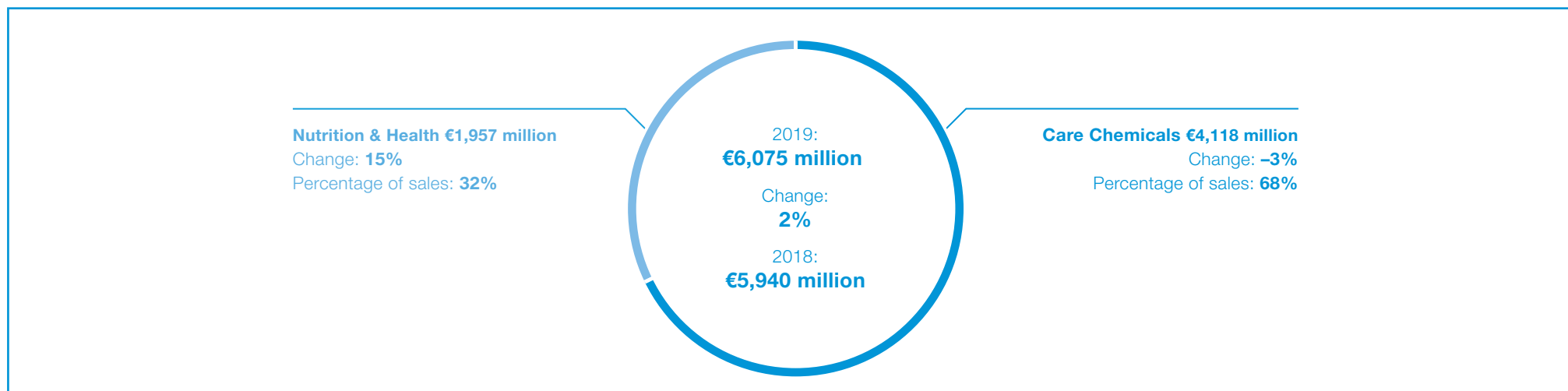
- ZoomLab™
- RegXcellence™
- MyProductWorld

ZoomLab™ predicts optimized formulations of pharmaceutical drugs faster and more precisely than previously possible. Finding the right combination between the active pharmaceutical ingredient and excipients is very time and resource-consuming.

RegXcellence™ makes registration processes seamless, saving customers time and costs during important milestones such as qualification of ingredients and market authorization of their drugs.

The third virtual assistant, MyProductWorld, provides the customer with a comprehensive list of excipients and API solutions to help them find what they need in one convenient interactive platform.

## Sales 2019



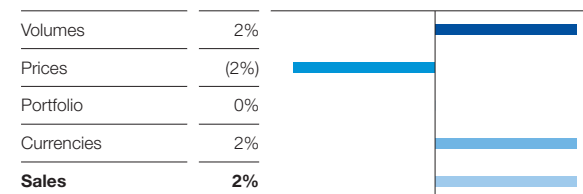
## Segment data Nutrition & Care

Million €

|   | 2019  | 2018  |
|---|-------|-------|
| Sales to third parties  | 6,075 | 5,940 |
| Share of total BASF sales   | 10    | 10    |
| of which Care Chemicals   | 4,118 | 4,244 |
| Nutrition & Health  | 1,957 | 1,696 |
| Income from operations before depreciation and amortization (EBITDA) before special items | 1,214 | 1,128 |
| Income from operations before depreciation and amortization (EBITDA)                      | 1,189 | 1,107 |
| EBITDA margin   | 20    | 19    |
| Income from operations (EBIT) before special items  | 793   | 736   |
| EBIT before special items margin  | 13    | 12    |
| Income from operations (EBIT)   | 644   | 715   |
| EBIT margin   | 11    | 12    |
| Return on capital employed (ROCE)   | 10.0  | 11.8  |

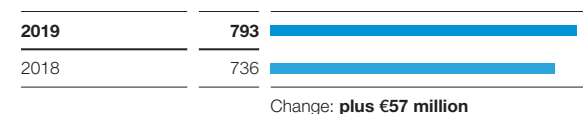
## Factors influencing sales

2019 versus 2018



## EBIT before special items

Million €





## Care Chemicals

BASF's Care Chemicals division is a globally leading supplier to the cosmetics, detergent and cleaner industries, including technical applications. Together with our customers, we create innovative solutions to meet the current and future needs of society more sustainably. We contribute to the long-term success of our customers' brands with a broad range of products and concepts via our global network of production and development sites.

### Portfolio

#### Personal care

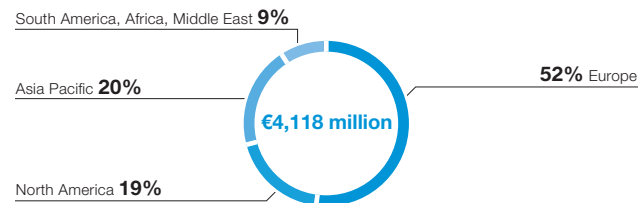
We offer high-quality, added-value ingredients for the personal care industry. Our focus on consumer trends and our ability to innovate and bring new products rapidly to market contribute strongly to the success of our customers. We take into consideration the entire value chain in order to develop sustainable solutions. The personal care product range includes surfactants and emulsifiers, polymers, emollients, cosmetic active ingredients and UV filters.

Our business approach draws its inspiration for products and concepts from consumers and society. This is exemplified by our Care Creations® brand which clearly expresses our strengths of scientific excellence, market knowledge and agility, making BASF's personal care business a valued partner for the industry.

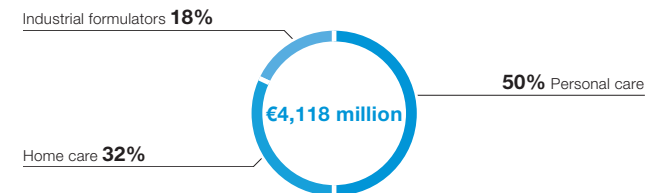
#### Home care and industrial & institutional cleaning

We develop, produce and market a wide range of products for detergents and cleaning solutions worldwide. As the innovation leader in this market, we offer choices to our customers and provide the best-possible solutions to successfully cater to today's and tomorrow's market needs and changing regulatory requirements. Our strong R&D base and in-depth market and application expertise set us apart from the competition and make us the partner of choice for formulators of efficient, convenient, sustainable and safe-to-use

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



detergents and other cleaning products. Our portfolio, which is constantly being further developed, includes surfactants, enzymes, water-soluble polymers, chelating agents, biocides, optical effect products, stabilizers and methane sulfonic acid.

#### Industrial formulators

We develop and commercialize a broad portfolio of processing aids, differentiating additives and surface-active building blocks for a wide range of industrial applications and further downstream processing. With our formulation know-how and understanding of the physico-chemical properties of our products, we enable customer-specific solutions. In addition, we market an extensive portfolio of performance enhancers to crop protection and plant nutrition specialists. Our product portfolio includes dispersants, emulsifiers, surface modifiers, solvents, chelating agents, biocides, micronutrients and methane sulfonic acid.

### BASF's market position

We are a leading supplier globally for the personal care and home care industries.

### Main competitors

- Personal care: Ashland, Clariant, Croda, DSM, Evonik, Nouryon, Solvay
- Home care and industrial & institutional cleaning: Dow, DuPont, Nouryon, Novozymes
- Industrial formulators: Clariant, Sasol, Solvay



## Focus of research and development

We systematically generate ideas for new products in close collaboration with our customers, achieving innovation leadership in key market segments. In our core technologies, process innovation targets continuous cost, capacity and yield improvement for existing products to ensure cost leadership for our major product lines. Additionally, we strive to identify and establish new technologies to best support our customers in driving innovation to consumers.

## Key capabilities of BASF

- Understanding of market needs along the value chain
- Ensuring customer proximity and industry focus across regions and industries
- Innovative and sustainable solutions through BASF's global R&D network
- State-of-the-art formulation technologies
- Strong global production footprint close to our customers, also in emerging markets

## Innovation



### Environmentally friendly and extremely gentle

Sensitive and delicate baby skin needs extra mild care to keep it soft and soothed. Our innovative anionic surfactant Texapon® SFA is based on sustainable, RSPO-certified renewable resources and is extremely gentle on the skin and eyes. This makes it especially suitable for baby skin and formulas for tear-free shampoo products. Clinical tests have shown that formulas based on Texapon® SFA do not cause a burning sensation in the eyes, are easy on the skin and mucous membranes, and create a dense, stable and creamy foam. Texapon® SFA is 100% biodegradable and suitable as an alternative to sulfate surfactants.

## Acquisitions/JVs/investments

from 2017 onward

| Product group             | Description  | Year      |
|---------------------------|--|-----------|
| Emollients and waxes      | New plant in Shanghai, China                               | 2017      |
| Alkoxylates               | Gradual capacity expansion in Antwerp, Belgium             | 2018–2021 |
| Alkyl polyglucosides      | Capacity expansion in Cincinnati, Ohio, and Jinshan, China | 2018–2019 |
| Pearlizers and opacifiers | Capacity expansion in Mauldin, South Carolina              | 2019      |
| Silicates                 | Plant modernization in Düsseldorf-Holthausen, Germany      | 2019      |
| Polyacrylates             | Capacity expansion in Ludwigshafen, Germany                | 2019      |
| Methane sulfonic acid     | Capacity expansion in Ludwigshafen, Germany                | 2021      |
| Optical brighteners       | Capacity expansion in Monthey, Switzerland                 | 2022      |

## Divestitures/shutdowns

from 2017 onward

| Product group       | Description  | Year |
|---------------------|--|------|
| Surfactants         | Transfer of production of surfactants and other products manufactured in Washington, New Jersey, to Geismar, Louisiana; closure of Washington site | 2017 |
|                     | Divestiture of oleochemical surfactants business in Mexico, including production site in Ecatepec, Mexico  | 2018 |
| Optical brighteners | Divestiture of stilbene-based optical brightening agents in Ankleshwar, India  | 2019 |

## Major nameplate capacities of BASF

thousand metric tons per year

| Product group         | Location   | Capacity <sup>1</sup> |
|-----------------------|--|-----------------------|
| Chelating agents      | Europe, North America, South America               | 170                   |
| Methane sulfonic acid | Europe   | 30                    |
| Non-ionic surfactants | Europe, North America, Asia Pacific                | 635                   |
| Anionic surfactants   | Europe, North America, South America, Asia Pacific | 600                   |

<sup>1</sup> All capacities (including joint ventures) included at 100%

## Nutrition & Health

BASF's Nutrition & Health division develops, produces and markets a comprehensive range of ingredients and solutions for the nutrition and health industry. Our products fulfill the highest safety, regulatory and sustainability standards. Together with our customers, we play an active part in enhancing the nutrition and health of consumers all over the world.

