

ATT €167 MILLION

### **INVESTMENTS**

BASF has invested €160 million on average over the past few years in ongoing expansion of the site. In 2017, this sum went towards items including optimisation in the steam cracker supply chain, SAP and infrastructure.



33%

### **ENVIRONMENTAL IMPACT**

Our relative environmental impact, i.e. atmospheric and water emissions and landfill waste per tonne of manufactured product, has been cut by 33% over the past 10 years. In 2017, we succeeded in cutting our volume of waste sharply.

**€6,321** 

SALES/MILLION

In 2017, BASF Antwerp sales rose with almost 22%. The high availability factor of our facilities together with increased prices and volumes contributed substantially to this.





0.9

## **LOST TIME INJURY RATE**

The lost time injury rate measures the number of incidents with lost time per million worked hours. Safety is the top priority for BASF Antwerp.



90%

## **HEAT RECOVERY**

We cover 90% of our heat requirement using a smart network between exothermic and endothermic chemical processes.





175

## NUMBER OF WORK PLACEMENTS/YEAR



This ranges from short observation and experience placements to theses and projects for an entire academic year. Dual learning, in which students spend up to 16 weeks on the shop floor is the most intensive form.

## Chemicals

The Chemicals segment comprises our business with basic chemicals and intermediates. Its portfolio ranges from solvents and plasticizers to high-volume monomers and glues as well as raw materials for detergents, plastics, textile fibers, paints and coatings, crop protection and medicines. In addition to supplying customers in the chemical industry and numerous other sectors, we also ensure that other BASF segments are supplied with chemicals for producing downstream products.



#### Key data Chemicals ¹ (million €)

	2017	2016	Change in %
Sales	16,331	12,905	27
Thereof Petrochemicals	6,389	5,035	27
Monomers	6,963	5,189	34
Intermediates	2,979	2,681	11
EBITDA	5,374	3,114	73
Income from operations (EBIT)	4,208	1,953	115
EBIT before special items	4,233	2,032	108

#### **Performance Products**

Our Performance Products lend stability, color and better application properties to many everyday products. Our product portfolio includes vitamins and other food additives in addition to ingredients for pharmaceuticals, personal care and cosmetics, as well as hygiene and household products. Other products from this segment improve processes in the paper industry, in oil, gas and ore extraction, and in water treatment. They furthermore enhance the efficiency of fuels and lubricants, the effectiveness of adhesives and coatings, and the stability of plastics.



### Key data Performance Products ¹ (million €)

		2017	2016	Change in %
Sales		16,217	15,558	4
Thereof Disp	persions & Pigments	5,398	5,086	6
Car	e Chemicals	5,079	4,735	7
Nut	rition & Health	1,844	1,932	(5)
Perl	formance Chemicals	3,896	3,805	2
EBITDA		2,427	2,577	(6)
Income from ope	rations (EBIT)	1,510	1,678	(10)
EBIT before spec	ial items	1,416	1,777	(20)

### **Functional Materials & Solutions**

In the Functional Materials & Solutions segment, we bundle system solutions, services and innovative products for specific sectors and customers, especially the automotive, electrical, chemical and construction industries, as well as applications for household, sports and leisure. Our portfolio comprises catalysts, battery materials, engineering plastics, polyurethane systems, automotive coatings, surface treatment solutions and concrete admixtures as well as construction systems like tile adhesives and decorative paints.



#### Key data Functional Materials & Solutions (million €)

		2017	2016	Change in %
Sales		20,745	18,732	11
Thereo	f Catalysts	6,658	6,263	6
	Construction Chemicals	2,412	2,332	3
	Coatings	3,969	3,249	22
	Performance Materials	7,706	6,888	12
EBITDA		2,251	2,906	(23)
Income from	n operations (EBIT)	1,545	2,199	(30)
EBIT before	special items	1,617	1,946	(17)

## **Agricultural Solutions**

The Agricultural Solutions segment provides innovative solutions in the areas of chemical and biological crop protection, seed treatment and water management as well as for nutrient supply and plant stress.



## Key data Agricultural Solutions (million €)

	2017	2016	Change in %
Sales	5,696	5,569	2
EBITDA	1,282	1,305	(2)
Income from operations (EBIT)	1,015	1,037	(2)
EBIT before special items	1,033	1,087	(5)

### Oil & Gas

In the Oil & Gas segment, we focus on exploration and production in oil and gas-rich regions in Europe, North Africa, Russia, South America and the Middle East. Together with our Russian partner Gazprom, we are also active in the transportation of natural gas in Europe.



### Key data Oil & Gas (million €)

	2017	2016	Change in %
Sales	3,244	2,768	17
EBITDA	2,069	1,596	30
Income from operations (EBIT)	1,043	499	109
EBIT before special items	793	517	53
Net income	719	362	99

<sup>&</sup>lt;sup>1</sup> On January 1, 2017, the Monomers and Dispersions & Pigments divisions' activities for the electronics industry were merged into the global Electronic Materials business unit and allocated to the Dispersions & Pigments division. For better comparability, the affected figures for 2016 have been adjusted accordingly.

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## **About this report**

The "BASF in Antwerp" Report is published annually as a concise document about the performance of our activities across the three dimensions of sustainability – economy, environment and society – in Antwerp. The reporting period for this publication is the financial year 2017. This report also carries an overview of BASF Group along with its financial performance, prepared in accordance with the requirements of the International Financial Reporting Standards (IFRS), and, where applicable, the German Commercial Code as well as the German Accounting Standards (GAS). The emissions, waste, energy and water use of consolidated joint operations are included pro rata, based on our stake. The employee numbers refer to employees within the BASF Group scope of consolidation as of December 31, 2017.

**BASF in Antwerp Report 2017** Welcome

## Welcome

## Letter from the Executive Board

In 2017, we improved our safety performance in every way, saw our sales grow by almost 22%, welcomed 160 new recruits, implemented dual learning and focused on industry 4.0. In other words, we achieved a great deal. The fact that we were able to achieve these results is entirely down to the culture on our site

First and foremost, we encourage a culture of continuous improvement. Our facilities operated at 92% availability in 2017, a fine sample of operational excellence. In late 2017 we ran the first production of the latest generation of superabsorbent polymers. And we must keep looking ahead. As far as digitalization is concerned, we have a team ready to proceed from a pilot to implementation. What is more, we have invested heavily in creating flexibility in the steamcracker supply chain. We are continuing to look for major and minor improvements in all four corners of the business.

Continuous improvement and innovation go hand in hand with sustainability. The interconnectedness of our facilities enables us to maintain a balance between the heat requirements for various processes, a vast energy saving from the outset. Over the past few years we have been looking for additional energy savings in each facility. We are also extending this approach from the energy field across to atmospheric emissions, water management and waste, achieving success in doing so. In 2017, we were awarded the ISO 50001 certificate for energy management and renewed certificates for en-

vironmental protection and quality assurance.

Our culture is inextricably linked with safety. Our facilities are of course protected and we lay down precise procedures in order to avoid incidents. It is our intention to commit to a safety culture in which everyone feels responsible for safety and takes initiative themselves. We encourage employees to take their focus on safety home with them rather than leaving it behind at the factory gate, since safe behaviour is the number one priority on the road as well.

Safe and smooth traffic was a major challenge in 2017. Time to reflect structurally on mobility in the region. The result? A mobility plan resting on the pillars of bus transport, carpooling and bike leasing.

Finally, we come to the most important ingredient in keeping our facilities in prime condition year after year: our employees, who make up a vibrant network of knowledge and experience. This network comprises more than our own employees and trainees, partner companies and contractors contribute to it as well. We help all talent to get to the right place and have close ties with education in order to generate enthusiasm among youth for science and engineering. What is more, we are expanding our network by engaging in dialogue with our neighbours, the wider port community and other stakeholders. Policymakers are also part of this dialogue.

