

BASF

We create chemistry

BASF in Greater China Report 2017



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Publisher:
Corporate Affairs Greater China, BASF



BASF supports the chemical industry's global Responsible Care initiative.



←
Cover photo:
 Shaping the future of e-mobility: research into high performance battery materials at Innovation Campus Shanghai.

On this page:
 At BASF, the concept of environmental protection is integrated into production. Through continuous process optimization, we consume fewer resources and reduce both emissions and waste.

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 Chemicals¹ (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 Products¹ (million €)

	2017	2016	Change in %
Sales	16,217	15,558	4
Thereof Dispersions & Pigments	5,398	5,086	6
Care Chemicals	5,079	4,735	7
Nutrition & Health	1,844	1,932	(5)
Performance Chemicals	3,896	3,805	2
EBITDA	2,427	2,577	(6)
Income from operations (EBIT)	1,510	1,678	(10)
EBIT before special 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
Thereof 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 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

¹ 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 Greater China” 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 Greater China. 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.

Welcome

Letter from the president

Dear Stakeholders,

2017 was a fruitful year for BASF Greater China: we have achieved considerable economic success, while continuously fulfilling our commitment to environment and society.

Thanks to an excellent market environment, we were able to fully utilize the capacity of the assets we have built up over recent years, reaching a record high of €7.3 billion sales in 2017 to customers in Greater China.

To further boost our local production capabilities, we opened four new production plants, in Shanghai and Nanjing, to provide solutions for the chemical, automotive, water treatment and papermaking, as well as personal care industries. Through the planned global acquisitions of Bayer's seed and non-selective herbicide businesses and Solvay's polyamide business, our enhanced product portfolio will help us gain access to new market segments and customers.

We continue to drive innovation through investment in market-oriented research and development (R&D). Adding to our existing R&D facilities, the first Asia Pacific Automotive Application Center will be opened at our Innovation Campus Shanghai. Leveraging our growing R&D capabilities and BASF's global Know-How Verbund, we have extended our collaboration with our customers in China to create innovative solutions for China and the world.

Safety remains the highest priority for us. We build our plants according to BASF's high global standards of safety at all sites and facilities in Greater China. We continue to optimize operational efficiency and foster a safety culture in the plants and at office environment. In 2017, we improved our Lost Time Injury rate in Greater China, at 0.3 (0.5 in 2016).

We strive to be a responsible member of the communities where we operate by supporting our neighbors, employees and their families through various social engagement projects. To maintain an open and transparent dialog with different stakeholder groups, we hold regular exchange sessions about operational, environmental and social topics.

China is undergoing the process of “supply side reform” in its manufacturing industries, while the environmental regulatory framework continues to develop. We expect continued volatility and increased competition in the chemical market. However, as a committed partner to Greater China since 1885, BASF sees more opportunities rather than challenges. We will



focus on our customers' needs, collaborate even more closely with all stakeholders to achieve profitable growth, and contribute to a sustainable future.

Dr. Stephan Kothrade
President Functions Asia Pacific
President and Chairman Greater China, BASF

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 ¹	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 ²	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

¹ Amortization of intangible assets, depreciation of property, plant and equipment, impairments and reversals of impairments

² Additions to intangible assets and property, plant and equipment (including acquisitions)

Value added 2017³

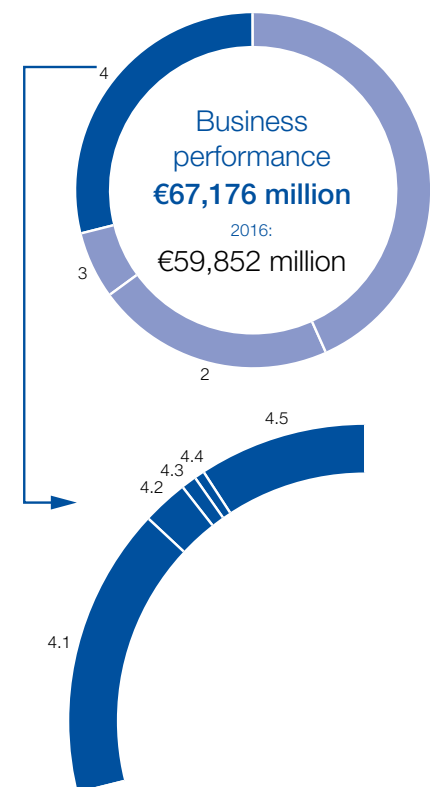
Creation of value added (million €)

	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%

³ 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.



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		113,830	1.5
Apprentices at year-end		3,120	(0.5)
Personnel expenses	million €	10,165	4.4
Society			
Donations and sponsorship	million €	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	
Process safety incidents	per one million working hours	2.0	2.0	0
Lost-time injuries ⁴	per one million working hours	1.4	1.5	(6.6)
Health Performance Index		0.97	0.96	1.0
Environment				
Primary energy use ⁵	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 ⁶	thousand metric tons	14.1	15.9	(11.3)
Emissions of nitrogen to water ⁶	thousand metric tons	2.8	2.9	(3.4)
Emissions of heavy metals to water ⁶	metric tons	24.8	23.2	6.9
Emissions of greenhouse gases ⁴	million metric tons of CO ₂ equivalents	22.6	22.0	2.7
Emissions to air (air pollutants) ⁶	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 facilities	million €	234	206	3.6

⁴ The 2016 figure has been adjusted due to updated data.

⁵ Primary energy used in BASF's plants as well as in the plants of our energy suppliers to cover energy demand for production processes

⁶ Excluding emissions from oil and gas production

Audits along the value chain

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

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 the market potential. For financial reporting purposes, we organize our 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 elsewhere. 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 European Union. 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.

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:

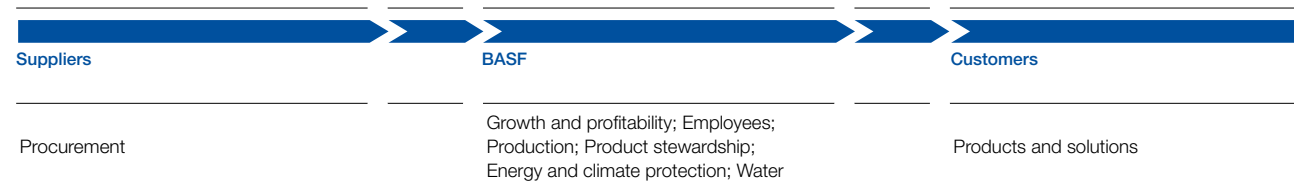
- We source responsibly
- We produce safely for people and the environment
- We produce efficiently
- We value people and treat them with respect
- We drive sustainable products and solutions

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



Procurement

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

¹ 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		

² Baseline 2015: excluding the gas trading and storage business transferred to Gazprom

Employees

	2021 Goal	Status at end of 2017
Proportion of women in leadership positions with disciplinary responsibility	22–24%	20.5%
Long-term goals		
International representation among senior executives ³	Increase in proportion of non-German senior executives (baseline 2003: 30%)	38.9%
Senior executives with international experience	Proportion of senior executives with international experience over 80%	84.6%
Employee development	Systematic, global employee development as shared responsibility of employees and leaders based on relevant processes and tools	Project implemented worldwide

³ The term “senior executives” refers to leadership levels 1 to 4, whereby level 1 denotes the Board of Executive Directors. In addition, individual employees can attain senior executive status by virtue of special expertise.

Production

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

Product stewardship

	2020 Goal	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 ⁴	90%	54.3%
Reduction of greenhouse gas emissions per metric ton of sales product (excluding Oil & Gas, baseline 2002)	(40%)	(35.5%)

⁴ The selection of relevant sites is determined by the amount of primary energy used and local energy prices.