### Portfolio

#### Aroma ingredients

BASF offers a wide variety of aroma ingredients, such as L-menthol, geraniol, citronellol and linalool, which are part of our citral value chain. In 2017 and 2018, we started up a new aroma ingredients complex in Kuantan, Malaysia, together with our joint venture partner PETRONAS Chemicals Group. Through the acquisition of Isobionics® and the partnership with Conagen, we broadened our portfolio with biotech-based natural ingredients. Our aroma ingredients are sold to the flavor and fragrance industry for use mainly in home and personal care products, in fine fragrances and in the food industry:

- Rose scents: geraniol, citronellol, dihydrorosan
- Citrus scents: citral, citronellal
- Mint scents: L-menthol, DL-menthol
- Lavender scents: linalool, tetrahydrolinalool
- Muguet scents: lysmeral, pyranol

By combining science with passion, we support our customers with high-quality fragrances and flavors. Furthermore, we sustainably increase our contribution to bring attractive fragrances and flavors to our daily lives.

#### Animal nutrition

BASF is a leading supplier of feed additives for animal nutrition. Our product portfolio for livestock and companion animals includes:

- Vitamins
- Carotenoids
- Enzymes
- Organic acids
- Mycotoxin binders
- Organically bound trace elements
- Omega-6 fatty acids and more

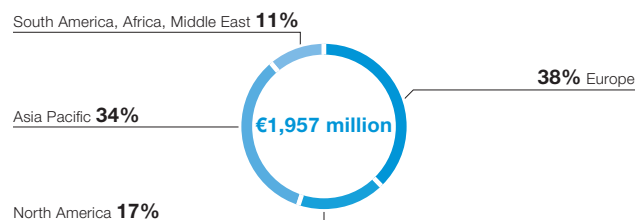
High-quality feed additives, pioneering innovations and global presence close to our customers have made BASF a leader in the animal nutrition industry.

#### Human nutrition

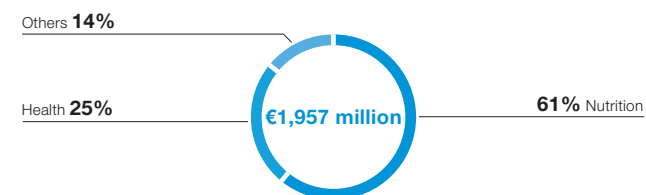
Our health ingredients are based on solid scientific foundations and contribute to a longer, healthier and more active life. Used for a wide range of applications in strategic market segments including early life nutrition, dietary supplements, functional nutrition and medical foods, our product range comprises:

- High-concentrated omega-3 fatty acids
- Plant sterols and sterol esters
- Vitamins
- Carotenoids
- Human milk oligosaccharides: 2'-fucosyllactose
- Plant-based peptides

### Sales by region 2019 (location of customer)



### Sales by direct customer industry 2019



Furthermore, we offer a comprehensive performance ingredient portfolio for the beverage and food industry. Our products are used as stabilizers or colorants in various applications and include:

- Emulsifiers
- Enzymes
- Specialty compounds
- Filtration aids

BASF human nutrition application labs around the world combine global expert knowledge with a deep understanding of local needs, preferences and insights. Our experts support customers from innovation discussions to implementation, enabling them to respond quickly to consumer needs to bring innovative solutions to market.

#### Pharma solutions

At BASF we produce excipients and active ingredients of outstanding quality and performance. Our team of experienced industry specialists supports our customers in developing effective, reliable formulations – giving them a vital advantage in a highly demanding market. Equipped with an in-depth understanding of multiple industries, technologies, and applications, we have the skills and resources to make drug manufacturing and drug delivery more efficient, robust, and cost-effective. Whether the need is to make the medicine more effective, safer, or just more patient-friendly, BASF has the right solution.

### Enzymes

BASF develops, produces and markets a comprehensive selection of high-performance enzymes for a wide range of industries. By harnessing the power of nature and leveraging our unique, patented technology, we create a broad range of specialty products that meet high-value commercial needs. BASF enzyme solutions are designed to generate revenue in an environmentally sustainable way by maximizing efficiency while improving environmental performance. We offer industrial enzymes for the following markets:

- Animal nutrition
- Human nutrition
- Home care and industrial & institutional solutions
- Bioethanol
- Oilfield solutions
- Pulp and paper

### BASF's market position

BASF's Nutrition & Health division is among the top three suppliers in all important product groups worldwide.

### Main competitors

- Aroma ingredients: DSM, NHU, Symrise, IFF
- Animal nutrition: various Chinese companies, DSM, DuPont
- Human nutrition: DSM, DuPont, various Chinese companies
- Pharma solutions: Ashland, Evonik, Croda, KD Pharma, Huatai, Solara, IOL
- Enzymes: Novozymes, DuPont, DSM

### Focus of research and development

Together with our partners, we continuously work on translating ideas into innovations. Ongoing process innovation ensures technological and cost leadership in our major product lines.

### Innovation



### Acquisition of Isobionics®

Through this acquisition, BASF has expanded its portfolio with biotech-based natural ingredients. Isobionics® is an innovation leader in biotechnology, serving the global market for natural flavors and fragrances with a focus on citrus oil components such as valencene and nootkatone. By combining BASF's R&D excellence and broad market access with the know-how and expertise of Isobionics®, we will advance the technology for biotech-based aroma ingredients, serve the increasing market demand and ensure high quality standards.

### Key capabilities of BASF

- Cost leadership through integration into the Verbund
- Value-driven innovation to support customer needs
- Deep understanding of the nutrition and health market
- High expertise in a complex regulatory environment
- Sustainability and quality management

### Acquisitions/JVs/investments

from 2017 onward

| Product group     | Description   | Year      |
|-------------------|---|-----------|
| Aroma ingredients | New integrated aroma ingredients complex in Kuantan, Malaysia   | 2017–2018 |
|                   | Acquisition of Isobionics   | 2019      |
| Animal nutrition  | New vitamin A production plant in Ludwigshafen, Germany   | 2021      |
| Human nutrition   | Expansion of high-grade vitamin E in Ludwigshafen, Germany  | 2018      |
| Pharma solutions  | Expansion of PVP value chain: extension of capacities in Ludwigshafen, Germany; Shanghai, China; Geismar, Louisiana | 2016–2019 |
|                   | Expansion of ibuprofen production in Bishop, Texas  | 2020      |
|                   | New ibuprofen production plant in Ludwigshafen, Germany   | 2022      |

### Major production sites

| Product group     | Site  |
|-------------------|---|
| Human nutrition   | Illertissen and Ludwigshafen, Germany; Ballerup, Denmark; Boussens, France; Kankakee, Illinois; Hutt Lagoon, Whyalla and Cheltenham, Australia; Gunsan, South Korea |
| Animal nutrition  | Ludwigshafen, Germany; Shenyang, China; Gunsan, South Korea   |
| Pharma solutions  | Sandefjord, Norway; Callanish, United Kingdom; Bishop, Texas  |
| Aroma ingredients | Ludwigshafen, Germany; Kuantan, Malaysia  |

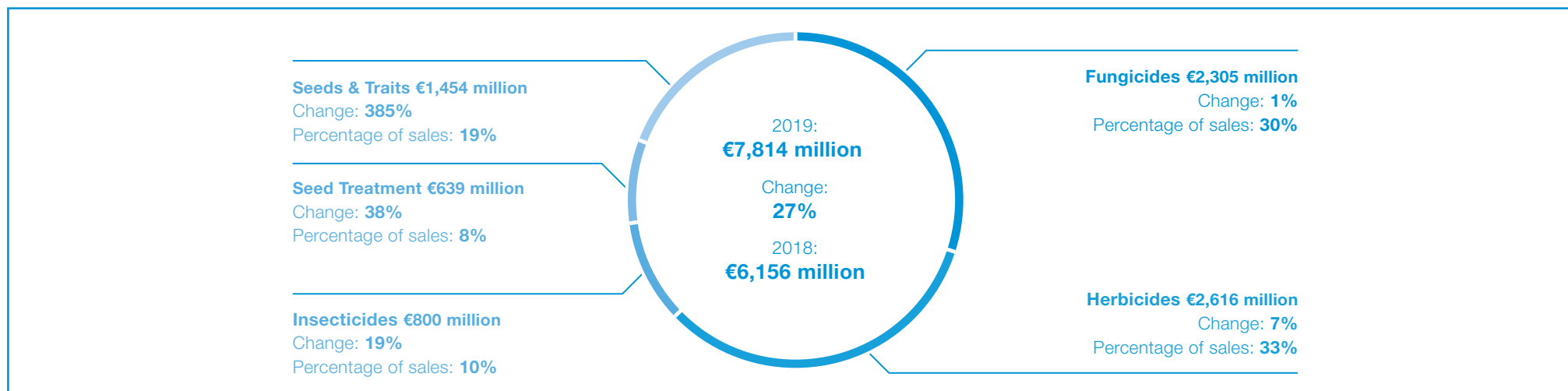
## Agricultural Solutions

In the Agricultural Solutions segment, we aim to further strengthen our market position as an integrated provider of crop protection products, seeds and digital solutions. The portfolio comprises fungicides, herbicides, insecticides and biological crop protection products, as well as seeds and seed treatment products. Our strategy is based on innovation-driven organic growth, targeted portfolio expansion and leveraging synergies from acquisitions. Customer needs, societal expectations and regulatory requirements are our innovation drivers for the segment.

Following the successful integration of the businesses acquired from Bayer, we offer farmers a connected portfolio of agricultural solutions. Our strategy aims for innovation-driven growth in four major strategic customer segments and their crop systems: soy, corn (maize) and cotton in the Americas; wheat, canola (oilseed rape) and sunflower in North America and Europe; rice in Asia; and fruit and vegetables globally. At BASF, we believe in finding the right balance for success. With our connected offer, we can achieve this for the environment, society and agriculture alike.



## Sales 2019



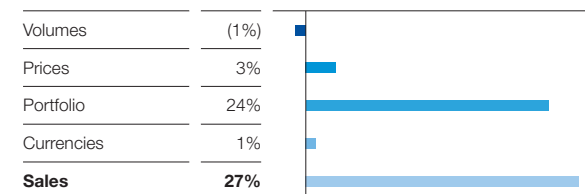
## Segment data Agricultural Solutions

Million €

|   | 2019  | 2018  |
|---|-------|-------|
| Sales to third parties  | 7,814 | 6,156 |
| Share of total BASF sales   | % 13  | 10    |
| Income from operations before depreciation and amortization (EBITDA) before special items | 1,809 | 1,128 |
| Income from operations before depreciation and amortization (EBITDA)                      | 1,647 | 985   |
| EBITDA margin   | % 21  | 16    |
| Income from operations (EBIT) before special items  | 1,095 | 734   |
| EBIT before special items margin  | % 14  | 12    |
| Income from operations (EBIT)   | 928   | 591   |
| EBIT margin   | % 12  | 10    |
| Return on capital employed (ROCE)   | % 5.3 | 5.1   |

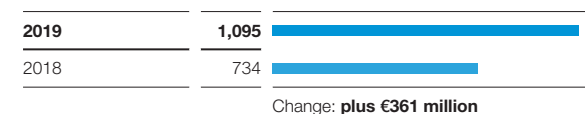
## Factors influencing sales

2019 versus 2018



## EBIT before special items

Million €





## Agricultural Solutions

As the world's population continues to grow, farmers face the challenge of increasing their productivity while balancing environmental protection and societal needs. With a deep understanding of how growers manage their farms and their crop systems, we can better serve them with a connected offer based on our expanded portfolio and practical, down-to-earth advice. We continually invest in our well-stocked innovation pipeline.

