# **BASF Factbook 2015**

Information for investors and analysts



### **Investment Highlights**

No. 1 chemical company: Uniquely positioned with broad market access, portfolio of technologies and expertise

Superior growth opportunities: Innovation, sustainability and emerging markets

Competitive advantage based on **Verbund concept** and operational excellence

Long-term value creation based on a sound balance sheet and financial strength



# Xemium offers best-in-class disease control for a broad range of crops

BASF's blockbuster fungicide Xemium outperforms conventional fungicide products in three ways: It remains effective longer, can be used more flexibly and moves extraordinarily well within the plant. For the farmer, this translates into higher crop yield and improved quality.

Factbook 2015 was published in July

#### Forward-looking statements

This Factbook contains forward-looking statements. These statements are based on current estimates and projections of BASF management and currently available information. They are not guarantees of future performance, involve certain risks and uncertainties that are difficult to predict, and are based upon assumptions as to future events that may not be accurate. Many factors could cause the actual results, performance or achievements of BASF to be materially different from those that may be expressed or implied by such statements. BASF does not assume any obligation to update the forward-looking statements contained in this Factbook.

For further information on opportunities and risks, please refer to the BASF Report 2014 (opportunities and risks report, pages 111–118).

BASF Factbook 2015 Contents 1

1 The Compan	y		4
At a glance —	6	Innovation: Research and development —————	_ 20
Milestones in BASF's history —		Research focus areas: Growth and technology fields	
		Growth field example: Functional Crop Care ———	
Management Board ————————————————————————————————————		Investments ————————————————————————————————————	
Corporate governance and compliance ———	12	Operational excellence	— 26
Strategy —	13	Unique Verbund concept	<b>27</b>
Global challenges			
Corporate strategy —		Sustainability ————————————————————————————————————	<b>— 30</b>
Portfolio management —		Identification of materials aspects ——————	
Market approach —	18	Our goals —	<b>– 33</b>
2 Business seg	gment	ts	34
Business segments —	36	Functional Materials & Solutions	
Chemicals	20	Catalysts — Construction Chemicals — Construction Chemicals	
Petrochemicals —		Coatings —	
Monomers —		Performance Materials —	
Intermediates —		r enormance materials	_ 00
intermediates	7-7	Agricultural Solutions —	68
Performance Products —	46	Crop Protection —	
Restructuring Performance Products —			. 0
Dispersions & Pigments		Oil & Gas	<b>72</b>
Care Chemicals —	52	Exploration & Production —	_ 74
Nutrition & Health ————————————————————————————————————	54	Natural Gas Trading ———————	<b>–</b> 76
Performance Chemicals —	56		
		Other	<b>– 78</b>
3 Financials			80
BASF on the capital market —	82	Financing —	<b>87</b>
Ten-year summary —	84	Balance sheet —	<b>88</b>
Regional results —	85	Business review by segment —	<b>89</b>
Factors influencing sales —	86	Investor Relations Team —	<b>90</b>



### **Dear Investors and Analysts,**

I am pleased to share with you the ninth edition of our annual BASF Factbook. It has become a key part of our communication with the capital markets and is a reflection of our commitment to transparency and openness. Once again, we hope it will be a helpful tool in your day-to-day work.

You will learn more about our management systems and processes. We also explain how we apply our operational and strategic levers to improve our performance and to implement our "We create Chemistry"-strategy and finally we also provide you with deep-dives into our business segments to help you to better assess the competitiveness of our individual businesses.

2015 is a special year for us. BASF has turned 150 years old. While this might be seen as quite some accomplishment, we mainly perceive it as a starting point to further improve our company. We want to continue to profitably grow in a sustainable way, thereby helping our customers to become even more successful while benefitting from the integrated management approach which we apply at BASF.

We continue to focus on R&D, which is becoming even more important for our industry in the future. This has been highlighted by the scientific symposia which we have held during our anniversary year. We also collaborated in a new and creative way with customers, suppliers, technical and scientific experts and NGO-representatives as part of our "Creator-Space-Tour". This tour clearly highlighted many untapped areas for better chemistry. And, 2015 we are on track to achieve our goal of having more than € 10 billion of sales from products introduced during the last five years.

In the past year, we have also further developed our research organization. Today, more than 10,000 researchers around the world work for BASF. Ludwigshafen will remain a strong hub in our R&D landscape, but we will intensify our efforts outside Europe by increasing R&D personnel in Asia and North America. We need a strong research presence in these regions because our customers want to be able to work with us at a very early stage. Our research will be focused around the global trends of resources, environment and climate; food and nutrition; and quality of life. We believe chemistry is an enabler to solve the challenges of the future. We have stepped up again our R&D budget, which now stands at €1.9 billion.

2015 is not just our anniversary year. It is also a year for which we had set ourselves ambitious growth and profit targets – back in 2011. The trends which we identified are still correct, however the global growth dynamics were less than expected. Developing countries today grow much more slowly than previously and also below our expectations. In the developed markets, especially in our largest market Europe, we are still waiting for a profound recovery.

We have invested more in organic growth than we have done in decades. We are in the process of starting up several new plants: our new TDI complex in Ludwigshafen, the MDI complex in Chongqing, as well as the world-scale acrylic acid and superabsorbent production complex in Camaçari. 2014 represented the peak of our investment cycle, as several major projects, which had been initiated in previous years, neared completion.

Active portfolio management also means reshaping businesses. We are in the process of further optimizing our Performance Products segment. At the beginning of this year, we dissolved the Paper Chemicals division to strengthen our competitiveness. The business will be continued in the Performance Chemicals and Dispersions & Pigments divisions in order to utilize synergies along our existing value chains and at the same time to remain a reliable, high-performance partner for the paper industry. The textile chemicals business has been sold. The custom synthesis business is planned to be sold in the second half of the year, and further measures in this segment are planned. We are on track to reach our annual earnings contribution from the restructuring process of €500 million by the end of 2017.

In view of the continuing uncertain environment and the lack of immediate signs pointing to a quick recovery of the global economy, we will continue to focus on operational excellence. You will find examples in this Factbook. We have set ourselves ambitious targets for this year, which are even more demanding considering the challenging macroeconomic environment and the negative effect of the oil price on our E&P-business.

The management team and I look forward to speaking with you during our roadshows, investor days, and presentations of our quarterly results. We value your input and how you view BASF's path forward. We see significant opportunities ahead for BASF and we remain committed to delivering long-term sustainable value for all stakeholders.

Best regards,

Kurt Bock

Chairman of the Board of Executive Directors of BASF SE



# The Company

At a glance —————	
Milestones in BASF's history ————————————————————————————————————	
Management Board ————————————————————————————————————	
Corporate governance and compliance	
Strategy —	
Global challenges ————————————————————————————————————	
Corporate strategy ————————————————————————————————————	
Portfolio management ————————————————————————————————————	
Market approach —————————	
Innovation: Research and development ————	
Research focus areas: Growth and technology fields -	
Growth field example: Functional Crop Care ———	
Investments ————————————————————————————————————	
Operational excellence	
Unique Verbund concept ————————————————————————————————————	
Sustainability ————————————————————————————————————	
Identification of materials aspects ————————————————————————————————————	
Our goals —————	

At a glance BASF Factbook 2015

### At a glance

BASF is the world's leading chemical company and looks at a history of 150 years. Our broad portfolio is arranged into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. As a reliable partner, we innovate for our customers to be more successful in virtually all industries. Our high-value products and sustainable solutions play an important role in finding answers to global challenges such as climate protection, energy efficiency, nutrition and quality of life.

### Well-balanced portfolio: Five segments

#### Percentage of sales 20141

1	Chemicals	<ul><li>Petrochemicals</li><li>Monomers</li><li>Intermediates</li></ul>	23 %
2	Performance Products	<ul> <li>Dispersions &amp; Pigments</li> <li>Care Chemicals</li> <li>Nutrition &amp; Health</li> <li>Paper Chemicals<sup>2</sup></li> <li>Performance Chemicals</li> </ul>	21 %
3	Functional Materials & Solutions	Catalysts     Construction Chemicals     Coatings     Performance Materials	24 %
4	Agricultural Solutions	- Crop Protection	7 %
5	Oil & Gas	Oil & Gas     (Exploration & Production and     Natural Gas Trading)	20 %



### **Key figures**

in million €		2012	2013	2014
Sales		72,129	73,973	74,326
EBITDA		10,009	10,432	11,043
EBIT before special items		6,647	7,077	7,357
Net income		4,819	4,792	5,155
Operating cash flow		6,602	8,100	6,958
Earnings per share (EPS)	€	5.25	5.22	5.61
Adjusted EPS	€	5.64	5.31	5.44
Dividend per share	€	2.60	2.70	2.80
Dividend yield <sup>1</sup>	%	3.7	3.5	4.0

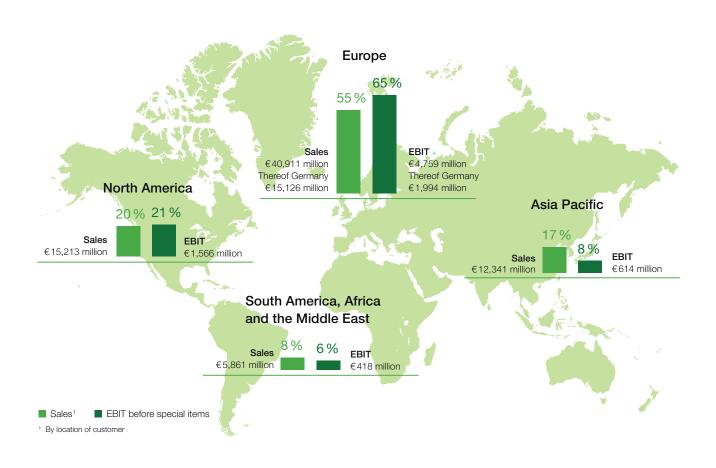
<sup>&</sup>lt;sup>1</sup> As of December 31 of each year

### **Key facts**

- More than 113,000 employees worldwide thereof around 10,700 in research and development (R&D)
- Customers in nearly all countries and in virtually all industries
- Within the top three market positions in about 70% of our businesses
- Unique Verbund concept: Production plants linked intelligently to save resources and energy; six world-scale Verbund sites worldwide
- Know-How Verbund with more than 600 excellent universities, research institutes and companies with around 3,000 research projects with customers, science and partners; 1,200 new patents filed in 2014

<sup>&</sup>lt;sup>1</sup> The 5% of sales not shown belonged to Other

<sup>&</sup>lt;sup>2</sup> As of January 1, 2015 we dissolved the Paper Chemicals division and are continuing the paper chemicals business in the Performance Chemicals and Dispersions & Pigments divisions.



### Sales by industry<sup>1</sup>

Chemicals and plastics	Consumer goods Transportation	Agriculture	Health and nutrition
Energy and resources		Construction	Electronics
> 15 %	10 % –15 %	5 % –10 %	< 5 %

<sup>&</sup>lt;sup>1</sup> Direct customers, percentage of sales 2014

### Celebrating 150: BASF celebrates its 150th anniversary in 2015

Employees, customers, partners, scientists and other BASF stakeholder are invited to the festivities. The range of activities varies from science symposia to customer events and from discussion forums on individual topics to anniversary celebrations.

☐ For further information about BASF's 150th anniversary, see creator-space.basf.com

On the occasion of the 150th anniversary the BASF Co-creation program was launched. Creator Space™ is the name of the adventure that will mark the jubilee. Many employees, but also external experts worldwide are addressing challenges of the future like Urban Living, Smart Energy and Food.

☐ For further information about BASF's 150th anniversary, see creator-space.basf.com

Milestones in BASF's history BASF Factbook 2015

### Milestones in BASF's history

Innovation has been the driver guiding BASF history since the company's foundation in 1865. From indigo and audiotapes to catalysts: insights into BASF's past and present.



Friedrich Engelhorn, founder and first chairman of the BASF Board of Executive Directors from 1865 to 1883.



In 1876, Heinrich Caro succeeds in synthesizing a pure blue dye for cotton: methylene blue.



The Ludwigshafen and Oppau sites in 1939.

### 1865–1901 The birth of the chemical industry and the era of dyes

"Badische Anilin- & Sodafabrik", a stock corporation, is founded in Mannheim on April 6, 1865. The emerging company is intended to produce dyes, as well as the inorganic chemicals needed for doing so. When attempts failed to purchase a site in Mannheim on the Baden side of the Rhine, the facilities are built on the opposite river bank, in Ludwigshafen in the Palatinate region.

# 1902–1924 The Haber-Bosch process and the era of fertilizers

BASF begins its first research projects on nitrogen around the turn of the century. After work by Fritz Haber at the Karlsruhe Technical University makes it possible to synthesize ammonia, a compound of nitrogen and hydrogen, there is a feasible way forward. At BASF, Carl Bosch takes on the job of developing the process on an industrial scale.

### 1925–1944 New forms of high-pressure synthesis

BASF builds on its expertise in the Haber-Bosch process and develops additional areas of application for high pressure technology: the hydrogenation of coal to generate synthetic fuel and the production of synthetic rubber (Buna). At this time BASF was part of the I.G. Farbenindustrie Aktiengesellschaft AG, formed by the merger of BASF and five other major chemical companies in 1925.

Milestones in BASF's history



In 1951, BASF starts production of its globally successful product Styropor.



In 2015, BASF celebrates its 150<sup>th</sup> anniversary. It is the world's leading chemical company.

### 1945-1964

# A fresh start, and the dawn of the era of plastics

After the French military occupation and many years of negotiating the demerger of I.G. Farben, the Badische Anilin- & Sodafabrik Aktiengesellschaft is reestablished on January 30, 1952. Initially limited to its Ludwigshafen and Oppau sites and its traditional product lines, BASF contributes to the economic boom that gets underway in the 1950s.

### 1965-1989

# The road to becoming a transnational company

On its 100<sup>th</sup> anniversary in 1965, BASF is already on its way to becoming a transnational company: with the launch investments in the USA, the company is strengthening its presence in markets worldwide. An ever greater priority is given to securing raw material supplies and expanding its portfolio to include consumer and higher value products.

### 1990-2015

# BASF has become the number one chemical company

At the turn of the millennium, BASF further strengthened its global presence and its core businesses. With six Verbund sites worldwide, two in Asia, two in Europe and two in North America, BASF has become the number one chemical company in the world. Today, over 113,000 employees worldwide contribute to the success of the company.

Management board BASF Factbook 2015

### **Management Board**

### **Board of Executive Directors of BASF SE**



**Kurt Bock** 

Chairman of the Board of Executive Directors; 57 years, 24 years at BASF Responsibilities:

Legal, Taxes & Insurance; Strategic Planning & Controlling; Communications & Government Relations; Global Executive Human Resources; Investor Relations; Compliance



Martin Brudermüller

Vice Chairman of the Board of Executive Directors and Chief Technology Officer; 54 years, 27 years at BASF

Responsibilities:

Petrochemicals; Monomers; Intermediates; Process Research and Chemical Engineering; Corporate Technology & Operational Excellence; BASF New Business



Hans-Ulrich Engel

Chief Financial Officer; 56 years, 27 years at BASF

Responsibilities:

Oil & Gas; Finance; Procurement; Information Services & Supply Chain Operations; Corporate Controlling; Corporate Audit



Sanjeev Gandhi

48 years, 21 years at BASF, based in Asia

Responsibilities:

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



Michael Heinz

51 years, 31 years at BASF

Responsibilities:

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



Harald Schwager

55 years, 27 years at BASF

Responsibilities:

Construction Chemicals; Crop Protection; Bioscience Research; Region Europe



Wayne T. Smith

55 years, 11 years at BASF, based in North America

Responsibilities:

Catalysts; Coatings; Performance Materials; Market & Business Development North America; Regional Functions North America



Margret Suckale

59 years, 6 years at BASF

Responsibilities:

Responsibilities.
Engineering & Maintenance; Environment,
Health & Safety; European Site & Verbund
Management; Human Resources

Management board

### **BASF's Supervisory Board**

The Supervisory Board appoints the members of the Board of Executive Directors and supervises and advises the Board on management issues.

### Shareholder representatives

### Dr. Jürgen Hambrecht

Chairman of the Supervisory Board of BASF SE

### Dame Alison J. Carnwath DBE

Senior Advisor Evercore Partners Franz Fehrenbach

### Prof. Dr. François Diederich

Professor at the Swiss Federal Institute of Technology, Zurich, Switzerland

### Michael Diekmann

Vice Chairman of the Supervisory Board of BASF SE Former Chairman of the Board of Management of Allianz SE Member of the Supervisory Boards of Linde AG and Siemens AG

Chairman of the Supervisory Board of Robert Bosch GmbH and Managing Partner of Robert Bosch Industrietreuhand KG (RBIK)

#### 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

### **Employee representatives**

#### Robert Oswald

Vice Chairman of the Administrative Council of BASF SE. Chairman of the Works Council of the Ludwigshafen site of BASF SE and Chairman of BASE's Joint Works Council

### Ralf-Gerd Bastian

Member of the Works Council of the Ludwigshafen site of BASE SE

### **Wolfgang Daniel**

Vice Chairman of the Works Council of the Ludwigshafen site of BASF SE

#### Francessco Grioli

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

#### **Denise Schellemans**

Full time trade union delegate

#### Michael Vassiliadis

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

### Two-tier management system of BASF SE

The two-tier system guarantees a transparent and effective separation of company management and supervision between BASF's Board of Executive Directors and the Supervisory Board. Shareholders and employees on the Supervisory Board are represented equally. Shareholders have the right to co-administrate and supervise at the Annual Shareholders' Meeting.

appoints the Board of Executive Directors

monitors the Board of Executive Directors

advises the Board of Executive Directors

### **Board of Executive Directors**



8 members appointed by the Supervisory Board Chairman appointed by the Supervisory Board

reports to 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

Corporate governance refers to the entire system for managing and supervising a company. This includes the organization, values, corporate principles and guidelines as well as internal and external control and monitoring mechanisms. Effective and transparent corporate governance guarantees that BASF is managed and monitored in a responsible manner focused on value creation.

### Corporate Governance

The fundamental elements of BASF SE's corporate governance system are: its two-tier system, with a transparent and effective separation of company management and supervision between BASF's Board of Executive Directors and the Supervisory Board; the equal representation of shareholders and employees on the Supervisory Board; and the shareholders' rights of co-administration and supervision at the Annual Shareholders' Meeting. The Supervisory Board of BASF SE comprises twelve members. Six members are elected by the shareholders at the Annual Shareholders' Meeting. The remaining six members are elected by the BASF Europa Betriebsrat (European Works Council), the European employee representation body of the BASF Group.

The Board of Executive Directors informs the Supervisory Board regularly, without delay and comprehensively, of all issues important to the company with regard to planning, business development, risk situation, risk management and compliance. Furthermore, the Board of Executive Directors coordinates the company's strategic orientation with the

Supervisory Board. BASF SE's Supervisory Board has established a total of three Supervisory Board Committees: the Personnel Committee, the Audit Committee and the Nomination Committee.

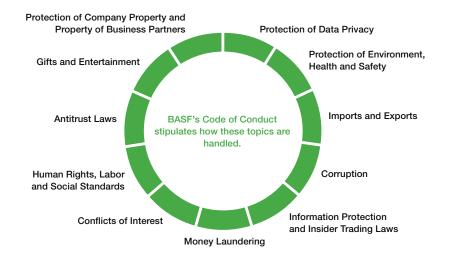
### Code of conduct and compliance

Binding standards of conduct ensure that our values are firmly established in day-to-day business activities. The framework for this is our corporate governance system, which encompasses the management and monitoring of the company. The system includes organizations, commercial principles, and guidelines, as well as internal and external control and monitoring mechanisms. The company value "responsible" is the foundation of our Compliance Program.

For further information please refer to the annual report page 127-150.

### BASF's Code of Conduct

Our actions are based on behavior compliant with the Code of Conduct, which comprises important laws as well as company-internal policies that often exceed legal requirements



Strategy

Global Challenges

# **Strategy**

### Global Challenges

Innovations based on chemistry will play a key role in addressing future challenges. In 2050, more than 9 billion people will live on this planet. This population growth is associated with enormous challenges, but also with many opportunities, especially for the chemical industry. We expect the chemical industry to see particularly strong growth in the emerging markets, which will account for around 60% of global chemical production by 2020.

Chemical innovations will play a key role in these three areas in particular:



### **Urban living**

By 2050, more than 70 % of the world population will live in cities. With megacities of up to 50–60 million people, in China for example, the strain on the world's energy and raw materials will be crippling. Construction, housing and demolition of buildings together account for about 40 % of global energy consumption and 30 % of greenhouse gas emissions. Innovative solutions are required for quality, affordable housing, safe water supply, intelligent waste management and efficient urban mobility.



### Smart energy

Current forecasts predict that population growth and the increasing prosperity enjoyed by many people will lead to a jump in energy demand of more than 50% by 2050. Alone the demand for electricity is set to double as many emerging nations catch up with the electrification of more developed countries. With a focus on energy storage, access, reliability and alternative power generation, Smart energy is an area in which the world truly requires our greatest attention.



### Food

Every man, woman and child should have access to healthy and nutritious food now and into the future. This is essential for our quality of life. But in many countries, poverty, lack of fertile land, adverse weather conditions, inefficient farming practices, poor infrastructure and supply chains mean that many people are malnourished. Elsewhere, oversupply coupled with excessive diets and unhealthy lifestyle habits have led to obesity and health challenges.

Key trends for the chemical industry

Growth above GDP

Innovation gains in importance

Sustainability as strategic driver

Competitive landscape will change

### Corporate strategy

With the "We create chemistry" strategy, BASF has set itself ambitious goals in order to strengthen its position as the world's leading chemical company. We want to contribute to a sustainable future and have embedded this into our corporate purpose: "We create chemistry for a sustainable future."

### **Purpose**

We create chemistry for a sustainable future

# **Principles**

As strategic basis for our success on the market

## **Values**

As guidance for our conduct and actions

### Our corporate purpose

Through research and innovation, we support our customers in nearly every industry in meeting the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring good nutrition and improving quality of life.