Water

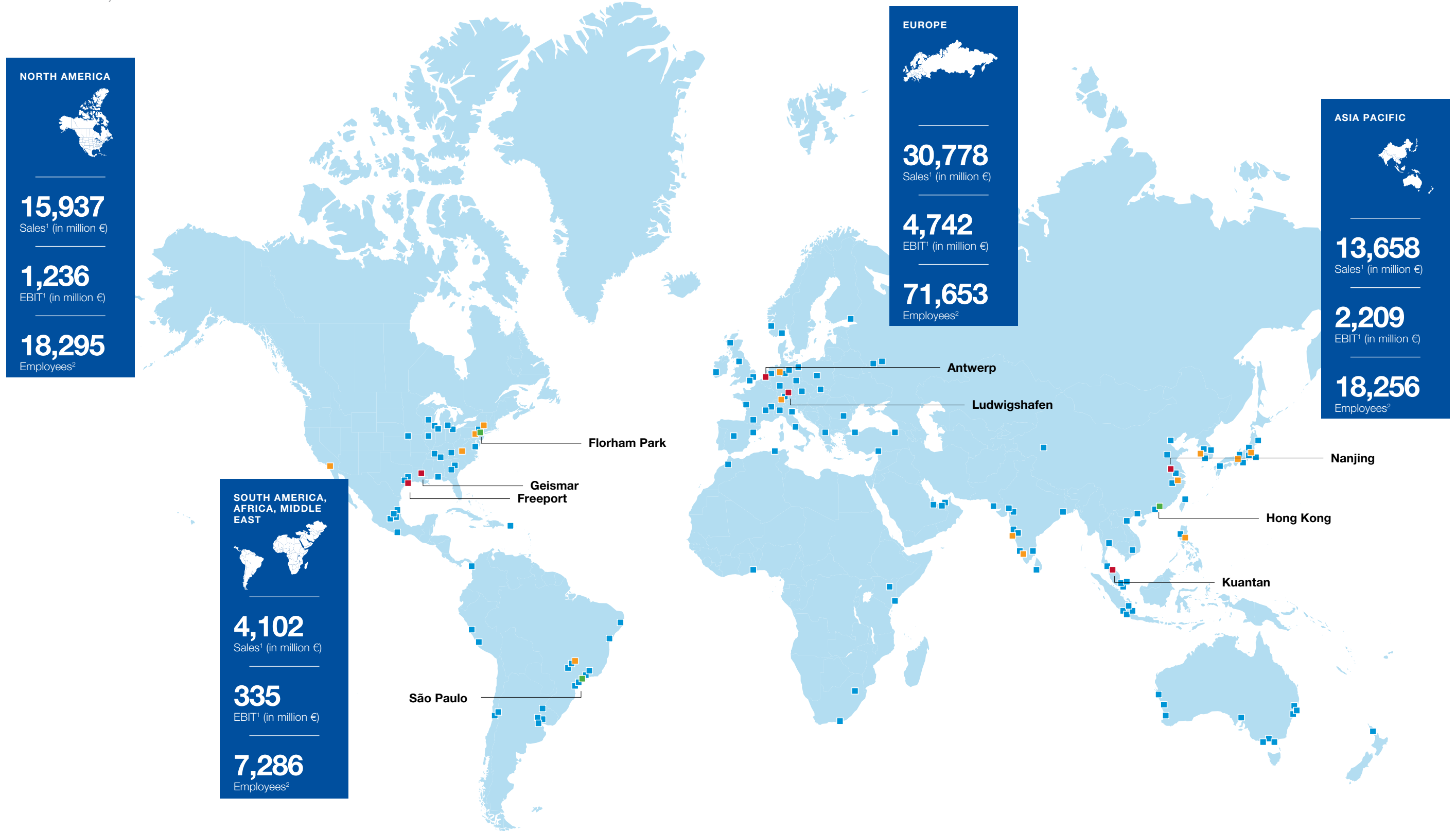
	2025 Goals	Status at end of 2017
Introduction of sustainable water management at all production sites in water stress areas and at all Verbund sites (excluding Oil & Gas)	100%	45.2%

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%

BASF in the regions

BASF Group sales 2017: €64,475 million;
EBIT 2017: €8,522 million



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

¹ In 2017, by location of company

² At year-end 2017

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. For 2017, we 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

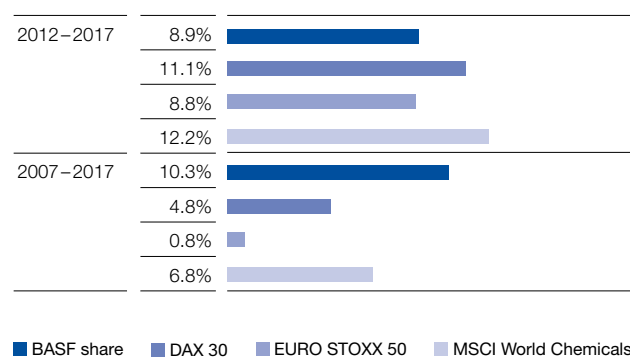
- BASF share gains 3.9% in 2017
- Long-term performance continues to clearly exceed benchmark indexes

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.

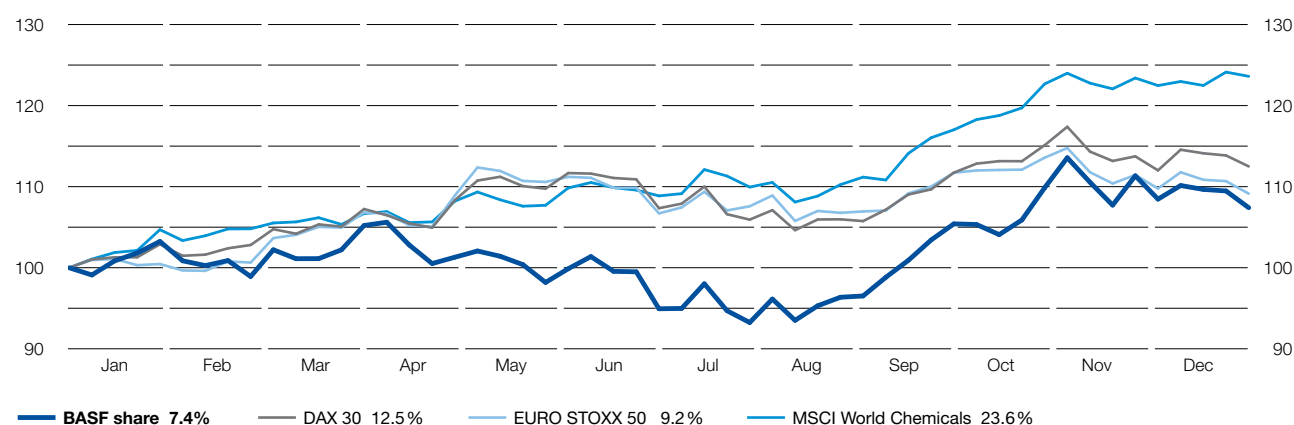
Long-term performance of BASF shares compared with indexes (Average annual increase with dividends reinvested)



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)

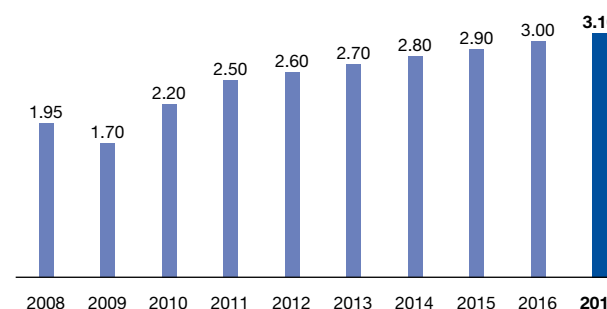


Dividend of €3.10 per share

For 2017, BASF 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)

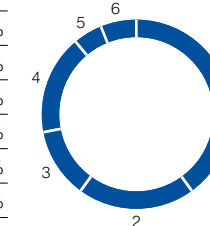


Broad base of international shareholders

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).

BASF in Asia Pacific

At a glance

Economy

Sales by location of customer in the Asia Pacific region rose by 18% to €14,343 million in 2017 (2016: €12,165 million).

All segments contributed to this growth. The increase was attributable to higher sales prices, as well as an increase in volumes. Adverse currency effects impacted sales negatively. Portfolio measures had no material effect on sales development in 2017.

EBIT in the region grew by 101% to €2,209 million. This was primarily due to a higher overall margin and volumes growth in all segments. There was a particularly strong increase in the contribution from the Chemicals segment.

As part of our regional strategy, we want to further increase the proportion of sales from local production in Asia Pacific. We once again made progress toward this goal in 2017: One example is the mobile emissions catalysts production site opened in Chennai, India, in March 2017. In Shanghai, China, we started up a large-scale plant for the production of chemical catalysts in November 2017. We will continue to work on this goal in 2018.

We also inaugurated our new Innovation Campus Mumbai in India which focuses on research in crop protection and specialty chemicals. It represents BASF's largest research and development investment in South Asia to date.

Our investments in production facilities and research serve to bring products to market for our local and global customers in the growing region of Asia.

BASF sales in Asia Pacific (billion €)
(by location of customer)

2017	14.3	
2016	12.2	
2015	12.3	

BASF EBIT in Asia Pacific (million €)
(by location of company)

2017	2,209	
2016	1,098	
2015	445	

Environment

Throughout the value chain – in raw material sourcing, in our own operations, and in the solutions we provide to our customers – we aim to address environmental challenges in Asia Pacific.

At the raw material level, for example, the joint initiative established by BASF together with Arkema, Jayant Agro and the non-governmental organization Solidaridad to promote sustainability in the castor oil supply chain continued in 2017. With the Sustainable Castor Initiative – Pragati, the project members aim to improve the economic situation of castor oil farmers and their employees in India by helping them to optimize their yield and reduce the impact on the environment.

Throughout the region, BASF implemented a number of initiatives to support better energy and water efficiency and waste management at the site level. This included initiatives to increase recycling rates as well as increasing the re-use of cooling water.