### Portfolio

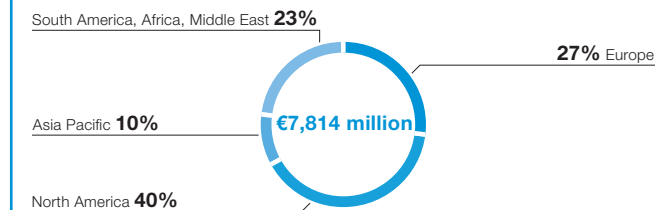
BASF focuses its activities in agriculture on specific markets and crop systems: soy, corn (maize) and cotton in the Americas; wheat, canola (oilseed rape) and sunflower in North America and Europe; rice in Asia; and fruit and vegetables globally. We actively steer our offer toward sustainable solutions.

### Fungicides

Conducting pioneering research to find new active ingredients in the fight against fungal diseases:

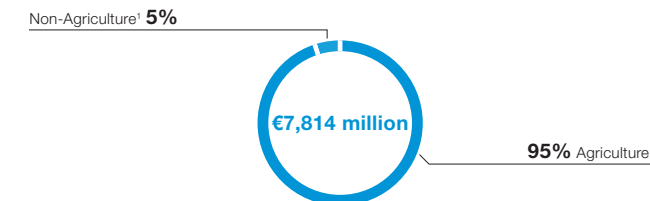
- Xemium® is a key component of BASF's fungicides portfolio due to its broad-spectrum disease control. It has excellent mobility in the plant and long-lasting residual action. Xemium® is commercially available in more than 70 countries for over 140 crops.
- Revysol® is our latest compound. It meets the highest level of regulatory standards and offers outstanding biological performance against difficult-to-control pathogens in specialty and row crops. The active ingredient has received registrations in all regions. The first Revysol®-based products have been launched in the United States and Europe.

### Sales by region 2019 (location of customer)



<sup>1</sup> Aquaculture, forestry, home and garden, industrial weed control, ornamentals, public health, turf, urban pest control

### Sales by direct customer industry 2019



### Herbicides

Reducing competition from weeds for nutrients, water and sunlight to secure yield and harvest quality:

- Luximo® and Tirexor®, herbicides to manage difficult-to-control grasses and broadleaf weeds, are expected to enter the market from 2020 onward.
- Liberty® and Basta® herbicides, based on glufosinate-ammonium, control weeds in a wide variety of row and specialty crops. Liberty® is designed for LibertyLink®-enabled canola, corn, cotton and soybeans while Basta® is particularly effective on some of the most damaging and hard-to-control weeds in horticulture.

### Insecticides

Combating insect pests in agriculture and beyond:

- Inscalis<sup>1</sup> is a new insecticide for resistance and integrated pest management. Derived from a natural fermentation process, the active ingredient offers a favorable environmental profile to beneficial insects.
- Broflanilide<sup>2</sup> offers a novel mode of action to control chewing pests with market launch expected in 2020. Seed treatment applications, marketed under the Teraxxa™ brand, will target difficult to manage wireworms with an expected launch in 2021.

- Alpha-cypermethrin controls a broad spectrum of insect pests in agriculture, forestry and public health. The formulation Fendona® is a valuable public health tool recommended by the WHO to combat malaria and other insect-borne diseases.

### Seed treatment<sup>3</sup>

Biological and chemical crop protection, functional coatings and colorants to improve seed performance:

- PONCHO®/VOTIVO® is a systemic insecticide and biological seed treatment for use on a wide range of crops to control insect pests and protect from soil plant pathogenic nematodes.
- ILeVO® seed treatment for soybeans provides broad-spectrum nematode protection, for instance against soybean sudden death syndrome and cyst nematode, two of the top yield robbers.

### Field crop seeds

Research capabilities for traits and breeding, as well as corresponding commercial activities and brands:

- InVigor® canola (oilseed rape) sold in North America, Europe and Australia offers high yielding hybrids. In Canada, InVigor® is also combined with the LibertyLink® trait, enabling weed management.

<sup>1</sup> Co-developed with Meiji Seika Pharma Co. Ltd

<sup>2</sup> Co-developed with Mitsui Chemicals Agro, Inc.

<sup>3</sup> Functional crop care has been renamed seed treatment



- FiberMax® and Stoneville® cotton, available with herbicide tolerance and insect resistance trait brands LibertyLink®, GlyTol®, TwinLink® and TwinLink® Plus, brings value with yield and high-quality fiber.

**Vegetable seeds**

Developing hybrid varieties for different growing conditions, mainly marketed under the Nunhems® brand. It comprises 24 crops, such as carrots, melons and tomatoes, and more than 1,200 varieties.

- Watermelon – almost 100 hybrids adapted to cultural preferences and changing customer needs such as seedless watermelons and smaller-sized fruits. “Kisy,” the first snack watermelon in the market, attracts younger generations and single households with its smaller fruit size of only 1 kg. It contributes to a healthier lifestyle and offers new opportunities for the food service sector.

**Digital farming**

Growers using BASF’s digital products, marketed under the xarvio® Digital Farming Solutions brand, can achieve higher yields with fewer natural resources and crop inputs. We will also apply precision technologies and digitalization to seize future innovation opportunities in agriculture. This includes new, outcome-based business models enabling farmers to achieve yield forecasts that have been agreed in advance.

**BASF’s market position**

- Agricultural Solutions: No. 4 globally

**Main competitors**

- Agricultural Solutions: Bayer, Corteva, Syngenta, FMC

**Research and development pipeline**

Our well-stocked innovation pipeline comprises products across all business areas with launch dates between 2019 and 2029.

**Innovation**



It represents a peak sales potential of more than €7.5 billion. This is the result of active R&D portfolio steering and fully integrated sustainability criteria. More than 30 key projects will be launched worldwide by 2029, including our new fungicide Revysol® and Broflanilide insecticide. We will further strengthen our innovation pipeline with unique traits and high-performing seeds. For instance, InVigor® pod shatter reduction and clubroot-resistant trait technologies for canola will aid in protecting yield potential and deliver added flexibility for growers at harvest. From mid-decade, our hybrid wheat seed will help growers in North America and Europe to optimize yield, production stability and grain quality, as well as to improve profitability and sustainability.

**Key capabilities of BASF**

- Strong customer orientation with a connected offer for strategic crop systems
- Well-stocked R&D pipeline and stringent patent management
- Focus on innovative products that enable balance between agricultural productivity, environmental protection and society’s needs
- Innovative digital farming solutions
- Strong integration into the Production and Know-How Verbund

**e3® Sustainability Cotton Program**

e3® is BASF’s program for sustainable cotton in the United States, enabling farmers to meet customer demand for more traceable and sustainable supply chains in the fashion industry. They commit to growing cotton more efficiently and to reducing the impact on the environment. e3® cotton can be traced from the farmer to the retailer and shows end consumers that their clothes have been produced in a fair, economically viable and environmentally responsible way. Verification and certification through independent audits increase the recognition of sustainably produced cotton. BASF is the only company providing this level of traceability.

**Acquisitions/JVs/investments/divestitures**

from 2017 onward

| Product group                          | Description   | Year |
|--|---|------|
| Crop protection/ Seeds/Digital farming | Acquisition of businesses and assets from Bayer                           | 2018 |
| Seed treatment                         | Capacity expansion in Europe  | 2017 |
|  | Capacity expansion in North America                                       | 2017 |
| Inscalis®                              | New production capacity in Europe   | 2017 |
| Revysol®                               | New production capacity in North America                                  | 2018 |
| Herbicides                             | Commissioning of glufosinate-ammonium precursor in Europe                 | 2018 |
| Vegetable seeds                        | Commissioning of a breeding center for cucumbers in Europe                | 2018 |
|  | Divestiture of HILD Samen business to Graines Voltz                       | 2020 |
| Formulation capacities                 | Expansion of existing plants in North America                             | 2018 |
|  | New formulation facility in Singapore                                     | 2021 |
| Infrastructure measures                | Infrastructure measures for active ingredients and formulation capacities | 2020 |
| Digital farming                        | Acquisition of ZedX Inc., United States                                   | 2017 |

## Other

### Activities that are not allocated to any of the segments are recorded under Other.

The following activities are presented under Other:

- Cross-divisional corporate research, which includes plant biotechnology research, works on long-term topics of strategic importance to the BASF Group. Furthermore, it focuses on the development of specific key technologies, which are of central importance for the divisions.
- The steering of the BASF Group by corporate headquarters
- Other businesses, which comprise commodity trading, engineering and other services, as well as rental income and leases.
- Results from currency translation that are not allocated to the segments; earnings from the hedging of raw materials prices and foreign currency exchange risks; and gains and losses from the long-term incentive (LTI) program.
- Miscellaneous income and expenses include expenses and income in connection with contaminated sites, project costs that are not allocated to the segments and, since the beginning of 2019, remanent fixed costs resulting from organizational changes or restructuring, function and region-related restructuring costs not allocated to a division, and idle capacity costs from internal human resource platforms.

Discontinued operations and all remaining activities after divestitures not previously reported under Other have also been reported here since January 1, 2019. These remaining activities include, for example, equity-accounted participating interests assumed in the context of divestitures or supply obligations. The remaining activities for the leather and textile chemicals business, previously recorded in the Performance Products segment, and the remaining activities for the industrial coatings business, previously recorded in the Functional Materials & Solutions segment, were reclassified to Other. Discontinued operations include the business of the former Construction Chemicals division.

### Other

#### Financial data – Other

Million €

|  | 2019   | 2018   |
|--|--------|--------|
| Sales  | 2,898  | 2,841  |
| Income from operations before depreciation and amortization (EBITDA) before special items <sup>1</sup> | (414)  | (335)  |
| Income from operations before depreciation and amortization (EBITDA) <sup>1</sup>                      | (334)  | (378)  |
| Depreciation and amortization <sup>2</sup>   | 184    | 128    |
| Income from operations (EBIT) <sup>1</sup>   | (518)  | (506)  |
| Special items  | 21     | (45)   |
| EBIT before special items <sup>1</sup>   | (581)  | (461)  |
| of which costs for cross-divisional corporate research   | (397)  | (414)  |
| costs of corporate headquarters  | (231)  | (249)  |
| other businesses   | 73     | 25     |
| foreign currency results, hedging and other measurement effects  | (89)   | 324    |
| miscellaneous income and expenses  | (44)   | (147)  |
| Assets <sup>3</sup>  | 27,585 | 26,856 |
| Investments including acquisitions <sup>4</sup>  | 299    | 759    |
| Research and development expenses  | 411    | 414    |

<sup>1</sup> The 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings. The figures for 2018 have not been restated.

