

BASF Factbook 2017

Information for investors
and analysts



 **BASF**
We create chemistry

Forward-looking statements

This publication contains forward-looking statements. These forward-looking statements are based on current estimates and projections of the Board of Executive Directors and on currently available information. These forward-looking statements are not guarantees of the future developments and results outlined therein. Rather, they depend on a number of factors, involve various risks and uncertainties, and are based on assumptions that may not prove to be accurate. Such risk factors particularly include those discussed on pages 111 to 118 of the BASF Report 2016. The BASF Report is available online at basf.com/report. BASF does not assume any obligation to update the forward-looking statements contained in this publication.



Concept car RN30

Hyundai Motor and BASF have partnered once again to develop a new concept car: the RN30. It combines latest innovations from the chemical industry with aerodynamic design and high-performance technologies. BASF contributed significantly to the concept with lightweight plastics and durable, eco-friendly materials that offer various design possibilities.

This Factbook was published in June 2017.

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Dear Investors and Analysts,

I am pleased to share the new edition of the BASF Factbook. It supplements the BASF Report 2016 and contains additional information tailored to the financial markets. We hope the Factbook continues to be a helpful tool in your day-to-day work.

In 2016, we achieved the goals we set for ourselves for growth and earnings. We successfully grew in the chemicals business and further improved profitability. It was foreseeable that earnings in Oil & Gas would not match the previous year's level. The oil price declined by around 15%, to an average of \$44 per barrel for Brent crude in 2016. Furthermore, we had divested our gas trading and storage business in the third quarter of 2015. As a result, BASF Group's EBIT before special items of €6.3 billion was slightly lower overall, down by 6% versus the previous year. As expected, sales declined considerably, by 18% to €57.6 billion.

As the year 2016 progressed, we were able to increase BASF's growth. Our sales volumes rose from quarter to quarter. Particularly in Asia, we continuously increased our sales volumes in the chemicals business and grew strongly. This shows that the high investments we made in research and development and new production capacity in recent years are paying off.

We also want to continue to grow profitably with acquisitions. In 2016, we purchased Chemetall, a leading global supplier of surface treatments. Chemetall's products can, for example, protect metals from corrosion or facilitate their machining. They are used in industries such as automotive and aerospace.

This business is very close to customers and perfectly complements our coatings activities. At the same time, we have divested activities that were no longer an optimal fit for our portfolio, such as the industrial coatings and polyolefin catalysts businesses, which we successfully sold.

The process of structural change in the chemical industry continues, following what appear to be the prevailing trends. BASF adheres to simple principles: Every business should achieve a leading market position if possible and be successful on its own – especially in comparison with its direct competitors. And each business benefits from BASF and from our Verbund – not only in production and logistics but also in research and development and with customers. The Verbund is and will remain the core of BASF. It demands and fosters excellence.

In 2017, we want to grow further, and all segments should contribute to this. More importantly, our earnings should rise again, also in the Oil & Gas business, where we assume an average oil price of \$55 per barrel of Brent crude in 2017. Business so far this year is in line with our expectations. These expectations are also based on the assumptions that economic conditions will be similar to 2016 and chemical production worldwide will rise by around 3.4%.

However, political uncertainties in particular have rarely been this high. The impact of Brexit remains unpredictable; it affects our competitiveness as well as that of our customers in our home market of Europe, where, moreover, important elections are taking place. Protectionism may seem sweet at first, but it is poison. Around the world, we are seeing a trend towards trying to create prosperity through isolation rather than cooperation. This is another reason why our strategy of producing as much as possible in the local markets is still the right approach.

Asia will continue to be the growth driver in the global chemicals market. And China is by far the largest market. In the growth markets in particular we have systematically invested in production, research and development and sales and marketing. We can therefore offer our local customers tailor-made solutions and successfully participate in this growth.

In light of the major uncertainties, we will continue our strict discipline with respect to expenditures and costs. An ongoing task is the further development of our portfolio. We will continue to drive forward the digital transformation in our research and development, in production and in the development of new business models that connect us even more closely with our customers.

I can assure you that the BASF team is committed to create chemistry for a sustainable future. My fellow board members and I look forward to discussions during roadshows, quarterly conference calls and other events for investors and analysts. We appreciate your valuable feedback and questions.

Best regards,



Kurt Bock

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BASF Group

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At a glance

Global leader

BASF is the world's leading chemical company

In 80+ countries

Employees contribute to our success

Broad portfolio

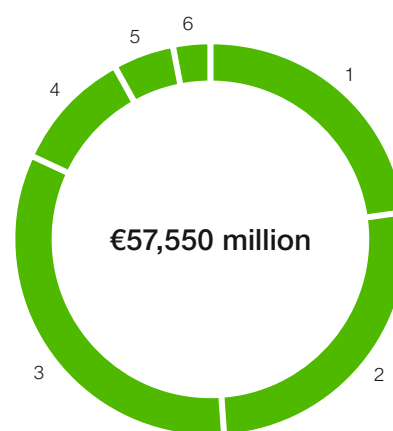
5 segments
13 operating divisions
86 strategic business units

At BASF, we create chemistry for a sustainable future. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. The approximately 114,000 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 in five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas.

Well-balanced portfolio

Percentage of sales in 2016

1	Chemicals	<ul style="list-style-type: none"> – Petrochemicals – Monomers – Intermediates 	23%
2	Performance Products	<ul style="list-style-type: none"> – Dispersions & Pigments – Care Chemicals – Nutrition & Health – Performance Chemicals 	26%
3	Functional Materials & Solutions	<ul style="list-style-type: none"> – Catalysts – Construction Chemicals – Coatings – Performance Materials 	33%
4	Agricultural Solutions	<ul style="list-style-type: none"> – Crop Protection 	10%
5	Oil & Gas	<ul style="list-style-type: none"> – Oil & Gas 	5%
6	Other		3%



Key figures

Million €	2012 ¹	2013	2014	2015	2016
Sales	72,129	73,973	74,326	70,449	57,550
Income from operations before depreciation and amortization (EBITDA)	10,009	10,432	11,043	10,649	10,526
Income from operations (EBIT) before special items	6,647	7,077	7,357	6,739	6,309
Income from operations (EBIT)	6,742	7,160	7,626	6,248	6,275
Net income	4,819	4,792	5,155	3,987	4,056
Cash provided by operating activities	6,602	8,100	6,958	9,446	7,717
Earnings per share (EPS)	€ 5.25	5.22	5.61	4.34	4.42
Adjusted earnings per share (EPS)	€ 5.64	5.31	5.44	5.00	4.83
Dividend per share	€ 2.60	2.70	2.80	2.90	3.00
Dividend yield ²	% 3.7	3.5	4.0	4.1	3.4

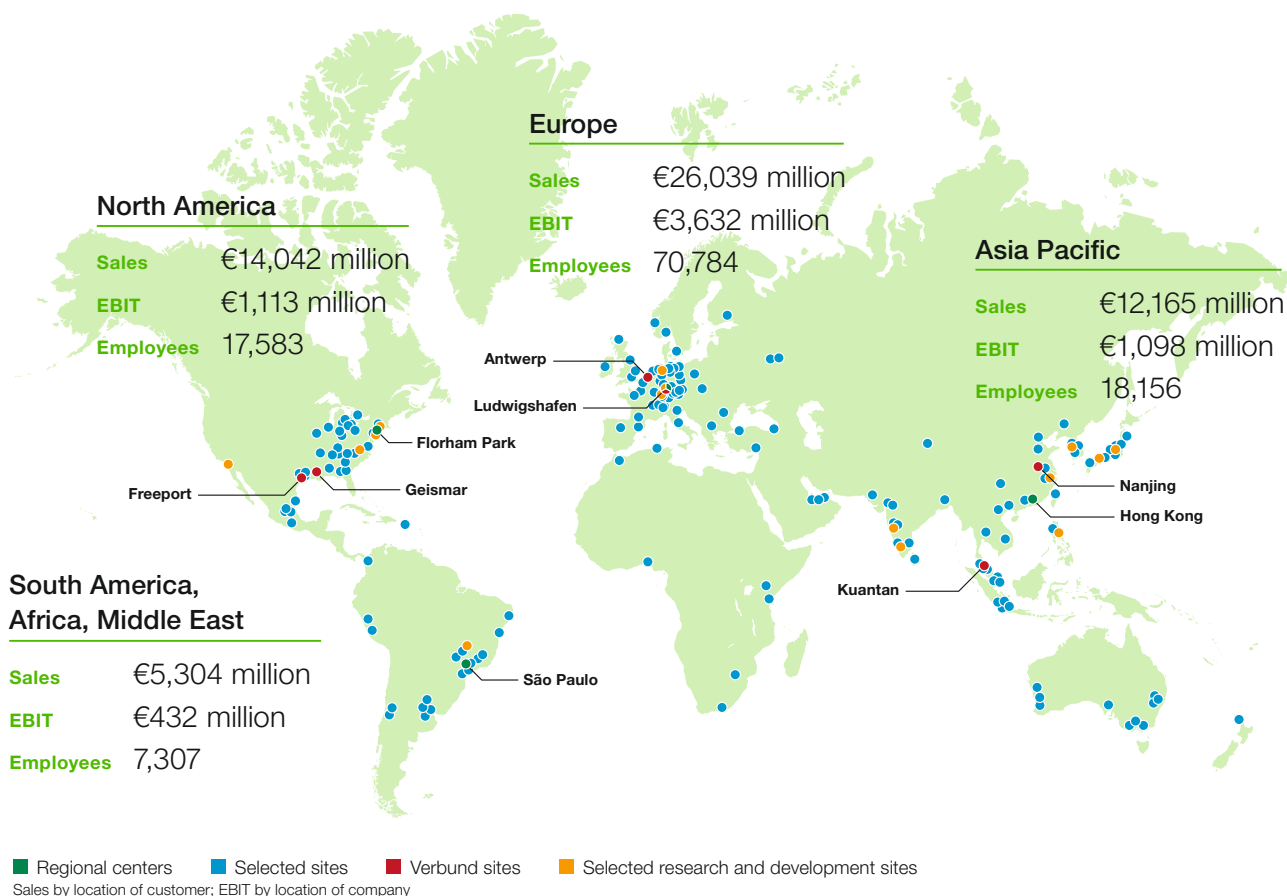
¹ We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated.

² Based on year-end share price

Key facts

- Approximately 114,000 employees worldwide – including around 10,000 in research and development
- Customers in nearly all countries and in virtually all industries
- Top three market positions in about 70% of our business areas
- Unique Verbund concept: production plants linked intelligently to save resources and energy; six world-scale Verbund sites around the globe
- Know-How Verbund with more than 600 excellent universities, research institutes and companies; around 3,000 research projects with customers, academia and partners; approximately 850 new patents filed in 2016

Regional footprint 2016



Sales by industry¹

Chemicals and plastics	Consumer goods; Transportation	Agriculture; Construction; Energy and resources	Health and nutrition; Electronics
> 20%	10–20%	5–10%	< 5%

¹ Changes in percentages from the previous year are mainly a result of the asset swap with Gazprom.

Management Board

Board of Executive Directors

Manages company and represents BASF SE in business with third parties

Supervisory Board

Appoints, monitors and advises Board of Executive Directors

Shareholders

Exercise rights of co-administration and supervision at Annual Shareholders' Meeting

Board of Executive Directors of BASF SE



Dr. Kurt Bock

Chairman of the Board of Executive Directors
59 years old, 26 years at BASF
Responsibilities: Legal, Taxes, Insurance & Intellectual Property; Corporate Development; Corporate Communications & Government Relations; Senior Executive Human Resources; Investor Relations; Compliance



Dr. Martin Bruder Müller

Vice Chairman and Chief Technology Officer
56 years old, 29 years at BASF
Responsibilities: Petrochemicals; Monomers; Intermediates; Process Research & Chemical Engineering; Innovation Management; Digitalization in R&D; Corporate Technology & Operational Excellence; BASF New Business



Saori Dubourg

45 years old, 21 years at BASF
Responsibilities: Construction Chemicals; Crop Protection; Bioscience Research; Region Europe



Dr. Hans-Ulrich Engel

Chief Financial Officer
58 years old, 29 years at BASF
Responsibilities: Finance; Oil & Gas; Procurement; Supply Chain Operations & Information Services; Corporate Controlling; Corporate Audit



Sanjeev Gandhi

50 years old, 23 years at BASF
Responsibilities: Dispersions & Pigments; Greater China & Functions Asia Pacific; South & East Asia, ASEAN & Australia/New Zealand



Michael Heinz

Industrial Relations Director
53 years old, 33 years at BASF
Responsibilities: Engineering & Maintenance; Environmental Protection, Health & Safety; European Site & Verbund Management; Human Resources



Dr. Markus Kamieth

46 years old, 18 years at BASF
Responsibilities: Care Chemicals; Nutrition & Health; Performance Chemicals; Advanced Materials & Systems Research; Region South America



Wayne T. Smith

57 years old, 13 years at BASF
Responsibilities: Catalysts; Coatings; Performance Materials; Market & Business Development, Site & Verbund Management North America; Regional Functions & Country Platforms North America

Supervisory Board of BASF SE

Shareholder representatives		Employee representatives	
<p>Dr. Jürgen Hambrecht Chairman of the Supervisory Board of BASF SE Former Chairman of the Board of Executive Directors of BASF SE</p>	<p>Michael Diekmann Vice Chairman of the Supervisory Board of BASF SE Former Chairman of the Board of Management of Allianz SE</p>	<p>Sinischa Horvat Vice Chairman of the Supervisory Board of BASF SE Chairman of the Works Council of the Ludwigshafen site of BASF SE and of BASF's Joint Works Council</p>	<p>Francesco Grioli Regional manager of the Rhineland-Palatinate/Saarland branch of the Mining, Chemical and Energy Industries Union (IG BCE)</p>
<p>Dame Alison J. Carnwath DBE Senior Advisor Evercore Partners</p>	<p>Franz Fehrenbach Chairman of the Supervisory Board of Robert Bosch GmbH</p>	<p>Ralf-Gerd Bastian Member of the Works Council of the Ludwigshafen site of BASF SE</p>	<p>Denise Schellemans Full-time trade union delegate at BASF Antwerpen N.V.</p>
<p>Prof. Dr. François Diederich Professor at the Swiss Federal Institute of Technology, Zurich, Switzerland</p>	<p>Anke Schäferkordt Member of the Executive Board of Bertelsmann SE & Co. KGaA Co-CEO of RTL Group S.A. Chief Executive Officer of RTL Television GmbH</p>	<p>Waldemar Helber Vice Chairman of the Works Council of the Ludwigshafen site of BASF SE</p>	<p>Michael Vassiliadis Chairman of the Mining, Chemical and Energy Industries Union (IG BCE)</p>

For further information, please refer to basf.com/share/supervisory-board

Two-tier management system of BASF SE

Board of Executive Directors



8 members

appointed by the Supervisory Board

Chairman

appointed by the Supervisory Board



Supervisory Board



12 members

6 shareholder representatives elected at the Annual Shareholders' Meeting and 6 employee representatives

Chairman

elected by the Supervisory Board

Corporate governance and compliance

<p>Code of Conduct</p> <p>Forms core of our Compliance Program</p>	<p>More than 25,000</p> <p>Participants in compliance training</p>	<p>63 audits</p> <p>Conducted internally on compliance</p>
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Our Group-wide Compliance Program aims to ensure adherence to legal regulations and the company’s internal guidelines. This topic has been integrated into our “We create chemistry” strategy. 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.

Compliance Program and Code of Conduct

Based on international standards, BASF’s Compliance Program combines important laws and company-internal policies – themselves 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.

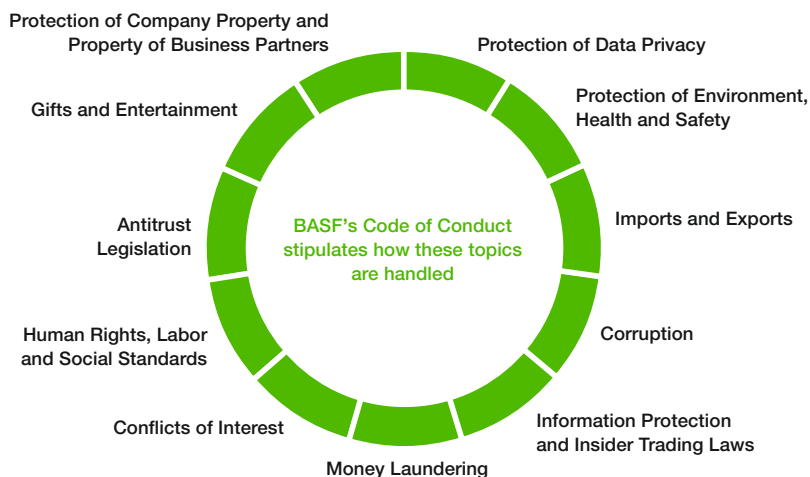
compliance standards.” We are convinced that compliance with these standards will not only prevent the disadvantages associated with violations, such as penalties and fines; we also view compliance as the right path toward securing our company’s long-term success.

Our efforts are principally aimed at preventing violations from the outset. To this end, all employees are required within a prescribed time frame to take part in basic compliance training, refresher courses and special tutorials dealing with, for example, antitrust legislation, taxes or trade control regulations. Training takes place in different formats, including face-to-face training, e-learning or workshops. The course materials and formats are constantly being updated. In total, more than 25,000 participants worldwide received around 40,000 hours of compliance training in 2016.

Abiding by compliance standards is the foundation of responsible leadership. This has been expressly embedded in our values, where we state: “We strictly adhere to our

For further information, please refer to the BASF Report 2016, pages 134–135.

BASF’s Code of Conduct



Working at BASF

113,830 Employees around the world	Life-long learning On center stage	3,120 Apprentices ¹ in around 60 occupations
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Our employees carry out the goals of the “We create chemistry” strategy. We want to attract and retain talented people for our company and support them in their development. To do so, we cultivate a working environment that inspires and connects people. It is founded on inclusive leadership based on mutual trust, respect and dedication to top performance.

Strategy

The Best Team Strategy is derived from our corporate strategy and contributes greatly to the achievement of our goals. We want to form the best team. To achieve this, we focus on three strategic directions: excellent people, excellent place to work and excellent leaders. Emphasis here is placed on our attractiveness in worldwide labor markets, personal and professional development, life-long learning, and supporting and developing our leaders. We are strongly committed to internationally recognized labor and social standards and strive to respect these worldwide.

Number of employees

At the end of 2016, BASF had 113,830 employees (2015: 112,435); of these, 3,120 were apprentices (2015: 3,240). We hired 6,957 new employees Group-wide in 2016. Moreover, the acquisition of Chemetall especially added to our workforce. Reductions in headcount were related to events such as the sale of the industrial coatings and polyolefin catalysts businesses.

BASF Group employees by region

	December 31, 2016	%
Europe	70,784	62.2
Thereof Germany	53,318	46.8
North America	17,583	15.4
Asia Pacific	18,156	16.0
South America, Africa, Middle East	7,307	6.4

The average percentage of employees who resigned during their first three years of employment was 1.2% worldwide in 2016. This turnover rate was 0.5% in Europe, 1.5% in North America, 3.2% in Asia Pacific and 1.9% in South America, Africa, Middle East. Our turnover rates are therefore lower than those of many other companies.

Compensation and benefits

In addition to market-oriented compensation, BASF's total offer also comprises benefits, individual opportunities for development and a good working environment. Our employees' pay is based on global compensation principles. These take into account an employee's position and individual performance as well as the company's success. Representative analyses of the Ludwigshafen site have shown that there are no systematic differences in pay between men and women, provided the positions and qualifications are comparable.

BASF Group personnel expenses (million €)

	2016	2015	Change in %
Wages and salaries	8,170	7,943	2.9
Social security contributions and expenses for pensions and assistance	1,995	2,039	(2.2)
Thereof for pension benefits	627	658	(4.7)
Total personnel expenses	10,165	9,982	1.8

As a rule, compensation comprises fixed and variable components as well as benefits that often exceed legal requirements. In many countries, these include company pension benefits, supplementary health insurance, and share programs.

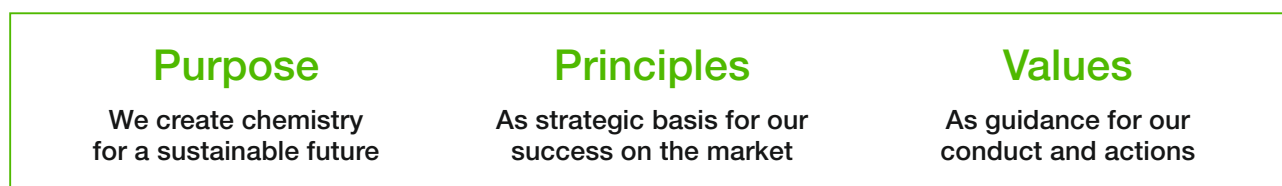
In 2016, the BASF Group spent €10,165 million on wages and salaries, social security contributions and expenses for pensions and assistance (2015: €9,982 million). This represents growth of 1.8% in personnel expenses, primarily as a result of expenses for the long-term incentive program as well as wage and salary increases. Partly countering this rise was the lower average number of employees, in addition to currency effects.

📖 For further information, please refer to the BASF Report 2016, page 188.

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

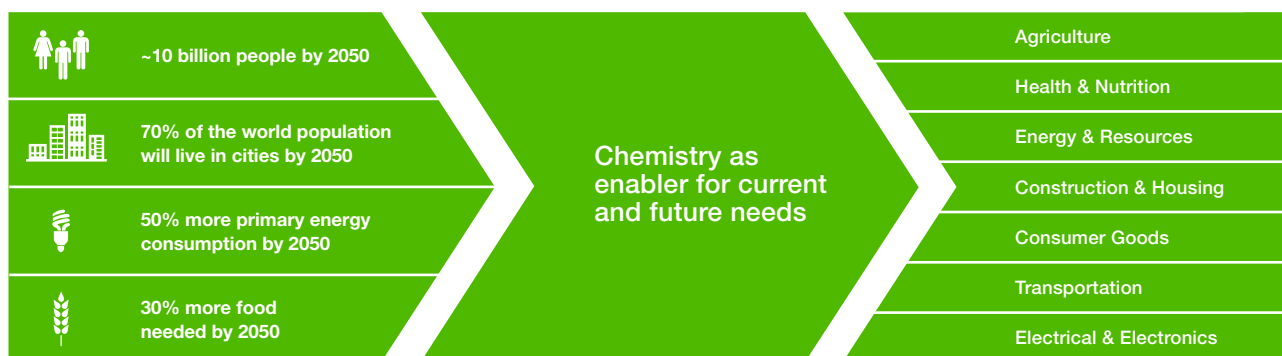
Strategy

Corporate strategy



With the “We create chemistry” strategy, BASF has set itself ambitious goals. We want to contribute to a sustainable future and have embedded this into our corporate purpose: “We create chemistry for a sustainable future.”

Chemicals remains a growth industry



Chemistry is an enabler for solutions to the current and future needs of our society. This is the cornerstone of our “We create chemistry” strategy. The global population is growing and expected to reach around 10 billion by 2050. Between 2015 and 2050, the number of people living in cities will grow by almost 3 billion. More and more people need access to affordable energy, housing, healthcare and quality food. This has to be achieved by consuming fewer resources, be it land, water, minerals, or oil. For example, each year, the area of arable land is shrinking by 12 million hectares (equivalent to 50% of the size of the United Kingdom). In order to protect our planet and to manage with the resources it provides, the way people live has to become much more sustainable. Chemistry will provide the products and technologies that will enable us to consume less input materials, be more efficient and produce better products for everyone.

We continue to expect that chemical production will grow faster than global gross domestic product. However, the pace of growth will vary from region to region. The emerging markets are and will remain the global growth drivers. Asia Pacific is already the largest chemical market. Without China, the growth of global chemical production would be 2 percentage points lower. In the developed markets, Western Europe is back on the growth track, but at a relatively low level. Low feedstock costs and an expanding economy will drive the growth of chemical production in North America.

Our priorities

- We aim to grow sales and earnings faster than global chemical production in the coming years, driven by:
- Innovations for a sustainable future
 - Investments in organic growth
 - M&A opportunities and portfolio pruning measures
 - Operational excellence and cost discipline

Innovations for a sustainable future

Research and development remains a key factor for differentiation. This is indicated by the strongly increasing number of patents in the industry. BASF is very well positioned when it comes to innovation. In 2016, we applied for approximately 850 new patents. We were ranked No. 1 in the Patent Asset Index™ for the eighth time in succession.

Thanks to our global R&D setup, including major platforms in Europe, North America and Asia Pacific, we have an excellent position to create innovations that meet regional market needs and contribute to a sustainable future.

Investments in organic growth

From 2005 to 2010, we increased acquisitions to grow BASF, but reduced our capital expenditures below depreciation levels. Since 2011, we have significantly reduced our spending on acquisitions. In 2015, capital expenditures peaked at over €5 billion. With several large projects in place, we are now ramping down capital expenditures to levels slightly above depreciation. In 2016, we invested €4.2 billion in property, plant and equipment. For 2017, we are planning capital expenditures of around €3.9 billion¹ for the BASF Group.

In the differentiated commodity businesses, we will invest in new assets where we benefit either from proprietary technologies or Verbund advantages. In the specialties and solutions businesses, we will build plants to accompany the growth of innovative products. Furthermore, we will continue to broaden our regional base. In Oil & Gas, we will focus our investment budget on the most promising projects. The target is to keep a reserve-to-production ratio of about 8–10 years.