During 2017, BASF introduced a wide range of solutions that help our customers meet their environmental goals. For example, to help improve indoor air quality, we launched the Acronal® ECO 7653 range of next-generation dispersions for interior paint with extremely low levels of volatile organic compounds, as well as Formaldpure™, a new catalyst which can rapidly remove formaldehyde from indoor air.

Employees and society

As of the end of 2017, BASF employed 18,256 people in the Asia Pacific region (2016: 18,156). Of these, 25.9% were female (2016: 26.6%). There were 2,141 new hires in the region in 2017, 24.9% of which were female (2016: 32.1% of 1,733).

Number of employees (as of December 31)

2017	18,256	25.9%		74.1%
2016	18,156	26.6%		73.4%
2015	17,562	26.2%		73.8%

Number of new hires (as of December 31)

2017	2,141	24.9%		75.1%
2016	1,733	32.1%		67.9%
2015	1,861	25.1%		74.9%

BASF continually develops frameworks to support employees in identifying the most effective individual work practices. Such systems were introduced at BASF more than 20 years ago and are now in place throughout the Asia Pacific region.

An interview with Sanjeev Gandhi

Will BASF continue its growth momentum in Asia Pacific?

In 2017, BASF recorded significant sales and earnings growth in Asia across all markets and business segments. Asia Pacific will continue to be the world's largest market for production and consumption of chemicals, but significant challenges remain: volatile markets, fast-changing customer needs, stringent regulatory conditions, and energy and resources scarcity.

Therefore, along with extending our product portfolio through global and regional acquisitions, we are also further expanding our production network in emerging markets including China, India, Malaysia and Thailand. Our planned investments of around €2.7 billion between 2018 and 2022 will focus on areas where BASF is technologically leading, has a competitive advantage and expects above-average market growth. Our target remains to increase share of sales from own manufactured products. This will enable us to serve customers in the region quicker and with greater flexibility.

How can BASF support innovation in Asia Pacific?

We aim to help our local customers to compete and gain a foothold in global markets. Innovation is key to this. We collaborate on innovation with our customers and partners throughout the value chain to offer new solutions that meet their sustainability goals.

We have been continuously expanding our research and development (R&D) footprint in Asia Pacific over the past five years, to drive innovation by integrating customer and market needs at an early stage. In 2017, we established a second Innovation Campus Mumbai in India, coupled with the expansion of the Innovation Campus Shanghai in China, including a new battery materials lab and Automotive Application Center. We also expanded the scope of our postdoctoral center in Asia Pacific, the Network for Asian Open Research (NAO), to include a significantly broader range of university partners and research areas. In close collaboration with our customers and the R&D community in the region, these innovation hubs enable us to better gauge emerging demand and research on tailored solutions for our customers.

What opportunities remain in the region?

Asia Pacific is the region where global megatrends – urbanization, need for safe and sustainable food supply, growing energy demand – are most evident. We focus on innovative businesses that contribute to energy efficient vehicles, affordable mass housing, advanced pharmaceutical production, more sustainable packaging and solutions for less resource-intensive agriculture. BASF will support these markets with solutions that meet our customers' sustainability challenges.



Sanjeev Gandhi, member of the Board of Executive Directors, BASF SE, responsible for Asia Pacific

What are BASF's plans for Greater China?

We have achieved record business results in 2017 in Greater China, and we are optimistic that we can carry this momentum into 2018. Sales revenue of Greater China by location of customer in 2017 accounted for more than 10% of the entire BASF Group worldwide, an acknowledgement of our continuous efforts in this dynamic market.

The market environment has become more competitive and our customers demand more customized solutions. To meet these challenges, we continue to expand our local production capabilities with new investment projects and an enhanced product portfolio, including newly-acquired assets in the local market. In addition, we are further driving innovation through market-oriented research and development to keep pace with changing market demands. We have been collaborating more closely with our customers to create new solutions, and we have already achieved good outcomes with a number of China-based companies to support their go-global strategies. For example, we are working with the Chinese supplement brand By-Health on co-development of personalized nutrition solutions, and supporting the Chinese car maker SAIC-GM-Wuling Automobile at its new production plant in Indonesia.

By aligning our economic success with environmental protection and social commitment, we will achieve sustainable growth both within and beyond our fences, and along the entire value chain through our innovative product technology and solutions. We aim to share our best practices, and collaborate with our partners and customers to help them meet their sustainability targets.

Innovation

Innovation in chemistry enables economic, environmental, and social development, and thus plays a key role in meeting the needs of Asia Pacific's growing population in a period of rapid urbanization. BASF is committed to fostering innovation in this dynamic region by constantly enhancing its local research capabilities. In the future, around a quarter of BASF's global research and development (R&D) activities will be in Asia Pacific.

Growing R&D capabilities in Asia Pacific

- **Launch of Innovation Campus Mumbai in India**
- **New Automotive Application Center Asia Pacific to be opened in 2018**

BASF has been continuously expanding its research and development footprints in Asia Pacific, to drive innovation by integrating customer and market needs at an early stage. With major R&D sites located in China, India, Japan and Korea, BASF had around 1,160 (2016: 1,100) R&D employees in Asia Pacific by the end of 2017.

BASF operates two Innovation Campuses in Shanghai, China, and Mumbai, India. This concept is unique to Asia Pacific and brings all parties, including R&D, business and production units, to a single integrated site. The Innovation Campuses are integral parts of BASF's global Know-How Verbund, and house global, regional and local R&D projects.

Innovation Campus Shanghai, located at BASF Shanghai Pudong Innovation Park in Shanghai, China, was inaugurated in 2012 and expanded in 2015. In July 2017, a new battery materials lab opened to address the R&D needs of the battery materials market and the fast-growing e-vehicle industry in China. Additionally, a new R&D building began construction in 2017 to house the new Automotive Application Center and the Process Catalyst R&D Center, which will be operational by end of 2018. Innovation Campus Shanghai is the global headquarters of Advanced Materials & Systems Research. It has a broad research portfolio in the areas of advanced materials, chemical process engineering and environmental catalysts. Combining technical development capabilities of the operating divisions, as well as industrial design expertise featured in Asia Pacific Design Center, the Innovation Campus Shanghai serves the innovation demand of almost all major industries.

Also in 2017, BASF inaugurated Innovation Campus Mumbai, with complementary research focusing on crop protection and specialty chemicals. It includes state-of-the-



Innovation Campus Mumbai, India was inaugurated in March 2017.

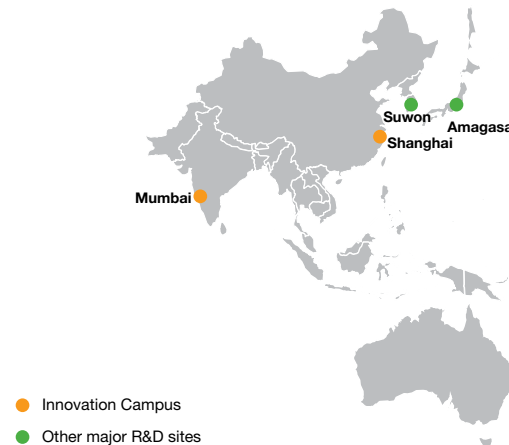


Researchers work at the battery materials lab at BASF R&D Center Amagasaki, Japan.

art laboratories for chemical synthesis, application and process development, as well as analytics. The Innovation Campus Mumbai brings all new and existing R&D activities in Mumbai under one roof, located next to the office buildings and production plants at the Thane site in Navi Mumbai.

Across Asia Pacific, BASF R&D centers with specialized focus areas contribute to developing innovative solutions that address the region's challenges of resource efficiency, food and nutrition, and quality of life. BASF's R&D Center in Amagasaki, Japan, focuses on developing innovative materials to improve battery performance, while covering other R&D activities in electronics, pigments, plastic additives, packaging and adhesives. The company's R&D Center in Suwon, Korea, specializes in electronic materials development in close collaboration with major customers in Korea and across the region.

BASF R&D setup in Asia Pacific



Open innovation with academia and industry

- **Network for Asian Open Research (NAO) expands topic scope with more partners**
- **Hosting Innovation Roundtable® in Shanghai**

BASF places great value on open innovation through close collaboration with academic and industry partners around the world. It maintains a global network of around 600 partners from universities, institutes and companies, forming a key pillar of BASF's global Know-How Verbund.

In Asia Pacific, Network for Asian Open Research (NAO, formerly known as the Network for Advanced Materials Open Research) has been a joint platform directed by BASF and leading universities and institutes in the region since 2014. In December 2017, NAO was expanded to include a broader range of university partners and research areas. The network now consists of 10 partners from China, Japan and Korea. Areas of collaboration have been extended to cover all technologies under BASF's three global technology platforms, namely Advanced Materials & Systems Research, Bioscience Research and Process Research & Chemical Engineering.