Innovations based on chemistry will play a key role in three areas in particular:

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

Our leading position as an integrated global chemical company creates opportunities for us to make important contributions in all three of these areas. In pursuing them, we act in accordance with four strategic principles.

### Our strategic principles

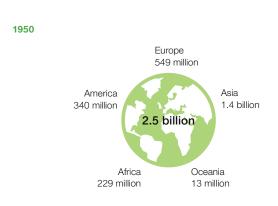
### We add value as one company.

Our Verbund concept is unique in the industry. Encompassing the Production Verbund, Technology Verbund and Know-How Verbund as well as all relevant customer industries worldwide, this sophisticated and profitable system will continue to be expanded. This is how we combine our strengths and add value as one company.

#### We innovate to make our customers more successful.

We want to align our business even more with our customers' needs and contribute to their success with innovative and sustainable solutions. Through close partnerships with customers and research institutes, we link expertise in chemistry, biology, physics, materials science and engineering to jointly develop customized products, functional materials, and system solutions as well as processes and technologies.

### World population growth



Europe 2050 0.7 billion +30% America Asia 1.2 billion 5.2 billion +250% +270% 9.6 billion Africa Oceania 2.4 billion 0.1 billion +950% +340%

Source: United Nations

**BASF Factbook 2015** Strategy 15 Corporate strategy

#### We drive sustainable solutions.

In the future, sustainability will more than ever serve as a starting point for new business opportunities. That is why sustainability and innovation are becoming significant drivers for our profitable growth.

### We form the best team.

Committed and qualified employees around the world are the key to making our contribution to a sustainable future. Because we want to form the best team, we offer excellent working conditions and inclusive leadership based on mutual trust, respect and dedication to top performance.

### Our values

Our conduct is critical for the successful implementation of our strategy: This is what our values represent. They guide how we interact with society, our partners and with each other.

#### Creative:

In order to find innovative and sustainable solutions, we have the courage to pursue bold ideas. We link our areas of expertise from many different fields and build partnerships to develop creative, value-adding solutions. We constantly improve our products, services and solutions.

### Open:

We value diversity - in people, opinions and experience. That is why we foster dialog based on honesty, respect and mutual trust. We develop our talents and capabilities.

### Responsible:

We act responsibly as an integral part of society. In doing so, we strictly adhere to our compliance standards. And in everything we do, we never compromise on safety.

### **Entrepreneurial:**

All employees contribute to BASF's success - as individuals and as a team. We turn market needs into customer solutions. We succeed in this because we take ownership and embrace accountability for our work.

### Strategic focus areas

We have defined strategic focus areas within our company, and are concentrating on industry orientation, innovation, employees, sustainability, technology and operational excellence in order to achieve our goals. To maximize our potential, we combine our strengths and act as one company to even better use the full range of competencies that make us unique in our industry. We will tap new growth markets by bringing our research and development expertise, operational excellence, market knowledge and customer relationships even more closely together. This is how we promote the long-term success of both BASF and our customers with our products and solutions. Our employees are fundamental to achieving the goals of our "We create chemistry" strategy.

#### Global standards

Our standards fulfill or exceed existing laws and regulations and take internationally recognized principles into account. We respect and promote all of the following:

- The 10 principles of the U.N. Global Compact
- The Universal Declaration of Human Rights and both United Nations covenants on human rights
- The ILO's core labor standards and Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (MNE Declaration)
- The OECD Guidelines for Multinational Enterprises
- The Responsible Care Global Charter
- The German Corporate Governance Code

We stipulate rules for our employees with standards that apply throughout the Group. We set ourselves ambitious goals with voluntary commitments and review our environmental, health and safety performance using our Responsible Care Management System. Regular audits and a threepronged monitoring system ensure our compliance with labor and social standards. This system comprises the following instruments:

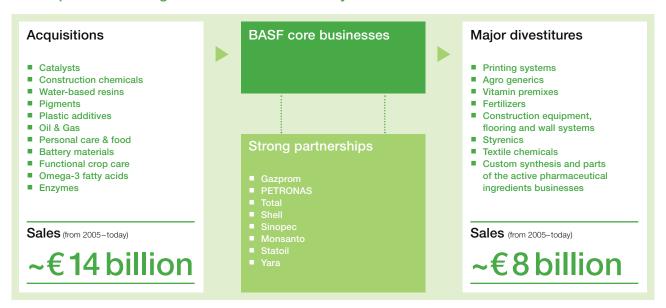
- External compliance hotlines
- Annual inquiry into our Group companies to inspect prevailing working conditions
- Close dialog with our stakeholders, such as employee representatives and international organizations

Our business partners are expected to comply with prevailing laws and regulations and to align their actions with internationally recognized principles. We have established monitoring systems to ensure this.

### Portfolio management

BASF pursues active portfolio management. In recent years, we have continuously optimized our portfolio through acquisitions, divestitures and partnerships.

### Active portfolio management from 2005 till today



### **Partnerships**

Strategic partnerships with leading companies are an important pillar in BASF's active portfolio management. These partnerships improve the profitability of the overall portfolio. Among the most important partnerships are:

Gazprom	Long-term upstream partnership combined with natural gas trading activities	Oil & Gas	since 1990
PETRONAS	Joint venture partner in Verbund site Kuantan, Malaysia	Chemicals	since 1997
Total	Partner in steam cracker in Port Arthur, Texas Partner in world-scale C4 olefins complex in Port Arthur, Texas	Chemicals	since 1998
Shell	Joint venture for SMPO production in the Netherlands	Chemicals	since 1999
Sinopec	Joint venture partner in Verbund site Nanjing, China and for isononanol plant in Maoming, China	Chemicals	since 2000
Monsanto	Collaboration in plant biotechnology focusing on development of high-yielding and stress-tolerant crops with BASF Plant Science	Other	since 2007
Statoil	Cooperation between Wintershall and the leading Norwegian oil and gas major	Oil & Gas	since 2013
Yara	Joint Venture for the production of ammonia in Freeport, Texas	Chemicals	since 2015

### Our goal is to acquire businesses that

- Generate profitable growth above the industry average
- Are innovation-driven
- Offer a special value proposition to customers
- Reduce cyclicality of earnings

### Financial acquisition criteria

- Positive contribution to EPS by year three at the latest
- Minimum return on investment of 8 % annually after tax
- Additional return requirements depending on country risk

Strategy

Portfolio management

### Active portfolio management pays off

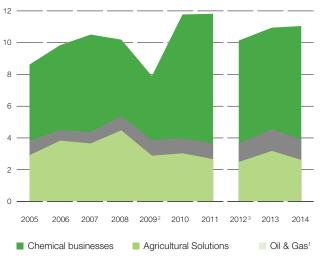
### Balanced portfolio - strength through diversification

We make acquisitions to build on our strengths and make BASF even more competitive. In recent years, we made a number of specialized, technology-driven business acquisitions (such as TPU). In turn, we divested more commoditized and cyclical businesses (such as Styrenics). As a result of our active portfolio management and the shift towards customized products and functionalized materials & solutions, BASF has become significantly more resilient to economic downturns.

This is illustrated by the EBITDA development over the last 10-year period. Since 2005, we have increased our EBITDA (excluding 'Other') from €7.6 billion to more than €11.0 billion reported in 2014.

We have achieved this excellent result thanks to the continuous optimization of our portfolio as well as our efforts to increase operational excellence and reduce costs. Today, BASF is performing on a higher level with substantially reduced earnings volatility. Our well-balanced and diversified portfolio is one of our key strengths.

### **EBITDA by activity ^{1}** (in billion $\in$ , excluding Other)



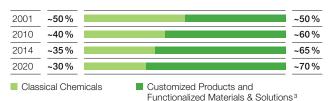
- <sup>1</sup> 2005–2011 includes non-deductible oil taxes
- $^{2}~$  Including  ${\sim} {\in} 0.8$  billion one-time costs for Ciba integration
- 3 2012: Restated figures according to IFRS 10 and 11

### Portfolio development

### Moving downstream towards customer industries

Chemistry will play an increasingly important role in tackling the challenges of the future. The innovation power of a company is becoming one of the most important key success factors. Today, innovation is less about the discovery of new molecules about the improvement of applications and the development of customer solutions.

#### Moving towards downstream industries (in % of sales1)2



- 1 Sales excluding Oil & Gas
- <sup>2</sup> Targets were published on November 29, 2011
- <sup>3</sup> Agriculture, Construction, Consumer Goods, Health & Nutrition, Electronics, Energy & Resources, Transportation

BASF will move in this direction and will continue to develop its portfolio towards downstream industries. By 2020, we aim to generate about 70% of sales with 'customized products' and 'functionalized materials & solutions'. We expect to grow in all our businesses including the 'classical chemicals', which will remain an important cornerstone.

Customized products, functionalized materials & solutions (sales excluding Oil & Gas by 2020)

Increase to 70 %

### Market approach

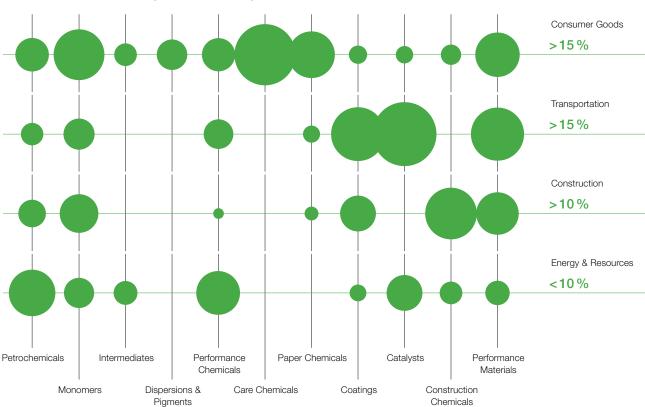
We align our business models and sales channels to customer groups and market segments. In line with our strategic principle, 'We add value as one company', we aim to pool our products and services to even better meet the needs of customers from different industries.

In our Chemicals segment, our priority is on supplying customers reliably and cost-effectively. The offering of our Performance Products segment responds to the demand for a broad range of customized products. In joint projects, we work closely together with our customers already at an early stage in order to develop new products or formulations for a specific industry. In the Functional Materials & Solutions segment, we often enter into partnerships with customers to develop innovations together which help them optimize their processes and applications.

We serve customers from many different sectors with a broad portfolio of diverse competencies, processes, technologies and products. Where possible, we group activities together in business units, bundling expertise and know-how. However, not all units can be arranged purely according to an industry. BASF has established specific industry teams, to pool expertise, knowledge and contacts across different units, sharpen our understanding of the value chains, and work on industry-specific solutions that could not be developed within one operating division alone. Such close alignment of our business to customers' needs is an important component of our 'We create chemistry' strategy.

### Building on our cross-divisional customer industry approach

Bubble size: BASF divisional sales by first customer industry 2014<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Excluding Oil & Gas, Crop Protection and Other. Nutrition & Health sales predominantly into Health & Nutrition market

Strategy

Market approach

# Cross-divisional competence for the wood

processing and furniture industry

Whether it's a tough floor or a comfortable sofa, many things that make living more convenient contain chemistry.

BASF provides one of the largest supplier portfolios of solutions for the wood processing and furniture industry. Our products can be found in almost every process and production step facilitating process efficiency and optimizing applications.

In total 15 business units are supplying products to the industry. These include glues, process auxiliaries, additives, pigments, plastics, as well as foams for seat cushions and mattresses, leather chemicals, and much more.

BASF offers not only an unmatched range of products, but can profit from wide-ranging expert knowledge and competencies in different areas across its divisions.

Within BASF, we have formed an industry team, which acts to promote business with direct customers along the supply chain and encourages co-operation amongst all business units involved. Together, we work on innovative products, formulations and system solutions to help to optimize processes, save costs, conserve resources for our customers and to create greater living comfort.

### With our chemistry we create innovative solutions for a better living comfort



### Components and solutions enabling design and function

- 1 Ultramid® SI PA6 compound with surface improved finish for high-quality design furniture
- 2 Ultraform® Polyoxymethylene for mechanically highly resistant components such as in furniture fittings
- 3 Sicolen® Masterbatch for the coloration of articles made by injection molding, blow molding or extrusion
- 4 Elastofoam® I Flexible PU integral skin foam for high abrasion resistance properties
- 5 Elastoflex® W Flexible PU molded foam system for high comfort in seating applications
- **6 CosyPUR®** Supersoft to viscoelastic PU flexible foam for perceptible softness and elasticity

### Glues, adhesives and binder systems facilitating efficient manufacturing

- 1 Kaurit®/Kauramin® Glues and resins for cost-efficient production of any wood-based material
- 2 Lupranat® PMDI binders for faster curing, moisture resistance and excellent mechanical performance of panels
- 3 Elastan® MDI-based, 2-component binder for lightweight honeycomb sandwich boards
- 4 Kaurit® Light Lightweight chipboard production system to save wood resources
- 5 Acrodur® Water-based acrylic resin with excellent bonding performance
- 6 Luphen® Raw material for adhesives used for foam bonding, laminated kitchen fronts or other applications

### Coating technologies and additives improving the functional characteristics of surfaces

- 1 Kauropal® K/S Additives for high scratch resistance and antistatic properties of laminate floors
- 2 Laromer® UV curing and water-based binders protecting wooden surfaces against light and wear
- 3 FGuard® 3D Foil coating system to create visual and haptic effects
- 4 Acronal® Water-based acrylic and styrene acrylic dispersions for architectural coatings and wall papers
- 5 valure<sup>™</sup> technology creates laser-structured surfaces that enable different textures, geometric patterns and impressions
- 6 Wolmanit CX® Wood preservative to make outdoor wood resistant to weathering

### Innovation - Research and development

Innovations based on effective and efficient research and development are an important growth engine for BASF. Our experts work in interdisciplinary teams on innovative processes, products and solutions for a sustainable future. This is how we ensure our long-term business success with chemistry-based innovations for almost all sectors of the industry.

As part of the 'We create chemistry' strategy, we have set ourselves ambitious sales and EBITDA targets as key performance indicators for our research and development activities. To achieve these, we will focus even more on market and customers' needs to further improve time-to-market of innovations. In addition, we are broadening our long-term research activities to encompass the development of new business areas. We are currently pursuing 10 growth fields, such as batteries for mobility, functional crop care, and enzymes, that represent attractive new business opportunities in our target industries. In addition, we are focusing on three technology areas that provide the technological basis for the development of future-oriented solutions: Materials, Systems & Nanotechnology; Raw Material Change; and White Biotechnology.

Since January 2015, the three central research platforms Advanced Materials & Systems Research, Bioscience Research, and Process Research & Chemical Engineering are our knowledge and competence centers. Together with the development units in our operating divisions as well as BASF New Business and BASF Venture Capital, they form the core of our global Know-How Verbund.

Our research pipeline comprised approximately 3,000 projects in 2014. We increased our spending on research and development to €1.9 billion. Another vital factor for our success is a global research and development presence. We continued to broaden our activities in 2014, especially in Asia. By expanding our Innovation Campus Asia Pacific, we are further boosting the regional research capacities for new materials and systems. We are also expanding areas like formulations and chemical process engineering. In Mumbai, India, we opened a global research and development center hat focuses on organic synthesis, process development, formulation and



crop protection research, and molecular modeling. We will also work on innovations for the electronics industry at our new Electronic Materials Research and Development Center Asia Pacific in Suwon, South Korea, which was inaugurated in 2014.

### R&D expenditures as percentage of sales (2014, excluding Oil & Gas)

3.1%

Our global network with more than 600 excellent universities, research institutes and companies is also an important part of our Know-How Verbund. We work with them in many different disciplines in order to achieve our ambitious growth targets. In 2014, we established the "Network for Advanced Materials Open Research" initiative together with seven leading universities and research institutes in China, Japan and South Korea. Together, we aim to develop new materials for a wide range of applications. The initial focus is on products for the automotive, construction, and detergent and cleaners industries as well as the water and wind energy sector. In addition, we have founded the "California Research Alliance by BASF" together with major universities on the US West Coast. This multidisciplinary research institute focuses on new inorganic materials and their applications, bioscience, and related technologies.

The number and quality of our patents attest to our innovation power and long-term competitiveness. We filed around 1,200 new patents worldwide in 2014. For the sixth time in succession, we headed the rankings in the Patent Asset Index  $^{\text{TM}}$  in 2014 – a method which compares patent portfolios industry-wide. This once again underscores BASF's power of innovation.

BASF had sales of over €9 billion in 2014 from new products that have been launched to the market within the last five years. We are on track to reach our sales target of €10 billion with innovations by 2015.

### Research and development expenditures (in billion €)

2014	1.9
2013	1.8
2012	1.7
2011	1.6
2010	1.5

Strategy

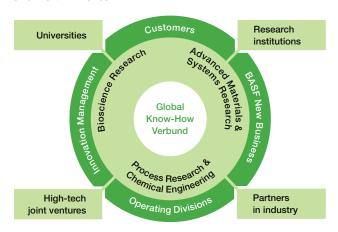
Innovation - Research and developmen

# Strategic focus of research and development at BASF

- Forward-looking project portfolio
- Strong customer and market orientation
- Worldwide presence and expansion of research and development centers
- Research competencies for chemicals and processes, materials and biosciences pooled into dedicated, global platforms

### New R&D set-up

We aim to keep strengthening our research and development activities in Asia as well as in North and South America. Starting January 2015, we are pooling our worldwide research expertise into three platforms, each headquartered in one of the regions particularly significant for us: Europe, Asia Pacific and North America.



# Process Research & Chemical Engineering (Ludwigshafen, Germany)

In the Process Research & Chemical Engineering division, we develop new technologies and processes and optimize existing processes for the production of basic chemicals, intermediates and fine chemicals, such as monomers or aroma chemicals. It also includes research on catalysts, inorganic materials for batteries and electronics as well as energy storage. The headquarters of this division is located at the Ludwigshafen site.

### Advanced Materials & Systems Research (Shanghai, China)

Researchers in this division develop new structural and functional materials, dispersions, pigments, additives and system solutions for many different customers in the automotive, construction, packaging, coating, detergents, electronics, cosmetics, water and wind industries. The headquarters is located at our Innovation Campus Asia Pacific in Shanghai.

## Bioscience Research (Research Triangle Park, North Carolina/USA)

In this platform, we have pooled all biological and biotechnological research activities. This includes the research activities for crop protection, plant biotechnology and white biotechnology. The headquarters of Bioscience Research is based in Research Triangle Park, North Carolina, USA.

By 2020, we plan to conduct half of our research and development activities outside of Europe. This increased presence outside Europe creates new opportunities for fortifying and expanding customer relations and scientific collaborations, strengthening our R&D Verbund and making BASF an even more attractive partner and employer in the regions.

### R&D facts and figures 2014

- Around 10,700 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
- 1,200 new patents filed
- Ranked No. 1 in Patent Asset Index<sup>™</sup> for sixth time in succession
- More than €9 billion in sales with products, processes and solutions that have been on the market within the last five years

#### Expenditures on research and development by segment

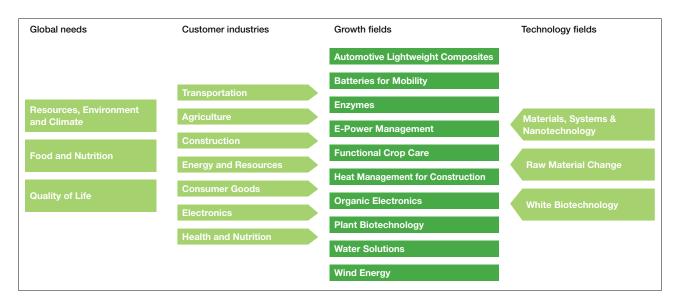
1	Chemicals	10%
2	Performance Products	19%
3	Functional Materials & Solutions	20%
4	Agricultural Solutions	27%
5	Oil & Gas	3%
6	Corporate research, Other	21%



### Research focus areas: growth and technology fields

In order to develop future business areas for BASF, we have defined growth and technology fields for which we expect high sales potential in 2020. These research fields are derived from the three major areas in which chemistry-based innovations will play a key role in the future: resources, environment and climate; food and nutrition; and quality of life.

### Chemistry as an enabler for customer industries



### **Customer industries**

We have analyzed growth scenarios and trends in our customer industries and focused on seven key customer industries. These industries represent around 30% of the global chemical market and they are markets of major strategic relevance for BASF. All these chemical markets have an attractive size and the majority will grow faster than overall chemical production.

#### **Growth fields**

Based on future global needs, we currently pursue growth fields for various customer industries. We utilize our strength as an integrated, global chemical company to enhance our growth fields and to tap into new growth markets for BASF. Our research and development competence is closely matched with our operational excellence, our knowledge of the markets and our customer relations. Growth fields are continually reviewed. Successful innovations from growth fields are transferred to the operating divisions. Growth fields with insufficient potential are discarded, while new growth fields with high potential are added.

#### Goals for sales and EBITDA from innovations (in billion €)

Sales	2020¹	30	
Jaies	2015 <sup>2</sup>	10	
EBITDA	2020¹	7	
	2015 <sup>2</sup>	2.5	

- <sup>1</sup> Pertains to innovations then on the market for less than ten years
- <sup>2</sup> Pertains to innovations then on the market for less than five years

### Growth field example: Functional Crop Care

Innovation beyond Crop Protection: The growing world population's increasing demand for food requires additional solutions for healthier plants and higher yields. This is why we research new products in the Functional Crop Care growth field that improve plant growth, better protect seeds, and help plants use scarce resources like water and nutrients more efficiently. Functional Crop Care (FCC) harnesses scientific innovation in chemistry and biology to unlock agricultural potential in soil, seed and crop.

BASF Crop Protection started research in nitrogen management, water management and biological crop protection, announcing the formation of Functional Crop Care in 2011. With the 2012 acquisition of Becker Underwood, BASF established Functional Crop Care as a global business unit to become a leading global provider of biological seed treatment, seed enhancement, and biological crop protection products.