M&A opportunities

We will continue to strictly adhere to our acquisition criteria. We want to acquire businesses which generate profitable growth above the industry average. Any acquisition should be innovation-driven, offer a special value proposition to customers and reduce earnings cyclicalities for the BASF Group. All future acquisitions have to fulfill our strict financial criteria. They should be EPS accretive by year three at the latest and should provide a return on investment above the WACC. The minimum hurdle rate increases if the acquisition is made in countries which belong to a higher risk category.

Operational excellence

In recent years, we have further improved our operational excellence. Our current program, called DrivE, will further enhance efficiency. It runs from 2016 to 2018 and aims to achieve a yearly earnings contribution of €1 billion from the end of 2018 onward (baseline 2015). DrivE includes efficiency measures in production, engineering, maintenance, logistics, procurement and administration. We are confident of achieving a runrate of around €650 million by the end of 2017.

¹ Excluding additions to property, plant and equipment resulting from acquisitions, capitalized exploration, restoration obligations and IT investments

Financial targets for the coming years

Our aim for the years ahead is, on average, to grow sales slightly faster and EBITDA well above global chemical production (excluding pharmaceuticals), and to earn a significant premium on our cost of capital. Moreover, we strive for a high level of free cash flow each year. We stick to our policy of raising or at least maintaining the dividend at the prior-year level. The goals for sales and EBITDA are based on the 2015 figures, excluding contributions from the business disposed of in the asset swap with Gazprom in September 2015.

Financial targets for the coming years

Sales growth

Slightly faster than global chemical production

EBITDA growth

Well above global chemical production

Deliver attractive returns

Earn a significant premium on cost of capital

Remain a strong cash provider

Continuously generate high levels of free cash flow

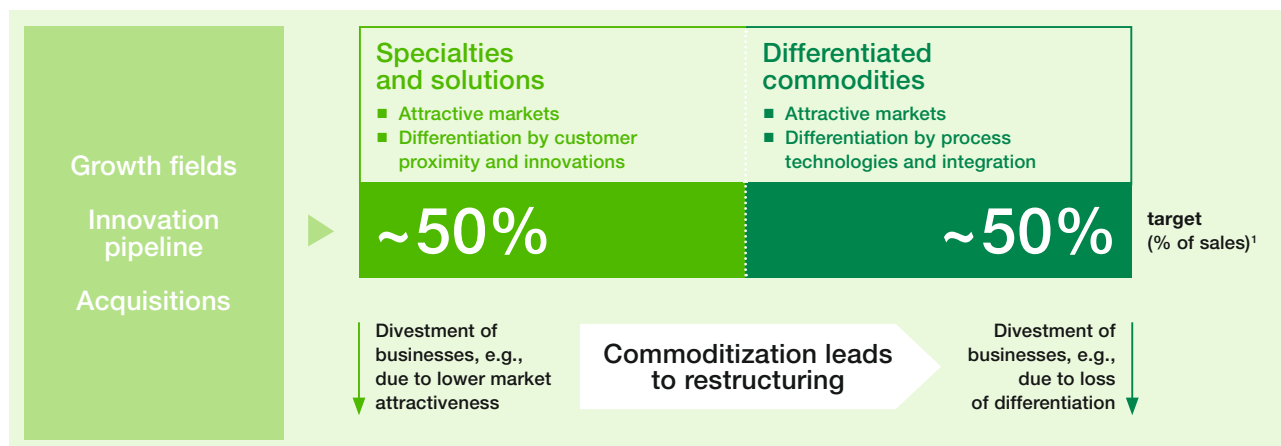
Progressive dividend policy

We want to grow or at least maintain our dividend

Portfolio management

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

Maintaining a balanced portfolio



¹ Excluding Oil & Gas sales

Maintaining a balanced portfolio

Our portfolio consists of two distinct business models: specialties and solutions as well as differentiated commodities.

Specialties and solutions

In the specialties and solutions product lines, we operate in growing markets that are driven by innovations and customers' willingness to pay for customized product solutions. We also enter into partnerships with customers to jointly develop innovations which help them to optimize their processes and applications. Typical examples for such products are crop protection products, surface treatment solutions or BASF's Infinergy[®] material, which was jointly developed with our customer adidas.

Differentiated commodities

Markets for commodities are typically well developed. We stand out from our competition because of our best-in-class technologies and Verbund benefits. A good example is acrylic acid. In this established product class, we were able to improve the production process, leading to a superior cost position. We have protected our competitive edge with patents for the advanced acrylic acid process.

In recent years, we have seen an increasing trend towards commoditization, which will continue in the future. By constantly improving our innovation pipeline, we enhance our portfolio with innovative products and solutions. Additionally, we will continue to make selective acquisitions which help us strengthen our position in attractive business fields.

Active portfolio management

Since 2010, we have divested businesses with sales of around €21 billion. These were mainly activities with a limited strategic fit or differentiation potential. They included the gas trading and storage business, which contributed €12.2 billion to sales in 2014, as well as divestitures of polyolefin catalysts and industrial coatings. On the other hand, we acquired growing and innovation-driven businesses with sales of more than €5.5 billion. Most of the acquired businesses complement our portfolio, helping to improve our position in the relevant markets. Our latest major addition was the acquisition of Chemetall, a global leader in surface treatment products and services.

Strategic acquisition criteria

We want to acquire businesses which

- generate profitable growth above the industry average
- are innovation-driven
- offer a special value proposition to customers
- reduce cyclicity of earnings

Financial acquisition criteria

We want to acquire businesses which

- provide a return on investment above the WACC
- are EPS accretive by year three at the latest

Active portfolio management

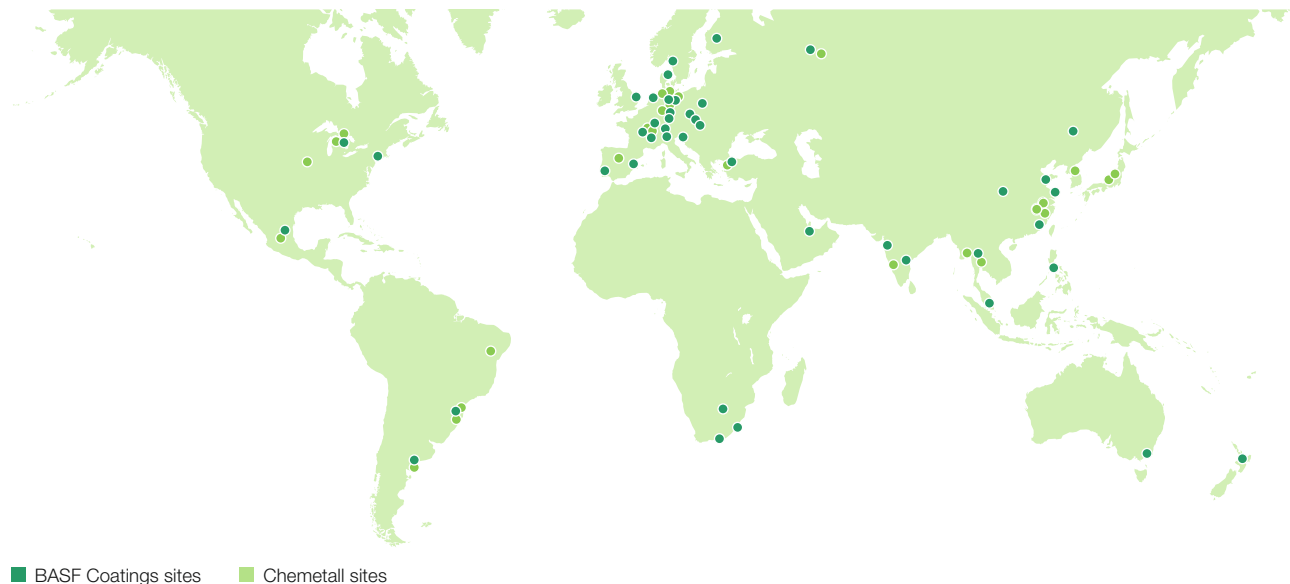


Acquisition example Chemetall

The purchase of global surface technology provider Chemetall from Albemarle Corp. was completed on December 14, 2016. The purchase price amounted to \$3.1 billion. With its 21 production sites, 24 sales offices and 2,500 employees worldwide, Chemetall generated sales of \$845 million and achieved an EBITDA margin of 24% in 2015. The business grew strongly with 7% CAGR from 2007–2015. With the acquisition of this business, our Coatings division supplements its portfolio with tailor-made technology and system solutions for surface treatment.

Chemetall is one of the strongest globally managed brands in the surface treatment sector. It offers proprietary manufacturing technologies, rigorous product quality and high performance standards. Chemetall has a leading market position in the automotive, aerospace and cold forming segments. It has long-standing customer relationships and a track record of strong growth and high profitability. With Chemetall, we have acquired the missing link in the metal coatings value chain. We expect innovation potential to arise from the connection of the surface treatment and our coatings business.

Significant global presence and accelerated expansion in emerging markets



Innovation

A growing need for food, clean water and energy, limited resources and a booming world population – 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 are a prerequisite for innovations as well as an important growth engine for BASF. We work in interdisciplinary teams on innovative processes and products for a sustainable future. This is how we ensure our long-term business success with chemistry-based solutions for almost all sectors of industry.

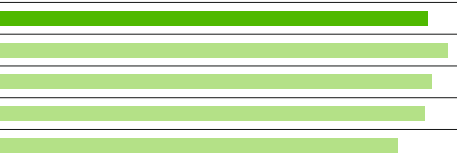
For BASF, innovation is the key to successfully standing out from the crowd in a challenging market environment. Our innovative strength is based on our global team of highly qualified employees with various specializations.

R&D expenses 2016 as percentage of sales

~3%

We had around 10,000 employees involved in research and development in 2016. Our three global technology platforms are each run from one of the regions particularly significant for us – 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.

Research and development expenses (billion €)

2016	1.86	
2015	1.95	
2014	1.88	
2013	1.85	
2012	1.73	

In 2016, we generated sales of over €10 billion with products launched on the market since 2011 that stemmed from research and development activities. In the long term, we aim to continue significantly increasing sales and earnings with new and improved products.

Global network in science and industry

Our global network of about 600 universities, research institutes and companies forms an important part of our Know-How Verbund. We collaborate with them in many different disciplines. The direct access to external scientific expertise, new technologies and talented minds from various disciplines strengthens our portfolio with creative new projects.

In our excellence program “UNIQUE – The BASF Academic Partnership Program,” we are working intensively with 15 leading universities around the world. BASF also runs four postdoc centers that pool collaborations with several research groups on a regional level. The North American Center for Research on Advanced Materials (NORA) and the California Research Alliance (CARA) are located in North America. The Joint Research Network on Advanced Materials and Systems (JONAS) is active in Europe, while the Network for Advanced Materials Open Research (NAO) covers the Asia Pacific region.

In order to continuously promote exchange with external customers and partners, we have integrated the Creator Space® approach from our 2015 anniversary year into our regular research activities. We use this program to develop innovative ideas.

Strategic focus

Our **research pipeline** comprised approximately 3,000 projects in 2016. **Expenses** for research and development amounted to €1,863 million, slightly below the prior year's level (€1,953 million). This was particularly attributable to the rearrangement of research activities in plant biotechnology and the corresponding adjustment of site structure in North America and Europe. Operating divisions were responsible for 79% of total research and development expenses in 2016. The remaining 21% were allocated to cross-divisional corporate research focusing on long-term topics of strategic importance to the BASF Group. We strive to maintain the recent years' high level of spending on research and development.

Innovations based on chemistry require market-oriented research and development focused on the needs of our customers. That is why our cross-divisional corporate research is closely aligned with the requirements of our operating divisions. In order to bring promising ideas to market as quickly as possible, we regularly assess our research projects using a multistep process and focus our topics accordingly. Creativity, efficiency and collaboration with external partners are among the most important success factors.

We enhanced our **innovation approach** in 2016 with the aim of increasing our company's power of innovation and securing long-term competitive ability. We aim to achieve this by honing our research focus on topics that are strategically relevant for our business, strengthening our existing scientific processes and methods and introducing new ones, and optimizing organizational structures.

In so doing, we restructured cross-divisional corporate research in 2016 to create more space for the quick review of creative research approaches. At the same time, we tailored our previous technology fields even more toward the needs of the BASF Group. They have been rearranged into multiple, strategic key technologies that are constantly being further developed. We also place our focus on the innovative application of specific key technologies that are of central significance for our operating divisions. Examples include polymer technologies, catalyst processes and strategies for the development of biodegradable and bio-based materials.

In order to develop future business fields with high sales potential for BASF, we develop specific growth fields. These are regularly reviewed in terms of their attractiveness for BASF. When they mature, we transfer them to the operating divisions and promote the development of new approaches with high market potential. In addition, we have set a course

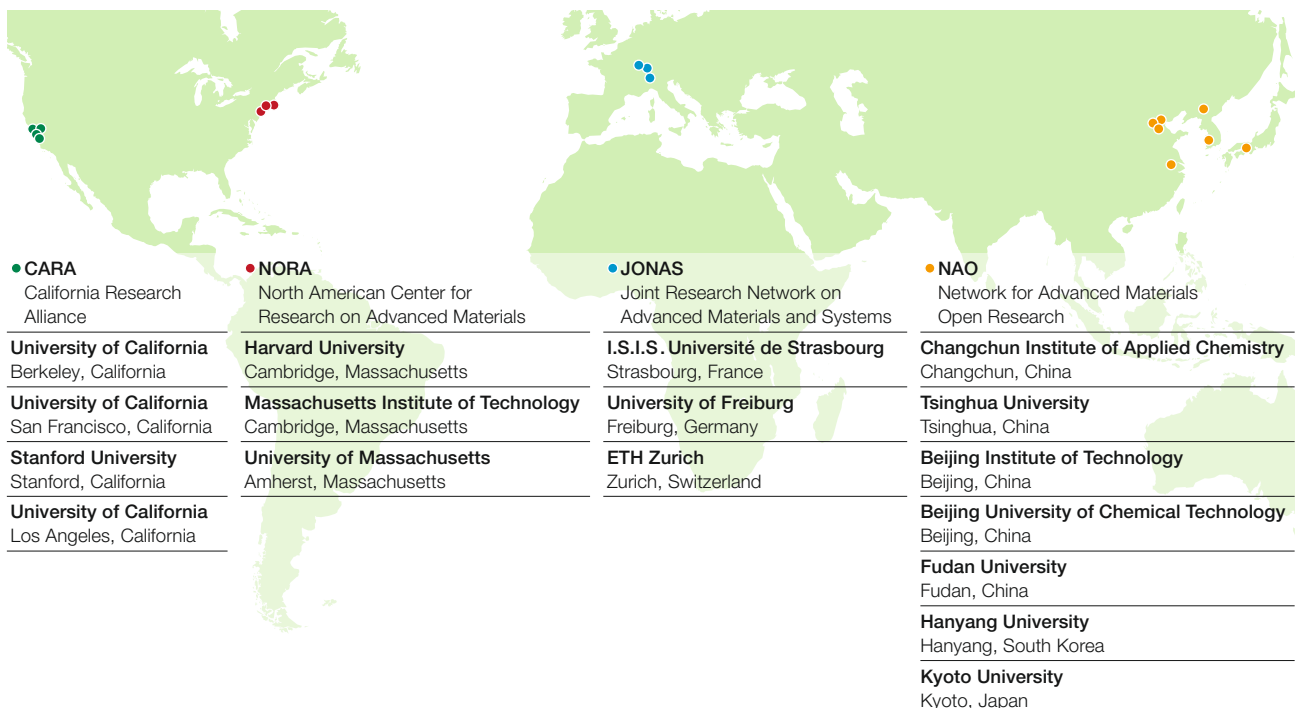
for systematically using digital technologies in research and development. In the years ahead, existing expertise in fields like modeling and simulation will be consistently expanded and new digital work areas will be developed.

Our **global research and development** presence is vital to our success. In 2015, we had completed the expansion of the Innovation Campus Asia Pacific in Shanghai, China. In March 2017, a second Innovation Campus Asia Pacific was set up in Mumbai, India, in order to continue strengthening our regional research capacities. There, the focus areas in research will be crop protection and method development.

R&D facts and figures 2016

- Around 10,000 employees worldwide in research and development
- Pipeline with around 3,000 projects
- Global Know-How Verbund with more than 600 excellent universities, research institutes and companies
- Approximately 850 new patents filed
- Ranked No. 1 in Patent Asset Index™ for eighth time in succession

Global network: postdoc centers



Innovations in the segments – examples

Research and development expenses 2016 by segment

1	Chemicals	10%
2	Performance Products	20%
3	Functional Materials & Solutions	21%
4	Agricultural Solutions	26%
5	Oil & Gas	2%
6	Corporate research, Other	21%



Chemicals

In 2016, we established the Amsterdam-based Synvina C.V. joint venture with Avantium to produce and market **furandi-carboxylic acid (FDCA) from renewable resources** on an industrial scale. The most significant use of FDCA is the production of polyethylenefuranoate (PEF), a new polymer used for applications such as food and beverage packaging. Compared with conventional plastics, PEF demonstrates higher barrier properties for gases like carbon dioxide and oxygen, leading to a longer shelf life for packaged products.

Our new **HydroBlue®90** demonstrates that innovation and enhancement are even possible for products that were patented over 100 years ago. The product originally went to market as an auxiliary agent in dyeing textiles with indigo. Today, HydroBlue®90 ensures consistent high quality in the dyeing process. This stability is important for textile producers, as signs of faulty coloring in denim do not usually appear until after the garment is already finished. New HydroBlue®90 is especially highly concentrated, shelf-stable, odorless and dust-free.

Performance Products

Flexible food packaging must fulfill the highest functional requirements; at the same time, interest is growing in environmentally friendly solutions. That is why we are constantly enhancing the ink bonding agents of our **Joncryl® FLX** product line and the laminating adhesives of the **Epotal®** range. These water-based products provide a more environmentally friendly alternative to solvent-based systems for flexible packaging. With Epotal®, packaging manufacturers can also shorten the processing time between order placement and delivery.

Lavergy® Pro 104 L is a newly developed protease – or protein-splitting enzyme. Liquid detergents formulated with this enzyme are already powerfully effective at low washing temperatures, removing certain tough stains considerably better than the established market standards. Lavergy® Pro 104 L is even more powerful when combined with our high-performance detergent polymer Sokalan® HP 20. Expertise in both biology and chemistry allows us to offer customers even more opportunities to precisely customize liquid detergent formulations.

Functional Materials & Solutions

Ultramid® Advanced N, our new portfolio of heat-resistant polyamides, gives customers in different industries greater freedom for innovation, such as when it comes to developing technically sophisticated end-user products. It allows for the construction of lighter, smaller and more high-performance plastic components for demanding operating conditions, such as in automotive construction, household appliances or entertainment electronics.

Our **Cool Coatings** automotive coating technology combines innovative functional properties with a sophisticated design that allows for a broad color palette. The coating formulation reflects infrared light, reducing the vehicle's surface temperature by up to 20°C. This passive temperature management reduces the inside temperature by up to 4°C. Cool Coatings thus enables our customers to save on air conditioning, which decreases fuel consumption or, in the case of electric vehicles, increases range.

Agricultural Solutions

The herbicide **Engenia®** is being introduced to the North American market for the 2017 growing season. It serves as a key component of dicamba and glyphosate-tolerant cropping systems for soy and cotton. We are also planning the launch of the new insecticides **Inscalis®** and **broflanilide**.

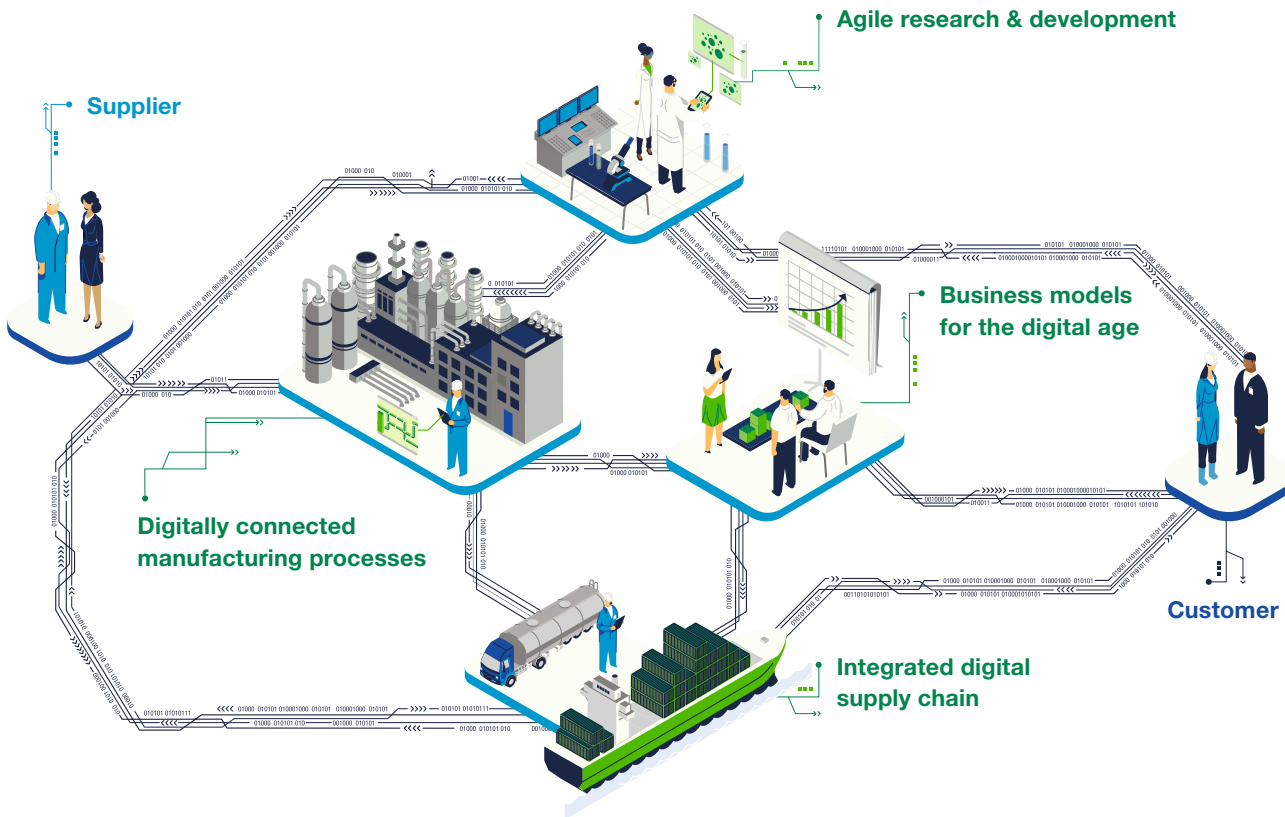
Inscalis® combats piercing-sucking pests like aphids and whiteflies. An application for approval was submitted in 2016. **Broflanilide** is effective against chewing insects, like potato beetles and caterpillars, in specialty and field crops; use is also planned in professional pest control. With its novel mode of action, it is highly effective in low doses and will play an important role in resistance management.

Oil & Gas

The Wintershall Group concentrates its innovation-related activities on improving the success rate of exploration, developing technologies for reservoirs with challenging development and production conditions, and increasing the recovery factor of reservoirs.

In the Düste crude oilfield in Germany, we tested an innovative and environmentally friendly method for increasing the reservoir's recovery factor and have achieved positive initial results. Wintershall developed a concept within the BASF Verbund for **microbial enhanced oil recovery (MEOR)**: We aim to use tiny life forms found in the reservoir, like microbes and microorganisms, to produce more crude oil. Fed nutrients, these multiply and produce various natural substances as metabolic products that can increase the oil recovery factor. Unlike other enhanced oil recovery (EOR) technologies, the use of microbes in MEOR can have several production-increasing effects at the same time. We also successfully managed, for the first time, to model these effects outside of the reservoir, allowing for more efficient use. A larger field test is scheduled to begin in 2017.

Digitalization



Digitalization presents huge opportunities for us. Using digital technologies and data, we are creating additional value for our customers and increasing the effectiveness and efficiency of our processes.

In 2015, we launched the BASF 4.0 project to drive the digital transformation of the company and capture the opportunities of digitalization. Cross-divisional teams identify promising application fields for the intelligent use of data and digital technologies, test them in pilot projects and prepare the roll-out throughout the entire company. We see huge potential in the use of digital technologies along the entire value chain. These range from a further increase in our plant efficiency and accelerated innovation processes all the way to new innovative business models.

Manufacturing

Through mobile devices, our workforce can instantly access key information which supports their daily work. Data allows us to avoid unexpected shut downs and optimize production. Connecting manufacturing and business processes will lead to faster and better decision-making.

Supply chain

Enhanced data visibility and transparency support decision-making, reduce costs along the supply chain, improve reliability and lead to a closer partnership with our customers.

Business models

New technologies give us the opportunity to change the way we approach customers and markets and to improve our current offerings with digital services. We are creating new digital offerings and are gaining access to new customer groups.

Research & development

Digital technologies and the integrated use of data help us explore new fields, accelerate our research & development (R&D) and better tailor our solutions for the needs of our customers. Digitalization in R&D means integrating digital technologies into operations and making them an integral part of all projects. To achieve this, the whole R&D platform will further develop and systematically apply existing competencies. Digitalization in R&D includes building up IT infrastructure for data and knowledge management as well as the systematic application of digital tools, cognitive sciences and high performance computing.

Investments

In addition to innovations, investments make a decisive contribution toward achieving our ambitious growth goals. By investing in our plants, we create the conditions for our desired growth while constantly improving the efficiency of our production processes.

For the period from 2017 to 2021, we have planned capital expenditures¹ totaling €19.0 billion. We want to invest more than a quarter of this amount in emerging markets and expand our local presence in order to benefit from the growth in these regions. We also continue to develop our portfolio through acquisitions that promise above-average profitable growth, are driven by innovation, offer added value for our customers, and reduce the cyclicity of our earnings. Investments and acquisitions alike are prepared by interdisciplinary teams and assessed using diverse criteria. In this way, we ensure that economic, environmental and social concerns are included in strategic decision-making.