Since its establishment, BASF and its partners have completed more than 20 joint research projects, with 10 post-doctoral students joining BASF after the projects completion. Currently, NAO projects cover research areas including new monomers and polymers, surfaces and interfaces, zeolites, hybrid materials, coatings, as well as digitalization in R&D.

Asia Pacific R&D sites:

Innovation Campus Shanghai

- Focus: Advanced Materials, Process Engineering, Environmental Catalysts

Innovation Campus Mumbai

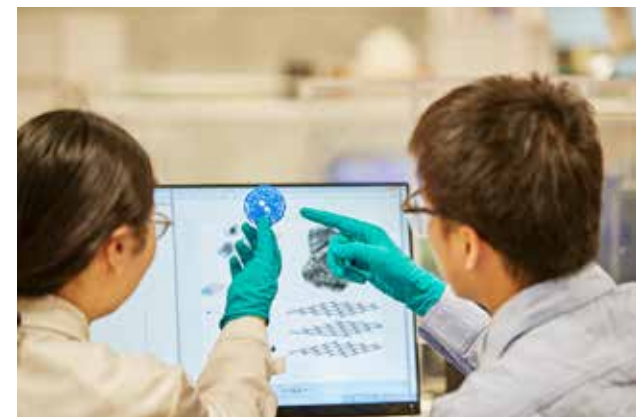
- Focus: Crop Protection, Specialty Chemicals

R&D Center Amagasaki

- Focus: Electronics, Battery Materials

R&D Center Suwon

- Focus: Electronics



Researchers analyze a 3D-printed sample at the lab. The Innovation Campus Shanghai houses two 3D printing labs focusing on solutions based on laser sintering process and photopolymer systems.

In September 2017, BASF hosted an event held by the global Innovation Roundtable® network at Innovation Campus Shanghai, attracting about 180 innovation managers, R&D experts and executives from many international companies. The two-day roundtable discussion focused on "Design Thinking & Scouting for Start-ups" and "Collaborative Business Model Innovation". Innovation Roundtable is a learning network for best practice sharing, and fosters future collaborations among companies.



A birds' view of BASF's Shanghai Caojing site: with a total investment of nearly CNY 20 billion, the site is home to various production plants, supplying key customer industries.

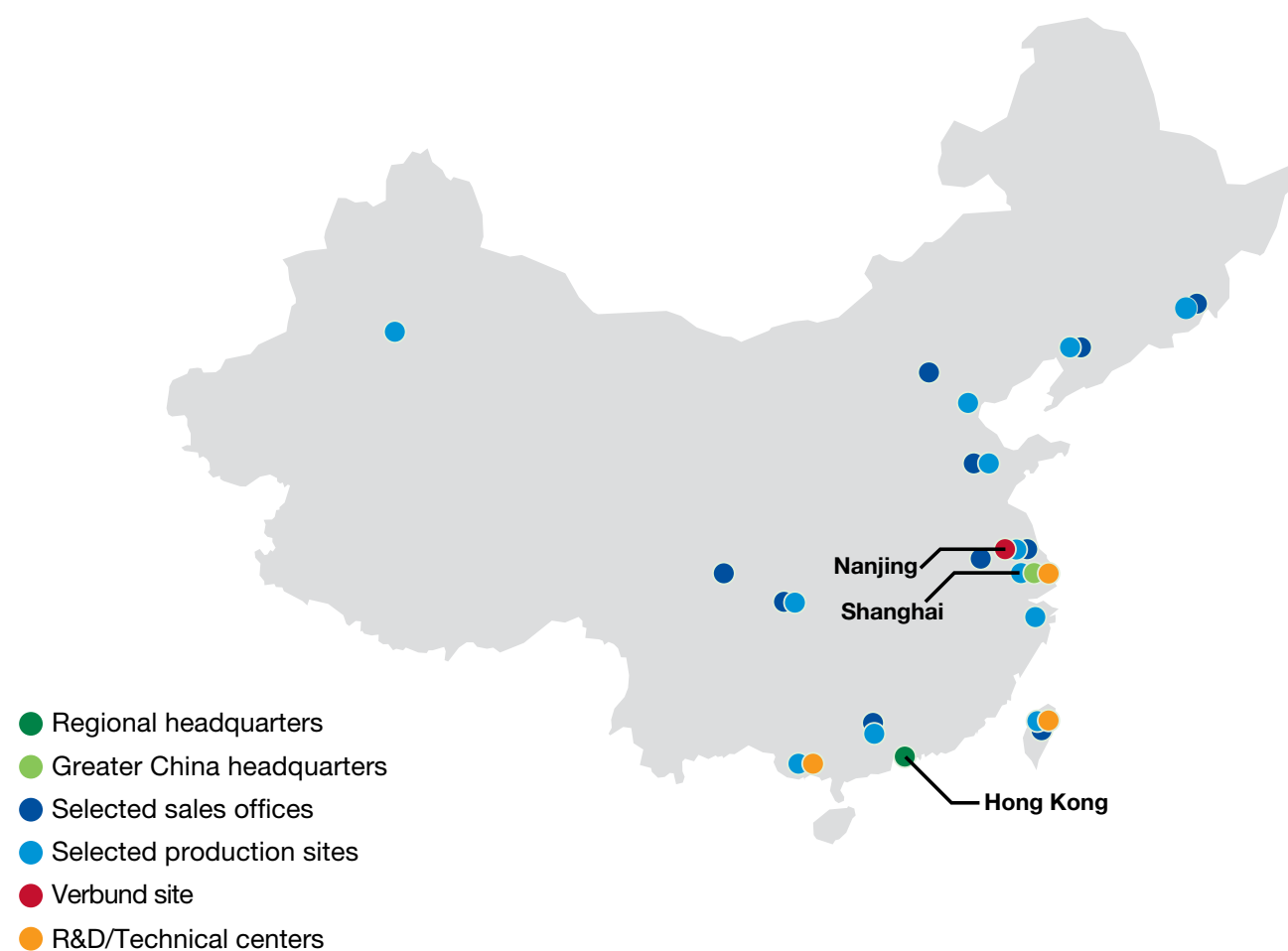
BASF in Greater China

At a glance

BASF has been a committed partner to Greater China since 1885. With major investments in Nanjing, Shanghai and Chongqing, as well as numerous sites around the country, BASF is the largest foreign investor in China's chemical industry, and maintains the BASF Innovation Campus Shanghai as a global research and development hub. BASF posted sales of approximately €7.3 billion in 2017 to customers in Greater China, and employed 8,982 people as of the end of the year. Greater China is currently BASF's third largest market after Germany and the United States.

BASF currently operates 25 wholly-owned subsidiaries, seven major joint ventures, and maintains 24 sales offices in Greater

China. BASF's business in Greater China includes intermediates, monomers, petrochemicals, dispersions & resins, care chemicals, nutrition & health, performance chemicals, catalysts, construction chemicals, coatings, performance materials and agricultural solutions. These chemical products are used in almost all areas of daily life such as in houses, cars, food, agriculture, pharmaceuticals, textile, sportswear, household goods, and electronic equipment. BASF has invested more than €6 billion in Greater China (more than €8 billion with partners) to build a locally competitive production, marketing, sales, technical service and innovation network.



Some sites are not shown on the map due to scale. Site and office numbers refer to the companies of significant size where BASF holds a stake greater than 50%.

BASF in Greater China

Sales in 2017 (by location of customer)

€7.3 billion

Employees (as of December 31, 2017)

8,982

BASF Shanghai Pudong Innovation Park

- Located in Gaoqiao, Shanghai
- Established in 1994, with wholly-owned site starting operation in 2000
- More than 3,000 employees
- BASF Greater China headquarters since 2004
- An integrated site combining global, regional and local research and development, business management and production
- Innovation Campus Shanghai established in 2012
- Headquarters of BASF's global technology platform Advanced Materials & Systems Research since 2016
- Eight production plants and one waste water treatment plant
- Products: Advanced materials including Ultramid® (polyamide, PA), Ultradur® (polybutylene terephthalate, PBT), polyurethane systems, Elastollan® thermoplastics polyurethane elastomers (TPU) and Cellasto® (microcellular polyurethane), Acrylic dispersions & copolymers colorants, detergents, metal complex dyes, leather auxiliaries and polyvinylpyrrolidone (PVP)

BASF Nanjing Verbund site

- Located in the Nanjing Chemical Industry Park
- Established in 2000 with commercial production since 2005; inaugurated its second phase in 2012
- Total investment of \$5.2 billion to date
- 1,882 employees as of December 31, 2017
- A 50-50 joint venture between BASF and Sinopec, an integrated Verbund site
- 32 production plants
- Products: Low density polyethylene, ethylene-vinyl acetate, ethylene glycol, polystyrene, acrylic acid and acrylic esters, non-ionic surfactants, superabsorbent polymers, n-butanol, iso-butanol, 2-propyl-heptanol, butadiene, polyisobutene, etc.
- Annual capacity of three million metric tons of high quality chemicals and polymers