In this way, a culture of continuous improvement, sustainability, safety and connectedness forms the basis of our welloiled chemical manufacturing site. A site that keeps innovating. We thank everyone who contributed to this success, confident that in 2018 this will also be the key to perform well.



Wouter De Geest CEO BASF Antwerpen since 2007 Joined BASF in 1982





Bernd Brian Member Management Committee In Antwerp since 2016 Joined BASF in 1984



BASF Group 2017 at a glance BASF in Antwerp Report 2017

## BASF Group 2017 at a glance

## **Economic data**

		2017	2016	Change in %
Sales	million €	64,475	57,550	12.0
Income from operations before depreciation and amortization (EBITDA)				
and special items	million €	12,527	10,327	21.3
EBITDA	million €	12,724	10,526	20.9
Amortization and depreciation <sup>1</sup>	million €	4,202	4,251	(1.2)
Income from operations (EBIT)	million €	8,522	6,275	35.8
Special items	million €	194	(34)	
EBIT before special items	million €	8,328	6,309	32.0
Financial result	million €	(722)	(880)	18.0
Income before taxes and minority interests	million €	7,800	5,395	44.6
Net income	million €	6,078	4,056	49.9
EBIT after cost of capital	million €	2,727	1,136	140.1
Earnings per share	€	6.62	4.42	49.8
Adjusted earnings per share	€	6.44	4.83	33.3
Dividend per share	€	3.10	3.00	3.3
Research and development expenses	million €	1,888	1,863	1.3
Personnel expenses	million €	10,610	10,165	4.4
Number of employees		115,490	113,830	1.5
Assets	million €	78,768	76,496	3.0
Investments <sup>2</sup>	million €	4,364	7,258	(39.9)
Equity ratio	%	44.1	42.6	
Return on assets	%	10.8	8.2	_
Return on equity after tax	%	18.9	13.3	_
Net debt	million €	11,485	14,401	(20.2)
Cash provided by operating activities	million €	8,785	7,717	13.8
Free cash flow	million €	4,789	3,572	34.1

<sup>&</sup>lt;sup>1</sup> Amortization of intangible assets, depreciation of property, plant and equipment, impairments and reversals of impairments

## Value added 2017<sup>3</sup>

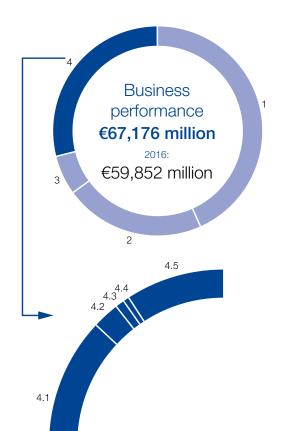
## Creation of value added (million €)

		2017	2016
	Business performance	67,176	59,852
1	Cost of raw materials and merchandise	(29,224)	(25,450)
2	Services purchased, energy costs and other expenses	(14,520)	(13,658)
3	Amortization and depreciation	(4,202)	(4,251)
4	Value added	19,230	16,493

#### Use of value added

		2017	2016
4.1	Employees	55.2%	61.6%
4.2	Government	8.9%	8.6%
4.3	Creditors	2.9%	4.0%
4.4	Minority interests	1.4%	1.2%
4.5	Shareholders (dividend and retention)	31.6%	24.6%

<sup>&</sup>lt;sup>3</sup> Value added results from the company's performance minus goods and services purchased, depreciation and amortization. Business performance includes sales revenues, other operating income, interest income and net income from shareholdings. Value added shows the BASF Group's contribution to both private and public income as well as its distribution among all stakeholders.



 $<sup>^{2}\,</sup>$  Additions to intangible assets and property, plant and equipment (including acquisitions)

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## Innovation

		2017	2016	Change in %
Research and development expenses	million €	1,888	1,863	1.3
Number of employees in research and development at year-end		10,110	9,966	1.4

## **Employees and society**

	2017	2016	Change in %
Employees			
Employees at year-end	115,490	113,830	1.5
Apprentices at year-end	3,103	3,120	(0.5)
Personnel expenses million €	10,610	10,165	4.4
Society			
Donations and sponsorship million €	56.0	47.0	19.1

## Environment, health, safety and security

		2017	2016	Change in %
Safety, security and health				
Transportation incidents with significant impact on the	environment	0	0	0
Process safety incidents	per one million working hours	2.0	2.0	0
Lost-time injuries <sup>4</sup>	per one million working hours	1.4	1.5	(6.6)
Health Performance Index		0.97	0.96	1.0
Environment				
Primary energy use <sup>5</sup>	million MWh	57.3	57.4	(0.2)
Energy efficiency in production processes	kilograms of sales product/MWh	625	617	1.3
Total water withdrawal	million cubic meters	1,816	1,649	10.1
Withdrawal of drinking water	million cubic meters	20.3	20.7	(1.9)
Emissions of organic substances to water <sup>6</sup>	thousand metric tons	14.1	15.9	(11.3)
Emissions of nitrogen to water <sup>6</sup>	thousand metric tons	2.8	2.9	(3.4)
Emissions of heavy metals to water <sup>6</sup>	metric tons	24.8	23.2	6.9
Emissions of greenhouse gases 4	million metric tons of CO <sub>2</sub> equivalents	22.6	22.0	2.7
Emissions to air (air pollutants) <sup>6</sup>	thousand metric tons	25.7	26.0	(1.2)
Waste	million metric tons	2.12	2.10	1.0
Operating costs for environmental protection	million €	1,024	1,011	1.3
Investments in environmental protection plants and fa	acilities million €	234	206	3.6

<sup>&</sup>lt;sup>4</sup> The 2016 figure has been adjusted due to updated data.

## Audits along the value chain

	2017	2016	Change in %
Suppliers	_		
Number of on-site sustainability audits of raw material suppliers	120	104	15.4
Responsible Care Management System			
Number of environmental and safety audits	109	121	(9.9)
Number of short-notice audits	63	37	70.2
Number of occupational medicine and health protection audits and health performance			
control visits	44	30	-

<sup>&</sup>lt;sup>5</sup> Primary energy used in BASF's plants as well as in the plants of our energy suppliers to cover energy demand for production processes

<sup>&</sup>lt;sup>6</sup> Excluding emissions from oil and gas production

BASF Group BASF in Antwerp Report 2017

## **BASF Group**

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 115,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is arranged into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas.

## Organization of the BASF Group

- Thirteen divisions grouped into five segments
- Regional divisions, functional units and corporate and research units support our business

Our 13 divisions are aggregated into five segments based on their business models. The divisions bear operational responsibility and are organized according to sectors or products. They manage our 55 global and regional business units and develop strategies for the 86 strategic business units.

Our regional units are responsible for optimizing local infrastructure, and contribute to tapping our market potential. For financial reporting purposes, we organize the regional divisions into four regions: Europe; North America; Asia Pacific; South America, Africa, Middle East.

Eight functional units and seven corporate units support the BASF Group's business activities. The functional and corporate units provide services in areas such as finance, investor relations, communications, human resources, engineering and site management, as well as environmental protection, health and safety. Our research and development organization has around 10,000 employees in global research units and safeguards our innovative capacity and competitiveness.

Business processes are the shared responsibility of the divisions and the functional units. They closely coordinate the procurement of raw materials and services, production and transport to customers.

## Sites and Verbund

- Six Verbund sites with intelligent plant networking
- 347 additional production sites worldwide
- Global Technology and Know-How Verbund

BASF has companies in more than 80 countries. We operate six Verbund sites and 347 additional production sites worldwide. Our Verbund site in Ludwigshafen, Germany, is the world's largest integrated chemical complex owned by a single company. This was where the Verbund principle was originally developed and continuously optimized before being implemented at additional sites.

The Verbund system is one of BASF's great strengths. Here, we add value as one company by using our resources efficiently. The Production Verbund intelligently links production units and their energy supply so that, for example, the waste heat of one plant provides energy to others. Furthermore, one facility's by-products can serve as feedstock else-

where. This not only saves us raw materials and energy, it also avoids emissions, lowers logistics costs and leverages synergies.