Investments in property, plant and equipment by segment 2017–2021¹

1	Chemicals	24%
2	Performance Products	21%
3	Functional Materials & Solutions	15%
4	Agricultural Solutions	4%
5	Oil & Gas	23%
6	Other (infrastructure, R&D)	13%



Investments in property, plant and equipment by region 2017–2021¹

1	Europe	49%
2	North America	22%
3	Asia Pacific	16%
4	South America, Africa, Middle East	10%
5	Alternative sites currently being investigated	3%



¹ Excluding additions to property, plant and equipment resulting from acquisitions, capitalized exploration, restoration obligations and IT investments

Investments

Our investments in 2016 focused on the Chemicals, Performance Products and Oil & Gas segments. For example, we started up further sections of the integrated TDI production complex in Ludwigshafen, Germany; completed construction of the aroma ingredients complex in Kuantan, Malaysia; and invested in field development projects in Argentina, Norway and Russia.

For 2017, we are planning total capital expenditures of around €3.9 billion¹ for the BASF Group. The average investment volume in the years ahead will therefore remain at the same level as in 2016. Projects currently being planned or underway include:

Capital expenditures: Selected projects

Location	Project
Caojing, China	Construction: automotive coatings plant
Geismar, Louisiana	Capacity expansion: MDI
Ludwigshafen, Germany	Replacement: acetylene plant
	Construction: vitamin A production plant

In the Oil & Gas segment, our currently planned investments of around €4.4 billion between 2017 and 2021 will focus mainly on the development of proven gas and oil deposits in Argentina, Norway and Russia. The actual amount of expenditure is also dependent on oil and gas price developments and will be adjusted as necessary.

Operational excellence

In order to remain competitive, we continuously improve our operations and reduce costs.

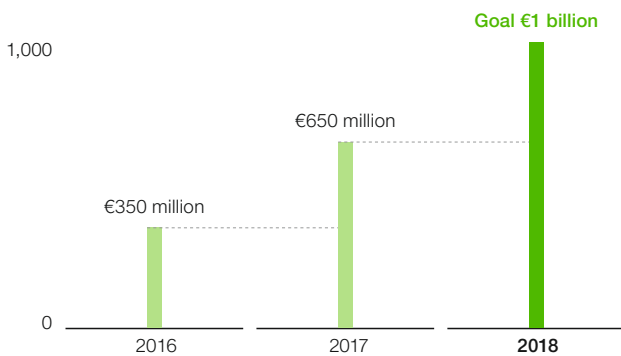
We constantly work on improving our sites, plants and production processes and are continuing with our restructuring and cost-cutting measures. At the same time, we are increasing our operational excellence through ongoing improvements by harmonizing our business processes worldwide and improving their efficiency.

DrivE – targeted annual earnings contribution from the end of 2018 onward

~€1 billion

Our current program, called DrivE – Drive Efficiency, will further enhance our operational excellence. It runs from 2016 to 2018 and aims to achieve a yearly earnings contribution of €1 billion from the end of 2018 onward (baseline 2015). DrivE includes efficiency measures in production, engineering, maintenance, logistics, procurement and administration. We are confident of achieving a run rate of around €650 million by the end of 2017.

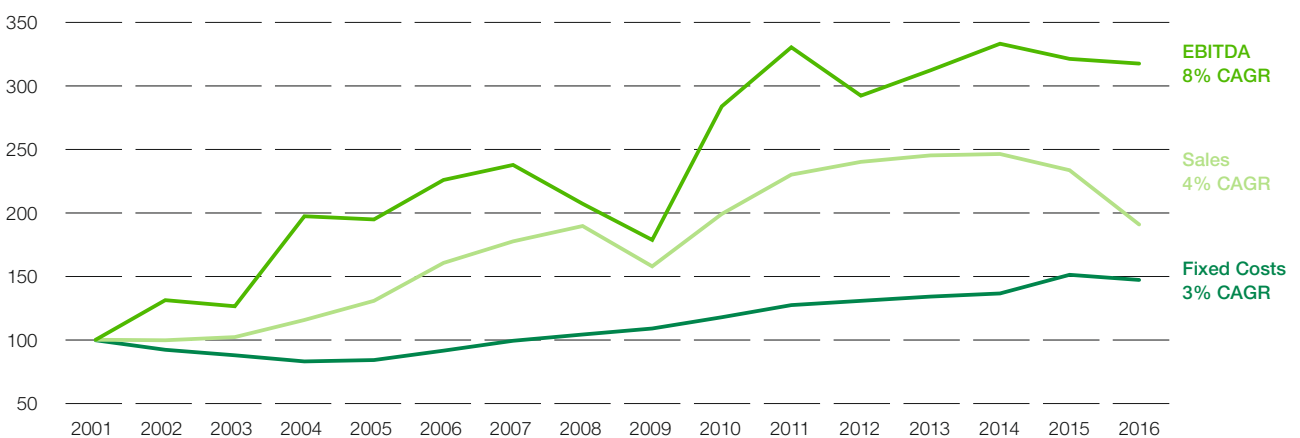
Annual earnings contribution DrivE



DrivE case study: Coatings Excellence initiative

The Coatings Excellence initiative improves processes and work flows in BASF's Coatings division and is its contribution to BASF's DrivE program. All employees are asked to generate ideas and propose measures to raise efficiency and effectiveness along the value chain. Since the beginning of Coatings Excellence in 2013, colleagues have submitted more than 1,000 projects which noticeably improved earnings. One example is the global standardization of process automation in nine resin plants with a total of 50 reactor lines. The different automation systems have been transferred to a global system platform. To simplify the management of the new platform, colleagues implemented a toolkit with standard modules to visualize the complex processes in a straightforward and uniform manner. The standard interface enables a global network of experts to share knowledge and implement optimization measures more quickly.

BASF Group¹ 2001–2016 (indexed; compound annual growth rate (CAGR) 2001–2016)



¹ Excluding companies with major IFRS 10/11 restatements, i.e., BASF YPC Nanjing, Libya onshore, other Oil & Gas and Catalysts companies

Verbund concept

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



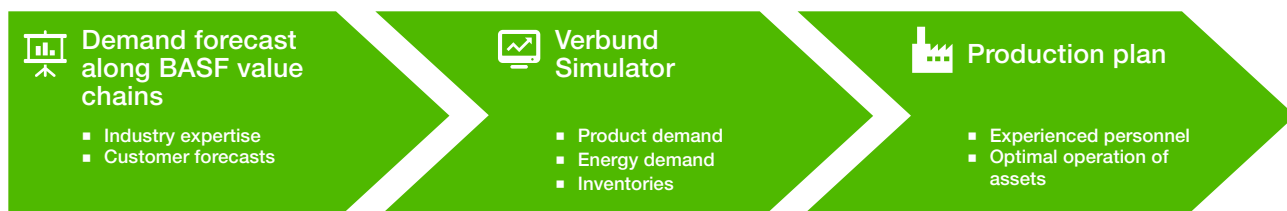
A system that creates efficient value chains

The Verbund system creates efficient value chains that extend from basic chemicals right through to consumer products and system solutions. In this system, chemical processes consume less energy, achieve higher product yields and conserve resources. We thus save on raw materials and energy, minimize emissions, cut logistics costs and exploit synergies. On a global scale, BASF realizes annual savings of more than €1 billion through its Verbund concept.

Verbund flexibility

Despite its complexity, the Production Verbund can respond flexibly to fluctuating demand. The Verbund Simulator is a proprietary IT tool that helps us steer the Verbund through different scenarios. The economic crisis in 2008/2009 was an outstanding example. Within the Verbund we were able to reduce utilization of our crackers to exceptionally low levels and thus remain operational.

Managing the Verbund



Production Verbund

The Production Verbund is BASF's traditional core competency and starting point for multiple value chains. By linking plants, we can create efficient value chains from basic chemicals right through to high value-added products such as aroma chemicals and crop protection products. In addition, by-products from one plant can be used as raw materials elsewhere. With our closely interlinked production system, we reduce our raw material and energy use and cut costs.

Logistics Verbund

Production plants are connected by an extensive network of pipes, which provides an environmentally friendly method of transporting raw materials and energy quickly and safely. As a result, BASF significantly reduces its need to use transport by road, rail, river and sea. This provides not only a significant cost saving for BASF, but also reduces fuel consumption and carbon emissions. In addition, the associated costs of handling and storage are eliminated.

Energy Verbund

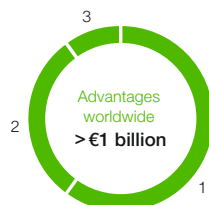
Our Verbund system links our production and energy demands, thus making a major contribution to energy efficiency. Steam from production processes is not discharged into the environment, but is captured to be used as an energy source at other production plants. Thanks to the Verbund system, an annual reduction in carbon emissions of around 3.5 million metric tons is realized. In addition, BASF is continuously investing in highly efficient energy generation technologies such as combined heat and power (CHP) plants. Through the use of these environmentally friendly CHP plants an additional annual reduction in carbon emission of around 2.7 million metric tons is realized.

Infrastructure Verbund

At our Verbund sites, we also benefit from shared use of on-site facilities such as the fire department, security, wastewater treatment and analytics.

Verbund cost advantages – breakdown

1	Logistics Verbund	60%
2	Energy Verbund	30%
3	Infrastructure Verbund	10%



Sustainability through the Verbund

The Verbund opens up ways of reducing emissions and waste and lowering 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, and the Logistics Verbund results in the equivalent of 280,000 fewer truck-loads.

Sustainability

Sustainability is an integral part of our corporate strategy. Using the various tools of our sustainability management, we carry out our company purpose: “We create chemistry for a sustainable future.” Sustainability is integrated into our core business, in line with our strategic principle “We drive sustainable solutions.” This is how we seize business opportunities and minimize risks along the value chain.

We have created structures to promote sustainable, entrepreneurial actions all the way from strategy to implementation. The Corporate Sustainability Board is BASF’s central steering committee for sustainable development. It comprises heads of our business, corporate and functional units as well as of the regions. The Chairman of the Corporate Sustainability Board is Michael Heinz, member of the Board of Executive Directors. We have also established an external, independent Stakeholder Advisory Council. Here, international experts from science and society contribute important external perspectives to discussions with BASF’s Board of Executive Directors, thereby helping us expand our strengths and identify our potential for improvement.

Through our materiality analysis, constant dialog with stakeholders, and our many years of experience, we are continuously developing a better understanding of significant topics and trends as well as potential opportunities and risks along our value chain.

We were already using a materiality analysis back in 2013 to identify such topics as energy and climate, water, resources and ecosystems, responsible production, and employment and employability. A strategic evaluation process built upon this in 2015 and 2016 to define new focus topics along the value chain. They provide strategic orientation for BASF’s commitments in meeting the growing challenges along the value chain:

- We source responsibly.
- We produce safely for people and the environment.
- We produce efficiently.
- We respect people and treat them fairly.
- We drive sustainable solutions.

We take advantage of business opportunities by offering our customers innovative products and solutions that contribute to sustainable development. We ensure that sustainability criteria are integrated into our business units’ development and implementation of strategies, research projects, and innovation processes. For example, we analyze sustainability-related market trends in customer industries, such as the packaging industry, in order to take advantage of new business opportunities in a targeted way.

Our risk management supports our long-term business success. We aim to reduce potential risks in the areas of environment, safety and security, health protection, product

stewardship, compliance, and labor and social standards by setting ourselves globally uniform requirements that frequently go beyond legal requirements.

Our investment decisions for property, plant and equipment and financial assets also involve sustainability criteria. Our decision-making is supported by expert appraisals that assess economic implications as well as potential effects on the environment, human rights or local communities.

Engaging stakeholders

Our stakeholders include customers, employees, suppliers and shareholders, as well as representatives from science, industry, politics, society and media. Parts of our business activities, such as the use of new technologies, are frequently viewed by our stakeholders with a critical eye. In order to increase societal acceptance for our business activities, we take on critical questions, assess our business activities in terms of their sustainability, and communicate transparently. Such dialogs help us to even better understand society’s expectations of us and which measures we need to pursue in order to establish trust and build partnerships.

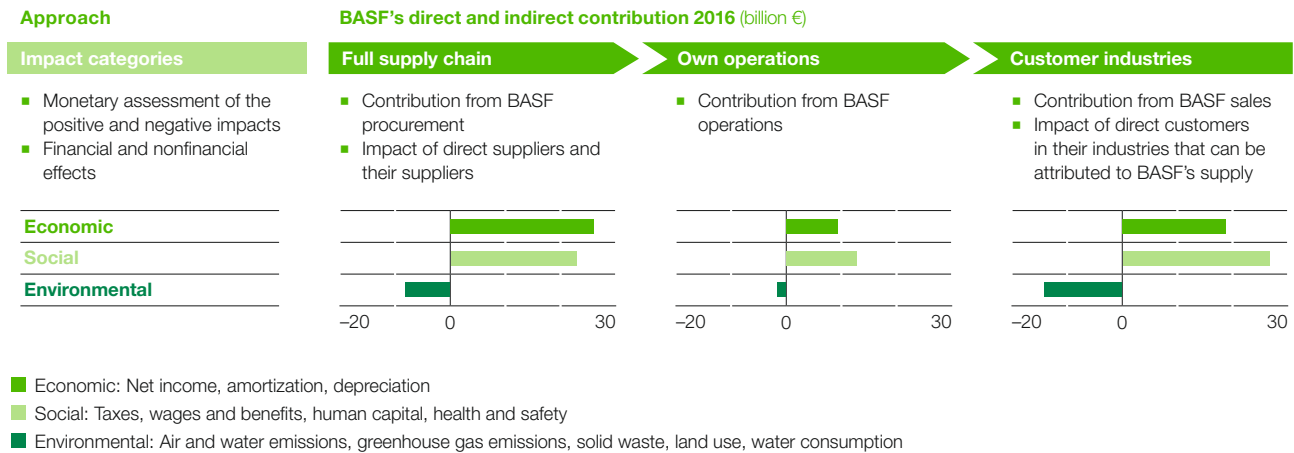
BASF is involved in worldwide initiatives with various stakeholder groups, such as the U.N. Global Compact. BASF’s Chairman of the Board of Executive Directors is a member of the United Nations Global Compact Board. As a member of the U.N. Global Compact LEAD initiative, we support the implementation of the “Agenda 2030” and its Sustainable Development Goals. BASF is also active in local Global Compact networks.

We are part of the Global Business Initiative on Human Rights (GBI). This group of globally operating companies from various industries aims to ensure implementation of the U.N. Guiding Principles on Business and Human Rights. With international experts at the GBI conference in South Africa, we discussed how we can support the mining company Lonmin, a BASF supplier, in fulfilling its responsibilities with respect to human rights.

Creating value along the value chain

In order to live up to BASF’s purpose “We create chemistry for a sustainable future,” we aim to increase our positive contribution to society and environment and to minimize the negative consequences of our business activities. Together with external experts, we have developed and implemented a method to evaluate our economic, social, and environmental

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



impacts along the value chain. To reflect our value contribution, we assess how our business activities change the health, well-being and life of people. The financial and nonfinancial benefits and costs we are generating and enabling along the value chain are expressed in monetary terms.

The results for 2016 demonstrate the positive and negative impacts of our business activities on society in each assessed step of our value chain. They show that the main impacts of our business activities take place at our business partners – in the supply chain and at our customers. The main drivers for changes over time are business growth and portfolio changes. This new Value-to-Society approach allows for the direct comparison of economic, social, and environmental impacts. It enables a better understanding of the relevance and interdependency of the assessed categories. The evaluation is used for our decision-making processes and supports the identification of business risks and opportunities. We are proactively sharing our approach with other companies in cross-industry networks and with international institutions, academia, and impact valuation experts in order to drive convergence processes, to operationalize the aligned concepts and to improve our understanding.

A significant lever for the targeted steering of our product portfolio, based on the sustainability performance of our products, is the **Sustainable Solution Steering®** method. By the end of the 2016 business year, BASF had conducted sustainability assessments and ratings for 95.9% of its entire relevant portfolio of more than 60,000 specific product applications – which account for €53.2 billion in sales. We 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 particular contribution to sustainability in the value chain. That is why we want to increase the proportion of sales from Accelerator products to 28% by 2020. In 2016, this figure was at 27.2%.

One of our Accelerator products for the agricultural sector is Limus®, an additive for urea-based fertilizers. Using purely urea-based fertilizers means the loss of a large portion of nitrogen – one of the most important crop nutrients – through the activity of the urease enzyme. Adding Limus® inhibits this enzyme and ensures a constant supply of nitrogen. At the same time, less ammonia is released into the atmosphere. Ammonia contributes to smog, as well as to overfertilization and alternation of the ecosystem. Limus® thus leads to more consistent harvest yields while protecting the environment.

2020 Goal

Increase proportion of sales generated by Accelerator products

to **28%**

For all products classified as “Challenged,” we aim to develop prompt plans of action, even in the case of portfolio revisions and product reassessments. These action plans can include research projects, reformulations or even replacing one product with an alternative product. At the end of 2016, action plans had been created for 100% of Challenged products.

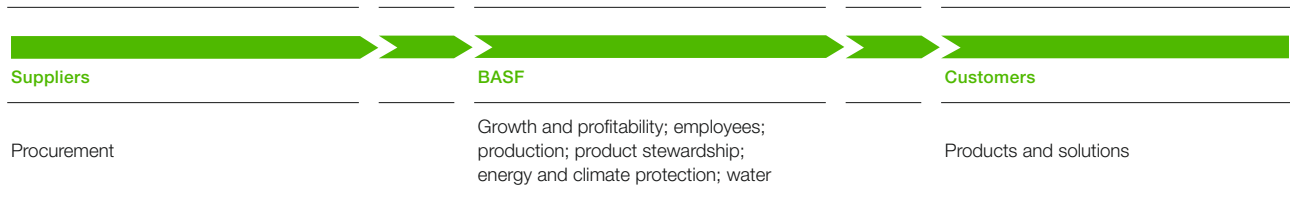
🔗 For an overview of Sustainable Solution Steering®, see page 27.

Goals

We carry out our corporate purpose, “We create chemistry for a sustainable future,” by pursuing ambitious goals along our entire value chain. In this way, we aim to achieve profitable growth

and take on social and environmental responsibility. We are focusing on issues through which we as a company can make a significant contribution.

Goal areas along the value chain



Procurement

	2020 Goal	Status at end of 2016
Assessment of sustainability performance of relevant suppliers ¹ according to our risk-based approach; development of action plans where improvement is necessary	70%	32%

¹ We define relevant suppliers as those showing an elevated sustainability risk potential as identified by risk matrices and with respect to corresponding country risks. Our suppliers are evaluated based on risk due to the size and scale of our supplier portfolio.

Employees

	2021 Goal	Status at end of 2016
Proportion of women in leadership positions with disciplinary responsibility	22 – 24%	19.8%
Long-term goals		
International representation among senior executives ¹	Increase in proportion of non-German senior executives (baseline 2003: 30%)	36.4%
Senior executives with international experience	Proportion over 80%	84.6%
Employee development	Systematic, global employee development as shared responsibility of employees and leaders based on relevant processes and tools	The project has been implemented for around 78,150 employees worldwide.

¹ The term “senior executives” refers to leadership levels 1 to 4, whereby level 1 denotes the Board of Executive Directors. In addition, individual employees can attain senior executive status by virtue of special expertise.

Production

	2025 Goals	Status at end of 2016
Reduction of worldwide lost-time injury rate per one million working hours	≤ 0.5	1.4
Reduction of worldwide process safety incidents per one million working hours	≤ 0.5	2.0
Annual goal		
Health Performance Index	> 0.9	0.96

Product stewardship

	2020 Goal	Status at end of 2016
Risk assessment of products that we sell in quantities of more than one metric ton per year worldwide	>99%	75.4%

Energy and climate protection

	2020 Goals	Status at end of 2016
Coverage of our primary energy demand by introducing certified energy management systems (ISO 50001) at all relevant sites ¹	90%	42.3%
Reduction of greenhouse gas emissions per metric ton of sales product (excluding Oil & Gas, baseline 2002)	(40%)	(37.2%)

¹ The selection of relevant sites is determined by the amount of primary energy used and local energy prices.

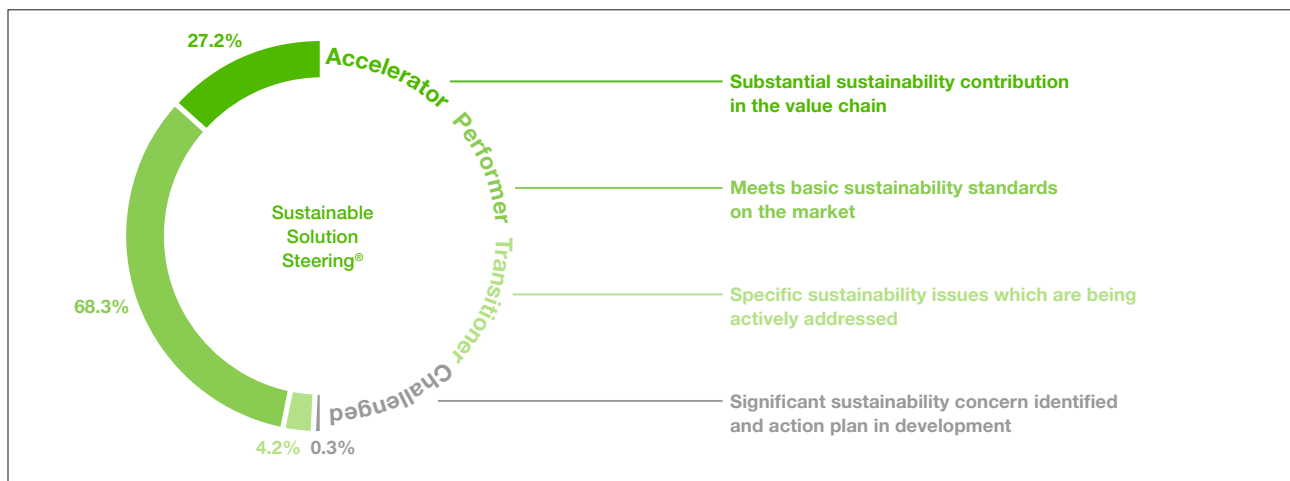
Water

	2025 Goal	Status at end of 2016
Introduction of sustainable water management at all production sites in water stress areas and at all Verbund sites (excluding Oil & Gas)	100%	42.6%

Products and solutions

	2020 Goal	Status at end of 2016
Increase the proportion of sales generated by products that make a particular contribution to sustainable development ("Accelerators")	28%	27.2%

Sustainable Solution Steering®: How BASF's products contribute to sustainability



For more on Sustainable Solution Steering®, see page 25.

2 Business segments

Business segments	30
Chemicals	32
Petrochemicals	34
Monomers	36
Intermediates	38
Performance Products	40
Dispersions & Pigments	44
Care Chemicals	46
Nutrition & Health	48
Performance Chemicals	50
Functional Materials & Solutions	52
Catalysts	54
Construction Chemicals	56
Coatings	58
Performance Materials	60
Agricultural Solutions	62
Crop Protection	64
Oil & Gas	66
Other	72

Chemicals



Performance Products



Functional Materials & Solutions



Agricultural Solutions



Oil & Gas



Key facts

- 5 segments comprising 13 operating divisions with 86 strategic business units
- Our portfolio ranges from basic petrochemicals to agricultural solutions for crop protection
- The divisions and strategic business units are organized according to sectors or product groups
- In over 70% of our businesses we are in a top three position
- The regional divisions contribute to the local development of our businesses and help to tap into market opportunities

Business segments

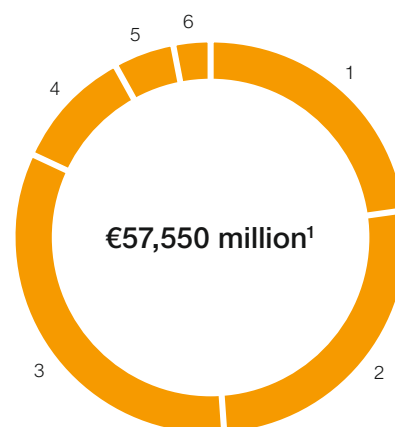
Our business portfolio is well balanced and offers strong growth opportunities. It consists of five segments with 13 operating divisions. Our segments are based on related products, customer industries and production processes. This enables us to more effectively combine our competencies and knowledge and bring our products and system solutions faster to the market.

BASF Group

Percentage of sales in 2016

1	Chemicals	<ul style="list-style-type: none"> - Petrochemicals - Monomers - Intermediates 	23%
2	Performance Products	<ul style="list-style-type: none"> - Dispersions & Pigments - Care Chemicals - Nutrition & Health - Performance Chemicals 	26%
3	Functional Materials & Solutions	<ul style="list-style-type: none"> - Catalysts - Construction Chemicals - Coatings - Performance Materials 	33%
4	Agricultural Solutions	<ul style="list-style-type: none"> - Crop Protection 	10%
5	Oil & Gas¹	<ul style="list-style-type: none"> - Oil & Gas 	5%
6	Other		3%

¹ As of September 30, 2015 we divested our natural gas trading and storage business to Gazprom.



EBIT before special items 2016

Chemicals

€2,064 million

Performance Products

€1,745 million

Functional Materials & Solutions

€1,946 million

Agricultural Solutions

€1,087 million

Oil & Gas

€517 million

Other

€(1,050) million

Chemicals

The Chemicals segment consists of the Petrochemicals, Monomers and Intermediates divisions. In our integrated production facilities – our Verbund – we produce a broad range of basic chemicals and intermediates in Europe, Asia and North and South America for our external and internal customers.