Our R&D activities follow the innovation drivers nutrient use efficiency, improved environmental outcomes, yield increase, and the potential of biologicals to complement classical chemistry. Joint initiatives with our research platforms target novel polymer systems for better seed coatings or improved formulations for biologicals. Another research focus aims at developing novel technologies for plant health. Among these are highly efficient screening methods that allow excellent transferability to the field. We expect market launches within the upcoming five years of next generation biological fungicides and biological insecticides as well as a novel nitrification inhibitor for enhanced fertilizer use efficiency.

# Innovative solutions and technologies across market segments

### Soil Management

Farmers mainly employ urea-based fertilizers in order to ensure that plants are supplied with enough nitrogen. However, some of the nitrogen contained in these fertilizers is lost as gaseous ammonia. Based on a combination of two synergistic active ingredients in a patented formulation, the innovative urease inhibitor Limus® can greatly reduce these losses and enables better storage of urea-based fertilizers. Limus® supports farmers in achieving efficient fertilizer application and higher yields.

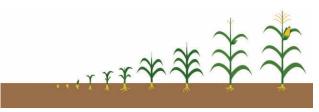
#### **Seed Solutions**

We focus on combinations of classical chemistry and biological seed treatments for pest and disease control as well as inocculants that support maximum nitrogen fixation in specific legumes. Seed enhancements comprise colorants as well as functional coatings based on polymers. Key products include Vault® inoculant and Flo Rite® functional coatings.

#### **Crop Care**

Serifel®, Bacillus amyloliquefaciens strain MBI600, combines multiple modes of action to provide a shield of protection against crop diseases. It also gives growers flexibility in application timing and positions them to meet evolving demands.

### Functional Crop Care offers solutions across the cropping cycle



Soil Management

- Water and nutrient management
- Seed Solutions
- Biological inoculants to complement conventional active ingredients
- Colorant and polymer technologies

#### Crop Care

 Biological control agents and foliar products beyond disease control

### **Key facts**

- FCC grew by 7 % from 2013 to 2014
- Sales of > €500 million in 2020 expected
- Continued focus on development of key solutions into new regions
- First launches from Functional Crop Care pipeline starting 2015 (Limus<sup>®</sup>, Serifel<sup>®</sup>)

### Investments

In addition to innovations, investments and acquisitions will contribute decisively towards achieving our ambitious long-term growth goals. We are intensifying our investments in emerging markets and continue our investments in mature markets.

# Capital expenditure will boost future organic growth

For the period from 2015 to 2019 we have planned capital expenditures of €19.5 billion. We want to invest a significant part of this in emerging markets and expand our local presence in order to benefit from the robust growth in these regions. Investments are prepared by interdisciplinary teams and are assessed using diverse criteria. If projects exceed a certain threshold, a board decision is required. We ensure that economic, environmental and social concerns are included in strategic decision-making. By investing in our plants, we also continuously improve the energy efficiency of our production processes.

### Planned capital expenditures 2015-2019

### €19.5 billion

We invested €5,368 million in property, plant and equipment in 2014. Total investments therefore exceeded the previous year's level by €451 million. We presume that average yearly investment between 2015 and 2020 will be lower compared to 2014, as several major projects which have been initiated in recent years are now nearing completion.

In Ludwigshafen, we are building an integrated TDI facility with a capacity of 300,000 metric tons per year and expanding the plants for the associated precursors. Production is expected to start in the second half of 2015. TDI is an important basic chemical product that is used primarily for soft polyurethane foams.

The construction of the new MDI plant in Chongqing, China, and an acrylic acid and superabsorbent production complex in Camaçari, Brazil, as well as the expansion of our Verbund site in Nanjing, China, are progressing. With these major investments, we are expanding our presence in the growth regions Asia and South America.

In the Oil & Gas segment, we invested primarily in field development projects in Norway, Argentina and Russia in 2014.

### Business expansion in emerging markets

In the years ahead, we want to grow even more vigorously in the emerging markets and expand our position there. Today's emerging markets are expected to account for around 60 % of global chemical production in 2020. We want to benefit from the considerable growth in these regions and plan to invest more than a third of our capital expenditures there between 2011 and 2020.

In 2014, emerging markets once again saw substantially faster growth rates than the industrialized countries, although the pace was slower than in the previous year. While momentum decelerated only marginally in Asia's emerging markets, the South American economy stagnated and the Russian economy slowed down.

Despite higher sales volumes, we observed a slight currency-related decline in our business in emerging markets in 2014: Compared with 2013, sales of our companies headquartered in these countries decreased by 1% to €15,804 million. Based on customer location, sales (excluding Oil & Gas) in emerging markets were down by 1% to €19,242 million year-on-year, also as a result of currency effects. Sales to customers in emerging markets therefore amounted to around 33% of total sales (excluding Oil & Gas) in 2014. By 2020, we aim to expand this proportion to 45%.

### Sales<sup>1</sup> in emerging markets



- $^{\mbox{\scriptsize 1}}$  Percentage of BASF Group sales (excluding Oil & Gas) by location of customer
- $^{\rm 2}$  Comprises EU15, Norway, Switzerland, USA, Canada, Japan, South Korea, Australia, New Zealand

### Major investment projects



# Acrylic acid complex Camaçari, Brazil

- World-scale production site for acrylic acid, butyl acrylate and superabsorbent polymers
- Investment: > €500 million
- Start-up in H1, 2015



### Integrated TDI complex Ludwigshafen, Germany

- World-scale TDI plant (300,000 t/a)
- Investment: ~€1 billion including the expansion of precursor plants and infrastructure
- Start-up planned for H2, 2015



# Integrated MDI complex Chongqing, China

- World-scale MDI plant (400,000 t/a)
- One of the main anchor activities in growth region Western China
- Start-up planned for H2, 2015



### Aroma ingredients Kuantan, Malaysia

- BASF and PETRONAS started to further expand its activities in Malaysia
- Investment: ~\$500 million
- Start-up of first plants in 2016



# Ammonia plant in planning Freeport, Texas

- BASF and Yara are building worldscale ammonia plant in the USA
- 750,000 t/a; hydrogen-based process
- Start-up planned for end of 2017



### Oil & Gas Activities in Norway

- Focus on own-operated assets and high potential discoveries and exploration licenses
- Maria field development with first production by the end of 2018

### Planned capital expenditures by segment 2015-2019

1	Chemicals	33 %
2	Performance Products	15%
3	Functional Materials & Solutions	13%
4	Agricultural Solutions	6%
5	Oil & Gas	21%
6	Other	12%



### Planned capital expenditures by region 2015-2019

1	Europe	45 %
2	North America	27 %
3	Asia Pacific	18%
4	South America, Africa, Middle East	8%
5	Alternative sites under review	2%



### Operational excellence

In order to remain competitive, we continuously improve our operations and 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. Our successfully concluded excellence program NEXT reduced costs by more than €1 billion from 2012 onwards.

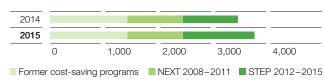
# STEP – Targeted annual earnings contribution by the end of 2015 (per year)

### ~ € 1.3 billion

Our current strategic excellence program STEP will further strengthen our competitiveness and profitability. By the end of 2015, STEP is expected to contribute around €1.3 billion in savings each year, compared with the baseline year 2011.

The program includes measures in the areas of production, engineering, maintenance, logistics, procurement and administration, that are expected to lower fixed costs and raise profit margins.

#### Operational excellence programs (in million €)





### Case study: Opal 21

The major component of the Opal 21 project (Optimization of production in Antwerp and Ludwigshafen for the 21<sup>st</sup> century) is the introduction of a uniform production system for the plants at the Verbund sites in Antwerp and Ludwigshafen. The objective is to continuously improve the organizational and technical processes.

Clearly defined roles and responsibilities in the organization and Lean Management principles help to continuously optimize workflows and processes thereby reducing losses from factors such as idle times. By improving operational excellence, we are increasing our yield and energy efficiency. A cross-divisional and systematic qualification concept ensures targeted in-plant qualification. Since the start of Opal 21, 75% of all plants in Ludwigshafen and Antwerp have successfully passed the introductory phase of the new standard production system, the remaining ones will be completed until 2017.

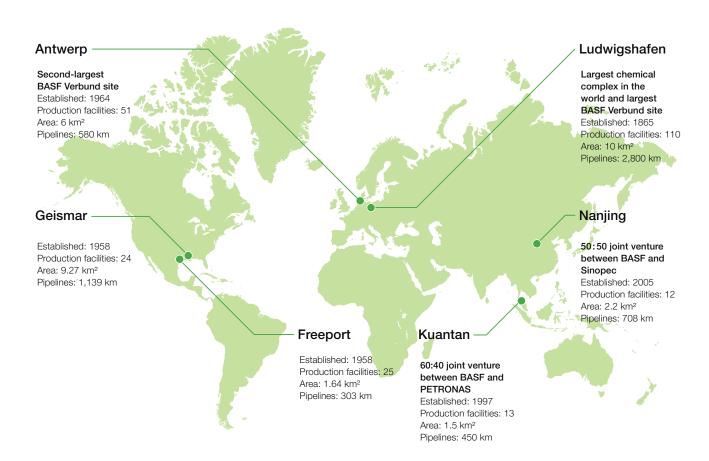
Verbund

A competitive advantage for BASF

### **Unique Verbund concept**

### A competitive advantage for BASF

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. Thus, we save on raw materials and energy, minimize emissions, cut logistic costs and exploit synergies.

On a global scale, BASF realizes annual savings of more than €1 billion through its Verbund concept.

### **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 or 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**

The Verbund principle also applies to logistics. 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 on 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**

The Verbund principle also applies to energy. 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 3.5 million metric tons is realized.

#### Infrastructure Verbund

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

### 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 to steer the Verbund through different scenarios
- The economic crisis in 2008/2009 was an outstanding example. We were able to reduce utilization of our crackers to a minimum and thus remain profitable

### 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 prevent 3.5 million metric tons of greenhouse gas emissions per year, and have an equivalent of 280,000 fewer truckloads through the Logistics Verbund.



### **Logistics Verbund**

At our Verbund sites, the production plants are connected by an extensive network of pipelines. This provides us with an environmentally friendly method of transporting raw materials and intermediates quickly and safely.

At our Verbund site in Ludwigshafen, we are thus able to avoid the transportation of seven million metric tons of freight every year. This corresponds to roughly 280,000 fewer truckloads or more than 3,000 fewer cargo shipments. This not only provides a significant cost savings for BASF but also significantly reduces our fuel consumption and thus carbon dioxide emissions.

In addition, the Logistics Verbund leads to reduced storage requirements (for example, less required storage capacity, lower working capital) as well as the elimination of associated handling.

Cost savings (per year)

>€600 million

### Managing the Verbund



**Demand forecast** along BASF value chains

- Industry expertise
- **Customer forecasts**



- Product demand
- **Energy demand**
- Inventories



Production plan

- Experienced personnel
- Optimal operation of

Verbund

A competitive advantage for BASF



### **Energy Verbund**

Our Verbund system links our production and energy demands, thus making a major contribution to energy efficiency. Heat from production processes is not discharged into the environment, but is captured to be used as an energy source at other production plants.

A perfect example to illustrate this is acrylic acid production at our Ludwigshafen Verbund site. The main raw material for acrylic acid is propylene, which is supplied via pipeline from the steam cracker. The reaction of propylene to acrylic acid generates heat. In order to capture this energy, the heat is converted into steam. The majority of the steam is fed into the pipeline network of the Verbund site, where it serves as an important energy source for other production plants.

At our Ludwigshafen site, we operate two acrylic acid plants, which cover around 10% of the steam requirements of the entire Ludwigshafen Verbund site. Thus, acrylic acid production is not only an important supplier to various downstream facilities (such as superabsorbents), but also contributes significantly to the savings of the Energy Verbund.

Cost savings (per year)

### >€300 million



#### **Infrastructure Verbund**

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

For example, BASF achieves economies of scale with its central waste water treatment plant at the Ludwigshafen site which cleans the waste water from our 110 production facilities, as well as the waste water from the city of Ludwigshafen and other external customers. The global Analytics Verbund connects all the laboratories in the analytics departments. It fosters an easy exchange of information and quick communication concerning all topics related to analytics. This guarantees an effective and efficient use of all analytics resources to strengthen our customer focus and to ensure a process of continuous improvement.

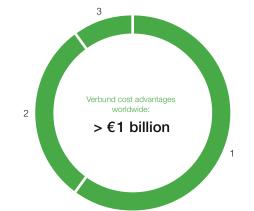
Furthermore, by regionally organizing the fire brigade control centers into a "SPIDER" network, BASF fire department was able to increase the efficiency of its services. In addition, our vehicle pool has been standardized resulting in lower investment and maintenance costs.

Cost savings (per year)

### >€100 million

### Verbund cost advantages – breakdown

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



30 Sustainability BASF Factbook 2015

### Sustainability

Sustainability is firmly embedded in our company strategy and organization. Sustainability management follows our corporate purpose "We create chemistry for a sustainable future" and supports our strategic principle "We drive sustainable solutions". BASF defines sustainability as balancing economic success with social and environmental responsibility.

### Sustainability Board



### Corporate Sustainability Board (CSB)

At BASF sustainability has been a board-level responsibility since 2002. Our globally responsible CSB is the central steering and decision body for sustainable development within BASF. The Chairwoman of the CSB is Margret Suckale, Member of the Board of Executive Directors. It comprises of selected heads of our business, corporate and functional units as well as of the regional business units. The CSB monitors the implementation of the sustainability strategy and cross-divisional initiatives, defines sustainability goals and approves corporate position papers on sustainability topics.

#### Stakeholder Advisory Council

In order to even more closely involve our stakeholders, we discussed topics like responsibility along the value chain, climate protection and human rights with our Stakeholder Advisory Council in 2014. The diverse groups of international experts from science and society discussed material aspects of sustainability with BASF's Board of Executive Directors in

### Dow Jones Sustainabilty World Index (DJSI World)

The BASF share has been included in the DJSI World for the fourteenth year in succession. The analysts especially recognized our commitment to ecoefficiency, environmental reporting, labor practice and human rights.

order to enhance BASF's sustainability strategy. For example, a Stakeholder Advisory Council discussion on the topic "partnering" prompted us to further develop our dialog with neighbors at relevant sites around the world to a more systematic approach.

### Stakeholder Engagement

Our stakeholders include employees, customers, suppliers and shareholders, as well as experts from science, industry, politics, society and media. We provide transparent communication about our activities and take on critical questions. Through constant dialog with our stakeholders along the entire value chain, we want to ensure that society accepts our activities and to subsequently build partnerships based on trust. At the same time, we use this dialog to verify that our materiality analysis is complete and up to date. We have a particular responsibility towards our production sites' neighbors, and discuss current issues with them in 84 community advisory panels. These panels aim to promote open exchange between citizens and our site management with the goal of strengthening trust in our activities.

### Carbon Disclosure Projects (CDP)

BASF is among the leading companies in the world in reporting on climate protection. The CDP represents more than 750 institutional investors who manage over \$90 trillion in assets. In 2014, BASF once again achieved the maximum disclosure score, taking first place in the Energy & Materials sector of the Carbon Disclosure Leadership Index.

Sustainability

# Creating value for customers – Sustainable Solution Steering

From 2011 to the end of 2014, BASF conducted sustainability assessments and evaluations of its portfolio of more than 60,000¹ specific product applications, which account for €66 billion in sales – using the Sustainable Solution Steering method. This externally validated procedure allows us to determine how our products contribute to sustainability. We evaluate their application in various markets and industries.

The product applications we analyzed were sorted into four categories: "Accelerator," "Performer," "Transitioner" and "Challenged". Of the analyzed products, 23 % (by sales) turned out to be Accelerators. They contribute particularly to sustainability in the value chain. Performers are solutions that meet all of the market's standard sustainability requirements. Around 74% of BASF's analyzed product portfolio matches this description. A Transitioner is a product for which specific sustainability requirements have been identified and plans of action have been defined. These recommendations are being carried out. Approximately 3% of the analyzed products fall under this category. Applications that do not sufficiently fulfill significant sustainability criteria are labeled Challenged. BASF is developing plans of action for these products in order to find better solutions, which can include research projects, reformulations or even replacing one product with an alternative product. Currently, this applies for 0.3% of the analyzed products.

We aim to increase the number of Accelerator solutions in the long term in order to further improve the sustainability contribution made by BASF and its customers. This is why our product portfolio is constantly being reviewed.

### Eco-efficiency analysis and AgBalance®

We use our established eco-efficiency analysis tool to identify critical parameters for improving the ecological and economic balance of our products and processes along the value chain. In order to even better support our divisions in implementing sustainability strategies and goals, we also offer other ecological evaluation instruments alongside the ecoefficiency analysis. These include methods often used for impact assessment as a part of life-cycle analyses.

With our AgBalance® method, we can address specific questions in order to improve sustainability in agricultural production and products in the food sector. We use the information from these comprehensive evaluations to work on products and solutions together with our customers that make a contribution to sustainable development.

### Mass balance method

Our "mass balance method" allows us to replace fossil resources in the current Production Verbund with renewable resources. The method is currently applied for BASF products, such as superabsorbents, engineering plastics and dispersions, that are independently certified.

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



<sup>&</sup>lt;sup>1</sup> Excluding trading activities

### Identification of material aspects

In 2013, we identified and prioritized the sustainability topics, relevant for BASF, in a multistep process. We first collected around 100 potentially relevant subjects. A workshop and qualitative interviews with internal and external specialists revealed that 38 of these were particularly relevant. Using a global survey, we gathered feedback on these 38 topics from around 350 external stakeholders worldwide, as well as around 90 experts and managers from various functions within the company. The participants rated the topics in terms of their current and future relevance for BASF. The results of this ranking are presented in a materiality matrix.

Finally, the findings were discussed in internal workshops and grouped into eight overarching material aspects of sustainability. The results of this materiality study and the eight aspects derived from it were presented to, and validated by, the Board of Executive Directors.

In order to integrate sustainability further, we launched a follow-up process in 2014 that translates the results of the materiality analysis into our steering and business processes. Categories of action were assigned to the individual aspects. A further step involved interviews with representatives from business, corporate and functional units, who assessed the business relevance of each category along the value chain. The results of this quantitative prioritization process show where along the value chain we have the possibility to take action with respect to each individual aspect. As a result, we have achieved a better understanding of the steps along the value chain where action needs to be prioritized in terms of the material aspects, and which topic areas we can influence with our actions. Building on this, we want to derive additional measures that maximize the positive effects of our actions and further minimize the negative ones.

#### Material aspects and action priority areas along the value chain

	Suppliers	Production	Custome	
rgy and climate		<b>&gt;</b>		
91	<b>—————————————————————————————————————</b>		•	
er				
ources and systems				
ponsible production <sup>2</sup>				
educts and solutions		<b>—</b>	•	
tnering • • • • • • • • • • • • • • • • • • •	<b>—————————————————————————————————————</b>		<b>&gt;</b>	
oloyment and oloyability		<b>)</b>		

<sup>&</sup>lt;sup>1</sup> The focus of our activities on this aspect within the supply chain is shown under "resources and ecosystems". The action priority areas for this aspect on the customer end are covered under "products and solutions".

In 2014, we renamed "operational excellence" to "responsible production" in order to emphasize the concentration on our production processes

Sustainability

Our goals

# Our goals

### **Employees**

Senior Executives with international experience



Proportion of international senior executives				
Senior executives with				

international experience

Women in leadership positions

Employee development

Long-term goals	Status at year-end 2014
Increase in proportion of non-German senior executives (baseline 2003: 30%)	34.3%
Proportion of senior executives with international experience over 80 %	83.0%
Increase in proportion of female leaders worldwide	19.1%
Establishment of systematic development as a responsibility of employees and leaders based on relevant processes and tools	Project introduced for around 45,000 employees worldwide

### Safety, security and health

**Transportation accidents** per 10.000 shipments



**-64.3** %

	2020 Goals	Status at year-end 2014
Transport		
Transportation accidents per 10,000 shipments (baseline 2003)	-70.0%	-64.3 %
Production		
Lost time injuries per million working hours (baseline 2002)	-80.0%	-54.5 %
Health Performance Index (annual goal)	>0.9	0.91
Products		
Risk assessment of products sold by BASF worldwide in quantities of more than one metric ton per year	>99%	61.4%

### **Environment**

Improvement of energy efficiency in production processes



+19%

Introduction of sustainable water management at production sites in water stress areas



29.7%

**Emission** of air pollutants



**-63.2** %

	2020 Goals	Status at year-end 2014
Energy and climate protection <sup>1</sup>		
Improvement of energy efficiency in production processes <sup>2</sup> (baseline 2002)	+35 %	+19.0%
Greenhouse gas emissions per metric ton of sales product <sup>2</sup> (baseline 2002)	-40%	-33.9%
Water		
Emissions of organic substances to water <sup>2</sup> (baseline 2002)	-80%	-79.5%
Emissions of nitrogen to water <sup>2</sup> (baseline 2002)	-80%	-85.4 %
Emissions of heavy metals to water <sup>2</sup> (baseline 2002)	-60%	-64.8 %
Withdrawal of drinking water for production <sup>2</sup> (baseline 2010)	-50%	-26.3 %
Introduction of sustainable water management at production sites in water stress areas <sup>2</sup>	100 %	29.7%
Air		
Emissions of air pollutants <sup>2</sup> (baseline 2002)	-70%	-63.2 %

- <sup>1</sup> In 2013, we achieved our goal to stop the flaring of associated gas released during Wintershall's production of crude oil. In 2014, we already nearly reached our 2020 goal of reducing greenhouse gas emissions in the natural gas transportation business by 10% per transported amount and distance compared with 2010. These two goals will no longer be pursued in the future.



