

A photograph of a chemical plant at night, illuminated by industrial lights. In the foreground, a white BMW i3 electric car is parked, facing right. The car's license plate reads 'LU EL 750E'. The background shows a complex network of pipes, tanks, and structural steel of the plant.

# BASF Factbook

Information for investors  
and analysts

Published June 2019

 **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 123 to 130 of the BASF Report 2018. BASF does not assume any obligation to update the forward-looking statements contained in this publication above and beyond the legal requirements.



### **Electromobility**

At our Ludwigshafen Verbund site, more than 240 electric vehicles are used within and in the vicinity of the site. This means that more than one quarter of BASF's internal fleet is already electric.

# 1 BASF Group

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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 122,000 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 arranged into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions.

### Intelligent Verbund concept

in production, technology, market, digitalization

### In 90+ countries

employees contribute to our success and that of our customers worldwide

### New organization

since January 1, 2019

### Closer to customers

by embedding business-critical parts of the functional units into the divisions

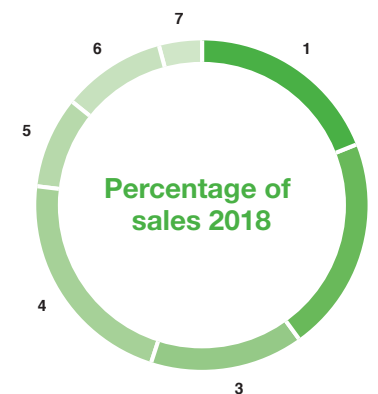
## Business Segments

### Well-balanced portfolio

Percentage 2018

			Sales	EBITDA before special items
1	<b>Chemicals</b>	– Petrochemicals – Intermediates	19%	24%
2	<b>Materials</b>	– Performance Materials – Monomers	21%	32%
3	<b>Industrial Solutions</b>	– Dispersions & Pigments – Performance Chemicals	15%	11%
4	<b>Surface Technologies</b>	– Catalysts – Coatings – Construction Chemicals <sup>1</sup>	22%	13%
5	<b>Nutrition &amp; Care</b>	– Care Chemicals – Nutrition & Health	9%	12%
6	<b>Agricultural Solutions</b>	– Agricultural Solutions	10%	12%
7	Other		4%	(4%)

<sup>1</sup> Until signing of a transaction agreement, Construction Chemicals will be reported under Surface Technologies



### Key figures

Million €

	2014	2015	2016	2017	2018
Sales	74,326	70,449	57,550	61,223 <sup>1</sup>	62,675
Income from operations before depreciation, amortization and special items	10,454	10,508	10,327	10,738 <sup>1</sup>	9,481
Income from operations before depreciation and amortization (EBITDA)	11,043	10,649	10,526	10,765 <sup>1</sup>	9,166
Income from operations (EBIT) before special items	7,357	6,739	6,309	7,645 <sup>1</sup>	6,353
Income from operations (EBIT)	7,626	6,248	6,275	7,587 <sup>1</sup>	6,033
Net income	5,155	3,987	4,056	6,078	4,707
Earnings per share (EPS)	€ 5.61	4.34	4.42	6.62 <sup>1</sup>	5.12
Adjusted earnings per share (EPS)	€ 5.44	5.00	4.83	6.44 <sup>1</sup>	5.87
Dividend per share	€ 2.80	2.90	3.00	3.10	3.20
Dividend yield <sup>2</sup>	% 4.0	4.1	3.4	3.4	5.3
Cash flows from operating activities	6,958	9,446	7,717	8,785	7,939
Free cash flow	1,662	3,634	3,572	4,789	4,045

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

<sup>2</sup> Based on year-end share price

## Regional footprint 2018

### North America

Sales €16,143 million  
 EBIT €802 million  
 Employees 20,069

### Europe

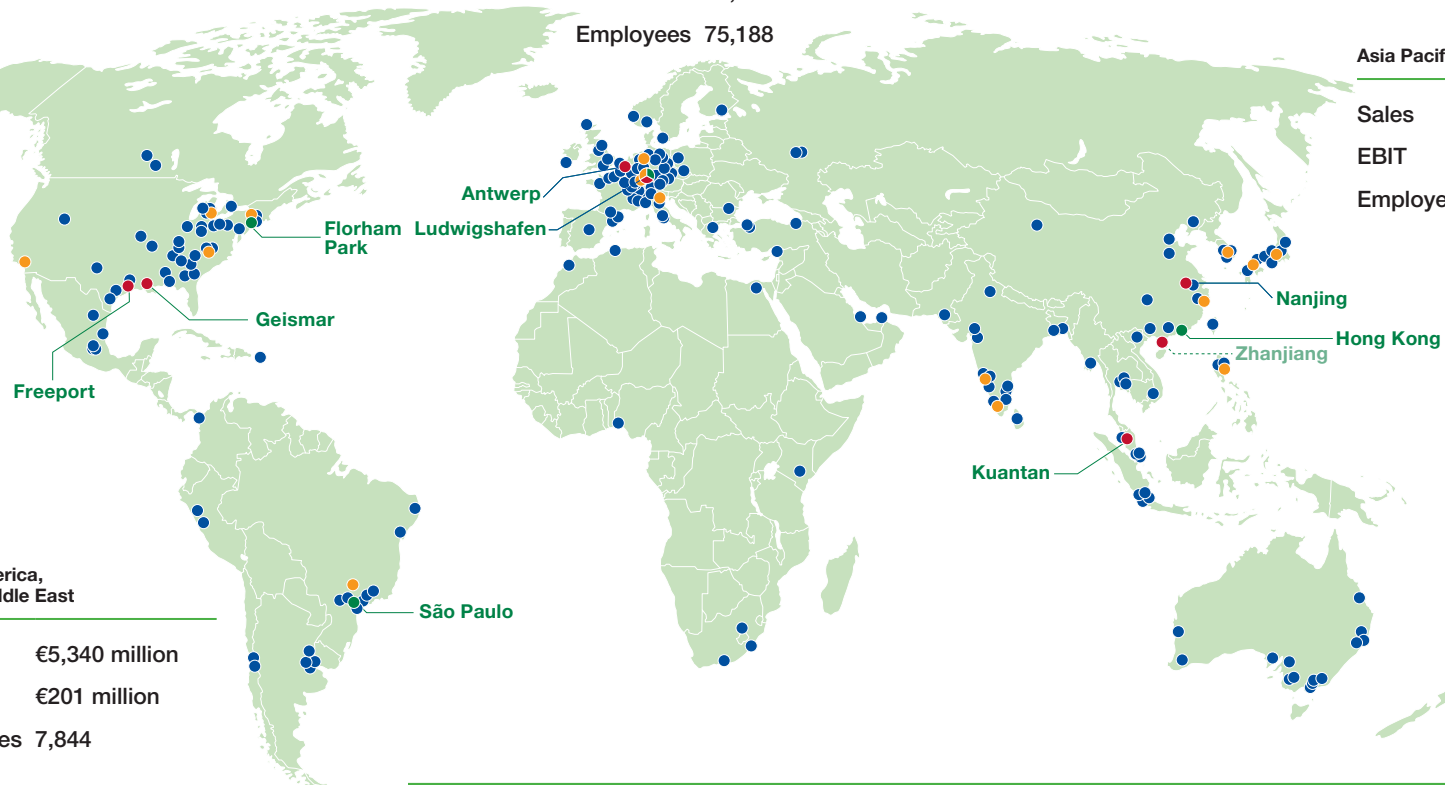
Sales €26,546 million  
 EBIT €3,210 million  
 Employees 75,188

### Asia Pacific

Sales €14,646 million  
 EBIT €1,820 million  
 Employees 19,303

### South America, Africa, Middle East

Sales €5,340 million  
 EBIT €201 million  
 Employees 7,844



- Regional centers
- Selected sites
- Verbund sites
- Selected research and development sites

Sales by location of customer; EBIT by location of company; employees as of December 31, 2018

### Key facts

- Approximately 122,000 employees worldwide – including more than 11,000 in research and development
- More than 90,000 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; approximately 3,000 research projects with customers, academia and partners; around 900 new patents filed in 2018

# Management Board

## Board of Executive Directors of BASF SE



### Dr. Martin Bruder Müller

Chairman of the Board of Executive Directors and Chief Technology Officer

58 years old, 31 years at BASF

Responsibilities:

Legal, Taxes, Insurance & Intellectual Property; Corporate Development; Corporate Communications & Government Relations; Senior Executive Human Resources; Investor Relations; Compliance; Corporate Technology & Operational Excellence; Innovation Management



### Dr. Hans-Ulrich Engel

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

60 years old, 31 years at BASF

Responsibilities:

Finance; Catalysts; Coatings; Oil & Gas; Procurement & Supply Chain Services; Digitalization & Information Services; Corporate Controlling; Corporate Audit



### Saori Dubourg

47 years old, 22 years at BASF

Responsibilities:

Agricultural Solutions; Construction Chemicals; Bioscience Research; Region Europe



### Sanjeev Gandhi

52 years old, 25 years at BASF

Responsibilities:

Intermediates; Petrochemicals; Greater China & Functions Asia Pacific; South & East Asia, ASEAN & Australia/New Zealand



### Michael Heinz

Industrial Relations Director

55 years old, 35 years at BASF

Responsibilities:

Engineering & Technical Expertise; Environmental Protection; Health & Safety; European Site & Verbund Management; Human Resources



### Dr. Markus Kamieth

48 years old, 20 years at BASF

Responsibilities:

Care Chemicals; Dispersions & Pigments; Nutrition & Health; Performance Chemicals; Advanced Materials & Systems Research; BASF New Business; Region South America



### Wayne T. Smith

59 years old, 15 years at BASF

Responsibilities:

Monomers; Performance Materials; Process Research & Chemical Engineering; Market & Business Development, Site & Verbund Management North America; Regional Functions & Country Platforms North America



## Supervisory Board of BASF SE

### Shareholder representatives

**Dr. Jürgen Hambrecht**

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**

Former Co-CEO of RTL Group S.A. and former member of the Executive Board of Bertelsmann SE & Co. KGaA

### 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 Works Council of BASF SE, Ludwigshafen Site

**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)

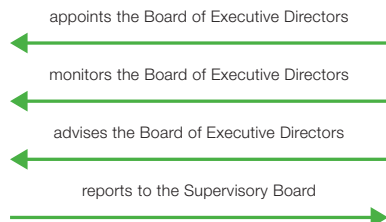
For further information, please refer to [basf.com/share/supervisory-board](https://basf.com/share/supervisory-board)

## Two-tier management system of BASF SE

### Board of Executive Directors



**7 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 2018, page 133 and from page 135 onward.

# BASF Verbund

**Our unique Verbund concept is one of BASF's greatest assets. 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. On a global scale, BASF achieves annual savings of more than €1 billion through its Verbund. BASF operates an additional 355 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.

Around half of the Verbund savings stem from wastewater, steam and electricity cost 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 cost 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

The Verbund creates opportunities to reduce emissions, waste and resource consumption. It also minimizes transport distances. The Verbund is therefore not just an important economic asset but also



generates environmental benefits. With the Energy Verbund, we avoid around 6 million metric tons of greenhouse gas emissions per year. The Logistics Verbund results in the equivalent of approximately 280,000 fewer truckloads per year.

## Multiple 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 currently building the **digital Verbund** to harvest the benefits from the vast amount of data generated across BASF.

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 for our technological Verbund

### Expertise in catalysis

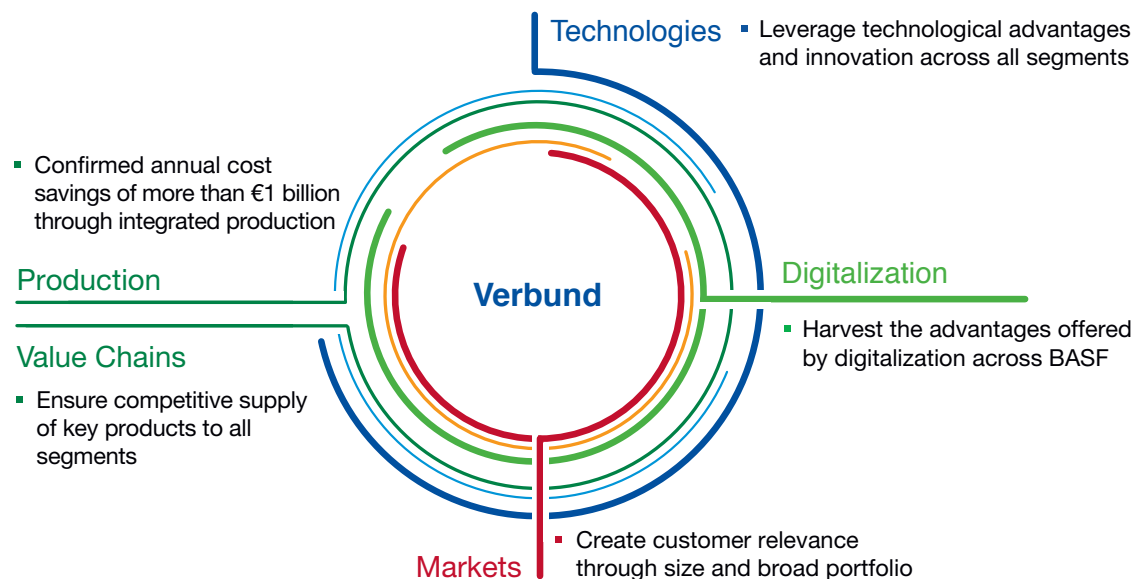
Developing and using chemical catalysts that vastly speed up chemical reactions has been a core competence of BASF since the realization of the first large-scale synthesis of ammonia in 1913.

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 emission catalysts, can be applied in the cleanup of industrial off-gases from upstream plants.

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 our Care Chemicals and Agricultural Solutions divisions.

### 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. Thanks to our expertise, our innovative and entrepreneurial spirit, and the power of our Verbund integration, our innovations have decisively contributed to changing the world we live in for the better for more than 150 years. To be the world's leading chemical company for our customers, we will grow profitably and add value to society. This is how 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 and increasing consumer demands. Chemistry is key to solving many of these challenges. By combining our unique expertise with our customers' competence, we will jointly develop profitable, innovative and responsible solutions for these global trends.

Our purpose reflects what we do and why we do it: We create chemistry for a sustainable future. We pursue this purpose with our corporate strategy, which was updated in 2018. 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 make the best use of available resources.

## 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 by 2050

**+130%**

### Population growth:

Driven by the emerging markets by 2050

**+32%**

### China the largest market:

Share of global chemical market by 2030

**~50%**

### Digitalization:

Rapid growth in volume of data

**50**

zettabytes by 2020

### Climate change:

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

**-70%**

by 2050

### Electromobility:

Growing demand for battery materials by 2025

**+300%**

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

Our aspiration is to be the world's leading chemical company. With our updated corporate strategy, which was announced in November 2018, we are targeting profitable growth. We aim to grow organically and thus will strengthen our customer focus. The Asian market plays an important role in our strategy. With a share of more than 40%, China is already the largest chemical market and drives the growth of global chemical production. By 2030, China's share is expected to increase to nearly 50%, and we want to participate in this expansion. To drive forward 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 in Nanjing.

As part of our aspiration to be the world's leading chemical company for our customers, we want to strengthen our passion for customers throughout the entire organization. We want to grow profitably and create value for society. To achieve this, we have set ourselves ambitious financial and nonfinancial targets.

**New targets from 2019 onward**

Business success tomorrow means creating value for the environment, society and business. We have set ourselves new financial and nonfinancial targets so that our customers, investors, employees and other stakeholders can track our progress.

We want to grow faster than the market and thus be economically successful and profitable. Furthermore, we want to provide answers to the most pressing challenges of our time. To combat climate change and global warming, we have committed ourselves to growing production volumes without adding further CO<sub>2</sub> emissions until 2030. This means we will decouple greenhouse gas emissions from organic growth. We have also defined targets for a sustainable product portfolio, responsible procurement and engaged employees. Safety for people and the environment, inclusion of diversity and water management will remain a top priority.

The new targets will apply from 2019 onward and will replace our previous goals. In this way, we want 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).

**Financial targets**

Grow **sales volumes faster than global chemical production** every year



Increase **EBITDA before special items** by **3% to 5%** per year



Achieve a **return on capital employed (ROCE)<sup>1</sup>** considerably **above the cost of capital percentage** every year



Increase the **dividend per share** every year based on a **strong free cash flow**



**Nonfinancial targets**

Grow **CO<sub>2</sub>-neutrally** until 2030



Achieve **€22 billion in Accelerator sales<sup>2</sup>** by 2025



Cover **90%** of our relevant spend<sup>3</sup> with **sustainability evaluations** by 2025, and have **80%** of our suppliers **improve their sustainability performance** upon re-evaluation



More than **80%** of our **employees** feel that at BASF, they can **thrive and perform at their best**



**Existing nonfinancial targets**

Reduce the worldwide **lost-time injury rate** per 200,000 working hours to **≤0.1** by 2025



Reduce worldwide **process safety incidents** per 200,000 working hours to **≤0.1** by 2025



Introduce sustainable **water management** at all production sites in **water stress areas** and at all **Verbund sites** by 2030



Increase the proportion of **women in leadership positions** with disciplinary responsibility to **22–24%** by 2021



1 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.

2 Accelerator products are products that make a substantial sustainability contribution in the value chain.

3 We understand relevant spend as procurement volumes with suppliers defined as relevant. For more information, see BASF Report 2018, page 90.

## Our strategic action areas

To reach our goals and be the leading company in the chemical industry for our customers, we want to strengthen our performance in innovation and in operations as the leading chemical producer and plant operator, leverage digital ways of working across the entire company, and integrate sustainability more deeply into our business decisions. We want all employees to become even more passionate about our customers. We aim to strengthen our portfolio and further develop our organization to better meet customer needs using the power of our Verbund integration. We have defined six strategic action areas through which we will sharpen our customer focus.

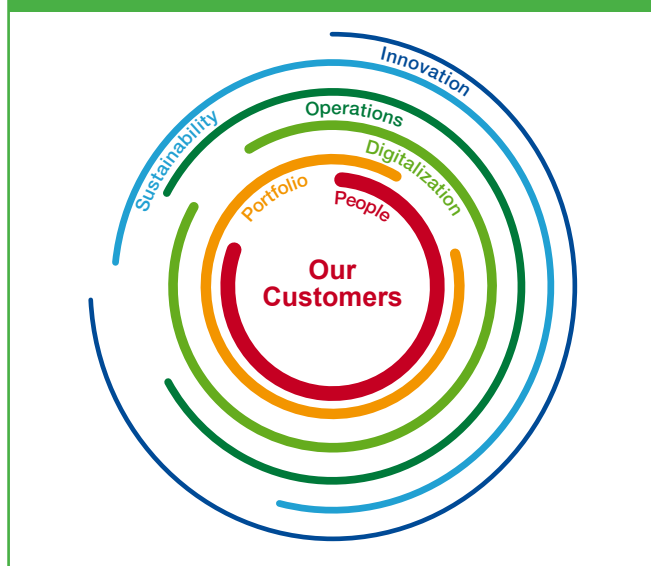
### Innovation

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 unique in the chemical industry. We aim to build on and leverage our position as a leading innovator to jointly develop innovations for our customers. We will design our innovation chain to be as seamless as possible so that we can bring products to the market more quickly. This means fostering a higher level of excellence throughout the entire innovation process, starting from the lab all the way to the customer.

### 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 and increase the relevance of sustainability in our decision-making 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.

## Action areas sharpen customer focus



### Operations

We are committed to running our production safely, efficiently and reliably so that we can deliver products to our customers on spec and on time. We aim to further 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

We want to make digitalization an integral part of BASF's business. This will create additional value for our customers, grow our business and improve efficiency. By promoting comprehensive digital skills among our future leaders and our entire workforce, we will ensure that the necessary resources are available.

### Portfolio

We will sharpen our portfolio and focus our capital allocation more towards growing business areas. We will focus primarily on organic growth through capital expenditures and innovation, but also make targeted acquisitions where this makes strategic sense and creates value. The new segment structure will create a higher 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 continues to be at the core of our portfolio and our unique strength.

### Employees

Our people are what will make the implementation of our updated strategy successful. 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. We will adapt our business models and organizational structures so that each business unit can optimally serve its market segment. We rely on the engagement of our employees and give them the tools and skills necessary to be able to offer our customers differentiated products and services.

## Guidance on the use of cash

### 1 Organic growth

We strive to organically grow above global chemical production via innovation and capital expenditures.

### 2 Progressive dividend policy

We aim to increase our dividend per share every year.

### 3 Portfolio upgrading

We strive to enhance BASF's portfolio through selective acquisitions with transformative character for distinct growth businesses or segments, and further focus the portfolio through continued pruning measures.

### 4 Share buybacks

We will also consider share buybacks to return cash to our shareholders, thus maintaining an efficient capital structure.

## Customer focus

**BASF supplies products and services to over 90,000 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.**

**Over 90,000**

customers from almost all sectors and countries in the world

**Innovative**

in close partnership with our customers

**Flexible**

thanks to in-depth expertise and wide range of resources

## Customer industry orientation

Our broad 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 work with a wide range of business models, 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. Around half of our business units are oriented toward specific industries.

Aligning our business with our customers' needs is our primary focus. Our ability to combine in-depth expertise with a wide range of resources to meet specific demands enables us to position BASF as a solution-oriented system provider.

## Business Segments

Our updated corporate strategy puts an even greater focus on the customer. We aim to develop custom solutions that are both profitable and sustainable in close partnership with our customers, and optimize processes and applications. Our organization is being adapted accordingly so that we can work more effectively and efficiently and be even more customer-centric. We want to satisfy customer requests in a more focused and targeted way, and shorten our reaction times. Our comprehensive understanding of value chains and value creation networks as well as our global setup and market knowledge remain key success factors.

We are also pursuing a series of measures that will, among other things, increase transparency for customers, enhance customer service and explore joint growth potential. To ensure even stronger customer communication and better understand our customers' needs, we regularly ask them for direct feedback on how we are doing. This gives us a timely insight into customer satisfaction and we can use the findings to continuously improve our performance.

## Quality management

Our customers' satisfaction is the basis for long-term 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 BASF's 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.

## Customer awards

We again received awards from a number of satisfied customers. For example, in May 2019 we were named a 2018 General Motors (GM) Supplier of the Year for the fourteenth time since 2002. The award is presented to suppliers who distinguish themselves by meeting performance metrics for quality, execution, innovation and total enterprise cost.

## Financials

In October 2018, BASF was recognized by technology company 3M for its contribution to improving 3M's competitiveness with the 2017 3M Supplier of the Year Award in the Technology & Innovation category.

BMW honored BASF in November 2018 with a BMW Supplier Innovation Award 2018 as the winner of the Sustainability category. BMW said that BASF achieved the best performance in CO<sub>2</sub> emissions in the report published by the non-governmental organization CDP. BASF's anchoring of the fight against climate change within the company was cited as another reason for the decision. In addition, BASF develops solutions that help its customers reduce CO<sub>2</sub> emissions.