We also make use of the Verbund principle for more than production, applying it for technologies, know-how, employees, customers and partners, as well. Expert knowledge is pooled in our global research platforms.

#### **Procurement and sales markets**

- Around 130,000 customers; broad customer portfolio
- More than 70,000 suppliers

BASF supplies products and services to around 130,000 customers from various sectors in almost every country in the world. Our customer portfolio ranges from major global customers and medium-sized businesses to end consumers.

We work with over 70,000 suppliers from different sectors worldwide. They supply us with important raw materials, chemicals, investment goods and consumables, and perform a range of services. Some of our most important raw materials are naphtha, natural gas, methanol, ammonia and benzene.

### **Business and competitive environment**

BASF's global presence means that it operates in the context of local, regional and global developments and is bound by various conditions. These include:

- Global economic environment
- Legal and political requirements (such as European Union regulations)
- Trade agreements like the North American Free Trade Agreement (NAFTA)
- Environmental agreements (such as the E.U. Emissions Trading System)
- Social aspects (such as the U.N. Universal Declaration of Human Rights)

BASF holds one of the top three market positions in around 75% of the business areas in which it is active. Our most important global competitors include AkzoNobel, Clariant, Covestro, DowDuPont, DSM, Evonik, Formosa Plastics, Huntsman, SABIC, Sinopec, Solvay and many hundreds of local and regional competitors. We expect competitors from Asia and the Middle East in particular to gain increasing significance in the years ahead.

## Corporate legal structure

As the publicly traded parent company, BASF SE takes a central position: Directly or indirectly, it holds the shares in the companies belonging to the BASF Group, and is also the largest operating company. The majority of Group companies cover a broad spectrum of our business. In the BASF Group Consolidated Financial Statements, 286 companies including BASF SE are fully consolidated. We consolidate eight joint operations on a proportional basis, and account for 35 companies using the equity method.

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## Our Strategy

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

In 2050, nearly 10 billion people will live on Earth. While the world's population and its demands will keep growing, the planet's resources are finite. On the one hand, population growth is associated with huge global challenges; and yet we also see many opportunities, especially for the chemical industry.

## Our corporate purpose

### ■ We create chemistry for a sustainable future

We want to contribute to a world that provides a viable future with enhanced quality of life for everyone. We do so by creating chemistry for our customers and society and by making the best use of available resources.

We live our corporate purpose by:

- Sourcing and producing responsibly
- Acting as a fair and reliable partner
- Connecting creative minds to find the best solution for market needs

For us, this is what successful business is all about.

As an integrated global chemical company, we make important contributions in the following three areas:

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

In doing so, 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 optimally 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.

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 experiences. That is why we foster dialog based on honesty, respect and mutual trust.

**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.

#### Our focus areas

### We set ourselves goals along the value chain for our focus areas

Sustainability is key to the company's long-term success and as such, is embedded into our corporate strategy. We have systematically formulated expectations for our conduct and defined focus areas to meet the growing challenges along the value chain:

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

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## Goals

We carry out our corporate purpose, "We create chemistry for a sustainable future," by pursuing ambitious goals along our entire value chain. In this way, we aim to achieve profitable growth and take on social and environmental responsibility. We are focusing on issues where we as a company can make a significant contribution.

### Goal areas along the value chain

	<b>&gt;&gt;</b>	
Suppliers	BASF	Customers
Procurement	Growth and profitability; Employees; Production; Product stewardship;	Products and solutions
	Energy and climate protection; Water	

### **Procurement**

	2020 Goal	Status at end of 2017
Assessment of sustainability performance of relevant suppliers; <sup>1</sup> development of action plans where		
improvement is necessary	70%	56%

Our suppliers are evaluated based on risk due to the size and scale of our supplier portfolio. We define relevant suppliers as those showing an elevated sustainability risk potential as identified by our risk matrices and our purchasers' assessments. We also use further sources of information to identify relevant suppliers such as evaluations from Together for Sustainability (TfS), a joint initiative of chemical companies for sustainable supply chains.

## **Growth and profitability**

As determined in 2015, our aim for the years ahead is, on average, to grow sales slightly faster and EBITDA considerably faster than global chemical production (excluding pharmaceuticals; 2017: 3.5%; average change since 2015: 3.5%), and to earn a significant premium on our cost of capital. Moreover, we strive for a high level of free cash flow each year, either raising or at least maintaining the dividend at the prior-year level.

	2017	Change since 2016	Average change since 2015
Sales	€64.5 billion	12.0%	3.7%2
EBITDA	€12.7 billion	20.9%	13.1%²
Dividends per share paid out	€3.00	€0.10	
Premium on cost of capital	€2.7 billion		
Free cash flow	€4.8 billion		

<sup>&</sup>lt;sup>2</sup> Baseline 2015: excluding the gas trading and storage business transferred to Gazprom

## **Employees**

2021 Goal	Status at end of 2017
22-24%	20.5%
Long-term goals	
Increase in proportion of non-German senior executives (baseline 2003: 30%)	38.9%
Proportion of senior executives with international experience over 80%	84.6%
Systematic, global employee development as shared responsibility of employees and leaders based on relevant processes and tools	Project implemented worldwide
	Long-term goals Increase in proportion of non-German senior executives (baseline 2003: 30%) Proportion of senior executives with international experience over 80% Systematic, global employee development as shared responsibility

<sup>&</sup>lt;sup>3</sup> The term "senior executives" refers to leadership levels 1 to 4, whereby level 1 denotes the Board of Executive Directors. In addition, individual employees can attain senior executive status by virtue of special expertise.

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## **Production**

	2025 Goals	Status at end of 2017
Reduction of worldwide lost-time injury rate per one million working hours		1.4
Reduction of worldwide process safety incidents per one million working hours	≤0.5	2.0
	Annual goal	
Health Performance Index	>0.9	0.97

## **Product stewardship**

		Status at end of 2017
Risk assessment of products that we sell in quantities of more than one metric ton per year worldwide	>99%	76.2%

## **Energy and climate protection**

	2020 Goal	Status at end of 2017
Coverage of our primary energy demand by introducing certified energy management systems (ISO 50001) at all relevant sites <sup>4</sup>	90%	54.3%
Reduction of greenhouse gas emissions per metric ton of sales product (excluding Oil & Gas, baseline 2002)	(40%)	(35.5%)

 $<sup>^4\,\,</sup>$  The selection of relevant sites is determined by the amount of primary energy used and local energy prices.

## Water

	2025 Goals	Status at end of 2017
Introduction of sustainable water management at all production sites in water stress areas and at all Verbund sites (excluding Oil & Gas)	100%	45.2%

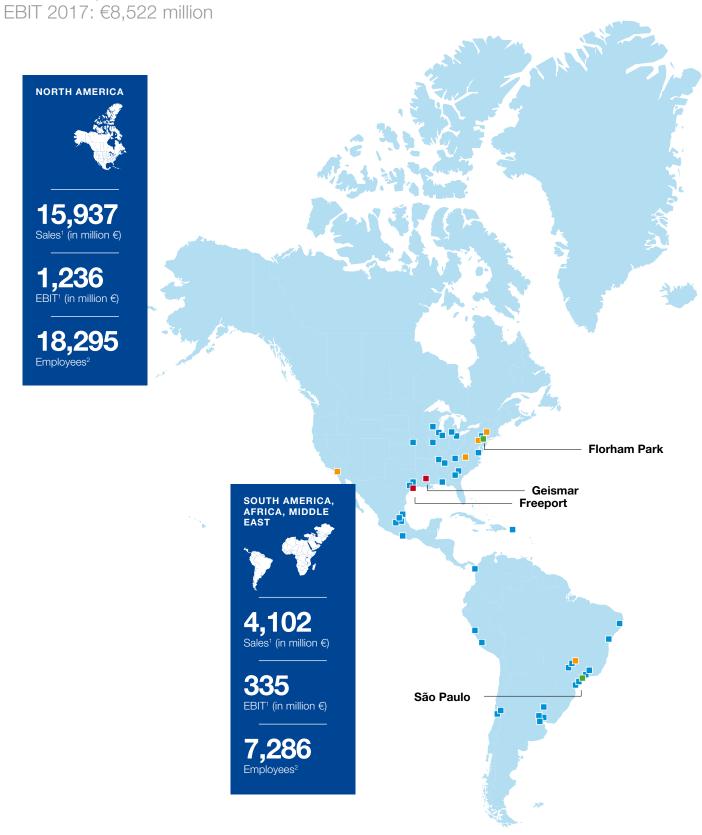
## **Products and solutions**

	2020 Goal	Status at end of 2017
Increase the proportion of sales generated by products that make a particular contribution to		
sustainable development (Accelerator products)	28%	27.3%