# **Business segments**

Business segments ————————————————————————————————————	36
Chemicals —	- 38
Chemicals — Petrochemicals — Petrochemic	40
Monomers —	42
Intermediates ————————————————————————————————————	44
Performance Products —	46
Restructuring Performance Products —————	48
Dispersions & Pigments ————————————————————————————————————	
Care Chemicals ————————————————————————————————————	- 52
Nutrition & Health ————————————————————————————————————	- 54
Performance Chemicals ————————————————————————————————————	- 56
Functional Materials & Solutions —	
Catalysts —	- 60
Construction Chemicals ————————————————————————————————————	62
Coatings —	64
Performance Materials ————————————————————————————————————	- 66
Agricultural Solutions —	- 68
Crop Protection ————————————————————————————————————	70
Oil & Gas	72
Exploration & Production ————————————————————————————————————	
Natural Gas Trading ————————————————————————————————————	
Other ———	78

36 Business segments BASF Factbook 2015

## **Chemicals**



**Functional Materials & Solutions** 



Oil & Gas



## **Performance Products**



**Agricultural Solutions** 



**Key facts** 

- 5 segments, 13 operating divisions with over 80 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 the number 1–3 position
- The regional divisions contribute to the local development of our businesses and help to exploit market potential

**Business segments** 

## **Business segments**

Our business portfolio is well balanced and offers strong growth opportunities. It consisted of five segments with 14 operating divisions in 2014. As of January 1, 2015, we reorganized our paper chemicals business in order to sharpen our competitive edge. This involved dissolving the Paper Chemicals division and continuing the paper chemicals business in the Performance Chemicals and Dispersions & Pigments divisions. We focus our business on the needs of our customers. 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 20141

1	Chemicals	<ul><li>Petrochemicals</li><li>Monomers</li><li>Intermediates</li></ul>	23 %
2	Performance Products	<ul> <li>Dispersions &amp; Pigments</li> <li>Care Chemicals</li> <li>Nutrition &amp; Health</li> <li>Paper Chemicals<sup>2</sup></li> <li>Performance Chemicals</li> </ul>	21 %
3	Functional Materials & Solutions	<ul><li>Catalysts</li><li>Construction Chemicals</li><li>Coatings</li><li>Performance Materials</li></ul>	24 %
4	Agricultural Solutions	- Crop Protection	7 %
5	Oil & Gas	<ul> <li>Oil &amp; Gas</li> <li>(Exploration &amp; Production and Natural Gas Trading)</li> </ul>	20 %



## EBIT before special items 2014

Chemicals

Performance **Products** 

Functional Materials & Solutions

€2,367 million

€1,455 million

€1,197<sub>million</sub>

Agricultural **Solutions** 

Oil & Gas

Other

¹ The 5 % of sales not shown belonged to Other.

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

## **Chemicals**

The Chemicals segment is the core of BASF's Production Verbund. BASF's unique Verbund system of highly integrated production sites offers substantial competitive advantages. The main success factors for this segment are operational and technological excellence, scale effects, integration and raw material availability, reliable and low cost logistics, and the reduction of complexity. The three divisions, Petrochemicals, Monomers and Intermediates, are aligned with chemical value chains to minimize internal interfaces and to enhance scale effects.



## Segment divisions

## Petrochemicals

The division, with its broad range of basic chemicals, such as ethylene, propylene, oxo alcohols and acrylic monomers, is the foundation of BASF's value chains.

☐ page 40

## Monomers

The division bundles largevolume monomers and basic polymers such as MDI, TDI, caprolactam and polyamides with the majority of inorganic products.

☐ page 42

## Intermediates

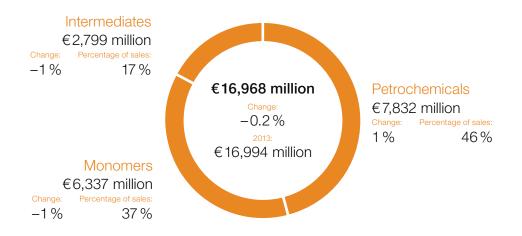
With about 700 products, this division develops, produces and markets the world's most comprehensive range of chemical intermediates and building blocks.

☐ page 44

**Business segments** 

Chemicals

## **Sales 2014**



## Factors influencing sales

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

## EBIT before special items (in million $\in$ )

2014	2,367
2013	2,182

plus €185 million

## Segment data Chemicals (in million €)

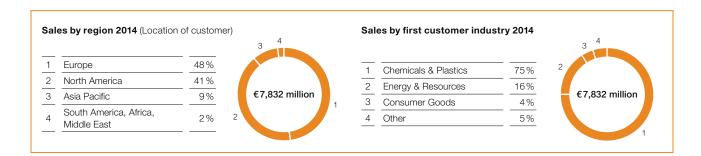
·	2010	2011	2012 <sup>1</sup>	2013	2014
Sales to third parties	11,377	12,958	17,887	16,994	16,968
Share of total BASF sales %	17.8	17.6	24.8	23.0	22.8
Thereof Petrochemicals	7,593	8,839	8,260	7,785	7,832
Monomers <sup>2</sup>	1,255	1,415	6,772	6,385	6,337
Intermediates	2,529	2,704	2,855	2,824	2,799
Income from operations before depreciation and amortization (EBITDA)	3,000	3,188	3,021	2,956	3,212
EBITDA margin %	26.4	24.6	16.9	17.4	18.9
Income from operations (EBIT) before special items	2,302	2,441	2,171	2,182	2,367
EBIT before special items margin	20.2	18.8	12.1	12.8	13.9
Income from operations (EBIT)	2,310	2,442	2,173	2,086	2,396
EBIT margin %	20.3	18.8	12.1	12.3	14.1

<sup>&</sup>lt;sup>1</sup> As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly. These restated prior year figures also take into account the new segment structure as of January 1, 2013.

<sup>2</sup> 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-adding chains.

#### Acrylic monomers

BASF is technology leader in acrylic acid and the world's largest 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 polymersCoatings
- 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 and plasticizer raw materials

BASF manufactures standard and specialty plasticizers, which are used to make rigid plastics flexible. BASF also sells the plasticizer precursor phthalic anhydride for use in dyestuffs and unsaturated polyester resins and markets plasticizers based on higher alcohols. Our specialty product is the plasticizer Hexamoll® DINCH® used for sensitive applications such as toys and medical products.

### 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. 2 in Europe
- Propylene oxide and propylene glycols: No. 3 in Europe

## Main competitors

- Cracker products: SABIC, Dow, ExxonMobil Chemical, Sinopec, LyondellBasell
- Alcohols and solvents: Dow, Eastman, ExxonMobil Chemical, Oxea, Evonik, Sinopec
- Plasticizers: ExxonMobil Chemical, Eastman, Evonik, Oxea
- 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

#### Focus of research and development

The focus of R&D activities is on developing new and improved processes by adapting and optimizing feedstocks to supply our Verbund value chains at competitive costs. Product innovation is primarily focused on new applications for plasticizers for PVC and other materials and on development of specialty acrylates for specific customer needs.

**BASF Factbook 2015** Chemicals Petrochemicals

#### Key drivers of profitability

- Cost leadership
- Leading process technology
- Economies of scale
- Competitive raw material supply
- High capacity utilization
- Efficient and reliable processes

#### **Key capabilities of BASF**

- Strong Verbund sites with backward integration
- World-scale production facilities
- 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 2012 onward)

Product group	Description	Year
Ethylene	Member of joint venture EPS (Ethylene Pipeline Southern Germany)	2012
Ethylene, Propylene	Feedstock flexibilization and steam cracker expansion in Port Arthur, USA	2013/2014
Hexamoll® 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 Camaçari, Brazil	2015
	New acrylic acid and butyl acrylate complex in Nanjing, China	2014
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
Propylene	Methane-to-propylene plant on the U.S. Gulf Coast under evaluation	~2019/2020

## Major nameplate capacities of BASF (in thousand tons per year)

Product group							Location						
	Antwerp, Belgium	Camaçari, Brazil	Cornwall, Canada	Freeport, Texas	Geismar, Louisiana	Kuantan, Malaysia	Ludwigs- hafen, Germany	Moerdijk, Nether- lands	Nanjing, China	Pasadena, Texas	Port Arthur, Texas	Tarra- gona, Spain	Total
Ethylene	1,080	_	_				620		7401	_	1,0406		3,480
Propylene	650						350		3701		890 <sup>6</sup>	350³	2,610
Propylene oxide	3004						125	2505					675
Butadiene	155						105		130¹		290 <sup>6</sup>		680
Benzene	280						300		130¹		200 <sup>6</sup>		910
Cyclohexane			_	_	_	_	130						130
Ethylene oxide (equivalents)	500				220		345		3801				1,445
Oxo C4 alcohols	_	-	_	300	_	330²	560	_	3051	-	_	-	1,495
Plasticizers (incl. Hexamoll® DINCH®)			35			100°	500			125			760
Acrylic acid	320	160		230		160 <sup>2</sup>	320		3201				1,510

All capacities in the table illustrate 100% capacity of the operations. BASF share might be lower based on JV shares.



## Best-in-class acrylic acid technology

Continuous process innovation is of highest importance and crucial for staying ahead of competition. One example is our best-in-class acrylic acid technology. We are building on a proprietary technology and leverage our highly selective and efficient process catalysts. The implementation of numerous innovation measures leads to lower energy consumption as well as to productivity improvements. With a steady focus on continuous process innovation we ensure that our acrylic acid process stays best-in-class.

BASF 50%; JV with Sinopec <sup>5</sup> BASF 50 %; JV with Shell

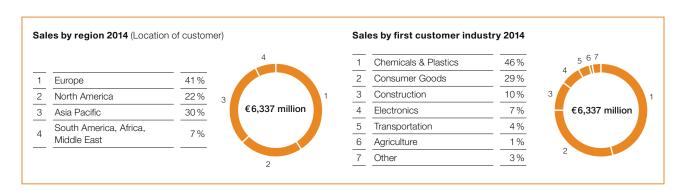
BASF 60 %; JV with Petronas <sup>6</sup> BASF 60 %; JV with Total

<sup>&</sup>lt;sup>3</sup> BASF 51 %; JV with Sonatrach

<sup>&</sup>lt;sup>4</sup> BASF 50 %; JV with Dow

## Monomers

The Monomers division supplies a broad portfolio of large-volume monomers, basic polymers and inorganic chemicals. Major products include MDI (diphenylmethane 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 as well as specialties such as electronic materials. The products can be found in an extensive spectrum of industries, such as the automotive, furniture, building and construction, woodworking, food, solar, packaging, textile and electronic industries.



#### **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
- Caustic soda
- Sulfuric acid
- Chlorine
- Nitric 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, which is used as a component for solar thermal power plant storage media and sodium methylate, a catalyst used for the production of biodiesel.

#### 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 to reduce NOx emissions from diesel engines.

#### Electronic materials

BASF produces a variety of inorganic specialties in electronic grade. The innovative products are mainly used in the field of:

- Advanced cleaning & etching of wavers for semiconductors
- Wet deposition
- Chemical mechanical planarization (CMP)

The portfolio also includes carbonyl iron powder (CIP) and Catamold® for metal and ceramic injection molding. CIP is used in a wide range of applications, such as inductor cores in the information and communication technology (ICT) industry. Catamold® is ideal for manufacturing geometrically sophisticated shapes.

## BASF's market position

- TDI: No. 1 globally, MDI: No. 1 globally
- Polyamide film: No. 1 globally

**BASF Factbook 2015** Chemicals

- Inorganic chemicals: No. 1 in inorganic salts in Europe and South America
- Glues and impregnating resins: No. 1 in glues in Europe
- Electronic materials: leading market position in Asia and Europe

### Main competitors

- Inorganic chemicals: Evonik, Esseco
- Glues and impregnating resins: Dynea, Sadepan
- Polyamide film: DSM, Ube, Zig Sheng
- TDI: Bayer, Wanhua, Mitsui, Dow
- MDI: Bayer, Wanhua, Huntsman, Dow
- Polyols: Dow, Bayer, Shell
- Electronic Materials: ATMI, OMG

## Focus of research and development

As its main focus, process innovation aims to optimize existing production technologies and develop new, highly efficient processes offering considerable cost advantages. For specialty products, such as electronic materials, the focus is on developing innovative solutions to meet future challenges.

## Key drivers of profitability

- Cost leadership
- Leading process technology
- Economies of scale
- Competitive raw material supply
- High capacity utilization
- Efficient and reliable processes

#### **Key capabilities of BASF**

- Strong Verbund sites with backward integration
- World-scale production facilities
- Operational excellence
- Strong global market position with regional production setup
- Highly qualified and experienced personnel
- Outstanding market knowledge and technical capabilities

### Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Ammonia	New world-scale ammonia plant in Freeport, Texas, USA, JV with Yara	2017
Polyamide and intermediates	Acquisition of polyamide polymer business from Mazzaferro Group, Brazil	2012
	Start-up of new polyamide plant Caojing, China	2015
Metal systems	New technical service lab for Catamold® in Shanghai, China	2012
	New Catamold® plant in Kuan Yin, Taiwan	2014
Electronic materials	New R&D Center for Electronic Materials in South Korea	2013
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	Acquisition of parts of Ciech's TDI business, Poland	2013
	New world-scale TDI plant in Ludwigshafen including expanded backward integration into chlorine and nitric acid	2015

## Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year	
Fertilizers	Sale of 50 % share in JV PEC-Rhin to GPN	2012	
	Sale of fertilizers activities in Antwerp, Belgium to EuroChem	2012	

## Major nameplate capacities of BASF (in thousand 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	800
Polyamide	820
MDI	1,7401
TDI	780 <sup>2</sup>

- 1 Incl. start-up of Chongging
- <sup>2</sup> Incl. start-up of Ludwigshafen and shut-down of Schwarzheide

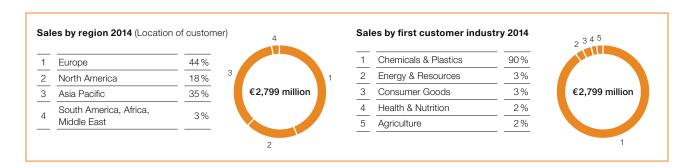


## Process optimization

In our new polymerisation plant in Caojing, China, we have implemented our latest process developments ensuring superior product quality and optimized process efficiency for the production of polyamides. Our innovative production setup enables us to respond to our customers' needs even quicker and with more flexibility. Polyamides are used in a variety of applications, such as engineering plastics, fibers and packaging films.

## Intermediates

The Intermediates division manufactures about 700 products – including butanediol and its derivatives, amines, organic acids, polyalcohols, life science intermediates, solvents and OASE® gas treating solutions – which are sold worldwide. 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 include polybutylene terephthalate (PBT), tetrahydrofuran (THF), PolyTHF®, gamma-butyrolactone and N-methylpyrrolidone.

#### **Amines**

With about 300 different amines, we have the world's most diverse portfolio of this type of chemical intermediates. Along with alkyl-, alkanol-, alkoxyalkylamines and ethylene amines we offer heterocyclic and aromatic as well as specialty amines. The range is completed by 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 specialty intermediates

BASF is the world's leading manufacturer of 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.

BASF's specialties such as acid chlorides and chloroformates, glyoxal and its derivatives, and various other chemicals, such as glutaraldehyde, formamide and triphenylphosphine, are often used in the production of crop protection agents, polymers, pharmaceuticals and paper.

#### Polyalcohols and specialties

Being the leading manufacturer of 1,6-hexanediol and neopentylglycol (Neol®) worldwide, we offer these products as well as other polyalcohols mainly for the production of a wide range of coatings. Our specialties portfolio includes carbonates for electrolyte production for the battery industry and various specialty acetylenics, such as vinyl monomers and higher alkylpyrrolidones.

#### Intermediates innovation pipeline

The Intermediates division follows a clear innovation strategy, which is key for all product lines to grow the businesses and improve profitability. Its focus lies on three pillars:

- New and improved processes: The target is to remain best in class with regard to production and process economics. For example, by the continuous improvement of our PolyTHF® technology in our plants in Ludwigshafen, Germany; Geismar, USA; Ulsan, Korea and Caojing, China we successfully increased our global PolyTHF® production capacities while significantly reducing the investment costs for new plants.
- New applications: We look for new applications for existing products, such as formic acid for airport runway deicing in North America.
- New products: We develop new products, such as bio-based succinic acid, for new growth opportunities.

The total innovation pipeline of the Intermediates division has an estimated net present value of approximately €500 million (not risk adjusted, 2014 view).

Chemicals Intermediates

## 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
- Polyalcohols and specialties: Eastman, Perstorp, LG
- Acids and specialties: Perstorp, Eastman, Luxi

## Focus of research and development

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

#### Key drivers of profitability

- Cost leadership
- Leading process technology
- Economies of scale
- Competitive raw material supply
- High capacity utilization
- Efficient and reliable processes
- Successful implementation of innovation projects

#### **Key capabilities of BASF**

- Strong Verbund sites with backward integration
- World-scale production facilities
- Operational excellence
- Strong global market position with regional production
- Highly qualified and experienced personnel
- Outstanding market knowledge and technical capabilities
- Strong innovation pipeline

## Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Specialty chemicals	Acquisition of Novolyte Technologies specialty chemicals in North America	2012
PolyTHF®	Global capacity increase from 185 kt to 250 kt	2012/13
Bio-based succinic acid	50-50 JV with Corbion-Purac for bio-based succinic acid; first phase 10,000 tons Montmeló, Spain	2013
TertButylamine	New plant in Nanjing, China	2013
Formic acid	New plant in Geismar, USA	2015
1,6-Hexanediol	Capacity expansion in Freeport, USA and Ludwigshafen, Germany	2015/2016
Dimethylaminopropyl- amine, 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, USA	2016
Neopentylglycol (NPG)	New plant in Nanjing, China (50% BASF)	2015
2-Ethylhexanoic acid	New plant in Kuantan, Malaysia	2016

#### Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Glyoxal	Closure at Geismar, USA	2014
Phosphines	Closure at Zachary, USA	2014

# Major nameplate capacities of BASF (in thousand tons per year)

Capacity
250
430
540
300
205
305
150

#### Innovation

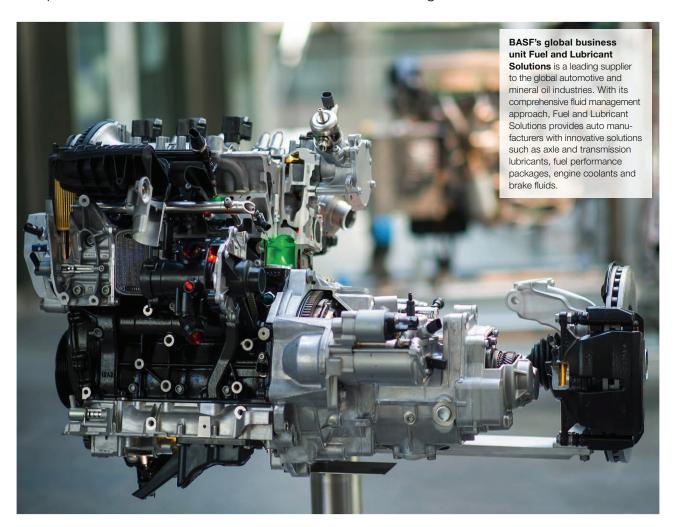


## New amine for more efficient production of wind turbine rotor blades

BASF has added a new product to its comprehensive range of amines: methyl diaminocyclohexane, which is marketed under the brand name Baxxodur® ECX 210. As hardening agent in epoxy systems, Baxxodur® ECX 210 has proved valuable in specific applications, for example, the manufacture of wind turbine rotor blades and layering systems for industrial flooring and bridges. Baxxodur® ECX 210 is more efficient and can be processed for a longer period of time than alternative products.

## **Performance Products**

Our innovative solutions contribute to the functionality and performance of industrial and consumer products produced by virtually all manufacturing industries around the world. Our solutions also help our customers to run their processes more successfully. We are the preferred partner for developing new products, system solutions and applications in close cooperation with our customers. Our broad range of customer industries and our regional portfolio make us less sensitive to sectoral volatilities. In order to strengthen our competitiveness, we have decided on numerous restructuring measures for our businesses.



## Segment divisions

### Dispersions & Pigments

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

☐ page 50

## Care Chemicals

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

☐ page 52

## Nutrition & Health

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

☐ page 54

## Performance Chemicals

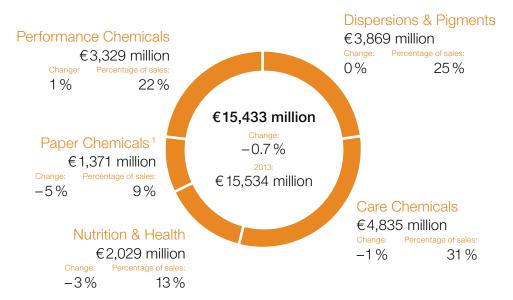
Customized products for many sectors, from mining and the fuel industry to plastics processing.

☐ page 56

**Business segments** 

Performance Products

#### **Sales 2014**



<sup>1</sup> 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.