<sup>2</sup> Amortization of intangible assets and depreciation of property, plant and equipment (including impairments and reversals of impairments)

<sup>3</sup> Contains assets of businesses recognized under Other as well as reconciliation to assets of the BASF Group including the disposal group for the oil and gas business and the construction chemicals business

<sup>4</sup> Additions to intangible assets and property, plant and equipment

Some of the investments accounted for using the equity method 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. To increase reporting transparency, these are 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. Consequently, since January 1, 2020 with the prior-year figures restated, income from non-integral companies accounted

for using the equity method are no longer presented in the BASF Group's EBIT and EBIT before special items (under "Other"), 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 will also be shown separately in the balance sheet. The statement of income for 2019 has been restated accordingly.

# Non-integral Shareholding in Wintershall Dea

With the merger of Wintershall Holding GmbH and DEA Deutsche Erdoel AG, two successful companies with a long tradition have formed Europe's leading independent natural gas and oil company: Wintershall Dea.

The company with German roots and headquarters in Kassel and Hamburg explores for and produces gas and oil in 13 countries worldwide in an efficient and responsible manner. With activities in Europe, Russia, Latin America and the MENA region (Middle East and North Africa), Wintershall Dea has a global upstream portfolio. Furthermore, with its participation in natural gas transport, it is also active in the midstream business.

Wintershall Dea stands for over 125 years of experience as an operator and project partner along the entire E&P value chain. The company employs around 2,800 people worldwide from over 60 nations.

## The merger and the shareholders of Wintershall Dea

Following the approval of all relevant authorities, BASF and LetterOne successfully completed the merger of Wintershall and DEA on May 1, 2019. BASF holds 67% and LetterOne 33% of Wintershall Dea's ordinary shares, reflecting the value of the respective exploration and production businesses of Wintershall and DEA. To reflect the value of Wintershall's gas transportation business, BASF received additional preference shares. This resulted in BASF having a total initial shareholding in Wintershall Dea of 72.7%. No later than 36 months after closing but definitely before an Initial Public Offering (IPO), these preference shares will be converted into ordinary shares of Wintershall Dea. BASF and LetterOne envisage to list Wintershall Dea via an IPO in a more favorable market environment.

## Business Segments

Non-integral Shareholding in Wintershall Dea

### Key financials of Wintershall Dea on a like-for-like basis

| Million €                        | 2019  | 2018  |
|----------------------------------|-------|-------|
| Revenues and other income        | 5,930 | 6,738 |
| EBITDAX <sup>1</sup>             | 2,828 | 3,591 |
| Adjusted net income <sup>2</sup> | 879   | 1,055 |

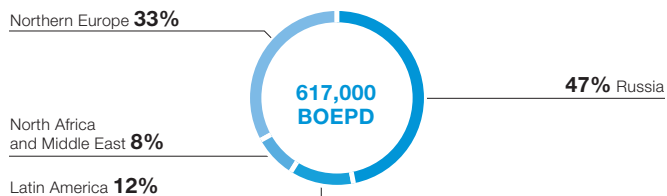
- EBITDAX is a non-GAAP financial measure and is used for internal management control purposes within the Wintershall Dea group. It is a key indicator obtained from the income statement, derived from the profit/loss before taxes adjusted for interest income and expense, depreciation and amortization and impairments, exploration income and expenses, acquisition, disposal and restructuring expenses, realized and unrealized foreign exchange gains and losses, gains or losses over book value from disposal of fixed assets.
- Adjusted net income is derived from net income and adjusted for special items like impairments, integration and restructuring cost and one-off effects.

## Operating and financial performance of Wintershall Dea

In 2019, Wintershall Dea had revenues and other income of €5.9 billion, income from operations before depreciation, amortization and exploration (EBITDAX) of €2.8 billion and adjusted net income of €879 million (on a like-for-like basis). Total production of Wintershall Dea (excluding Libya onshore) was 617,000 barrels of oil equivalent per day (BOEPD). As of December 31, 2019, proven reserves stood at 3 billion barrels of oil equivalent (BOE), corresponding to a reserve to production ratio of 13 years. The integration of the former Wintershall and Dea businesses is proceeding as planned and Wintershall Dea expects to achieve annual synergies of more than €200 million by 2022.

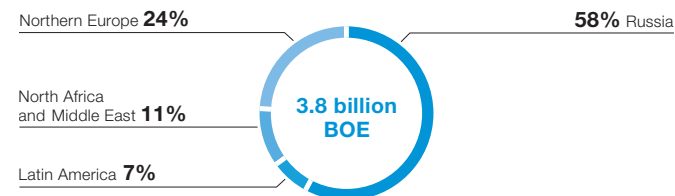
## Wintershall Dea

### Production 2019 by region



## Financials

### Proven reserves (2P) 2019 by region



## Activities by region



## Germany

Wintershall Dea's roots lie in Germany. The company has been active in the exploration and production business for more than eight decades. It predominantly produces from the Mittelplate and Emlichheim oil fields and the Völkersen gas field, where more than 85% of the combined hydrocarbon production in Germany comes from. Production in Germany requires particular expertise, which the company can apply in its operations globally. The company's operations in Mittelplate are considered exemplary and regarded internationally as a benchmark for safe oil production in an environmentally sensitive area.

### Norway

Norway is Europe's most important supplier of natural gas and oil besides Russia. Wintershall Dea has operated on the Norwegian continental shelf for more than 45 years and is now one of the leading oil and gas companies there. Wintershall Dea is operator of many of its approximately 100 concessions, such as for the producing fields Brage and Vega.

### The Netherlands

Wintershall Dea has been active in the Dutch North Sea for more than 50 years. As a shareholder of Wintershall Noordzee (50% Wintershall Dea, 50% Gazprom), the company is currently one of the major producers of natural gas in the region.

### Denmark

The southern North Sea still plays a major role in Europe's energy supply, as repeatedly demonstrated by new projects. For example, the company commenced production as a shareholder of Wintershall Noordzee (50% Wintershall Dea, 50% Gazprom) at Ravn, its first self-operated oil field, in 2017. It has a stake in three other oil fields in Denmark.

### United Kingdom

Wintershall Dea holds six concessions off the British coast as a shareholder of the operator Wintershall Noordzee (50% Wintershall Dea, 50% Gazprom). The most important project at present is the company's first self-operated natural gas production in the British North Sea: Gas is being produced successfully from Wingate, a field discovered in 2008, using an unmanned platform.

### Russia

Russia is one of the world's most resource-rich countries. It has the sixth-largest oil reserves and around one-fifth of all known natural gas reserves. The country is the most important supplier of gas to the E.U. Wintershall Dea is involved with Russian partners in exploring and producing hydrocarbons in Western Siberia and southern Russia. The joint projects have supplied energy to Europe for over

25 years. Wintershall Dea is involved in four onshore projects in Russia: The Urengoy field – one of the world's largest gas and condensate reserves – is located some 3,500 kilometers northeast of Moscow, near the Western Siberian city of Novy Urengoy. There the Achimgaz joint project produces natural gas from the technically complex Achimov Formation. Another joint venture, Achim Development, is developing blocks 4A and 5A. A little further south and also in the Yamalo-Nenets Autonomous Okrug is the Yuzhno-Russkoye field, in which Wintershall Dea has a stake via the Severneftegazprom joint venture. The Wolgodeminoil joint venture produces crude oil in southern Russia near Volgograd, an important transport hub and industrial center.

### Argentina

Wintershall Dea has been active in Argentina for more than 40 years. Today, the company has a stake in a total of 20 onshore and offshore fields. It acts as operator for three of them. Argentina not only has large amounts of conventional resources but is also one of the most important growth regions in the area of unconventional resources.

### Mexico

Mexico has some of the world's largest proven reserves. After entering the national oil and gas market in 2017, Wintershall Dea established a major position there in just one year. This also includes being operator of the producing Ogarrio oil field. The company also holds shares in promising exploration licenses.

### Brazil

Brazil is one of the most attractive growth regions for the oil and gas industry. The coastal region in particular, with its undeveloped offshore basins, is considered especially promising. Wintershall Dea aims to set up a resource base there in the next few years. In 2018 and 2019, the company secured a number of promising licenses. Initial exploration activities in the assigned blocks started in 2019.

### Egypt

Wintershall Dea has been active in Egypt for more than 40 years. Several oil fields in the Gulf of Suez have been developed – and production is now being stepped up again. The same holds true for gas production in the onshore Nile Delta, where Wintershall Dea was awarded a new exploration license in 2019. In both areas, the company is the operator. It is also a partner in the major West Nile Delta project, where four out of five fields have already started production.

### Libya

Wintershall Dea has been involved in the exploration and production of crude oil in Libya since 1958. The company operates eight onshore fields and has a stake in the offshore field Al-Jurf. Since 2011, onshore activities have been affected by the difficult political and security situation in the country. Wintershall Dea is monitoring the situation very closely. In December 2019, its affiliate Wintershall Aktiengesellschaft (WIAG) and Libya's National Oil Corporation (NOC) signed two Exploration and Production Sharing Agreements. In 2020, the operations of both areas are planned to be handed over to Sarir Oil Operations, a joint venture between NOC (51%) and WIAG (49%).

### Algeria

The oil and gas sector is the backbone of Algeria's economy. Wintershall Dea is collaborating in a geologically and logistically challenging natural gas project in the Sahara: the Reggane Nord project, in which the company has a stake.

### United Arab Emirates

The United Arab Emirates have the seventh-largest oil reserves in the world. Wintershall Dea has operated there since 2010. In 2018, the national oil company ADNOC awarded it a 10% stake in the Ghasha concession. Ghasha is one of the most promising gas and condensate projects that has yet to be developed in the Emirates. The Ghasha concession offshore Abu Dhabi consists of several major gas and condensate development projects in different phases over the 40-year concession period.

3

# Financials

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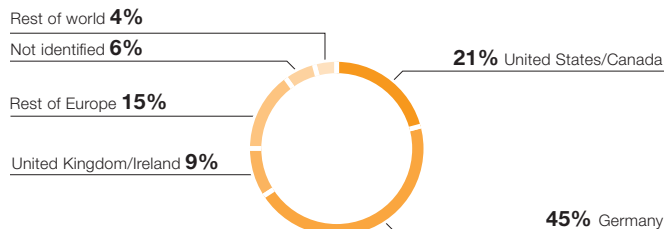
# BASF on the Capital Market

## Broad base of international shareholders

With over 600,000 shareholders, BASF is one of the largest publicly owned companies with a high free float. An analysis of the shareholder structure carried out at the end of 2019 showed that, at around 21% of share capital, the United States and Canada made up the largest regional group of institutional investors. Institutional investors from Germany accounted for around 12%. Shareholders from the United Kingdom and Ireland hold 9% of BASF shares, while investors from the rest of Europe hold a further 15% of capital. Approximately 33% of the company's share capital is held by private investors, nearly all of whom reside in Germany. BASF is therefore one of the DAX 30 companies with the largest percentage of private shareholders.