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## BASF in the regions

BASF Group sales 2017: €64,475 million;



<sup>■</sup> Regional centers

Selected sites

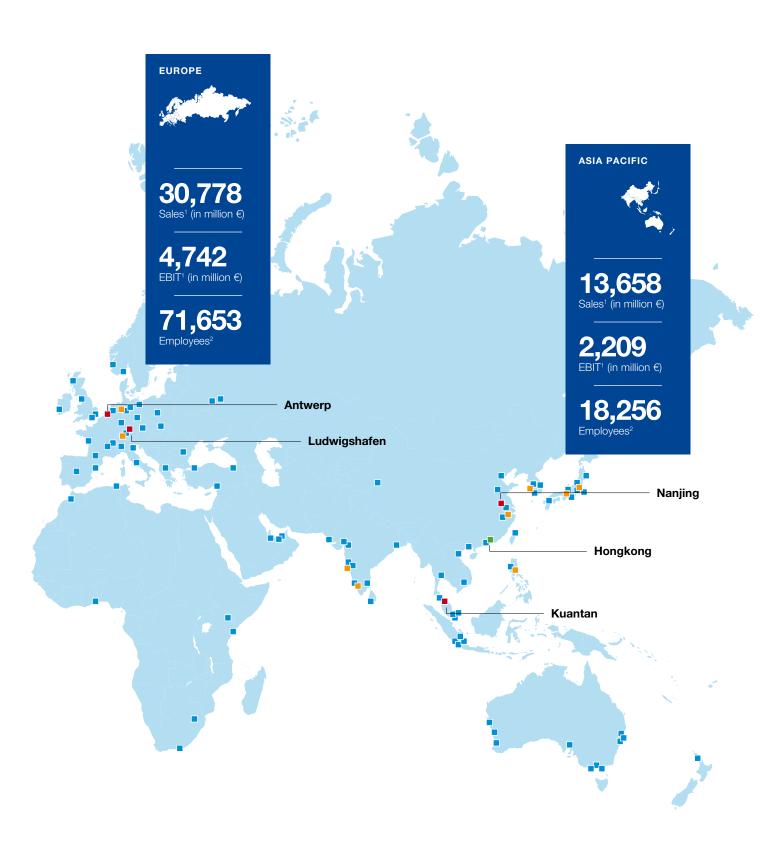
<sup>■</sup> Verbund sites

Selected research and development sites

<sup>&</sup>lt;sup>1</sup> In 2017, by location of company

<sup>&</sup>lt;sup>2</sup> At year-end 2017

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## BASF on the capital market

The BASF share price rose by 3.9% in 2017, trading at €91.74 at the year-end. We stand by our ambitious dividend policy and paid a dividend of €3.10 per share – an increase of 3.3% compared with the previous year. BASF enjoys solid financing and good credit ratings.

## **BASF** share performance

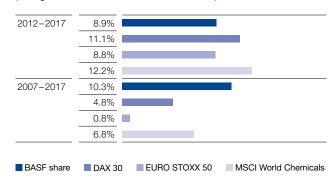
- BASF share gains 3.9% in 2017
- Long-term performance continues to clearly exceed benchmark indexes

The BASF share closed the 2017 stock market year with a closing price of €91.74. This equates to a 3.9% rise in the value of BASF shares compared with the previous year's closing price, which also marked the high for 2016. Assuming that dividends were reinvested, BASF shares gained 7.4% in value in 2017. The benchmark indexes of the German and European stock markets – the DAX 30 and the EURO STOXX 50 – rose by 12.5% and 9.2% over the same period, respectively. The global industry index MSCI World Chemicals gained 23.6%.

The BASF share reached a new high of €97.46 over the course of 2017. Viewed over a 10-year period, the long-term performance of BASF shares still clearly surpasses the German, European and global benchmark indexes. The assets of an investor who invested €1,000 in BASF shares at the end of 2007 and reinvested the dividends in additional BASF shares

would have increased to €2,676 by the end of 2017. This represents an annual yield of 10.3%, placing BASF shares above the returns for the DAX 30 (4.8%), EURO STOXX 50 (0.8%) and MSCI World Chemicals (6.8%) indexes.

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

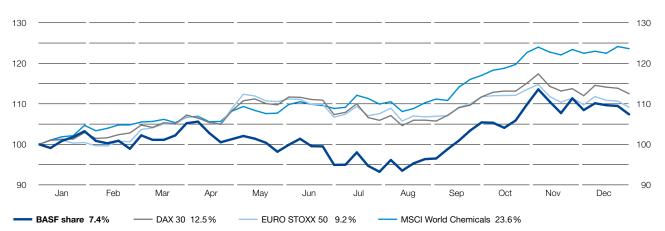


## Weighting of BASF shares in important indexes as of December 31, 2017

DAX 30	8.1%
EURO STOXX 50	3.5%
MSCI World Chemicals	8.6%

## Change in value of an investment in BASF shares in 2017

(With dividends reinvested; indexed)



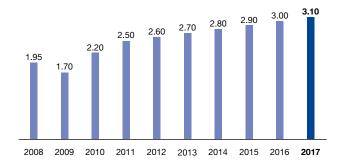
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### Dividend of €3.10 per share

For 2017, we paid a dividend of €3.10 per share.We stand by our ambitious dividend policy and paid out nearly €2.8 billion to our shareholders.

Based on the year-end share price for 2017, BASF shares offer a high dividend yield of 3.4%. BASF is part of the DivDAX share index, which contains the 15 companies with the highest dividend yield in the DAX 30. We aim to increase our dividend each year, or at least maintain it at the previous year's level.

#### Dividend per share (€ per share)

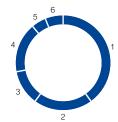


#### Broad base of international shareholders

With over 500,000 shareholders, BASF is one of the largest publicly owned companies with a high free float. An analysis of the shareholder structure carried out at the end of 2017 showed that, at around 20% of share capital, the United States and Canada made up the largest regional group of institutional investors. Institutional investors from Germany accounted for around 11%. Shareholders from the United Kingdom and Ireland hold 12% of BASF shares, while investors from the rest of Europe hold a further 17% of capital. Approximately 29% of the company's share capital is held by private investors, nearly all of whom reside in Germany. BASF is therefore one of the DAX 30 companies with the largest percentage of private shareholders.

#### Shareholder structure (by region, rounded)

1	Germany	40%
2	United States and Canada	20%
3	United Kingdom and Ireland	12%
4	Rest of Europe	17%
5	Rest of world	5%
6	Not identified	6%
	•	



## **Employees becoming shareholders**

In many countries, we offer share purchase programs that turn our employees into BASF shareholders. In 2017, for example, 23,700 employees (2016: approximately 24,000) purchased employee shares worth €63 million (2016: €59 million).



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It is only by engaging in dialogue with our employees and the surrounding area that we will be able to continue developing our site sustainably.

Wouter De Geest CEO BASF Antwerp

Continuous improvement is a must for a must for a manufacturing site like ours. We are constantly looking for methods to work with everincreasing safety and efficiency.