## Factors influencing sales

#### Volumes Prices 0% Portfolio 0% Currencies (2%) Sales (1 %)

## EBIT before special items (in million €)

2014 1,	455	
2013 1,3	365	

## Segment data Performance Products (in million €)

	2010¹	2011	20122	2013	2014
Sales to third parties	12,288	15,697	15,713	15,534	15,433
Share of total BASF sales %	19.2	21.4	21.8	20.9	21.0
Thereof Dispersions & Pigments	3,197	3,509	3,668	3,851 <sup>3</sup>	3,869
Care Chemicals	2,755	5,174	4,898	4,871	4,835
Nutrition & Health	1,482	1,862	1,959	2,088	2,029
Paper Chemicals <sup>4</sup>	1,713	1,623	1,564	1,442	1,371
Performance Chemicals	3,141	3,529	3,624	3,2823	3,329
Income from operations before depreciation and amortization (EBITDA)	2,162	2,312	2,090	1,987	2,232
EBITDA margin %	17.6	14.7	13.3	12.8	14.5
Income from operations (EBIT) before special items	1,554	1,727	1,421	1,365	1,455
EBIT before special items margin %	12.6	11.0	9.0	8.8	9.4
Income from operations (EBIT)	1,345	1,361	1,276	1,100	1,417
EBIT margin %	10.9	8.7	8.1	7.1	9.2

- 1 Cognis data is included as of December 9, 2010. To prepare for the integration, the divisional structure of the segment was modified as of August 1, 2010: The existing Care Chemicals division was split into the Care Chemicals division and the Nutrition & Health division. The figures for segment reporting for the previous year have been adjusted accordingly
- <sup>2</sup> As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly. These restated prior year figures also take into account the new segment structure as of January 1, 2013.
- 3 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.
- 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

## Adjustment & Adaptation

- Different approach for standard
- Headcount reduction in



## Process & Organizational

- Optimization of production



#### Portfolio Management

- Divestiture of non-strategic
- Optimization and streamlining
- Distribution management



#### Investments & Innovation

- Selected acquisitions in

#### Implemented measures

### **Dispersions & Pigments**

#### Restructuring:

- New Global Business Unit structure encompassing BASF's entire pigments business
- Closure of production plants in Paisley, UK and Qingdao, China, and restructuring in Huningue, France
- Scale down of plastics additives in the Basel area, Switzerland
- Divestiture of liquid masterbatches and Vinuran® PVC modifier business

#### Growth:

- Investment of around €250 million until 2017 in production network and R&D
- Strong investment into R&D for electronics specialties
- Start-up and expansion of additives plants (Nanjing, China; Ulsan, Korea) and dispersions (e.g. Dahej, India; Freeport, USA; Pasir Gudang, Malaysia)

#### **Care Chemicals**

## Restructuring:

- Optimization and restructuring of sites
- Headcount reduction in Europe and North America, adjusting cost structure
- Realignment business models and processes for home care, industrial & institutional cleaning and formulation technologies businesses

#### Growth:

- Acquisition of Henkel's enzyme technology
- Strong investment in R&D
- Start-up of plants for SAP, Trilon®M and surfactants (Nanjing, China; Camaçari, Brazil; Theodore, USA; Dahej, India)
- Investment of up to €500 million in pioneering superabsorbent technology SAVIVA™ worldwide

Annual earnings contribution of

One-time costs

Run-rate of

€250-300 million ~€250 million

by end of 2015

Performance Products Restructuring Performance Products

## **Nutrition & Health**

#### Restructuring:

- Planned divestiture of custom synthesis business and parts of the active pharmaceutical ingredients (API) business
- Divestiture of low concentrated omega-3 Brattvåg site in 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

#### Growth:

- Enzymes: Acquisitions, e.g. Verenium and investment into 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
- Construction of a new citral & integrated aroma ingredients complex together with Petronas in Malaysia (Kuantan, Malaysia)
- Investment in the expansion of polyvinylpyrrolidone (PVP)
- Global team for marketing & 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
- Planned divestiture of paper hydrous kaolin business
- Divestiture of Alkyl ketene dimer (AKD) business in Europe and North America
- Adjustment of capacities in the European latex manufacturing network with a reduction of an annual capacity of 120,000 metric tons

#### Growth:

- R&D investment for cost-efficient binders. micro-fibrillated cellulose
- Center of sustainable paper packaging to meet future trends
- Expansion of polyvinylamine production in Ludwigshafen

### **Performance Chemicals**

#### Restructuring:

- Divestiture of global textile chemicals business
- Divestiture of the PolyAd services business
- Consolidation of production footprint, e.g. for Lubricant Oil Additives (Huningue and Lampertheim)
- Adjustment to market needs and dynamics, e.g. Plastic Additives set-up
- Integration of Paper Chemicals business (wet-end chemicals and Kaolin)

#### 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) at Cork site, Ireland

## Organic growth and capital expenditures

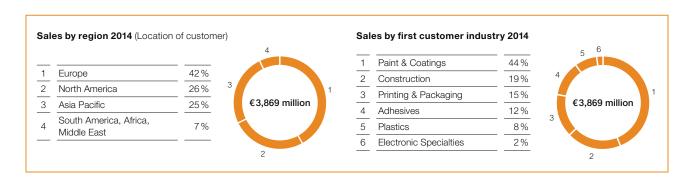
- Start-up of new production hub in Dahej, India
- Start-up of new dispersion plants in Freeport, USA and Pasir Gudang, Malaysia
- Start-up of new production capacities for superabsorbents in Camacari, Brazil
- New aroma ingredients complex in Kuantan, Malaysia

## Investments into the future

- Innovations and R&D, e.g. investment in pioneering superabsobent technology SAVIVA™, expansion of our enzymes technology platform
- Selected acquisitions in growth fields, e.g. Pronova, 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. Further end-user industries include construction materials, adhesives, printing and packaging, automotive and electronic specialties as well as plastic products. Our portfolio has a strong emphasis on environmentally friendly systems, such as low-volatile organic compound (VOC) water-based coatings.



#### **Portfolio**

#### Dispersions

Polymer dispersions are water-based systems used in the production of adhesives, sealants, architectural coatings, paper coatings, construction chemicals and non-woven materials. Our strength lies in our backward integration into acrylics and the division's strong technical expertise and application know-how. The recent integration of the paper coatings business has further strengthened our portfolio.

#### **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. BASF offers a unique portfolio covering the entire color range. The main end-user industries are:

- Automotive coatings
- Decorative paints and industrial coatings
- Printing and packaging
- Electronic specialties
- Plastics

#### 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 waterbased resins, acrylic oligomers, polyisocyanates, amino resins, aldehyde resins, dimers, vinyl chloride copolymers, and highsolid polyols. We offer customer solutions fulfilling regulatory requirements regarding VOC.

The main applications are:

- Automotive coatings
- Protective coatings
- Wood coatings
- Printing and packaging

#### 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 additives particularly in the following areas:

- Photoinitiators
- Light stabilizers

Photoinitiators enable coatings to be cured in just fractions of a second. Light stabilizers protect polymers against ultraviolet light and its negative effects. The formulation additives portfolio comprises:

- Dispersing agents
- Wetting agents and surface modifiers
- Defoamers
- Rheology modifiers
- Film-forming agents

Dispersing agents enable pigment dispersion capability. Wetting agents and surface modifiers improve colorant compatibility or enhance substrate wetting and flow properties. Defoamers destroy foam and its negative effects. Rheology modifiers adjust the flow behavior of paints while film-forming agents enable formulation of films.

#### BASF's market position

- Dispersions: No. 2 globally for adhesives, construction chemicals, architectural coatings and fiber bonding materials
- Pigments: No. 1 globally, broadest portfolio of colors and chemical product classes

Performance Products Dispersions & Pigments

- Resins: No. 1 globally in water-based resins for printing and packaging
- Additives: No. 1 globally in photoinitiators and light stabilizers; broad portfolio of formulation additives

### Main competitors

Dispersions: Dow, Celanese, Arkema Pigments: Clariant, DIC, ALTANA

Resins: Allnex, Bayer, Dow

Additives: ALTANA, Evonik, Elementis

### Focus of research and development

We significantly 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 application in the coatings, printing, adhesives and construction industries. In addition, customers benefit from new and improved resins, pigments, photoinitiators and formulation additives.

## Key drivers of profitability

- Cost leadership
- Superior product performance, quality consistency and reliability
- Technical service and application know-how
- Global production footprint close to relevant markets

#### **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

### Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Dispersions	New plant in Huizhou, China	2012
	New dispersions plant start-up in Durban, South Africa	2012
	New plant in Dahej, India	2014
	New dispersions plant start-up in Freeport, Texas	2014
	New plant in Pasir Gudang, Malaysia	2015
Resins	Capacity expansion in Caojing, China	2014
Additives	New plant in Nanjing, China	2014

### Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Pigments	Several restructuring measures to streamline product portfolio and production setup	ongoing
	Closure of plant in Paisley, Scotland	2015
	Restructuring of the Huningue site, France	ongoing
Printing inks	Divestiture of the printing ink business	2012
Curing agents	Divestiture of the product line Capcure®	2012
Liquid materbatches	Divestiture of liquid masterbatch business	2014
PVC modifiers	Divestiture of the Vinuran® PVC modifier	
	business	2014

## Major production sites

BASF's dispersions, pigments, resins and additives are produced at 46 sites worldwide. Our most important sites for each product group are listed below.

Product group	Site
Dispersions	Ludwigshafen, Germany; Monaca, USA; Shanghai, China; Guaratinguetá, Brazil; Cengkareng, Indonesia; Chattanooga, USA; Wyandotte, USA; Heerenveen, the Netherlands; Hamina, Finland; Dagang, China
Pigments	Ludwigshafen and Besigheim, Germany; Monthey, Switzerland; Newport, USA; Ulsan, South Korea
Resins	Ludwigshafen, Germany; Shanghai, China
Additives	Heerenveen, the Netherlands; Schweizerhalle, Switzerland; Mortara, Italy; Nanjing, China



#### New generation of Irgacure® photoinitiators for display applications

Vibrant colors in flat screen displays and extended battery life through less energy consumption in smart phones and tablets are the result of continued efforts to improve the brightness of displays with better, more transparent materials and optimized device architecture. With its Irgacure® series, BASF has developed a new generation of photoinitiator for higher efficiency and transparency, improving manufacturing productivity and performance beyond its current level.

## Care Chemicals

BASF's Care Chemicals division offers a broad range of ingredients for hygiene, personal care, home care, industrial and institutional cleaning, and technical applications. We are the leading global supplier for the cosmetics, detergents and cleaners, as well as hygiene industries and support our customers with innovative and sustainable products, solutions and concepts. Our production and development sites are located in all regions, and we are expanding our presence in the emerging markets.



#### **Portfolio**

#### Personal care

We offer high-quality, added-value ingredients for the personal care industry. Our focus on consumer trends, sustainable development considering the entire value chain, specific industry requirements, and 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, pigments, and UV filters.

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

### Home care and industrial & institutional cleaning

We develop, produce and market a vast range of products for detergents and cleaners worldwide. As the innovation leader, we enable choices to our customers and offer best possible solutions to successfully meet today's and tomorrow's market needs and changing regulatory conditions. With our strong R&D base, significant market and application expertise, we are the partner of choice for the formulation of efficient, convenient and safe-to-use detergents and cleaners thus contributing to sustainable development. The portfolio, which is continuously further developed, includes surfactants, polymers, chelating agents, biocides, optical effect products, stabilizers, methane sulfonic acid.

We supply outstanding innovations and pioneering hygiene solutions all over the world contributing to sustainable development such as our new generation of highly innovative superabsorbent polymers under the trademark SAVIVA™, which will be launched starting end of 2016. Superabsorbents are used in various hygiene applications such as diapers, adult incontinence and feminine hygiene articles. With our global network of research, production and service sites, we are close to our customers. Through our intimate market knowledge and excellent R&D expertise, we aim to foster trusted and reliable relationships with customers and partners in the global hygiene industry.

#### Formulation technologies

We have an excellent track record of delivering solutions for a wide range of applications. Key applications are additives for industrial formulations and process aids that improve chemical reactions and physical-chemical processes. Building blocks with surface active properties are another key area supporting our chemical processing customers. We use our product and technology platforms to leverage synergies between the various applications. The formulation technologies product range includes surfactants (anionic & nonionic), reactive polyalkyleneglycols, water-soluble polymers, chelating agents, biocides, waxes and wax emulsions, methane sulfonic acid, and silicates.

#### Agricultural chemical (AgChem) additives

We offer an extensive portfolio of tools for the formulators of crop protection products. Our range for the pesticide inerts and adjuvants segments function as dispersants, wetting agents, emulsifiers, solvents, and compatibilizers in building stable, effective, and safe formulations. Our micronutrients provide a highly bioavailable form of metal nutrient to plants.

## BASF's market position

Globally leading supplier for home care, hygiene and personal care industries.

#### **Performance Products**

### Main competitors

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

## Focus of research and development

R&D resources are mainly focused on product, solution and concept innovations in addition to process innovation and improving the application properties of existing ingredients. We systematically generate ideas for new products in close collaboration with our customers, achieving innovation leadership in key product segments. Continuous process innovation ensures technological and cost leadership in major product lines.

#### Key drivers of profitability

- Customer proximity and market focus
- Solid understanding of unmet market needs along the value chain
- Innovative customer solutions for premium product segments
- Cost leadership for major products in standard quality

#### **Key capabilities of BASF**

- Comprehensive technical application and market know-how to serve unmet market needs
- 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
- Supply reliability
- Cost leadership, large-volume supply ability

#### Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Surfactants	New plant in Dahej, India	2014
Superabsorbents	Expansion in Antwerp, Belgium	2012
	New plant in Nanjing, China	2014
	New plant in Camaçari, Brazil	2015
	New superabsorbent technology implementation starting in Antwerp, Belgium	2016
Methane sulfonic acid	Expansion in Ludwigshafen, Germany	2012
Chelating agents	New plant for chelating agent (Trilon® M) for sustainable detergents and cleaners, Theodore, USA	2015
Enzymes	Acquisition of Henkel's detergents enzymes technology, Düsseldorf, Germany	2013
	Acquisition of Verenium Corporation, San Diego, USA	2013

#### Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Biopolymers	Divestiture of the production site in Tromsø,	
	Norway	2012
Surfactants	Transfer of production of surfactants and other products manufactured in Washington, New Jersey, to Geismar, Louisiana; closure of Washington site	2015

## Major annual nameplate capacities of BASF (in thousand tons)

Product group	Location	Capacity <sup>1</sup>
Chelating agents	Europe, North America, South America	120
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

All capacities included at 100 %, also joint ventures.

#### Innovation

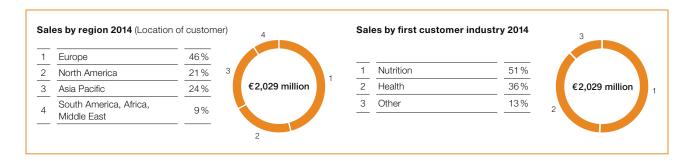


## $SAVIVA^{TM}$

SAVIVA™ represents a new generation of superabsorbent polymers. Due to its round-shaped particles with micropores, SAVIVA™ has an innovative liquid distribution mechanism, making it a highly efficient superabsorbent polymer in a diaper core. It is an efficient enabler for future generations of diaper designs, offering a new level of comfort and dryness. BASF will invest up to €500 million in production capacities worldwide.

## **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 brand which deals with the future of food. As a unique partner along the human nutrition value chain, Newtrition™ offers to the food, beverage and dietary supplement markets a brought range of health and performance ingredients. We offer health ingredients such as:

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

Our performance ingredients include:

- Emulsifiers
- Enzymes
- Specialty compounds
- Filtration aids

#### 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 global presence close to our customers have made BASF a leader in the animal nutrition industry. BASF increased its production capacities for vitamin A by 25% in response to the rising demand. 2015 marks the 25th anniversary of BASF's production of vitamin B2 using its unique fermentation process that ensures quality, safety and supply reliability. In addition to its high-quality vitamin portfolio, BASF Animal Nutrition delivers performance ingredients, e.g. enzymes and organic acids, which offer proven efficiency gains.

#### Pharmaceutical ingredients and services

BASF is the enabler along the life cycle of pharmaceuticals with high-quality products and services that meet current Good Manufacturing Practices (cGMP) requirements. We are the innovation leader for highly functional excipients such as:

- Solubilizers
- Binders
- Disintegrants
- Coatings, polymers & systems

BASF is also the market leader for active pharmaceutical ingredients (APIs) such as:

- Ibuprofen
- Omega-3 fatty acids

Our global leadership in highly concentrated omega-3 fatty acids resulted from the acquisitions of Equateq, now BASF Pharma in 2012, and Pronova BioPharma in 2013.

#### 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. With a portfolio of floral, mint and citrus senses, 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
- 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. It identifies improvement potential

Performance Products

Nutrition & Health

along the entire value chain: from the first step in the produc-

tion process to the final use of the consumer product.

## 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 ingredients & services: Evonik, Ashland, Lonza, Croda
- Aroma ingredients: DSM, NHU, Kuraray

## Focus of research and development

Our research and development resources are focused on product innovation derived from consumer trends and needs. 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 drivers of profitability

- Customer proximity
- Customer-need-driven innovation
- Superior products (reputation as quality leader)
- Cost leadership through integration into the Verbund
- Value-driven asset management of citral value chain
- Efficient business setup and processes

## **Key capabilities of BASF**

- Value-driven innovation supported by BASF's global R&D network
- Deep understanding of the nutrition and health market
- Translation of customer and consumer needs into ingredients and solutions
- High expertise in a complex regulatory environment
- Sustainability and quality management

## Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Aroma ingredients	New plant for L-menthol in Ludwigshafen, Germany	2012
	BASF and PETRONAS building integrated citral and aroma ingredients complex in Kuantan, Malaysia	2016
Pharmaceutical ingredients and services and human nutrition	Acquisition of Equateq, a global leader in highly concentrated omega-3 fatty acids in Callanish, UK	2012
	Acquisition of Pronova BioPharma, a global leader in highly concentrated omega-3 fatty acids in Norway	2013
	Expansion of PVP value chain/Extension of capacities in Ludwigshafen, Germany; Geismar, Lousiana; technology introduction in Shanghai, China	2018
Enzymes	Acquisition of Verenium Corporation, San Diego, USA	2013

### Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Human nutrition	Closure of plant for food performance ingredients in Jacareí, Brazil	2013
Omega-3	Divestiture of low concentrated omega-3 Brattvåg site in Norway	2014
Pharma	Planned divestiture of custom synthesis and parts of its current active pharmaceutical ingredients (API) business	2015

### Major production sites

Product group	Site
Human nutrition	Illertissen, Germany; Ballerup, Denmark; Boussens, France; Ludwigshafen, Germany; Kankakee, USA; Pasadena, USA; Hutt Lagoon, Whyalla Lagoon, Cheltenham Lagoon, Australia; Kitatone, Japan; Gunsan, Korea
Animal nutrition	Ludwigshafen, Germany; Shenyang, China; Gunsan, Korea
Pharma ingredients and services <sup>1</sup>	Sandefjord, Norway; Callanish, UK; Bishop, USA
Aroma ingredients	Ludwigshafen, Germany

Divestiture of customer synthesis business and parts of its active pharmaceutical ingredients business already excluded from the site overview.

#### Innovation

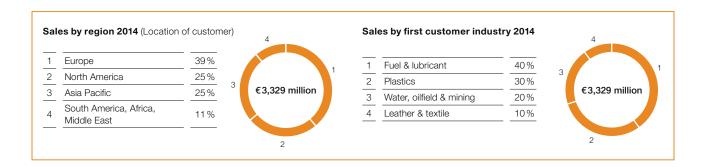


## Organically-bound trace elements

With its new globally launched glycinates product line, BASF demonstrates how to address challenges in livestock feeding. Trace elements are essential for the vitality and productivity of animals. BASF's glycinate series includes copper, iron, manganese and zinc, and is suitable for all types of premixes, mineral and mixed feeds. The flowability and mixing behaviour of the products eases homogeneous distribution in all types of feed.

## Performance Chemicals

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



#### **Portfolio**

#### Plastic additives

BASF is a globally leading supplier and innovation partner 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
- Low, medium and high molecular weight polyisobutene (PIB)
- Lubricant additives and additive packages
- Base stocks for lubricants and components for metalworking fluids
- Compounded lubricants

#### Water, oilfield and mining solutions

BASF offers a wide range of solutions and products for the water, oilfield and mining industry.

For the water industry, we offer products used in the key processes of industrial and municipal water treatment. We are a leading supplier of products: to purify raw water used for the production of drinking water; to treat waste water streams and industrial process water; and to protect desalination plants, cooling towers and boilers. For the oilfield industry, we offer a wide range of products to help make efficient formulations including products for the drilling and completion of oil wells, and chemicals for the continuous and

cost-efficient production of valuable oil and gas resources. We offer standard surfactants and polymers, and also develop next-generation products designed to support enhanced oil recovery (EOR) operations by means of chemical injection. 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 also offer reagents for flotation, dispersing, agglomerating and other processes. Our products are marketed worldwide.

#### Paper chemicals

BASF offers a comprehensive range of chemical products for paper manufacturing. The portfolio includes process and functional chemicals for the wet-end process as well as kaolin minerals for industrial applications.

## Leather chemicals

BASF supplies chemicals for all leather processing steps. In the leather industry, our eco-efficient products and solutions help customers meet the latest ecological requirements and standards. BASF's expertise covers a broad spectrum of applications, such as leathers for shoes, automotive, furniture, garments and accessories.

## BASF's market position

In most businesses, we are among the top three companies.

#### Main competitors

- Plastic additives: Songwon, Sabo, Cytec
- Fuel and lubricant solutions: Afton Chemical, Old World Industries (OWI), Castleton Commodities International (CCI), TPC Group, Exxon
- Water, oilfield & mining solutions: SNF, Kemira, Cytec, Nalco, Solenis
- Leather chemicals: Stahl, Lanxess, TFL
- Paper chemicals: Solenis, Kemira, Ecolab/Nalco

Performance Products
Performance Chemicals

# Focus of research and development

Developing intelligent solutions in close cooperation with our customers and technology leadership to improve our cost position are key to the success of the Performance Chemicals division. Accordingly, we want to grow our business by aiming at fast-growing markets, where we can leverage the variety of our competencies. In addition, we aim to safeguard our margins in already established businesses.