BASF Shanghai Caojing site

- Located in the Shanghai Chemical Industry Park in Caojing, Shanghai
- First PolyTHF® production in 2004
- Total investment of nearly CNY 20 billion (around €2.7 billion) to date
- One BASF wholly-owned company and three joint ventures, operating the following major production plants:
 - BASF Chemicals Co. Ltd. (wholly-owned)
 - BASF Shanghai Coatings Co. Ltd. (a joint venture between BASF Group and Shanghai Huayi Fine Chemical Co. Ltd.)
 - Shanghai BASF Polyurethane Company Limited (a joint venture with two Chinese partners)
 - Shanghai Lianheng Isocyanate Co. Ltd. (a joint venture with several partners)
- Products: Polytetrahydrofuran (PolyTHF), TDI (toluene diisocyanate), MDI (methylene diphenyl diisocyanate), polyisocyanate (Basonat®), precious metals-based salts and solutions, automotive coatings, resin and electrocoat, polyamide polymerization and process catalysts

BASF Chongqing site

- Located at Changshou Economic & Technological Development Area, Chongqing
- Approved by the National Development and Reform Commission of China in 2011
- Total investment of approximately ¥8 billion (around €860 million)
- BASF wholly-owned site
- First MDI production in 2015
- Product: MDI (methylene diphenyl diisocyanate)
- Annual capacity of 400,000 metric tons



At BASF, we never compromise on safety. This principle is embedded in our strategy, and applied in operating our own facilities and dealing with third parties.

Environment and safety

At BASF, we never compromise on safety. This principle is anchored in our strategy and underlines our philosophy in operating our own facilities and dealing with third parties. Environmental protection, health and safety (EHS) as well as security, communication, and energy efficiency are embedded in our global Responsible Care® policy, which is applied to operations via our Responsible Care Management System (RCMS). This policy and the RCMS are based on BASF's strategy and corporate guidelines and are binding for the whole BASF Group. Just as the company applies stringent standards to its own operations, we demand the same high standards of our contractors and suppliers. We choose carriers, service providers and suppliers not just on the basis of price, but also based on their performance in environmental and social responsibility.

Multiple BASF sites throughout Greater China have been certified in accordance with ISO 14001, which sets out the criteria for environmental management systems. BASF additionally conducts internal audits in compliance with the standards of ISO 19011 (for management systems) and OHSAS 18001 (for occupational health and safety systems), as well as short-notice or unannounced audits for production plants with medium to high hazard potential.

Process safety

- Continuous enhancement of process safety management
- Regular assessment of safety systems

From planning, construction and operation of production facilities, BASF continues to implement global process safety standards and improve measures for incident prevention at all its plants across Greater China.

Within its global framework for safety in construction and operations, as well as protection of people and the environment, BASF experts have developed a plan for every plant by considering the key aspects of safety, health and environmental protection – from conception to startup – which stipulates specific protection measures of each aspect. In 2017, the management system was reviewed at all sites in Greater China.

To maintain the highest level of safety at all its plants across their entire life cycle, BASF reviews the implementation of the protection plan in all facilities at regular intervals by taking into account the specific hazard potentials. The assessment is made periodically through in-depth audits, which leads to upgrades of the safety concept and measures where necessary. In 2017, following the global requirements, and based on hazard potential, plants in Greater China conducted revalidation and clean sheet review processes.

With focus on the maintenance, repair and operation of plants, BASF continues to update the catalog of best



An operator conducts a regular check of a safety valve.



Safety labels on the MDI tank



Inspection of pressure in the production facility

practices for incident prevention and shares it with all plants in Greater China.

BASF uses the number of process safety incidents per one million working hours as a key performance indicator, following to a large extent the definition set by the European Chemical Industry Council. BASF continuously improves its process safety in Greater China through continuous improvement of investigating every incident in detail, analyzing root causes and using the findings to derive suitable measures. We have set ourselves the global goal of reducing process safety incidents to a rate of no more than 0.5 per one million working hours by 2025¹.

Product stewardship

- Extensive chemical safety information for customers
- Cooperate with industry associations to promote product stewardship

We review the safety of our products from research and development through production and all the way to our customer applications. We work continuously to ensure that our products pose no risk to people or the environment when they are used responsibly and in the manner intended.

BASF provides extensive information on all chemical products to customers. An example is the safety data sheet in around 40 languages, including Chinese, supported by a global database of updated environmental, health and safety data for its substances and products. We also incorporate the latest regulatory requirements in China in our product safety system to ensure our Chinese safety data sheets and product safety labels are in compliance with China's regulatory framework.

Working closely with industry associations, BASF advocates product stewardship among both local and multinational companies in Greater China. We promote voluntary commitment to preventing chemical misuse in non-industrial applications among Chinese manufacturers, together with the International Council of Chemical Associations (ICCA) and China Petroleum and Chemical Industry Federation (CPCIF). As core members of CPCIF and Association of International Chemical Manufacturers (AICM), BASF hosted an enhancement training session on ICCA Product Stewardship Code, contributed to a survey on the relevant capacity and awareness of domestic companies and supported the local associations on planning the promotion of

the Code. BASF was also involved in workshops and trainings on ICCA's Global Product Strategy in Greater China, to support the improvement of safe chemical management.

Emergency response

- Regular emergency drills and fire prevention inspections
- Best practice sharing with industry associations

BASF strives to strengthen the efficiency and effectiveness of emergency preparedness and response at all sites along the entire supply chain in Greater China. We undertake fire prevention inspections at all sites and regularly review emergency response plans as well as holding emergency drills. BASF tailors career development paths for members of the emergency response team to the specific needs of each site. In 2017, a fire brigade at one of BASF's sites in Shanghai became the first in the city to pilot the transformation from a military unit to a corporate entity.

BASF continues to cooperate with Ministry of Emergency Management of the People's Republic of China (MEM)², CPCIF and AICM to share best practices in emergency response. We played a leading role in organizing a workshop on emergency response management with CPCIF and a workshop on community awareness with AICM. Furthermore, BASF has supported MEM in setting up the International Organization of Emergency Rescue for Dangerous Chemical Accidents.

Fire brigade at BASF Shanghai Caojing site

There are three fire engines at BASF's Caojing site in Shanghai, supporting BASF's own site and other companies in the Shanghai Chemical Industry Park. Equipped with fire pumps and fire monitors, two are used for routine tasks of firefighting and water spraying. The third is a hazardous materials fire engine specialized in handling chemical incidents, carrying tools to block leakage and various connecting pieces, etc.



The firefighting team is activated at an emergency drill at the Shanghai Caojing site.



Laying hose for fire extinguishing during a drill



Firefighters are fully equipped to put out on-site fires.

Security

- Standardized requirements for security
- Enhanced risk awareness among employees

BASF protects its employees, sites and company knowledge against third-party interference by implementing and reviewing security measures within the framework of its uniform standards supported by a global network of information protection officers.

For its investment projects, BASF performs comprehensive analyses of potential risks and defines protection measures accordingly. In 2017, we standardized the use of security services in Greater China.

BASF trains its employees to be aware of protecting company information and knowledge. In order to ensure the compliance with our processes of protecting sensitive information, we have further defined mandatory requirements and reviewed the implementation through audits. In 2017, BASF published standardized group-wide recommendations for the protection of information and knowledge in Greater China.

BASF prepares its employees with appropriate protection measures prior to and during their travel in countries with elevated security risks. Benefiting from a globally standardized travel research system, we can locate employees more quickly and accurately in the affected regions in case of a major incident. BASF also organizes discussions and training sessions with crisis scenarios for site and country management.

Aspects of human rights related to site security, such as the right to liberty and security of person, are a component of the global qualification requirements of BASF's security personnel. Respect for human rights is a mandatory element of any contract with BASF's service providers active in Greater China.



At BASF Shanghai Pudong Innovation Park, a speed detector now monitors every passing vehicle to ensure the site speed limit of 20 km/h is not exceeded.

¹ For 2018, BASF will adapt its reporting on accidents and process safety incidents to the recommendations of the International Council of Chemical Associations (ICCA), the European Chemical Industry Council (CEFIC) and the German Chemicals Industry Association (VCI). To implement these recommendations, we will have to convert our targets. Consequently, our goal from 2018 onward is to reduce occupational and process safety incidents to a rate of no more than 0.1 per 200,000 working hours by 2025 (previous goal: a rate of no more than 0.5 incidents per one million working hours).

² Newly established in 2018, the Ministry of Emergency Management (MEM) takes over the responsibilities of the former State Administration of Work Safety (SAWS). SAWS was dissolved.

Transportation and distribution safety

- Global guidelines and regular assessment for transportation of raw materials, especially dangerous goods
- Safety monitoring of logistics service providers

From delivery of raw materials, storage and distribution of chemical products to customers, to transportation of waste from sites to disposal facilities, BASF ensures transportation and distribution safety through strict globally standardized regulations and measures at all stages.