**Bernd Brian**Member of the Management Committee
BASF Antwerp

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## **BASF Antwerp**

## At a glance

BASF Antwerp plays a key role within the BASF Group and in the Antwerp chemical cluster. Around 50 facilities divided into 16 clusters make chemical products day in, day out, which are the basis for a great many everyday items.

#### Sales and investment

#### Sales up by almost 22%

#### Turnover in Antwerp (million €)

2017	6,321		
2016	5,183		

BASF Antwerp sales rose in 2017 by almost 22% to €6,321 million. The sharp increase in selling prices and increase in sales volumes explain this growth.

On average, we invest €160 million per year. The most significant projects we can list include the ongoing optimisation of the steam cracker supply chain and the introduction of new technology for the manufacture of a new generation of superabsorbent polymers. We have upgraded and extended our existing facilities for this new generation of polymers. This year, we also invested in the construction of a new ammonia tank. Furthermore, we are continuing to invest in projects to ensure the safety, efficiency and profitability of our site and its facilities.



Sales at BASF Antwerp rose by almost 22%

## What do we make?

## ■ BASF products found in a broad range of sectors

The BASF Antwerp product range comprises base and speciality chemicals, synthetics and primary products, refining products and inorganic chemicals. Our products are utilised in virtually all processing sectors, such as the automotive industry, the construction sector, paper and leather manufacturing, sports equipment, as well as the textile, food and pharmaceutical sectors.



Our products are being used in many industries, for example to make sporting goods using our polyurethane Infinergy<sup>®</sup>.

Taking one example as an illustration: our steam cracker 'cracks' naphtha into various products, including propylene and benzene. From benzene we make nitrobenzene, followed by aniline and then MDI. MDI is a primary product for polyure-thane, which you find virtually everywhere, from insulation to footwear and cars.

### Where are we located?

## Ideal location makes BASF Antwerp logistics hub

BASF Antwerp is located on a site covering around 600 ha in the northern part of the port of Antwerp. Our location offers many logistical advantages. The proximity of a large seaport and direct access to the European road, inland waterway, rail and pipeline network makes our location a logistical hub. We make the most of this and take responsibility within the BASF Group for logistics scheduling in the Benelux countries and France.



BASF Antwerp takes advantage of an ideal location close to many waterways, railroads and highways.

BASF in Antwerp Report 2017 BASF Antwerp at a glance 19



In this plant, we make products our clients use to make yarn of industrial quality, sporting goods and nylon.

#### Innovation

#### Aimed at our production processes

Research, development and innovation at BASF Antwerp are aimed primarily at improving production processes. Operational excellence and high availability of our facilities are at the core of our success. We are consistently committed to digitalization and are working in a structured and cross-functional manner on a number of key strategic areas such as big data, mobile applications and robotics. Furthermore, BASF Antwerp is keeping its finger on the pulse of new technological improvements in the field of energy efficiency. Feasibility studies and pilot tests are being carried out where relevant.

## Verbund: interweaving our facilities

## In production

The Verbund-principle is the foundation of our site. Far-reaching integration is being implemented in our production: all production steps, from raw material to final product, are close together. By-products from one process are used as the raw materials for another process. Facilities are interconnected via pipelines.

## Energy

A further useful benefit of our Verbund is energy integration. Processes that release heat – known as exothermic – are connected via a steam network to processes that absorb heat – known as endothermic. This means that useful heat is reused optimally rather than wasted. Not only is this a financial saving, it is also an advantage for the environment.

### Logistics

We apply the Verbund philosophy to logistics, too. We have over 500 kilometer of pipelines, 44 kilometer of railway track

and 60 kilometer of roads on site. The Combinant multimodal terminal handles 120 containers on average per working day. Our location in the port of Antwerp is a perfect operating base to supply the European market. And because we want to avoid superfluous road traffic, we convey most of our products by ship, pipeline and rail.

## Knowledge Verbund

BASF Antwerp employs over 3,100 people. Together with partner companies and contractors, on a daily basis there are over 5,000 people working in close collaboration on our site. All these people constitute a valued knowledge network, our 'Knowledge Verbund'.

## Strategic partners

Our Verbund is not restricted to our own production facilities. Over the past ten years, BASF has redeployed a number of its operations and we have entered into joint ventures. We also work closely with a number of partners for utilities.

Production Verbund	Utilities and infrastructure Verbund
INEOS Styrolution Styrene plastics	Air Liquide Process gasses
EuroChem Mineral fertilisers	Zandvliet Power (joint venture with BASF and Engie) Combined heat and power station
Inovyn Ethylene dichloride	Combinant (Hupac, Hoyer and BASF joint venture) Multimodal rail terminal
Dow Chemical, Solvay and BASF joint venture Hydrogen peroxide and propylen oxide	Evides Industrial water

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## Digitalization

Industry 4.0 points to the current trend towards automation and connected systems in industry. Big data, cloud computing and the internet of things are part of Industry 4.0. BASF Antwerp is investigating and implementing a great many innovative technologies and intends to give employees the opportunity to derive maximum benefit from this wave of digitalization.

## Getting everything from data

#### Big data everywhere

Data is the cornerstone of digitalization. We are working on it with a targeted approach where we see clear added value. We check first whether data is available and of good quality, then we analyse the data to draw any possible conclusions and then we try to predict how it will look in the future. For example, we are able to monitor the condition of an equipment with great precision based on measurement data from certain equiments combined with process data, even remotely. What is more, we are implementing tools to enable employees with no experience of statistical modelling to work with data on their own.

Furthermore, we are also committing to data analytics beyond the site boundaries. We support the NxtPort data platform within the port of Antwerp area. This data platform is intended to collect and process the large amount of data within the logistics chain, such that the right players have the information available at the right time. NxtPort will make logistics in the port smarter.

### **Mobile devices**

#### Inspection rounds

By the end of 2017, employees in 80% of our facilities were working with a smartphone for inspection rounds. These smartphones are virtually the same as the one in in everyone's pocket, except that they are made in such a way that they comply with our stringent safety regulations.

These smartphones are equipped with a specialised app that synchronises with the computers in the control room. Addi-



John Baekelmans of Imec gave a talk about the advantages of digitalization.



Already now, process operators mostly use a smartphone for their inspection rounds. Soon, they will be able to do a lot more.

tionally, we have improved our 4G and wireless infrastructure and provided many equipments with QR codes. This, for instance, enables employees on their rounds to bring up a trend, view manuals on video and document irregularities. The next steps will of course be to extend smartphone functionalities, including providing smart technical drawings and access to various databases and software systems.

## **Robotics**

## Using robots for maintenance

A major part of automation is the deployment of smart robots: in piping, in the atmosphere and in our tanks. They can complete complex tasks efficiently. An example that comes to mind is a drone capable of inspecting a flare head from above. Or a robot that checks the inside of a tank. BASF is investigating robotics capabilities especially in the maintenance field, with a focus on non-invasive inspection methods. In 2017, we demonstrated a diverse range of robot types to over 300 employees and visitors. This enabled each one of them to discover for their own specialist area what robotics technology has in store for them.

Because we believe it is important to test innovations relating to maintenance, including robotics, in practice at an early stage, we are part of the 'Smart Tooling' cross-border project, together with other players such as Ghent University and Dow Chemical. BASF Antwerp will function as a test location.

BASF in Antwerp Report 2017 Safety, health and environment 2

## **Safety, health and environment** Safety



Our team is always ready to intervene, inside and outside of our site.

Safety is the top priority within the BASF Group, including the BASF manufacturing site in Antwerp. Avoiding incidents is at the forefront, nevertheless our emergency response service is always at the ready. The figures prove that our focus on safety is bearing fruit.

## The figures

## ■ Few accidents in 2017

Frequency rate (workplace accidents with time off work/million hours worked)

2017	0.9	
2016	2.7	

In 2017, the number of workplace accidents with time off work per million hours worked declined from 2.7 the year before to 0.9. In absolute figures it boiled down to 4 accidents with time off work. The frequency rate for contractors also declined in 2017. Their frequency rate was 1.3 in 2017, a good deal less than 2.5 the year before. What is more, the severity of the accidents has also declined, for both employees and contractors.