### Shareholder structure

By region, rounded



## Employees becoming shareholders

In many countries, we offer share purchase programs that turn our employees into BASF shareholders. In 2019, for example, around 25,400 employees (2018: around 25,600) purchased employee shares worth €70.5 million (2018: €79 million).

## BASF – a sustainable investment

BASF has participated in CDP's program for reporting on data relevant to climate protection since 2004. CDP is an international organization representing more than 525 investors with over \$96 trillion in assets and more than 125 major purchasing organizations with \$3.5 trillion in purchasing power. In 2019, BASF achieved a score of A–, thus attaining Leadership status again.

In the scoring framework used by CDP in 2019, BASF is ranked among the best 20% of the participating chemical companies. In their assessment of the company's climate protection efforts and disclosure, the analysts identified, for instance, some potential for further development in the area of power supply from renewable energy sources. In the context of BASF's strategic goal of CO<sub>2</sub>-neutral growth until 2030, such options are currently being explored.

In the CDP assessment for sustainable water management, BASF achieved the top grade of A and thus Leadership status. The assessment takes into account how transparently companies report on their water management activities and how they reduce risks such as water scarcity. CDP also evaluates the extent to which product developments can contribute to sustainable water management for customers of the companies assessed.

BASF continued to be included in the MSCI ESG Ratings in 2019 with a score of AA. The analysts highlighted BASF's Verbund system as a key competitive advantage for resource-efficient processes. BASF's emissions intensity for greenhouse gases and air pollutants – one of the lowest compared with competitors in the chemical industry – was also assessed positively.

## BASF share performance

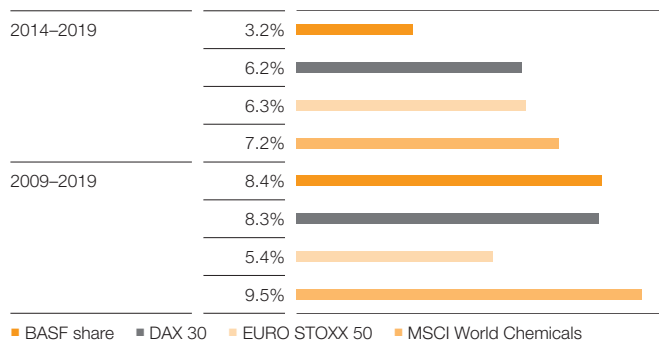
The BASF share ended the 2019 stock market year with a closing price of €67.35, an increase of 11.5% compared with the previous year's closing price. Alongside the general brightening in market sentiment at the end of the year, the increase in BASF's share price was attributable to better earnings developments in BASF's downstream segments.

Assuming that dividends were reinvested, BASF's share performance rose by 16.7% in 2019. The benchmark indexes of the German and European stock markets – the DAX 30 and the EURO STOXX 50 – rose by 25.5% and 29.0% over the same period, respectively. The global industry index MSCI World Chemicals gained 21.0%.

Viewed over a 10-year period, the long-term performance of BASF shares surpasses the German and European benchmark indexes. The assets of an investor who invested €1,000 in BASF shares at the end of 2009 and reinvested the dividends in additional BASF shares would have increased to €2,250 by the end of 2019. This represents an annual yield of 8.4%, placing BASF shares above the returns for the DAX 30 (8.3%) and the EURO STOXX 50 (5.4%).

### Long-term performance of BASF shares compared with indexes

Average annual increase with dividends reinvested



### American depositary receipts

American depositary receipts (ADRs) allow U.S. institutional and retail investors to trade and own non-U.S. companies directly through the U.S. equity markets. BASF has a sponsored level 1 program, which is traded on OTC-QX, the platform for international quality companies on OTC markets. BASF's ADR (Symbol: BASFY) is part of the OTC-QX30 index, which comprises the 30 largest ADR programs listed on OTC markets.

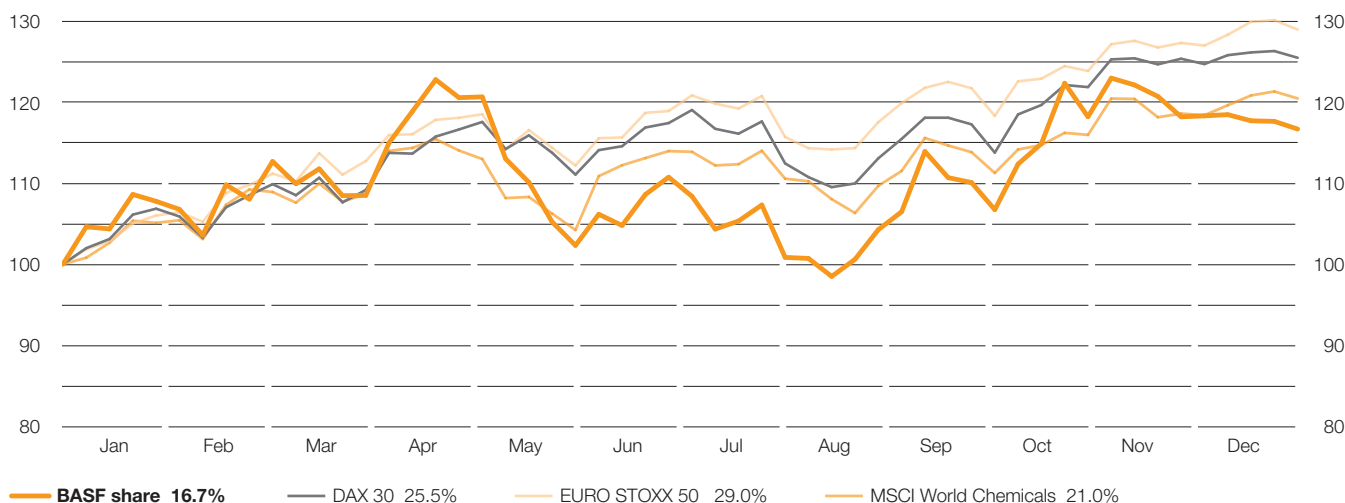
For further information, please see [basf.com/share](http://basf.com/share)

### Analysts' recommendations

Around 30 financial analysts regularly publish studies on BASF. The latest analyst recommendations for our shares as well as the average target share price ascribed to BASF by analysts can be found online at [basf.com/analystestimates](http://basf.com/analystestimates).

### Change in value of an investment in BASF shares in 2019

With dividends reinvested; indexed



### Shareholder return

|                                   |           | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  |
|-----------------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Dividends                         | million € | 2,021 | 2,296 | 2,388 | 2,480 | 2,572 | 2,664 | 2,755 | 2,847 | 2,939 | 3,031 |
| Dividend per share                | €         | 2.20  | 2.50  | 2.60  | 2.70  | 2.80  | 2.90  | 3.00  | 3.10  | 3.20  | 3.30  |
| Share price at year-end           | €/share   | 59.70 | 53.89 | 71.15 | 77.49 | 69.88 | 70.72 | 88.31 | 91.74 | 60.40 | 67.35 |
| Dividend yield <sup>1</sup>       | %         | 3.7   | 4.6   | 3.7   | 3.5   | 4.0   | 4.1   | 3.4   | 3.4   | 5.3   | 4.9   |
| Payout ratio                      | %         | 44    | 37    | 50    | 52    | 50    | 67    | 68    | 47    | 62    | 36    |
| Price-earnings ratio (P/E ratio)  |           | 12.0  | 8.0   | 13.6  | 14.8  | 12.5  | 16.3  | 20.0  | 13.9  | 11.8  | 7.3   |
| Free cash flow yield <sup>2</sup> | %         | 7.1   | 7.5   | 4.0   | 4.5   | 2.6   | 5.6   | 4.4   | 5.7   | 7.3   | 5.9   |

<sup>1</sup> Based on year-end share price

<sup>2</sup> Free cash flow per share at year-end divided by share price at year-end

## Dividend

For 2019, BASF paid a dividend of €3.30 per share, up 3.1% versus the previous year. We stand by our ambitious dividend policy to increase the dividend every year and paid out €3.0 billion to our shareholders. Based on the year-end share price for 2019, BASF shares offered a high dividend yield of around 4.9%. BASF is part of the DivDAX share index, which contains the 15 companies with the highest dividend yield in the DAX 30.

Dividend per share

€3.30

Dividend yield

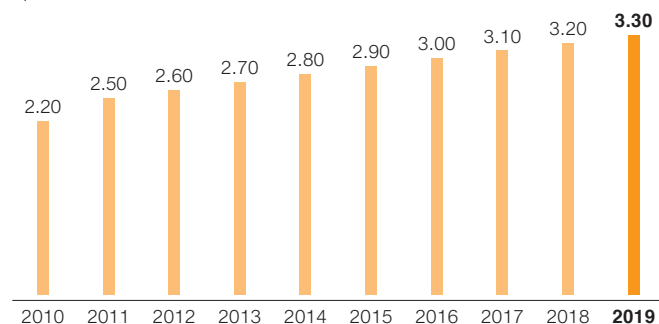
4.9%

Dividend policy:

We aim to increase the dividend per share every year.

## Dividend per share

€ per share



## Close dialog with the capital market

Our corporate strategy aims to create long-term value. We support this strategy through regular and open communication with all capital market participants. We engage with institutional investors and rating agencies in numerous one-on-one meetings, as well as at roadshows and conferences worldwide, and give private investors an insight into BASF at informational events.

In September 2019, we informed analysts and investors about the Agricultural Solutions division's new strategy at our Capital Markets Day in Ghent, Belgium. Following the integration of the businesses acquired from Bayer, which was completed in mid-2019, BASF can offer farmers a connected portfolio of agricultural solutions – from seeds, traits and crop protection products to digital solutions. This strategy is based on innovation-driven growth in selected markets with a focus on sustainable solutions.

In 2019, we offered special events aimed at investors who base their investment decisions on sustainability criteria. We outlined in particular our measures for climate protection, energy efficiency, and health and safety. In addition, we provided credit analysts and creditors with more information about our business and financing strategy at several creditor relations roadshows.

Analysts and investors have confirmed the quality of our financial market communications. The IR Society recognized BASF with the Best Practice Award 2019 in the category “Most effective overall communications – international.” In the annual survey conducted by Britain's IR Magazine, we were named the best company for IR in the materials sector and took first place in the “Best IR website” category. Germany's Manager Magazin recognized BASF at the presentation of its Investors' Darling awards with first place in the digital communications category. Institutional Investor magazine also honored BASF with first place in the category “Best IR Team” and “Best IR Program” in the chemicals sector.