## Sales by industry

### >20%

- Chemicals and plastics

### 10–20%

- Consumer goods
- Transportation

### 5–10%

- Agriculture
- Construction
- Energy and resources

### <5%

- Health and nutrition
- Electronics

<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.

## 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 made BASF the leading chemical company worldwide. This 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. We had more than 11,000 employees involved in research and development in 2018. Our team grew by around 1,600 research and development employees at 17 sites around the world in 2018 as a result of the acquisition of a range of businesses and assets from Bayer. The businesses acquired include research and development activities for soybean, cotton, canola, vegetable seeds and hybrid wheat, which optimally complement our crop protection and biotechnology activities.

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.

## Business Segments

In 2018, we generated sales of around €9 billion with products launched on the market in the past five years that stemmed from R&D activities. In the long term, we aim to continue significantly increasing sales and earnings with new and improved products. We aim to integrate sustainability even more closely into our R&D activities and achieve €22 billion in sales from Accelerators, products with substantial sustainability contributions in the value chain, by 2025 (2018: €15 billion).

### 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 access to external scientific expertise, talented minds from various disciplines as well as new technologies, and helps us to quickly and efficiently develop marketable innovations, strengthen our portfolio and in this way, reach our long-term growth targets.

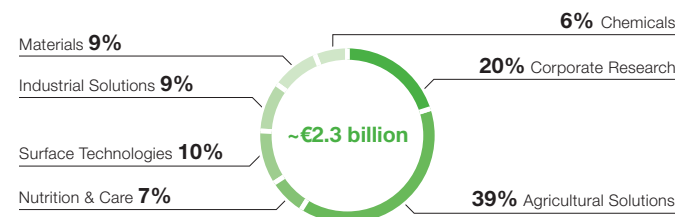
Our eight academic research alliances bundle partnerships with several research groups. The alliances are complemented by cooperations with around 300 universities and research institutes as well as collaborations with a large number of companies.

### Strategic focus

In 2018, our research pipeline comprised around 3,000 projects. Expenses for research and development amounted to €2,028 million, above the prior-year level (€1,888 million). The increase was primarily attributable to the acquisition of the seeds business from Bayer in August 2018. The operating divisions accounted for 80% of total R&D expenses in 2018. The remaining 20% related to cross-divisional corporate research focusing on long-term topics of strategic importance to the BASF Group. In the coming year, we anticipate significantly higher research and development expenses due to the acquisition of the research-intensive seeds business.

## Financials

### Expected annual research and development expenses



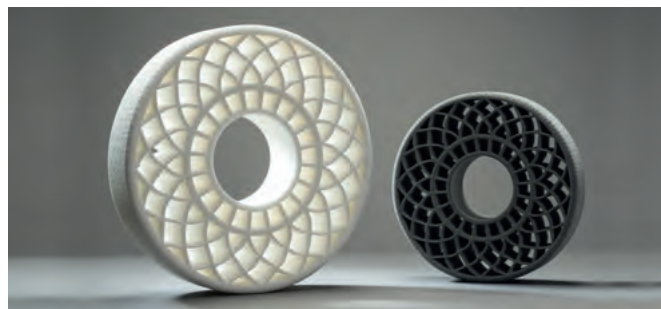
We will continue to focus on developing attractive innovations for our customers. We want to shorten the time to market and accelerate the company's organic growth. Our cross-divisional corporate research allows space to quickly review creative research approaches. We strengthen existing and continually develop new key technologies that are of central significance for our operating divisions.

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 business 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. Furthermore, we are working on overarching projects with a high technological, social or regulatory relevance. For instance, one global research and development program is focusing on the energy-intensive underlying production processes for basic chemicals. These basic chemicals account for more than half 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 methane pyrolysis and the direct conversion of syngas, as well as research into materials and safety for the electrification of steam cracker heating.



Our global research and development presence is vital to our success. A stronger presence outside Europe, particularly in Asia and North America, 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 attest to our power of innovation and long-term competitiveness. We filed around 900 new patents worldwide in 2018. In 2018, we once again ranked among the leading companies in the Patent Asset Index, a method that compares patent portfolios industry-wide.



## 3D printing

BASF is developing innovative materials for 3D printing, based on an already broad portfolio with materials, system solutions, components and services. Focus areas in new materials development are polyamide-based polymers, thermoplastic polyurethanes and polypropylene, as well as new photopolymers and filaments with custom attributes. In 2018, BASF New Business GmbH acquired shares in Advanc3D Materials GmbH, Hamburg, Germany, and in Setup Performance SAS, Lyon, France, to continue the targeted expansion of the business.

## Innovations in the segments – examples

**Chemicals:** BASF's **ChemCycling project** focuses on reusing plastic waste in chemical production rather than disposing of it. Thermochemical processes are used to transform plastic waste into new raw materials, which are then fed into the BASF Verbund instead of fossil resources. In October 2018, the first pyrolysis oil derived from plastic waste by our partners was processed in Ludwigshafen, Germany. The new chemical products manufactured from this pyrolysis oil have the same quality as products made from fossil feedstock. Many of our customers already aim to increase the proportion of recycled materials in their products.

**Materials:** BASF's **Ultrasim**<sup>®</sup> simulation tool has long been used to determine the direction of fibers in injection-molded plastics components after manufacturing (anisotropic mechanical behavior). The new **Ultrasim**<sup>®</sup> **thermomechanics module** also enables thermal deformation to be detected at an early stage. The tool can be used to simulate the typical temperature load from minus 40°C to 150°C for various applications. This saves our customers time and money in the development process as they are able to identify and avoid component faults before going into serial production. This is crucial for electrical and electronic equipment used in the automotive industry.

**Industrial Solutions:** Designers in the furniture industry now have access to innovative wood fiberboards based on BASF's new binder technology, **acForm**<sup>®</sup>. Unlike standard wood fiberboards, those novel panels can be 3D-molded and their surfaces can be structured on standard furniture molding equipment. This opens up new, cost-efficient design options for large-scale production. Since **acForm**<sup>®</sup> works without formaldehyde, this technology also enables the wood-working industry to set new standards in workplace health and safety.

**Surface Technologies:** BASF created the **Auroom**<sup>®</sup> online platform to visualize automotive paints virtually. The colors available in the database can be mapped onto any 3D surface online, showing the charac-

teristics and effects of the automotive coating in photographic quality. Painted samples are photographed from different angles and under different lighting, and processed using a special mathematical model. Digitalization speeds up the design process for original equipment manufacturers (OEMs) as they no longer have to wait for all samples to be painted and shipped.

**Nutrition & Care:** **Euperlan**<sup>®</sup> **OP White** is a wax-based opacifier that gives personal care products such as shampoos or shower gels a creamy milky-white appearance. It is readily biodegradable and cold processable. These unique properties make **Euperlan**<sup>®</sup> **OP White** particularly suitable for eco-label conforming skin and hair cleansing formulations. As an alternative to conventional opacifiers, the product meets the growing demand for environmentally friendly ingredients.

**Agricultural Solutions:** Our well-stocked innovation pipeline comprises products with a launch date between 2018 and 2028. With a peak sales potential<sup>1</sup> of more than €6 billion, the pipeline includes innovations from all business areas. The first market launches of **Revysol**<sup>®</sup>, our new fungicide, are scheduled for 2019/2020 following registration with the relevant authorities. In 2018, we launched the new insecticide **Inscalix**<sup>®</sup> and **Velondis**<sup>®</sup>, a biological fungicide for seed treatment.

For seeds and traits, the acquired businesses open up new opportunities that contribute to our innovation pipeline. The market launch of the new herbicide-tolerant soybean seed with the **LibertyLink**<sup>®</sup> **GT27**<sup>™</sup> trait platform<sup>2</sup> is planned for 2020. This new soybean technology will allow farmers to apply **Liberty**<sup>®</sup> herbicide and two other herbicide active ingredients.

Digital innovation will also contribute to the profitable growth of the Agricultural Solutions segment. The digital farming activities and associated pipeline developments under the **xarvio**<sup>®</sup> brand complement our existing portfolio with additional products and functionalities.

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

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

**Growth opportunity battery materials**

In battery materials, BASF's focus is on high-energy cathode active materials (CAM). In this area, chemical innovation has the biggest potential to improve the energy density, reliability, safety and cost of batteries. BASF is the largest chemicals supplier to the automotive industry, with €11.6 billion in sales in 2018 and leading market positions in OEM coatings, engineering plastics and mobile emissions catalysts. Our unmatched access to OEMs and their suppliers enables us to understand market needs early and then utilize our 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.

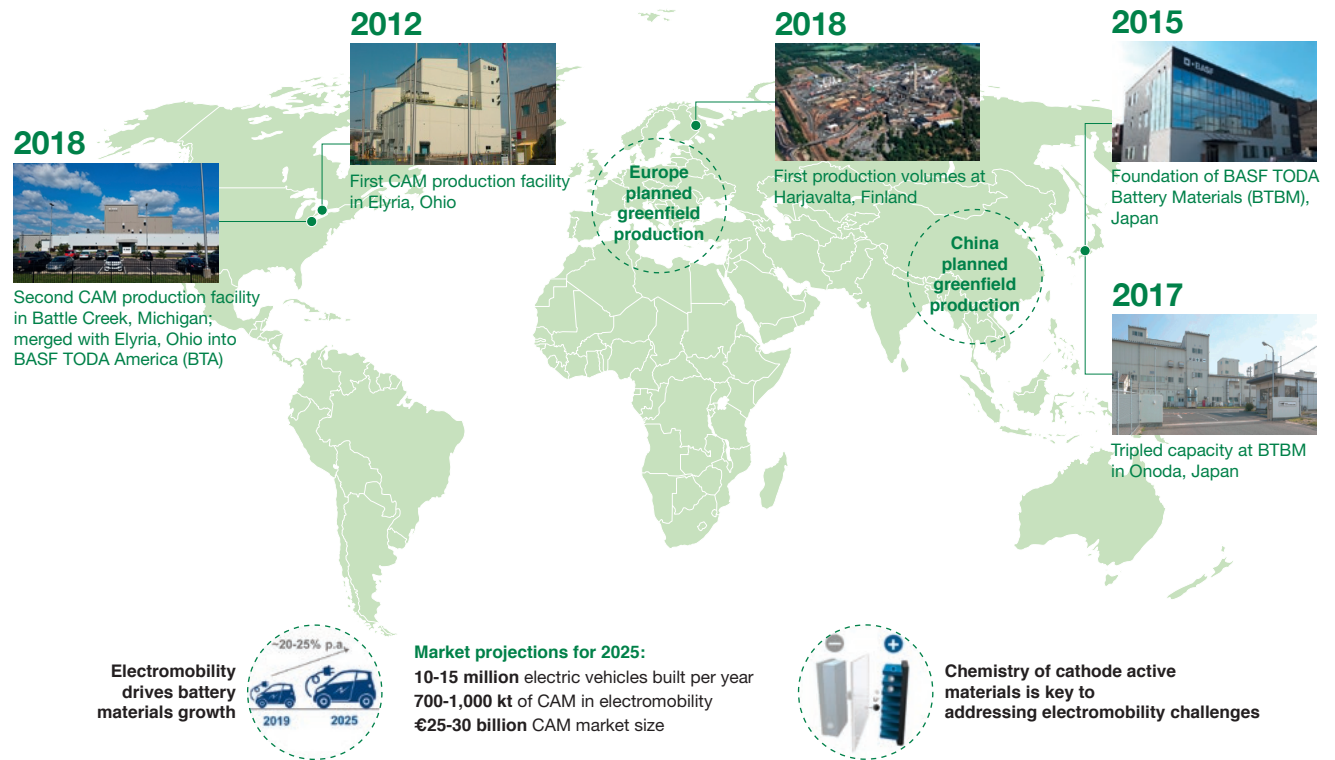
Battery materials is a very dynamic market, as OEMs have a wave of electric vehicle models lined up for introduction in the next three to five years. The lithium-ion battery market is expected to grow at about 20-25% per year to 2025 (measured by GWh required). For 2025, we anticipate annual sales of around 10-15 million electric vehicles and, depending on the mix of powertrains and technological progress, this could equate to a 700-1,000 kt market for cathode active materials, valued at €25-30 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 entered into a collaboration 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 Asia Pacific, BASF TODA Battery Materials tripled its capacity at the Onoda site in Japan in 2017. BASF TODA America combines BASF's and TODA KOGYO's North American production assets and was established in March 2018. BASF continues to explore opportunities for further expansion of its global asset footprint and has

announced its intention to invest up to €400 million to build industry-leading production plants for cathode materials in Europe. In October 2018, we announced that Harjavalta, Finland, will be the location of our first site to produce battery materials for the European automotive market. The plant will be constructed adjacent to the nickel and cobalt refinery owned by Norilsk Nickel (Nornickel), and construction will begin in 2019. BASF and Nornickel have signed a long-term supply agreement for nickel and cobalt from Nornickel's metal refinery.

Around the world, experts in the research area 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 vehicle from 300 to 600 kilometers on a single battery charge, halve battery size and reduce charging time to 15 minutes.

**Fast-paced buildup of global cathode active materials footprint**



## Sustainability

**Business success tomorrow means creating value for the environment, society and business. This is why sustainability is a cornerstone of our corporate strategy, a driver for growth as well as an element of our risk management along the value chain. Using the various tools of our sustainability management, we carry out our company purpose: “We create chemistry for a sustainable future.”**

We support our customers in being more sustainable and we create new business opportunities. Our products, solutions and technologies contribute to achieving the United Nations' Sustainable Development Goals (SDGs), for example, on sustainable consumption and production, climate action or fighting hunger.

Sustainability is firmly anchored into our organization, governance and business models. The Corporate Sustainability Board is BASF's central steering committee for sustainable development. It is composed of the heads of our business, corporate and functional units, and regions. A member of the Board of Executive Directors serves as chair. We have also established an external, independent Stakeholder Advisory Council with international experts from academia and society. For example, the Stakeholder Advisory Council encouraged us to push forward with the circular economy as a strategic focus.

We are active in worldwide initiatives with various stakeholder groups. We have been a member of the U.N. Global Compact since 2000. As a recognized LEAD company, we also support the implementation of the Agenda 2030 and its Sustainable Development Goals. We are involved in 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.

We identify relevant topics and trends through dialog with stakeholders, supported by continuous, worldwide big data analysis. We have defined sustainability focus areas in our corporate strategy to position ourselves in the market and, at the same time, meet the growing challenges along the value chain:

- We source responsibly
- We produce safely for people and the environment
- We produce efficiently
- We value people and treat them with respect
- We drive sustainable products and solutions

Relevant topics resulting from these commitments – such as energy and climate protection, portfolio management, supply chain responsibility, employee engagement, resource efficiency, responsible production and water – form the focal points of our reporting.

In addition to our new financial targets, we have also set ourselves new nonfinancial targets on climate protection, a sustainable product portfolio, responsible procurement and engaged employees to steer our business into a sustainable future.

### CO<sub>2</sub>-neutral growth until 2030

Global greenhouse gas emissions and the associated man-made climate change are among the most pressing challenges of our time. BASF is committed to the Paris climate agreement. We have already shown that greenhouse gas emissions can indeed be avoided on a large scale: Since 1990, we have doubled our production volumes while cutting our greenhouse gas emissions in half. This means that we have reduced our specific greenhouse gas emissions by more than 70%.

Since 2004, BASF has participated in the program for reporting on data relevant to climate protection of the international organization CDP. After achieving a score of “A–” for several years, BASF was included in CDP's “Climate Change A List” with the highest possible rating of “A” in 2018.

BASF also continued to be included in the MSCI ESG Ratings in 2018 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.

Further improvements are increasingly difficult to achieve due to technological barriers and limitations imposed by the laws of nature. To achieve our ambitious goal of keeping greenhouse gas emissions flat until 2030 in spite of further business growth, we will execute a global Carbon Management program that involves:

- operational excellence measures to further improve energy and process efficiency,
- increasing the proportion of renewable energies in our global power purchases, and
- developing breakthrough technologies in a research program with a focus on those few basic chemicals whose production is the most energy-intensive and accounts for more than half of the CO<sub>2</sub> emissions of the chemical industry in Europe (e.g., steam cracker with electric furnace, methane pyrolysis).

As a member of the Alliance of CEO Climate Leaders, BASF explicitly encourages companies to step up their commitment to meeting the targets of the Paris climate agreement. In November 2018, BASF also co-signed an open letter published by the Alliance calling for a pledge to increase efforts to reduce emissions, improved analysis and reporting of climate-related financial risks as well as a global carbon pricing mechanism. BASF also supports the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

We are reviewing BASF's advocacy policy and activities in the area of climate protection and their alignment with the most relevant industry associations of which BASF is a member.

### Portfolio management 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 2018, BASF had conducted sustainability assessments and ratings for 96.5% of its entire relevant portfolio<sup>1</sup> of more than 60,000 specific product applications – which account for €56.2 billion in sales. These consider the products' application in various markets and industries. Because of increasing sustainability requirements on the market, we regularly conduct reassessments of existing product categories as well as of the relevant portfolio.

Accelerator products make a substantial sustainability contribution in the value chain. This is why we will pursue a new, ambitious goal from 2019 onward: We aim to make sustainability an even greater part of our innovation power and achieve €22 billion in Accelerator sales by 2025 (2018: €15 billion). To achieve this goal, we will deeply integrate Sustainable Solution Steering into the research and development pipeline, in business strategies as well as in merger and acquisition projects.

To systematically align our portfolio with contributions to sustainability, we will phase out all Challenged products (products with significant sustainability concerns) within five years of initial classification as such at the latest.

### Chemical recycling

In the ChemCycling project, the first pyrolysis oil derived from plastic waste by our partners was fed into the BASF Verbund in 2018. The project's long-term goal is to make plastics recyclable that cannot yet be recycled, such as mixed plastics or plastics with residues. In the future, chemical recycling can make a significant contribution to a more circular economy by reducing the amount of plastic waste that is disposed of in landfill or incinerated, while saving fossil resources.

<sup>1</sup> Not included in the portfolio are primarily the sales reported under Other or not allocated to the operating business (such as licenses).

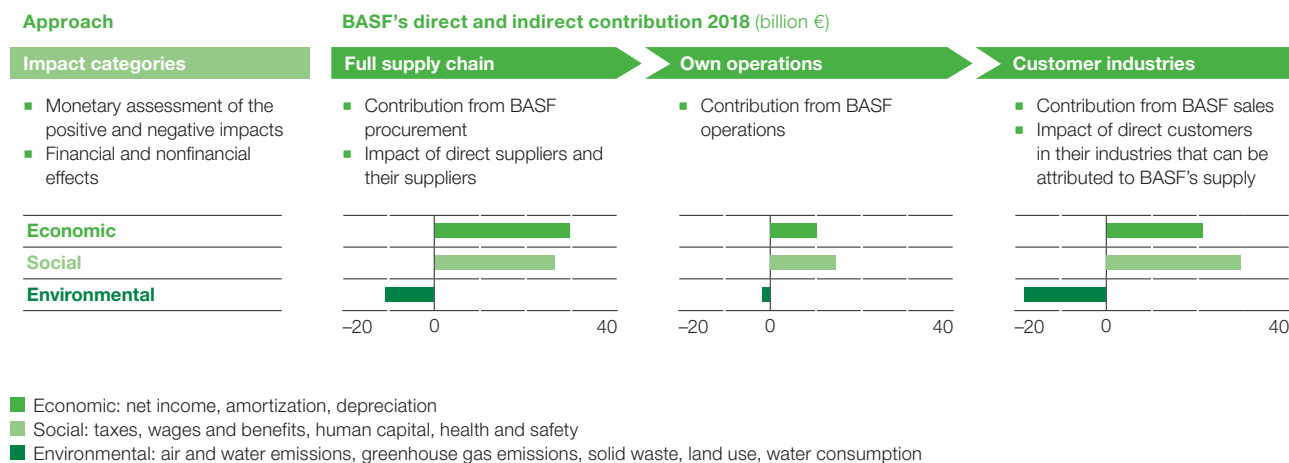
In January 2019, BASF co-founded the Alliance to End Plastic Waste (AEPW), a global initiative of nearly 30 companies to advance solutions that reduce and eliminate plastic waste in the environment, especially in the oceans.

### Measuring value added by sustainability

We want to measure the value proposition of our actions along the entire value chain. We are aware that our business activities are connected to both positive and negative impacts on the environment and society. We strive to increase our positive contribution to society and minimize the negative impacts of our activities.

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

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



BASF has also developed a method with external experts to perform a monetary assessment of the economic, ecological, and social impacts of its business activities along the value chain – the Value to Society approach. It enables a direct comparison between financial and nonfinancial effects of our business activities on society and illustrates interdependencies.

We also evaluate the usefulness of this method as a basis for strategic assessments and decisions in various projects, for example, by analyzing the impacts of alternative sites, business units, plants or forecasts. The results of these assessments are also helpful in our discussions with stakeholders.

We contribute our approach and expertise to current debates on the monetary value of the economic, environmental and social impact of business decisions. We share our experiences in networks and initiatives such as the Impact Valuation Roundtable or the Embankment Project for Inclusive Capitalism.

## Nonfinancial targets and key performance indicators

	New	Old	Status	SDGs		New	Old	Status	SDGs
<b>Procurement</b>					<b>Energy and climate protection</b>				
	2025	2020	2018	SDGs		2030	2020	2018	SDGs
Sustainability assessment of relevant <sup>1</sup> supply	90% <sup>2</sup>	70% <sup>3</sup>	60% <sup>3</sup>	8, 12, 16, 17	Absolute emissions of CO <sub>2</sub> equivalents <sup>5</sup>	no increase	–	22 <sup>6</sup>	7, 8, 9, 12, 13, 14, 15
Suppliers with improved performance upon re-evaluation	80%	–	–	8, 12, 16, 17	Specific emissions <sup>7</sup> of CO <sub>2</sub> equivalents	Further improvement	–40% <sup>8</sup>	–34.2% <sup>9</sup>	12, 13, 14, 15
					Introduction of ISO 50001 energy management system <sup>9</sup>	90%	90%	73%	7, 12, 13, 14, 15
<b>Employees</b>					<b>Water</b>				
	Annual			SDGs		2030	2025	2018	SDGs
Employees feel that at BASF, they can thrive and perform at their best	>80%	–	–	4, 8	Sustainable water management at Verbund sites and sites in water stress areas	100% <sup>10</sup>	100%	50%	3, 6, 12, 14, 15
	2021	2021	2018						
Women in leadership positions	22–24%	22–24%	21.7%	5, 16					
<b>Production</b>					<b>Products and solutions</b>				
	2025	2025	2018	SDGs		2025	2020	2018	SDGs
Process safety incidents <sup>4</sup>	≤0.1	≤0.1	0.3	3, 12, 15	Sales generated by Accelerator <sup>11</sup> products	€22 billion	28%	27.7% <sup>12</sup>	3, 8, 9, 12, 13
Lost-time injury rate <sup>4</sup>	≤0.1	≤0.1	0.3	3, 8					
<b>Product stewardship</b>									
	Annual	2020	2018	SDGs					
Risk assessment of products	Always comply	>99%	91%	3, 12					

<sup>1</sup> Based on risk matrices, purchasers' assessments and other sources

<sup>2</sup> Relevant spend

<sup>3</sup> Relevant suppliers

<sup>4</sup> Per 200,000 working hours including contractor working hours (ICCA)

<sup>5</sup> Million metric tons; BASF operations excluding the oil and gas business; includes other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO<sub>2</sub> equivalents

<sup>6</sup> Greenhouse gas emissions of BASF portfolio 2018, including the oil and gas business; baseline for the new goal (excluding the oil and gas business) to be published separately in 2019

<sup>7</sup> Per metric ton of sales products

<sup>8</sup> Baseline 2002; excluding oil and gas business

<sup>9</sup> At all relevant sites (primary energy demand, local energy prices)

<sup>10</sup> Enlarged GRI definition for water stress areas

<sup>11</sup> Products with substantial contribution to sustainability

<sup>12</sup> Equal to €15 billion

## Operations

**To remain competitive, we continuously improve our operations and reduce costs.**

The target of our excellence program is to achieve an annual EBITDA contribution of €2 billion from 2021 onward. For 2019, we aim to achieve an EBITDA contribution of €500 million. For the implementation, we expect one-time costs of €800 million in the period 2019 until 2021. This includes special charges in a mid-triple-digit million-euro-range. The program does not only cover our operations, but also includes expected benefits from digitalization and automation. Furthermore, we include the expected efficiency gains from organizational changes and simplification measures in the program.