2017 was also positive in terms of commuting to and from work, despite the complex traffic situation and the increase in the number of e-bikes on the go.

#### Prevention

## Safety culture

Our safety policy rests on five pillars: process safety, leadership in safety, contractor safety, thorough risk and incident analysis and focus on preventive action. We renew our commitment to these five fundamental principles every year.

In addition to technical measures and procedures, behaviour, culture and ownership are the necessary ingredients to keep our site safe. That is why we worked on ownership intensively in 2017. We organised workshops in virtually all teams and shifts, in which we encouraged employees to take action themselves, with success. Since the workshops started, our employees have registered and developed over 500 initiatives on safety. Ownership also means tackling others – colleagues and contractors – if you notice an unsafe situation.

We extend our safety culture to contractors and partners as well. For example, we conduct audits for the allocation of contracts, providing assistance at the start of works and involving them in our safety campaigns.

Process safety remains a major pillar of our safety policy. We must avoid any product escapes. Production facilities pool their knowledge and learn from one another to do better and better in terms of process safety.

#### **Emergency response**

#### On and off site

We can count on a thoroughly trained emergency response service if, in spite of everything, something does go wrong. 60 firefighters and 17 emergency response vehicles are at the ready 24/7. In addition, we have specialised equipment available, such as a TurboJet that can extinguish fires from a great distance, and a mobile flare.

Besides, BASF Antwerp also deploys its emergency response service in the public interest. We are part of the Belintra agreement with the Belgian state. Our emergency response service can thus be deployed in the event of accidents with chemical substances in which we are not directly involved. We were called to action 10 times in 2017. BASF Antwerp even operates as a national coordination centre for Dutch-language callouts under Belintra.

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## Health

Promoting and maintaining our employees' health is something we are in favour of. Our medical department transposes BASF Group directives into practical measures tailored to the various target groups on our site.



Healthy food is an important pillar of health promotion, we always provide healthy options.

## The BASF Group

### Global policy, local interpretation

The BASF Group lays down global standards in order to guarantee the health of its employees and translates these into a directive. A global network of experts transposes this directive into practice within the constraints of the local legal framework. The aim is to promote and maintain employees' health and productivity worldwide. This policy was given added impetus by many emergency exercises and health promotion measures. In 2017, the Global Health Campaign of the BASF Group focused on respiratory health and healthy lungs.

BASF makes employees aware of health topics with a target-group-oriented approach. Health promotion is based on preventive health checks. Employees are given the opportunity on a regular basis to take part in these check-ups.

The BASF Group measures health-related performance based on the Health Performance Index (HPI). This HPI consists of five components: recognized occupational diseases, medical emergency preparedness, first aid,

preventive medicine and health promotion. The aim is to achieve a score above 0.9 every year. Accordingly, with an HPI of 0.97, the BASF Group again achieved its target.

#### **BASF Group Health Performance Index**

2017	0.97	
2016	0.96	

## **Respiratory health in Antwerp**

We took part in the BASF Global Health Campaign. Our employees were provided with a self-assessment questionnaire to identify their individual risk of respiratory and lung diseases.

753 employees completed the questionnaire. 75 employees took part in smoking cessation counseling. Once it was over, 80% of the participants had stopped smoking. We organized workshops on breathing techniques and air quality jointly with the emergency response service and the environment department.

## Trained team always at the ready

Our medical team is always alert. You can go to the physicans and nurses at any time for advice or first aid. In addition, we have well-equipped ambulances available and an emergency service vehicle able to render assistance on the move as well. We monitor and limit exposure to chemical substances, noise, vibration and extreme temperatures as much as possible. Medical department staff undergo regular training in order to keep their knowledge up to date. In addition, they also provide training themselves on health topics such as hearing protection.

### **Health and ergonomics**

Members of the B-Fit@BASF workgroup promote healthy nutrition, exercise and balance. They do this in a fun, ongoing and low-threshold manner. In this way we organize exercise sessions such as yoga and tai chi, as well as providing workshops on stress and sleep patterns. What is more, we provide a healthy offer in the canteen and have fruit available at the workplace.

In 2017, our ergonomics specialists gave personalized advice 216 times on a healthy workplace and a healthy work posture. They organize training sessions and monitor the ergonomic layout of the workplace.



Chair yoga is offered during movement sessions at lunchtime.

BASF in Antwerp Report 2017 Safety, health and environment

## **Environment**

We can post good figures for air, water as well as waste in 2017. What is more, our efforts were rewarded with the ISO standard for energy efficiency and reconfirmation of the ISO standards for environmental protection and quality assurance.

#### Emissions to air

- Emissions dropped by 49% last 10 years
- Relative environmental impact was down by 33%

#### Atmospheric emissions (in tons)\*

017	2,341	
2016	2,486	

 $^{\star}\text{CO},$  NOX, NMVOS, SOX, stof, andere anorganische stoffen

#### Greenhouse gases (in tons of CO, equivalents)

2017	3,755,399		
2016	3,407,858		

We can report lower atmospheric emissions in 2017 compared to 2016. Various process optimisations, including on the cyclohexanone and acrylic acid facilities, are at the root of this drop.

As regards greenhouse gases, we note a slight rise of from 3.4 to 3.8 million tonnes of  $\mathrm{CO}_2$  equivalents. This rise is due to the fact that our ammonia facility was operational for a full year in 2017. This facility was at a standstill for a while in 2016 on account of a maintenance shutdown.

Long term, we are performing excellently in terms of the environment, for air, water as well as waste. Our atmospheric emissions have been cut by 49% over the past ten years, while our production output rose. Relative environmental impact, i.e. atmospheric and water emissions and landfill waste per ton of manufactured product, has been cut by 33% over the past ten years.

#### Water

- We are frugal with water
- The right water for the right use

#### Total water intake (million m³)

7 _	250	
	188	

#### Water intake by source – surface water (in %)

2017	99.5
2016	99.4

#### Water intake by source - drinking water (in %)

017	0.52	
2016	0.61	

#### Production water usage (million m³)

### Cooling water usage (million m³)

2017	700	
2016	648	

Using water frugally and using the right water for each application is at the core of our water policy. We use water from the docks to cool our processes and surface water from the 'De Biesbosch' freshwater tidal area in the Netherlands for our production processes. We use a small amount of drinking water for sanitation purposes.



When we took our water treatment plant in use in 1980, we were one of the first companies in the area to biologically treat waste water.

Safety, health and environment **BASF in Antwerp Report 2017** 



We cover 90% of our thermal needs by a smart steam network, balancing exothermic and endothermic chemical processes.

In 2017, our water intake rose from 188 to 250 million m<sup>3</sup>, which can be explained by malfunctions in the cooling water circuit which hampered recirculation. Our cooling water usage was also higher in 2017 on account of higher temperatures. We re-use our cooling water as much as possible and strive to make optimum use of our cooling water circuit. In 2017, we used cooling water around three times.

We continue looking for sustainable ways of managing water. That is why, together with a number of other companies, government agencies and knowledge institutions, we are taking part in the IMPROVED Interreg project, a cross-border research project to treat different types of water in such a way that we can utilise it optimally in our production processes.

## Water emissions

Water emissions declined by 42% over the past 10 years

## Water emissions, organic substances

(in tonnes of COD - chemical oxygen demand)

	2017	827	
2016 1,122	2016	1.166	

### Water emissions, nitrogen (in tons)

#### Water emissions, heavy metals (in tons)

2017	1.31	
2016	1.33	

The water in our production facilities is reused as often as possible. However, once it actually becomes contaminated, it will be discharged as wastewater. This wastewater does not leave the site until it has been treated. BASF has a central biological treatment plant where the biodegradable substances are removed. Our water treatment basins boast a total capacity of 44 million litres and are capable of treating wastewater for a population of 460,000. We also treat water from partner companies on site. BASF Antwerp was one of the first companies in the port area to start treating waste water biologically. Our water treatment plant achieves high removal efficiency. Over the past ten years we have succeeded in bringing down our water emissions by 42%. We brought this about not only by closely monitoring the operation of our water treatment plant but also by improving the residual water quality in our production facilities before the water goes for treatment.