#### Key drivers of profitability

- Excellent innovation platform and application know-how
- Customer proximity and market focus
- Focus on industry segments and regions growing above GDP
- Technology leadership and cost competitiveness in production

## **Key capabilities of BASF**

- Strategic alliances with key customers for innovation leadership
- Highly qualified and experienced team with outstanding market knowledge
- Technological competence to provide excellent solutions to our customers

## Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Fuel and lubricant solutions	New polyisobutene plant in Nanjing, China	2012
Water, oilfield and mining solutions	New plants for quaternized cationic monomers and cationic polyacrylamides in Nanjing, China	2012
	Debottlenecking Lix® production in Cork, Ireland	2015
Plastic additives	New production site for customer specific antioxidant blends in Bahrain	2012
	New plant for antioxidants in Singapore	2013
Paper chemicals	Paper dyes: Expansion in Ankleshwar, India	2012
	Imaging chemicals (Pergafast): Expansion in Ankleshwar, India	2015
	Process chemicals PVAm (polyvinylamine): Capacity expansion in Ludwigshafen, Germany	2016

## Divestitures/Shutdowns/ Reorganizations (from 2012 onward)

Product group	Description	Year
Plastic additives	Scale down of plastics additives in the Basel area, Switzerland	2013-2015
	Divestiture of PolyAd Services	2014
Water, oilfield and mining solutions	Closure of polyacrylamide bead production unit in Suffolk, USA	2012
	Restructuring of the water solutions business, mainly in Bradford and Grimsby, UK	2013-2016
	Divestiture of Industrial Water Management Business in France	2013
Leather and textiles	Divestiture of Textile Chemicals business	2015
Paper chemicals	Whiteners: Discontinuation of production of OBA in McIntosh, Alabama	2012
	Dyes: Discontinuation of production of paper dyes in Grenzach, Germany	2012
	Imaging: Discontinuation of production in Ruikang, China	2013
	Sizing business: Divestiture of global alkyl ketene dimer (AKD) emulsion business	2014
	Kaolin business: Divestiture of paper hydrous kaolin (PHK) business planned	2015

## Major production sites

Product group	Site
Fuel and lubricant solutions	Ludwigshafen and Lampertheim, Germany; Kaisten, Switzerland; Antwerp, Belgium; McIntosh, USA; Puebla, Mexico; Shanghai and Nanjing, China; Thane and Mangalore, India; Singapore; Guaratingueta, Brazil
Leather	Ludwigshafen, Germany; Shanghai, China; Thane and Mangalore, India
Water, oilfield and mining solutions	Bradford and Grimsby, UK; Suffolk and West Memphis, USA; Nanjing, China
Plastic additives	Lampertheim, Germany; Kaisten, Switzerland; Pontecchio Marconi, Italy; Puebla, Mexico; McIntosh, USA; Singapore; Manama, Bahrain; Shanghai, China
Paper chemicals	Ludwigshafen, Germany; Ankleshwar, India; Altamira, Mexico; McIntyre, Gordon, USA

#### Innovation



## Tinuvin® NOR HALS light stabilizers

BASF's Tinuvin® NOR HALS light stabilizers offer excellent UV light and thermal stabilization together with optimum optical properties for greenhouse film covers. This means that premature film degradations are avoided and materials waste is drastically reduced while growers can enjoy up to a 10% increase in crop yield when compared to films stabilised with less favourable technologies for light transmission inside the greenhouse (e.g. Ni-Quenchers).

## **Functional Materials & Solutions**

The Functional Materials & Solutions segment consists of the Catalysts, Construction Chemicals, Coatings as well as the Performance Materials divisions. They develop unique system solutions, services and innovative products tailored for the automotive, battery, chemical as well as construction industry. Key success factors for these businesses include a sound understanding of the customer industries and their value chains as well as multidisciplinary know-how that enables continuous innovation. The tailor-made products and services we offer are supported by industry and application expertise.



## Segment divisions

#### Catalysts

BASF's Catalysts division develops solutions that help protect the air and efficiently produce fuels, chemicals, plastics and other products, including advanced batteries for electromobility.

page 60

## **Construction Chemicals**

The Construction Chemicals division provides chemical systems and formulations for the construction industry.

☐ page 62

## Coatings

Our Coatings division is one of the world's largest suppliers of innovative and environmentally friendly coatings solutions for automotive and industrial applications.

□ page 64

## Performance Materials

Performance Materials bundles BASF's innovative downstream speciality plastics business. It focuses on industries such as transportation, construction, consumer products and industrial applications.

☐ page 66

**Business segments** 

Functional Materials & Solutions



## Factors influencing sales

#### Volumes 5% Prices 0% Portfolio 0% (2%) Currencies Sales 3%

## EBIT before special items (in million $\in$ )

2014	1,197	
2013	1,070	
		Plus € 127 million

## Segment data Functional Materials & Solutions (in million €)

	2010	2011	2012¹	2013	2014
Sales to third parties	9,703	11,361	17.049	17,252	17,725
Percentage of total BASF sales %	15.2	15.5	23.6	23.3	24.0
Thereof Catalysts	5,005	6,380	5,568	5,708	6,135
Contruction Chemicals	2,121	2,181	2,315	2,120	2,060
Coatings	2,577	2,800	2,961	2,927	2,984
Performance Materials	_	_	6,205	6,497	6,546
Income from operations before depreciation and amortization (EBITDA)	861	921	1,363	1,498	1,678
EBITDA margin %	8.9	8.1	8.0	8.7	9.5
Income from operations (EBIT) before special items	467	559	932	1,070	1,197
EBIT before special items margin %	4.8	4.9	5.5	6.2	6.8
Income from operations (EBIT)	457	427	806	1,027	1,150
EBIT margin %	4.7	3.8	4.7	6.0	6.5

As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly. These restated prior year figures also take into account the new segment structure as of January 1, 2013.

## Catalysts

BASF's Catalysts division is the global market leader in catalysis. 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.



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

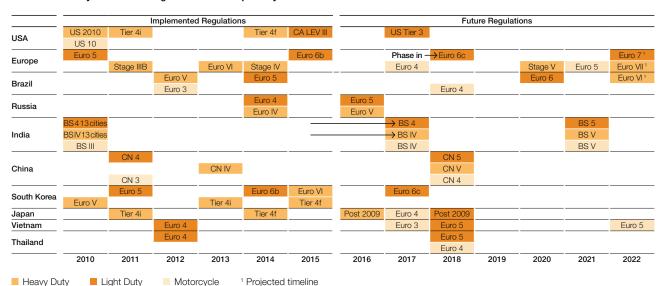
#### **Battery materials**

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 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 supports BASF's Catalysts business and its customers with services related to precious and base

#### Emissions catalysts market - regulation remains primary demand driver



Functional Materials & Solutions

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 light duty vehicles: No. 1 globally
- Mobile emissions catalysts heavy duty diesel vehicles: No. 2 globally
- Chemical catalysts: No. 1 globally
- FCC gas-oil refinery catalysts: No. 2 globally

### Main competitors

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

#### Key drivers of profitability

- Technology innovation
- Tightening of clean air regulations driving demand for new mobile emissions catalysts
- Rising raw material costs and alternative raw material sources driving process catalysts demand
- Production efficiency
- Strict working capital management

#### **Key capabilities of BASF**

- Technology leadership in mobile emissions and process catalysis
- Recognized precious metals expertise
- Partnerships with industry leaders
- Strong position in Asia through joint ventures
- Largest global R&D capability
- Operational excellence in catalyst production and use

### Focus of research and development

For mobile emissions catalysts, the focus is on improved products to meet new exhaust gas standards. For process catalysts, 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.

### Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Mobile emissions catalysts	Capacity expansion in Shanghai, China; Nienburg, Germany; Chennai, India; Indaiatuba, Brazil	2012-2013
	New manufacturing plant in Środa Śląska, Poland	2013
	New manufacturing plant in Chennai, India	2014
Process catalysts	New specialty zeolites manufacturing plant in Ludwigshafen, Germany	2012
	Fine chemical catalysts production expansion, Mangalore, India	2012
	New FCC catalysts testing and research laboratory, Heidelberg, Germany	2013
	Construction of new Chemical Catalysts manufacturing plant in Shanghai, China	2015
Battery materials	Equity investment in Sion Power (LiS)	2012
	Acquisition of Ovonic Battery Company (NiMH)	2012
	Acquisition of Merck's electrolyte business for high-performance batteries	2012
	Acquisition of Novolyte Technologies' electrolytes business	2012
	New production plant for innovative cathode materials, Elyria, USA	2012
	New R&D laboratory and application technology center, Amagasaki, Japan	2013
	New BASF TODA Battery Materials LLC joint venture formed in Tokyo, Japan	2015
Material services	Capacitiy expansion at precious metals recycling facility, Cinderford, UK	2015

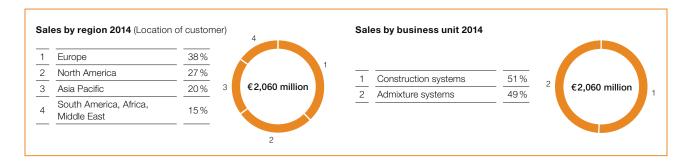


## PremAir® NXT direct ozone reduction catalytic coating technology

PremAir® NXT is a next-generation direct ozone reduction (DOR) catalytic coating technology that can help automakers meet new U.S. Tier 3 and California LEV III emissions reduction requirements. When applied to automotive radiators, the PremAir® NXT solution converts harmful ground-level ozone - the main component of smog - into oxygen.

## Construction Chemicals

BASF's Construction Chemicals division provides chemical systems and formulations for the construction industry. This industry offers major innovation potential. Leading technological development towards sustainable buildings and helping the industry to rapidly adopt sustainable construction practices, we support the profitable growth of our customers.



#### **Portfolio**

#### Admixture systems

BASF technologies for admixture systems provide solutions and add value to 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 complementing technologies, for example Eco Efficiency Analysis.

#### Construction systems

BASF offers construction systems to serve the construction industry with solutions to protect and repair buildings and structures. Furthermore, they 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; tile and floor laying systems and wall systems.

With systems for repair and protection, we help to prolong a building's life span. Performance grouts allow for a durable, safe, cost-effective and time-efficient installation of all types of heavy machinery and wind power stations. Our waterproofing systems are designed to stop water entry through surfaces 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 while permitting limited movement of the substrates. Our diverse range of flooring solutions meets all requirements and our broad 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. We focus our wall system activities on North America.



# The Grand Egyptian Museum will be the world's biggest archeological museum in the world.

Working with our partner Lafarge and utilizing our globally connected in-house expertise, BASF's Master Builders Solutions experts have developed a very special concrete mix design for the spectacular structure. BASF researchers from three continents jointly elaborated the perfect mix design involving white cement. Using MasterGlenium RMC 315 and MasterGlenium SKY 909, BASF developed a high-strength, highly flowable concrete mix that meets all requirements in terms of workability, slump retention and a flawless concrete surface. Besides the admixtures for the fair-faced white concrete, BASF is also supplying expansion joint systems, waterproofing solutions, repair materials, grouts, and tile adhesives to the project.

# Master Builders Solutions – our new brand connecting the construction industry

In April 2014, we finalized the introduction of our new global brand, Master Builders Solutions, underlining BASF's commitment to the construction industry. Master Builders Solutions represents a comprehensive range of solutions, which were offered under various BASF specialty brands such as Glenium, Emaco or Ucrete. Our portfolio of solutions under the Master

Functional Materials & Solutions

Construction Chemicals

Builders Solutions brand encompasses 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: W. R. Grace, Mapei, Sika Construction systems: Mapei, RPM, Sika

### Focus of research and development

The goal of our R&D activities is to drive construction towards higher productivity and enhanced sustainability. 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 drivers of profitability

- Products matching a broad variety of customer needs
- Reliability of product performance
- Quality of sales and technical service
- Development of customized solutions
- Anticipation of future market trends

### **Key capabilities of BASF**

- Customer orientation, solution orientation, proximity to market, experienced staff, high flexibility, established brands
- High-value solutions for our customers
- Focus on growth markets, megatrends and lead customers

## Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Construction systems	Investment in Ucrete® industrial flooring systems in Bukit Raja, Malaysia	2012
Admixture systems	Investment in concrete admixtures in Podolsk, Russia	2012
	Investment in concrete admixtures in Kazan, Russia	2013

## Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Construction systems	Divestiture of CONICA Sports Surfaces in Schaffhausen, Switzerland	2013
	Divestiture of Wall Systems in Marktredwitz, Germany	2013
	Divestiture of MEYCO Equipment in Winterthur, Switzerland	2013

## **Construction Chemicals target customers**

Product group	Customer industries
Admixture systems	Ready-mix concrete
	Precast concrete
	Manufactured concrete products
	Cement production
	Tunnel building
	Mining
Construction systems	Construction industry, especially:  - Contractors and applicators  - Builders merchants  - Owners of buildings

#### Innovation

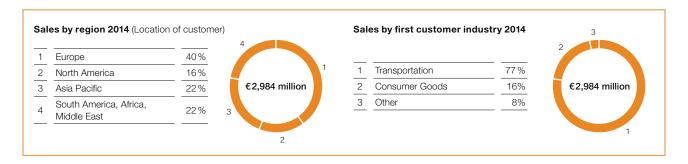


#### MasterFiber® MAC 2200 CB

MasterFiber® MAC 2200 CB, is a first-of-its-kind macrosynthetic fiber that chemically bonds to concrete, providing enhanced post-crack flexural performance, as compared to typical high-performing macrosynthetic fibers. This superior performance enables lower dosages of fibers to achieve desired shrinkage and temperature cracking control. The benefits of lower fiber dosage include greater concrete workability and easier placement, improved fiber dispersion and mix design optimization.

## Coatings

BASF's Coatings division offers innovative and ecologically viable products for the automotive industry, including both the OEM and refinish markets, and for particular segments of the industrial coatings market. BASF also develops and markets decorative paints in South America, 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/commercial transport coatings solutions

For the refinishing of cars and coating of commercial vehicles, BASF offers topcoat and undercoat materials sold under the global premium brands Glasurit® and R-M® as well as the value-for-money brands baslac®, LIMCO®, and Norbin®, 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.

## Industrial coatings solutions

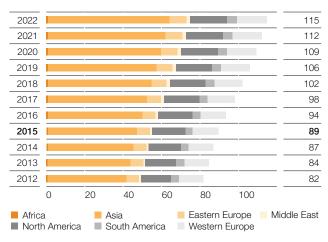
BASF offers environmentally responsible systems for coating industrial products such as Coiltec®, a universal non-chromate coil coating primer and foil coatings, applied to paper and plastic substrates. For the final finish of manufactured products, BASF's portfolio comprises e-coats, spray and dip coatings, which are used for industrial buildings, radiator components, household appliances and wind turbines.

#### Decorative paints

For interior and exterior use in buildings, BASF offers decorative paints, marketed for example under the well-known premium brand Suvinil®, which is one of Brazil's best-known brands.

With constant innovation launches like such as a dirt repellent 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 March 2015 (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 20 million units over the next five years. The main growth driver is Asia – in particular China – where BASF is excellently positioned to participate in tremendous growth opportunities.

## BASF's market position

- Automotive OEM coatings: No. 2 globally
- Automotive refinish coatings: No. 3 globally
- Coil coatings: No. 3 in Europe
- Decorative paints: No. 1 in South America

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## Main competitors

- Automotive OEM coatings: PPG, Axalta, Kansai Paint
- Automotive refinish coatings: Axalta, PPG, AkzoNobel
- Industrial coatings: AkzoNobel, 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. wind energy) and ecologically viable applications.

#### Key drivers of profitability

- Combination of protection and appearance as value indicator
- Value pricing of additional services along the supply chain
- Efficient distribution channels in end-user markets
- Customer-driven product and process innovation

#### **Key capabilities of BASF**

- Strong premium brands in end-user markets
- 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 2012 onward)

Product group	Description	Year
Automotive OEM	Expansion of resin production, France	2012
	Application center, Mexico	2012
	Technical support lab, India	2012
	Coatings technical competence center ASEAN, Thailand	2013
	Expansion of e-coat production, USA	2013
	Expansion of waterborne basecoat production, Brazil	2014
	Topcoat production, China	2014
	Resin production, China	2015
Refinish	Competence center, Australia	2013
	Competence centers, France and Italy	2013
	Competence centers, South Africa	2014

#### Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Decorative	Divesture of the RELIUS coatings' decorative paints business in Europe	2012/ 2013
	Divesture of decorative paint business in Argentina	2013

## Major production sites

BASF coatings are produced at 18 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, USA; Tultitlán, Mexico
Refinish	Münster, Germany; Clermont de l'Oise, France; Windsor, Canada
Industrial	Münster and Oldenburg, Germany
Decorative	São Bernardo do Campo, Brazil



## XSpark®

XSpark® is a new special-effect coating within the product family XColors - designed by BASF especially for premium car manufacturers. The distinctive sparkle is caused by glass particles, which give access to a bright, chromatic color space. Minute glass particles reflect the light with greater precision, thus creating a pronounced glitter. The pronounced sparkle is particularly noticeable in the light and looks exceptionally luxurious and elegant without being intrusive.

## Performance Materials

The Performance Materials division brings together the entire materials know-how of BASF regarding innovative, customized plastics under one roof. Active in four major industry sectors – automotive, 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. Key drivers of profitability and growth are close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis for innovative products and applications.



### **Portfolio**

#### Polyurethane solutions

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 expertise of polyurethane experts of BASF worldwide. This product group is composed of PU systems, TPU and MPU (Cellasto®) technologies.

## **Engineering plastics**

These products 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 our Ultraform® based on polyoxymethylene (POM), Ultradur® based on polybutylene terephthalate (PBT) and Ultramid® based on polyamide (PA).

#### Styrenic foams

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

#### Functional foams

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

#### Specialty plastics

Specialty plastics include biodegradable co-polyesters, mainly used in various packaging applications and sold under ecoflex® and ecovio® brands; infusion resins for composite products (Baxxodur®), which are primarily used in wind energy applications as well as Ultrason®, a high temperature plastic, based on polyarlysulfone (PPSU, PSU, PESU).

#### **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 to profitable growth.

Product/ Industry	Transportation	Construction	Consumer	Industrial
PU systems				
TPU				
MPU				
Engineering plastics	•	-		
Polysulfones				
Styrenic foams				
Functional foams	•	•		
Biodegradable plastics			•	
Epoxy systems				

## BASF's market position

TPU: No. 1 globally
Cellasto<sup>®</sup>: 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: Bayer, 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 innovations focus is on developing new products and applications in close cooperation with customers 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 drivers of profitability

- Focused specialty businesses
- Close collaboration with key customers in target industries
- Large innovation and R&D capabilities
- Portfolio shift towards solutions and specialties
- Constant flow of innovative products and applications into the marketplace

## **Key capabilities of BASF**

- Close customer relationships and ability to serve customers globally
- Innovation in products, applications, processes and business models
- Technical, engineering and application competence
- Operational excellence (reliability, quality consistency)

## Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year	
PU systems	System house in Tianjin, China	2012	
	Acquisition of ITWC, Malcom, USA	2012	
	Applications and technical center in St. Petersburg, Russia	2012	
	New PU systems plant in Geismar, USA	2015	
TPU	Capacity expansion in Lemförde, Germany	2014	
	New TPU plant in Shanghai, China	2014	
	Acquisition of TWSS, Taiwan, China	2015	
MPU	Capacity expansion in Shanghai, China	2014	
TPU, MPU and PU systems	Capacity relocation and expansion in Guaratinguetá, Brazil	2013	
	New polyurethanes manufacturing hub in Dahej, India	2014	
Engineering plastics	Capacity expansion in Shanghai, China	2014	
PET foams	Acquisition of B.C. Foams (extrusion technology), Italy	2012	
PU	Acquisition of Polyurethane business from Polioles in Mexico	2015	
Neopor®	Capacity expansion in Ludwigshafen, Germany	2013	
Ultrason®	New plant in Yeosu, Korea	2014	

## Divestitures/Shutdowns (from 2012 onward)

Product group Description	
Shutdown of EPS plants in Thane, India and Pasir Gudang, Malaysia	2012
Divestiture of EPS business to Alfa in the Americas	2015
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
	Shutdown of EPS plants in Thane, India and Pasir Gudang, Malaysia  Divestiture of EPS business to Alfa in the Americas  Closure of PU system houses in Angered, Sweden and Solymár, Hungary  Closure of PU system houses in Strem (Poland), Pendik (Turkey), Elandsfontein (South Africa), Bukit Jelutong (Malaysia),

## Major annual capacities of BASF (in thousand tons)

Product group	Capacity	
Engineering plastics	625	
Styropor®/Neopor®	540	

#### Innovation



## Still standing after the storm

While more than 70,000 metal and concrete utility poles were severely damaged by Typhoon Rammasun in China 2014, the utility poles made with BASF's Elastolit®, which were installed as part of a pilot project, were unaffected. Utility poles based on this technology are at least 2.5 times more wind-resistant than the commonly used concrete utility poles. Additionally, they are up to 4 times lighter. That makes them easy to install and ideal for use on hillsides and mountains.

## **Agricultural Solutions**

As a leading industry innovator committed to investing in R&D, we offer solutions in crop protection, turf and ornamental plants, pest control and public health. Our portfolio also includes technologies beyond conventional crop protection, including for seed treatment, biological controls, plant health, and nutrient management, as part of our global business unit Functional Crop Care. We support growers in optimizing their agricultural production and improving their business efficiency.



## Segment divisions

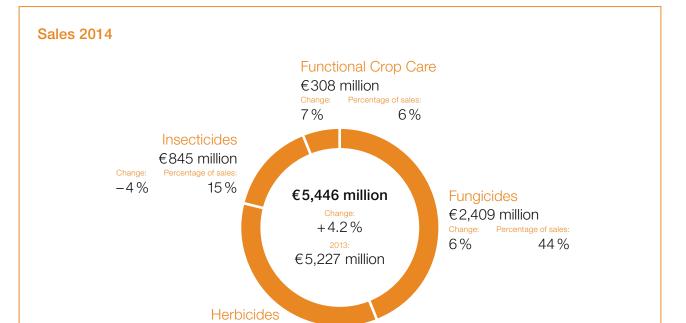
## **Crop Protection**

BASF's Crop Protection division develops, produces and markets innovative solutions, including chemical and biological products and services that support growers to improve crop quality and yields.

☐ page 70

**Business segments** 

Agricultural Solutions



## Factors influencing sales

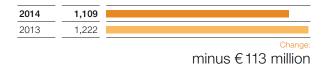
#### Volumes 5% 2% Prices Portfolio 0% Currencies (3 %) Sales 4 %

5%

€1,884 million Percentage of sales

35%

## EBIT before special items (in million €)



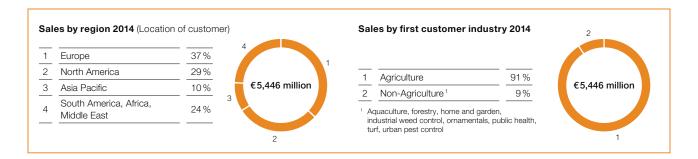
## Segment data Agricultural Solutions (in million €)

	2010	2011	20121	2013	2014
Sales to third parties	4,033	4,165	4,679	5,227	5,446
Share of total BASF sales %	6.3	5.7	6.5	7.1	7.0
Income from operations before depreciation and amortization (EBITDA)	938	981	1,182	1,375	1,297
EBITDA margin %	23.3	23.6	25.3	26.3	23.8
Income from operations (EBIT) before special items	749	810	1,037	1,222	1,109
EBIT before special items margin %	18.6	19.4	22.2	23.4	20.4
Income from operations (EBIT)	749	808	10,026	1,208	1,108
EBIT margin %	18.6	19.4	21.9	23.1	20.3

As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly.