MDI Chongqing: The MDI (methylene diphenyl diisocyanate) plant in Chongqing serves the growing demand for polyurethane in China's western areas.

Divisions

Petrochemicals

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

📖 page 34

Monomers

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

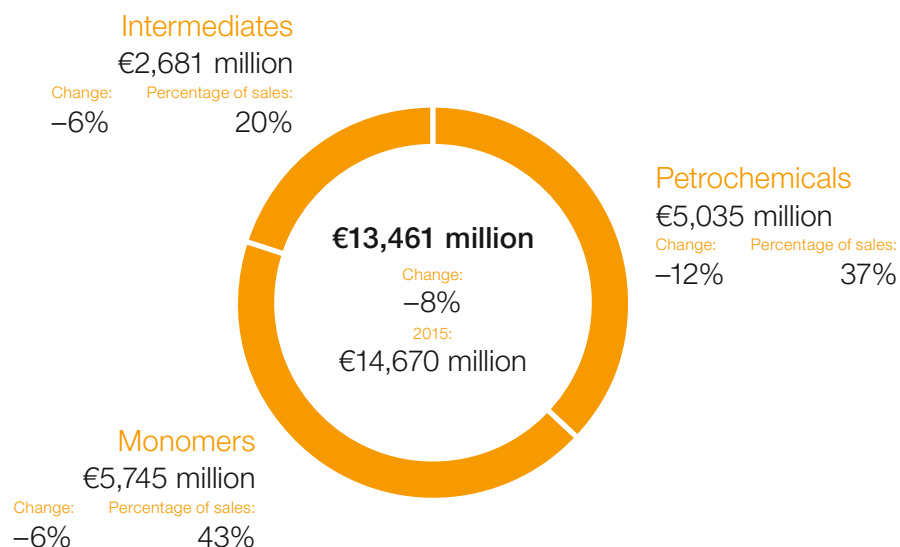
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Intermediates

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

📖 page 38

Sales 2016



Factors influencing sales

Volumes	3%	
Prices	(11%)	
Portfolio	0%	
Currencies	0%	
Sales	(8%)	

EBIT before special items (million €)

2016	2,064	
2015	2,156	

Change: minus €92 million

Segment data Chemicals (million €)

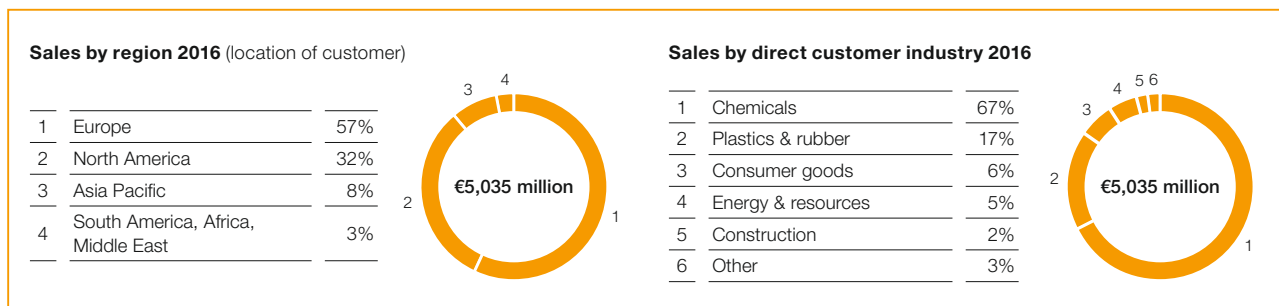
	2012 ¹	2013	2014	2015	2016
Sales to third parties	17,887	16,994	16,968	14,670	13,461
Share of total BASF sales	% 24.8	23.0	22.8	20.8	23.4
Thereof Petrochemicals	8,260	7,785	7,832	5,728	5,035
Monomers ²	6,772	6,385	6,337	6,093	5,745
Intermediates	2,855	2,824	2,799	2,849	2,681
Income from operations before depreciation and amortization (EBITDA)	3,021	2,956	3,212	3,090	3,169
EBITDA margin	% 16.9	17.4	18.9	21.1	23.5
Income from operations (EBIT) before special items	2,171	2,182	2,367	2,156	2,064
EBIT before special items margin	% 12.1	12.8	13.9	14.7	15.3
Income from operations (EBIT)	2,173	2,086	2,396	2,131	1,983
EBIT margin	% 12.1	12.3	14.1	14.5	14.7

¹ We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated. These restated prior year figures also take into account the new segment structure as of January 1, 2013.

² Until 2012 Inorganics

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. Of these, propylene is the most important starting product for BASF's value chains.

Acrylic monomers

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
- Coatings
- Surfactants
- Flocculants

Alkylene oxides and glycols

Ethylene oxide derived from ethylene is used mainly to produce surfactants, ethanolamines, glycols, glycol ethers and polyols. Ethylene glycol is a product used in antifreeze applications and for the production of fibers, films and PET (polyethylene terephthalate) plastic bottles. Propylene oxide is synthesized from propylene and serves as a base for a wide variety of products, including hydraulic fluids, propylene glycol and polyols. Polyols are used mainly for the production of polyurethanes.

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
- Cosmetics

Plasticizers

BASF manufactures general purpose and special purpose plasticizers, which are used to make rigid PVC flexible. One product is the plasticizer Hexamoll® DINCH, whose excellent toxicological profile makes it ideal for applications with close human contact such as toys and medical products. In 2017, BASF starts production of another toxicologically advantaged plasticizer, Palatino® DOTP, in Pasadena, Texas, to meet market demand in North America.

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
- Propylene oxide and propylene glycols: No. 3 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
- Propylene oxide and glycols: Dow, LyondellBasell, Shell Chemicals, Sumitomo Chemical
- Alcohols and solvents: Dow, Eastman, ExxonMobil Chemical, Oxea, Evonik, Sinopec
- Plasticizers: ExxonMobil Chemical, Eastman, Evonik

Focus of research and development

The focus is on developing new and improved processes by adapting and optimizing feedstocks to supply our Verbund value chains at competitive costs. One focus in product innovation lies on the development of specialty acrylates for specific customer needs.

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 2014 onward)

Product group	Description	Year
Ethylene, propylene	Feedstock flexibilization and steam cracker expansion in Port Arthur, Texas	2013–2014
Hexamol® DINCH	Second production plant in Ludwigshafen, Germany	2014
Butadiene	New butadiene extraction plant in Antwerp, Belgium	2014
Acrylic acid	New acrylic acid and butyl acrylate complex in Nanjing, China	2014
	New acrylic acid and butyl acrylate complex in Camaçari, Brazil	2015
Propylene oxide	Divestiture of shares in JV Ellba Eastern, Singapore	2014
Synthesis gas	Extension of hydrogen plant in Ludwigshafen, Germany	2015
Isononanol	New isononanol plant in Maoming, China	2015
Palatinol® DOTP	Conversion of plasticizer production in Pasadena, Texas, to DOTP	2017

Major nameplate capacities of BASF (thousand metric tons per year)

Product group	Location												Total
	Antwerp, Belgium	Camaçari, Brazil	Cornwall, Canada	Freeport, Texas	Geismar, Louisiana	Kuantan, Malaysia	Ludwigshafen, Germany	Moerdijk, Netherlands	Nanjing, China	Pasadena, Texas ⁷	Port Arthur, Texas	Tarragona, Spain	
Ethylene	1,080	–	–	–	–	–	620	–	740 ¹	–	1,040 ⁶	–	3,480
Propylene	650	–	–	–	–	–	350	–	370 ¹	–	890 ⁶	350 ³	2,610
Propylene oxide	300 ⁴	–	–	–	–	–	125	250 ⁵	–	–	–	–	675
Butadiene	155	–	–	–	–	–	105	–	130 ¹	–	290 ⁶	–	680
Benzene	280	–	–	–	–	–	300	–	130 ¹	–	200 ⁶	–	910
Cyclohexane	–	–	–	–	–	–	130	–	–	–	–	–	130
Ethylene oxide (equivalents)	500	–	–	–	220	–	345	–	380 ¹	–	–	–	1,445
Oxo C4 alcohols	–	–	–	300	–	330 ²	560	–	305 ¹	–	–	–	1,495
Plasticizers (incl. Hexamol® DINCH)	–	–	35	–	–	–	500	–	–	–	–	–	535
Acrylic acid	320	160	–	230	–	160 ²	320	–	320 ¹	–	–	–	1,510

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

¹ BASF 50%; Sinopec 50%

² BASF 60%; PETRONAS 40%

³ BASF 51%; Sonatrach 49%

⁴ BASF 50%; Dow 50%

⁵ BASF 50%; Shell 50%

⁶ BASF 60%; Total 40%

⁷ Conversion of plasticizer production to DOTP in 2017

Innovation

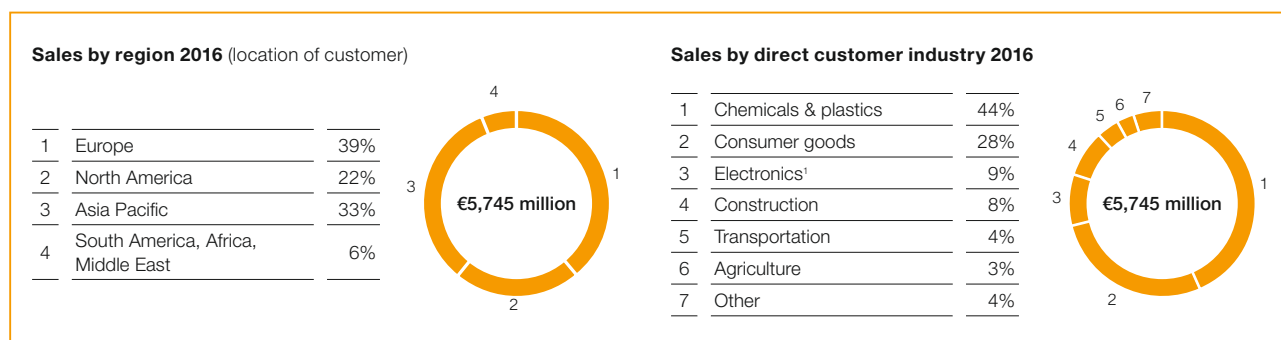


Improved plant performance with predictive maintenance

In our steam cracker in Ludwigshafen, we use a model-based analysis of data to better predict the optimal point in time for maintenance measures, reducing unscheduled repairs and shutdowns. In 2016, we began implementing predictive maintenance applications that use state-of-the-art information and automation technology, including several thousand sensors that track process data, such as pressure and temperature.

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), 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 can be found in a broad spectrum of industries, such as the automotive, furniture, building and construction, woodworking, food, solar, packaging and textile industries.



¹ Effective January 1, 2017, the Monomers and Dispersions & Pigments divisions' activities for the electronics industry were combined into the global electronic materials business unit and allocated to the Dispersions & Pigments division in the Performance Products segment.

Portfolio

Isocyanates

The portfolio of isocyanates includes 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.

Polyamides and precursors

BASF is the world's leading supplier of high-quality polyamides and polyamide intermediates for extrusion, engineering plastics and fibers. Ultramid®, BASF's high-quality polyamide brand, is the material of choice for many applications:

- Films for food packaging
- Carpets and textiles
- Monofilaments (industrial wires, fishing lines, weed trimmers, etc.)

BASF also manufactures intermediate products such as caprolactam for polyamide 6 and adipic acid for polyamide 6.6.

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, textile 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_x 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, Zig Sheng
- 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

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Ammonia	New world-scale ammonia plant in Freeport, Texas, JV with Yara	2017
Polyamide and intermediates	Startup of polyamide plant in Caojing, China	2015
MDI	New MDI splitter in Dahej, India	2014
	New MDI complex in Chongqing, China	2015
	Expansion of MDI JV in Caojing, China	2017
TDI and precursors	New world-scale TDI plant in Ludwigshafen, Germany, including expanded backward integration into chlorine and nitric acid	2015–2017

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Polyamide	Shutdown of Anchieta site, Brazil	2015
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	1,525
Caustic soda	360
Chlorine	385
Glues and impregnating resins	750
Sulfuric acid	920
Urea	545
Caprolactam	700
Polyamide	820
MDI	1,940 ¹
TDI	780 ²

¹ Includes capacity expansion at Shanghai Lianheng Isocyanate Co. Ltd. (SLIC), Caojing, China

² Includes startup of Ludwigshafen and shutdown of Schwarzheide plant in Germany

Innovation

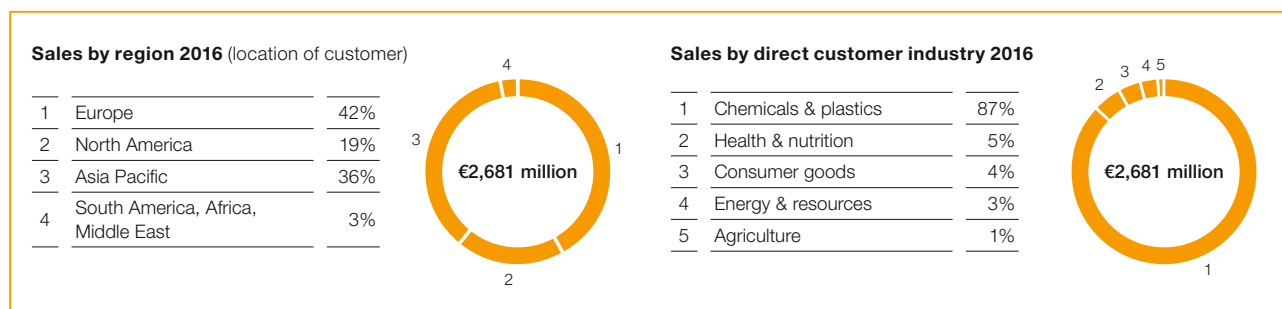


New copolyamide creates new opportunities

Ultramid® Flex F38L is an entirely new, partly bio-based copolyamide. The softness and extremely high transparency allows manufacturers to use this polyamide for extra flexible food packaging even at low temperatures.

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 multi-step 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), Poly-THF®, 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 an expanding 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.

Acids and polyalcohols

BASF is the world's leading manufacturer of 1,6-hexanediol, neopentylglycol as well as 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 as well as de-icing agents. This portfolio also includes 2-ethylhexanoic acid.

We offer polyalcohols such as 1,6-hexanediol and neopentylglycol (Neol®), mainly for the production of a wide range of coatings, and carbonates, particularly for electrolyte production for the battery industry.

Acetylenics and carbonyl derivatives

BASF's specialties such as acid chlorides and chloroformates, glyoxal and its derivatives, and various other chemicals, such as glutaraldehyde and triphenylphosphine, are often used in the production of crop protection agents, polymers, pharmaceuticals and paper. Our specialties portfolio includes various specialty acetylenics such as vinyl monomers and higher alkylypyrrolidones. Further products in the portfolio are cyclododecanone (CDon) and imidazoles. The products are used in a wide range of applications such as crop protection agents, polymers, pharmaceuticals, coatings and printing inks.

Intermediates innovation pipeline

The Intermediates division follows a clear innovation strategy, which is key for all product lines to further grow the businesses and improve profitability. Its total innovation pipeline has an estimated net present value of approximately €700 million (not risk adjusted, 2017 view). The focus of the strategy is based on three pillars:

- **New and improved processes:** The target is to remain best in class with regard to production and process economics. Therefore, we are continuously benchmarking our production processes, resulting in various improvements. One recent example is the production of polytetrahydrofuran (PolyTHF®), where we were able to achieve higher production quantities and further improved quality.
- **New applications:** We look for new applications for existing products, such as flue gas desulfurization with formic acid. Compared to standard technologies, the environmentally friendly and biodegradable formic acid increases sulfur dioxide separation from waste gas by 8%, while lowering the environmental impact with regard to wastewater load and chemical oxygen demand.

- **New products:** We develop new products, such as butanediol (BDO) and its derivative PolyTHF® based on renewable feedstock. Bio-based BDO and PolyTHF® are used, among other things, in the production of elastic spandex fibers for a large variety of textiles, including underwear, outerwear, sportswear and swimsuits. Other application fields are thermoplastic polyurethanes (TPU), which are used to make hoses, films and cable sheathing.

BASF's market position

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

Main competitors

- Amines: Dow, Eastman, Huntsman
- Butanediol and derivatives: Ashland, LyondellBasell, Changchun/Dairen
- Acids and polyalcohols: Eastman, Perstorp, Luxi, LG Chem

Focus of research and development

Innovation focuses on process improvements as well as new product and process developments built on value chain integration while leveraging our broad technological strengths and close customer partnerships.

Key capabilities of BASF

- Strong global market position with regional production
- Strong Verbund sites with backward integration
- Leading process technology
- Highly qualified and experienced personnel
- Strong innovation pipeline

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Formic acid	New plant in Geismar, Louisiana	2015
1,6-hexanediol	Capacity expansion in Freeport, Texas, and Ludwigshafen, Germany	2015–2016
Neopentylglycol (NPG)	New plant in Nanjing, China (50% BASF)	2015
Dimethylaminopropylamine, polyetheramines	New plant in Nanjing, China (100% BASF)	2015
Specialty amines	New plant in Ludwigshafen, Germany	2015
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

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Glyoxal	Closure at Geismar, Louisiana	2014
Phosphines	Closure at Zachary, Louisiana	2014
Inorganic specialties	Divestiture incl. site in Evans City, Pennsylvania	2017

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

Innovation



Synvina innovates for improved packaging applications

In 2016, BASF and Avantium established the joint venture Synvina for furandicarboxylic acid (FDCA) from renewable resources. The major use of FDCA is the production of the polymer polyethylenfuranoate (PEF). The bioplastic PEF is aimed at the food and beverage packaging market. Compared to conventional plastics, it demonstrates higher barrier properties for gases like carbon dioxide and oxygen, leading to longer shelf life for packaged goods.

Performance Products

The Performance Products segment consists of the Dispersions & Pigments, Care Chemicals, Nutrition & Health and Performance Chemicals divisions. Our solutions enhance the performance of industrial and consumer products worldwide. With our customized products, our customers can make their production processes more efficient and give their products improved application properties.



Lupro-Mix® NA: Drinking water is an indispensable nutrient and often overlooked. Lupro-Mix® NA from BASF stops growth of pathogenic microorganisms by lowering water pH and disrupting their metabolism. This also prevents biofilm buildup in water pipes and keeps pipes and drinking nipples clean. Lupro-Mix® NA does not leave residues. It is easy to apply, low cost and minimally corrosive.

Divisions

Dispersions & Pigments

Raw materials for the formulation of varnishes, coatings, printing and packaging inks, electronic materials, adhesives and construction materials

📖 page 44

Care Chemicals

Ingredients for hygiene, personal care, home care and industrial & institutional cleaning businesses as well as for applications in the chemical industry

📖 page 46

Nutrition & Health

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

📖 page 48

Performance Chemicals

Customized products for many sectors, from mining and the fuel industry to plastic processing

📖 page 50

Sales 2016

Performance Chemicals

€3,805 million

Change: -8%
Percentage of sales: 25%

Dispersions & Pigments

€4,530 million

Change: -2%
Percentage of sales: 30%

€15,002 million

Change:
-4%2015:
€15,648 million

Nutrition & Health

€1,932 million

Change: -3%
Percentage of sales: 13%

Care Chemicals

€4,735 million

Change: -3%
Percentage of sales: 32%

Factors influencing sales

Volumes	1%		
Prices	(2%)		
Portfolio	(2%)		
Currencies	(1%)		
Sales	(4%)		

EBIT before special items (million €)

2016	1,745	
2015	1,366	
		Change: plus €379 million

Segment data Performance Products (million €)

	2012 ¹	2013	2014	2015	2016
Sales to third parties	15,713	15,534	15,433	15,648	15,002
Share of total BASF sales	% 21.8	21.0	20.8	22.2	26.1
Thereof Dispersions & Pigments	3,668	3,851 ²	3,869	4,629	4,530
Care Chemicals	4,898	4,871	4,835	4,900	4,735
Nutrition & Health	1,959	2,088	2,029	1,998	1,932
Paper Chemicals ³	1,564	1,442	1,371	-	-
Performance Chemicals	3,624	3,282 ²	3,329	4,121	3,805
Income from operations before depreciation and amortization (EBITDA)	2,090	1,987	2,232	2,289	2,522
EBITDA margin	% 13.3	12.8	14.5	14.6	16.8
Income from operations (EBIT) before special items	1,421	1,365	1,455	1,366	1,745
EBIT before special items margin	% 9.0	8.8	9.4	8.7	11.6
Income from operations (EBIT)	1,276	1,100	1,417	1,340	1,648
EBIT margin	% 8.1	7.1	9.2	8.6	11.0

¹ We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated.

² Previously conducted in the Performance Chemicals division, our business with pigments in the plastic additives business area was allocated to the Dispersions & Pigments division at the beginning of 2014. The 2013 figures for both divisions have been adjusted to ensure better comparability.

³ The Paper Chemicals division was dissolved as of January 1, 2015. The business continues as part of the Performance Chemicals and Dispersions & Pigments divisions, and is integrated into existing value chains. Restated 2014 net sales to third parties for Dispersions & Pigments and Performance Chemicals account for €4,501 million and €4,068 million, respectively.

Restructuring Performance Products

Improving competitiveness through value-adding measures

Implemented measures



Adjustment & Adaptation

- Different approach for standard and specialty products
- Focus on growth countries and customer segments
- Headcount reduction



Process & Organizational Setup

- Adjustment of organization to new business models
- Optimization of production network
- End-to-end margin management of value chains



Portfolio Management

- Divestiture of non-strategic businesses
- Optimization and streamlining of product portfolio
- Distribution management



Investments & Innovation

- Organic growth and capital expenditures
- Selected acquisitions in growth fields
- Strong commitment to innovation and R&D

Dispersions & Pigments

Restructuring:

- New global business unit for pigments established. Transfer of global pigments business into separate legal entities
- Integration of paper chemicals business
- Closure of production plants in Paisley, Scotland; Qingdao, China, and restructuring in Huningue, France
- Divestiture of global photoinitiator business to IGM Resins and focus on resins and additive technologies for radiation-curing market

Growth:

- Continuous investment of more than €200 million p.a. in production assets and R&D
- Strong investment into R&D for electronics specialties
- Startup and expansion of additives plants (Nanjing, China), resins (Caojing, China) and dispersions (e.g., Dahej, India; Freeport, Texas; Pasir Gudang, Malaysia)
- Acquisition of Rolic AG, a specialist in light management for advanced LCD/OLED displays
- Combination of electronic materials businesses from Monomers and Dispersions & Pigments divisions

Care Chemicals

Restructuring:

- Optimization and restructuring of sites
- Headcount reduction in Europe and North America, adjusting cost structure
- Realignment of business models and processes

Growth:

- Acquisition of Henkel's enzyme technology
- Strong investment in R&D
- Startup of plants for SAP, Trilon® M and surfactants (Nanjing, China; Camaçari, Brazil; Theodore, Alabama; Dahej, India)
- Investment in superabsorbent technology SAVIVA®

One-time costs

€250–300 million

Runrate of

> €400 million

by end of 2016

Annual earnings contribution of

~ €500 million

from 2017 onwards

Nutrition & Health

Restructuring:

- Divestiture of custom synthesis business and parts of the active pharmaceutical ingredients (API) business
- Divestiture of low concentrated omega-3 fatty acids at Brattvåg site in Norway
- Temporary shutdown of omega-3 fatty acids production site in Kalundborg, Denmark, and relocation of production to Sandefjord, Norway
- Site network consolidation
- Adjustment of product portfolio and processes to changing consumer needs and regional demand
- Reduction of headcount in marketing, sales and administration
- Stringent fixed cost management and improved capacity utilization

Growth:

- Enzymes: acquisitions (e.g., Verenium) and investment in R&D
- Omega-3 fatty acids: acquisition of Equateq and Pronova BioPharma ASA for highly concentrated omega-3 fatty acids
- New menthol plant in Ludwigshafen, Germany
- New integrated aroma ingredients complex in Kuantan, Malaysia
- Investment in the expansion of polyvinylpyrrolidone (PVP)
- Global team for marketing and innovation to accelerate creation of customer-oriented products and solutions

Paper Chemicals

Restructuring:

- The Paper Chemicals division was dissolved as of January 1, 2015. The business continues as part of the Performance Chemicals and Dispersions & Pigments divisions, and is integrated into existing value chains

Performance Chemicals

Restructuring:

- BASF and Stahl have signed an agreement to combine BASF's leather chemicals business with the Stahl Group
- Divestiture of global textile chemicals business
- Divestiture of paper hydrous kaolin business
- Integration of paper chemicals business (wet-end chemicals and kaolin)
- Divestiture of the PolyAd services business
- Consolidation of production footprint, e.g., for lubricant oil additives (Huningue, France, and Lampertheim, Germany)

Growth:

- New bio-acrylamide process for the PAM value chain
- R&D projects for enhanced oil recovery
- Expansion of production capacity for LIX® product range (for enhanced metal extraction in mining) in Cork, Ireland

Organic growth and capital expenditures

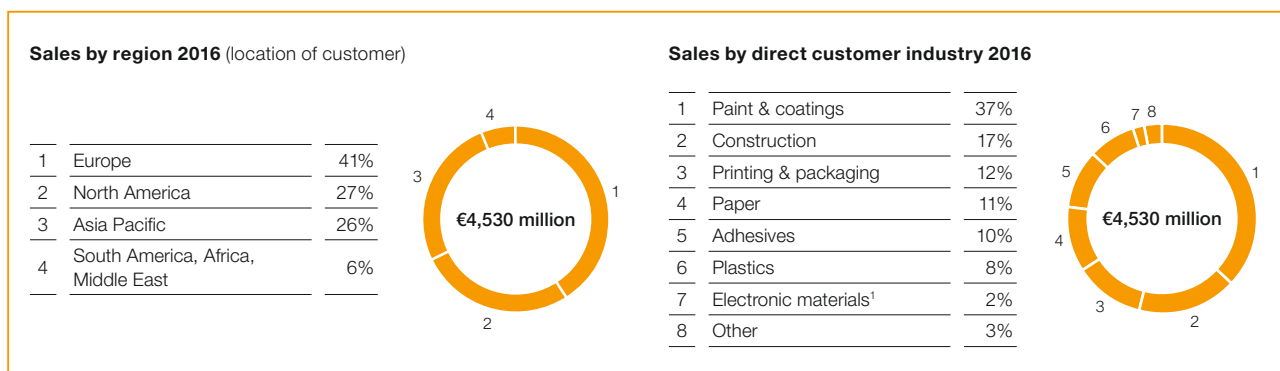
- New production hub in Dahej, India
- New dispersion plants in Freeport, Texas, and Pasir Gudang, Malaysia
- New production capacities for superabsorbents in Camaçari, Brazil
- New Trilon® M plant in Theodore, Alabama
- New aroma ingredients complex in Kuantan, Malaysia

Investments in the future

- Innovations and R&D, e.g., investment in pioneering superabsorbent technology SAVIVA®, expansion of our enzymes technology platform
- Selected acquisitions in growth fields, e.g., electronic materials (Rolic AG), omega-3 fatty acids (Pronova BioPharma ASA) and enzymes (Verenium)

Dispersions & Pigments

BASF is the leading global supplier of raw materials for the paints and coatings industry. The Dispersions & Pigments division combines all BASF products geared towards this industry. The portfolio encompasses dispersions, pigments, resins and a broad range of additives, such as performance and formulation additives and electronic materials. Major industries that we serve include paint and coatings, construction, printing and packaging, paper, adhesives, plastics and electronic specialties. Our portfolio has a strong emphasis on environmentally friendly systems, such as low-VOC (volatile organic compound) water-based coatings.