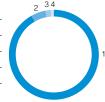
#### Waste

- Total volume of waste declined
- Re-utilisation at a record high

#### Total volume of waste (in tons)

## Waste treatment (2017)

5.1%
2.5%*
1.1%



BASF Antwerp opts for the best treatment process for each type of waste. It is our intention here to avoid waste in the first place. If this is not an option, we go for re-utilisation. We then look for solutions which consist of recycling the material, otherwise it is incinerated and energy is recovered from it. Finally, we opt for incineration as the method of disposal and landfill only as the last resort. We are constantly seeking better treatment methods. Our Verbund plays an important role in this: we are constantly seeking and finding in-house solutions for our product and by-product flows so they can be utilised to the maximum extent in another facility.

We made great strides in 2017. The total volume of waste went down because we generated less of it through sophisticated operational management. As a result of energy recovery from a major waste stream, the share of waste that was usefully utilized rose from almost 78% in 2016 to 91% in 2017.

BASF in Antwerp Report 2017 Safety, health and environment 2

## **Energy**

### Less fuel for boilers

#### Electricity consumption (MWh)

2017	1,667,770
2016	1,665,309

#### Steam consumption (in tons)

2017	5,861,934	
2016	5,888,268	

#### Fuels for energy, boilers (MWh)

2017	896,057		
2016	1,076,557		

We recover surplus energy from one facility and feed it into others. A smart steam network keeps heat surpluses and shortages in balance. We meet 90% of our heat requirement in this way. If we need extra steam, then it will come from sources including our steam boilers and Zandvliet Power, the combined heat and power station on site (a joint venture with Engie, an energy supplier). We have various generators at our disposal which convert any surpluses of steam into electricity. Electric power is also supplied by the 6 wind turbines on site, which are capable of generating 12 MW.



A focus on energy efficiency and a correct management system were recognized by achieving ISO 50001 certification.



We monitor our emissions closely and search for solutions to reduce them even lower.

Our steam and electricity consumption remained stable compared to 2016. The amount of fuel for the boilers declined because of a drop in demand for steam by external partners. As a rule, we use up our steam surpluses from production and only then do we draw it from our boilers.

## Licence to operate

- ISO certificate for energy efficiency
- Completing renewal of environmental permits

BASF Antwerp applies considerable effort to energy efficiency. Over the past two years we saved a great deal of energy by all manner of minor and major improvements, such as an additional heat exchanger in our ethylene oxide facility. Our efforts were rewarded by obtaining ISO 50001 certification. In doing so we have fulfilled a group objective and are demonstrating that energy efficiency is anchored structurally in our organisation.

What is more, we are taking part in the Flanders Energy Policy Agreement (EBO in Dutch) for the 2015-2020 period. The EBO also requires us to embed energy efficiency and lay down measures in an energy plan. The results of the first EBO period were positive throughout Flanders, which is why an extension was announced until 2022. BASF Antwerp is also going along with this extension.

We constantly monitor our facilities in terms of the environment and follow technological developments with a positive impact meticulously. We take care to ensure that we are fully compliant with all legislation and procedures. This is being received favourably. Once again, we achieved standards ISO 9001 for quality assurance and ISO 14001 for environmental protection.

Furthermore, we completed a relicensing round for facilities including the following: MDI, polyetherols, amines, water treatment plant, aniline/nitrobenzene, workshops, cooling water, central lab and our tank farm. We examined each facility in all its technical details and meticulously checked all data in the licensing file. Moreover, over the past year we have taken on a great deal of work to prepare ourselves for the merging of the environmental and building permits into a single environmental permit.

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## Sustainability

## Projects in the spotlight



# Chair on sustainable transformation

BASF Antwerp, Port of Antwerp, Antwerp University and Randstad Belgium have jointly founded a chair at the Antwerp Management School on sustainable transformation.

Dr Wayne Visser has been appointed to the chair. Contributing to a sustainable future is essential for BASF, and it intends to do this through innovation in production processes and products. But we cannot manage it on our own, we need interaction and feedback across different sectors and social groups. In this chair, BASF Antwerp will concentrate primarily on exchanging expertise on the circular economy.



## Circular procurement

In June 2017, the Flemish government jointly with a number of sustainability networks, launched the Green Deal Circular Procurement initiative. BASF is one of the organisations that took on a commitment to set up projects involving circular procurement. Possible strategies we can use to make our procurement more circular: reusable materials, selecting bio-based or biodegradable materials, selecting upgraded or second-hand goods, and pooling and sharing resources.



## Efficient use of methane gas

BASF Antwerp is investing heavily in a package of measures dubbed 'Feedstock Flexibility Antwerp'. This package of investment measures enables our steam cracker to utilise more LPG and thus become more flexible. These modifications will then result in the cracker producing more methane. We can utilise this methane gas – subject to technical modifications – as a feedstock in the ammonia plant. This will cut down natural gas usage and we are managing surpluses of methane gas efficiently. BASF received ecology support from the Flemish government for this.

## Sustainability in a nutshell

At BASF, we seek a balance between economics, ecology and society. We intend to reconcile industrial production with the future of our planet and its inhabitants. This is summed up in the corporate purpose 'We create chemistry for a sustainable future'. Scan the QR code opposite, a member of our team ex-



plains in words and images what exactly sustainability means to BASF Antwerp.

https://www.youtube.com/ watch?v=\_tA3DpDQ9AI BASF in Antwerp Report 2017 Employees & society 27

## **Employees and society**

## **Employees**

Attracting the right people, giving them every opportunity to feel comfortable in the workplace and providing first-class training, so they are able to keep going effortlessly in the future. That is how we form the best team.

## Our employees in figures

#### More new recruits

#### Number of employees\*

2017	3,159
2016	3,127

\*Numbers according to headcount. Numbers according to IFRS standards 2017: 3,064 2016:3,035

%

7.4%

31%

45.3%

16.3%

#### **BASF Employee age structure BASF Antwerp**

			_
	Category	Employees	
1	Up to 25 years	232	
2	Between 26 and 39 years	s 978	
3	Between 40 and 54	1,433	
4	55 years and older	516	



At the end of 2017 BASF Antwerp had 3,159 employees. Together with partner companies' and contractors' employees, there are over 5,000 people present on site on a daily basis. This makes for a vibrant exchange of knowledge and experience. A true knowledge Verbund.

We welcomed 160 new recruits in 2017. There are many projects in the pipeline and we are preparing for a demographic shift. In terms of age, the best represented group is aged between 40 and 54, with 45% of our employees, followed by the group aged between 26 and 39 and the over-fifties. Employees up to 25 are the least well represented at 7%.

## Starting at BASF

- Targeted recruiting
- Learning and working at the same time

If we still want to have sufficient talent over the next 50 years to staff and maintain our facilities, we need to get going in good time. We are setting up initiatives on a regular basis to get staff interested in STEM (Science, Technology, Engineering and Mathematics) subjects. Accordingly, we developed the 'Elements for talents' project jointly with the city of Antwerp, in which we supported various worthwhile initiatives in education. We aim to give everyone every opportunity in education subsequently to proceed successfully to the labour market and highlight STEM subjects.

We try to get BASF Antwerp on potential employees' radar at an early stage. Every year we organise around 50 plant visits, we offer 175 work placements, we attend 20 open days and graduation ceremonies and we hold another five guest lectures. We often look for personnel with technical training. There are invariably more vacancies for these profiles than people to fill them. We set about this task in a targeted manner, so we can attract the right candidates for the job.

A leading method of getting students to know BASF quickly as well as properly matching their expectations with those of the business world is provided by the 175 work placements we offer annually. This can range from a short experience placement to a placement relating to a project or thesis lasting almost an entire academic year. These work placements often lead on to recruitment. 57 trainees obtained a job at BASF.