## **Crop Protection**

BASF's Crop Protection division is significantly increasing its activities in emerging agricultural markets while maintaining a strong presence in established, high-value markets. The division aims to sustain its role as a leading innovator by continuing its extensive research and development activities. We set the target to achieve sales of about €8 billion by 2020.



#### **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 45 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® is the most recent herbicide from our research and was first launched in North America in 2010 followed by South America. 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 oilseed rape (canola), sunflower, corn (maize), rice, wheat and lentils.

Innovative dicamba formulations BASF and Monsanto collaborate globally on dicamba-tolerant cropping systems, aiming to expand the weed management options in soybeans, cotton, corn and oilseed rape (canola). BASF's proprietary innovative dicamba formulations will be excellent complements to Monsanto's dicamba-tolerant seed technologies. Pending regulatory approvals, the first launch of a dicamba-tolerant cropping system is expected for soybeans by mid-decade, combining dicamba and Roundup® tolerance. BASF plans to market its innovative dicamba formulation under the name Engenia®.

#### Insecticides

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

Nealta miticide controls all life stages of spider mites in pome fruit, grapes, strawberries, tree nuts, citrus crops and tomatoes. It has a unique mode of action and no cross-resistance to other commercial miticides, making it an important tool for integrated pest management programs. It is practically non-toxic to mammals, beneficial mites, predatory insects and pollinators such as bees. Nealta miticide was commercialized in the USA, Canada and Mexico in 2014, with other countries to follow.

Alpha-cypermethrin controls a broad spectrum of insectpests 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. It is the key ingredient in BASF's insecticide-treated mosquito nets.

#### **Functional Crop Care**

Following the acquisition of Becker Underwood in 2012, BASF established the global business unit Functional Crop Care. The unit combines management, R&D and marketing activities of

Agricultural Solutions

Crop Protection

BASF and Becker Underwood in the areas of seed treatment, biological crop protection, plant health, and nutrient management.

#### BASF's market position

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

Insecticides: No. 5 globally

#### Main competitors

Fungicides: Syngenta, Bayer

Herbicides: Monsanto, Syngenta, Dow, BayerInsecticides: Bayer, Syngenta, DuPont, Dow

#### Powerful research and development pipeline

Our innovation pipeline continued to increase in value in 2014. The pipeline comprises products launched in the period between 2010 and 2020. We foresee a peak sales potential of €2,300 million for these products, which represents an increase of €200 million compared with the previous year. The higher value is boosted by innovations in all application areas. Particular examples include a new, especially high-performance insecticide as well as the area of herbicide tolerance with the herbicide Engenia®, the next-generation dicamba formulation. Further key drivers are:

- Xemium (fungicide)
- Kixor (herbicide)
- Initium (fungicide)
- Dicamba HT (herbicide)

#### Key drivers of profitability

- New products from research pipeline or from acquisitions
- Alignment of resources as well as products and services to customers' needs in high-value and innovation-driven markets

#### **Key capabilities of BASF**

- Strong R&D
- Stringent patent management
- Focus on high-value markets and products
- Strict portfolio management

#### Acquisitions/JVs/Investments (from 2012 onward)

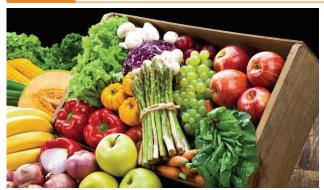
Product group	Description	Year
Functional Crop Care	Acquisition of Becker Underwood	2012
	Capacity expansion in Europe	2015
	New seed solutions technology and biologicals R&D center in Europe	2015
Boscalid	Capacity expansion in South America	2013
Fipronil	Capacity expansion in Europe	2013
Metazachlor	Capacity expansion in Europe	2014
Xemium®	Backward-integration of precursor for Xemium® in Europe	2013
F500®	Capacity expansion in Europe	2014
Epoxiconazole	Capacity expansion in Europe	2012
Dicamba	Capacity expansion in North America	2014
	Capacity expansion in North America	2016
Formulation capacities	Expansion of existing plants in Europe	2012
	Expansion of existing plants in Europe	2013
	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
	Expansion of existing plants in Europe	2016
Infrastructure and R&D measures	Expansion and upgrade of infrastructure and R&D at sites in North America and Europe	2013
Kixor	Capacity Expansion in North America	2015
DMTA	Capacity Expansion in North America	2016

#### Plant biotechnology at BASF

BASF Plant Science – is one of the world's leading companies providing innovative plant biotechnology solutions for agriculture, helping farmers meet the growing demand for improved agricultural productivity and healthier nutrition. BASF Plant Science is where **Innovation Yields Results** and has developed a unique gene discovery platform focusing on yield and quality traits, fungal resistance and herbicide tolerance in crops such as corn, soybean and rice. Our products are marketed in cooperation with leading partners in the seed or food industry. BASF Plant Science is reported under "Other".

Further information on BASF Plant Science is available on the Internet at www.basf.com/plantscience.

#### Innovation



#### Innovation example: Serifel®

Serifel® is a biological fungicide 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 pre-harvest interval and with easy handling. Serifel® will be commercially available in multiple crops and regions starting 2015.

## Oil & Gas

BASF's subsidiary Wintershall is Germany's largest producer of crude oil and natural gas. Wintershall has been active in the exploration and production of oil and gas for more than 80 years. We concentrate on selected oil and gas-rich regions in Europe, Russia, North Africa, South America and the Middle East. In Europe, we are also active in natural gas trading, transport and storage together with our partner Gazprom. Due to the central position in the European gas market we contribute to the secure supply of Europe with natural gas.



#### Segment divisions

#### Exploration & Production

BASF's Exploration & Production business is bundled in Wintershall Group and its subsidiaries. Wintershall has been actively involved in the exploration and production of crude oil and natural gas for more than 80 years, and since 1969 as a wholly owned subsidiary of BASF.

#### Natural Gas Trading

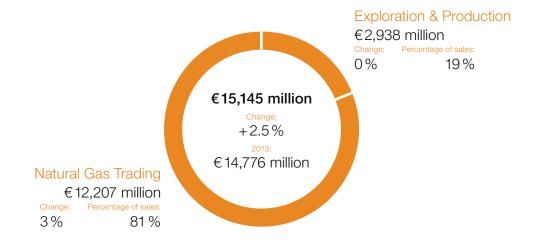
Our Natural Gas Trading business is operated with our partner Gazprom via various subsidiaries.

☐ page 76

☐ page 74

**Business segments** 

#### **Sales 2014**



#### Factors influencing sales

#### Volumes Prices/Currencies (13%) Portfolio 1% Sales 2%

#### EBIT before special items (in million €)

2014	1,795	
2013	1,856	
		Char
		minus €61 millio

#### Segment data Oil & Gas (in million €)

	2010	2011	20121	2013²	2014
Sales to third parties	10,791	12,051	12,740	14,776	15,145
Share of total BASF sales %	16.9	16.4	17.7	20.0	20.0
Thereof Exploration & Production	3,819	3,182	2,584	2,929	2,938
Natural Gas Trading	6,972	8,869	10,156	11,847	12,207
Income from operations before depreciation and amortization (EBITDA)	2,977	2,616	2,445	3,149	2,626
EBITDA margin %	27.6	21.7	19.2	21.3	17.3
Thereof Exploration & Production	2,428	2,042	1,775	2,133	2,162
Natural Gas Trading	549	574	670	1,016	464
Income from operations (EBIT) before special items	2,430	2,111	1,876	1,856	1,795
EBIT before special items margin %	22.5	17.5	14.7	12.6	11.9
Thereof Exploration & Production	2,014	1,686	1,387	1,450	1,412
Natural Gas Trading	416	425	489	406³	383
Income from operations (EBIT)	2,334	2,111	1,676	2,403	1,688
Non-compensable foreign income taxes on oil production	983	439		_	_
Net income	923	1,064	1,201	1,730	1,464

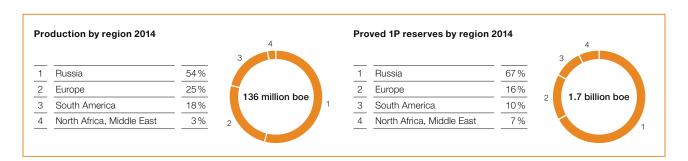
As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly.

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

<sup>&</sup>lt;sup>3</sup> In 2013, special income of €429 million resulted from the reclassification of GASCADE Gastransport GmbH.

## **Exploration & Production**

Exploration and production of crude oil and natural gas is performed by BASF's subsidiary Wintershall. Wintershall focuses on selected oil and gas-rich regions in Europe, Russia, North Africa, South America and the Middle East. 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.



#### Activities by region



#### Europe

Wintershall has been operating in Europe for over 80 years. In addition to exploration and production of oil and natural gas in Germany, we focus in particular on the North Sea. The Mittelplate oil field, the largest known oil deposit in Germany, is the cornerstone of our domestic oil production. In the Netherlands, Wintershall is one of the largest producers of natural gas, operating 22 offshore platforms. In Norway, with approximately 50 licenses – around half of them as operator – we are one of the largest license holders. We currently hold six licenses in the British North Sea, all of them operated by Wintershall. Since 2009, Wintershall has achieved some impressive successes in exploration in this region: e.g. oil fields Maria and Skarfjell in Norway, the discoveries F17 Chalk in the Netherlands and Ravn in the Danish North Sea.

In 2012, Wintershall entered into a cooperation with the Norwegian oil and gas major Statoil and deepened the partnership in 2014. As part of the transactions, Wintershall received shares in the three producing fields Brage, Gjøa and

Vega. In addition, Wintershall received a stake in the development project Aasta Hansteen, the Asterix discovery, the Polarled pipeline and four exploration licenses near Aasta Hansteen. As a result, Wintershall has expanded its output in Norway significantly and now produces around 60,000 boe a day. With Brage and Vega, Wintershall took over operatorship in Norway for the first time.

In the second quarter 2015, Wintershall optimized its portfolio and sold shares in selected oil and gas fields on the Norwegian Continental Shelf to the Norwegian company Tellus Petroleum. Wintershall thereby concentrates on strengthening its competencies in exploration, field development and production activities on own-operated assets and high potential discoveries and exploration licenses.

#### 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 this region for more than 20 years – in particular through its successful cooperation with Gazprom. Together with Gazprom we are pursuing development projects for natural gas and condensate in two fields in Western Siberia: Yuzhno Russkoye and Achimov horizon.

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. 144 production wells are in operation. The field has recoverable volumes of approximately 600 billion m³ of natural gas¹. A development concept for the Turon horizon, a shallow formation in the gas field, is currently being drawn up together with Gazprom.

<sup>1</sup> Russian standard cubic meter

Achimov block IA: Wintershall and Gazprom operate a 50-50 joint venture (Achimgaz) for block IA of the Achimov horizon

Oil & Gas 75
Exploration & Production

in the Urengoy field. Total recoverable volumes of block IA are around 200 billion m³ of natural gas and 40 million tons of condensate. Plateau production is expected to be reached in 2018 with 8 billion m³ of natural gas per year. In 2014, the joint venture produced 3.4 billion m³ gas¹ and 1.5 million tons condensate. We are also involved in exploration and production in the Volgograd area together with our partner Lukoil.

#### North Africa/Middle East

Wintershall has been engaged in E&P activities in Libya since 1958. We operate eight onshore oil fields in the Libyan desert. Gazprom participates with a 49 % stake in Wintershall AG, which is holding these licenses. We also have a minority interest in the Al Jurf offshore field in the Mediterranean Sea off the Libyan coast. 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 to appraise the sour gas and condensate field Shuwaihat in the Western region of Abu Dhabi. Currently we are assessing further opportunities in the North Africa/Middle East region together with our regional partners like BP and Mubadala.

#### South America

Wintershall has been active in this core region since the late 1970s. In Argentina, the largest gas-producing country in South and Central America, 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 development of the new natural gas field, Vega Pleyade. In 2012, we were awarded two exploration licenses in the province of Mendoza for blocks CN-V and Ranquil Norte, both as operator. The potential of non-conventional reservoirs in Argentina is huge, especially in the Vaca Muerta horizon in the Neuquén Basin. Wintershall has interests in the fields San Roque, Aguada Pichana, Bandurria in the Neuquén Basin and is currently evaluating the potential of the non-conventional reservoir Aguada Federal as operator. Wintershall launched the first vertical exploration well in the Aguada Federal block in March 2015.

#### Acquisitions/JVs/Investments (from 2012 onward)

Product group	Description	Year
Oil field development	Knarr, Norway	2015
	Edvard Grieg (formerly Luno), Norway	2015
	Ravn, Denmark	2016
	Maria, Norway	2018
	F17, the Netherlands	2020
Gas field development	K18 Golf tight gas development, the Netherlands	2012
	Yuzhno Russkoye, Russia	2007–2012
	LB6, the Netherlands	2015
	Yuzhno Russkoye, Turon development	2016
	Vega Pleyade, Argentina	2016
	Asta Hansteen, Norway	2017
Gas/condensate field development	Achimov formation (Achimgaz) in Urengoy field, Russia	2008–2018
Exploration license awards	Norway, eight new exploration licenses	2014
R&D project	Pilot project "Enhanced oil recovery", Bockstedt, Germany	2012
Asset swaps	Transactions with Statoil	2013/2014
and transactions	Aguada Federal, Argentina, Farm in agreement with Gas y Petroleó del Neuquén	2014

#### Divestitures/Shutdowns (from 2012 onward)

Product group	Description	Year
Transaction with MOL	Divestiture of selected non-operated assets on the UK Continental Shelf	2013
Transaction with Tellus	Divestiture of shares in 15 licenses on the Norwegian Continental Shelf, closing expected end of 2015	2015

#### Key drivers of profitability

- Diversified portfolio in core and development regions
- Strategic partnerships and cooperations
- Focus on own-operated activities
- Active portfolio management
- Exploration success
- Selective technology development and deployments

#### **Key capabilities of BASF**

- Technology for maximizing value from existing assets
- Many years of experience as cost-efficient operator
- Strategic partnerships with Gazprom and Statoil
- R&D competence at Oil Field Chemicals

#### Innovation



#### Schizophyllan - Biopolymer for enhanced oil recovery

Wintershall, together with BASF, has developed a special biopolymer, called Schizophyllan, which could help to increase oil recovery in mature fields by up to 10 percent. This proprietary biopolymer is a result of a joint cooperation between our white biotechnology research and the oil and gas experts along with the biotechnological expertise from the Nutrition & Health division. The first field tests are showing promising results.

<sup>&</sup>lt;sup>1</sup> Russian standard cubic meter

## Natural Gas Trading

In Europe, we are active in natural gas trading, transport and storage together with our partner Gazprom. Due to our central position in the European gas market we contribute to the secure supply of Europe with natural gas.

The natural gas trading and storage activities conducted together with Gazprom are predominantly combined within the W&G Beteiligungs-GmbH & Co. KG (W&G). The natural gas transport businesses are gathered within the WIGA Transport Beteiligungs-GmbH & Co. KG (WIGA).

#### **Natural Gas Trading**

The W&G subsidiary WINGAS GmbH is one of the largest natural gas suppliers in Germany. WINGAS markets natural gas from various producers to Germany and other European countries. Main customers are municipal utilities and regional gas suppliers as well as larger industrial firms and power plants. WINGAS is also active on spot trading markets.

#### **Natural Gas Transport**

The WIGA Group operates through its subsidiaries a 3,300 kilometer long-distance pipeline network that includes the pipeline links to Nord Stream: The Baltic Sea Connection Pipeline Link (OPAL) and the North European Pipeline (NEL). Our pipeline network through Germany is operated by GASCADE Gastransport GmbH. The project to link the NEL to GASCADE's existing long-distance network was completed in 2014.

The Nord Stream pipeline runs through the Baltic Sea, providing a direct link between Russia and Germany. With a total capacity of 55 billion cubic meters of natural gas per year, the pipeline contributes to the security of supply in Europe.

#### Natural Gas Storage

Astora GmbH & Co. KG is one of the largest natural gas storage facility operators in Europe. Important components of the storage portfolio include the natural gas storage facility in Rehden, Germany – the largest in Western Europe – and a share in the natural gas storage facility in Haidach, Austria and Jemgum, Germany.

Haidach	Start of construction	2007
	Second stage start of operation	2011
Jemgum	Start of construction	2009
	Expected project completion	2018



Oil & Gas

Natural Gas Trading

#### Our pipeline and gas storage network



#### Key drivers of profitability

- Flexibility and balance of the trading portfolio (supply, customers, storage)
- Gas transport business generates stable earnings
  - Regulated pipelines: fixed tariffs
  - Non-regulated pipelines: ship-or-pay contracts; earnings independent of demand fluctuations
- Long-term access to natural gas reserves

#### **Key capabilities of BASF**

- Integrated value chain from production in Siberia to infrastructure (pipelines/storage) and natural gas trading
- Partnership with Gazprom, largest gas reserve holder worldwide

#### Major pipelines

#### **Nord Stream**

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 the Nord Stream in Greifswald to Brandov (CZ) on the German-Czech border

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

#### **NEL**

Pipeline from landing point of Nord Stream towards Rehden in Lower Saxony

- NGT<sup>2</sup> share: 51 %
- Total capacity 20 billion m³ p.a.
- Start-up 2012, together with the second offshore string of Nord Stream
- <sup>1</sup> OGT: OPAL Gastransport GmbH & Co.KG, operator of the OPAL pipeline
- <sup>2</sup> NGT: NEL Gastransport GmbH, operator of the NEL pipeline

### **Other**

Activities not assigned to a particular division are reported in Other. These include the sale of raw materials, engineering and other services, rental income and leases.

Costs of corporate headquarters consist of the expenses for steering the BASF Group and are not allocated to the segments but reported under Other.

With crossdivisional corporate research, BASF is developing growth fields and ensuring its long-term competence with regard to technology and methods. This includes plant biotechnology research. Corporate research costs are not allocated to the segments, but are reported under Other.

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, revenues and expenses from the long-term incentive program (LTI) are reported here.

#### Composition of assets (in million €)

2010	2011	2012	2013¹	2014
2,690	2,272	3,152	3,351	2,241
3,281	2,700	613	630	540
1,112	941	1,473	992	2,193
1,509	2,067	1,661	1,832	1,737
260	128	41	47	91
1,915	1,863	1,845	2,416	3,027
10,767	9,971	8,785	9,268	9,829
	2,690 3,281 1,112 1,509 260	2,690 2,272 3,281 2,700 1,112 941 1,509 2,067 260 128 1,915 1,863	2,690     2,272     3,152       3,281     2,700     613       1,112     941     1,473       1,509     2,067     1,661       260     128     41       1,915     1,863     1,845	2,690     2,272     3,152     3,351       3,281     2,700     613     630       1,112     941     1,473     992       1,509     2,067     1,661     1,832       260     128     41     47       1,915     1,863     1,845     2,416

<sup>&</sup>lt;sup>1</sup> The figures for 2013 have been adjusted to reflect the dissolution of the gas trading disposal group at the end of 2014. For more information, see the "restated figures 2013 and 2014" brochure at basf.com/publications.

#### Financial data (in million €)

	2010	2011¹	2012²	2013	2014
Sales to third parties	5,851	6,275	4,061	4,190	3,609
Thereof Styrenics	2,848	2,414	_		
Income from operations before depreciation and amortization (EBITDA)	(528)	297	(92)	(533)	(2)
Income from operations (EBIT) before special items	(648)	(404)	(790)	(618)	(566)
Income from operations (EBIT)	(707)	178	(215)	(664)	(133)
Costs of corporate headquarters	(226)	(246)	(255)	(237)	(218)
Corporate research costs	(323)	(348)	(391)	(386)	(389)
Foreign currency results, hedging and other measurement effects	(460)	(199)	(454)	(190)	(2)

<sup>&</sup>lt;sup>1</sup> As of October 1, 2011, BASF transferred its carved-out styrenics business to the joint venture Styrolution. BASF's share in the joint venture is reported at equity in the Consolidated Financial Statements

<sup>&</sup>lt;sup>2</sup> As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly





3

# **Financials**

BASF on the capital market ————	82
Ten-year summary ————————————————————————————————————	84
Regional results ————————————————————————————————————	85
Factors influencing sales	86
Financing ————	87
Balance sheet ——————	88
Business review by segment ————	89
Investor Relations Team —————	90

## **BASF** on the capital market

On March 9, 2015 the European Central Bank started the initiative "Quantitative Easing", in an effort to combat deflation and boost growth in the economy. This stimulus pushed share prices worldwide to record levels. In this environment the BASF share has outperformed the German DAX, the Dow Jones index as well as other major indices. BASF enjoys continued solid financing and good credit ratings. We stand by our ambitious dividend policy and paid a record dividend for 2014.

#### Broad base of international shareholders

With over 400,000 shareholders, BASF is one of the largest publicly owned companies with a high free float. An analysis of the shareholder structure carried out in March 2015 showed the following shareholder distribution:

#### Shareholder structure (by region)

1	Germany	35 %
2	United States and Canada	17%
3	United Kingdom and Ireland	11%
4	Rest of Europe	21%
5	Rest of world	5%
6	Not identified	11%



#### BASF in key sustainability indices

The BASF share has been included in the Dow Jones Sustainability World Index (DJSI World) for the fourteenth year in succession. The analysts especially recognized our commitment to ecoefficiency, environmental reporting, labor practice and human rights. As one of the most well-known sustainability indexes, the DJSI World represents the top 10% of the 2,500 largest companies in the Dow Jones Global Index based on economic, environmental and social criteria.