## Further information on BASF share

### Securities code numbers

|   |              |
|---|--------------|
| Germany   | BASF11       |
| United States (CUSIP number)                        | 055262505    |
| ISIN International Securities Identification Number | DE000BASF111 |

### International ticker symbols

|                           |             |
|---------------------------|-------------|
| Deutsche Börse            | BAS         |
| Pink Sheets / OTCQX       | BASFY (ADR) |
| Bloomberg (Xetra trading) | BAS GY      |
| Reuters (Xetra trading)   | BASFn.DE    |

# Business Review by Segment<sup>1</sup>

## Segment overview

Million €

|                        | Sales         |               | EBITDA before special items |              | EBITDA       |              | EBIT before special items |              |
|------------------------|---------------|---------------|-----------------------------|--------------|--------------|--------------|---------------------------|--------------|
|                        | 2019          | 2018          | 2019                        | 2018         | 2019         | 2018         | 2019                      | 2018         |
| Chemicals              | 9,532         | 11,694        | 1,574                       | 2,245        | 1,545        | 2,234        | 791                       | 1,587        |
| Materials              | 11,466        | 13,270        | 1,719                       | 3,020        | 1,691        | 2,993        | 1,003                     | 2,400        |
| Industrial Solutions   | 8,389         | 9,120         | 1,249                       | 1,090        | 1,327        | 1,076        | 820                       | 668          |
| Surface Technologies   | 13,142        | 11,199        | 1,173                       | 995          | 1,120        | 953          | 722                       | 617          |
| Nutrition & Care       | 6,075         | 5,940         | 1,214                       | 1,128        | 1,189        | 1,107        | 793                       | 736          |
| Agricultural Solutions | 7,814         | 6,156         | 1,809                       | 1,128        | 1,647        | 985          | 1,095                     | 734          |
| Other                  | 2,898         | 2,841         | (414)                       | (335)        | (334)        | (378)        | (581)                     | (461)        |
| <b>BASF Group</b>      | <b>59,316</b> | <b>60,220</b> | <b>8,324</b>                | <b>9,271</b> | <b>8,185</b> | <b>8,970</b> | <b>4,643</b>              | <b>6,281</b> |

## Segment overview

Million €

|                        | EBIT         |              | Assets        |               | Investments including acquisitions <sup>2</sup> |               | Research and development expenses |              |
|------------------------|--------------|--------------|---------------|---------------|---|---------------|-----------------------------------|--------------|
|                        | 2019         | 2018         | 2019          | 2018          | 2019  | 2018          | 2019                              | 2018         |
| Chemicals              | 622          | 1,573        | 8,978         | 8,947         | 1,108   | 962           | 108                               | 114          |
| Materials              | 973          | 2,374        | 8,782         | 9,005         | 784   | 639           | 193                               | 194          |
| Industrial Solutions   | 889          | 653          | 6,903         | 7,464         | 426   | 436           | 192                               | 224          |
| Surface Technologies   | 663          | 574          | 11,773        | 11,062        | 565   | 531           | 214                               | 217          |
| Nutrition & Care       | 644          | 715          | 6,399         | 6,230         | 595   | 298           | 161                               | 152          |
| Agricultural Solutions | 928          | 591          | 16,530        | 16,992        | 320   | 7,110         | 879                               | 679          |
| Other                  | (518)        | (506)        | 27,585        | 26,856        | 299   | 759           | 411                               | 414          |
| <b>BASF Group</b>      | <b>4,201</b> | <b>5,974</b> | <b>86,950</b> | <b>86,556</b> | <b>4,097</b>                                    | <b>10,735</b> | <b>2,158</b>                      | <b>1,994</b> |

<sup>1</sup> The segment data for 2019 has been restated to reflect the reclassification of non-integral equity-accounted companies.

The segment data for 2018 has been restated to reflect the new segment structure. Figures do not include the construction chemicals activities presented as discontinued operations.

<sup>2</sup> Additions to property, plant and equipment (of which from acquisitions: €3 million in 2019 and €1,425 million in 2018) and intangible assets (of which from acquisitions: minus €37 million in 2019 and €5,540 million in 2018)

# Regional Results

## Sales by location of company

| Million €                          | 2010          | 2011          | 2012 <sup>3</sup> | 2013          | 2014          | 2015          | 2016          | 2017 <sup>2</sup> | 2018          | 2019          |
|------------------------------------|---------------|---------------|-------------------|---------------|---------------|---------------|---------------|-------------------|---------------|---------------|
| Europe                             | 35,166        | 41,036        | 41,445            | 43,335        | 42,854        | 38,675        | 27,221        | 28,045            | 27,526        | 25,706        |
| of which Germany                   | 25,426        | 28,816        | 29,320            | 31,571        | 32,241        | 28,229        | 17,540        | 18,663            | 17,767        | 14,049        |
| North America                      | 13,246        | 14,727        | 14,441            | 14,573        | 15,467        | 15,665        | 14,682        | 15,937            | 15,900        | 16,420        |
| Asia Pacific                       | 11,642        | 13,316        | 11,694            | 11,679        | 11,643        | 11,712        | 11,512        | 13,658            | 13,454        | 13,384        |
| South America, Africa, Middle East | 3,829         | 4,418         | 4,549             | 4,386         | 4,362         | 4,397         | 4,135         | 3,583             | 3,340         | 3,806         |
| <b>BASF Group</b>                  | <b>63,873</b> | <b>73,497</b> | <b>72,129</b>     | <b>73,973</b> | <b>74,326</b> | <b>70,449</b> | <b>57,550</b> | <b>61,223</b>     | <b>60,220</b> | <b>59,316</b> |

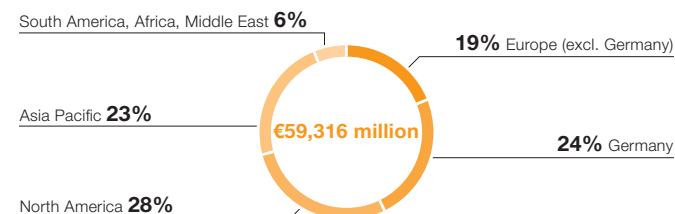
## Sales by location of customer

| Million €                          | 2010          | 2011          | 2012 <sup>3</sup> | 2013          | 2014          | 2015          | 2016          | 2017 <sup>2</sup> | 2018          | 2019          |
|------------------------------------|---------------|---------------|-------------------|---------------|---------------|---------------|---------------|-------------------|---------------|---------------|
| Europe                             | 33,201        | 39,124        | 39,428            | 41,221        | 40,911        | 36,897        | 26,039        | 26,507            | 25,589        | 23,827        |
| of which Germany                   | 12,225        | 14,705        | 15,210            | 14,446        | 15,126        | 13,483        | 7,412         | 7,159             | 6,687         | 6,123         |
| North America                      | 12,886        | 13,995        | 13,992            | 14,272        | 15,213        | 15,390        | 14,042        | 15,357            | 15,388        | 15,948        |
| Asia Pacific                       | 12,510        | 14,410        | 12,546            | 12,450        | 12,341        | 12,334        | 12,165        | 14,343            | 14,210        | 14,203        |
| South America, Africa, Middle East | 5,276         | 5,968         | 6,163             | 6,030         | 5,861         | 5,828         | 5,304         | 5,016             | 5,033         | 5,338         |
| <b>BASF Group</b>                  | <b>63,873</b> | <b>73,497</b> | <b>72,129</b>     | <b>73,973</b> | <b>74,326</b> | <b>70,449</b> | <b>57,550</b> | <b>61,223</b>     | <b>60,220</b> | <b>59,316</b> |

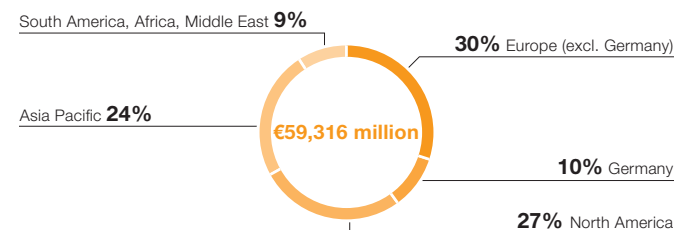
## Income from operations (EBIT) by location of company

| Million €                          | 2010         | 2011         | 2012 <sup>3</sup> | 2013         | 2014         | 2015         | 2016         | 2017 <sup>2</sup> | 2018         | 2019                     |
|------------------------------------|--------------|--------------|-------------------|--------------|--------------|--------------|--------------|-------------------|--------------|--------------------------|
| Europe                             | 5,206        | 5,668        | 4,557             | 4,485        | 5,010        | 4,174        | 3,632        | 4,090             | 3,210        | 2,125 <sup>1</sup>       |
| of which Germany                   | 3,769        | 3,249        | 2,249             | 2,164        | 1,894        | 2,303        | 1,582        | 1,838             | 1,146        | 504 <sup>1</sup>         |
| North America                      | 1,107        | 1,314        | 969               | 1,488        | 1,548        | 1,295        | 1,113        | 1,236             | 794          | 692                      |
| Asia Pacific                       | 1,271        | 1,133        | 855               | 817          | 673          | 445          | 1,098        | 2,209             | 1,793        | 1,082                    |
| South America, Africa, Middle East | 177          | 471          | 361               | 370          | 395          | 334          | 432          | 52                | 177          | 302                      |
| <b>BASF Group</b>                  | <b>7,761</b> | <b>8,586</b> | <b>6,742</b>      | <b>7,160</b> | <b>7,626</b> | <b>6,248</b> | <b>6,275</b> | <b>7,587</b>      | <b>5,974</b> | <b>4,201<sup>1</sup></b> |

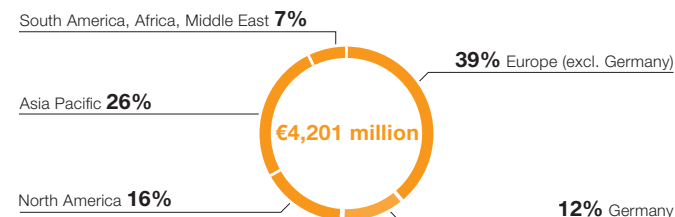
## Sales by location of company 2019



## Sales by location of customer 2019



## Income from operations (EBIT) by location of company 2019<sup>1</sup>



<sup>1</sup> Figures for 2019 have been restated to reflect the reclassification of non-integral equity-accounted companies.

<sup>2</sup> Figures for 2017 were restated with the presentation of the oil and gas activities as discontinued operations.

<sup>3</sup> We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.



# Factors Influencing Sales and Currency Impact

## Factors influencing sales of the BASF Group

| Million €                 | 2010       | 2011       | 2012 <sup>1</sup> | 2013 <sup>2</sup> | 2014      | 2015        | 2016         | 2017       | 2018 <sup>1</sup> | 2019        |
|---------------------------|------------|------------|-------------------|-------------------|-----------|-------------|--------------|------------|-------------------|-------------|
| Volumes                   | 11%        | 0%         | 1%                | 5%                | 4%        | 3%          | 2%           | 4%         | 1%                | (3%)        |
| Prices                    | 8%         | 12%        | 1%                | 0%                | (3%)      | (9%)        | (4%)         | 8%         | 4%                | (3%)        |
| Currencies                | 5%         | (2%)       | 3%                | (3%)              | (1%)      | 6%          | (1%)         | (1%)       | (4%)              | 2%          |
| Acquisitions/divestitures | 2%         | 5%         | (1%)              | 1%                | 0%        | (5%)        | (15%)        | 1%         | 1%                | 2%          |
| <b>Total</b>              | <b>26%</b> | <b>15%</b> | <b>4%</b>         | <b>3%</b>         | <b>0%</b> | <b>(5%)</b> | <b>(18%)</b> | <b>12%</b> | <b>2%</b>         | <b>(2%)</b> |

<sup>1</sup> Figures for 2018 were restated with the presentation of the oil and gas activities as discontinued operations; no restatement was made for 2017 and earlier.