A routine examination of trucks entering a site



Before a truck carrying dangerous goods leaves a BASF site, a strict examination is conducted at the gate.

Through regular assessment of the transportation and storage for raw materials with high hazard potential, we use the global guidelines of the European Chemical Industry Council (CEPIC). Some of our global guidelines for transportation of dangerous goods even go beyond national and international requirements.

To minimize risks throughout the entire process of transportation, BASF stipulates worldwide requirements for its logistics service providers (LSPs) and assesses them in terms of safety and quality. We evaluated several dozen LSPs in 2017 across Greater China, via our own evaluation and monitoring tools as well as internationally approved schemes.

BASF systematically implements measures to improve transportation safety and reports in particular on spillages of dangerous goods that significantly impact the environment.



A tank truck delivering BASF products to customers.

Water

- Sustainable water management with mandatory protection plans
- Sharp reduction of COD emissions to water

Water is of fundamental importance in chemical production. It is used as a coolant, solvent and cleaning agent, as well as to produce chemicals. BASF is committed to its responsible use along the entire value chain and especially in its production sites' water catchment areas. To this end, we set global goals of sustainable water management.

Emissions to water: Organic substances (COD) (metric tons)

2017	120	<div style="width: 100%;"></div>
2016	170	<div style="width: 142%;"></div>
2015	165	<div style="width: 137%;"></div>

Emissions to water: Nitrogen (metric tons)

2017	10	<div style="width: 100%;"></div>
2016	9	<div style="width: 90%;"></div>
2015	12	<div style="width: 120%;"></div>

Emissions to water: Heavy metals (metric tons)

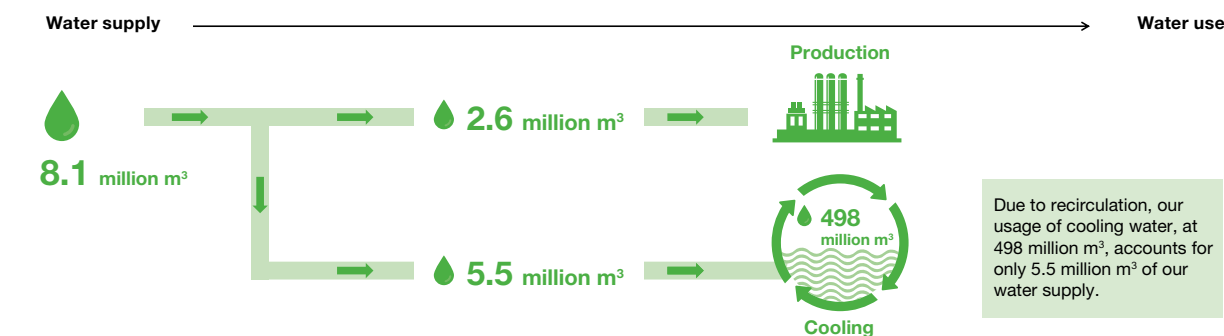
2017	0.1	<div style="width: 100%;"></div>
2016	0.1	<div style="width: 100%;"></div>
2015	0.1	<div style="width: 100%;"></div>

Guided by a group directive with globally applicable standards, BASF sites in Greater China are exploring measures of sustainable water management, especially in water stressed areas. Since its roll-out in 2014, the European Water Stewardship (EWS) Project has been completed at sites in water stressed areas throughout Greater China. These best practices were shared during a regional environmental protection workshop in Shanghai. In 2017, BASF newly introduced sustainable water management at several sites in China.

In order to identify the potential risk of unanticipated wastewater emissions and prevent the pollution of surface or groundwater, BASF has developed mandatory water protection plans for its sites by evaluating wastewater risk, drawing up monitoring approaches and auditing the implementation and compliance of these measures. Several sites in Greater China applied online monitoring systems for wastewater to catch relevant pollutants more quickly.

Despite the expansion of production facilities in 2017, emission of organic substances (COD) decreased sharply to 120 metric tons (2016: 170 metric tons). Nitrogen increased to 10 metric tons (2016: 9 metric tons) and heavy metals remained unchanged at 0.1 metric tons (2016: 0.1 metric tons). The decrease of COD was mainly due to process optimization measures at several sites in Greater China. In Shanghai, one site took measures to recycle its high-COD condensation wastewater, while another optimized its spray dryer ventilation process to prevent the emissions of residual powder with high level of COD into wastewater. A site in Jiangsu Province optimized the aeration and settlement time of its wastewater treatment plant, and consequently, created

Water use in Greater China (million cubic meters)



	Water supply (million cubic meters)		Water use (million cubic meters)	
	Production	Cooling	Production	Cooling
2017	8.1	498	2.6	498
2016	7.2	477	2.5	477
2015	6.0	359	2.3	359



The water station at BASF Shanghai Pudong Innovation Park purifies and filters water from the Huangpu River, before supplying it for purposes of production, cooling and firefighting.

a significant improvement in the efficiency of COD removal. At another site in Jiangsu, COD in the process wastewater were absorbed by a molecular sieve, resulting in lower cost for incineration process. Moreover, external wastewater treatment plants also raised their efficiency of COD reduction.

BASF strives to gradually reduce water consumption and reuse as much as possible. In 2017, BASF used 8.1 million cubic meters of water in Greater China (2016: 7.2 million cubic meters). The increase of water used for production mainly resulted from higher production levels and new projects at several sites in Jiangsu Province and Shanghai. Water saving measures were carried out at several BASF sites in Greater China, including the increased reuse of rain water and wastewater from scrubber tower, chilling tower and steam condensate at certain sites in Shanghai.

BASF uses most of the water for cooling purposes and recirculates water as much as possible. Most BASF sites worldwide have cooling water recirculation facilities that allow water to be reused several times and reduce the temperature of used cooling water before it is discharged back into a waterbody. For BASF in Greater China, the water for cooling amounted to 498 million cubic meters in 2017 (2016: 477 million cubic meters). This increase mainly resulted from the new cooling water tower systems in one site in Shanghai and the high capacity of cooling system at several sites in Jiangsu Province.

Waste

- Slight increase of waste volume
- Regular audits of external waste disposal companies

BASF explores ways of waste recycling as much as possible. If waste is unavoidable, we will analyze the possibility of recycling

or energy recovery for a particular type of waste. If no recovery options are available, we dispose of waste in a correct and environmentally responsible manner.

In 2017, the volume of waste from BASF's operations in Greater China increased to 83,006 metric tons (2016: 73,162 metric tons) due to high production levels. The recovery rate was 67% (2016: 72%), and the total amount of recovered waste increased. Several sites in Shanghai and Jiangsu reduced waste or liquid residue through process optimization, while two sites in Guangdong and Jiangsu reused waste oil in production. At most sites, waste packaging was recycled after careful re-classification. One site in Taiwan recovered flushing materials to reduce waste generation.

BASF regularly carries out audits to inspect external waste disposal companies, ensuring that hazardous waste in particular is properly disposed of. In this way, we are also contributing to preventive soil protection and preventing today's waste from becoming tomorrow's contamination. BASF has closely monitored site soil and groundwater status in Greater China and has documented the information in a global database since 2013.

Waste (metric tons)				
2017	83,006	67%	<div style="width: 67%;"></div>	33%
2016	73,162	72%	<div style="width: 72%;"></div>	28%
2015	68,119	75%	<div style="width: 75%;"></div>	25%

■ Total amount of waste ■ Recycling and thermal recovery (%)

Emissions to air

- Greenhouse gas emissions stable
- Sharp decrease in emissions to air

In 2017, emissions of greenhouse gases from BASF's chemical operations in Greater China slightly increased to 1.193 million metric tons (2016: 1.192 million metric), mainly resulting from high production levels¹. In 2017, to reduce greenhouse gas emissions, several sites saved energy consumption through process optimization, such as reuse and recycling of waste heat from condensate and adjustment of dryer temperature. Further measures are underway, including the efficiency improvement of de-N₂O catalyst and upgrading of high energy consumption systems.

Aside from greenhouse gas emissions, BASF also measures emissions of other air pollutants, including

inorganic compounds such as carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x) or ammonia as well as dust or non-methane volatile organic compounds (NMVOCs). In 2017, absolute emissions of air pollutants from BASF's chemical operations in Greater China decreased sharply, to 306 metric tons (2016: 359 metric tons). This was mainly the result of the reduction of tail gas emissions in one Shanghai site through process optimization. In addition, several sites also upgraded NMVOC treatment facilities to reduce VOC emissions to meet the ever-stringent emission standards in China. For example, one site in Shanghai refreshed active carbon more frequently to improve the NMVOC removal efficiency. For years, some sites in Shanghai and Jiangsu have implemented a leakage detection and repair program to significantly decrease fugitive NMVOC emissions. One Shanghai site replaced its old diesel boiler with an electric one to thoroughly prevent emissions.