During a press conference, the results of the elements for talents program were highlighted.

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At BASF, you not only learn in class but also on the job and from colleagues.

'Dual learning' is a intensive form of workplace learning. This consists of students spending 16 weeks of their academic year in the workplace and given every opportunity to test out the theory in practice. What is more, they also join the teams in shift work under the guidance of an experienced process operator and are given a good picture of the occupation. BASF Antwerp was one of the pioneers in dual learning. During the 2016-2017 academic year, we offered nine students in year seven of chemical process technologies dual learning work placement at BASF. A job followed immediately for seven out of the nine students. We are coaching 11 students in dual learning in the 2017-2018 academic year.

## Spreading your wings

## ■ Develop and find a balance

BASF Antwerp is an amalgam of large and small departments with very wide-ranging jobs. Not only operating and maintaining chemical facilities, but also support services, such as prevention, environment, procurement, HR, energy policy, etc. Our internal jobs market enables rotation to take place between different jobs. Moreover, more than 115.000 people are employed in the BASF Group and there are countless opportunities to collaborate and exchange experiences. Structured dialogue enables each employee to indicate him or herself in which direction he or she wants to develop.

As a company, we also support our employees' search for work-life balance. Over the past years we have made great strides towards working more flexibly and working from home. We are committed to keeping our employees healthy and support certain leisure activities via our personnel clubs.

## Learning and developing

## Training goes digital

Chemical facilities are complex and new technology is coming at us at an ever-increasing rate. It is of the utmost importance that our employees continue to develop. We use the 70 - 20 - 10 principle for this: 70% of the time learning on the job, 20% of the time learning from colleagues and 10% learning via traditional training.

Traditional training involves much more than listening to an instructor. We implement technological innovations and digitisation not only to make our production more efficient, but also to enhance learning opportunities. In 2017, we concentrated our e-learning efforts on safety, video clips of technical manuals and webinars. Safety training with virtual reality is in the programme for 2018. New technology enables greater responsiveness, more variety of audiovisual content and instruction sessions at an appropriate point in time. New technology enables us to be more efficient with resources.



Maxine Frimpong and Ann Van Look were recognized as maintenance managers of the year by maintenance federation BEMAS.

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## Social commitment

BASF intends to do business sustainably and responsibly, with its heart in the region. That is why we put our shoulders to the wheel literally and figuratively on numerous initiatives, focusing on education, social and cultural activities and sustainability.

The BASF Group has a worldwide harmonised policy on social commitment, based on the United Nations sustainable development goals. BASF Antwerp applies the following criteria based on these guidelines: rooted in the region, working with the right partners, ability to learn from one another and commitments with a clear impact. We receive over 350 support requests a year. We are able to respond to 2 out of 3 of these requests.

#### **Next door**

Over 25,000 people live in the neighbouring municipal districts around the site. That is why we hold the BASF neighbourhood consultation on a regular basis, in which representatives of the

## **Elements for talents**

BASF and the City of Antwerp signed the Elements for talents charter and committed to support initiatives which help students to broaden their opportunities in the labour market, in particular in the industrial environment of the port. BASF provided financial and substantive support, with technical expertise.

## Millennial Job guide

Levanto, a non-profit association, gave its Job guide a contemporary update.

## **Boost Ambition to a Social Future**

Karel de Grote College arranged a summer school for pioneering students. Along with BASF, SD Worx also collaborated in this project.

### Haai!TECH

Talent factory organised events on choosing a study programme and technology for youngsters and their parents.

### The Technology Route planner

Talent factory developed two brochures with information on choosing a study programme on science and technology.

## **AFB** training module

A teacher training facility is being built in the Stedelijk Lyceum secondary school with the acquisition of an Agri-Food and Beverage Factory.

## **Teaching mini-plant**

AP Hogeschool college built a unique process facility on its Spoor Noord campus.

neighbouring municipal districts meet and are given the opportunity to table questions. In addition, we keep our neighbours up to date with the Zij aan Zij [= Side by Side] neighbourhood magazine, an information phone number, social media and our website.

We supported a great many social, cultural and sustainable associations in the Antwerp region. Together with Natuurpunt, a Flemish nature conservation movement, for instance, we want to maintain the valuable flora and fauna on the Groot Buitenschoor next to our site. We support good causes including the Antwerp Symphony Orchestra, especially in their initiatives aimed at cultural education of youngsters, Armen Tekort non-profit buddy service, G-sport and Zomerklap, the summer school for immigrant youngsters. Employees can also get down to work themselves for good causes via voluntary work as a team-building activity.

#### At school

Cooperation with and support for education is of major importance for BASF. Familiarising students with STEM (Science, Technology, Engineering and Mathematics) subjects, as well as allowing everyone every opportunity in their educational path and working life. This ranges from structural contacts with education to sponsoring teaching activities and materials.

BASF Antwerp also supports two chairs. We collaborate with the University of Antwerp on the Safety Sciences master's degree. And in order to make the managers of tomorrow aware of the challenges in the area of sustainability, we have set up a chair on sustainable transformation jointly with Randstad and Port of Antwerp, and coordinated by the Antwerp Management School and the University of Antwerp.



Employees and family enjoyed our family day. Disadvantaged youngsters from organization Zomerklap had the opportunity to practice their language skills.

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## Mobility

Mobility is a topic, certainly in Antwerp, with a major impact on many people. BASF Antwerp intends to make a contribution towards untangling the traffic problem and took on the challenge in 2017 to reflect on innovative solutions for safe and smooth-flowing commuter traffic.



An (e)bike, bus and carpooling: this is the mobility policy of BASF Antwerp in a nutshell.

The specific reason was long term roadworks along the Scheldelaan. In close collaboration with the competent public authorities, we were able to take steps to maintain access to the site during the works. Accordingly, we opened up a temporary entrance gate, a great many vehicles were able to drive past the works into the site every day through this gate. However, mobility goes beyond bypassing roadworks.

Employers and social partners collaborated intensively to work out a structural mobility plan. Traffic flows and needs were mapped out on the basis of a big-data analysis. We explored possible avenues jointly with external stakeholders such as VOKA, De Lijn and Port of Antwerp. The result: a mobility plan resting on the pillars of bus transport, carpooling and bike leasing.

## Collective bus transport

## ■ Faster to site

The communal bus is the cheapest and safest means of transport for our employees. We subjected the routes to critical scrutiny and outlined a faster route where possible, together with bus users. We are covering the same geographic area with this new bus service while cutting travel time. The buses make as much use as possible of motorways and De Lijn bus lanes thus structurally avoiding traffic queues. Each bus has only a limited number of en-route stops. The bus stops are selected for accessibility and preferably offer a car park, cycle parking and connection with public transport.

## Carpooling

#### Accessible platform

We encourage our employees via incentives to take part in carpooling. A sustainable and practical solution to reduce the number of vehicles on the road to the site. As from March 2017, employees can make use of the carpool.be Taxistop platform to find carpool partners.

### Bike leasing

### Bike leasing as from summer 2017

We launched our bike leasing programme on July 1st, 2017. By the end of the year, a third of the target group had signed up to the bike leasing plan. Employees can make their own choice from different types of bikes, from an ordinary urban bike to a speedy e-bike. Some employees travel the distance to the bus stop by bike, others use their bike for the entire commute.

## Road safety campaign

## Safety culture, on the road as well

For BASF it is important not only that our employees get to our site quickly, they must also do so safely. That is why in on our internal safety campaigns we zoomed in with added emphasis on road safety across all modes of transport. Topics such as courtesy, mobile phone use at the wheel, tiredness, driving under the influence and mandatory seatbelt wearing were covered extensively. The advent of the e-bike in turn was cause for a number of highly practical workshops for cyclists.



We raise awareness regarding visibility in traffic.

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## **Further information**

## **Pictures**

## Follow us

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