To achieve optimal processes and structures in the production Verbund, we defined **five action areas**:

In summer 2018, we initiated additional **operational excellence measures** to improve the availability and efficiency of our plants. Every year we will spend €400 million on upgrading our plants; this amount is included in our capital expenditures budget.

We remain committed to **high environmental protection, health and safety standards**. This is our license to operate and a strong business benefit. Thanks to our strict global EHS standards, our plants in China passed the inspections that authorities in the country have been carrying out in the context of stronger enforcement of health, safety and environmental protection laws.

We are developing **asset target pictures** for individual plants and a strategy for each site to focus capital allocation on projects that have the strongest growth impact.

In the area of **site logistics**, we want to be more flexible and faster in delivering our products. For instance, we are using a new automated storage facility and automated guided vehicles to substantially speed up logistics at the Ludwigshafen site.

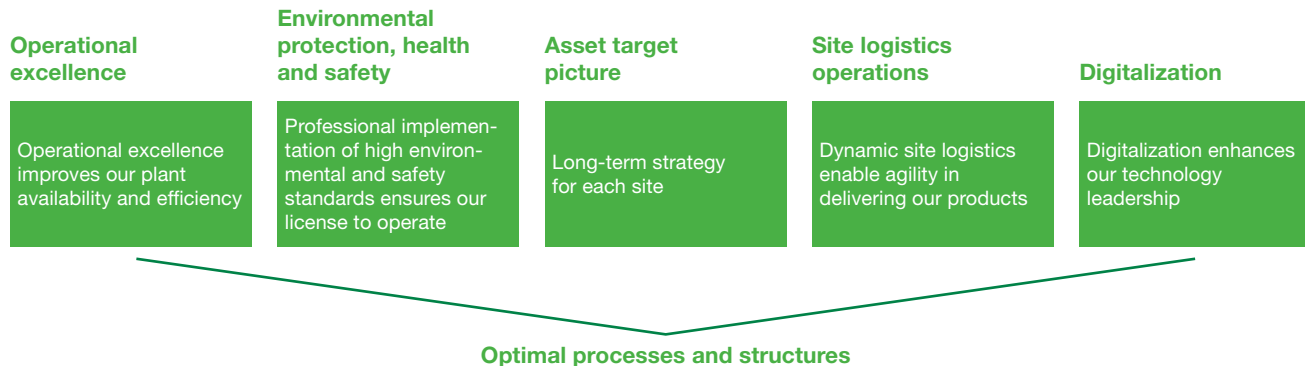
We are in the process of creating **digital twins** of all our major production plants. This means we will have a virtual model of each plant, which can be used to test process optimization without interfering with ongoing production. In the digital plant, we can analyze all data from operations, providing real-time information about the status of the plants. By constantly analyzing the data, we can also detect changes in process parameters or any malfunction very early.

This is a prerequisite for predictive maintenance which aims to anticipate the optimal time to carry out maintenance measures to reduce unplanned outages and repairs and to optimize the coordination of maintenance and production processes. The digital plant also supports daily operations, for example, by providing digital maintenance ledgers or augmented reality to access key information and receive guidance.



### Operational excellence

Raw materials and utilities are the major components of BASF's cost of operations. Therefore, transparency in consumption and costs is essential to improve production efficiency. Additionally, achieving more efficient use of raw materials and utilities with lower waste generation is crucial to reaching our growth targets without sacrificing our ambitious goals with respect to our carbon footprint. For example, BASF's RMCC (Raw Material Cost Comparison) methodology supported our plastic additives production facility in Bahrain to develop a better understanding of their production process, resulting in approximately €1 million in raw material cost savings during the past four years. Furthermore, there were savings from reduced waste disposal costs.



## Digitalization

For BASF, digitalization presents great opportunities along the entire value chain. Using digital technologies and data, we are creating additional value, ranging from higher efficiency in our plants to accelerated innovation processes and innovative business models.

### Research and development

Digital technologies have a rapidly expanding influence on research and development. Managing large quantities of data has become a decisive factor for future scientific and economic success. In BASF's digital approach, virtual modeling and computer simulation go hand in hand with physical experiments in the lab. Simulations help with the design of experiments and facilitate forecasting, while experiments deliver measurable results and evaluate the computer models. This results in a better understanding of chemical products and processes, and thus enables greater innovation in a shorter period of time. A key element is our supercomputer "Curiosity." With 1.75 petaflops, Curiosity offers around 10 times the computing power that BASF previously had for scientific computing before its installation in 2017.

One application example is molecular simulations for detergent formulations. Using Curiosity's enormous computing power, we are able to explain with these simulations at a molecular level how BASF's existing and potential new detergent ingredients work. This results in a better understanding of products, formulations and processes, and thus enables greater innovation to be achieved in a shorter period of time.

### Smart manufacturing

There is significant potential to increase efficiency in manufacturing with digital applications. One example is predictive maintenance, which provides methods for detection and prediction of anomalies of critical production assets, based on big data analytics. With predictive maintenance, we reduce unexpected shutdowns and thus increase available capacity.

### Smart supply chain

A tightly integrated and truly connected supply chain improves transparency, agility and speed. Most importantly, it enhances our supply chain service to our customers. Our global maritime and air shipments are now transparent thanks to the successful implementation of a global logistics visibility platform with connections to 600 carriers.

### Digital business models

New technologies and data are helping us change the way we approach markets and collaborate with customers. We are creating new digital offerings, as well as gaining access to new customer groups. We have now developed 50 innovative digital business models and are currently launching the first ones in the market.

### Data management

By using data smartly, we can create value for our customers and increase the effectiveness and efficiency of our processes. In today's highly dynamic and competitive environment, fast and smart data-driven decisions are the new norm. We are developing the necessary infrastructure, best-practice examples and rules to evolve into a data-driven company.

### People

Digitalization is not only about innovation and new technologies. In many areas, agile working methods are becoming more common. We offer many different online and real-life learning options for all employees worldwide in our #digitalbasecamp. Through the leadership program #liveitleadit, leaders get inspiration and ideas on how to support the digital transformation.

### Digitalization creates customer benefits

"Color Harmony" is a web application designed to improve color matching and harmony of color batches for different vehicle components, such as bodywork, bumpers and mirrors, on our customers' production lines.

The application combines customer data with BASF's own color batch data to calculate the performance indicators needed to improve batch tinting. This connection enables paint lines to be monitored automatically and overviews of the color harmony in the OEM production lines to be created. The application's main objective is to optimize batch colors and harmonize the colors used for bodywork and add-on parts.

Based on the customer data, we provide batches that match the desired color perfectly. As a result, our color settings become more efficient, color harmony becomes even more standardized, and we can deliver an even more color-consistent paint to our customers across batches.



To further optimize logistics, BASF introduced automated guided vehicles (AGVs) at its Ludwigshafen site last year. Replacing the shunting of railway tank cars by an automated process utilizing AGVs has reduced delivery times to loading stations on-site by more than 95%.

## Portfolio

BASF actively manages its portfolio. In recent years, we have continuously optimized our portfolio through acquisitions, divestitures and partnerships. This is an ongoing task. Every year, we perform a review of our strategic business units. In this exercise, we follow the “best-owner” principle. This means we analyze the fit with our assets, value chains and technologies. We also review the benefit for the businesses from our Verbund and their contribution to our Verbund. If we identify businesses with decreased fit and/or limited differentiation potential, we will look for other strategic options. We are currently investigating various options for our construction chemicals business and we want to divest our pigments business.

We also look into opportunities to selectively acquire businesses or assets, if we have identified gaps. We are looking for selective M&A opportunities that may offer transformative potential for distinct growth businesses or segments.

### 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

### 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

### Active portfolio management

Since 2010, we have divested businesses with sales of around €26 billion. These businesses offered only a limited differentiation potential at the time of divestment. In a changed market environment, BASF was no longer the best owner for these businesses. Almost half of the divested sales are related to the gas trading and storage business that was transferred to Gazprom in 2015. The remaining oil and gas business was deconsolidated in 2019 as a result of the formation of the joint venture Wintershall Dea.

### Selected, closed transactions 2010–today

#### 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

**~€7.8 billion sales**

in emerging and innovation-driven businesses

Divestitures also included the textile chemicals, leather chemicals, and water and paper chemicals businesses.

In the same period, we acquired growing and innovation-driven businesses with sales of around €7.8 billion, including the seeds and crop protection businesses and assets purchased from Bayer in August 2018.

#### 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



## Acquisitions

On March 7, 2018, BASF closed the agreement to form BASF TODA America LLC (BTA) for battery materials. Based in Iselin, New Jersey, BTA is a cooperative venture between BASF and TODA; BASF holds a majority share in and control over BTA. With the Battle Creek site in Michigan and the site contributed by BASF in Elyria, Ohio, the new company took over production of high energy cathode active materials for e-mobility applications. The transaction strengthens the Catalysts division's battery materials business.

On August 1, 2018, BASF closed the acquisition of a range of businesses and assets from Bayer to complement its own activities in crop protection, biotechnology and digital farming. At the same time, the transaction marked BASF's entry into the seeds, non-selective herbicides and nematicide seed treatments businesses. The assets acquired included Bayer's global glufosinate-ammonium business, commercialized under the Liberty<sup>®</sup>, Basta<sup>®</sup> and Finale<sup>®</sup> trademarks, as well as its seeds businesses for key field crops in selected markets. The transaction also covered Bayer's trait research and breeding capabilities for these crops. BASF acquired the manufacturing sites for glufosinate-ammonium production and formulation in Germany, the United States and Canada, seed breeding facilities in the Americas and Europe as well as trait research facilities in the United States and Europe. BASF also closed the acquisition of Bayer's global vegetable seeds business, which mainly operates under the trademark Nunhems<sup>®</sup>, on August 16, 2018. The acquired vegetable seeds business comprises 24 crops and about 2,600 varieties. It also includes R&D breeding systems with more than 100 breeding programs in over 15 cultures. This strengthens BASF's Agricultural Solutions division. The purchase price amounted to a total of €7.4 billion and may be subject to further purchase price adjustments.

## Business Segments

### Divestitures

On January 31, 2018, BASF's production site for styrene butadiene-based paper dispersions in Pischelsdorf, Austria, was sold to Synthomer Austria GmbH, a subsidiary of the British specialty chemicals manufacturer Synthomer plc. The styrene acrylic dispersions that were produced in Pischelsdorf were not included in the sale. They were bundled with the businesses in Ludwigshafen, Germany. The sale was made in connection with the concentration of paper dispersions production in Europe at the sites in Ludwigshafen, Germany, and Hamina, Finland, which is designed to strengthen the Dispersions & Pigments division.

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. Our share in Solenis' income after taxes has since been included in EBIT before special items and EBIT of the BASF Group, presented in Other.

Following the approval of all relevant authorities, BASF and LetterOne completed the merger of Wintershall and DEA on 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. BASF's participating interest in Wintershall Dea is reported in the consolidated financial statements of the BASF Group according to the equity method since May 1, 2019, with an initial valuation at fair value. The gain from the transition from full consolidation to the equity method will be shown in income after taxes from discontinued operations for the second quarter of 2019. Since May 1, 2019, BASF reports its share of Wintershall Dea's net income in EBIT before special items as well as in EBIT of the BASF Group, reported under Other.

[🔗 For more information, see page 68 onward.](#)

## Financials

### Agreed transactions

On September 18, 2017, we signed an agreement with the Solvay group on the acquisition of Solvay's global polyamide business, subject to the approval of the relevant antitrust authorities. The E.U. Commission approved the acquisition of the polyamide business, subject to certain conditions, on January 18, 2019. These conditions require divesting parts of the original transaction scope to a third-party buyer, namely Solvay's production plants and innovation competencies in the engineering plastics field in Europe. The divestment process has started. By complementing the engineering plastics portfolio, enhancing the access to key growth markets in Asia and South America as well as strengthening the value chain through backward integration into key raw materials, BASF will still achieve its key strategic objectives. The transaction is expected to close in the second half of 2019, as soon as all remaining closing conditions are met, including the divestiture of businesses and assets to a third party. We plan to integrate the polyamide business into the Performance Materials and Monomers divisions. Before being adjusted to reflect the antitrust-related changes to the scope of the transaction, the purchase price on a cash and debt-free basis and excluding other adjustments would have been €1.6 billion.

## Investments

Investments make a decisive contribution toward achieving our ambitious growth goals. Investments 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.

We invested €3,615 million<sup>1</sup> in property, plant and equipment in 2018 (previous year: €4,020 million). Capital expenditures (capex)<sup>2</sup> accounted for €3,498 million of this amount (previous year: €3,735 million).

In Europe, we will strengthen 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 by the end of 2019. We are also constructing another production plant for special zeolites in Ludwigshafen. Zeolites are used to produce exhaust catalysts for vehicles with diesel engines. Production start-up is scheduled for 2019. In the first quarter of 2018, we started construction of another production plant for vitamin A, which is scheduled for startup in 2020.

In North America, we constructed and started operation of an ammonia production plant in Freeport, Texas, together with Yara International ASA, headquartered in Oslo, Norway. We started construction of a new MDI synthesis unit in Geismar, Louisiana. Startup is scheduled for 2020.

In Asia, we started production at the new aroma ingredients complex in 2018, which was built together with our partner PETRONAS Chemicals Group Berhad, Kuala Lumpur, Malaysia, and at the Ultraform<sup>®</sup> plant in Gimcheon, South Korea, built together with our partner Kolon Plastics Inc.

We are planning total capex<sup>2</sup> of around €3.8 billion for the BASF Group in 2019. For the period from 2019 to 2023, we have planned capital expenditures totaling €21.3 billion.

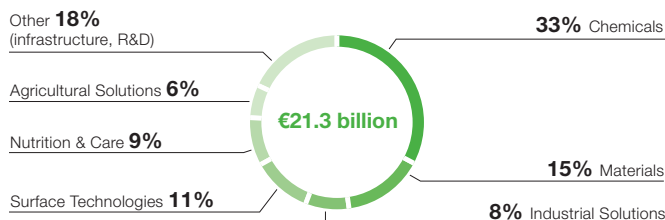
<sup>1</sup> Including investments in connection with our oil and gas activities until September 2018

<sup>2</sup> Additions to property, plant and equipment excluding acquisitions, capitalized exploration, restoration obligations, IT investments and right-of-use assets arising from leases

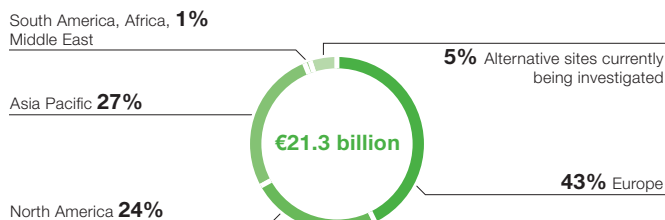
<sup>3</sup> In cooperation with Adani Group

## Business Segments

### Capex by segment 2019–2023



### Capex by region 2019–2023



Projects currently being planned or underway include:

Location	Project
Antwerp, Belgium	Capacity expansion: integrated ethylene oxide complex
Geismar, Louisiana	Capacity expansion: MDI plant
Ludwigshafen, Germany	Replacement: acetylene plant
	Construction: production plant for vitamin A
	Construction: production plant for ibuprofen
Mundra, India	Investment: acrylics value chain <sup>3</sup>
Zhanjiang, China	Establishment of an integrated Verbund site

## Financials

In mid-January 2019, BASF and Adani signed a memorandum of understanding to evaluate a joint investment in the acrylics value chain at Mundra port in Gujarat, India. A feasibility study will be completed by the end of 2019. BASF and Adani want to establish a joint venture with an investment totaling about €2 billion, in which BASF would hold the majority. In line with BASF's carbon-neutral growth strategy, the chemical site in Mundra would be the company's first CO<sub>2</sub>-neutral production site fueled by renewable energy.

With a world market share of more than 40%, China is currently the largest chemical market and drives the growth of global chemical production. We expect China's share to increase to around 50% by 2030. We are well placed to further expand our already strong position in this region and accelerate our organic growth with our announced investment projects.

At the end of October 2018, BASF and SINOPEC signed a memorandum of understanding to further develop their partnership in upstream and downstream chemical production at the Nanjing Verbund site in China. Our joint venture BASF-YPC will invest in a 50% stake to build another steam cracker with a capacity of 1 million metric tons of ethylene per year. SINOPEC Yangtzi Petrochemical will invest the other 50%. The participation in a new steam cracker and the expansion of our joint venture underline the strong partnership between SINOPEC and BASF and the commitment to our customers in China. We will also jointly explore new business opportunities in China's fast-growing battery materials market.

In early January 2019, BASF and the government of Guangdong province signed a framework and investment agreement setting out further details of BASF's plan to establish a new Verbund site in Guangdong. Following the memorandum of understanding signed in July 2018, BASF selected the city of Zhanjiang as the location for its second Verbund site in China.

### New Verbund site in Zhanjiang

In recent years, market growth in China was 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 is very well prepared to capture future growth in China. We have built an extensive network throughout the country:

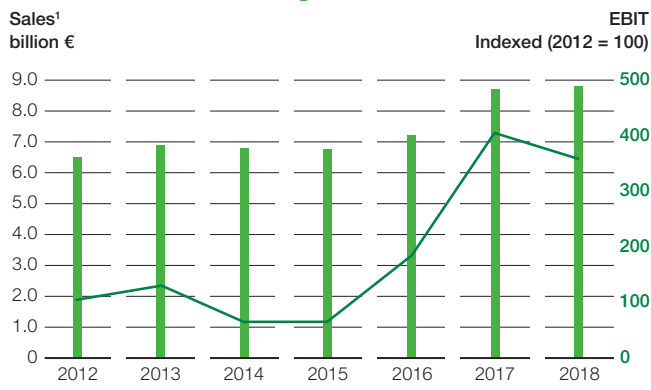
- Shanghai is home to our Greater China headquarters and the Innovation Campus, as well as the Caojing production site.
- Nanjing is the location of our Verbund site in a joint venture with Sinopec and a wholly owned site.
- In Chongqing, we operate the MDI production complex, which is also wholly owned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

These sites are the backbone of our activities. In total, BASF has almost 9,000 employees in Greater China and 25 production sites close to our customers. The business is highly profitable. In 2018, our joint venture BASF-YPC Company Ltd., Nanjing generated an EBITDA of almost €0.7 billion, which corresponds to an EBITDA margin of almost 24%.

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 would be BASF's largest investment and would be operated under the sole responsibility of BASF.

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.

### BASF sales and earnings in Greater China



<sup>1</sup> Net sales to 3rd parties by location of customer plus 50% of sales of BASF-YPC Company Ltd., Nanjing

Guangdong is the home of 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.

The total BASF investment in Zhanjiang is estimated to reach up to \$10 billion until 2030 and will be implemented in phases. The project will include a wholly-owned steam cracker with a planned capacity of 1 million metric tons of ethylene per year and several plants for consumer-oriented products and solutions. Ethylene will be used to produce ethylene oxide and ethylene glycol. Ethylene oxide is an important raw material for the production of amines and surfactants. Propylene will provide the feedstock for products such as acrylates and oxo-alcohols. The startup of the first plants is expected for 2022, and the upstream plants are expected to begin operations between 2024 and 2026.

The new BASF Verbund site will benefit from Zhanjiang's natural resources, a deepwater port, excellent transportation links, and an 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. A smart manufacturing concept is being further developed for the new site 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.



## Employees

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

### Strategy

Our employees are key to the successful implementation of BASF's strategy. They contribute to changing the world we live in for the better with innovative and sustainable solutions. We are convinced of the value of excellent employees, leaders and working conditions, and strive to give our employees the tools and skills necessary to be able to offer our customers products and services with an even greater level of differentiation in the future. As part of the updated corporate strategy, we will sharpen our focus on employee engagement and impactful leadership. 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.

BASF can rely on the engagement of its employees. It is shown by, for example, a passion for the job, a dedication to top performance and a commitment to BASF. Previous global employee surveys have shown that employee engagement is already high, and we aim to keep it this way and increase it even further where possible. As part of our updated corporate strategy, we have therefore set ourselves the following goal for the coming years from 2019 onward: More than 80% of our employees feel that at BASF, they can thrive and perform at their best. Our employee engagement level will be regularly calculated as an index score based on set questions in employee surveys. We identify improvement areas based on survey results to further strengthen the engagement of our employees.

### Business Segments

#### Number of employees

At the end of 2018, BASF had 122,404 employees (2017: 115,490); of these, 3,174 were apprentices<sup>1</sup> (2017: 3,103). 3,226 employees were on temporary contracts. The higher headcount was primarily due to the businesses acquired from Bayer. In addition, 2,017 employees from the disposal group for the oil & gas business were included in the number of employees as of December 31, 2018.

#### BASF Group employees by region

	December 31, 2018	%
Europe	75,188	61.4
Thereof Germany	55,839	45.6
North America	20,069	16.4
Asia Pacific	19,303	15.8
South America, Africa, Middle East	7,844	6.4

#### 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 so that they contribute to the company's long-term success. 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.

### Financials

#### BASF Group personnel expenses

Million €	2018	2017	+/-
Wages and salaries	8,470	8,471	0%
Social security contributions and assistance expenses	1,459	1,434	1.7%
Pension expenses	730	705	3.5%
<b>Total personnel expenses</b>	<b>10,659</b>	<b>10,610</b>	<b>0.5%</b>

#### Competition for talent

Attracting and retaining the best employees is crucial to our success. Having a compelling total offer package for employees is becoming increasingly important given the strong global competition for the best qualified employees and leaders. This is why we are constantly working on measures to increase BASF's appeal in the global labor markets.