Greenhouse gas emissions (metric tons of CO₂ equivalents²)

2017	1,193,221	<div style="width: 100%;"></div>
2016	1,191,714	<div style="width: 99.9%;"></div>
2015	933,744	<div style="width: 78.4%;"></div>

² CO₂ equivalents consist of CO₂, N₂O, CH₄, HFC, PFC, SF₆

Air pollutants³ (without CH₄) (metric tons)

2017	306	<div style="width: 85.2%;"></div>
2016	359	<div style="width: 100%;"></div>
2015	339	<div style="width: 94.4%;"></div>

³ Air pollutants consist of: CO, NO_x, SO_x, NMVOC (Non-methane volatile organic compounds), dust, NH₃, and other inorganic compounds



At the tank farm of BASF Polyurethanes Specialties (China) Co. Ltd. in Shanghai, off-gas is treated within the facility and exhausted through the emission point (the yellow curved pipe).

¹ In this report, the amounts of greenhouse gas emissions in 2015 and 2016 have been corrected, due to updated data for Nitrous Oxide (N₂O) reporting from one site.

Energy

- Energy consumption stable despite high production levels
- Improvement measures for energy efficiency

In 2017, energy consumption at BASF in Greater China remained stable despite high production levels. Electricity

Electricity consumption (MWh)

2017	706,897	<div style="width: 85%;"></div>
2016	733,384	<div style="width: 90%;"></div>
2015	544,520	<div style="width: 75%;"></div>

Steam consumption (metric tons)

2017	3,272,701	<div style="width: 85%;"></div>
2016	3,266,606	<div style="width: 90%;"></div>
2015	2,455,558	<div style="width: 75%;"></div>

Fuel consumption (central power plants and boilers) (MWh)

2017	892,587	<div style="width: 85%;"></div>
2016	890,191	<div style="width: 90%;"></div>
2015	614,444	<div style="width: 75%;"></div>

consumption decreased to 706,897 megawatt hours (MWh) (2016: 733,384 MWh) and fuel consumption for central energy supply totaled 892,587 MWh (2016: 890,191 MWh). Steam consumption increased slightly, to 3,272,701 metric tons (2016: 3,266,606 metric tons).

Various BASF sites in Greater China undertook efforts to improve energy efficiency in 2017. In Shanghai, one site optimized its spray dryer to save natural gas consumption, while another site renovated the insulation of its chilling system to reduce electricity consumption. Several sites in Greater China also made considerable progress in recycling residual heat and saving steam. Through optimization of the fluid bed dryer process, one site in Jiangsu reduced the consumption of liquefied petroleum gas. In Taiwan, one site further optimized its cooling, chilling and compressed air supply system to reduce electricity consumption, and fine-tuned its boiler control to save natural gas consumption. Meanwhile, several sites in Guangdong, Xinjiang and Shanghai upgraded their lighting, pumps, motors, air compressors with low energy consumption models.

In an energy-intensive industry, BASF has set the goal of introducing certified energy management systems (DIN EN ISO 50001) at all relevant production sites by 2020. Since starting in 2016, several sites in Greater China have already been ISO 50001 certified. All energy efficiency measures are recorded and analyzed in a global database and made available as best practices for other sites worldwide.



Through continuous improvement of processes, the joint venture Shanghai BASF Polyurethanes Co. Ltd. has improved energy efficiency in its production of MDI and TDI.

In Greater China, BASF is committed to continuously reducing carbon emissions through advanced technology and improvements in production process and energy optimization. Six BASF sites in Shanghai have been actively participating in the pilot carbon emissions trading scheme (ETS) and completed their obligations by surrendering their 2016 certificates. We also worked closely with industry associations such as the China Petroleum and Chemical Industry Federation (CPCIF) and the Association of International Chemical Manufacturers (AICM) to conduct dialog with authorities and prepare for the upcoming national ETS.

Promoting Responsible Care® in Greater China

- Additional tools complement the Responsible Care system
- Supporting Chinese chemical societies in the promotion of Responsible Care

Comprising the global rules, standards and procedures for safety, security, health and environmental protection, BASF continues to improve its Responsible Care Management System by regular audits, updates of policies and requirements, assessment of potential risks, and promoting Responsible Care among its value chain partners in Greater China.

In addition, BASF has introduced tools to its value chain partners to further extend the standards. These include self-assessment for continuous improvement, gate checks for all trucks before entering chemical production and storage facilities, and the Road Safety & Quality Assessment System for safe management of logistics transport service providers.

BASF actively supports Chinese chemical associations in promoting Responsible Care. As an active member of the China Petroleum and Chemical Industry Federation (CPCIF) since 2013, we have contributed to regulatory advocacy, communication and emergency response, while furthering our cooperation with China's Transport Accident Information and Emergency Response System. In 2017, as the leading member of emergency working group of the CPCIF Responsible Care committee, BASF organized an emergency response workshop in Zhangjiagang, Jiangsu Province and at the annual conference of CPCIF's Responsible Care committee. BASF also chaired the emergency response sub-committee of AICM, helping to upgrade AICM's questionnaire and assessment database, which were completed in 2017. In partnership with the Ministry of Emergency Management of the People's Republic of China (MEM) and as a member of the Shanghai Municipal Dangerous Goods Chemical Rescue team, BASF is contributing to the establishment of the International Organization of Emergency Rescue for Dangerous Chemical Accidents and assigned an expert to support the training program for dangerous goods chemical rescue held by MEM in 2017. To promote safety in storage and transportation of dangerous goods, BASF shared best practices at the Global Summit on Chemical Safety and



At Shanghai Caojing site, two inspectors conduct a regular check of the water tank for firefighting, ensuring all facilities for emergency response are in the best possible condition.

Security (CHEMSS) in Shanghai as well as in various forums. BASF top management played an active role at CHEMSS in September 2017 in Shanghai, sharing information on BASF's safety practices to help ensure safety performance not only at BASF but in the chemical industry as a whole, especially in China.

BASF provided support to the Ministry of Transport for the revision and upgrade of JT/T 671 "Regulations concerning road transportation of dangerous goods" in 2017. We have also been working with the National Road Transport Service Alliance for Dangerous Goods and other companies to develop the new "Chemical road transportation safety assessment system" in China since 2017, based on guidelines of the European Chemical Industry Council as well as Chinese standards and regulatory requirements.

These efforts have been recognized throughout the country. BASF Crop Protection (Jiangsu) Co. Ltd. was honored as a Green Credit Company in 2017 by the local government. Several sites in Shanghai received the Award of Advanced Enterprise for outstanding performance in safety, environment, fire-fighting and security. For its overall performance in promoting Responsible Care, BASF was acknowledged by AICM as the winner of the 2017 AICM Responsible Care Chairman Award.

In Taiwan, the BASF site in Kuanyin was awarded by the local labor bureau for its achievement in promoting Responsible Care.

Value chain sustainability

From procurement at the supplier end, to production at various plants to the product delivery to the customers, the principle of aligning economic goals with environmental and social responsibility is applied throughout the value chain within the global network of BASF. While constantly measuring sustainability of our practices, we look beyond our own operations and collaborate with value chain partners to jointly generate social, economic and environmental value in a sustainable way.

Ensuring sustainable procurement

- Together for Sustainability initiative standardizes supplier audits in China
- Supplier training with leading university

BASF is a founding member of the Together for Sustainability (TfS) initiative by leading chemical companies for the global standardization of supplier evaluation and auditing. The initiative aims to develop and implement a global program for the responsible supply of goods and services, and improve suppliers' environmental and social standards. The evaluation process is simplified by third party online assessment or on-site audit. Globally, the initiative's members conducted a total of 1,794 sustainability assessments and 441 audits in 2017. To enhance mutual understanding of sustainable procurement, more than 300 local suppliers attended a training session on the occasion of 2017 China Petroleum and Chemical Industry Conference, held in Shanghai in September 2017.

BASF also provides training to Chinese suppliers to help them improve their sustainability performance. Since 2014, BASF has been holding in-depth training sessions in collaboration with East China University of Science and Technology, covering all aspects of sustainable operations to help the local suppliers improve their standards.

Recognizing logistics service providers

- Shenxing Taibao Award to recognize performance of logistics service providers

BASF selects, manages and develops logistics service providers (LSPs) in accordance with the principle of sustainable logistics, to enhance their awareness of BASF's standards and expectations.

BASF and BASF-YPC Company Limited (BASF-YPC) in Nanjing have jointly hosted the "Shenxing Taibao" Award since 2012, to recognize good performance in safety, efficiency, compliance, commitment, reliability, and emergency preparedness.

In 2017, eight LSPs received the award, among 90 participating suppliers, while six were granted the "Service Satisfaction Award" for the outstanding performance of their front-line service employees.