<sup>2</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

<sup>3</sup> We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.

## Factors influencing sales

Sales declined by €904 million to €59,316 million in 2019 due to lower volumes and prices. The Chemicals and Materials segments in particular recorded lower sales volumes. Sales development was also dampened by lower prices, especially in the Materials and Chemicals segments. By contrast, prices rose significantly in the Surface Technologies segment. Offsetting effects came from the acquisition of significant businesses and assets from Bayer in the Agricultural Solutions segment, which was completed in August 2018, and positive currency effects.

## Currency impact

Our competitiveness on global markets is influenced by fluctuations in exchange rates. For BASF's sales, opportunities and risks arise in particular when the U.S. dollar exchange rate fluctuates. A full-year appreciation of the U.S. dollar against the euro by \$0.01, which could result from a macroeconomic slowdown, would increase the BASF Group's EBIT by around €40 million, assuming other conditions remain the same. On the production side, we counter exchange rate risks by producing in the respective currency zones.

Financial currency risks result from the translation of receivables, liabilities and other monetary items in accordance with IAS 21 at the closing rate into the functional currency of the respective Group company. In addition, we incorporate planned purchase and sales transactions in foreign currencies in our financial foreign currency risk management. These risks are hedged using derivative instruments, if necessary.

### Annual impact of US\$/€ exchange rate change on BASF Group

(exchange rate: – \$0.01 per €)

Sales

**€215** million

EBIT

**€40** million

## Financing

**Our financing policy aims to ensure our solvency at all times, limiting the risks associated with financing and optimizing our cost of capital. We preferably meet our external financing needs on the international capital markets. We strive to maintain a solid A rating, which ensures unrestricted access to financial and capital markets. Our financing measures are aligned with our operational business planning as well as the company's strategic direction and also ensure the financial flexibility to take advantage of strategic options.**

### Financing policy

Corporate bonds form the basis of our medium to long-term debt financing. These are issued in euros and other currencies with different maturities as part of our €20 billion debt issuance program.

For short-term financing, we use BASF SE's U.S. dollar commercial paper program, which has an issuing volume of up to \$12.5 billion. As of December 31, 2019, commercial paper with a nominal value of \$968 million was outstanding under this program, compared with \$2,922 million as of the previous year-end. A firmly committed, syndicated credit line of €6 billion was taken out in January 2019 to cover the repayment of outstanding commercial paper. It can also be used for general company purposes. This credit line was not used at any point in 2019. Our external financing is therefore largely independent of short-term fluctuations in the credit markets.

To minimize risks and exploit internal optimization potential within the Group, we bundle the financing, financial investments and foreign currency hedging of BASF SE's subsidiaries within the BASF Group where possible. Foreign currency risks are primarily hedged centrally by means of derivative financial instruments in the market. Off-balance sheet financing tools, such as leasing, are of minor importance for BASF.

On May 28, 2020, BASF successfully placed bonds with a total volume of €2.0 billion on the capital market. The first tranche has an issue volume of €1.0 billion, a term of three years and an annual coupon of 0.101% and will be used for general corporate financing purposes. With the second tranche, BASF issued its first green bond. This has a term of seven years, a volume of €1.0 billion and an annual coupon of 0.25%; it serves to finance sustainable products and projects. BASF was able to secure attractive conditions thanks to its very solid financial structure and its leading sustainability position. The initial issue of a green bond now firmly anchors sustainability in BASF's financing strategy as well. The green finance framework can be found online at [www.basf.com/green-finance](http://www.basf.com/green-finance).

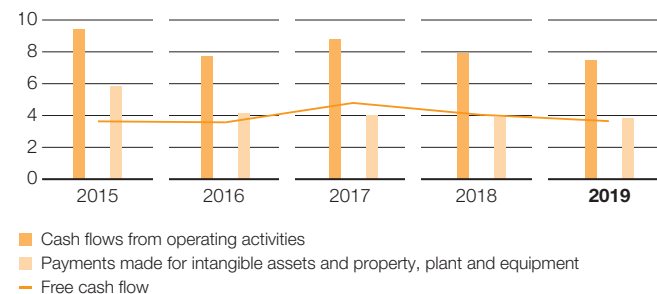
### Cash flows from operating activities

Cash flows from operating activities amounted to €7,474 million, €465 million below the 2018 figure. The decrease was mainly due to lower net income after accounting for the reclassification of disposal gains from divestitures in the amount of €5,874 million to cash flows from investing activities. This was partly offset by the contribution from the change in net working capital, which improved by €1,940 million. This development was driven by the cash released from the €1,208 million reduction in trade accounts receivable in 2019, compared with cash tied up of €188 million in the previous year. In addition, inventories were reduced in 2019, after significant inventory growth in the previous year.

Free cash flow, which remains after deducting payments made for intangible assets and property, plant and equipment from cash flows from operating activities, represents the financial resources remaining after investments. It declined to €3,650 million compared with €4,045 million in the previous year due to the decrease in cash flows from operating activities.

### Cash flow

Billion €



### Good credit ratings and solid financing

Rated "A2/P-1/Review for Downgrade" by Moody's and "A/A-1/CreditWatch negative" by Standard & Poor's, BASF enjoys good credit ratings, especially compared with competitors in the chemical industry. These ratings were most recently updated by Moody's on April 1, 2020 and by Standard & Poor's on March 25, 2020. The contract with Scope Ratings expired in 2019 and was not extended by BASF.

### Credit Ratings

| Agency            | Rating                      |
|-------------------|-----------------------------|
| Moody's           | A2/P-1/Review for Downgrade |
| Standard & Poor's | A/A-1/CreditWatch negative  |

# Ten-Year Summary

Million €

|  | 2010         | 2011         | 2012 <sup>5</sup> | 2013 <sup>4</sup> | 2014         | 2015         | 2016          | 2017 <sup>3</sup> | 2018                     | 2019               |
|--|--------------|--------------|-------------------|-------------------|--------------|--------------|---------------|-------------------|--------------------------|--------------------|
| <b>Statement of income</b>   |              |              |                   |                   |              |              |               |                   |                          |                    |
| Sales  | 63,873       | 73,497       | 72,129            | 73,973            | 74,326       | 70,449       | 57,550        | 61,223            | 60,220 <sup>2</sup>      | 59,316             |
| Income from operations (EBIT)  | 7,761        | 8,586        | 6,742             | 7,160             | 7,626        | 6,248        | 6,275         | 7,587             | 5,974 <sup>2</sup>       | 4,201 <sup>1</sup> |
| Income before income taxes   | 7,373        | 8,970        | 5,977             | 6,600             | 7,203        | 5,548        | 5,395         | 6,882             | 5,233 <sup>2</sup>       | 3,302              |
| Income after taxes from continuing operations  | -            | -            | -                 | -                 | -            | -            | -             | 5,592             | 4,116 <sup>2</sup>       | 2,546              |
| Income after taxes from discontinued operations                                      | -            | -            | -                 | -                 | -            | -            | -             | 760               | 863 <sup>2</sup>         | 5,945              |
| Income after taxes   | 5,074        | 6,603        | 5,067             | 5,113             | 5,492        | 4,301        | 4,255         | 6,352             | 4,979                    | 8,491              |
| Net income   | 4,557        | 6,188        | 4,819             | 4,792             | 5,155        | 3,987        | 4,056         | 6,078             | 4,707                    | 8,421              |
| Income from operations before depreciation and amortization (EBITDA)                 | 11,131       | 11,993       | 10,009            | 10,432            | 11,043       | 10,649       | 10,526        | 10,765            | 8,970 <sup>2</sup>       | 8,185 <sup>1</sup> |
| EBIT before special items  | 8,138        | 8,447        | 6,647             | 7,077             | 7,357        | 6,739        | 6,309         | 7,645             | 6,281 <sup>2</sup>       | 4,643 <sup>1</sup> |
| <b>Capital expenditures, depreciation and amortization</b>                           |              |              |                   |                   |              |              |               |                   |                          |                    |
| Additions to property, plant and equipment and intangible assets                     | 5,304        | 3,646        | 5,263             | 7,726             | 7,285        | 6,013        | 7,258         | 4,364             | 10,735                   | 4,097              |
| of which property, plant and equipment   | 3,294        | 3,199        | 4,084             | 6,428             | 6,369        | 5,742        | 4,377         | 4,028             | 5,040                    | 3,842              |
| Depreciation and amortization of property, plant and equipment and intangible assets | 3,370        | 3,407        | 3,267             | 3,272             | 3,417        | 4,401        | 4,251         | 4,202             | 3,750 <sup>2</sup>       | 4,146              |
| of which property, plant and equipment   | 2,667        | 2,618        | 2,594             | 2,631             | 2,770        | 3,600        | 3,691         | 3,586             | 3,155 <sup>2</sup>       | 3,408              |
| <b>Number of employees</b>   |              |              |                   |                   |              |              |               |                   |                          |                    |
| At year-end  | 109,140      | 111,141      | 110,782           | 112,206           | 113,292      | 112,435      | 113,830       | 115,490           | 122,404                  | 117,628            |
| Annual average   | 104,043      | 110,403      | 109,969           | 111,844           | 112,644      | 113,249      | 111,975       | 114,333           | 118,371                  | 119,200            |
| <b>Personnel expenses</b>  | <b>8,228</b> | <b>8,576</b> | <b>8,963</b>      | <b>9,285</b>      | <b>9,224</b> | <b>9,982</b> | <b>10,165</b> | <b>10,610</b>     | <b>10,659</b>            | <b>10,924</b>      |
| <b>Research and development expenses</b>   | <b>1,492</b> | <b>1,605</b> | <b>1,732</b>      | <b>1,849</b>      | <b>1,884</b> | <b>1,953</b> | <b>1,863</b>  | <b>1,843</b>      | <b>1,994<sup>2</sup></b> | <b>2,158</b>       |

<sup>1</sup> Figures for 2019 have been restated to reflect the reclassification of non-integral equity-accounted companies.

<sup>2</sup> Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations.

<sup>3</sup> Figures for 2017 were restated with the presentation of the oil and gas activities as discontinued operations.