We once again achieved high scores in a number of employer rankings in 2018. For example, in a study conducted by Universum, BASF was again selected by engineering and IT students as one of the 50 most attractive employers in the world. In North America, DiversityInc named BASF as one of the top 50 companies for diversity in recruiting for the sixth consecutive year. In Asia, Top Employer recognized BASF China as one of the best employers for the eighth time in succession.

The BASF Group hired 10,125 new employees in 2018. The percentage of employees who resigned during their first three years of employment – the early turnover rate – was 1.3% worldwide in 2018. This turnover rate was 0.6% in Europe, 2.3% in North America, 2.8% in Asia Pacific and 1.7% in South America, Africa, Middle East. Our early turnover rate is therefore at a desirable low level.

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

### Customer-focused organization

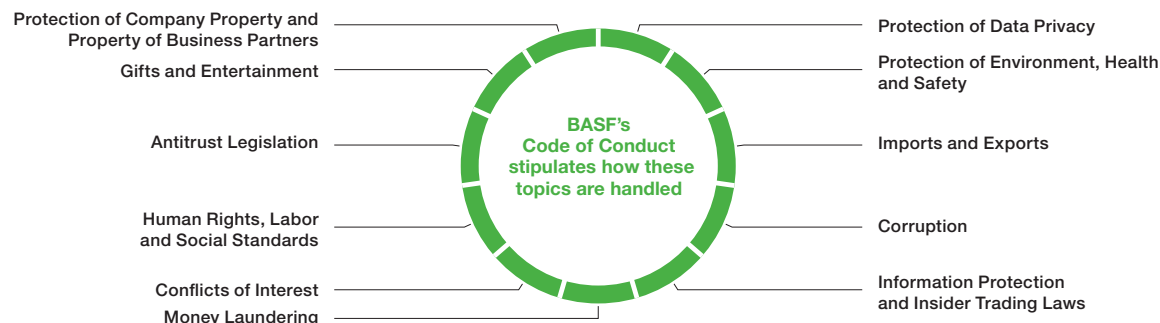
Our updated corporate strategy puts an even greater focus on the customer. We aim to develop solutions that are both profitable and sustainable in close partnership with our customers, and optimize processes and applications. For the transformation of BASF into an agile and customer-focused company, the optimization of organizational structures plays an important role. We empower our businesses to differentiate according to customer needs. Therefore, we embed business-critical services in operating divisions and foster end-to-end thinking and actions. We also optimize our R&D activities, increase external collaborations with the overall goal of exceeding our customers' expectations. In total, we will move around 20,000 employees from services, functions and R&D closer to customers.

### Compliance Program and Code of Conduct

Our Group-wide Compliance Program aims to ensure adherence to legal regulations and the company's internal guidelines. Our employee Code of Conduct firmly embeds these mandatory standards into day-to-day business. Members of the Board of Executive Directors are also expressly obligated to follow these principles.

Based on international standards, BASF's Compliance Program combines important laws and company-internal policies – often exceeding legal requirements – with external voluntary commitments to create a framework that regulates how all BASF employees interact with business partners, officials, colleagues and society. At the core of our Compliance Program is the global, standardized Code of Conduct received by every employee. All employees and managers are obligated to adhere to its guidelines, which describe our principles for proper conduct and cover topics ranging from corruption and antitrust laws to human rights, labor and social standards, conflicts of interest and trade control, and protection of data privacy.

### BASF's Code of Conduct



Abiding by compliance standards is the foundation of responsible leadership. This has also been embedded in our values. We are convinced that compliance with these standards will not only prevent the disadvantages associated with violations, such as penalties and fines; we also view compliance as the right path toward securing our company's long-term success.

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 division, regional and country level. The regular compliance audits performed by the Corporate Audit department are another source for the systematic identification of risks. These risks are documented in each 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. Course materials and formats are constantly updated, taking into account the specific risks of individual target groups and business areas. In 2018, for instance, we again asked most of our employees around the world to take part in online refresher training as part of the compliance program. In total, more than 96,000 participants worldwide received around 84,000 hours of compliance training in 2018.<sup>1</sup>

[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 96,000**  
participants in compliance training<sup>1</sup>

**84 internal audits**  
conducted on compliance

<sup>1</sup> Excluding the assets and businesses acquired from Bayer

2

# Business Segments

<b>Business Segments</b>	<b>30</b>
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<b>Agricultural Solutions</b>	<b>64</b>
Agricultural Solutions	66
<b>Other</b>	<b>68</b>
Wintershall Dea	69

# Business Segments

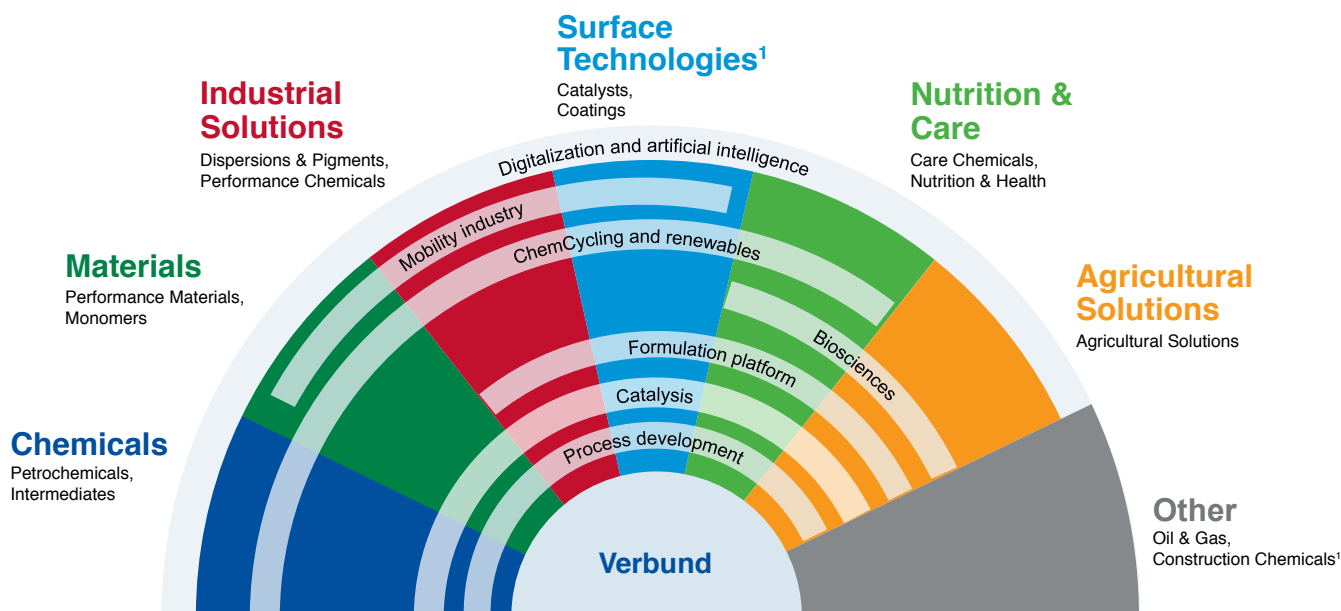
Since January 1, 2019, BASF's twelve divisions are grouped into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. This new segment structure sharpens our portfolio and increases transparency. Businesses are clustered to improve customer experience and to fully realize Verbund synergies as exemplified by the "connectors" in the graph depicted 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 the advantages the vast amount of data across all segments offers us.

### Key facts

- 6 segments comprising 12 operating divisions with 86 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 75% of our businesses, we are in a top three position



<sup>1</sup> Until signing of a transaction agreement, Construction Chemicals will be reported under Surface Technologies

## Key figures

Percentage 2018

		Sales	EBITDA before special items
<b>Chemicals</b>	- Petrochemicals	19%	24%
	- Intermediates		
<b>Materials</b>	- Performance Materials	21%	32%
	- Monomers		
<b>Industrial Solutions</b>	- Dispersions & Pigments	15%	11%
	- Performance Chemicals		
<b>Surface Technologies</b>	- Catalysts	22%	13%
	- Coatings		
	- Construction Chemicals <sup>1</sup>		
<b>Nutrition &amp; Care</b>	- Care Chemicals	9%	12%
	- Nutrition & Health		
<b>Agricultural Solutions</b>	- Agricultural Solutions	10%	12%
<b>Other</b>		4%	(4%)



## New organization of the BASF Group

BASF's new segment structure will increase transparency regarding the results of our segments as well as highlight 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 be successful in an increasingly competitive market environment.

The **Chemicals** segment is the cornerstone of our Verbund. It supplies the other segments with basic chemicals and intermediates, contributing to the organic growth of our key value chains. Alongside internal accounts, our customers include the chemical and plastics industries. We aim to increase our competitiveness through technological leadership and operational excellence.

The **Materials** 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 will 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.

The **Industrial Solutions** segment develops and markets ingredients and additives for industrial applications such as polymer dispersions, pigments, resins, electronic materials, antioxidants and admixtures. We aim to drive organic growth in key industries, such as automotive, plastics and electronics, and expand our position in value-enhancing ingredients and solutions by leveraging our comprehensive industry expertise and application know-how.

The **Surface Technologies** segment comprises our businesses that offer chemical solutions for surfaces. Its portfolio includes coatings, catalysts and battery materials for the automotive and chemical industries. The aim is to drive organic growth by leveraging our

portfolio of technologies and know-how, and to establish BASF as a leading and innovative provider of battery materials as well. For our construction chemicals business, we are considering the possibility of a merger with a strong partner, as well as the option of divesting this business. The Construction Chemicals division will be reported under the Surface Technologies segment until the signing of a transaction agreement.

In the **Nutrition & Care** segment, we strive to expand our position as a leading provider of nutrition and care ingredients for consumer products in the area of nutrition, home and personal care. Customers include food and feed producers as well as the pharmaceutical, cosmetics, detergent and cleaner industries. We aim to enhance and broaden our product and technology portfolio. 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.

The **Agricultural Solutions** segment aims to further strengthen our market position as an integrated provider of crop protection products and seeds. Its portfolio comprises fungicides, herbicides, insecticides and biological crop protection products, as well as seeds and seed treatment products. We also offer farmers digital solutions combined with practical advice. Our main focus is on innovation-driven organic growth, targeted portfolio expansion as well as leveraging synergies from the acquired businesses.

In addition to the new segment structure, the **composition of a number of divisions** has also changed. The propylene oxide and propylene glycol business was transferred from the Petrochemicals division to the Monomers division. The superabsorbents business is allocated to the Petrochemicals division rather than the Care Chemicals division. The styrene, polystyrene and styrene-based foams business, which previously mainly fell under the Performance Materials division and a small part under Other, is bundled in the Petrochemicals division.

## Each new segment has a clear and compelling path forward

	Chemicals	Materials	Industrial Solutions	Surface Technologies <sup>1</sup>	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

<sup>1</sup> Until signing of a transaction agreement, Construction Chemicals will be reported under Surface Technologies

## Chemicals

The Chemicals segment is the cornerstone of our Verbund structure. It supplies the other segments with basic chemicals and intermediates, contributing to the organic growth of our key value chains. Alongside internal accounts, our customers include the chemical and plastics industries. We aim to increase our competitiveness through technological leadership and operational excellence.

## Divisions

### Petrochemicals

Broad range of basic products and specialties for sectors such as the chemical and plastics industries

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### Intermediates

Most comprehensive intermediates portfolio in the world, including precursors for coatings, plastics, textile fibers and crop protection products

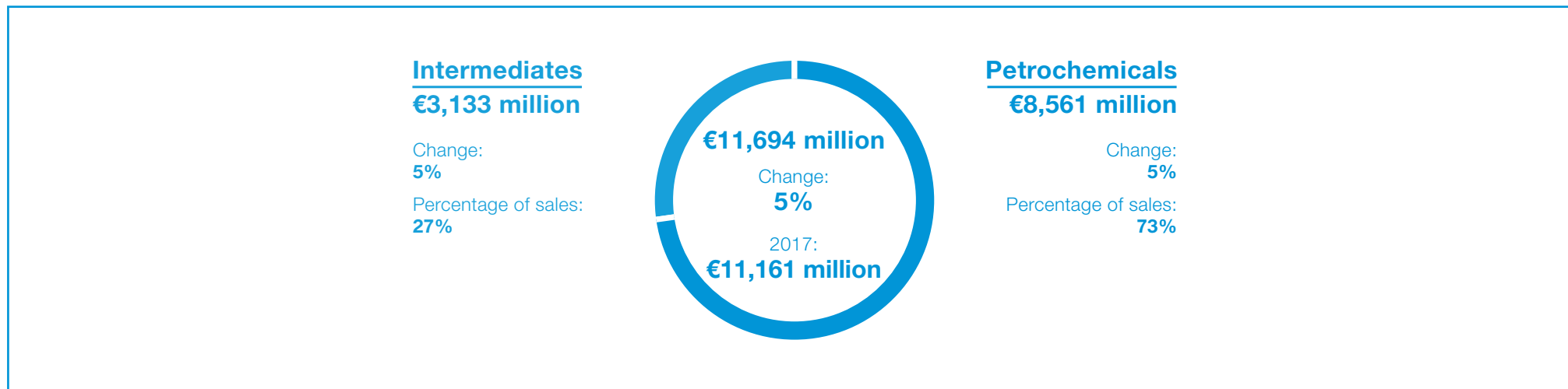
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In the VMOX laboratory: With vinyl methyl oxazolidinone (VMOX), BASF offers a new vinyl monomer in commercial quantities. Among other things, VMOX enables innovative coatings formulations with a favorable toxicological profile.

With VMOX, BASF is adding to the industry's most comprehensive portfolio of functional vinyl monomers. These high-quality intermediates are commonly used, for example, in the production of coatings, adhesives, biocides, high-performance oils, flavorings and printing inks.

## Sales 2018



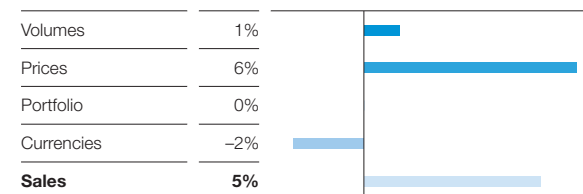
## Segment data Chemicals

Million €

		2018	2017
Sales to third parties		11,694	11,161
Share of total BASF sales	%	19	18
Thereof Petrochemicals		8,561	8,182
Intermediates		3,133	2,979
Income from operations before depreciation and amortization (EBITDA) before special items		2,245	2,647
Income from operations before depreciation and amortization (EBITDA)		2,234	2,652
EBITDA margin	%	19	24
Income from operations (EBIT) before special items		1,587	2,007
EBIT before special items margin	%	14	18
Income from operations (EBIT)		1,573	1,989
EBIT margin	%	13	18
Return on capital employed (ROCE)	%	17.7	23.1

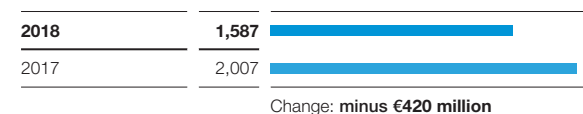
## Factors influencing sales

2018 versus 2017



## 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:

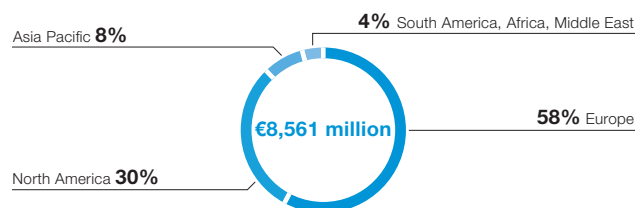
- Superabsorbent polymers
- Adhesives
- Flocculants
- Coatings
- Surfactants

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

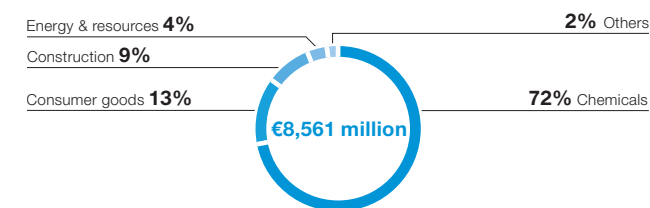
#### Chemicals

#### Sales by region 2018 (location of customer)



### Financials

#### Sales by direct customer industry 2018



#### 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. In 2017, BASF started production of another toxicologically advantaged plasticizer, Palatinol<sup>®</sup> DOTP, in Pasadena, Texas, to meet market demand in North America.

#### 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.

#### 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. 1 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 2016 onward

Product group	Description	Year
Superabsorbents	New technology SAVIVA® in Antwerp, Belgium	2017
Styrenic foams	Divestiture of XPS, Styrodur business and assets in Italy	2016
	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
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)	mid-2020s

## Innovation



### ChemCycling

The project focuses on reusing plastic waste in chemical production. Thermochemical processes are used to transform plastic waste into new raw materials, which are then fed into the BASF Verbund instead of fossil resources. In October 2018, the first pyrolysis oil derived from plastic waste by our partners was used in Ludwigshafen, Germany. The new chemical products manufactured from this pyrolysis oil have the same quality as products made from fossil feedstock.

## 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, 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	–	–	–	–	590
Styropor/Neopor	–	–	–	–	–	–	–	460	–	–	–	–	85	545

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

<sup>1</sup> BASF 50%; Sinopec 50%

<sup>2</sup> BASF 60%; PETRONAS 40%

<sup>3</sup> BASF 51%; Sonatrach 49%

<sup>4</sup> 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. The Intermediates division focuses primarily on the C1 and C2 value chains.

### Portfolio

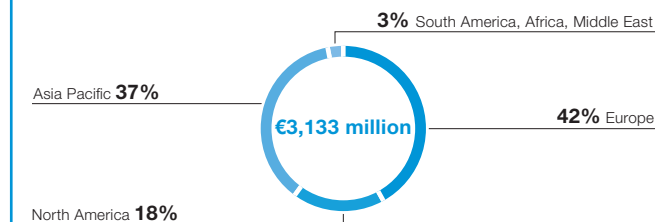
#### Butanediol and its derivatives

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 captively produced products such as polybutylene terephthalate (PBT), tetrahydrofuran (THF), PolyTHF®, gamma-butyrolactone and N-methylpyrrolidone.

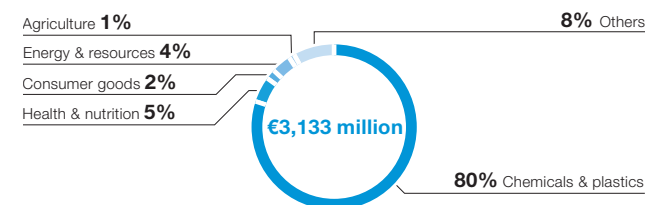
#### Amines

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 2018 (location of customer)



### Sales by direct customer industry 2018



#### 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 acids portfolio also includes higher carboxylic acids (HCAs) 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, and carbonates are primarily sold to the battery industry for the production of electrolytes.

#### Acetylenics and carbonyl derivatives

These specialty intermediates are based on raw materials from BASF's Verbund such as acetylene and chlorine. Among the specialty acetylenics are vinyl monomers, acetylenic alcohols, and higher alkyllpyrrolidones. 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

We follow a clear innovation strategy for all product lines to further grow the businesses and improve profitability. Our innovation strategy is based on three pillars:

- New and improved processes: We are continuously benchmarking our production processes to secure and expand our position and to remain best in class. One recent example is the improved process to be used in the new acetylene plant which we plan to commission by the end of 2019 at our Ludwigshafen Verbund site. Compared to other processes, we will use raw materials and by-products more efficiently. The excess heat will be used to generate energy and the yield will be higher.
- We are continuously looking for new applications for our existing intermediates, such as the deicing of residential areas with salts of our formic acid. These formates are more readily biodegradable than conventional products. As they are noncorrosive and not hazardous to animals and plants, formates are a highly efficient and proven deicing solution on airport runways.

- We develop new products, such as vinyl methyl oxazolidinone (VMOX). VMOX is particularly suitable as a reactive diluent in UV curing inks and coatings, which can be used for digital printing. In these applications, the vinyl monomer has many technical benefits compared to conventional reactive diluents and enables innovative coatings formulations with a favorable toxicological profile.

### 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, Huntsman, Ineos
- Butanediol/derivatives: Dairen, LyondellBasell, Ashland
- 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 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



### Methanol produced according to biomass balance

In 2018, we started the production of methanol based on renewable raw materials. For the product, certified according to the EU-REDcert standard, we replace fossil raw materials with second-generation renewable raw materials, and we also use waste and residual materials. As a result, we reduce emissions of greenhouse gases by at least 50% compared with conventionally produced methanol. We market the EU-REDcert-methanol to customers and use it in-house as an intermediate for other biomass balanced products. Biomass balanced methanol is chemically identical to methanol produced from fossil resources.

### Acquisitions/JVs/investments

from 2016 onward

Product group	Description	Year
1,6-hexanediol (HDO)	Capacity expansion in Freeport, Texas, and Ludwigshafen, Germany	2015–2016
1,4-Butanediol (BDO) and PolyTHF®	BASF and Markor established two JVs in Korla, China	2015–2016
	BDO capacity expansion in Geismar, Louisiana	2016
2-Ethylhexanoic acid	New plant in Kuantan, Malaysia	2016
Acetylene	Replacement of plant in Ludwigshafen, Germany	2019
Propionic acid	Capacity expansion in Nanjing, China	2019
Specialty amines	New plant in Nanjing, China	2019
1,6-hexanediol (HDO)	Capacity expansion in Ludwigshafen, Germany	2021

### Divestitures/shutdowns

from 2016 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	150
Polybutylene terephthalate	160
Specialty amines	>100

## Materials

The Materials 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 will 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 foams for major industry sectors, such as transportation, construction, industrial applications and consumer goods

[page 40](#)

### Monomers

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

[page 42](#)

At CHINAPLAS 2019, BASF introduced the "Ren Chair" concept wheelchair, co-created with Wheel-Line Co., Ltd and REHTO Design. The Ren Chair combines bold design and style with high-performance polyurethane and polyamide materials from BASF, addressing wheelchair users' needs for a safer, barrier-free experience. Wonhee Han from REHTO is the designer of the Ren Chair – not a genuine user, but passionate about her prototype.

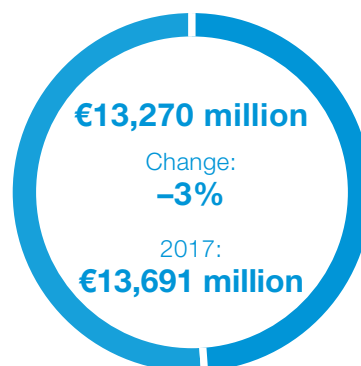




## Sales 2018

### Monomers €6,753 million

Change:  
-6%  
Percentage of sales:  
51%



### Performance Materials €6,517 million

Change:  
0%  
Percentage of sales:  
49%

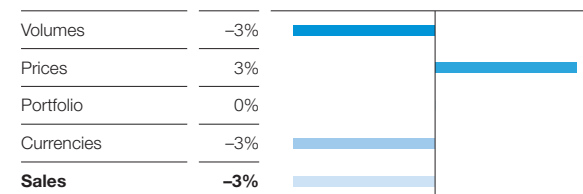
## Segment data Materials

Million €

	2018	2017
Sales to third parties	13,270	13,691
Share of total BASF sales	% 21	23
Thereof Performance Materials	6,517	6,490
Monomers	6,753	7,201
Income from operations before depreciation and amortization (EBITDA) before special items	3,020	3,710
Income from operations before depreciation and amortization (EBITDA)	2,993	3,703
EBITDA margin	% 23	27
Income from operations (EBIT) before special items	2,400	2,995
EBIT before special items margin	% 18	22
Income from operations (EBIT)	2,374	2,987
EBIT margin	% 18	22
Return on capital employed (ROCE)	% 26.1	33.4

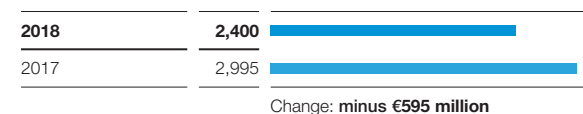
## Factors influencing sales

2018 versus 2017



## 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 comprises PU systems, TPU (thermoplastic polyurethanes) and MPU (Cellasto®) technologies.