¹ Effective January 1, 2017, the Monomers and Dispersions & Pigments divisions' activities for the electronics industry were combined into the global electronic materials business unit and allocated to the Dispersions & Pigments division in the Performance Products segment.

Portfolio

Dispersions

Polymer dispersions are water-based systems used in the production of adhesives, sealants, architectural coatings, paper coatings, construction chemicals and nonwoven 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.

Resins

Resins are film-forming components used in energy-curable coatings, urethane or melamine and 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. We offer our customers solutions that fulfill regulatory requirements regarding VOC.

Additives

BASF offers a broad range of additives that significantly improve the quality and performance of many paints and coatings. BASF is the market leader for performance addi-

tives, particularly in light stabilizers. Light stabilizers protect polymers against ultraviolet light and its negative effects. Formulation additives provide a broad technology base of dispersing agents, wetting agents and surface modifiers, defoamers, rheology modifiers and film-forming agents. Our unique portfolio 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, photovoltaics, lighting, and metal systems. Its portfolio includes ultra-pure process chemicals, advanced materials for semiconductor manufacturing, high-end formulations for displays, and Catamold® and carbon iron powder for metal systems. It provides reliable services and innovative solutions to its customers in the fast-paced electronics industry.

BASF's market position

- Dispersions: No. 2 globally for adhesives, construction chemicals, architectural coatings, paper coatings and fiber bonding materials
- Pigments: No. 1 globally, broadest portfolio of colors and effect pigments
- Resins: No. 1 globally in water-based resins for printing and packaging
- Additives: No. 1 globally in light stabilizers; broad portfolio of formulation additives
- Electronic materials: leading market position in Asia and Europe

Main competitors

- Dispersions: Dow, Celanese, Arkema
- Pigments: Clariant, DIC, ALTANA, Chinese and Indian companies
- Resins: Covestro, Allnex, DSM, Arkema
- Additives: ALTANA, Evonik, Elementis
- Electronic materials: Dow, Entegris

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. For electronic materials, the focus is on developing innovation solutions for the semiconductor and display industries.

Key capabilities of BASF

- Leading technology and cost position enable consistent product quality, reliability and competitiveness
- Comprehensive portfolio of raw materials for coatings, printing & 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

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Dispersions	New plant in Dahej, India	2014
	New plant in Freeport, Texas	2014
	New plant in Pasir Gudang, Malaysia	2015
Pigments	Capacity expansion in Ludwigshafen, Germany	2016
	Capacity expansion in Besigheim, Germany	2017
	Capacity expansion in Caojing, China	2014
Resins	Capacity expansion in Ludwigshafen, Germany	2016
	Capacity expansion in Ludwigshafen, Germany	2017
	Capacity expansion in Caojing, China	2014
Additives	New plant in Nanjing, China	2014
Electronic materials	Acquisition of Rolic AG, Allschwil, Switzerland	2017

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Pigments	Closure of plant in Paisley, Scotland	2015
	Restructuring of the Huningue site, France	2015
	Closure of plant in Kankakee, Illinois	2016
Additives	Divestiture of the photoinitiator business	2016
Liquid masterbatches	Divestiture of liquid masterbatch business	2014
PVC modifiers	Divestiture of the Vinuran PVC modifier business	2014
Masterbatch for synthetic fibers	Divestiture of magenta master fibers business	2015

Major production sites

BASF's dispersions, pigments, resins, additives and electronic materials are produced at 47 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 and Besigheim, Germany; Monthey, Switzerland; Newport, Delaware; Ulsan, South Korea
Resins	Ludwigshafen, Germany; Shanghai, China
Additives	Heerenveen, Netherlands; Schweizerhalle, Switzerland; Nanjing, China
Electronic materials	Ludwigshafen, Germany; Singapore; Taichung and Kuan Yin, Taiwan; Shanghai, China

Innovation

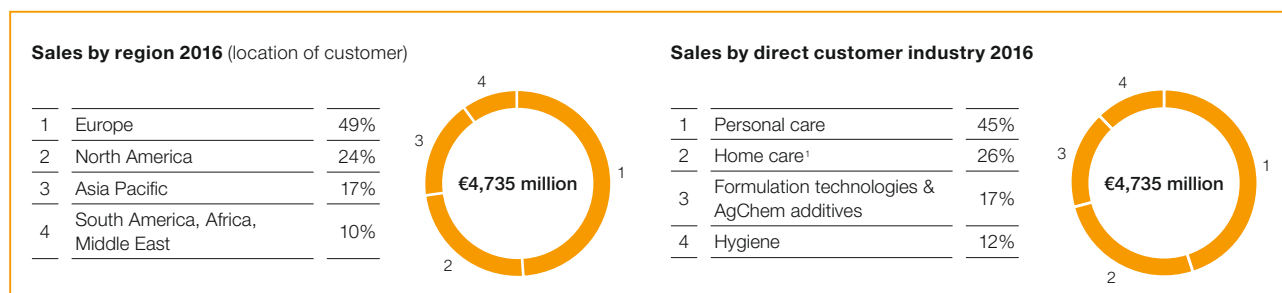


LED phosphor film for the lighting industry

The LED phosphor film developed by BASF offers an answer to one of the most prolific issues in today's advanced artificial lighting solutions: minimizing the blue light emission from LED lights that is known to have adverse health effects. The film converts the blue wavelengths into a full-spectrum natural light form that is easier on the eyes, while taking advantage of the energy efficiency of LED. The technology is integrated in the standard LED devices such as light bulbs and tubes, and is an innovative solution to sustainable lighting.

Care Chemicals

BASF's Care Chemicals division is the leading global supplier for producers of cosmetics, hygiene products, detergents and cleaners. Together with our customers, we create innovative solutions to meet the current and future needs of society more sustainably in the personal care, hygiene, home care and industrial & institutional cleaning industries, as well as in technical applications. 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.



¹ Includes industrial & institutional cleaning

Portfolio

Personal care

We offer high-quality, added-value ingredients for the personal care industry. Our focus on consumer trends, sustainable development taking into consideration the entire value chain, specific industry requirements, and our ability to innovate and bring new products rapidly to market contribute strongly to the success of our customers. 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 brand, Care Creations™, which clearly expresses our strengths of scientific excellence and market knowledge – making BASF's personal care business a valued partner for the industry.

Hygiene

We supply innovations and pioneering hygiene solutions all over the world that contribute to sustainable development. One example is our new generation of highly innovative superabsorbent polymers (SAP) SAVIVA®. Superabsorbents are used in various hygiene applications, such as diapers, adult incontinence products and feminine hygiene articles. With our global network of research, production and service sites, 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.

Home care and industrial & institutional cleaning

We develop, produce and market a wide range of products for detergents and cleaning solutions worldwide. As the inno-

vation 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 sets us apart from competition and makes us the partner of choice for formulators of efficient, convenient, sustainable and safe-to-use detergents and other cleaning products. Our portfolio, which is constantly being further developed, includes surfactants, enzymes, polymers, chelating agents, biocides, optical effect products, stabilizers and methane sulfonic acid.

Industrial solutions¹

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. While leveraging product and technology synergies with our home care and I&I cleaning business, we apply our deep understanding of the physical-chemical properties and the synergistic combination of our products to develop industry and customer-specific solutions. Our product portfolio includes surfactants (anionic and nonionic), reactive polyalkylene glycols, water-soluble polymers, chelating agents, biocides, waxes and wax emulsions, methane sulfonic acid and silicates. In addition, we market an extensive portfolio of performance enhancers to crop protection and plant nutrition specialists. Our offering for the pesticide inerts and adjuvants segments includes adjuvant dispersants, wetting agents, emulsifiers, solvents, and compatibilizers enabling our customers to develop stable, efficient and safe-to-use formulations. Our range of micronutrients provides excellent choices for the production of highly bioavailable metal nutrients for crops.

¹ Effective April 1, 2017, formulation technologies and AgChem additives operate under the name industrial solutions

BASF's market position

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

Main competitors

- Personal care: Ashland, Croda, Stepan, Evonik, Solvay, Sasol
- Hygiene: Evonik, Nippon Shokubai, SanDia
- Home care, industrial & institutional cleaning: Dow, AkzoNobel, Clariant
- Formulation technologies & AgChem additives: Dow, Clariant, Arkema, Rhodia, Huntsman

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. Concerning our core technologies, process innovation is targeting 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

- Solid understanding of unmet 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

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Surfactants	New plant in Dahej, India	2014
Superabsorbents	New plant in Nanjing, China	2014
	New plant in Camaçari, Brazil	2015
	New superabsorbent technology SAVIVA®; implementation starting in Antwerp, Belgium	2017
Chelating agents	New plant for chelating agent Trilon® M in Theodore, Alabama	2015

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Surfactants	Plant closure Avellaneda, Argentina	2015
	Transfer of production of surfactants and other products manufactured in Washington, New Jersey, to Geismar, Louisiana; closure Washington site	2017
	Divestiture of oleochemical surfactants business in Mexico, including production site in Ecatepec, Mexico	2017

Major nameplate capacities of BASF

(thousand metric tons per year)

Product group	Location	Capacity ¹
Chelating agents	Europe, North America, South America	170
Methane sulfonic acid	Europe	30
Non-ionic surfactants	Europe, North America, Asia Pacific	630
Anionic surfactants	Europe, North America, South America, Asia Pacific	600
Superabsorbents	Europe, North America, South America, Asia Pacific	590

¹ All capacities (including joint ventures) included at 100%.

Innovation

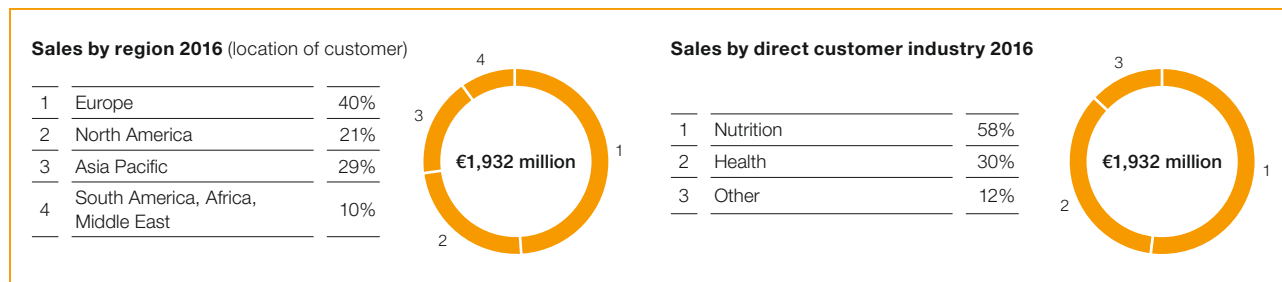


Nutralan® Keratin LM and Gluadin® Kera-P LM

BASF's new low molecular weight proteins Nutrilan® Keratin LM and Gluadin® Kera-P LM penetrate through the hair cuticle deep into the cortex. This is where they help rebuild the hair with missing protein building blocks and contribute to stress relief. With an amino acid spectrum very similar to that of keratins of animal origin, they offer an alternative to conventional keratins in shampoos.

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

Human nutrition

Newtrition® is BASF's dedicated health solutions brand. Our vision is to provide the right nutrients to the right people at the right time. Our premium health ingredients are based on the most solid scientific foundations and contribute to a long, healthy and active life. Our ingredients are used in several dietary supplement applications as well as various industries such as infant, medical and functional nutrition. We offer health ingredients such as:

- High-concentrated omega-3 fatty acids
- Plant sterols and sterol esters
- Vitamins
- Carotenoids

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

- Emulsifiers
- Specialty compounds
- Enzymes
- Filtration aids

Our Newtrition® experts support our customers from consultation to implementation, enabling them to react quickly to changes in the market. Our Newtrition® Labs around the world combine global expert knowledge with a deep understanding of local needs, preferences and habits. In addition, we offer our customers and partners technical application service and development as well as tailor-made training in our Newtrition® Labs.

Animal nutrition

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

- Vitamins
- Carotenoids
- Enzymes

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

High-quality feed additives, pioneering innovations and a global presence close to our customers have made BASF a leader in the animal nutrition industry. In 2016, BASF globally launched Natuphos® E, a new generation phytase, which once again sets a benchmark with its novel hybrid 6-phytase of bacterial origin. Natuphos® E delivers unprecedented overall enzyme stability, leading to outstanding economic and environmental benefits. In addition to its innovative performance ingredients with proven efficiency gains, BASF animal nutrition offers a high-quality vitamin portfolio.

Pharma solutions

BASF has been offering intelligent solutions to the pharmaceutical industry for more than 75 years. With expertise in polymer chemistry, its research and development capabilities around the globe and a clear commitment to developing pharmaceutical excipients (e.g., PVP value chain), BASF continuously creates solutions that contribute to our customers' success. BASF's high-quality ingredients and services support customers' formulation requirements with instant and modified release, solubilization, softgels, skin delivery and biologics-related formulation challenges. BASF is also the market leader for active pharmaceutical ingredients (APIs) such as:

- Ibuprofen
- Omega-3 fatty acids

Aroma ingredients

BASF offers a wide variety of aroma ingredients, such as geraniol, citronellol and linalool, which are part of our citral value chain. In 2012, we enhanced this value chain by starting up the manufacturing of L-menthol in Ludwigshafen. In 2017, an integrated aroma ingredients complex in Kuantan, Malaysia, will come on stream, strengthening our position as

a leading supplier of aroma ingredients. With a portfolio of floral, mint and citrus scents, our aroma ingredients are sold to the flavor and fragrance industry, finding their use mainly in home and personal care products and fine fragrances as well as in the food industry. BASF is one of the leading producers of aroma ingredients such as:

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

Sustainability

SET – applied sustainability™ is a unique sustainability concept, designed as a value-adding partnership program. It makes sustainability measurable and helps companies in the nutrition and health industry to increase the sustainability of their products and brands.

BASF's market position

Globally among the top three leaders in all important product groups.

Main competitors

- Human nutrition: DSM, DuPont, Chinese companies
- Animal nutrition: Chinese companies, DSM, DuPont
- Pharma solutions: Evonik, Ashland, KD Pharma, Shasun
- Aroma ingredients: DSM, NHU, Symrise, IFF

Focus of research and development

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

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 2014 onward)

Product group	Description	Year
Aroma ingredients	Integrated citral and aroma ingredients complex in Kuantan, Malaysia	2016–2017
Pharma solutions and human nutrition	Expansion of PVP value chain/extension of capacities in Ludwigshafen, Germany; Shanghai, China; Geismar, Louisiana	2016–2019

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Human nutrition	Divestiture of former sterols manufacturing site in Pasadena, Texas	2016
Pharma solutions	Divestiture of low concentrated omega-3 Brattvåg site in Norway	2014
	Divestiture of custom synthesis and parts of its active pharmaceutical ingredients (API) business	2015

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

Innovation

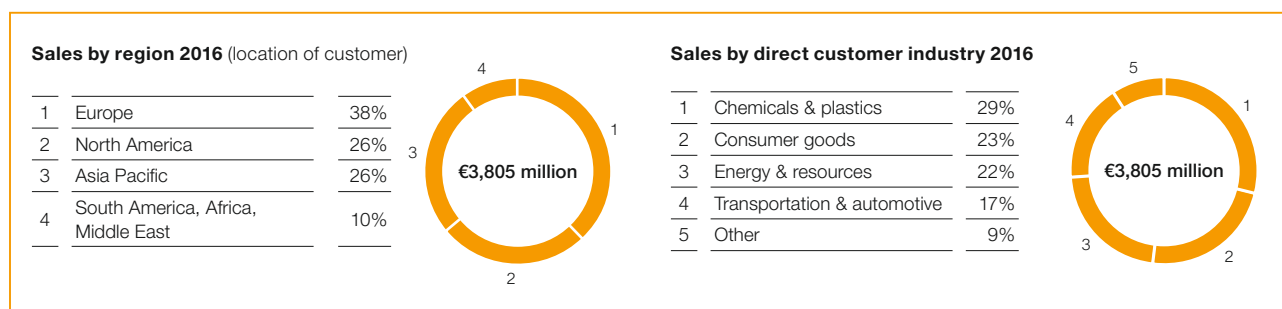


Accelerating omega-3 absorption

BASF's new omega-3 absorption accelerating technology is a breakthrough for the omega-3 nutritional supplement category. The beneficial effects were proven in independent, randomized clinical trials, which showed up to four times better absorption of omega-3 compared to a standard high ethyl-ester concentrate. This technology addresses the challenge of omega-3 not being well absorbed without high-fat food.

Performance Chemicals

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



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, compounded lubricants
- Low, medium and high molecular weight polyisobutene (PIB)

Paper and water chemicals

For the paper industry, we offer a comprehensive range of chemicals for innovative paper and packaging concepts. This comprises:

- Retention & drainage aids
- Dry and wet strength agents, fixing agents
- Water management, flocculants and coagulants
- Basic and direct dyes, pigment preparations
- Color developers for thermal paper

In the water industry, our products are used in the key processes of industrial and municipal water treatment. The main fields of application are:

- Purification of raw water for drinking water production
- Treatment of wastewater and industrial process water
- Protection of desalination plants, cooling towers and boilers

For a variety of applications like architectural and industrial coatings, construction, rubbers and plastics, BASF offers kaolin, an aluminum silicate.

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, we offer an extensive range of mineral processing reagents. The strengths of the business are in solid/liquid separation and solvent extraction. Additionally, we offer reagents for flotation, dispersing, agglomerating and other processes.

Leather chemicals

In March 2017, BASF and Stahl signed an agreement to combine BASF's leather chemicals business with the Stahl Group to create a leading company. Under the terms of the agreement, BASF will receive a 16% stake in the Stahl Group as well as a payment of €150 million. The transaction is expected to close in the fourth quarter of 2017. BASF and Stahl will offer customers unparalleled strength in production, technical expertise, innovation and sustainability along the entire leather-making value chain.

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, Old World Industries, ExxonMobil
- Oilfield and mining solutions: Nalco, Solvay, SNF
- Paper and water chemicals: Kemira, Solenis, Nalco, 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 the Performance Chemicals division. We utilize advances in modeling and automation to accelerate development and enable faster implementation of innovations. We aim at fast-growing markets where we can leverage the breadth of our competencies.

Key capabilities of BASF

- Excellent innovation platform & 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
Fuel and lubricant solutions	Ludwigshafen and Lampertheim, Germany; Kaisten, Switzerland; Antwerp, Belgium; McIntosh, Alabama; Puebla, Mexico; Shanghai and Nanjing, China; Thane and Mangalore, India; Singapore; Guaratinguetá, Brazil
Paper and water chemicals/oilfield and mining solutions	Bradford and Grimsby, United Kingdom; Cork, Ireland; Suffolk, Virginia; Arkansas and Middle Georgia, United States; Altamira, Mexico; Nanjing, China; Kwinana, Australia; Ludwigshafen, Germany; Ankleshwar, India
Plastic additives	Lampertheim, Germany; Kaisten, Switzerland; Pontecchio Marconi, Italy; Puebla, Mexico; McIntosh, Alabama; Singapore; Manama, Bahrain; Shanghai, China

Innovation



Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Fuel and lubricant solutions	Acquisition of intellectual property for a new manufacturing process of high molecular weight polyisobutene (HM PIB) from Lanxess	2015
	Highly reactive polyisobutene plant in Kuantan, Malaysia (together with PETRONAS Chemicals Group)	2017
	Engine coolants expansion in Shanghai, China	2018
Oilfield and mining solutions	Debottlenecking Lix® production in Cork, Ireland	2015
Plastic additives	Global investments in capacity expansions and operational excellence	2016–2021
	Formgiving, packaging and blending in Jurong Island, Singapore	2017
	Imaging chemicals (Pergafast); expansion in Ankleshwar, India	2015
Paper and water chemicals	Bio-acrylamide plant in Bradford, United Kingdom	2016
	Process chemicals PVAm (polyvinylamine); capacity expansion in Ludwigshafen, Germany	2016
	Bio-acrylamide plant in Nanjing, China	2017
	Polyacrylamide plants in Bradford, United Kingdom; Nanjing, China; Shanghai, China	2017–2018

Divestitures/shutdowns/reorganizations

(from 2014 onward)

Product group	Description	Year
Plastic additives	Scale-down of plastics additives in the Basel area, Switzerland	2013–2015
	Divestiture of PolyAd Services	2014
Paper and water chemicals	Restructuring of the water solutions business, mainly in Bradford and Grimsby, United Kingdom; West Memphis, Arkansas	2013–2016
	Sizing business: divestiture of global alkyl ketene dimer (AKD) emulsion business	2014
	Kaolin business: divestiture of paper hydrous kaolin (PHK) business	2015
	Leather and textile chemicals	Divestiture of textile chemicals business
	Leather chemicals business to become part of the Stahl Group	2017

Tinuvin® 880 – a new hindered amine light stabilizer (HALS)

BASF offers a new generation of methylated HALS enabling formulators to optimize the long-lasting appearance and performance of various automotive interior parts. Tinuvin® 880 provides unmatched intrinsic long-lasting UV resistance as well as a drastically improved thermal stability crucial for interior applications. It is also designed to improve secondary properties by eliminating defects such as mold deposit and surface stickiness, even in scratch-improved materials.

Functional Materials & Solutions

The Functional Materials & Solutions segment comprises the Catalysts, Construction Chemicals, Coatings and Performance Materials divisions. They develop and market system solutions, services and innovative products, particularly for the automotive, electronics, chemical and construction industries as well as for household applications, sports and leisure.

The **designfabrik** is the central hub for interdisciplinary exchanges between designers and BASF materials experts. It bundles competencies in design, trend research and simulation services under one roof and provides dedicated support for customer projects.