According to the nonprofit organization CDP (Carbon Disclosure Project), BASF is among the leading companies in the world in reporting on climate protection. The CDP represents more than 750 institutional investors who manage over \$90 trillion in assets. In 2014, BASF once again achieved the maximum disclosure score of 100 points, taking first place in the Energy & Materials sector of the Carbon Disclosure Leadership Index (CDLI). We have already qualified for the index ten times.

#### Share price performance

The BASF share reached an all-time high of €96,72 on April 10, 2015. Assuming that dividends were reinvested, BASF shares gained 15.7% in value from January 2014 till June 2015. This performance was slightly lower than the very good performance of the German and European stock markets, whose benchmark indexes DAX 30 and DJ EURO STOXX 50 respectively gained 19.7% and 20.3% over the same period. The global industry index MSCI World Chemicals rose by 20.7%.

Performance of BASF shares Jan 2014-June 2015

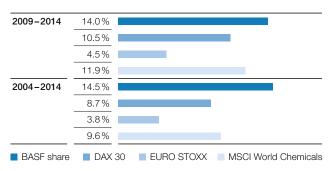
Dividend reinvested

15.7%

14.5%

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 2004 and reinvested the dividends in additional BASF shares would have increased to €3,864 by the end of 2014. This equates to an average annual return of 14.5 %, placing BASF shares above the returns for the DAX 30 (8.7 %), EURO STOXX 50 (3.8 %) and MSCI World Chemicals (9.6 %) indexes.

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





Change in value of an investment in BASF shares from January 2014 until June 2015 (With dividends reinvested; indexed)



#### Dividend

For 2014, BASF paid a dividend of €2.80 per share, up 3.7% versus the previous year. We stand by our ambitious dividend policy and paid out around €2.6 billion to our shareholders (based on the number of qualifying shares on December 31, 2014). Based on the year-end share price for 2014, BASF shares offer a high dividend yield of 4.0%. BASF belongs to the DivDAX share index, which contains the 15 companies with the highest dividend yield in the DAX 30.

Dividend per share

Dividend yield

€2.80

4.0%

#### Dividend policy

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

#### **Analyst consensus**

Around 30 financial analysts regularly publish studies on BASF. On June 10, 2015, 28% recommended buying our shares and 44% recommended holding them, while 28% had a sell rating. At the same point in time, the average target share price according to analyst consensus estimates was €86.06.

You can find more information on the internet at www.basf.com/share

#### **ADRs**

American depositary receipts (ADRs) are allowing 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 is comprised of the thirty largest ADR programs, listed on OTC markets. Since end of April 2015, BASFY is also part of the new index OTC-QX Billion+, which includes about 70 companies from 21 countries.

#### Shareholder return (in million $\in$ )

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Share buybacks	1,435	938	1,899	1,618	_					_
Dividends	1,015	1,484	1,831	1,791	1,561	2,021	2,296	2,388	2,480	2,572
Total	2,450	2,422	3,730	3,409	1,561	2,021	2,296	2,388	2,480	2,572
Dividend per share (€)¹	1.00	1.50	1.95	1.95	1.70	2.20	2.50	2.60	2.70	2.80
Share price at year-end (€/share)¹	32,36	36.93	50.71	27.73	43.46	59.70	53.89	71.15	77.49	69.88
Dividend yield (%)	3.1	4.1	3.9	7.0	3.9	3.7	4.6	3.7	3.5	4.0
Payout ratio (%)	34	46	45	62	111	44	37	50	52	50
Price/earnings ratio (P/E ratio)	11.3	11.6	12.2	8.9	28.2	12.0	8.0	13.6	14.8	12.5
Free cash flow yield (%) <sup>2</sup>	9.4	9.6	6.7	9.8	8.0	7.1	7.5	4.0	4.5	2.4

<sup>&</sup>lt;sup>1</sup> Adjusted for 2-1 stock split in 2008

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

# **Ten-year summary**

million €	2005	2006	2007	2008	2009	2010	2011	20121	2013²	2014
Sales and earnings										
Sales	42,745	52,610	57,951	62,304	50,693	63,873	73,497	72,129	73,973	74,326
Income from operations before depreciation and amortization (EBITDA)	8,233	9,723	10,225	9,562	7,388	11,131	11,993	10,009	10,432	11,043
Income from operations (EBIT)	5,830	6,750	7,316	6,463	3,677	7,761	8,586	6,742	7,160	7,626
Income before taxes	5,926	6,527	6,935	5,976	3,079	7,373	8,970	5,977	6,600	7,203
Income before minority interests	3,168	3,466	4,325	3,305	1,655	5,074	6,603	5,067	5,113	5,492
Net income	3,007	3,215	4,065	2,912	1,410	4,557	6,188	4,819	4,792	5,155
Capital expenditures, depreciation and amortization										
Additions to property, plant and equipment and intangible assets	2,523	10,039	4,425	3,634	5,972	5,304	3,646	5,263	7,726	7,285
Thereof property, plant and equipment	2,188	4,068	2,564	2,809	4,126	3,294	3,199	4,084	6,428	6,369
Depreciation and amortization of property, plant and equipment and intangible assets	2,403	2,973	2,909	3,099	3,711	3,370	3,407	3,267	3,272	3,417
Thereof property, plant and equipment	2,035	2,482	2,294	2,481	2,614	2,667	2,618	2,594	2,631	2,770
Number of employees										
At year-end	80,945	95,247	95,175	96,924	104,779	109,140	111,141	110,782	112,206	113,292
Annual average	80,992	88,160	94,893	95,885	103,612	104,043	110,403	109,969	111,844	112,644
Personnel expenses	5,574	6,210	6,648	6,364	7,107	8,228	8,576	8,963	9,285	9,224
Research and development expenses	1,064	1,277	1,380	1,355	1,398	1,492	1,605	1,732	1,849	1,884
Key data										
Earnings per share <sup>3,4</sup> €	2.87	3.19	4.16	3.13	1.54	4.96	6.74	5.25	5.22	5.61
Cash provided by operating activities <sup>5</sup>	5,250	5,940	5,807	5,023	5,693	6,460	7,105	6,602	8,100	6,958
EBITDA margin %	19.3	18.5	17.6	15.3	14.6	17.4	16.3	13.9	14.1	14.9
Return on assets %	17.7	17.5	16.4	13.5	7.5	14.7	16.1	11.0	11.5	11.7
Return on equitiy after tax %	18.6	19.2	22.4	17.0	8.9	24.6	27.5	19.9	19.2	19.7
EBIT after Cost of Capital €	2,354	2,126	2,895	1,621	(226)	3,500	2,551	1,164	1,768	1,368
Appropriation of profits										
Net income of BASF SE <sup>7</sup>	1,273	1,951	2,267	2,982	2,176	3,737	3,506	2,880	2,826	5,853
Dividends	1,015	1,484	1,831	1,791	1,561	2,021	2,296	2,388	2,480	2,572
Dividend per share <sup>3</sup> €	1.00	1.50	1.95	1.95	1.70	2.20	2.50	2.60	2.70	2.80
Number of shares as of December 31 3,8 million	1,028.8	999.4	956.4	918.5	918.5	918.5	918.5	918.5	918.5	918.5

<sup>&</sup>lt;sup>1</sup> 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.

Figures for 2012 have been restated; no restatement was made for 2011 and earlier.

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

<sup>&</sup>lt;sup>3</sup> 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.

<sup>&</sup>lt;sup>4</sup> Adjusted for special items and impairment of intangible assets, earnings per share were €5.44 in 2014 and €5.31 in 2013.

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

<sup>&</sup>lt;sup>6</sup> Before external financing of pension obligations.

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<sup>&</sup>lt;sup>8</sup> After deduction of repurchased shares earmarked for cancellation.

Financials

Regional results

# **Regional results**

#### Sales by location of company (in million $\in$ )

	2005	2006	2007	2008	2009	2010	2011	20121	2013	2014
Europe	25,093	31,444	34,316	38,652	30,375	35,156	41,036	41,445	43,335	42,854
Thereof Germany	17,100	22,963	24,312	27,497	21,543	25,426	28,816	29,320	31,571	32,241
North America	9,542	11,415	12,007	11,937	9,404	13,246	14,727	14,441	14,573	15,467
Asia Pacific	6,042	7,450	8,785	8,664	7,997	11,642	13,316	11,694	11,679	11,643
South America, Africa, Middle East	2,068	2,301	2,843	3,051	2,917	3,829	4,418	4,549	4,386	4,362
Total	42,745	52,610	57,951	62,304	50,693	63,873	73,497	72,129	73,973	74,326

#### Sales by location of customer (in million $\in$ )

	2005	2006	2007	2008	2009	2010	2011	2012¹	2013	2014
Europe	23,755	29,529	32,347	36,693	28,532	33,201	39,124	39,428	41,221	40,911
Thereof Germany	8,865	11,062	11,967	13,796	10,666	12,225	14,705	15,210	14,446	15,126
North America	9,479	11,522	11,928	11,932	9,480	12,886	13,995	13,992	14,272	15,213
Asia Pacific	6,500	8,102	9,579	9,320	8,706	12,510	14,410	12,546	12,450	12,341
South America, Africa, Middle East	3,011	3,457	4,097	4,359	3,975	5,276	5,968	6,163	6,030	5,861
Total	42,745	52,610	57,951	62,304	50,693	63,873	73,497	72,129	73,973	74,326

#### Income from operations (EBIT) before special items (in million $\ensuremath{\in}\xspace)$

	2005	2006	2007	2008	2009	2010	2011	20121	2013²	2014
Europe	4,630	5,591	5,586	5,924	3,467	5,505	5,574	4,356	4,309	4,759
Thereof Germany	3,130	4,170	4,286	4,758	2,166	3,914	3,399	2,292	1,829	1,994
North America	865	927	916	222	501	1,092	1,321	1,036	1,539	1,566
Asia Pacific	353	519	800	382	599	1,276	1,096	888	842	614
South America, Africa, Middle East	290	220	312	328	285	265	456	367	387	418
Total	6,138	7,257	7,614	6,856	4,852	8,138	8,447	6,647	7,077	7,357

As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly.

#### Sales by location of company 2014

1	Europe	57 %
2	North America	21 %
3	Asia Pacific	16%
4	South America, Africa, Middle East	6%



#### Sales by location of customer 2014

1	Europe	55 %
2	North America	20 %
3	Asia Pacific	17%
4	South America, Africa, Middle East	8%



## Income from operations (EBIT) before special items 2014

1	Europe	65 %
2	North America	21%
3	Asia Pacific	8%
4	South America, Africa, Middle East	6%



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

## **Factors influencing sales**

#### Factors influencing sales - contribution to sales growth

	2005	2006	2007	2008	2009	2010	2011	20121	2013	2014
Volumes	3%	5%	5%	0%	(10%)	11%	0%	1%	5%	4%
Prices	11%	8%	2 %	12%	(14%)	8%	12%	1%	0%	(3 %)
Currencies	1%	0%	(4 %)	(4 %)	1%	5%	(2 %)	3%	(3 %)	(1%)
Acquisitions/divestitures	(1%)	10%	7 %	0%	4 %	2%	5%	(1%)	1%	0%
Total	14%	23 %	10%	8 %	(19%)	26%	15%	4 %	3 %	0 %

As of 2013, the accounting of BASF Group is performed in accordance with IFRS 10 and 11 as well as International Accounting Standard (IAS) 19 (revised). The 2012 figures have been restated accordingly.

#### Factors influencing sales 2014

We raised sales volumes in all segments in 2014. Prices were reduced overall, largely on account of significant decreases in oil and gas prices. Negative currency effects dampened sales in almost all divisions. Portfolio effects did not have an appreciable impact on BASF Group sales.

#### **Sensitivities**

#### Currency impact on BASF Group

Our competitiveness on global markets is influenced by fluctuations in exchange rates. For BASF's procurement, opportunities and risks arise in particular when the US dollar exchange rate fluctuates. A full-year rise in the value of the US dollar/euro exchange rate by \$0.01 would result in an increase of around €50 million in BASF's earnings, assuming other conditions remain the same. On the production side, we mitigate foreign currency risks by having production sites in the respective currency zones.

#### Annual impact of \$ change

(\$ exchange rate: -\$0.01 per €)

Sales

€230 million €50 million

Foreign currency risks also result from the translation of receivables, liabilities and other monetary items into the functional currency of the respective Group company at the closing rate in accordance with IAS 21. 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.

**EBIT** 

#### Oil price impact on the Oil & Gas segment

On a molecular basis BASF is almost perfectly hedged. Oil price changes affect the segment's sales and EBIT almost immediately in oil production and with a certain time lag in gas production and trading.

# Annual impact of oil price change on Oil & Gas segment

(1 US\$/bbl rise in annual average Brent oil price)

Sales EBIT

€20 million €20 million

Financing

## **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 to ensure a balanced maturity profile and a diverse range of investors.

For short-term financing we use our commercial paper program, which has an issuing volume of up to \$12.5 billion. Firmly committed, syndicated credit facilities 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 2014. Our external financing is therefore largely independent of short-term fluctuations in the credit markets.

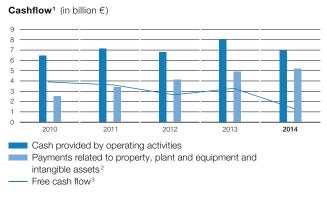
Financial management in the BASF Group is centralized and is supported by regional finance units. If possible, we bundle the financing, financial investments and foreign currency hedging of BASF SE's subsidiaries within the BASF Group in order to minimize risks and exploit internal optimization potential. 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 €6,958 million, cash provided by operating activities in 2014 was €1,142 million below the level of the previous year. This was largely attributable to an increase in net working capital as a result of greater inventories and other operating receivables.

The year-on-year decline in free cash flow of €1,565 million to €1,662 million was the result of lower cash provided by operating activities and of higher payments related to property, plant and equipment and intangible assets resulting from investments supporting organic growth.

2014 represented the peak in investments into plant, property and equipment and will be lower in the years to come.



- <sup>1</sup> The figures for the 2010 and 2011 business years were not restated according to the new accounting and reporting standards IFRS 10 and 11.
- Including investments to the extent that they already had an effect on cash.
- <sup>3</sup> Cash provided by operating activities less payments related to property, plant and equipment and intangible assets.

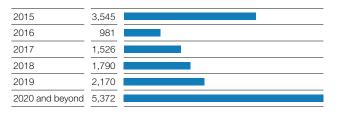
#### Good credit ratings and solid financing

BASF has good credit ratings, especially in comparison with competitors in the chemical industry. Rating agency Moody's last confirmed their rating on May 5, 2015 and kept the outlook stable. Standard & Poor's kept the rating, but adjusted the outlook to "negative" on April 10, 2015. This was largely due to an increase in pension provision as a result of declining capital market interest rates. We continue to have solid financing. Since the beginning of the year, net debt increased by €121 million to around €13.8 billion.

#### **Credit Ratings**

Standard & Poor's Moody's
A+/A-1/outlook negative A1/P-1/outlook stable

#### Maturities of financial indebtedness (in million $\in$ )



# **Balance sheet (IFRS)**

Million €	2005	2006	2007	2008	2009	2010	2011	20121		2014
Noncurrent assets			0.550		10.440	12.245		10.100	10.004	12.067
Intangible assests  Property, plant and equipment	3,720 13,987	8,922 14,902	9,559 14,215	9,889 15,032	10,449	12,245 17,241	11,919	12,193	12,324 19,229	12,967
		14,902			10,265		17,966	16,610		23,496
Investments accounted for using the equity method	244	651	834	1,146	1,340	1,328	1,852	3,459	4,174	3,245
Other financial assets	813	1,190	1,952	1,947	1,619	1,953	848	613	643	540
Deferred taxes	1,255	622	679	930	1,042	1,112	941	1,473	1,006	2,193
Other recieveables and miscellaneous noncurrent assets	524	612	655	642	946	653	561	911	877	1,498
Total noncurrent assets	20,543	26,899	27,894	29,586	31,681	34,532	34,087	35,259	38,253	43,939
Current assets										
Inventories	5,430	6,672	6,578	6,763	6,776	8,688	10,059	9,581	10,160	11,266
Accounts receivable, trade	7,020	8,223	8,561	7,752	7,738	10,167	10,886	9,506	10,233	10,385
Other recieveables and miscellaneous	1 506	0.607	0.007	2.040	2 222	2 002	2.701	2.455	0.714	4.022
Current assets  Marketable assurities	1,586	2,607	2,337	3,948	3,223	3,883	3,781	3,455	3,714	4,032
Marketable securities  Cash and cash equivalents	<u>183</u> 908	56 834	51 767	<u>35</u> 2,776	15 1,835	1,493	<u>19</u> 2,048	1,647	<u>17</u> 1,827	19 1,718
Assets of disposal groups			614			614	295	3,264		- 1,710
Total current assets	15,127	18,392	18,908	21,274	19,587	24,861	27,088	27,467	25,951	27,420
Total current assets		10,002	10,500		13,307					
Total assets	35,670	45,291	46,802	50,860	51,268	59,393	61,175	62,726	64,204	71,359
Equity										
Subscribed capital	1,317	1,279	1,224	1,176	1,176	1,176	1,176	1,176	1,176	1,176
Capital surplus	3,100	3,141	3,173	3,241	3,229	3,216	3,203	3,188	3,165	3,143
Retained earnings	11,928	13,302	14,556	13,250	12,916	15,817	19,446	23,708	26,102	28,777
Other comprehensive income	696	325	174	(96)	156	1.195	314	(3.461)	(3.400)	(5.482)
Minority interests	482	531	971	1,151	1,132	1,253	1,246	1,010	630	581
Total equity	17,523	18,578	20,098	18,722	18,609	22,657	25,385	25,621	27,673	28,195
Noncurrent liabilities										
Provisions for pensions and similar	1 5 4 7	4.50	1 000	1 710	0.055	0.770	0.100	- 404	0.707	7.040
obligations	1,547	1,452	1,292	1,712	2,255	2,778	3,189	5,421	3,727	7,313
Other provisions	2,791	3,080	3,015	2,757	3,289	3,352	3,335	2,925	3,226 2,894	3,502
Deferred taxes  Financial indebtedness		1,441	2,060	2,167	2,093	2,467	2,628	2,234		3,420
Financial indebtedness Other liabilities	3,682 1,043	<u>5,788</u> 972	6,954 901	8,290 917	12,444 898	<u>11,670</u> 901	9,019	8,704 1,111	11,151 1,194	11,839
Total noncurrent liabilities	9,762	12,733	14,222	15,843	20,979	21,168	19,313	20,395	22,192	1,197 <b>27,271</b>
Current liabilities										
Accounts payable, trade	2,777	4,755	3,763	2,734	2,786	4,738	5,121	4,502	5,153	4,861
Provisions Tay lightities	2,763	2,848	2,697	3,043	3,276	3,324	3,210	2,628	2,670	2,844
Tax liabilities  Financial indebtedness	887	858	881	860	1,003	1,140	1,038	870	968	1,079
Pinancial indebtedness Other liabilities	259	3,695	3,148	6,224	2,375	3,369	3,985	4,094	3,256	3,545
Other liabilities Liabilities of disposal groups	1,699	1,824	1,976	3,434	2,240	2,802	3,036	2,623	2,292	3,564
Liabilities of disposal groups  Total current liabilities	9 205	12 090	17	16 205	11 600	195	87 16 477	1,993	14 220	15 902
Total current liabilities	8,385	13,980	12,482	16,295	11,680	15,568	16,477	16,710	14,339	15,893
Total equity and liabilities	35,670	45,291	46,802	50,860	51,268	59,393	61,175	62,726	64,204	71,359

<sup>1</sup> We have applied International Financial Reporting Standards 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013.

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

Business review by segment

# **Business review by segment**

#### Segment overview (in million $\in$ )

	Sale	s	Income from before depre amortizatio	eciation and	Income from operations (EBIT) before special items		
	2014	2013¹	2014	2013¹	2014	2013¹	
Chemicals	16,968	16,994	3,212	2,956	2,367	2,182	
Performance Products	15,433	15,534	2,232	1,987	1,455	1,365	
Functional Materials & Solutions	17,725	17,252	1,678	1,498	1,197	1,070	
Agricultural Solutions	5,446	5,227	1,297	1,375	1,109	1,222	
Oil & Gas	15,145	14,776	2,626	3,149	1,795	1,856	
Other	3,609	4,190	(2)	(533)	(566)	(618)	
	74,326	73,973	11,043	10,432	7,357	7,077	

<sup>&</sup>lt;sup>1</sup> Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.

#### Contributions to total sales by segment

Chemicals	23%	
Performance Products	21%	
Functional Materials & Solutions	24%	
Agricultural Solutions	7%	
Oil & Gas	20%	
Other	5%	

#### Contributions to EBIT before special items by segment

Chemicals	32 %	
Performance Products	20%	
Functional Materials & Solutions	16%	
Agricultural Solutions	15%	
Oil & Gas	24%	
Other	(-7%)	

#### Contributions to EBITDA by segment

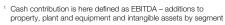
Chemicals	29%	
Performance Products	20%	
Functional Materials & Solutions	15%	
Agricultural Solutions	12%	
Oil & Gas	24%	
Other	0%	

#### **EBITDA** margin by segment

Chemicals	19%	
Performance Products	15%	
Functional Materials & Solutions	10%	
Agricultural Solutions	24%	
Oil & Gas	17%	
Other	0%	

#### Cash contributions by segment 2014¹ (in Mio. €)

1	Chemicals	1,174
2	Performance Products	1,404
3	Functional Materials & Solutions	1,041
4	Agricultural Solutions	915
5	Oil & Gas	269
6	Other	(129)



#### Additions to property, plant and equipment by segment in 20141

_		
1	Chemicals	29%
2	Performance Products	12%
3	Functional Materials & Solutions	9%
4	Agricultural Solutions	5%
5	Oil & Gas	43%
6	Other (infrastructure, R&D)	2%





90 IR Team BASF Factbook 2015

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