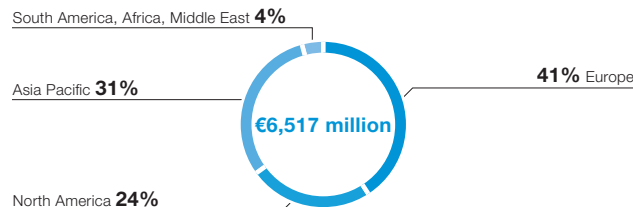
#### Engineering plastics

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).

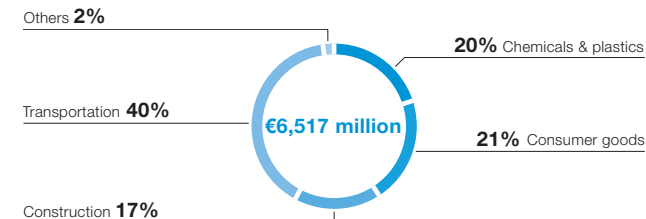
#### Specialty plastics

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 2018 (location of customer)



### Sales by direct customer industry 2018



#### Functional foams

Functional foams include Basotect®, a flexible, open-cell foam made from melamine resin, as well as the particle foams Neopolen® P and Palusol®. 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

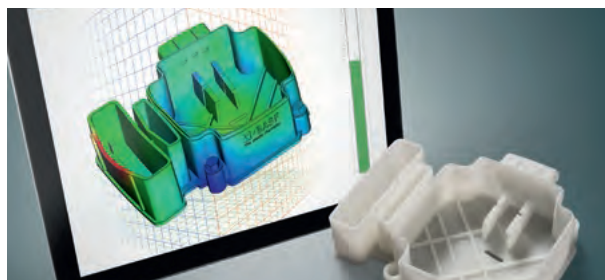
## Focus of research and development

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



### Ultrasim® simulation tool

The new thermomechanics module of BASF's Ultrasim® simulation tool enables thermal deformation to be detected at an early stage of development of components such as electronics parts. The tool can be used to simulate the typical temperature load from minus 40°C to 150°C for various applications. This saves our customers time and money in the development process as they are able to identify and avoid component faults at an early stage before going into serial production.

## Acquisitions/JVs/investments

from 2016 onward

Product group	Description	Year
Polyurethanes	MPU capacity expansion in Shanghai, China	2016
	Upgrade of Cellasto production in Lemförde, Germany	2016
	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
	Agreed acquisition of Solvay's global polyamide business	2019
	Specialty plastics	Acquisition of EPP assets from Polyform
Expansion of Ultrason capacity in Yeosu, South Korea		2018

## Divestitures/shutdowns

from 2016 onward

Product group	Description	Year
Functional foams	Divestiture of PET foam (Kerdyn®) business	2016
Styrenic foams	Divestiture of XPS, Styrodur business and assets in Italy	2016
	Closure of XPS production in Schwarzheide, Germany	2017
PU systems	Closure of TPU production in Guaratinguetá, Brazil	2016
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	735

## 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, polyamide 6 and 6.6, ammonia, 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, building and construction, woodworking, food, solar, packaging and textile industries.

### Portfolio

#### Isocyanates and propylene oxide

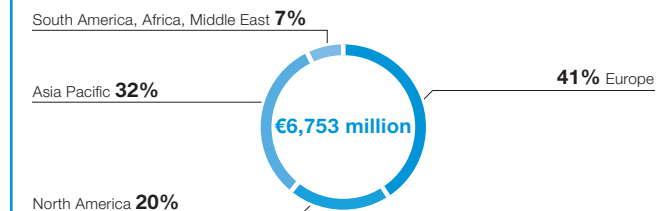
The portfolio of isocyanates consists of MDI and TDI. BASF is the world leader in isocyanates, which are key components to produce soft or rigid foams. MDI is a versatile isocyanate that can be used to make flexible foams as well as semi-rigid and rigid polyurethane plastics. Its primary applications 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, another important precursor for the polyurethane value chain.

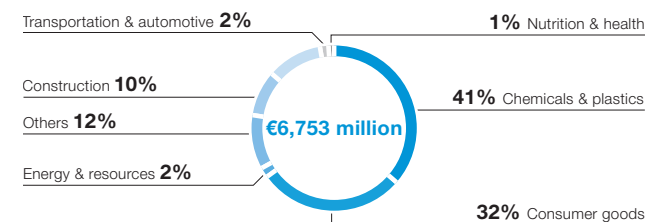
#### Polyamides and precursors

BASF is the world's leading supplier of high-quality polyamides, with the trade name Ultramid®, and polyamide precursors such as caprolactam or adipic acid. BASF started manufacturing Ultramid® polyamides over 50 years ago. Today, BASF offers a wide product range of polyamides for injection molding and extrusion. The product range includes PA6 grades (Ultramid® B), PA66 grades (Ultramid® A) and special grades based on copolyamides (Ultramid® C).

### Sales by region 2018 (location of customer)



### Sales by direct customer industry 2018



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, including resistance to sterilizing temperatures, 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.

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

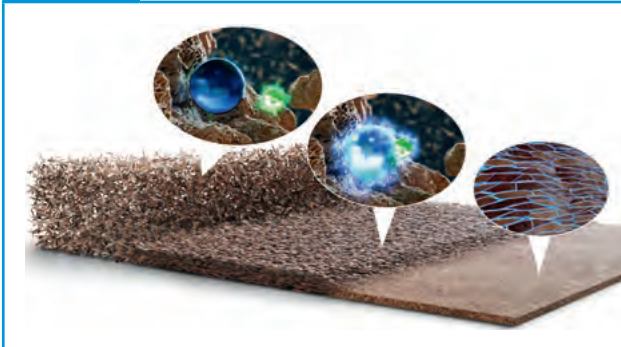
## Focus of research and development

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



### Improving production efficacy in the woodworking industry

Kauranat<sup>®</sup> MS 1001 is BASF's innovative isocyanate-based product for the woodworking industry. It is designed to enable synergistic effects between isocyanate and amino resin type binders. When Kauranat<sup>®</sup> MS 1001 is used in a hybrid binder system together with an amino resin to produce chipboard, for example, this system starts to cure in the press at lower temperatures than usual. This increases production speed by up to 20%, saving process energy and significantly increasing total production capacity.

## Acquisitions/JVs/investments

from 2016 onward

Product group	Description	Year
Ammonia	New world-scale ammonia plant in Freeport, Texas, JV with Yara	2018
Polyamide and intermediates	Agreed acquisition of Solvay's global polyamide business	2019
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 2016 onward

Product group	Description	Year
Caprolactam	Capacity reduction by 100,000 metric tons per year, Ludwigshafen, Germany	2017

## Major nameplate capacities of BASF

thousand metric tons per year

Product group	Capacity
Ammonia	1,765
Caustic soda	360
Chlorine	385
Glues and impregnating resins	750
Sulfuric acid	920
Urea	545
Caprolactam	700
Polyamide	820
MDI	1,830
TDI	780
Propylene oxide	675

## Industrial Solutions

The Industrial Solutions segment develops and markets ingredients and additives for industrial applications, such as polymer dispersions, pigments, resins, electronic materials, antioxidants and admixtures. We aim to drive organic growth in key industries such as automotive, plastics and electronics, and expand our position in value-enhancing ingredients and solutions by leveraging our comprehensive industry expertise and application know-how.

## Divisions

### Dispersions & Pigments

Raw materials used to formulate products in the coating, construction, paper, adhesives, printing and packaging, plastics and electronic industries

[page 46](#)

### Performance Chemicals

Additives and formulations for various customer industries, such as plastics, automotive, refineries, lubricants, oilfield and mining

[page 48](#)



**BASF mining solutions** increase productivity, recovery and flexibility in the entire hydrometallurgical process of mining operations in the areas of leaching, solvent extraction, flotation, solid/liquid separation and residue management. Our LiXTRA™ technology, for example, offers the industry the opportunity to increase metal extraction, reduce mining costs and extend mine life in a sustainable way.

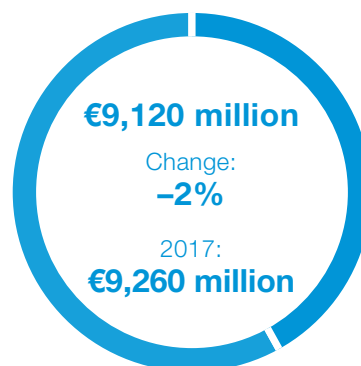
## Sales 2018

### Dispersions & Pigments

€5,292 million

Change:  
-2%

Percentage of sales:  
58%



### Performance Chemicals

€3,828 million

Change:  
-1%

Percentage of sales:  
42%

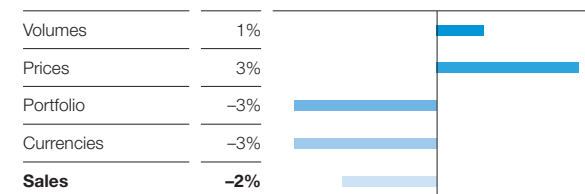
## Segment data Industrial Solutions

Million €

	2018	2017
Sales to third parties	9,120	9,260
Share of total BASF sales	% 15	15
Thereof Dispersions & Pigments	5,292	5,398
Performance Chemicals	3,828	3,862
Income from operations before depreciation and amortization (EBITDA) before special items	1,090	1,295
Income from operations before depreciation and amortization (EBITDA)	1,076	1,468
EBITDA margin	% 12	16
Income from operations (EBIT) before special items	668	853
EBIT before special items margin	% 7	9
Income from operations (EBIT)	653	1,022
EBIT margin	% 7	11
ROCE	% 8.7	13.5

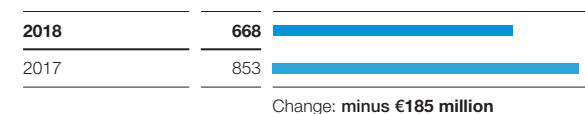
## Factors influencing sales

2018 versus 2017



## 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 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.

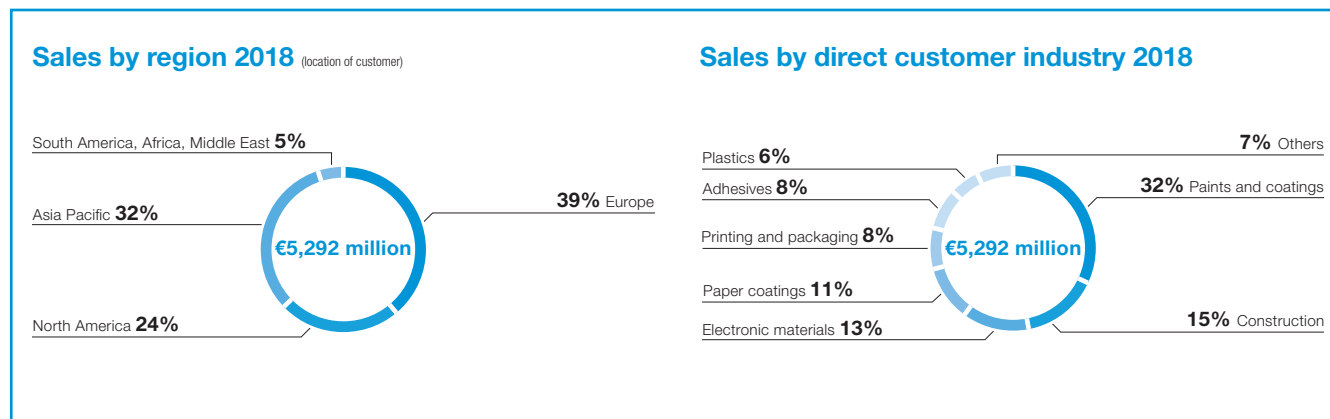
#### Pigments

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.

In 2019, BASF started the divestment process for its global pigments business. We strive to close the transaction by the end of 2020 at the latest.

#### 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 product 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 its 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. 5 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, Trinseo, Synthomer, Wacker, Arkema, Wanhua
- Pigments: Clariant, DIC/Sun, Sudarshan
- Resins: Allnex, Covestro, DSM, Arkema
- Additives: ALTANA, Dow, Everlight, Evonik, Elementis
- Electronic materials: DuPont, Entegris, Merck

## 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, e. g., 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

### Groundbreaking binder technology

Designers in the furniture industry now have access to innovative wood fiberboards based on BASF's new binder technology, acForm®. Unlike standard wood fiberboards, those novel panels can be 3D-molded and their surfaces can be structured on standard furniture molding equipment. This opens up new, cost-efficient design options for large-scale production. Since acForm® works without formaldehyde, this technology also enables the woodworking industry to set new standards in workplace health and safety.

## Acquisitions/JVs/investments

from 2016 onward

Product group	Description	Year
Dispersions	Capacity expansion in Ludwigshafen, Germany	2018
	Capacity expansion in Pasir Gudang, Malaysia	2020
Pigments	Capacity expansion in Ludwigshafen, Germany	2016
	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 2016 onward

Product group	Description	Year
Dispersions	Divestiture of the Pischelsdorf site, Austria	2018
Resins	Closure of plant in Kankakee, Illinois	2016
Additives	Divestiture of the photoinitiator business	2016
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 50 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
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
Resins	Ludwigshafen, 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 stabilizers, antioxidants, process stabilizers 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

#### Fuel and lubricant solutions

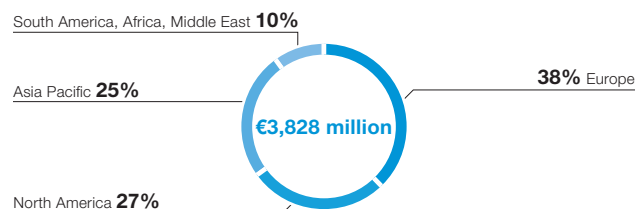
BASF is one of the leading suppliers of performance chemicals for the automotive and mineral oil industries. Our portfolio includes:

- 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)

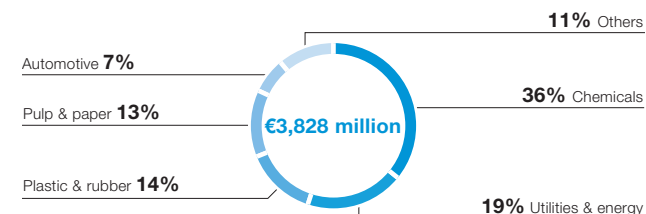
#### Kaolin minerals

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 2018 (location of customer)



### Sales by direct customer industry 2018



#### Oilfield 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
- Fuel and lubricant solutions: Afton Chemical
- Kaolin minerals: KaMin, Burgess, Imerys
- Oilfield 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; Thane, India; Singapore; Kuantan, Malaysia; Guaratinguetá, Brazil
Oilfield and mining solutions	Cork, Ireland; Nanjing, China; Ludwigshafen and Trostberg, Germany

### Innovation



### Hydraulic® 406 ESI

As electronic systems in cars become more and more complex, braking systems must meet increasingly stringent requirements. Brake fluids are an important safety factor: They must ensure fast signal processing and braking reactions, so a low viscosity is crucial. With a viscosity that is more than 50% lower than standard products, Hydraulic® 406 ESI significantly improves braking safety, even under difficult conditions, and sets new performance benchmarks for a premium brake fluid.

### Acquisitions/JVs/investments

from 2016 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
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

### Divestitures/shutdowns

from 2016 onward

Product group	Description	Year
Paper and water chemicals	Transfer of BASF's paper wet-end and water chemicals business to Solenis	2019
Leather and textile chemicals	Leather chemicals business became part of the Stahl Group	2017

# Surface Technologies

The Surface Technologies segment comprises our businesses that offer chemical solutions for surfaces. Its portfolio includes coatings, catalysts and battery materials for the automotive and chemical industries. The aim is to drive organic growth by leveraging our portfolio of technologies and know-how, and to establish BASF as a leading and innovative provider of battery materials as well. For our construction chemicals business, we are considering the possibility of a merger with a strong partner, as well as the option of divesting this business. The Construction Chemicals division will be reported under the Surface Technologies segment until the signing of a transaction agreement.

## Divisions

### Catalysts

Automotive and process catalysts, battery materials, precious metal trading and services

[page 52](#)

### Coatings

Coatings solutions, surface treatments, decorative paints

[page 54](#)

### Construction Chemicals

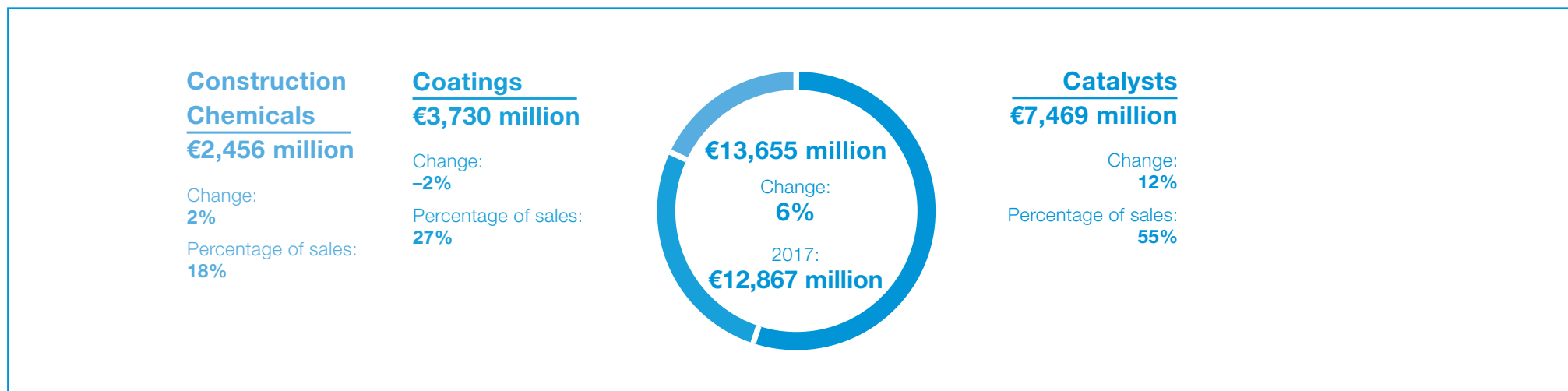
Solutions for building structure and envelopes, interior construction and infrastructure

[page 56](#)



BASF develops advanced **surface technologies**. Innovative products and materials enable vehicles to be built more efficiently and with a lower environmental impact. Chemistry is set to play an even greater role in solving future mobility challenges by providing sustainable technologies. The picture shows car paint, which was scanned and now can be applied digitally to various surfaces for easy visualization.

## Sales 2018



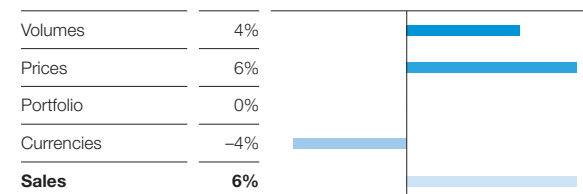
## Segment data Surface Technologies

Million €

	2018	2017
Sales to third parties	13,655	12,867
Share of total BASF sales	% 22	21
Thereof Catalysts	7,469	6,658
Coatings	3,730	3,797
Construction Chemicals	2,456	2,412
Income from operations before depreciation and amortization (EBITDA) before special items	1,205	1,334
Income from operations before depreciation and amortization (EBITDA)	1,148	1,301
EBITDA margin	% 8	10
Income from operations (EBIT) before special items	690	826
EBIT before special items margin	% 5	6
Income from operations (EBIT)	632	774
EBIT margin	% 5	6
Return on capital employed (ROCE)	% 4.6	5.6

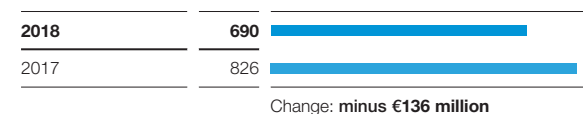
## Factors influencing sales

2018 versus 2017



## 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 also provides precious metals sourcing and management services. In addition, the division is the home of BASF's battery materials business. 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, motorcycles and off-road vehicles.

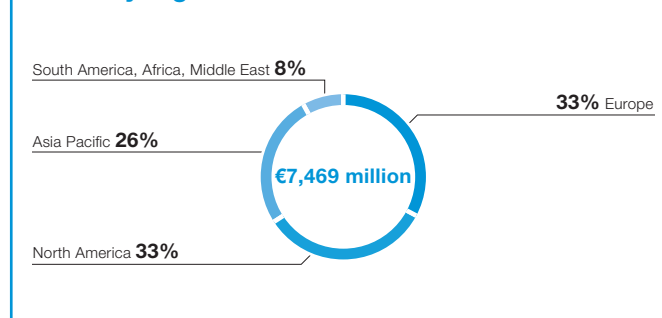
#### Process catalysts and technologies

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.

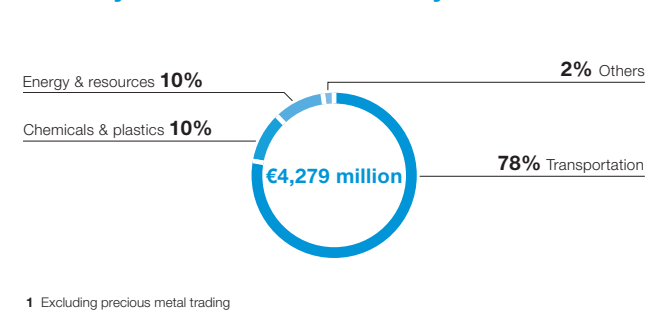
#### Battery materials

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 to improve competitiveness. BASF is a frontrunner in developing innovative solutions and conducting next-generation battery materials research.