Divisions

Catalysts

Automotive and process catalysts, battery materials, precious metal trading

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Construction Chemicals

Solutions for building structures and envelopes, interior construction and infrastructure

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Coatings

Coatings solutions, surface treatments, decorative paints

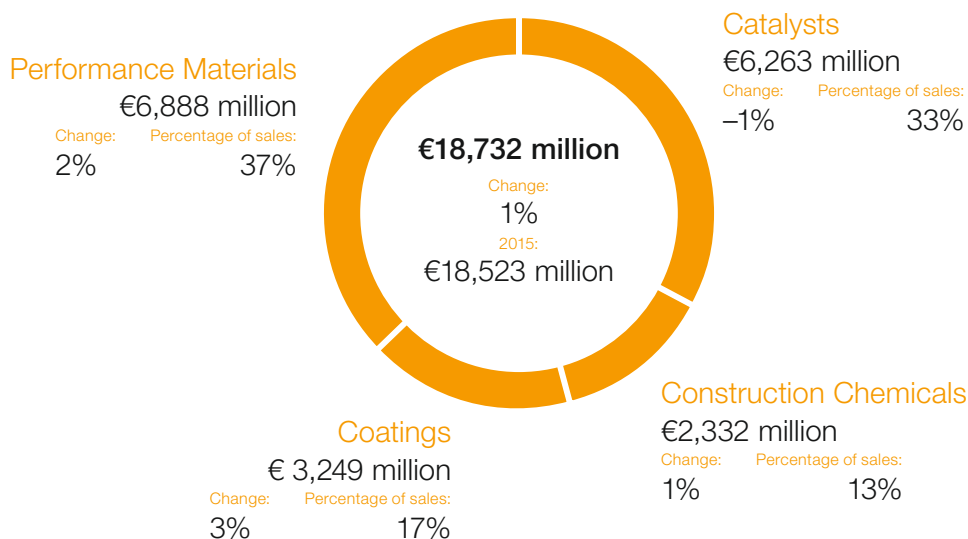
📖 page 58

Performance Materials

Polyurethanes, thermoplastics and foams

📖 page 60

Sales 2016



Factors influencing sales

Volumes	7%	
Prices	(5%)	
Portfolio	0%	
Currencies	(1%)	
Sales	1%	

EBIT before special items (million €)

2016	1,946	
2015	1,649	
		Change: plus €297 million

Segment data Functional Materials & Solutions (million €)

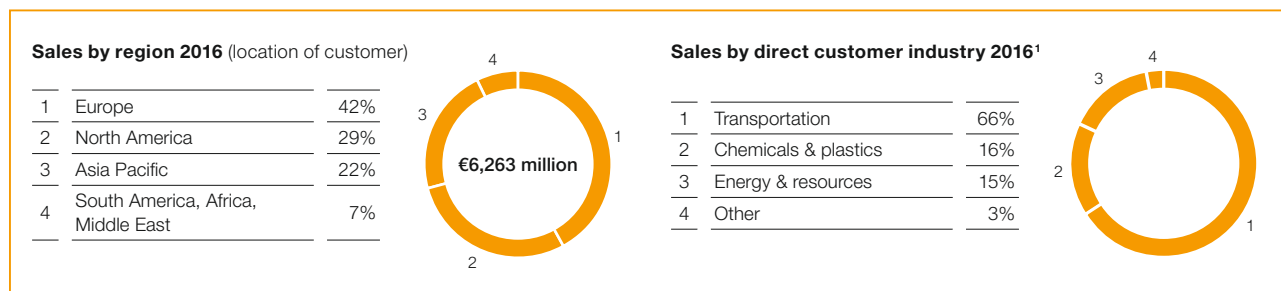
	2012 ¹	2013	2014	2015	2016
Sales to third parties	17,049	17,252	17,725	18,523	18,732
Percentage of total BASF sales	% 23.6	23.3	23.8	26.3	32.5
Thereof Catalysts	5,568	5,708	6,135	6,306	6,263 ²
Construction Chemicals	2,315	2,120	2,060	2,304	2,332
Coatings	2,961	2,927	2,984	3,166	3,249
Performance Materials	6,205	6,497	6,546	6,747	6,888
Income from operations before depreciation and amortization (EBITDA)	1,363	1,498	1,678	2,228	2,906
EBITDA margin	% 8.0	8.7	9.5	12.0	15.5
Income from operations (EBIT) before special items	932	1,070	1,197	1,649	1,946
EBIT before special items margin	% 5.5	6.2	6.8	8.9	10.4
Income from operations (EBIT)	806	1,027	1,150	1,607	2,199
EBIT margin	% 4.7	6.0	6.5	8.7	11.7

¹ We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated.

² Includes sales of €2,336 million from precious metal trading

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 for a broad range of customers worldwide. It also produces advanced battery materials and provides precious metals sourcing and management services. BASF expands its leading role in catalyst technology through continuous process and product innovation.



¹ Excluding precious metals

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

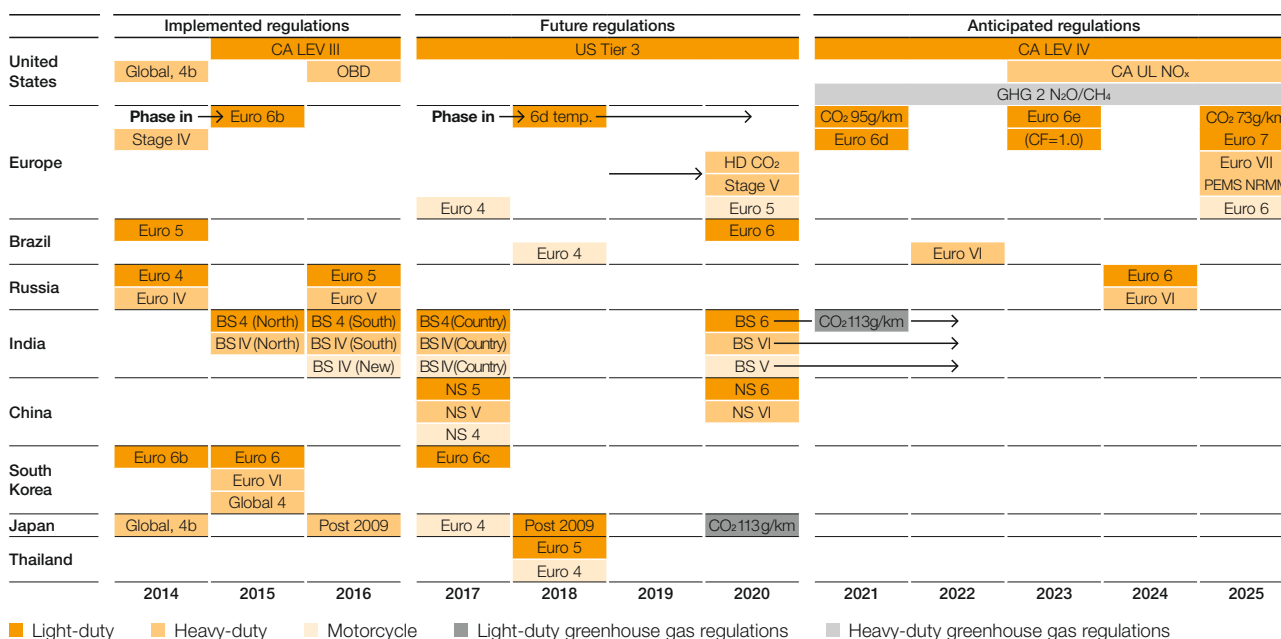
BASF is the leading global manufacturer of catalysts for the chemical industry, with solutions across the chemical value chain. The business also provides oil refining technology

catalysts, including fluid catalytic cracking (FCC) catalysts, co-catalysts and additives. It also provides adsorbents, which are used for purification, moisture control and sulfur recovery.

Battery materials

Formed in 2012, the battery materials global business unit offers advanced cathode materials to allow higher energy density and increased efficiency by enabling more discharge/charge battery cycles. It also offers high-purity customized electrolyte formulations that are ideal for automotive battery applications. BASF is a frontrunner in developing innovative

Emissions catalysts market – regulation remains primary demand driver



solutions for lithium-ion batteries. It conducts future-generation battery materials research, working alongside BASF's global R&D network and selected third-party development partners. In addition, BASF is the global leader in nickel metal-hydride (NiMH) technology development and licensing.

Precious and base metal services

The global business unit precious and base metal services supports BASF's catalysts business and its customers with services related to precious and base metals sourcing and management. It purchases, sells, distributes, stores and offers transportation services. It also provides a variety of pricing and delivery arrangements to meet the 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

Focus of research and development

For mobile emissions catalysts, the focus is on improved products to meet new exhaust gas standards. In the process catalysts business, priority is given to developing new and improved products. For battery materials, the focus is on delivering solutions that can improve energy density and power.

Key capabilities of BASF

- Global R&D capabilities
- Technology leadership in mobile emissions and process catalysts
- Recognized precious metals expertise
- Strong position in Asia through joint ventures
- Operational excellence in catalyst production and use

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Mobile emissions catalysts	New manufacturing plant in Środa Śląska, Poland	2014
	Capacity expansion in Shanghai, China	2015
	New manufacturing plant in Chennai, India	2017
	New manufacturing plant in Rayong, Thailand	2018
Process catalysts	New specialty zeolites manufacturing plant in Ludwigshafen, Germany	2014
	New FCC catalysts testing and research laboratory in Heidelberg, Germany	2014
	Construction of new chemical catalysts manufacturing plant in Caojing, China	2017
	New R&D laboratory and application technology center in Amagasaki, Japan	2014
Battery materials	Expansion of R&D laboratory in Beachwood, Ohio	2015
	BASF TODA Battery Materials LLC formed in Tokyo, Japan	2015
	License under the IP of CAMX Power for CAM-7™ cathode materials for lithium-ion batteries granted to BASF	2016
Material services	Capacity expansion at precious metals recycling facility in Cinderford, United Kingdom	2015

Divestitures/shutdowns (from 2014 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

Innovation

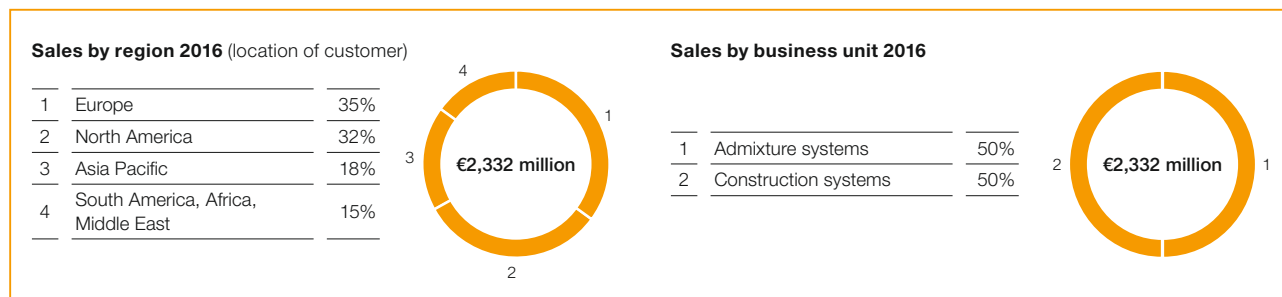


EMPRO™ Lean-NOx-Trap (LNT) catalyst technology

Lean NOx Traps (LNT) can control NOx (nitrogen oxides) emissions from lean-burn gasoline or diesel engines. The newest generation of BASF technology, LNT EMPRO™, combines our latest innovations in novel materials and catalyst design architecture. In combination with other catalyst components (e.g., SCRof) in an advanced emissions control system, EMPRO™ enables light-duty diesel engine manufacturers to meet the most stringent upcoming European regulations and to fulfill Real Driving Emissions (RDE) drive cycles.

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 offers construction systems to serve the industry 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 repair and protection, we help to prolong a building's life span. Performance grouts enable 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 in order to prevent damage to occupied spaces and to equipment located below. Sealants prevent air, water and other environmental elements from entering or exiting a structure. Our range of flooring solutions meets all requirements, and our range of tiling products ensures smooth tiling and perfect adhesion for tiles and natural stone products. Wall systems offer exterior insulation finishing systems that provide walls with insulation, a finished surface, and waterproofing in one integrated system. Through our North American colorbiotics business we provide high-quality, long-lasting landscape coating products to help produce vibrant mulch for homeowners, business owners, parks and municipalities.



Gotthard Base Tunnel – the longest railway tunnel in the world

Opened on June 1, 2016, after 20 years of construction, the Gotthard Base Tunnel in Switzerland is the longest railway tunnel in the world, at a length of 57 kilometers. This route through the Alps will reduce travel time between Zurich and Milan by around one hour. In addition, the slope of the tunnel was reduced considerably. The tunnel was built using around four million metric tons of concrete – roughly 40 times as much as was used in Burj Khalifa, the world's highest building. BASF supplied concrete admixtures, cement injections to stop water ingress, and fire-protection mortar for the tunnel construction project.

Master Builders Solutions – our brand connecting the construction industry

As an umbrella brand for various BASF specialty lines such as Glenium, Emaco and Ucrete, our Master Builders Solutions portfolio includes concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing systems, sealants, concrete repair and protection solutions and performance grouts as well as performance flooring systems.

BASF's market position

- Admixture systems: No. 1 globally
- Construction systems: No. 3 globally

Main competitors

- Admixture systems: gcp applied technologies, Mapei, Sika
- Construction systems: gcp applied technologies, Mapei, RPM, Sika

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
- Anticipation of future market trends
- Proximity to customers with focus on growth markets

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Admixture systems	New production plant for concrete admixtures in Nellore, India	2014
	in Nairobi, Kenya	2014
	in Lagos, Nigeria	2015
	in St. Petersburg, Russia	2016
	in Carmona, Philippines	2016
	in Colombo, Sri Lanka	2016
	in Kolkata, India	2016
	in Hanoi, Vietnam	2016
Construction systems	Capacity expansion for dry mortars in Trostberg, Germany	2015
	Capacity expansion for flooring solutions in Klang, Malaysia	2016
	Acquisition of Henkel's professional Western European building material business	2017
	Acquisition of Grupo Thermotek, Monterrey, Mexico	2017

Target customer industries

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

Innovation

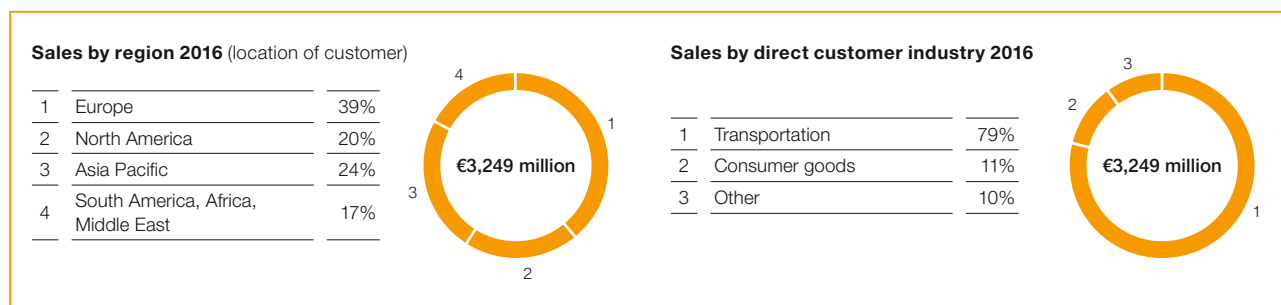


MasterSuna SBS

MasterSuna SBS is a new concrete additive that allows previously unsuitable types of sand to be processed into high-grade concrete. Clay minerals in sand usually prevent concrete superplasticizers from doing their job. With MasterSuna SBS, even sand containing high levels of clay can be used. Concrete producers save costs, as they no longer need to procure suitable sands from distant sand pits. Owners receive a higher yield from their sand pits as sands can be sold which were previously unusable for industrial applications.

Coatings

BASF's Coatings division offers innovative and ecologically viable products for the automotive industry, including both the 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 (Original Equipment Manufacturer) 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.

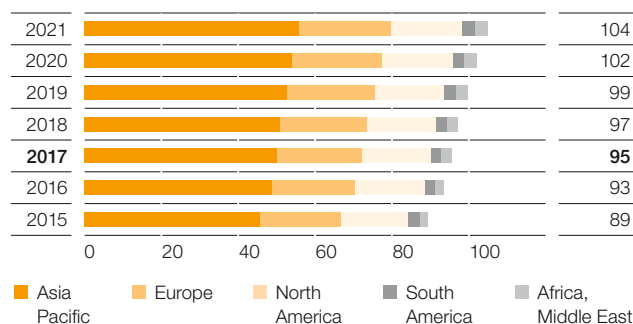
Surface treatment solutions

In December 2016, BASF completed the acquisition of Chemetall, a leading global supplier of applied surface treatment. With this expansion of the portfolio, BASF becomes a more complete solutions provider. BASF now offers 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 Suvinil®, which is one of Brazil's best-known brands. With constant innovation launches, such as super-concentrated premium interior and exterior paint, Suvinil® continues to strengthen its role as a pioneer in the area of innovative paints.

Passenger car and light commercial vehicle production (million units produced)



Source: Global Automotive Production Forecast May 2017 (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
- 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 (e.g., 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

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Automotive OEM	Expansion of waterborne basecoat production, Brazil	2014
	Topcoat production, China	2014
	Resin production, China	2015
	Paint production, Thailand	2016
	Basecoats and intermediates production, China	2017
	Shanghai automotive application center, China	2018
	Waterborne production capacity expansion, Mexico	2018
	Competence centers, South Africa	2014
Refinish	Acquisition of the automotive refinish coatings business of Guangdong Yinfan Chemistry Co. Ltd., China	2016
	Competence center, Texas	2016
Surface treatment	Acquisition of Chemetall	2016
	Capacity increase for aerospace, Germany	2019

Divestitures/shutdowns (from 2014 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; Pavlovsky Posad, Russia; Shanghai, China; Totsuka, Japan; Greenville, Ohio; Tultitlán, Mexico
Refinish	Münster, Germany; Clermont de l'Oise, France; Windsor, Canada
Surface treatment	Langelsheim, Germany; Sens, France; Guissano, Italy; Boksburg, South Africa; Shanghai, China; Blackman Township, Michigan
Decorative	São Bernardo do Campo, Brazil

Innovation

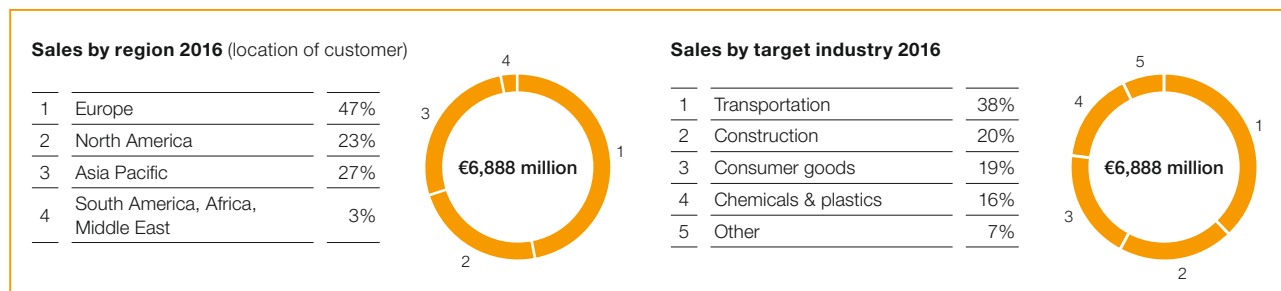


PrimeCube

With PrimeCube, we developed a new paint system for coating commercial vehicles that allows users to achieve technical and economic benefits. Two layers, PrimeBloc and ColorPrime, can be applied directly after each other, and the entire layer can be cured at a low temperature, reducing energy consumption. The concept of PrimeCube is made possible by ultra high solid (UHS) materials. The paint has a very high spreading rate, can be applied in a single step and forms an especially resistant and brilliant layer.

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, construction, industrial applications and consumer goods – 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 advantage of polyurethanes provided with the knowledge and experience of BASF's polyurethane experts worldwide. This product group is composed of PU systems, TPU 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).

Functional foams

Functional foams include Basotect®, a flexible, open-cell foam made from melamine resin, and 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.

Styrenic foams

Styrenic foams include expandable polystyrene (EPS), Styropor® and its refinement Neopor® as well as Styrodur®C (XPS). These insulating materials are at the forefront of eco-efficient construction. They help save energy and are cost-effective.

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 diverse 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	■		■	■
Styrenic foams		■	■	
Functional foams	■	■	■	
Biodegradable plastics			■	

BASF's market position

- TPU: No. 1 globally
- MPU: No. 1 globally
- Polyamide 6 & 6.6 compounds: No. 1 globally
- PBT compounds: No. 1 globally
- Expandable polystyrene: No. 1 in Europe

Main competitors

- PU specialties: Covestro, Dow, Huntsman, Lubrizol
- Polyamide 6 & 6.6 compounds: Lanxess, DuPont, EMS, Solvay
- Expandable polystyrene: Loyal, Wuxi Xingda, INEOS Styrenics

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 is driven by creating solutions for unmet market needs with a focus on topics 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

Major nameplate capacities of BASF

(thousand metric tons per year)

Product group	Capacity
Engineering plastics	665
Styropor®/Neopor®	520

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Polyurethanes	TPU capacity expansion in Lemförde, Germany	2014
	New TPU plant in Shanghai, China	2014
	New polyurethanes manufacturing hub in Dahej, India	2014
	Acquisition of TWSS, Taiwan	2015
	TPU production upgrade in Wyandotte, Michigan	2015
	New PU systems plant in Geismar, Louisiana	2015
	Acquisition of polyurethane business from Polioles in Mexico	2015
	MPU capacity expansion in Shanghai, China	2016
	Upgrade Cellasto production in Lemförde, Germany	2016
	Cellasto capacity expansion in Wyandotte, Michigan	2018
Engineering plastics	TPU expansion in Lemförde, Germany	2019
	Capacity expansion in Shanghai, China	2014
	New Ultrason® plant in Yeosu, South Korea	2014
	New compounding plant in Yesan, South Korea	2015
	Expansion compounding capacity in Altamira, Mexico	2017
Specialty plastics	Expansion compounding capacity in Schwarzheide, Germany	2017
	Ultraform® (POM) 50-50 production JV with Kolon Plastics in Gimcheon, South Korea	2018
	Acquisition of EPP assets from Polyform	2016
Specialty plastics	Expansion Ultrason capacity in Yeosu, South Korea	2018

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Functional foams	Divestiture of PET foam (Kerdyn®) business	2016
Styrenic foams	Divestiture of EPS business in the Americas	2015
	Divestiture of XPS production site in Tudela, Spain	2015
	Divestiture of XPS, Styrodur business and assets in Italy	2016
PU systems	Closure of PU system houses in Angered, Sweden, and Solymár, Hungary	2014
	Closure of PU system houses in Strem, Poland; Pendik, Turkey; Elandsfontein, South Africa; Bukit Jelutong, Malaysia; Hsinchu, Taiwan	2015
Engineering plastics	Shutdown of Ultraform® (POM) production plant in Ludwigshafen, Germany	2018

Innovation



Sustainable expandable particle foam

Ecovio® EA is the first expandable, closed-cell foam material which is bio-based and certified compostable. It is particularly suitable for transport packaging for high-value or delicate goods where a high level of impact resistance and robustness is vital. While the material is durable under normal conditions, a biological degradation process can be initiated under special conditions, as are found in industrial composting plants.

Agricultural Solutions

The Agricultural Solutions segment consists of the Crop Protection division. We develop and produce innovative solutions for the improvement of crop health and yields, and market them worldwide.



Indications and sectors

Fungicides

Protecting crops against harmful fungi

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Herbicides

Reducing competition from weeds for water and nutrients

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Insecticides

Combating insect pests in agriculture and beyond

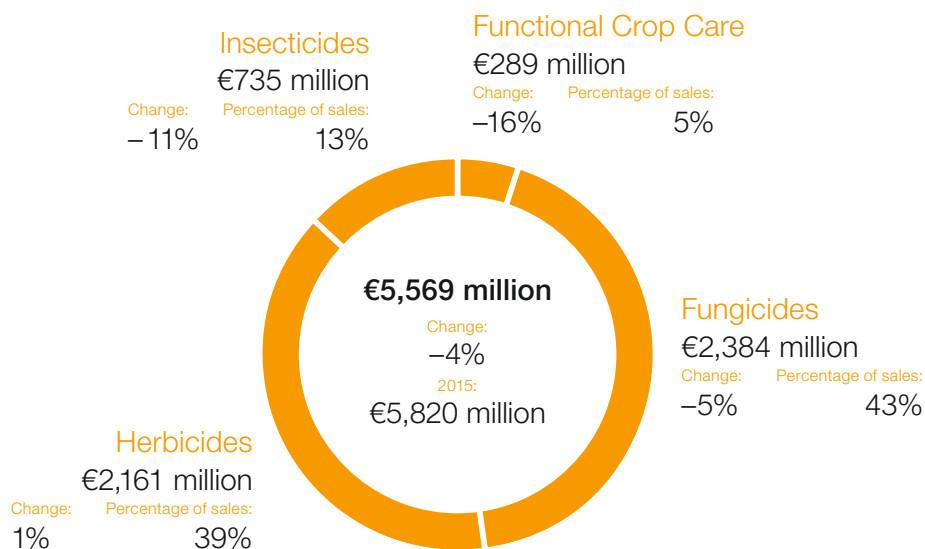
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Functional Crop Care

Biological crop protection, seed treatment, polymers and colorants

📖 page 64

Sales 2016



Factors influencing sales

Volumes	(2%)	
Prices	0%	
Portfolio	0%	
Currencies	(2%)	
Sales	(4%)	

EBIT before special items (million €)

2016	1,087	
2015	1,090	
		Change: minus €3 million

Segment data Agricultural Solutions (million €)

	2012 ¹	2013	2014	2015	2016
Sales to third parties	4,679	5,227	5,446	5,820	5,569
Share of total BASF sales	6.5	7.1	7.3	8.3	9.7
Income from operations before depreciation and amortization (EBITDA)	1,182	1,375	1,297	1,321	1,305
EBITDA margin	25.3	26.3	23.8	22.7	23.4
Income from operations (EBIT) before special items	1,037	1,222	1,109	1,090	1,087
EBIT before special items margin	22.2	23.4	20.4	18.7	19.5
Income from operations (EBIT)	1,026	1,208	1,108	1,083	1,037
EBIT margin	21.9	23.1	20.3	18.6	18.6

¹ We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated.

Crop Protection

A key challenge in the future will be to ensure sufficient food for a growing world population. BASF provides farmers with professional support in producing more – and more nutritious – food as efficiently as possible. The division aims to sustain its role as a leading innovator by continuing its extensive research and development activities.



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

Portfolio

Fungicides

Fungicides protect crops from harmful fungi that reduce vitality by damaging physiological processes. Our product portfolio includes:

F500® (Pyraclostrobin) is a crop protection active ingredient with a great variety of application possibilities: It acts as a highly effective fungicide as well as an accelerator of plant health effects. F500® is part of our global plant health umbrella brand, AgCelence®.

Xemium® is a key component and driver of BASF's fungicides portfolio for broad-spectrum disease control in field and specialty crops. Due to its intrinsic activity, excellent mobility in the plant and long-lasting residual action, Xemium® continues to be a trusted choice by growers. Xemium® is commercially available in more than 50 countries for over 100 different crops. Peak sales potential is expected to exceed €600 million.

Herbicides

Herbicides protect crops from weeds that cause damage by competing for nutrients, water and sunlight. Our product portfolio includes:

Kixor® can be used against broadleaf and difficult-to-control weeds, including those that have developed resistance to the herbicide glyphosate. We aim to achieve annual sales of over €300 million with this product.