<sup>4</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

<sup>5</sup> We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.

|   |                | 2010         | 2011         | 2012 <sup>5</sup> | 2013 <sup>4</sup> | 2014         | 2015         | 2016         | 2017 <sup>3</sup> | 2018              | 2019              |
|---|----------------|--------------|--------------|-------------------|-------------------|--------------|--------------|--------------|-------------------|-------------------|-------------------|
| <b>Key data</b>                           |                |              |              |                   |                   |              |              |              |                   |                   |                   |
| Earnings per share                        | €              | 4.96         | 6.74         | 5.25              | 5.22              | 5.61         | 4.34         | 4.42         | 6.62              | 5.12              | 9.17              |
| Adjusted earnings per share               | €              | 5.73         | 6.26         | 5.64              | 5.31              | 5.44         | 5.00         | 4.83         | 6.44              | 5.87              | 4.00              |
| Cash flows from operating activities      | million €      | 6,460        | 7,105        | 6,602             | 8,100             | 6,958        | 9,446        | 7,717        | 8,785             | 7,939             | 7,474             |
| EBITDA margin                             | %              | 17.4         | 16.3         | 13.9              | 14.1              | 14.9         | 15.1         | 18.3         | 17.6              | 14.9 <sup>2</sup> | 13.8 <sup>1</sup> |
| Return on assets                          | %              | 14.7         | 16.1         | 11.0              | 11.5              | 11.7         | 8.7          | 8.2          | 9.5               | 7.1               | 4.5               |
| Return on equity after tax                | %              | 24.6         | 27.5         | 19.9              | 19.2              | 19.7         | 14.4         | 13.3         | 18.9              | 14.1              | 21.6              |
| Return on capital employed (ROCE)         | %              | –            | –            | –                 | –                 | –            | –            | –            | 15.4              | 12.0 <sup>2</sup> | 7.7               |
| <b>Appropriation of profits</b>           |                |              |              |                   |                   |              |              |              |                   |                   |                   |
| Net income of BASF SE <sup>6</sup>        | million €      | 3,737        | 3,506        | 2,880             | 2,826             | 5,853        | 2,158        | 2,808        | 3,130             | 2,982             | 3,899             |
| Dividend                                  | million €      | 2,021        | 2,296        | 2,388             | 2,480             | 2,572        | 2,664        | 2,755        | 2,847             | 2,939             | 3,031             |
| Dividend per share                        | €              | 2.20         | 2.50         | 2.60              | 2.70              | 2.80         | 2.90         | 3.00         | 3.10              | 3.20              | 3.30              |
| <b>Number of shares as of December 31</b> | <b>million</b> | <b>918.5</b> | <b>918.5</b> | <b>918.5</b>      | <b>918.5</b>      | <b>918.5</b> | <b>918.5</b> | <b>918.5</b> | <b>918.5</b>      | <b>918.5</b>      | <b>918.5</b>      |

1 Figures for 2019 have been restated to reflect the reclassification of non-integral equity-accounted companies.

2 Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations.

3 Figures for 2017 were restated with the presentation of the oil and gas activities as discontinued operations.

4 Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

5 We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.

6 Calculated in accordance with German GAAP

## Balance sheet (IFRS)

| Million €   | 2010          | 2011          | 2012 <sup>3</sup> | 2013 <sup>2</sup> | 2014          | 2015          | 2016          | 2017 <sup>1</sup> | 2018          | 2019          |
|---|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|-------------------|---------------|---------------|
| Intangible assets                                 | 12,245        | 11,919        | 12,193            | 12,324            | 12,967        | 12,537        | 15,162        | 13,594            | 16,554        | 14,525        |
| Property, plant and equipment                     | 17,241        | 17,966        | 16,610            | 19,229            | 23,496        | 25,260        | 26,413        | 25,258            | 20,780        | 21,792        |
| Investments accounted for using the equity method | 1,328         | 1,852         | 3,459             | 4,174             | 3,245         | 4,436         | 4,647         | 4,715             | 2,203         | 15,008        |
| Other financial assets                            | 1,953         | 848           | 613               | 643               | 540           | 526           | 605           | 606               | 570           | 636           |
| Deferred taxes                                    | 1,112         | 941           | 1,473             | 1,006             | 2,193         | 1,791         | 2,513         | 2,118             | 2,342         | 2,887         |
| Other receivables and miscellaneous assets        | 653           | 561           | 911               | 877               | 1,498         | 1,720         | 1,210         | 1,332             | 886           | 1,112         |
| <b>Noncurrent assets</b>                          | <b>34,532</b> | <b>34,087</b> | <b>35,259</b>     | <b>38,253</b>     | <b>43,939</b> | <b>46,270</b> | <b>50,550</b> | <b>47,623</b>     | <b>43,335</b> | <b>55,960</b> |
| Inventories                                       | 8,688         | 10,059        | 9,581             | 10,160            | 11,266        | 9,693         | 10,005        | 10,303            | 12,166        | 11,223        |
| Accounts receivable, trade                        | 10,167        | 10,886        | 9,506             | 10,233            | 10,385        | 9,516         | 10,952        | 10,801            | 10,665        | 9,093         |
| Other receivables and miscellaneous assets        | 3,883         | 3,781         | 3,455             | 3,714             | 4,032         | 3,095         | 3,078         | 3,494             | 3,139         | 3,790         |
| Marketable securities                             | 16            | 19            | 14                | 17                | 19            | 21            | 536           | 52                | 344           | 444           |
| Cash and cash equivalents                         | 1,493         | 2,048         | 1,647             | 1,827             | 1,718         | 2,241         | 1,375         | 6,495             | 2,300         | 2,427         |
| Assets of disposal groups                         | 614           | 295           | 3,264             | –                 | –             | –             | –             | –                 | 14,607        | 4,013         |
| <b>Current assets</b>                             | <b>24,861</b> | <b>27,088</b> | <b>27,467</b>     | <b>25,951</b>     | <b>27,420</b> | <b>24,566</b> | <b>25,946</b> | <b>31,145</b>     | <b>43,221</b> | <b>30,990</b> |
| <b>Assets</b>                                     | <b>59,393</b> | <b>61,175</b> | <b>62,726</b>     | <b>64,204</b>     | <b>71,359</b> | <b>70,836</b> | <b>76,496</b> | <b>78,768</b>     | <b>86,556</b> | <b>86,950</b> |

<sup>1</sup> As of January 1, 2018, receivables from bank acceptance drafts are no longer reported under trade accounts receivable, but under the item other receivables and other assets. The 2017 figures have been restated accordingly.

<sup>2</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

<sup>3</sup> We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.

## Balance sheet (IFRS)

| Million €  | 2010          | 2011          | 2012 <sup>3</sup> | 2013 <sup>2</sup> | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          |
|--|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Subscribed capital                                       | 1,176         | 1,176         | 1,176             | 1,176             | 1,176         | 1,176         | 1,176         | 1,176         | 1,176         | 1,176         |
| Capital reserves   | 3,216         | 3,203         | 3,188             | 3,165             | 3,143         | 3,141         | 3,130         | 3,117         | 3,118         | 3,115         |
| Retained earnings  | 15,817        | 19,446        | 23,708            | 26,102            | 28,777        | 30,120        | 31,515        | 34,826        | 36,699        | 42,056        |
| Other comprehensive income                               | 1,195         | 314           | (3,461)           | (3,400)           | (5,482)       | (3,521)       | (4,014)       | (5,282)       | (5,939)       | (4,850)       |
| Noncontrolling interests                                 | 1,253         | 1,246         | 1,010             | 630               | 581           | 629           | 761           | 919           | 1,055         | 853           |
| <b>Equity</b>  | <b>22,657</b> | <b>25,385</b> | <b>25,621</b>     | <b>27,673</b>     | <b>28,195</b> | <b>31,545</b> | <b>32,568</b> | <b>34,756</b> | <b>36,109</b> | <b>42,350</b> |
| Provisions for pensions and similar obligations          | 2,778         | 3,189         | 5,421             | 3,727             | 7,313         | 6,313         | 8,209         | 6,293         | 7,434         | 7,683         |
| Tax provisions and deferred tax liabilities <sup>1</sup> | 2,467         | 2,628         | 2,234             | 2,894             | 3,420         | 3,381         | 3,317         | 2,731         | 2,346         | 2,280         |
| Other provisions <sup>1</sup>                            | 3,352         | 3,335         | 2,925             | 3,226             | 3,502         | 3,369         | 3,667         | 3,478         | 1,301         | 1,340         |
| Financial indebtedness                                   | 11,670        | 9,019         | 8,704             | 11,151            | 11,839        | 11,123        | 12,545        | 15,535        | 15,332        | 15,015        |
| Other liabilities  | 901           | 1,142         | 1,111             | 1,194             | 1,197         | 869           | 873           | 1,095         | 705           | 1,678         |
| <b>Noncurrent liabilities</b>                            | <b>21,168</b> | <b>19,313</b> | <b>20,395</b>     | <b>22,192</b>     | <b>27,271</b> | <b>25,055</b> | <b>28,611</b> | <b>29,132</b> | <b>27,118</b> | <b>27,996</b> |
| Accounts payable, trade                                  | 4,738         | 5,121         | 4,502             | 5,153             | 4,861         | 4,020         | 4,610         | 4,971         | 5,122         | 5,087         |
| Provisions   | 3,324         | 3,210         | 2,628             | 2,670             | 2,844         | 2,540         | 2,802         | 3,229         | 3,252         | 2,938         |
| Tax liabilities  | 1,140         | 1,038         | 870               | 968               | 1,079         | 1,082         | 1,288         | 1,119         | 695           | 756           |
| Financial indebtedness                                   | 3,369         | 3,985         | 4,094             | 3,256             | 3,545         | 4,074         | 3,767         | 2,497         | 5,509         | 3,362         |
| Other liabilities  | 2,802         | 3,036         | 2,623             | 2,292             | 3,564         | 2,520         | 2,850         | 3,064         | 2,998         | 3,427         |
| Liabilities of disposal groups                           | 195           | 87            | 1,993             | –                 | –             | –             | –             | –             | 5,753         | 1,034         |
| <b>Current liabilities</b>                               | <b>15,568</b> | <b>16,477</b> | <b>16,710</b>     | <b>14,339</b>     | <b>15,893</b> | <b>14,236</b> | <b>15,317</b> | <b>14,880</b> | <b>23,329</b> | <b>16,604</b> |
| <b>Equity and liabilities</b>                            | <b>59,393</b> | <b>61,175</b> | <b>62,726</b>     | <b>64,204</b>     | <b>71,359</b> | <b>70,836</b> | <b>76,496</b> | <b>78,768</b> | <b>86,556</b> | <b>86,950</b> |

<sup>1</sup> As of January 1, 2019, tax provisions are no longer reported under other provisions, but under tax provisions and deferred tax liabilities. Figures for 2018 have been restated; no restatement was made for 2017 and earlier.

<sup>2</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

<sup>3</sup> We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.



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Half-Year Financial Report 2020

# July 29, 2020

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Quarterly Statement Q3 2020

# October 28, 2020

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BASF Report 2020

# February 26, 2021

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Quarterly Statement Q1 2021 / Annual Shareholders' Meeting 2021

# April 29, 2021

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Half-Year Financial Report 2021

# July 28, 2021

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### More publications about BASF

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  - Quarterly Statements
  - Capital Market Story
  - SRI Story
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