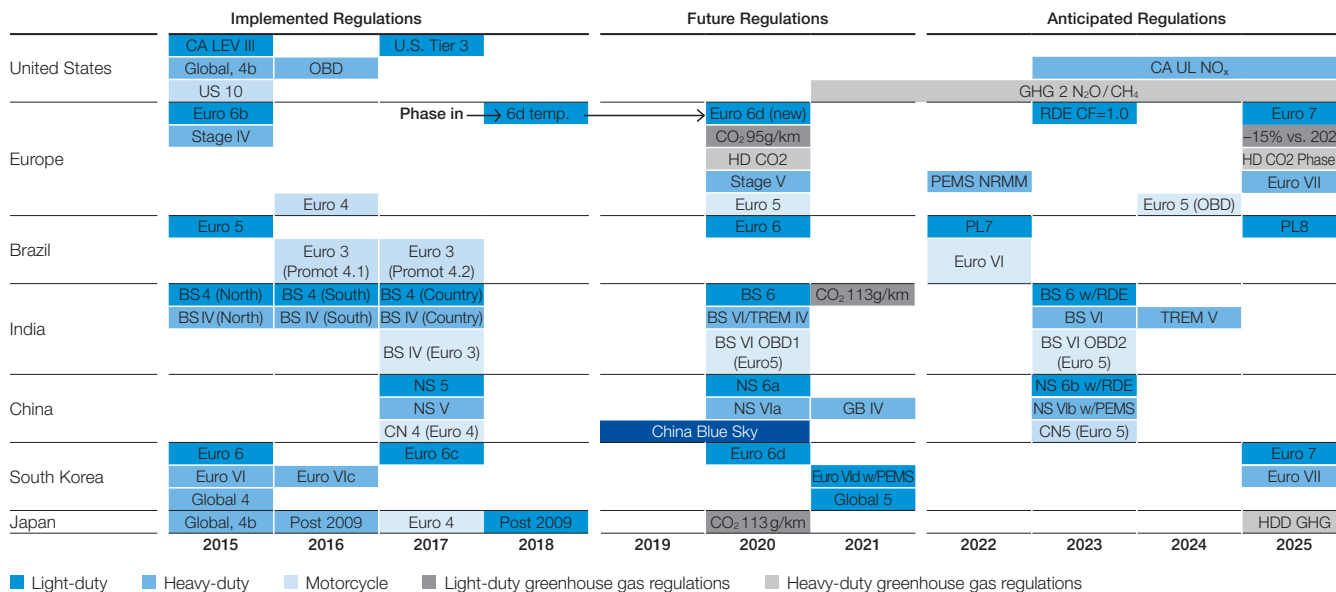
Sales by region 2018 (location of customer)



Sales by direct customer industry 2018<sup>1</sup>



## Emissions catalysts market – regulation remains primary demand driver



### 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 its customers with services related to precious and base metals sourcing and management. It purchases, sells, distributes, stores and offers transportation services for precious metals. It also provides a variety of pricing and delivery arrangements to meet logistical, financial and price-risk management requirements. In addition, the business produces precious metal salts and solutions and is a global leader in precious metals recycling and refining.

### 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



### Novel diesel oxidation catalyst

Diesel oxidation catalysts (DOC) reduce emissions of heavy-duty diesel engines by removing hydrocarbons and carbon monoxide and enabling soot removal from the exhaust. BASF offers a novel DOC that reduces the precious metal active ingredients by at least 25%. Another advantage is it significantly broadens the temperature region to implement removal of soot and prevent build-up of back pressure on the engine, thereby reducing fuel consumption. The novel DOC design is used in all major markets.

### 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 2016 onward

Product group	Description	Year
Process catalysts	Divestiture of the polyolefin catalysts business	2016
	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 2016 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	License under the IP of CAMX Power for CAM-7™ cathode materials for lithium-ion batteries granted to BASF	2016
	Expansion of cathode materials plant in Onoda, Japan	2017
	BASF TODA America LLC formed	2018
	New manufacturing plant in Harjavalta, Finland	2018

## Coatings

BASF's Coatings division offers innovative and ecologically viable products for the automotive industry, including both the original equipment manufacturer (OEM) and refinish markets, as well as surface treatment solutions for a variety of end 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:

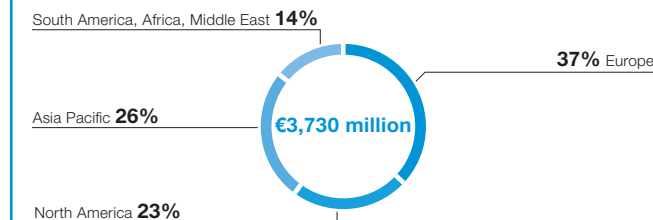
- E-coats
- Primers
- Basecoats
- Clearcoats

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

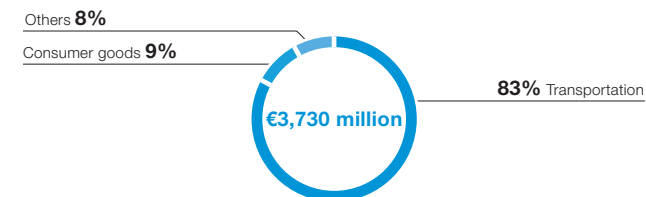
#### Automotive refinish coatings solutions

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 2018 (location of customer)



### Sales by direct customer industry 2018



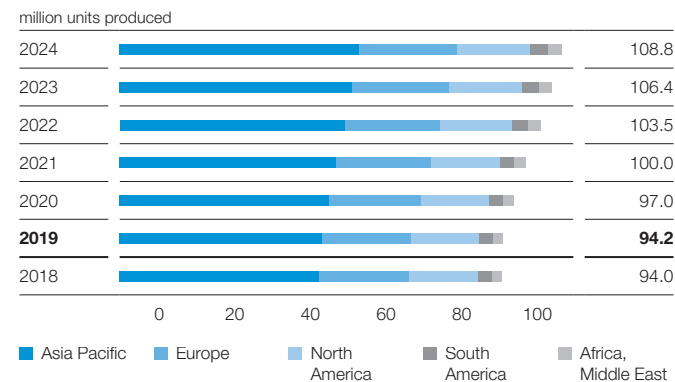
#### Surface treatment solutions

BASF is a globally leading solution provider for applied surface treatment. 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 end 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 April 2019 (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 by around 10 million units over the next four years. The main growth driver is Asia – in particular China – where BASF is excellently 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
- 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

**Innovation**



**NORBIN® 66 waterborne basecoat**

To provide cost-efficient coatings that help our customers reduce VOC emissions, NORBIN® 66 waterborne basecoat was developed in the automotive refinish research and development center in Jiangmen, China. The basecoat system offers easy-to-mix blending capability, hiding efficiency, short drying time, and reduced material waste. The waterborne formulation technology of NORBIN® 66 underscores BASF's commitment to sustainability and to making our customers more successful with innovative and high-quality products.

**Acquisitions/JVs/investments**

from 2016 onward

Product group	Description	Year
Automotive OEM	Paint production in Bangpoo, Thailand	2017
	Basecoats and intermediates production in Shanghai, China	2017
	Waterborne production capacity expansion in Tultitlán, Mexico	2018
	Expansion of e-coat production in Whitehouse, Ohio	2019
	Shanghai automotive application center, China	2019
	Resin plant in Caojing, China	2020
Refinish	Acquisition of the automotive refinish coatings business of Guangdong Yinfan Chemistry Co. Ltd., China	2016
	New competence center in Houston, Texas	2016
	New laboratory facilities in Münster, Germany	2019
Surface treatment	Acquisition of Chemetall	2016
	Capacity increase for aerospace in Langelsheim, Germany	2019
	New surface treatment site in Pinghu, China	2021

**Divestitures/shutdowns**

from 2016 onward

Product group	Description	Year
Industrial coatings	Divestiture of the industrial coatings business	2016

**Major production sites**

BASF Coatings' products are manufactured at 40 sites worldwide. Our most important sites for each product group 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	Demarchi and Jabotão, Brazil

## Construction Chemicals

**BASF's Construction Chemicals division offers advanced chemical solutions for the construction industry. Our innovations help our customers to rapidly adopt sustainable construction practices and to profitably grow their businesses.**

### Portfolio

#### Admixture systems

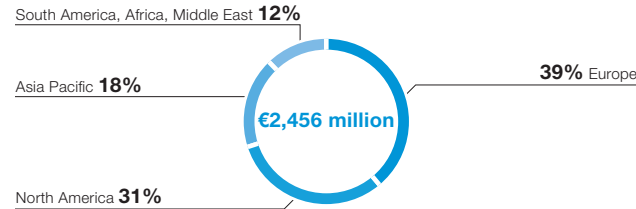
BASF technologies for admixture systems provide solutions and add value for customers in the concrete manufacturing, cement and underground construction industries. Each of these industries is connected to the concrete value chain. Our primary focus is to improve and protect buildings by providing solutions based on additives for concrete and other cementitious materials as well as selected complementary technologies.

#### Construction systems

BASF serves the industry by offering construction systems with solutions to protect and repair buildings and structures. Furthermore, the construction systems help to enhance the performance of buildings and extend their service lives. Construction systems comprise: concrete repair and protection systems, performance grouts, waterproofing systems, sealants, performance flooring systems, wall systems and coatings for mulch and wood fibers.

With systems for concrete repair and protection, we help to prolong a building's life span. Performance grouts enable a durable, safe, cost-effective and time-efficient installation of all types of heavy machinery and wind power stations. Our waterproofing systems are designed to stop water entry through surfaces to prevent interior damage, while our sealants prevent air, water and other environmental elements from entering or exiting a structure. Wall systems offer exterior insulation finishing systems that combine insulation, a finished surface, and waterproofing in one integrated system. Through our North American colorbiotics business we provide

### Sales by region 2018 (location of customer)



### Sales by direct customer industry 2018



high-quality, long-lasting landscape coating products to help produce vibrant mulch for homeowners, business owners, parks and municipalities.

### Our brands

Master Builders Solutions is our global brand for the construction chemicals industry and encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair and protection solutions, performance grouts and performance flooring solutions.

Besides Master Builders Solutions, Construction Chemicals also has regional specialty brands. In North America, for instance, Watson Bowman Acme produces expansion joints and offers solutions in the field of expansion control. PCI (Europe) offers a broad portfolio of tiling system products distributed through builders' merchants to professional craftsmen. Wolman (Europe) develops different solutions for wood protection, ranging from material treatment through curative treatment to fire protection.



### Fundació Joan Miró, Barcelona, Spain – corrosion repair and protection

The museum Fundació Joan Miró in Barcelona is located close to the sea, which caused serious corrosion damage. Instead of closing for long periods, the museum relied on a leading product for corrosion repair and protection: MasterProtect 8000 CI by Master Builders Solutions. Renovation costs remained approximately 60% below the costs for a complete refurbishment and downtime was reduced by 70%. Additionally, effective corrosion protection solutions extend the time between renovation cycles for further substantial savings over the service life of the building.

**BASF's market position**

- Admixture systems: No. 1 globally
- Construction systems: No. 4 globally

**Main competitors**

- Admixture systems: GCP Applied Technologies, Mapei, Sika
- Construction systems: Sika, RPM, Mapei

**Focus of research and development**

The goal of our R&D activities is to enable higher productivity and enhanced sustainability in the construction industry. In particular, we develop solutions to make construction processes faster with easy-to-apply and robust products. Durability, building service life and eco-efficiency are the main drivers for innovations across all regions. We invest significantly to further strengthen and extend our technology platforms to meet the needs of our customers now and in the future.

**Key capabilities of BASF**

- Customized solutions matching a broad variety of customer needs
- Trusted brands with reliable product performance
- Quality of sales and technical service thanks to experienced staff
- Innovation to enable faster, safer and more durable construction
- Proximity to customers with focus on growth markets

**Innovation**



**MasterTop TC 941**

MasterTop TC 941 is a non-solvent-based, UV-stable topcoat with low emissions that offers exceptional cleanability and scratch resistance properties for resin floor systems. Targeted for use in retail and light industry spaces, MasterTop TC 941 has excellent aesthetic durability, which reduces cleaning and maintenance bills and leads to a lower cost of ownership for the customer over the life of the floor.

**Acquisitions/JVs/investments**

from 2016 onward

Product group	Description	Year
Admixture systems	New production plants for concrete admixtures in Colombo, Sri Lanka	2016
	in Carmona, Philippines	2016
	in St. Petersburg, Russia	2017
	in Krasnodar, Russia	2017
	in Rabigh, Saudi Arabia	2018
	in Sidi Moussa, Algeria	2018
Construction systems	Capacity expansion for flooring solutions in Klang, Malaysia	2016
	Replacement of powder plant in Dammam, Saudi Arabia	2016
	Acquisition of Henkel's professional Western European building material business	2017
	Acquisition of Grupo Thermotek, Monterrey, Mexico	2017
	Capacity expansion for sealants in Brighton, Colorado	2017
	New powder plant in Sidi Moussa, Algeria	2018

**Target customer industries**

Product group	Customer industries
Admixture systems	Ready-mix concrete
	Precast concrete
	Manufactured concrete products
	Cement production
	Tunnel building
	Mining
Construction systems	Construction industry, especially: <ul style="list-style-type: none"> <li>- Contractors and applicators</li> <li>- Building materials suppliers</li> <li>- Owners of buildings</li> </ul>

## Nutrition & Care

In the Nutrition & Care segment, we strive to expand our position as a leading provider of nutrition and care ingredients for consumer products in the area of nutrition, home and personal care. Customers include food and feed producers as well as the pharmaceutical, cosmetics, detergent and cleaner industries. We aim to enhance and broaden our product and technology portfolio. 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 as well as for applications in the chemical industry

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#### Nutrition & Health

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

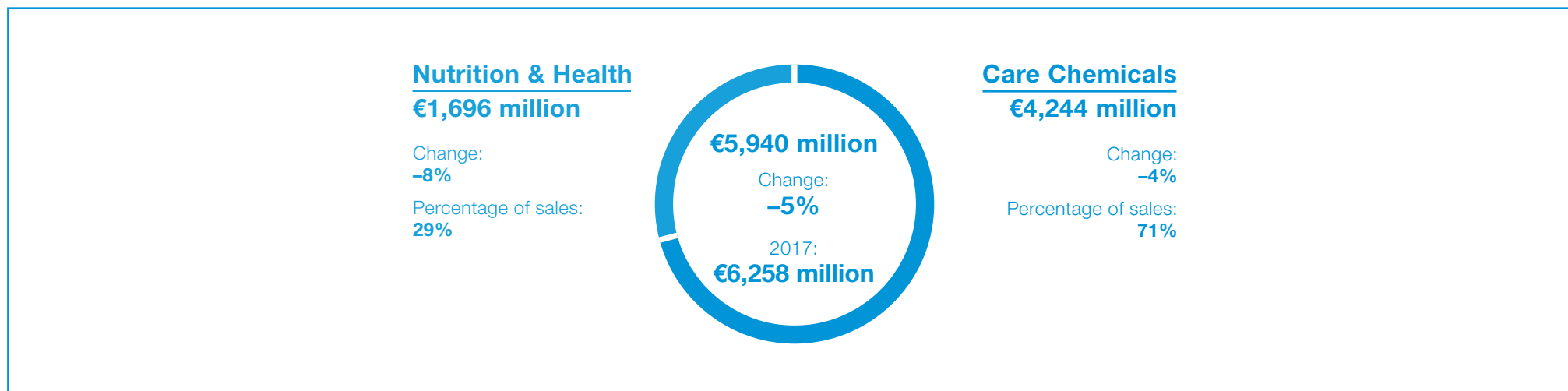
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#### Rambutan Program

In 2019, BASF's Care Creations™ launched three new active ingredients derived from its Rambutan Program, a socially and environmentally responsible supply chain for sustainable bioactives production. Working in close cooperation with partners in Vietnam, BASF sources the ingredients, which are extracted from the rambutan tree (*Nephelium lappaceum*), from the first organically certified rambutan orchards in Vietnam. With its program, BASF creates a positive impact on Vietnamese rural society by upcycling different parts of the tree, besides the fruit, and at the same time offering above-average incomes, ensuring gender equality while guaranteeing safer working conditions and providing health insurance.



## Sales 2018



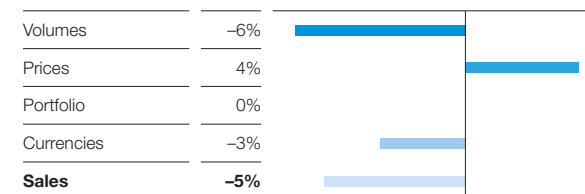
## Segment data Nutrition & Care

Million €

	2018	2017
Sales to third parties	5,940	6,258
Share of total BASF sales	9%	10%
Thereof Care Chemicals	4,244	4,414
Nutrition & Health	1,696	1,844
Income from operations before depreciation and amortization (EBITDA) before special items	1,128	1,004
Income from operations before depreciation and amortization (EBITDA)	1,107	971
EBITDA margin	19%	16%
Income from operations (EBIT) before special items	736	609
EBIT before special items margin	12%	10%
Income from operations (EBIT)	715	541
EBIT margin	12%	9%
Return on capital employed (ROCE)	11.8%	8.6%

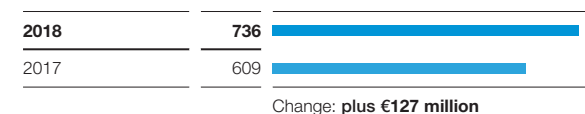
## Factors influencing sales

2018 versus 2017



## EBIT before special items

Million €



## Care Chemicals

BASF's Care Chemicals division is the leading global 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

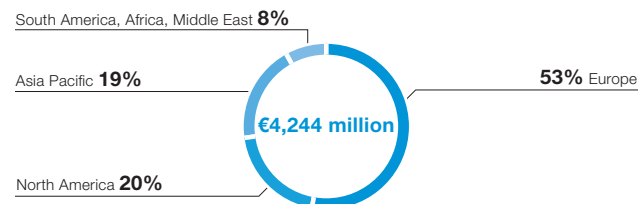
We offer high-quality, added-value ingredients for the personal care industry. Our focus on consumer trends and our ability to innovate and bring new products rapidly to market contribute strongly to the success of our customers. We take into consideration the entire value chain in order to develop sustainable 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.

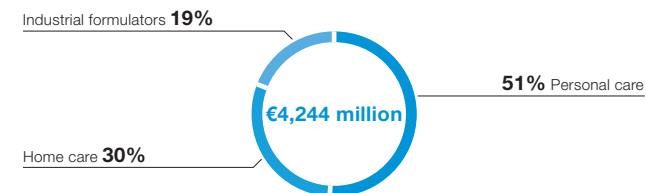
#### Home care and industrial & institutional cleaning

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 2018 (location of customer)



### Sales by direct customer industry 2018



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, 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, Croda, Stepan, Oxiteno, Evonik, DSM, Sasol
- Home care and industrial & institutional cleaning: Dow, DuPont, Nouryon, Novozymes
- Industrial formulators: Dow, DuPont, Clariant, Ineos, Croda, Nouryon

## 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
- Customer proximity and market focus
- Innovative and sustainable solutions through BASF's global R&D network
- State-of-the-art formulation technologies
- Strong production position and market presence in major emerging markets and regions

## Innovation



### Our solution to improve whiteness performance

When white or light laundry emerge from the washing machine, consumers expect brilliant results – not faint traces of graying or soil stains. Graying caused by re-deposition of dissolved soils in the wash is still a challenge, especially in highly concentrated liquids and single-dose laundry detergents. Our water-soluble polymer, Sokalan® HP 96, is a highly efficient ingredient that not only helps to remove stains, but also prevents dirt from penetrating textiles during washing and prolongs the lifetime of consumers' textiles.

## Acquisitions/JVs/investments

from 2016 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
Methane sulfonic acid	Capacity expansion in Ludwigshafen, Germany	2021
Silicates	Plant modernization in Düsseldorf-Holthausen, Germany	2019

## Divestitures/shutdowns

from 2016 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

## 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. 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:

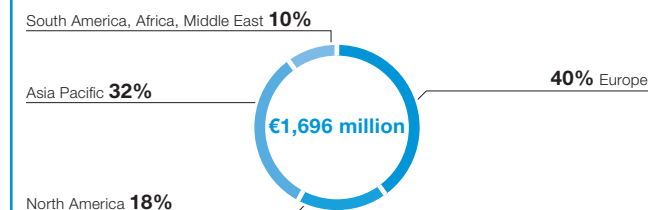
- Rose scents: geraniol, citronellol, dihydrorosan
- Citrus scents: citral, citronellal
- Mint scents: L-menthol, DL-menthol
- Lavender scents: linalool, tetrahydrolinalool
- Muguet scents: lysmeral, pyranol

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.

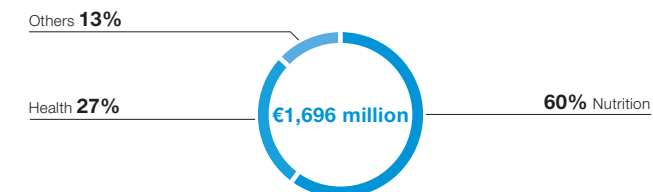
#### Animal nutrition

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

### Sales by region 2018 (location of customer)



### Sales by direct customer industry 2018



- 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 premium health ingredients are based on the most solid scientific foundations and contribute to a longer, healthier and more active life. Our ingredients are used in strategic market segments, including early life nutrition, dietary supplements, functional nutrition and medical food. We offer health ingredients such as:

- High-concentrated omega-3 fatty acids – dietary supplements
- Plant sterols and sterol esters – dietary supplements
- Vitamins – dietary supplements
- Carotenoids – dietary supplements
- HMO 2'-FL – ingredient for infant formulas
- Peptides – plant-based peptides to help modulate inflammation

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

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

#### Pharma solutions

BASF has been offering intelligent solutions to the pharmaceutical industry for more than 75 years. With our expertise in polymer chemistry and oleo chemistry, our research and development capabilities around the globe and the company's clear commitment to developing pharmaceutical excipients, we enable solutions that contribute to our customers' success. BASF's high-quality ingredients and services can specifically support customers' formulation challenges related to instant and modified release, solubilization, softgels, skin delivery and biologics solutions. BASF is also the market leader for active pharmaceutical ingredients such as ibuprofen and omega-3 fatty acids.



### Enzymes

BASF's enzyme business gained additional momentum through the establishment of a new enzyme hub, which serves as a holistic interface for our enzyme activities. This enables BASF to optimize its setup and increase flexibility to meet customer demand and deliver innovation with speed to market and service excellence. By operating as a centralized back-end that steers research, technology and manufacturing, the new enzyme hub is focused on accelerating the business through existing industry channels. Moreover, BASF is engaging in directly commercializing enzymes to selected markets.

BASF's enzyme-based solutions maximize efficiency and improve environmental performance in a wide range of industries:

- Feed
- Household care
- Food
- Bioenergy
- 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
- Human nutrition: DSM, DuPont, various Chinese companies
- Pharma solutions: Evonik, Ashland, KD Pharma, Shasun
- Enzymes: Novozymes, DuPont

### 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.

## Business Segments

Nutrition & Care

### Innovation



## Financials

### Lucantin® NXT

BASF launched Lucantin® NXT, the next generation of carotenoid formulations, which are nature-identical color pigments used as feed additives. The new formulations provide improved product stability along with excellent bioavailability. Lucantin® NXT delivers high homogeneity and a long shelf life while maintaining egg yolk and broiler skin coloring efficacy. The new formulations replace the stabilizer ethoxyquin with antioxidants such as propyl gallate, butylhydroxytoluene or tocopherol. Lucantin® NXT complies with the latest E.U. regulation, which requires the suspension of ethoxyquin as a feed additive.