The Clearfield® production system combines herbicide-tolerant seeds, which are developed by using traditional plant breeding methods, together with regionally-tailored herbicides. The Clearfield® production system is currently available for canola (oil-seed rape), sunflower, corn (maize), rice, wheat and lentils.

Engenia™ is a new advanced dicamba formulation and a leading innovation in the herbicide field. Engenia™ is designed

for use in dicamba/glyphosate-tolerant cropping systems and is a highly efficient tool for the control of resistant weeds in row crops. Engenia™, currently available in North America, will also be introduced to other markets in the coming months.

Insecticides

Insecticides protect crops from insects that cause damage by eating parts of plants or sucking their juices and transmitting dangerous viruses.

Nealta® miticide controls spider mites, for example, in pome fruit, grapes, strawberries, tree nuts, citrus crops and tomatoes. It is highly effective against mites that have developed resistances and shows no indication of cross-resistance to other commercial miticides. This makes it an important tool for integrated pest management programs. It is safe for mammals, beneficial mites, predatory insects and pollinators such as bees.

Alpha-cypermethrin controls a broad spectrum of insect pests which occur in agriculture, forestry and public health. Alpha-cypermethrin formulations have been registered in around 40 countries and approved for use in over 90 crops. The formulation Fendona® is a valuable public health tool and is recommended by the WHO for use in combating malaria and other insect-borne diseases.

Functional Crop Care

Functional Crop Care improves plant growth, protects seeds, and helps plants use water and nutrients, such as nitrogen, more efficiently. Our product portfolio includes:

Serifel®, BASF's first proprietary biological fungicide, is based on a beneficial bacterium with multiple modes of action. Spores colonize the surface of the plant and form a shield of protection against a broad spectrum of pathogens. Serifel® can be easily integrated into disease management programs without a pre-harvest interval and with easy handling. In combination with chemical crop protection, Serifel® creates a synergistic effect and increases sustainability of crop protection chemistries.

Vizura® is a nitrification inhibitor that improves nitrogen use of liquid manure from livestock and biogas plants. Growers benefit from higher yields and greater flexibility due to an extended window of action, even in environmentally sensitive, more restrictive areas. Vizura® also improves the nitrogen balance, resulting in ecological benefits such as reduced nitrate leaching and fewer greenhouse gas emissions.

BASF's market position

- Fungicides: No. 3 globally
- Herbicides: No. 5 globally
- Insecticides: No. 5 globally

Main competitors

- Fungicides: Bayer, Syngenta, DuPont
- Herbicides: Syngenta, Monsanto, Bayer, Dow, FMC
- Insecticides: Syngenta, Bayer, Dow, DuPont

Powerful research and development pipeline

Our well-filled innovation pipeline comprises products with a launch date between 2016 and 2026. With a peak sales potential of €3 billion, the pipeline offers innovations from all business areas. The herbicide Engenia™ was introduced to the North American market and is set to reach other markets soon. It serves as a key component of dicamba/glyphosate-tolerant cropping systems for soy and cotton. We are also planning the launch of the new insecticides Inscalis™ and broflanilide. Inscalis™ combats piercing-sucking pests like aphids and whiteflies. An application for approval was submitted in 2016. Broflanilide is effective against chewing insects, like potato beetles and caterpillars, in specialty and field crops; use is also planned in professional pest control. With its novel mode of action, it is highly effective in low doses and will play an important role in resistance management. Further growth drivers beyond 2021 are:

- Provisia™ Rice System (herbicide tolerance)
- Next generation nitrification inhibitor (Functional Crop Care)
- Innovations in professional and specialty solutions
- Further modules of agricultural online platform Maglis®

Since the launch of BASF's digital platform Maglis® at the beginning of 2016, the BASF team has used it to support farmers in collecting, interpreting and monitoring a range of agricultural data. This enables them to make better decisions in cultivating and marketing crops.

Key capabilities of BASF

- New products from research pipeline or from acquisitions
- Alignment of resources as well as products and services to customers' needs
- Strong R&D and stringent patent management
- Focus on high-value markets and innovative products
- Active portfolio management

Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Functional Crop Care	Capacity expansion in Europe	2015
	New seed solutions technology and biologicals R&D center in Europe	2016
	Capacity expansion in Europe	2017
	Capacity expansion in North America	2017
Inscalis™	New production capacity in Europe	2017
Metazachlor	Capacity expansion in Europe	2014
Xemium®	Capacity expansion in Europe	2016
F500®	Capacity expansion in Europe	2014
Dicamba	Capacity expansion in North America	2014
	Capacity expansion in North America	2016
Kixor®	Capacity expansion in North America	2015
DMTA	Capacity expansion in North America	2016
Formulation capacities	Expansion of existing plants in Europe	2014
	Expansion of existing plants in North America	2014
	New formulation plants in Asia	2014
	New formulation plants in Latin America	2014
Infrastructure and R&D measures	Expansion of existing plants in Europe	2016
	Expansion and upgrade of R&D, active ingredients and formulation capacities in North America and Europe	2017
Digital farming	Acquisition of ZedX Inc., United States	2017

Innovation



Revysol®

Our new active ingredient Revysol® is a highly effective fungicide controlling a range of pathogens, e.g., septoria leaf spot in wheat and gray leaf spot in corn. Revysol® will diversify our fungicide product offering for farmers worldwide with regionally and customer-specific formulations in all important field and specialty crops. We submitted the first approval application in the E.U. in 2016. The first market launches of Revysol®-based products are expected for the 2018/2019 growing season upon registration with the relevant authorities.

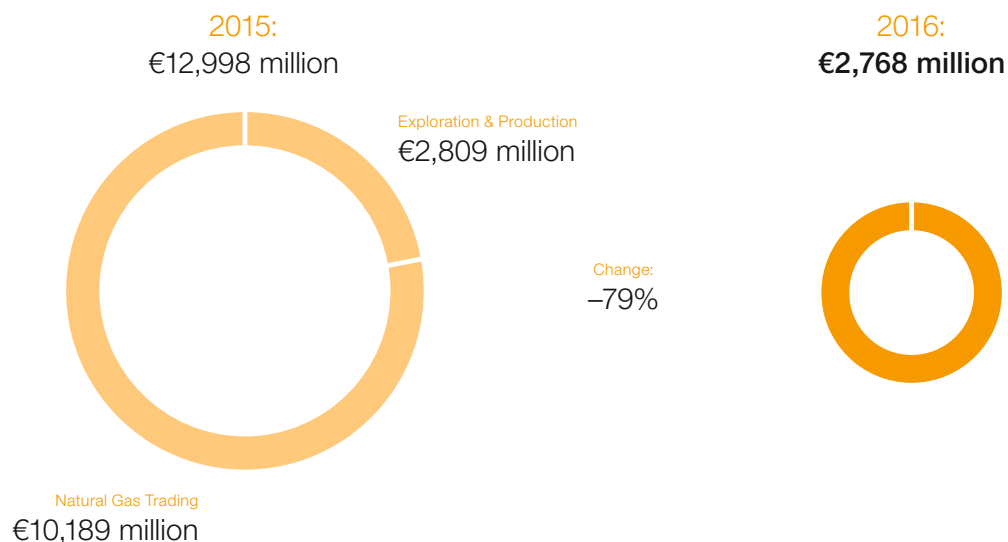
Oil & Gas

BASF's oil and gas activities are bundled in the Wintershall Group. We concentrate on exploration and production in oil and gas-rich regions in Europe, North Africa, Russia, South America and the Middle East – focus regions in which Wintershall has a high level of regional and technological expertise. We are also active in the transport of natural gas in Europe with our Russian partner Gazprom.



The **Vega Pléyade** field is a key project for Wintershall in Argentina. Since 2016, it has been producing from the southernmost offshore gas platform in the world.

Sales



Factors influencing sales

Volumes	3%	
Prices/Currencies	(3%)	
Portfolio	(79%)	
Sales	(79%)	

EBIT before special items (million €)

2016	517	
2015	1,366	
		Change: minus €849 million

Segment data Oil & Gas (million €)

	2012 ¹	2013 ²	2014	2015	2016
Sales to third parties	12,740	14,776	15,145	12,998	2,768
Share of total BASF sales	17.7	20.0	20.4	18.5	4.8
Income from operations before depreciation and amortization (EBITDA)	2,445	3,149	2,626	2,587	1,596
EBITDA margin	19.2	21.3	17.3	19.9	57.7
Income from operations (EBIT) before special items	1,876	1,856	1,795	1,366	517
EBIT before special items margin	14.7	12.6	11.9	10.5	18.7
Income from operations (EBIT)	1,676	2,403 ³	1,688	1,072	499
EBIT margin	13.2	16.3	11.1	8.2	18.0
Net income	1,201	1,730	1,464	1,050	362

¹ We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated.

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

³ In 2013, special income of €429 million resulted from the reclassification of GASCADE Gastransport GmbH.

Oil & Gas

Exploration and production of crude oil and natural gas is performed by BASF's subsidiary Wintershall. In addition to investments in the exploration, development and production of hydrocarbons, we also secure our lasting success by broadening our technological expertise. Our focus is on increasing the yield from producing fields as well as on operating as efficiently as possible. In Europe, Wintershall is also active in the transport of natural gas.

Exploration & Production

Activities by region



Europe

Wintershall has been operating in Europe for over 80 years. Germany is one of Wintershall's most important regions for oil and gas exploration and production. Wintershall is the operator of the only gas production platform in the German North Sea (A6-A) and has a 50% stake in the largest German crude oil field, Mittelplate. Domestic energy is also produced onshore around Barnstorf in Lower Saxony, in Emlichheim on the German-Dutch border, in Landau in the Palatinate and in Aitingen near Augsburg. Wintershall produces from 15 oil fields and 35 gas fields in Germany. In Emlichheim, Wintershall is expanding its oil production by drilling twelve new wells, two of which started producing in 2016. In 2017, five new wells will be drilled near Barnstorf.

In the Netherlands, Wintershall is one of the largest producers, operating over 20 offshore platforms. Since October 2015, as a result of an asset swap, Gazprom participates with a 50% stake in the activities of Wintershall Noordzee B.V., which is active in the southern North Sea in the Netherlands, United Kingdom and Denmark. We commenced production from our first own-operated Danish oil field in April 2017. The Ravn field (Block 5/06) produces oil from a newly constructed platform in the Danish North Sea. The oil is transported via a subsea pipeline to Wintershall Noordzee's A6-A processing platform located around 18 kilometers away, where it is fed into the existing export network.

In Norway, we are one of the largest license holders with around 60 licenses, half of them as operator. In recent years, Wintershall significantly increased its daily production to currently 80,000 barrels of oil equivalent (BOE) in the country. The further development of fields in which we hold a stake included the installation of two subsea tiebacks in the Norwegian Sea for the Wintershall-operated Maria field in the summer of 2016. These were connected at a depth of 300 meters to the nearby platforms Kristin, Heidrun and Åsgard B, enabling us to use the existing infrastructure for production in the Maria field, in which Wintershall holds a 50% share. Wintershall also has shares in the Ivar Aasen offshore platform that was installed and started up in 2016. In February 2017, Wintershall submitted the development concept for the Skarfjell field in the northeastern North Sea to the Norwegian Ministry of Petroleum and Energy. Skarfjell is expected to yield between 60 million and 140 million barrels of oil equivalent. As part of an ongoing portfolio optimization, Wintershall Norge AS agreed with Statoil Petroleum AS (both based in Stavanger, Norway) on the sale of its 25% share in the Byrding field on the Norwegian continental shelf. Wintershall Norge furthermore divested its 10% share in the Yme license – also on the Norwegian continental shelf – to OKEA AS, an oil company based in Trondheim, Norway.

Russia

With approximately one-quarter of the world's natural gas reserves, Russia is very important for the global energy market. Wintershall has been active in Russia for more than 25 years – in particular through its successful cooperation with Gazprom. Wintershall is currently involved in several joint projects linked to the exploration and production of hydrocarbons in western Siberia and southern Russia.

Yuzhno Russkoye: Wintershall has a 35% share in the commercial success of the field via Severneftegazprom. The field reached plateau production of 25 billion m³ of natural gas¹ per year in 2009. Currently, more than 140 production wells are in operation. The field has recoverable volumes of approximately 600 billion m³ of natural gas¹. The comprehensive production of natural gas from the shallow Turonian formation in the Yuzhno Russkoye gas field is currently being tested. Severneftegazprom is planning to commercially produce gas from the Turonian formation by 2021.

¹ Russian standard cubic meter

Achimov block 1A: Wintershall and Gazprom operate a 50-50 joint venture (Achimgaz) for block 1A of the Achimov formation in the Urengoy field. According to the state-approved amended unified development plan, the recoverable volumes are estimated at approximately 230 billion m³ of natural gas¹ and 70 million metric tons of condensate. In 2016, the joint venture produced 6.4 billion m³ of gas¹ and 2.9 million metric tons of condensate.

Achimov blocks 4 and 5: The asset swap with Gazprom, completed at the end of September 2015, gives Wintershall a 25.01% share in the blocks 4 and 5 of the Achimov formation. Overall, the two blocks contain hydrocarbon reservoirs of around 274 billion m³ of natural gas¹ and 74 million metric tons of condensate, based on the development plan confirmed by the Russian mining authorities. The start of production is envisaged for 2020.

Wolgodeminoil: Wintershall holds 50% in a joint venture with Ritek, subsidiary of Russian Lukoil, in the Volgograd area. Wolgodeminoil was founded at the end of 1992 and is thus the longest-operating joint venture between a Russian and a Western European partner in the E&P sector. Currently, the company produces crude oil and natural gas from 11 fields. In 2016, around 5.3 million BOE were produced.

North Africa/Middle East

Wintershall has been engaged in E&P activities in Libya since 1958. We operate eight onshore oilfields in the Libyan desert. Gazprom participates with a 49% stake in Wintershall AG, which holds these licenses. We also have a minority interest in the Al Jurf offshore field in the Mediterranean Sea off the Libyan coast. Due to the very challenging situation in the country, our onshore production had to be suspended repeatedly. In 2016, we were only able to start production from Concession 96 on September 16, 2016, at a limited output of 35,000 BOE a day. No oil production at all was possible in Concession 97 throughout 2016 because of continued non-availability of the export infrastructure. At Al Jurf, offshore operations progressed smoothly.

In recent years, Wintershall expanded its operations to the Arabian Peninsula. In June 2012, Wintershall signed a technical evaluation agreement with OMV and the Abu Dhabi National

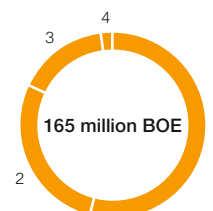
Oil Company (ADNOC) to appraise the sour gas and condensate field Shuwaihat in the western region of Abu Dhabi. In November 2016, we began drilling our second appraisal well as operator in the development of the Shuwaihat sour gas field.

South America

Wintershall has been active in this core region since the late 1970s. In Argentina, we are participating in 15 oil and gas fields and are one of the country's largest producers of natural gas. Off the coast of Tierra del Fuego, Wintershall produces natural gas and liquids from the Carina and Aries natural gas fields. In addition, Wintershall is a partner in the newly developed natural gas field Vega Pléyade, with reserves amounting to around 25 billion m³ of natural gas, where production started in February 2016. Argentina has an enormous potential of non-conventional reservoirs, especially in the Vaca Muerta formation in the Neuquén Basin. Wintershall has interests in the fields San Roque, Aguada Pichana, Bandurria Norte and Aguada Federal. In July 2015, Wintershall took over the operatorship for Bandurria Norte. In Aguada Federal, Wintershall launched the first two vertical exploration wells as operator in 2015.

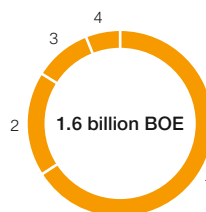
Production by region 2016

1	Russia	54%
2	Europe	28%
3	South America	16%
4	North Africa, Middle East	2%



Proven 1P reserves by region 2016

1	Russia	66%
2	Europe	18%
3	South America	10%
4	North Africa, Middle East	6%



For further information, please refer to the BASF Report 2016, pages 223–230.

¹ Russian standard cubic meter

Natural Gas Transport

In addition to the exploration and production of natural gas, Wintershall – with its partner Gazprom and other companies – is active in the construction and operation of natural gas pipelines that are important for ensuring supply security in Western Europe. The German natural gas transport businesses are bundled in the WIGA Transport Beteiligungs-GmbH & Co. KG (WIGA). Via its independent subsidiaries, the WIGA Group operates a 3,300 kilometer long-distance onshore pipeline network that includes the pipeline links to the Nord Stream 1 pipelines: the Baltic Sea Pipeline Link (OPAL) and the North European Natural Gas Pipeline (NEL). The two 1,224-kilometer offshore pipelines of Nord Stream 1 run through the Baltic Sea, providing a direct link between Russia and Germany with a capacity to transport a total of 55 billion m³ of gas per year. We hold a 15.5% share in Nord Stream AG, which owns and operates the Nord Stream 1 pipelines. Other shareholders are Gazprom (51%) and E.ON (15.5%) as well as N.V. Nederlandse Gasunie and ENGIE (9% each).

Our pipeline network



The Nord Stream 2 project aims to build two additional offshore pipelines with an overall capacity of 55 billion m³ of natural gas. The project will be developed by the company Nord Stream 2 AG, which is a 100% subsidiary of Gazprom. Five European energy companies, including Wintershall, have committed to provide long-term financing for 50% of the total costs of the project, which is currently estimated to be €9.5 billion. Each company will fund up to €950 million. The financing agreements were signed in April 2017, underscoring the project's strategic importance for the European gas market. The grid infrastructure company GASCADE intends to build and operate the European Gas Pipeline Link (EUGAL) connecting the landfall point of Nord Stream 2 with the Czech border. EUGAL will comprise two parallel pipelines and reliably strengthen the supply of natural gas to Germany and Europe. Construction work will begin in 2018 and will be completed by the end of 2019.

Major pipelines

Nord Stream 1

Twin pipeline through the Baltic Sea from Vyborg, Russia, to Greifswald, Germany

- BASF share: 15.5%
- Total capacity: 55 billion m³ p.a.
- Total investment offshore: €7.4 billion
- First pipeline operative November 2011; project completed October 2012

OPAL

Pipeline from the landfall point of Nord Stream 1 in Greifswald to Brandov, Czech Republic, on the German-Czech border

- OGT¹ share: 80%
- Total capacity: 36 billion m³ p.a.
- Startup 2011, together with the first offshore string of Nord Stream 1

NEL

Pipeline from landfall point of Nord Stream 1 towards Rehden in Lower Saxony

- NGT² share: 51%
- Total capacity: 20 billion m³ p.a.
- Startup 2012, together with the second offshore string of Nord Stream 1

¹ OGT: OPAL Gastransport GmbH & Co. KG, operator of the OPAL pipeline

² NGT: NEL Gastransport GmbH, operator of the NEL pipeline



The drilling rig Deepsea Stavanger, ready for departure to the Maria field

The Maria field is Wintershall's flagship development in Norway. Discovered in 2010, the field was one of Wintershall's first exploration successes in Norway. The project will come on stream in 2018.

Key capabilities of BASF

- Many years of experience as cost-efficient operator with low finding, development and production costs
- Selective technology development and deployments
- Strategic partnerships and cooperations
- Capital discipline and operational excellence
- Active portfolio management

Innovation



Acquisitions/JVs/investments (from 2014 onward)

Product group	Description	Year
Oil field development	Knarr, Norway	2015
	Edvard Grieg (formerly Luno), Norway	2015–2018
	Ivar Aasen, Norway	2016
	Ravn, Denmark	2017
	Maria, Norway	2018
	F17, Netherlands	2021
Oil/gas field development	Skarfjell, Norway	2021
Gas field development	L6-B, Netherlands	2015
	Vega Pléyade, Argentina	2016
	Asta Hansteen, Norway	2018
	Yuzhno Russkoye, Turon development, Russia	2022
Gas/condensate field development	Achimov 1A (Achimgaz) in Urengoy field, Russia	2008–2020
Exploration license awards	Norway, five new exploration licenses	2016
	Denmark, three new exploration licenses	2016
Asset swaps and transactions	Transactions with Statoil	2013–2014
	Farm-in agreement "Aguada Federal" with Gas y Petroleo del Neuquén and increase in participation interest	2014–2015
	Asset swap with Gazprom incl. the transfer of 25.01% in Achimov 4/5 in Urengoy field in Russia to Wintershall	2015

Divestitures/shutdowns (from 2014 onward)

Product group	Description	Year
Asset swaps and transactions	Sale of 15.79% share of Verbundnetz Gas AG to EWE AG	2014
	Sale of 15% share of South Stream Pipeline project to Gazprom	2014
	Transfer of 50% of Wintershall Noordzee B.V. to Gazprom	2015
	Transfer of all shares in gas trading and storage business to Gazprom	2015
	Sale of 10% share in the Yme license on the Norwegian Continental Shelf to OKEA	2016
	Sale of 25% share of the Byrding field on the Norwegian Continental Shelf to Statoil	2016
Cessation of activities	Relinquishment of Block 4 North in Qatar	2015
	Cessation of production from Kotter and Logger in the Netherlands	2015
	Return of several licenses in Norway, the Netherlands, Germany and Argentina	2015–2016

Microbially enhanced oil recovery (MEOR)

Wintershall concentrates its innovation activities on improving the success rate of exploration, developing technologies for challenging reservoirs, and increasing the recovery factor of reservoirs. In the Düste oilfield in Germany, we tested an innovative and environmentally friendly method for increasing the reservoir's recovery factor. Wintershall and BASF developed a MEOR concept that utilizes microorganisms already existing in the reservoir. They produce various natural substances, changing the flow and rock characteristics of the reservoir.

Other

Activities not assigned to a particular division are reported under Other. These include the sale of raw materials, engineering and other services, rental income and leases, the production of precursors not assigned to a particular segment, the steering of the BASF Group by corporate headquarters, and cross-divisional corporate research.

Cross-divisional corporate research, which has been restructured in the context of the newly developed innovation approach, 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. Plant biotechnology research is also part of corporate research.

Earnings from currency conversion that are not allocated to the segments are also reported under Other, as are earnings from the hedging of raw material prices and foreign currency

exchange risks. Furthermore, income and expenses from the long-term incentive (LTI) program are shown here.

Transfers between the segments are generally executed at adjusted market-based prices which take into account the higher cost efficiency and lower risk of Group-internal transactions. Assets, as well as their depreciation and amortization, are allocated to the segments based on economic control. Assets used by more than one segment are allocated based on the percentage of usage.

Financial data (million €)

	2012 ¹	2013	2014	2015	2016
Sales to third parties	4,061	4,190	3,609	2,790	2,018
Income from operations before depreciation and amortization (EBITDA)	(92)	(533)	(2)	(866)	(972)
Income from operations (EBIT) before special items	(790)	(618)	(566)	(888)	(1,050)
Income from operations (EBIT)	(215)	(664)	(133)	(985)	(1,091)
Thereof costs of corporate headquarters	(255)	(237)	(218)	(233)	(222)
costs for cross-divisional corporate research	(391)	(386)	(389)	(402)	(395)
foreign currency results, hedging and other measurement effects	(454)	(190)	(2)	(220)	(331)

¹ 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.

3 Financials

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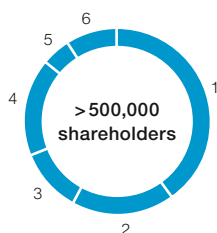
BASF on the capital market

Broad base of international shareholders

With over 500,000 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 2016 showed the following shareholder distribution:

Shareholder structure (by region)

1	Germany	40%
2	United States and Canada	18%
3	United Kingdom and Ireland	11%
4	Rest of Europe	17%
5	Rest of world	5%
6	Not identified	9%



Approximately 29% of the company's share capital is held by private investors, most of whom reside in Germany. BASF is therefore one of the DAX 30 companies with the largest percentage of private shareholders.

Employees becoming shareholders

In many countries, we offer share purchase programs that turn our employees into BASF shareholders. In 2016, e.g., around 24,000 employees (2015: 21,600) purchased employee shares worth about €59 million (2015: €60 million).

For further information, please refer to the BASF Report 2016, page 45.

BASF in key sustainability indexes

In September 2016, BASF shares were included in the Dow Jones Sustainability World Index (DJSI World) for the sixteenth year in succession. As one of the most well-known sustainability indexes, the DJSI World represents the top 10% of the 2,500 largest companies in the S&P Global Broad Market Index based on economic, environmental and social criteria.

BASF has participated in CDP's environmental data reporting program since 2004. The CDP represents more than 820 institutional investors who manage over \$100 trillion in assets. The CDP's indexes serve as assessment tools for investors. In 2016, BASF achieved a rating of A- and gained leadership status once again. In an analysis of the largest 350 enterprises in Germany, Austria and Switzerland by market capitalization, CDP named BASF among five companies whose efforts have contributed significantly to a reduction in environmental emissions. In addition, BASF was one of 24 companies in 2016, out of a total of 607 assessed by CDP, to receive the top grade of "A" for sustainable water management, putting it among the world's leading enterprises in this area.

Share price performance

Assuming that dividends were reinvested, BASF shares gained 30.1% in value in 2016. The BASF share thus outperformed the German and European stock markets, whose benchmark indexes DAX 30 and DJ EURO STOXX 50 gained 6.9% and 3.7% over the same period, respectively. As for the global industry indexes, DJ Chemicals increased 10.8% in 2016 and MSCI World Chemicals 11.2%.

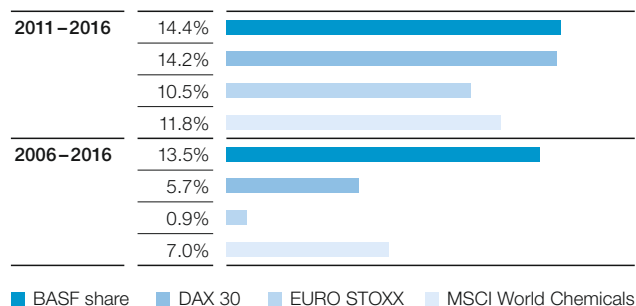
Performance of BASF shares¹



¹ With dividends reinvested

Viewed over a five and ten-year period, the long-term performance of BASF shares still clearly surpasses these indexes. The assets of an investor who invested €1,000 in BASF shares at the end of 2006 and reinvested the dividends in additional BASF shares would have increased to €3,538 by the end of 2016. This represents an annual yield of 13.5%, placing BASF shares above the returns for the DAX 30 (5.7%), EURO STOXX 50 (0.9%) and MSCI World Chemicals (7.0%) indexes.

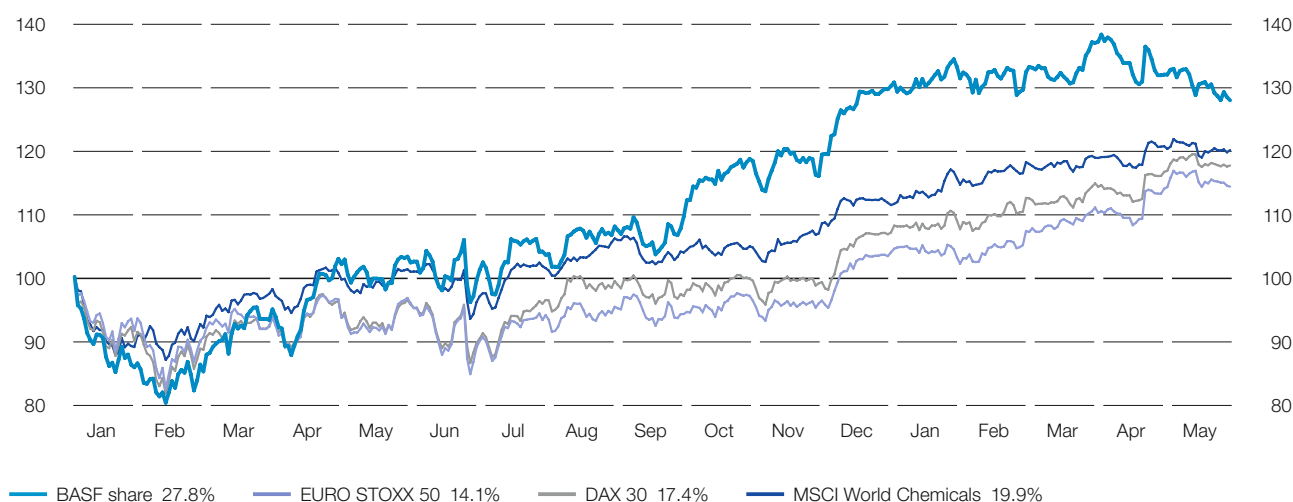
Long-term performance of BASF shares compared with indexes (Average annual performance with dividends reinvested)



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. Since end of April 2015, BASFY is also part of the index OTC-QX Billion+, which includes 64 companies from 19 countries.

Change in value of an investment in BASF shares from January 2016 until May 2017 (with dividends reinvested; indexed)



Dividend

For 2016, BASF paid a dividend of €3.00 per share, up 3.4% versus the previous year. We stand by our ambitious dividend policy and paid out almost €2.8 billion to our shareholders. Based on the year-end share price for 2016, BASF shares offered a high dividend yield of around 3.4%. BASF is part of the DivDAX share index, which contains the fifteen companies with the highest dividend yield in the DAX 30.

Dividend per share

€3.00

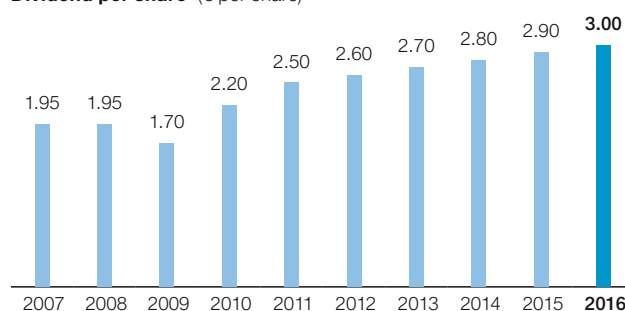
Dividend yield

3.4%

Dividend policy

We aim to increase our dividend each year, or at least maintain it at the previous year's level.

Dividend per share¹ (€ per share)



Analysts recommendations

Around 30 financial analysts regularly publish studies on BASF. In June 2017, 47% recommended buying our shares and 43% recommended holding them, while 10% had a sell rating. As of mid-June, the average target share price assigned to BASF by analysts was €93.

For more information, see basf.com/share

Shareholder return

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Share buybacks (million €)	1,899	1,618	-	-	-	-	-	-	-	-
Dividends (million €)	1,831	1,791	1,561	2,021	2,296	2,388	2,480	2,572	2,664	2,755
Total (million €)	3,730	3,409	1,561	2,021	2,296	2,388	2,480	2,572	2,664	2,755
Dividend per share (€) ¹	1.95	1.95	1.70	2.20	2.50	2.60	2.70	2.80	2.90	3.00
Share price at year-end (€/share) ¹	50.71	27.73	43.46	59.70	53.89	71.15	77.49	69.88	70.72	88.31
Dividend yield (%)	3.9	7.0	3.9	3.7	4.6	3.7	3.5	4.0	4.1	3.4
Payout ratio (%)	45	62	111	44	37	50	52	50	67	68
Price/earnings ratio (P/E ratio)	12.2	8.9	28.2	12.0	8.0	13.6	14.8	12.5	16.3	20.0
Free cash flow yield (%) ²	6.7	9.8	8.0	7.1	7.5	4.0	4.5	2.6	5.6	4.4

¹ Adjusted for 2-1 stock split in 2008

² Free cash flow per share at year-end divided by share price at year-end

Business review by segment

Segment overview (million €)

	Sales		Income from operations before depreciation and amortization (EBITDA) ¹		Income from operations (EBIT) before special items	
	2016	2015	2016	2015	2016	2015
Chemicals	13,461	14,670	3,169	3,090	2,064	2,156
Performance Products	15,002	15,648	2,522	2,289	1,745	1,366
Functional Materials & Solutions	18,732	18,523	2,906	2,228	1,946	1,649
Agricultural Solutions	5,569	5,820	1,305	1,321	1,087	1,090
Oil & Gas	2,768	12,998	1,596	2,587	517	1,366
Other	2,018	2,790	(972)	(866)	(1,050)	(888)
Total	57,550	70,449	10,526	10,649	6,309	6,739

¹ EBITDA is defined as EBIT plus amortization, depreciation and valuation allowances on intangible assets and property, plant and equipment

Segment overview (million €)

	Income from operations (EBIT)		Assets		Investments ¹	
	2016	2015	2016	2015	2016	2015
Chemicals	1,983	2,131	13,486	12,823	1,213	1,859
Performance Products	1,648	1,340	14,549	14,232	864	964
Functional Materials & Solutions	2,199	1,607	17,359	13,341	3,679	854
Agricultural Solutions	1,037	1,083	8,899	8,435	266	402
Oil & Gas	499	1,072	12,829	12,373	1,115	1,823
Other	(1,091)	(985)	9,374	9,632	121	111
Total	6,275	6,248	76,496	70,836	7,258	6,013

¹ Additions to property, plant and equipment (thereof from acquisitions: €155 million in 2016 and €91 million in 2015) and intangible assets (thereof from acquisitions: €2,789 million in 2016 and €136 million in 2015)

Contributions to EBITDA by segment 2016

Chemicals	30%	
Performance Products	24%	
Functional Materials & Solutions	28%	
Agricultural Solutions	12%	
Oil & Gas	15%	
Other	(9%)	

EBITDA margin by segment 2016

Chemicals	24%	
Performance Products	17%	
Functional Materials & Solutions	16%	
Agricultural Solutions	23%	
Oil & Gas	58%	
Other	(48%)	

Cash contributions¹ by segment 2016 (million €)

Chemicals	1,956	
Performance Products	1,658	
Functional Materials & Solutions ²	(773)	
Agricultural Solutions	1,039	
Oil & Gas	481	
Other	(1,093)	

¹ Cash contribution is defined here as EBITDA minus additions to property, plant and equipment and intangible assets

² Including goodwill from the Chemetall acquisition

Additions to property, plant and equipment¹ by segment 2016

1	Chemicals	28%
2	Performance Products	20%
3	Functional Materials & Solutions	17%
4	Agricultural Solutions	6%
5	Oil & Gas	26%
6	Other (infrastructure, R&D)	3%



¹ Including capitalized exploration, restoration obligations and IT investments; not including acquisitions

Regional results

Sales by location of company (million €)

	2007	2008	2009	2010	2011	2012 ¹	2013	2014	2015	2016
Europe	34,316	38,652	30,375	35,156	41,036	41,445	43,335	42,854	38,675	27,221
Thereof Germany	24,312	27,497	21,543	25,426	28,816	29,320	31,571	32,241	28,229	17,540
North America	12,007	11,937	9,404	13,246	14,727	14,441	14,573	15,467	15,665	14,682
Asia Pacific	8,785	8,664	7,997	11,642	13,316	11,694	11,679	11,643	11,712	11,512
South America, Africa, Middle East	2,843	3,051	2,917	3,829	4,418	4,549	4,386	4,362	4,397	4,135
Total	57,951	62,304	50,693	63,873	73,497	72,129	73,973	74,326	70,449	57,550

Sales by location of customer (million €)

	2007	2008	2009	2010	2011	2012 ¹	2013	2014	2015	2016
Europe	32,347	36,693	28,532	33,201	39,124	39,428	41,221	40,911	36,897	26,039
Thereof Germany	11,967	13,796	10,666	12,225	14,705	15,210	14,446	15,126	13,483	7,412
North America	11,928	11,932	9,480	12,886	13,995	13,992	14,272	15,213	15,390	14,042
Asia Pacific	9,579	9,320	8,706	12,510	14,410	12,546	12,450	12,341	12,334	12,165
South America, Africa, Middle East	4,097	4,359	3,975	5,276	5,968	6,163	6,030	5,861	5,828	5,304
Total	57,951	62,304	50,693	63,873	73,497	72,129	73,973	74,326	70,449	57,550

Income from operations (EBIT)² by location of company (million €)

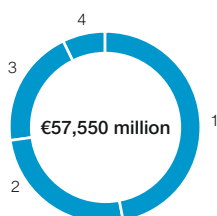
	2007	2008	2009	2010	2011	2012 ¹	2013	2014	2015	2016
Europe	5,415	5,822	2,390	5,206	5,668	4,557	4,485	5,010	4,174	3,632
Thereof Germany	4,226	4,744	1,855	3,769	3,249	2,249	2,164	1,894	2,303	1,582
North America	762	73	495	1,107	1,314	969	1,488	1,548	1,295	1,113
Asia Pacific	828	254	503	1,271	1,133	855	817	673	445	1,098
South America, Africa, Middle East	311	314	289	177	471	361	370	395	334	432
Total	7,316	6,463	3,677	7,761	8,586	6,742	7,160	7,626	6,248	6,275

¹ We have applied International Financial Reporting Standards 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.

² For purposes of increased clarity in the presentation of regional results, income from operations (EBIT) before special items was replaced by EBIT, a figure directly derivable from the Consolidated Financial Statements, as of the second quarter of 2016.

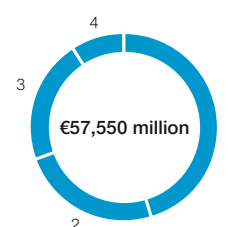
Sales by location of company 2016

1	Europe	47%
2	North America	26%
3	Asia Pacific	20%
4	South America, Africa, Middle East	7%



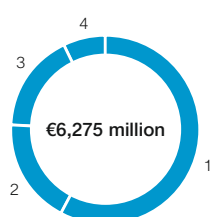
Sales by location of customer 2016

1	Europe	45%
2	North America	25%
3	Asia Pacific	21%
4	South America, Africa, Middle East	9%



Income from operations (EBIT) by location of company 2016

1	Europe	58%
2	North America	18%
3	Asia Pacific	17%
4	South America, Africa, Middle East	7%



Factors influencing sales and sensitivities

Factors influencing sales of the BASF Group

	2007	2008	2009	2010	2011	2012 ¹	2013	2014	2015	2016
Volumes	5%	0%	(10%)	11%	0%	1%	5%	4%	3%	2%
Prices	2%	12%	(14%)	8%	12%	1%	0%	(3%)	(9%)	(4%)
Currencies	(4%)	(4%)	1%	5%	(2%)	3%	(3%)	(1%)	6%	(1%)
Acquisitions/divestitures	7%	0%	4%	2%	5%	(1%)	1%	0%	(5%)	(15%)
Total	10%	8%	(19%)	26%	15%	4%	3%	0%	(5%)	(18%)

¹ We have applied International Financial Reporting Standards 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 for 2016 decreased by €12,899 million to €57,550 million. This was mainly attributable to the divestiture of the gas trading and storage business as part of the asset swap with Gazprom at the end of September 2015. This business had contributed €10.1 billion to sales in 2015. In addition, lower oil, gas and other raw material prices led to a drop in sales prices, reducing sales in the chemicals business – especially the Chemicals segment – as well as in the Oil & Gas segment. We were able to continually raise sales volumes over the course of the year, and achieved slight volumes growth overall. Volumes grew slightly in the Chemicals, Performance Products and Oil & Gas segments. The Functional Materials & Solutions segment posted a significant increase, and Agricultural Solutions a slight decrease. Currency effects slightly dampened sales.

Sensitivities

Currency impact on BASF Group

Our competitiveness on global markets is influenced by fluctuations in exchange rates. Opportunities and risks arise in particular when the U.S. dollar exchange rate fluctuates. A full-year rise in the value of the U.S. dollar/euro exchange rate by \$0.01 would result in an increase of around €40 million in the BASF Group's EBIT, assuming other conditions remain the same. On the production side, we counter foreign currency risks by producing in the respective currency zones.

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

(exchange rate: –\$0.01 per €)

Sales
€210 million

EBIT
€40 million

Financial currency risks also 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.

Oil price impact on the Oil & Gas segment

The year's average oil price for Brent crude was around \$44 per barrel in 2016, compared with \$52 in the previous year. For 2017, we anticipate an average oil price of \$55 per barrel. We therefore expect a moderate increase in price levels for the raw materials and petrochemical basic products that are important to our business. Yet an oil price level below the expected average would pose risks for our oil and gas business, whose EBIT declines by approximately €20 million for every \$1 decrease in the average annual barrel price of Brent crude.

Annual impact of oil price change on Oil & Gas segment

(\$1 per barrel rise in annual average oil price for Brent crude)

Sales
€20 million

EBIT
€20 million

Financing

Our financing policy is aimed at ensuring 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 international capital markets. We strive to maintain at least a solid “A” rating, which allows us unrestricted access to money and capital markets. Our financing measures are aligned with our operative 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.

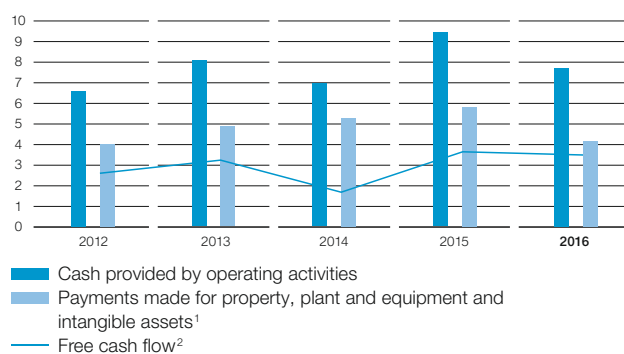
For short-term financing, we use BASF SE’s U.S. dollar commercial paper program, which has an issuing volume of up to \$12.5 billion. Firmly committed, syndicated credit lines of €6 billion serve to cover the repayment of outstanding commercial paper, and can also be used for general company purposes. These credit lines were not used at any point in 2016. 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 flow

At €7,717 million, cash provided by operating activities in 2016 was €1,729 million below the level of the previous year. Contributing to this was the lower year-on-year level of cash inflow from changes in net working capital, which contains changes in inventories and receivables as well as in operating liabilities and other provisions. This resulted primarily from the targeted reduction of inventories in 2015. Payments made for property, plant and equipment and intangible assets were at €4,145 million, below both the prior year’s level (€5,812 million) and the level of amortization and depreciation of intangible assets and property, plant and equipment and financial assets (€4,291 million). With €3,572 million, free cash flow remained at the level of 2015. The decline in cash provided by operating activities was offset by lower payments made for property, plant and equipment and intangible assets.

Cash flow (billion €)



¹ Including investments to the extent that they already had an effect on cash.
² Cash provided by operating activities less payments related to property, plant and equipment and intangible assets.

Good credit ratings and solid financing

BASF has good credit ratings, especially in comparison with competitors in the chemical industry. Rating agency Moody’s last confirmed their rating of “A1/P-1/outlook stable” on May 30, 2017. Standard & Poor’s adjusted their BASF rating from “A+/A-1/outlook negative” to “A/A-1/outlook stable” on March 14, 2016, and confirmed it most recently on August 10, 2016. Rating agency Scope has also been evaluating our creditworthiness since September 2016. They rated BASF at “A/S-1/outlook stable.”

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 (million €)

2017	3,767	
2018	1,887	
2019	2,115	
2020	1,304	
2021	1,049	
2022 and beyond	6,190	

Ten-year summary

Million €	2007	2008	2009	2010	2011	2012 ¹	2013 ²	2014	2015	2016
Sales and earnings										
Sales	57,951	62,304	50,693	63,873	73,497	72,129	73,973	74,326	70,449	57,550
Income from operations (EBIT)	7,316	6,463	3,677	7,761	8,586	6,742	7,160	7,626	6,248	6,275
Income before taxes	6,935	5,976	3,079	7,373	8,970	5,977	6,600	7,203	5,548	5,395
Income before minority interests	4,325	3,305	1,655	5,074	6,603	5,067	5,113	5,492	4,301	4,255
Net income	4,065	2,912	1,410	4,557	6,188	4,819	4,792	5,155	3,987	4,056
Income from operations before depreciation and amortization (EBITDA)	10,225	9,562	7,388	11,131	11,993	10,009	10,432	11,043	10,649	10,526
EBIT before special items	7,614	6,856	4,852	8,138	8,447	6,647	7,077	7,357	6,739	6,309
EBIT after cost of capital	2,895	1,621	(226)	3,500	2,551	1,164	1,768	1,368	194	1,136
Capital expenditures, depreciation and amortization										
Additions to property, plant and equipment and intangible assets	4,425	3,634	5,972	5,304	3,646	5,263	7,726	7,285	6,013	7,258
Thereof property, plant and equipment	2,564	2,809	4,126	3,294	3,199	4,084	6,428	6,369	5,742	4,377
Depreciation and amortization of property, plant and equipment and intangible assets	2,909	3,099	3,711	3,370	3,407	3,267	3,272	3,417	4,401	4,251
Thereof property, plant and equipment	2,294	2,481	2,614	2,667	2,618	2,594	2,631	2,770	3,600	3,691
Number of employees										
At year-end	95,175	96,924	104,779	109,140	111,141	110,782	112,206	113,292	112,435	113,830
Annual average	94,893	95,885	103,612	104,043	110,403	109,969	111,844	112,644	113,249	111,975
Personnel expenses										
	6,648	6,364	7,107	8,228	8,576	8,963	9,285	9,224	9,982	10,165
Research and development expenses										
	1,380	1,355	1,398	1,492	1,605	1,732	1,849	1,884	1,953	1,863
Key data										
Earnings per share ³	€ 4.16	3.13	1.54	4.96	6.74	5.25	5.22	5.61	4.34	4.42
Cash provided by operating activities ⁴	5,807	5,023	5,693	6,460	7,105	6,602	8,100	6,958	9,446	7,717
EBITDA margin	% 17.6	15.3	14.6	17.4	16.3	13.9	14.1	14.9	15.1	18.3
Return on assets	% 16.4	13.5	7.5	14.7	16.1	11.0	11.5	11.7	8.7	8.2
Return on equity after tax	% 22.4	17.0	8.9	24.6	27.5	19.9	19.2	19.7	14.4	13.3
Appropriation of profits										
Net income of BASF SE ⁵	2,267	2,982	2,176	3,737	3,506	2,880	2,826	5,853	2,158	2,808
Dividends	1,831	1,791	1,561	2,021	2,296	2,388	2,480	2,572	2,664	2,755
Dividend per share ³	€ 1.95	1.95	1.70	2.20	2.50	2.60	2.70	2.80	2.90	3.00
Number of shares as of December 31^{3,6}										
million	956.4	918.5	918.5	918.5	918.5	918.5	918.5	918.5	918.5	918.5

¹ We have applied International Financial Reporting Standards 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.

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

³ We conducted a two-for-one stock split in the second quarter of 2008. The previous year's figures for earnings per share, dividend per share and number of shares have been adjusted accordingly.

⁴ Includes the change in reporting from 2009 onward of the effects of regular extensions of U.S. dollar hedging transactions.

⁵ Calculated in accordance with German GAAP.

⁶ After deduction of repurchased shares earmarked for cancellation.

Balance sheet (IFRS)

Million €	2007	2008	2009	2010	2011	2012 ¹	2013 ²	2014	2015	2016
Intangible assets	9,559	9,889	10,449	12,245	11,919	12,193	12,324	12,967	12,537	15,162
Property, plant and equipment	14,215	15,032	16,285	17,241	17,966	16,610	19,229	23,496	25,260	26,413
Investments accounted for using the equity method	834	1,146	1,340	1,328	1,852	3,459	4,174	3,245	4,436	4,647
Other financial assets	1,952	1,947	1,619	1,953	848	613	643	540	526	605
Deferred taxes	679	930	1,042	1,112	941	1,473	1,006	2,193	1,791	2,513
Other receivables and miscellaneous noncurrent assets	655	642	946	653	561	911	877	1,498	1,720	1,210
Noncurrent assets	27,894	29,586	31,681	34,532	34,087	35,259	38,253	43,939	46,270	50,550
Inventories	6,578	6,763	6,776	8,688	10,059	9,581	10,160	11,266	9,693	10,005
Accounts receivable, trade	8,561	7,752	7,738	10,167	10,886	9,506	10,233	10,385	9,516	10,952
Other receivables and miscellaneous current assets	2,337	3,948	3,223	3,883	3,781	3,455	3,714	4,032	3,095	3,078
Marketable securities	51	35	15	16	19	14	17	19	21	536
Cash and cash equivalents	767	2,776	1,835	1,493	2,048	1,647	1,827	1,718	2,241	1,375
Assets of disposal groups	614	–	–	614	295	3,264	–	–	–	–
Current assets	18,908	21,274	19,587	24,861	27,088	27,467	25,951	27,420	24,566	25,946
Total assets	46,802	50,860	51,268	59,393	61,175	62,726	64,204	71,359	70,836	76,496
Subscribed capital	1,224	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176
Capital surplus	3,173	3,241	3,229	3,216	3,203	3,188	3,165	3,143	3,141	3,130
Retained earnings	14,556	13,250	12,916	15,817	19,446	23,708	26,102	28,777	30,120	31,515
Other comprehensive income	174	(96)	156	1,195	314	(3,461)	(3,400)	(5,482)	(3,521)	(4,014)
Minority interests	971	1,151	1,132	1,253	1,246	1,010	630	581	629	761
Equity	20,098	18,722	18,609	22,657	25,385	25,621	27,673	28,195	31,545	32,568
Provisions for pensions and similar obligations	1,292	1,712	2,255	2,778	3,189	5,421	3,727	7,313	6,313	8,209
Other provisions	3,015	2,757	3,289	3,352	3,335	2,925	3,226	3,502	3,369	3,667
Deferred taxes	2,060	2,167	2,093	2,467	2,628	2,234	2,894	3,420	3,381	3,317
Financial indebtedness	6,954	8,290	12,444	11,670	9,019	8,704	11,151	11,839	11,123	12,545
Other liabilities	901	917	898	901	1,142	1,111	1,194	1,197	869	873
Noncurrent liabilities	14,222	15,843	20,979	21,168	19,313	20,395	22,192	27,271	25,055	28,611
Accounts payable, trade	3,763	2,734	2,786	4,738	5,121	4,502	5,153	4,861	4,020	4,610
Provisions	2,697	3,043	3,276	3,324	3,210	2,628	2,670	2,844	2,540	2,802
Tax liabilities	881	860	1,003	1,140	1,038	870	968	1,079	1,082	1,288
Financial indebtedness	3,148	6,224	2,375	3,369	3,985	4,094	3,256	3,545	4,074	3,767
Other liabilities	1,976	3,434	2,240	2,802	3,036	2,623	2,292	3,564	2,520	2,850
Liabilities of disposal groups	17	–	–	195	87	1,993	–	–	–	–
Current liabilities	12,482	16,295	11,680	15,568	16,477	16,710	14,339	15,893	14,236	15,317
Total equity and liabilities	46,802	50,860	51,268	59,393	61,175	62,726	64,204	71,359	70,836	76,496

¹ We have applied International Financial Reporting Standards 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.

² 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 2017

July 27, 2017

Quarterly Statement, 3rd Quarter 2017

October 24, 2017

Full-Year Results 2017

February 27, 2018

Quarterly Statement, 1st Quarter 2018 / Annual Shareholders' Meeting 2018

May 4, 2018



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