### Key capabilities of BASF

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

### Acquisitions/JVs/investments

from 2016 onward

Product group	Description	Year
Aroma ingredients	New integrated aroma ingredients complex in Kuantan, Malaysia	2017–2018
Animal nutrition	New vitamin A production plant in Ludwigshafen, Germany	2020
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	2019
	New ibuprofen production plant in Ludwigshafen, Germany	2021

### Divestitures/shutdowns

from 2016 onward

Product group	Description	Year
Human nutrition	Divestiture of former sterols manufacturing site in Pasadena, Texas	2016

### 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

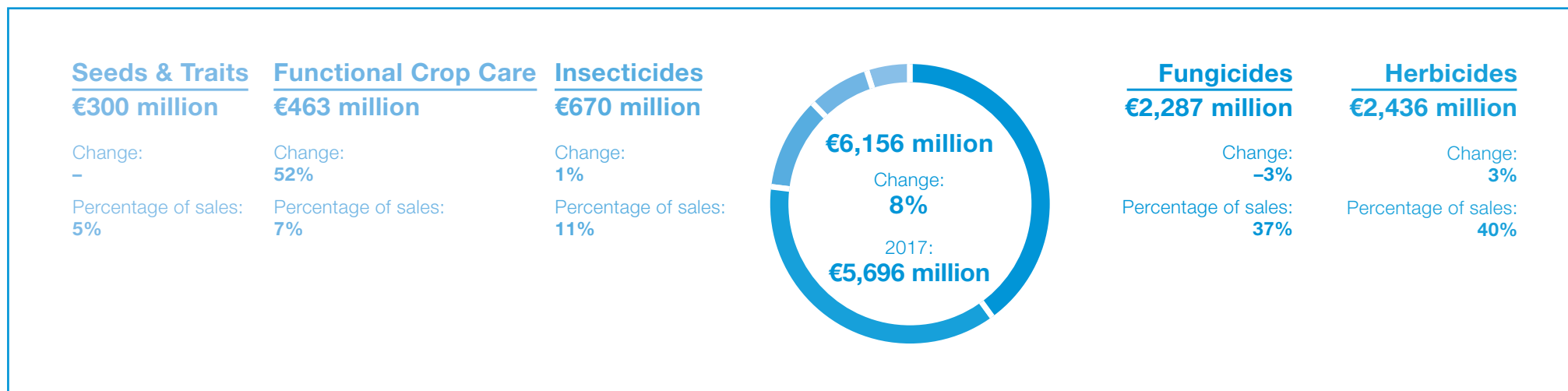
## Agricultural Solutions

The Agricultural Solutions segment aims to further strengthen our market position as an integrated provider of crop protection products and seeds. Its portfolio comprises fungicides, herbicides, insecticides and biological crop protection products, as well as seeds and seed treatment products. We also offer farmers digital solutions combined with practical advice. Our main focus is on innovation-driven organic growth, targeted portfolio expansion as well as leveraging synergies from the acquired businesses.



Our innovative solutions help farmers to safeguard their harvest and increase their yield.

## Sales 2018



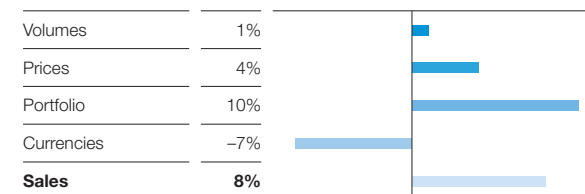
## Segment data Agricultural Solutions

Million €

		<b>2018</b>	<b>2017</b>
Sales to third parties		6,156	5,696
Share of total BASF sales	%	10	9
Income from operations before depreciation and amortization (EBITDA) before special items		1,128	1,300
Income from operations before depreciation and amortization (EBITDA)		985	1,282
EBITDA margin	%	16	23
Income from operations (EBIT) before special items		734	1,033
EBIT before special items margin	%	12	18
Income from operations (EBIT)		591	1,015
EBIT margin	%	10	18
Return on capital employed (ROCE)	%	5.1	12.0

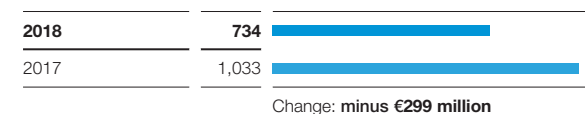
## Factors influencing sales

2018 versus 2017



## EBIT before special items

Million €



## Agricultural Solutions

As the world's population continues to grow, farmers face the challenge of increasing their crop yields with limited resources. We offer innovative solutions combined with practical, down-to-earth advice, so that our customers can produce more and better food as efficiently as possible. We are committed to the responsible use of our products and the preservation of a healthy environment, while investing in our innovation pipeline to expand our portfolio of integrated solutions.

### Portfolio

#### Fungicides

BASF conducts pioneering research to find new active ingredients in the fight against fungal diseases. For years, our products have been setting new standards in this area.

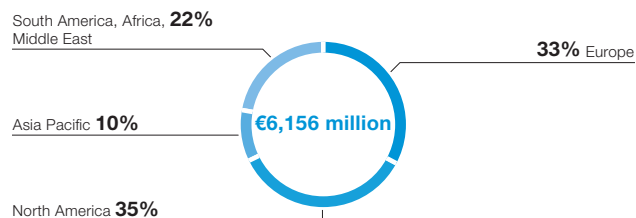
- Xemium® is a key component of BASF's fungicides portfolio for broad-spectrum disease control in field and specialty crops. It has intrinsic, excellent mobility in the plant and long-lasting residual action. Xemium® is commercially available in more than 50 countries for over 100 different crops.
- Revysol® will play a key role in our fungicide portfolio. The first isopropanol-azole with an outstanding biological performance shows a new level of disease control and provides additional resistance management opportunities in many important crops. Pending regulatory approval, first market launches are expected in 2019/2020.

#### Herbicides

Herbicides protect crops from weeds that reduce yield and quality.

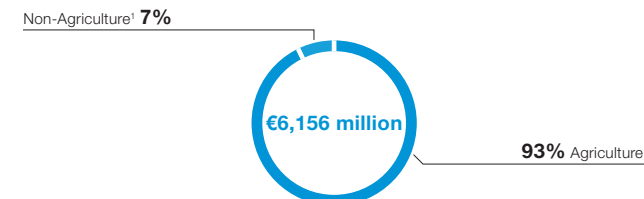
- Engenia® is a new and advanced dicamba formulation and a leading innovation in the herbicide field. It is designed for use in dicamba-tolerant cropping systems and is a highly efficient tool for the control of glyphosate-resistant and other herbicide-resistant weeds in row crops.

#### Sales by region 2018 (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 2018



- Liberty® and Basta® herbicides, based on glufosinate-ammonium, control weeds in a wide variety of row and specialty crops. Liberty® herbicide is specifically designed for LibertyLink®-enabled canola, corn, cotton and soybeans. The LibertyLink® system couples high-performing genetics with superior Liberty® weed control on tough-to-control and resistant weeds. Basta® is particularly effective on some of the most damaging and hard-to-control weeds in horticulture.

#### Insecticides

Insecticides combat insect pests in agriculture and beyond.

- Inscalis® insecticide controls problematic pests such as aphids, whiteflies, psyllids, scales and leafhoppers. Its efficacy and unique mode of action create a valuable new tool for resistance and integrated pest management. Launched in 2018, Inscalis® insecticide is derived from a natural product, which exhibits a favorable environmental profile to honeybees and other insect predators.
- Alpha-cypermethrin controls a broad spectrum of insect pests which occur in agriculture, forestry and public health. Out of the various formulations in over 100 crops worldwide, the formulation Fendona® is a valuable public health tool recommended by the WHO to combat malaria and other insect-borne diseases.

#### Seed treatment

Seed treatment offers a diversified product line along with robust formulations to improve seed performance.

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

#### Field crop seeds

Our seeds and traits business comprises traits, research and breeding capabilities, as well as the corresponding brands.

- InVigor® canola sold in North America offers high yielding hybrids and is combined with the LibertyLink® trait that enables growers to rotate herbicides. In Europe and Australia, InVigor® does not contain the LibertyLink® trait, but growers continue to experience good yield performance.
- FiberMax® cotton, available under the brands LibertyLink®, GlyTol®, TwinLink® and TwinLink Plus®, brings value with yield and high-quality fiber, and offers herbicide-tolerant and insect-resistant traits for farmers.

### Vegetable seeds

Our global vegetable seeds business, mainly marketed under the Nunhems® brand, develops hybrid varieties adapted to different growing conditions and meeting consumer needs. It comprises 24 crops, such as carrots, melons and tomatoes, and more than 2,600 varieties.

- Watermelon – almost 100 hybrids adapted to cultural preferences and changing customer needs such as seedless watermelons and smaller-sized fruits. In Brazil, for instance, the “Pingo Doce” watermelon attracts consumers with its smaller fruit size of 6-7 kg, its dark skin color, shelf-life and traceability. Its guaranteed sweetness and absence of seeds enhances consumer satisfaction.
- Tomato – the largest vegetable crop in the world with a huge diversity in production, usage and consumer preferences. Thanks to our wide range of germplasm, we are able to create new product/market combinations, such as pink tomatoes, and supply cultivation advice on the field.

### BASF's market position

- Agricultural Solutions: No. 4 globally

### Main competitors

- Agricultural Solutions: Bayer, Corteva, Syngenta

### Research and development pipeline

Our well-stocked innovation pipeline comprises products across all business areas with a launch date between 2018 and 2028. It represents a peak sales potential of more than €6 billion. This is the result of continuous investment and early consideration of sustainability criteria. Pending regulatory approval, the first market launches of Revysol®, our new fungicide, are scheduled for 2019/2020. Our new insecticide, Broflanilide, is expected to enter the market from 2020. For seeds and traits, the acquired businesses open up

### Innovation



### InVigor® hybrids

InVigor® hybrids with pod shatter reduction (PSR) technology are an innovative solution for minimizing lost yield due to seed pods splitting open and seeds prematurely falling out. The patented PSR technology continues to revolutionize the way canola growers approach their season. The PSR feature naturally strengthens the pod seam and connective tissue. By 2019, more than half of BASF's InVigor® product lineup in the United States, Canada and Australia will contain the PSR feature.

new opportunities that contribute to our innovation pipeline. The market launch of a new herbicide-tolerant soybean seed with the LibertyLink® GT27™ trait platform under the Credenz® brand is planned for 2020. New cotton technology with herbicide tolerance will be launched under our Fibermax® and Stoneville® brands with a new mode of action. We want to expand the acquired InVigor® canola seed business with yellow seed canola, which can be grown under more challenging conditions, such as arid environments.

### Key capabilities of BASF

- Alignment of resources as well as products and services to customers' needs
- Strong R&D pipeline and stringent patent management
- Focus on high-value markets and innovative products
- Active portfolio management
- Innovative digital farming solutions

### Acquisitions/JVs/investments

from 2016 onward

Product group	Description	Year
Crop Protection/Seeds/Digital Farming	Acquisition of businesses and assets from Bayer	2018
Seed treatment	New seed solutions technology and biologicals R&D center in Europe	2016
	Capacity expansion in Europe	2017
	Capacity expansion in North America	2017
Inscalix®	New production capacity in Europe	2017
Revysol®	New production capacity in North America	2018
Xemium®	Capacity expansion in Europe	2016
Herbicides	Commissioning of glufosinate-ammonium precursor in Europe	2018
Dicamba	Capacity expansion in North America	2016
Vegetable seeds	Commissioning of a breeding center for cucumbers in Europe	2018
Formulation capacities	Expansion of existing plants in Europe	2016
	Expansion of existing plants in North America	2018
Infrastructure measures	Infrastructure measures for active ingredients and formulation capacities	2019
Digital farming	Acquisition of ZedX Inc., United States	2017

## Other

Activities that are not allocated to any of the operating divisions are reported under Other. These include other businesses such as commodity trading, engineering and other services, rental income and leases, steering of the BASF Group by corporate headquarters, and cross-divisional corporate research.

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.

Earnings from currency translation that are not allocated to the segments are also reported under Other, as are earnings from the hedging of raw materials prices and foreign currency exchange risks. Furthermore, gains and losses from the long-term incentive (LTI) program are reported here.

Discontinued operations and all remaining activities after divestiture are reported under Other as of January 1, 2019. The latter includes, for example, participating interests accounted for using the equity method or supply obligations assumed in the context of divestitures. Reclassification affects 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. Furthermore, the following will also be reported here in the future: remanent fixed costs resulting from organizational changes or restructuring; function and region-related restructuring costs not allocated to a division; idle capacity costs from internal human resource platforms.

### Financial data – Other

Million €

	2018	2017
Sales	2,840	2,290
Income from operations before depreciation and amortization (EBITDA) before special items	(335)	(552)
Income from operations before depreciation and amortization (EBITDA)	(377)	(612)
Depreciation and amortization <sup>1</sup>	127	130
Income from operations (EBIT)	(505)	(741)
Special items	(43)	(63)
EBIT before special items	(462)	(678)
of which Costs for cross-divisional corporate research	(414)	(379)
Costs of corporate headquarters	(249)	(224)
Foreign currency results, hedging and other measurement effects	327	88
Other businesses	(126)	(163)
Assets <sup>2</sup>	24,136	25,972
Investments including acquisitions <sup>3</sup>	675	1,182
Research and development expenses	414	383

<sup>1</sup> Amortization of intangible assets and depreciation of property, plant and equipment (including impairments and reversals of impairments)

<sup>2</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

<sup>3</sup> Additions to intangible assets and property, plant and equipment

Since May 1, 2019, BASF's participating interest in Wintershall Dea is reported in the consolidated financial statements of the BASF Group according to the equity method. BASF reports its share of Wintershall Dea's net income in EBIT before special items and EBIT of the BASF Group (under Other). During the period between signing of the business combination agreement in September 2018 and the closing of the merger, the oil and gas business of BASF was classified as discontinued operation. Sales and earnings of the oil and gas business were no longer included in

BASF Group's reporting – retroactively as of January 1, 2018 and with the prior-year figures restated. Earnings were presented in BASF's statement of income in the line "income after taxes from discontinued operations."

## 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 & 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 125 years of experience as an operator and project partner along the entire E&P value chain. The company employs around 4,000 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. In September 2018, BASF and LetterOne had signed a transaction agreement to merge their respective oil and gas businesses in a joint venture.

To effect the merger, LetterOne contributed all shares in DEA Deutsche Erdoel AG into Wintershall Holding GmbH against the issuance of new shares. 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 a total initial shareholding of BASF in Wintershall Dea of 72.7%. No later than 36 months after closing but definitely before

### Business Segments

Other

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 the second half of 2020, subject to market conditions.

### Key financial figures of Wintershall Dea on a pro-forma basis

Million €	2018	2017
Sales	5,697	4,674
EBITDA	3,561	2,697
EBIT <sup>1</sup>	2,463	1,289
Net income	1,098	737

<sup>1</sup> For Wintershall, 2018 figures only include depreciations and amortization for the first three quarters

### Operating and financial performance of Wintershall Dea

In 2018, the combined businesses of Wintershall and DEA had pro-forma sales of €5.7 billion, income from operations before depreciation and amortization (EBITDA) of €3.6 billion and net income of €1.1 billion. In 2018, pro-forma hydrocarbon production of Wintershall and DEA together was 215 million barrels of oil equivalent (BOE). At the end of 2018, proven reserves on a pro-forma basis stood at 2.4 billion BOE, corresponding to a reserve to production ratio of 11 years.

As a result of the merger, Wintershall Dea has a regionally balanced footprint with superior growth opportunities. Based on underlying exploration and production projects, the company is on track to reach a daily production of 750,000 to 800,000 BOE between 2021 and 2023 from currently 590,000 BOE per day. This equals an annual production growth rate of 6% to 8%. Wintershall Dea expects to realize synergies of at least €200 million per year as of the third year following the closing of the transaction.

### Financials

### Activities by region



### Germany

Wintershall Dea's roots lie in Germany. The company has been active there for more than eight decades. It currently produces from 15 oil fields and around 40 gas fields. Production in Germany is challenging and often only possible at considerable extra cost and effort. That is why production there – with its very high safety and environmental standards – enhances the company's technological expertise.

### 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 almost 100 concessions, such as for the producing fields Brage and Vega. The portfolio is being expanded further with smart technical solutions.

### 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 today one of the major producers of natural gas in the region and operates more than 20 state-of-the-art offshore platforms.

### 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 two 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. The portfolio also includes the two natural gas fields Sillimanite and Winchelsea, which were discovered in 2015 and 2016, respectively.

### 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.

### Argentina

Wintershall Dea has been active in Argentina for more than 40 years. Today, the company has a stake in a total of 15 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: It is number two in the world for its shale gas reservoirs and number four for its shale oil 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. The takeover of Sierra Oil & Gas has secured Wintershall Dea a considerable share of Zama, one of the world's largest shallow-water discoveries.

### 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, the company secured seven exploration licenses. The company is the operator for four of these licenses. Initial exploration activities in the assigned blocks are planned for 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 from them 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 early 2019. In both areas, the company is the operator. It is also a partner in the major West Nile Delta project.

### 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 in Libya very closely.

### Algeria

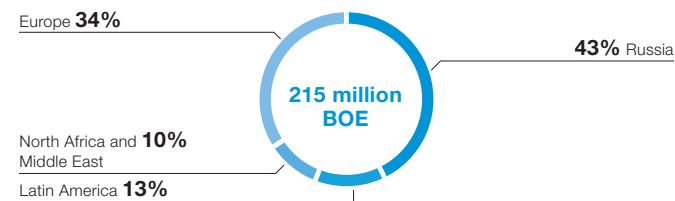
The oil and gas sector is the backbone of Algeria's economy. Wintershall Dea is collaborating in a geologically and logistically challenging natural gas project in the Sahara: The company has a stake in the Reggane Nord project that started gas production at the end of 2018.

### United Arab Emirates

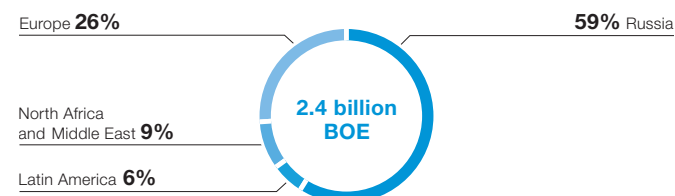
The United Arab Emirates have the seventh-largest oil reserves in the world. Wintershall Dea has operated there since 2010. In 2018, the national oil company ADNOC awarded it a 10% stake in the Ghasha concession. Ghasha is one of the most promising gas and condensate projects that has yet to be developed in the Emirates.

### Wintershall Dea

#### Production 2018 by region on a pro-forma basis



#### Proven reserves (1P) 2018 by region on a pro-forma basis





3

# Financials

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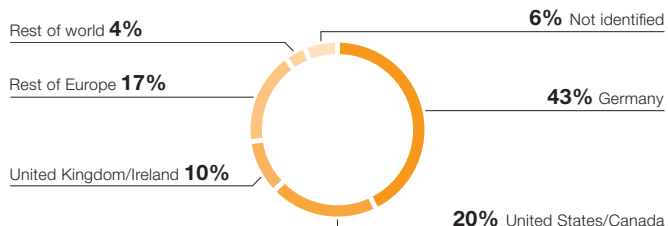
# BASF on the Capital Market

## 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 2018 showed that, at around 20% of share capital, the United States and Canada made up the largest regional group of institutional investors. Institutional investors from Germany accounted for around 13%. Shareholders from the United Kingdom and Ireland hold 10% of BASF shares, while investors from the rest of Europe hold a further 17% of capital. Approximately 30% 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 2018, for example, 25,000 employees (2017: 23,700) purchased employee shares worth €79 million (2017: €63 million).

## BASF as 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 650 investors with over \$87 trillion in assets and 115 major purchasing organizations with \$3.3 trillion in purchasing power. After achieving a score of "A-" for several years, thus attaining "Leadership" status, BASF was included in CDP's "Climate Change A List" with the highest possible rating of "A" in 2018. Companies at this level are distinguished by the completeness and transparency of their reporting, their approaches for managing the opportunities and risks associated with climate change, and clear corporate strategies to reduce emissions. BASF has also reported on water management to CDP since 2010 and was again acknowledged as a global leader in sustainable water management in 2018. The organization awarded BASF an "A-" rating in recognition of its actions to manage water more sustainably.

BASF continued to be included in the MSCI ESG Ratings in 2018 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.

## Share price performance

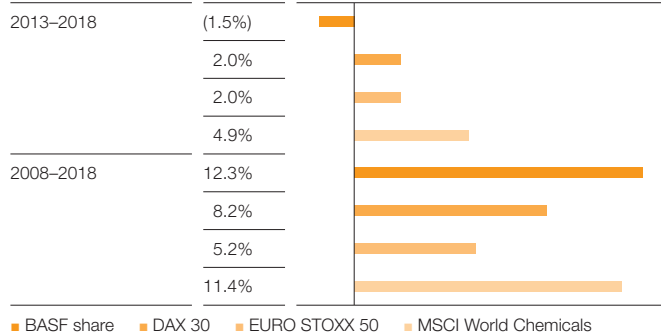
The BASF share closed the 2018 stock market year with a closing price of €60.40, a decrease of 34.2% compared with the previous year's closing price. The considerable year-on-year decline in the BASF Group's earnings was primarily attributable to considerably lower earnings in the Chemicals segment, mainly as a result of lower margins for isocyanates and steam cracker products. The segment's earnings were also negatively impacted by the low water levels on the Rhine River in the second half of 2018. In addition, geopolitical tensions and trade conflicts, especially between the United States and China, led to a slowdown in economic growth over the course of the year particularly in Asia, and there mainly in China. The ensuing downturn in demand from significant customer industries, in particular the automotive industry, further weighed on BASF's share performance.

Assuming that dividends were reinvested, BASF's share performance declined by 31.8% in 2018. The benchmark indexes of the German and European stock markets – the DAX 30 and the EURO STOXX 50 – lost 18.3% and 12.0% over the same period, respectively. The global industry index MSCI World Chemicals fell by 14.4%.

Viewed over a 10-year period, the long-term performance of BASF shares still clearly surpasses the German, European and global benchmark indexes. The assets of an investor who invested €1,000 in BASF shares at the end of 2008 and reinvested the dividends in additional BASF shares would have increased to €3,201 by the end of 2018. This represents an annual yield of 12.3%, placing BASF shares above the returns for the DAX 30 (8.2%), EURO STOXX 50 (5.2%) and MSCI World Chemicals (11.4%) indexes.

**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.

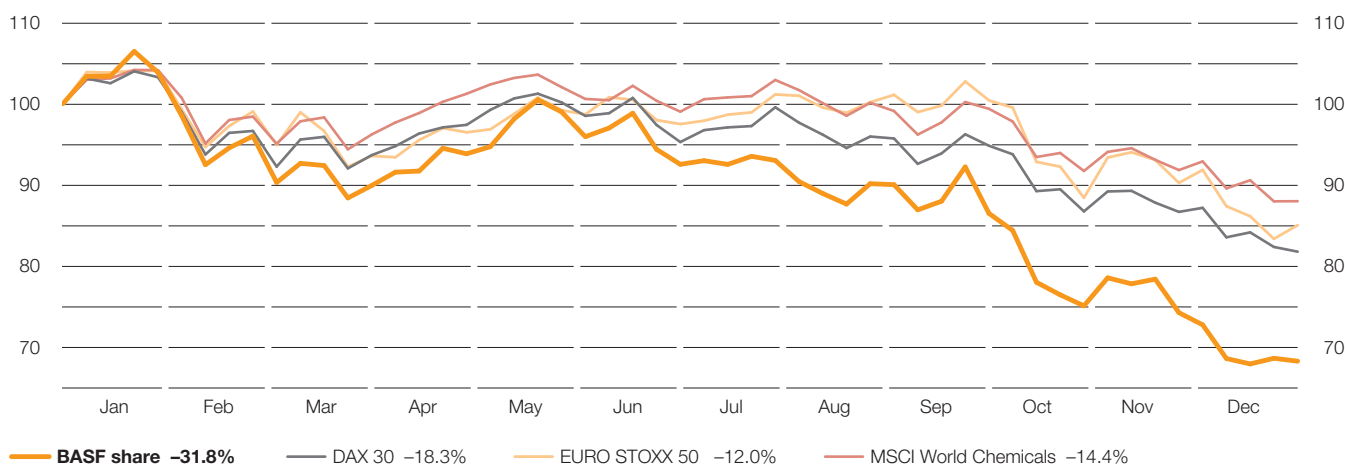
For further information, please see [basf.com/share](http://basf.com/share)

**Analysts' recommendations**

Around 25 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 2018**

With dividends reinvested; indexed



**Shareholder return**

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Dividends	million €	1,561	2,021	2,296	2,388	2,480	2,572	2,664	2,755	2,847	2,939
Dividend per share	€	1.70	2.20	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20
Share price at year-end	€/share	43.46	59.70	53.89	71.15	77.49	69.88	70.72	88.31	91.74	60.40
Dividend yield	%	3.9	3.7	4.6	3.7	3.5	4.0	4.1	3.4	3.4	5.3
Payout ratio	%	111	44	37	50	52	50	67	68	47	63
Price-earnings ratio (P/E ratio)		28.2	12.0	8.0	13.6	14.8	12.5	16.3	20.0	13.9	11.8
Free cash flow yield <sup>1</sup>	%	8.0	7.1	7.5	4.0	4.5	2.6	5.6	4.4	5.7	7.3

<sup>1</sup> Free cash flow per share at year-end divided by share price at year-end

### Dividend

For 2018, BASF paid a dividend of €3.20 per share, up 3.2% versus the previous year. We stand by our ambitious dividend policy to increase the dividend every year and paid out €2.9 billion to our shareholders. Based on the year-end share price for 2018, BASF shares offered a high dividend yield of around 5.3%. 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

**€3.20**

Dividend yield

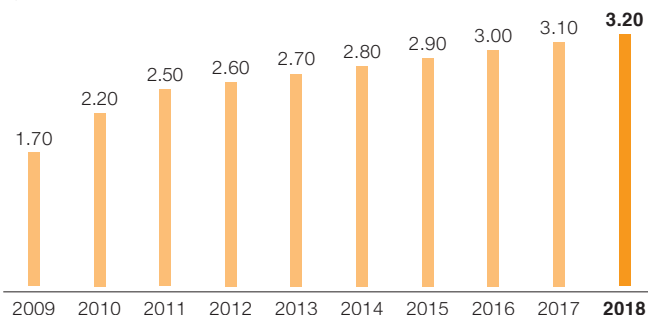
**5.3%**

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 November 2018, we informed analysts and investors about BASF Group’s updated corporate strategy at our Capital Markets Day in Ludwigshafen, Germany. Key topics were our even stronger customer focus, the new financial and nonfinancial targets, and the segment structure going forward.

In 2018, we once again 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, health and safety. In addition, we offered several creditor relations roadshows, where credit analysts and creditors could learn more about our business and financing strategy.

Analysts and investors have confirmed the quality of our financial market communications. We took first place in the “Best ESG communications” and “Best IR website” categories in the annual survey conducted by Britain’s IR Magazine. Germany’s Manager Magazin also recognized BASF at the presentation of its Investors’ Darling awards with second place in the DAX category and first place in the digital communications category. In January 2019, Institutional Investor magazine awarded BASF first place in the “Best IR in Germany” category for its investor relations program.

# Business Review by Segment

## Segment overview

Million €

	Sales		EBITDA before special items		EBITDA		EBIT before special items	
	2018	2017	2018	2017	2018	2017	2018	2017
Chemicals	11,694	11,161	2,245	2,647	2,234	2,652	1,587	2,007
Materials	13,270	13,691	3,020	3,710	2,993	3,703	2,400	2,995
Industrial Solutions	9,120	9,260	1,090	1,295	1,076	1,468	668	853
Surface Technologies	13,655	12,867	1,205	1,334	1,148	1,301	690	826
Nutrition & Care	5,940	6,258	1,128	1,004	1,107	971	736	609
Agricultural Solutions	6,156	5,696	1,128	1,300	985	1,282	734	1,033
Other	2,840	2,290	(335)	(552)	(377)	(612)	(462)	(678)
<b>BASF Group</b>	<b>62,675</b>	<b>61,223</b>	<b>9,481</b>	<b>10,738</b>	<b>9,166</b>	<b>10,765</b>	<b>6,353</b>	<b>7,645</b>

## Segment overview

Million €

	EBIT		Assets		Investments including acquisitions <sup>1</sup>		Research and development expenses	
	2018	2017	2018	2017	2018	2017	2018	2017
Chemicals	1,573	1,989	8,947	8,685	962	836	114	119
Materials	2,374	2,987	9,005	9,092	639	624	194	190
Industrial Solutions	653	1,022	7,464	7,246	436	475	224	223
Surface Technologies	632	774	13,782	13,653	615	778	251	271
Nutrition & Care	715	541	6,230	6,024	298	284	152	150
Agricultural Solutions	591	1,015	16,992	8,096	7,110	185	679	507
Other	(505)	(741)	24,136	25,972	675	1,182	414	383
<b>BASF Group</b>	<b>6,033</b>	<b>7,587</b>	<b>86,556</b>	<b>78,768</b>	<b>10,735</b>	<b>4,364</b>	<b>2,028</b>	<b>1,843</b>

<sup>1</sup> Additions to property, plant and equipment (of which from acquisitions: €1,425 million in 2018 and €8 million in 2017) and intangible assets (of which from acquisitions: €5,540 million in 2018 and €235 million in 2017)

# Regional Results

## Sales by location of company

Million €

	2009	2010	2011	2012 <sup>2</sup>	2013	2014	2015	2016	2017 <sup>1</sup>	2018
Europe	30,375	35,156	41,036	41,445	43,335	42,854	38,675	27,221	28,045	28,502
of which Germany	21,543	25,426	28,816	29,320	31,571	32,241	28,229	17,540	18,663	18,113
North America	9,404	13,246	14,727	14,441	14,573	15,467	15,665	14,682	15,937	16,659
Asia Pacific	7,997	11,642	13,316	11,694	11,679	11,643	11,712	11,512	13,658	13,886
South America, Africa, Middle East	2,917	3,829	4,418	4,549	4,386	4,362	4,397	4,135	3,583	3,628
<b>BASF Group</b>	<b>50,693</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>62,675</b>

## Sales by location of customer

Million €

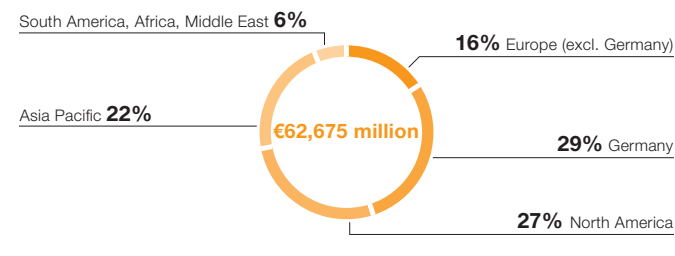
	2009	2010	2011	2012 <sup>2</sup>	2013	2014	2015	2016	2017 <sup>1</sup>	2018
Europe	28,532	33,201	39,124	39,428	41,221	40,911	36,897	26,039	26,507	26,546
of which Germany	10,666	12,225	14,705	15,210	14,446	15,126	13,483	7,412	7,159	6,965
North America	9,480	12,886	13,995	13,992	14,272	15,213	15,390	14,042	15,357	16,143
Asia Pacific	8,706	12,510	14,410	12,546	12,450	12,341	12,334	12,165	14,343	14,646
South America, Africa, Middle East	3,975	5,276	5,968	6,163	6,030	5,861	5,828	5,304	5,016	5,340
<b>BASF Group</b>	<b>50,693</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>62,675</b>

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

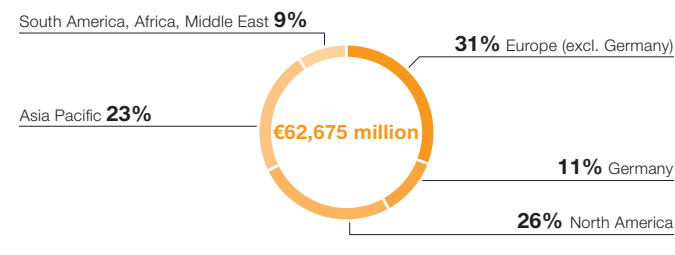
Million €

	2009	2010	2011	2012 <sup>2</sup>	2013	2014	2015	2016	2017 <sup>1</sup>	2018
Europe	2,390	5,206	5,668	4,557	4,485	5,010	4,174	3,632	4,090	3,210
of which Germany	1,855	3,769	3,249	2,249	2,164	1,894	2,303	1,582	1,838	1,140
North America	495	1,107	1,314	969	1,488	1,548	1,295	1,113	1,236	802
Asia Pacific	503	1,271	1,133	855	817	673	445	1,098	2,209	1,820
South America, Africa, Middle East	289	177	471	361	370	395	334	432	52	201
<b>BASF Group</b>	<b>3,677</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>6,033</b>

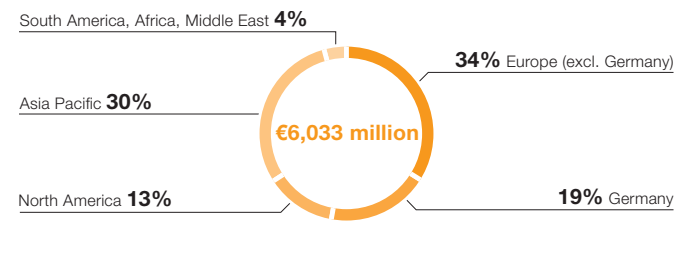
## Sales by location of company 2018



## Sales by location of customer 2018



## Income from operations (EBIT) by location of company 2018



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

<sup>2</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 €	2009	2010	2011	2012 <sup>3</sup>	2013 <sup>2</sup>	2014	2015	2016	2017	2018 <sup>1</sup>
Volumes	(10%)	11%	0%	1%	5%	4%	3%	2%	4%	1%
Prices	(14%)	8%	12%	1%	0%	(3%)	(9%)	(4%)	8%	4%
Currencies	1%	5%	(2%)	3%	(3%)	(1%)	6%	(1%)	(1%)	(4%)
Acquisitions/divestitures	4%	2%	5%	(1%)	1%	0%	(5%)	(15%)	1%	1%
<b>Total</b>	<b>(19%)</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>

<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 rose by €1,452 million to €62,675 million in 2018. This was primarily attributable to higher sales prices in all segments. Sales were also positively impacted by the acquisition of significant businesses and assets from Bayer in the Agricultural Solutions segment, which was closed in August 2018, and higher volumes. This was partly offset by negative currency effects in all segments.

## 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 would result in an increase of around €45 million in the BASF Group's EBIT, 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

€190 million

EBIT

€45 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, 2018, commercial paper in the amount of \$2,919 million was outstanding under this program; we did not hold any commercial paper as of December 31, 2017. Firmly committed, syndicated credit lines of €6 billion serve to cover the repayment of outstanding commercial paper, and can also be used for general company purposes. These were refinanced in January 2019. The above credit lines were not used at any point in 2018. Our external financing is therefore largely independent of short-term fluctuations in the credit markets.

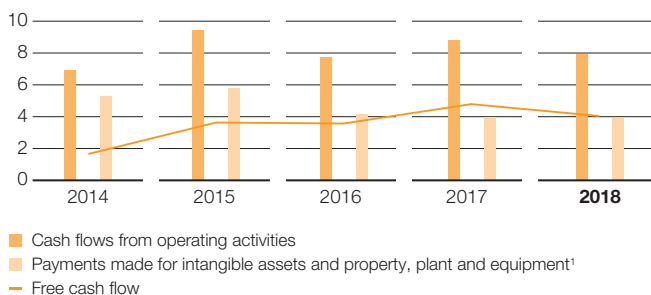
To minimize risks and exploit internal optimization potential within the Group, we bundle the financing, financial investments and foreign currency hedging of BASF SE’s subsidiaries within the BASF Group where possible. Foreign currency risks are primarily hedged centrally by means of derivative financial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

### Cash flows from operating activities

Cash flows from operating activities reached €7,939 million in 2018. This was lower than in 2017, mainly due to the decrease in net income, despite lower amortization of intangible assets and depreciation of property, plant and equipment. The change in net working capital had an offsetting effect. This was primarily attributable to the decline in cash tied up for receivables and the higher level of cash released from operating liabilities. This was partly offset by the increase in cash tied up in inventories. The cash released in miscellaneous items in 2018 was largely the result of the increase in pension provisions as well as lower adjustments for non-cash-effective earnings contributions from equity-accounted investments compared with the previous year.

### Cash flow

Billion €



1 Including investments to the extent that they already had an effect on cash

### Good credit ratings and solid financing

Our ratings have remained unchanged since the publication of the BASF Report 2018. Rated “A1/P-1/outlook stable” by Moody’s, “A/A-1/outlook stable” by Standard & Poor’s and “A/S-1/outlook stable” by Scope, BASF enjoys good credit ratings, especially compared with competitors in the chemical industry. These ratings were most recently confirmed by Moody’s on February 15, 2019, by Standard & Poor’s on January 11, 2019, and by Scope on March 6, 2019.

### Credit Ratings

Agency	Rating
Moody’s	A1/P-1/outlook stable
Standard & Poor’s	A/A-1/outlook stable
Scope	A/S-1/outlook stable

### Maturities of financial indebtedness

Year	Million €
2019	5,509
2020	1,335
2021	1,178
2022	2,105
2023	1,155
2024 and beyond	9,559

# Ten-Year Summary

Million €

	2009	2010	2011	2012 <sup>2</sup>	2013 <sup>3</sup>	2014	2015	2016	2017	2018
<b>Sales and earnings</b>										
Sales	50,693	63,873	73,497	72,129	73,973	74,326	70,449	57,550	61,223 <sup>1</sup>	62,675
Income from operations (EBIT)	3,677	7,761	8,586	6,742	7,160	7,626	6,248	6,275	7,587 <sup>1</sup>	6,033
Income before income taxes	3,079	7,373	8,970	5,977	6,600	7,203	5,548	5,395	6,882 <sup>1</sup>	5,288
Income after taxes from continuing operations	-	-	-	-	-	-	-	-	5,592	4,150
Income after taxes from discontinued operations	-	-	-	-	-	-	-	-	760	829
Income after taxes	1,655	5,074	6,603	5,067	5,113	5,492	4,301	4,255	6,352	4,979
Net income	1,410	4,557	6,188	4,819	4,792	5,155	3,987	4,056	6,078	4,707
Income from operations before depreciation and amortization (EBITDA)	7,388	11,131	11,993	10,009	10,432	11,043	10,649	10,526	10,765 <sup>1</sup>	9,166
EBIT before special items	4,852	8,138	8,447	6,647	7,077	7,357	6,739	6,309	7,645 <sup>1</sup>	6,353
EBIT after cost of capital	(226)	3,500	2,551	1,164	1,768	1,368	194	1,136	2,902 <sup>1</sup>	825
<b>Capital expenditures, depreciation and amortization</b>										
Additions to property, plant and equipment and intangible assets	5,972	5,304	3,646	5,263	7,726	7,285	6,013	7,258	4,364	10,735
of which property, plant and equipment	4,126	3,294	3,199	4,084	6,428	6,369	5,742	4,377	4,028	5,040
Depreciation and amortization of property, plant and equipment and intangible assets	3,711	3,370	3,407	3,267	3,272	3,417	4,401	4,251	4,202	3,750
of which property, plant and equipment	2,614	2,667	2,618	2,594	2,631	2,770	3,600	3,691	3,586	3,155
<b>Number of employees</b>										
At year-end	104,779	109,140	111,141	110,782	112,206	113,292	112,435	113,830	115,490	122,404
Annual average	103,612	104,043	110,403	109,969	111,844	112,644	113,249	111,975	114,333	118,371
<b>Personnel expenses</b>	<b>7,107</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>Research and development expenses</b>	<b>1,398</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<sup>1</sup></b>	<b>2,028</b>

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

<sup>2</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.

<sup>3</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

		2009	2010	2011	2012 <sup>2</sup>	2013 <sup>3</sup>	2014	2015	2016	2017	2018
<b>Key data</b>											
Earnings per share	€	1.54	4.96	6.74	5.25	5.22	5.61	4.34	4.42	6.62	5.12
Adjusted earnings per share	€	3.01	5.73	6.26	5.64	5.31	5.44	5.00	4.83	6.44	5.87
Cash flows from operating activities	million €	5,693	6,460	7,105	6,602	8,100	6,958	9,446	7,717	8,785	7,939
EBITDA margin	%	14.6	17.4	16.3	13.9	14.1	14.9	15.1	18.3	17.6 <sup>1</sup>	14.6
Return on assets	%	7.5	14.7	16.1	11.0	11.5	11.7	8.7	8.2	9.5 <sup>1</sup>	7.1
Return on equity after tax	%	8.9	24.6	27.5	19.9	19.2	19.7	14.4	13.3	18.9	14.1
Return on capital employed (ROCE)	%	-	-	-	-	-	-	-	-	15.4	11.4
<b>Appropriation of profits</b>											
Net income of BASF SE <sup>4</sup>	million €	2,176	3,737	3,506	2,880	2,826	5,853	2,158	2,808	3,130	2,982
Dividend	million €	1,561	2,021	2,296	2,388	2,480	2,572	2,664	2,755	2,847	2,939
Dividend per share	€	1.70	2.20	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20
<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>

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

<sup>2</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.

<sup>3</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

<sup>4</sup> Calculated in accordance with German GAAP

## Balance sheet (IFRS)

Million €	2009	2010	2011	2012 <sup>1</sup>	2013 <sup>2</sup>	2014	2015	2016	2017	2018
Intangible assets	10,449	12,245	11,919	12,193	12,324	12,967	12,537	15,162	13,594	16,554
Property, plant and equipment	16,285	17,241	17,966	16,610	19,229	23,496	25,260	26,413	25,258	20,780
Investments accounted for using the equity method	1,340	1,328	1,852	3,459	4,174	3,245	4,436	4,647	4,715	2,203
Other financial assets	1,619	1,953	848	613	643	540	526	605	606	570
Deferred taxes	1,042	1,112	941	1,473	1,006	2,193	1,791	2,513	2,118	2,342
Other receivables and miscellaneous noncurrent assets	946	653	561	911	877	1,498	1,720	1,210	1,332	886
<b>Noncurrent assets</b>	<b>31,681</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>
Inventories	6,776	8,688	10,059	9,581	10,160	11,266	9,693	10,005	10,303	12,166
Accounts receivable, trade	7,738	10,167	10,886	9,506	10,233	10,385	9,516	10,952	10,801 <sup>3</sup>	10,665
Other receivables and miscellaneous current assets	3,223	3,883	3,781	3,455	3,714	4,032	3,095	3,078	3,494 <sup>3</sup>	3,139
Marketable securities	15	16	19	14	17	19	21	536	52	344
Cash and cash equivalents	1,835	1,493	2,048	1,647	1,827	1,718	2,241	1,375	6,495	2,300
Assets of disposal groups	–	614	295	3,264	–	–	–	–	–	14,607
<b>Current assets</b>	<b>19,587</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>Total assets</b>	<b>51,268</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>

<sup>1</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.

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

<sup>3</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.

## Balance sheet (IFRS)

Million €	2009	2010	2011	2012 <sup>1</sup>	2013 <sup>2</sup>	2014	2015	2016	2017	2018
Subscribed capital	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176
Capital reserves	3,229	3,216	3,203	3,188	3,165	3,143	3,141	3,130	3,117	3,118
Retained earnings	12,916	15,817	19,446	23,708	26,102	28,777	30,120	31,515	34,826	36,699
Other comprehensive income	156	1,195	314	(3,461)	(3,400)	(5,482)	(3,521)	(4,014)	(5,282)	(5,939)
Noncontrolling interests	1,132	1,253	1,246	1,010	630	581	629	761	919	1,055
<b>Equity</b>	<b>18,609</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>
Provisions for pensions and similar obligations	2,255	2,778	3,189	5,421	3,727	7,313	6,313	8,209	6,293	7,434
Other provisions	3,289	3,352	3,335	2,925	3,226	3,502	3,369	3,667	3,478	1,860
Deferred taxes	2,093	2,467	2,628	2,234	2,894	3,420	3,381	3,317	2,731	1,787
Financial indebtedness	12,444	11,670	9,019	8,704	11,151	11,839	11,123	12,545	15,535	15,332
Other liabilities	898	901	1,142	1,111	1,194	1,197	869	873	1,095	705
<b>Noncurrent liabilities</b>	<b>20,979</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>
Accounts payable, trade	2,786	4,738	5,121	4,502	5,153	4,861	4,020	4,610	4,971	5,122
Provisions	3,276	3,324	3,210	2,628	2,670	2,844	2,540	2,802	3,229	3,252
Tax liabilities	1,003	1,140	1,038	870	968	1,079	1,082	1,288	1,119	695
Financial indebtedness	2,375	3,369	3,985	4,094	3,256	3,545	4,074	3,767	2,497	5,509
Other liabilities	2,240	2,802	3,036	2,623	2,292	3,564	2,520	2,850	3,064	2,998
Liabilities of disposal groups	–	195	87	1,993	–	–	–	–	–	5,753
<b>Current liabilities</b>	<b>11,680</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>Total equity and liabilities</b>	<b>51,268</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>

<sup>1</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.

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

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Half-Year Financial Report 2019

# July 25, 2019

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Quarterly Statement Q3 2019

# October 24, 2019

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BASF Report 2019

# February 28, 2020

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Quarterly Statement Q1 2020 / Annual Shareholders' Meeting 2020

# April 30, 2020

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Half-Year Financial Report 2020

# July 29, 2020

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## Further Information

### More publications about BASF

- BASF Report 2018
  - Quarterly Statements
  - Capital Market Story
  - SRI Story
  - Roadshow Presentations
  - Capital Markets Day Presentations
- These publications are available at [basf.com/share](http://basf.com/share)

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