Setting standards for industry supply chain

- Contributing to the green supply chain of the construction industry

BASF is contributing to reducing environmental impact and optimizing resource efficiency in China's construction industry. Set up by trade associations and market leaders, the "Green Supply Chain in Real Estate Industry in China" (GSC) initiative invited leading suppliers to set new standards for the entire industry supply chain from procurement, production, construction to recycling. Based on these standards, qualified suppliers of construction materials will be included in a GSC white list.

BASF supports this initiative by providing global expertise in setting environmental standards for construction products. In line with the Chinese regulatory requirements and certified

testing institutes, BASF has proposed standards for the limit of harmful substances in exterior and interior wall coatings, including volatile organic compounds, benzene and its derivatives, formaldehyde, and various types of heavy metals. In addition, we provided professional suggestions for GSC's "Action Plan on the Hazard Control of Hexabromocyclododecane (HBCD) Flame Retardant in Polystyrene based Insulation Materials and its products" and for technical indicators. Through this action plan, the application of HBCD flame retardants in the polystyrene insulation materials will be prohibited at the source and substitutes will be promoted within the industry.

Promoting the development of industry regulations

- Improving regulations and processes for new chemical notification

BASF actively supports the development of effective and feasible chemical industry regulations in Greater China through multiple platforms. Since early 2014, we have worked to improve the regulations and processes for new chemical notifications. BASF initiated several workshops and seminars to exchange views and information with local industry associations, academia, industry partners and the government, and then made proposals for improving management principles, refining requirements of toxicology and ecotoxicology data and simplifying the registration process. Following four years of continuous effort, the data requirements for full notification of new chemicals have been simplified and came into force in October 2017.

Collaboration with customer supports cement industry reform

- Cement grinding agents improve energy efficiency and quality in the context of supply side reform

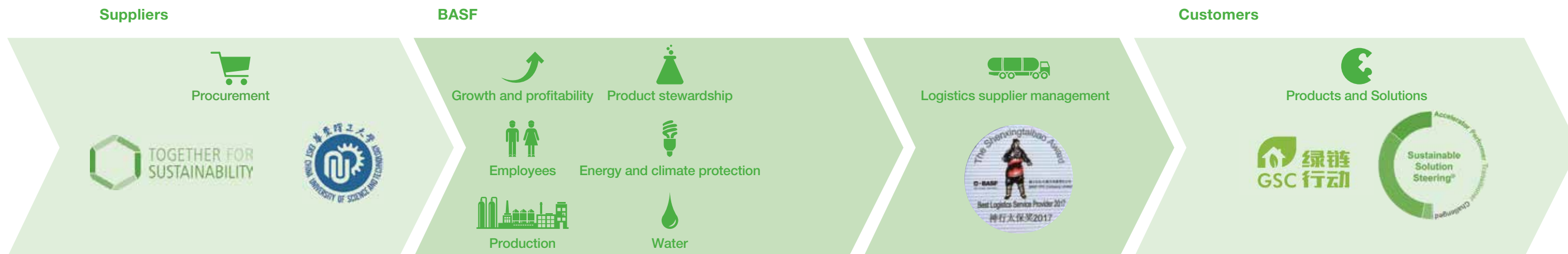
In the context of China's "supply side reform" and the national environmental policy, domestic cement companies are required to improve their energy efficiency and product quality. Grinding, at various stages of cement production, is the process which requires the greatest amount of energy. It is also important for cement companies to increase their output and improve the fineness of the ground cement.

Leveraging our expertise in research and development and production capabilities, BASF initiated a collaborative project with Hongbaoli, a Chinese market leader in the isopropanolamines (raw material for cement grinding agents) and polyurethane industries, to improve the performance of cement grinding agents. Enhanced by innovative chemical components, the newly developed solution resulted in less energy consumption in the grinding process. It also contributed to higher output and better fineness of ground cement particles. The cement grinding agents further led to optimized strength grading of cement and better downstream end products.

Sustainable Solution Steering®

By considering the entire value chain and markets, BASF developed the "Sustainable Solution Steering" method to assess and steer its product portfolio based on defined sustainability criteria. First customers are already using the Sustainable Solution Steering method to analyze and steer their portfolios.

For more information, please visit basf.com/en/sustainable-solution-steering



Business development At a glance

BASF grew its sales in Greater China to €7.3 billion in 2017 (2016: €5.9 billion). We continued to enhance local production through the construction of new facilities and expansion of existing capacities, supported by the research and development capabilities of Innovation Campus Shanghai. BASF expanded its product portfolio and strengthened its local market presence in several key industries such as automotive, construction, food and feed, personal care, agriculture and electronics.

Sales (million €)
(By location of customer)

2017	7,273	
2016	5,931	
2015	5,730	

At its Shanghai Caojing site, BASF opened its first world-scale plant in Asia Pacific for chemical catalysts and absorbents. At the same site, we inaugurated a new automotive coatings plant with an investment of €140 million. As an extension of the existing joint venture plant between BASF and Shanghai Huayi Fine Chemical Co. Ltd, the new facility will produce both solventborne and waterborne coatings. A plastic additives plant is in construction now, producing antioxidants and associated forms and blends with an annual capacity of 42,000 tons.

At its Shanghai Jinshan site, BASF invested CNY150 million (approximately €20 million) to build a new plant for emollients and waxes, the key ingredients for skin and hair care, sun protection, and other personal care products.



BASF's new chemical catalyst plant is the first of its kind in Asia Pacific.

At our wholly-owned site in Nanjing, the opening of a biocatalyzed acrylamide plant, with a capacity of 50,000 metric tons per year, added to our global production network of water-soluble flocculation aids for the wastewater treatment and papermaking industries.

At BASF's Verbund site in Nanjing, the capacity of propionic acid will be expanded to 69,000 metric tons per year, to meet the growing demand of food and feed grain preservation, contributing to food safety in China. Production of neopentylglycol at the Verbund site is also being expanded to 80,000 metric tons. This will benefit end-use applications across a broad range of industries, including environmentally friendly powder coatings with low volatile organic compounds.

At the MDI plant in Chongqing, we are building a steam methane reformer to enhance production reliability and improve operations.

Through a series of global acquisitions, BASF aims to gain access to new market segments. With the planned acquisition of Solvay's polyamide business, we intend to complement our engineering plastics portfolio and strengthen our polyamide 6.6 value chain and further expand the company's position as a solution provider for transportation, construction, industrial applications and consumer industries in Asia Pacific. With the planned acquisition of Bayer's seed and non-selective herbicide business, we aim to improve the herbicide portfolio of BASF's crop protection business and provide entry into the seed market. In the fast-growing electronics industry, BASF is meeting end consumers' needs for optimum image quality and lower energy consumption of electronic devices with the acquisition of Rolic, a market leader in photoalignment materials. One year after the acquisition, the surface treatment assets of Chemetall, including in Greater China, have been integrated into BASF's coatings business, providing tailored solutions to a wide range of industries and end-markets including automotive, aerospace, aluminum finishing and metal forming.



Polyamide is an important raw material used across various key customer industries.

Based on customer's request, BASF scientists at Innovation Campus Shanghai use X-ray diffractometer for analysis of the crystal structure to investigate materials stability and electrochemical performance.

Mobility

China's automotive industry is working to meet stricter environmental protection standards, such as reducing emissions and volatile organic compounds (VOCs) from motor vehicles, along with the pressing need to realize the potential of emerging technologies to achieve sustainable growth.

As the leading chemical partner for all major automotive original equipment manufacturers (OEMs) worldwide and in China, BASF provides integrated solutions with advanced materials and innovative capabilities. In this way, we are helping the automotive industry achieve intelligent manufacturing in China.

Reducing VOCs in transportation

- Helping Chinese OEMs convert to waterborne coatings
- Low-emission polyurethane system for car interiors
- Reducing emissions of VOCs from railway maintenance machinery

In automotive production, volatile organic compounds (VOCs) form a major source of air pollution, while VOCs from car interiors affect the air quality in the car cabin. To effectively reduce their impact, the Chinese government released a *Roadmap of reducing VOCs in the automotive industry* in 2017 to set new limits and promote low-VOC applications in transportation.

Waterborne coatings can help reduce VOCs compared to conventional solventborne coatings. BASF helped several

Chinese OEMs successfully switch from solventborne to waterborne technology, meeting the new regulations in 2017. This was achieved with BASF's waterborne coatings and Integrated Process II. This technology integrates the functionality of the primer in the basecoat layer without compromising on the high quality of the finish. For a number of other Chinese automotive manufacturers, BASF provided expertise to help establish their new paint shops and production lines equipped with waterborne technology.

Integrated Process II

The aim of Integrated Process II is to integrate the functions which are currently performed by the primer into the basecoat layer, thus omitting the entire baking step.

For more information, please visit on.basf.com/Integrated-Process-II

BASF has developed polyurethane system solutions based on low emission raw materials specifically for car interiors. The solution Elastoflex® is based on specific basic raw materials and additives that help reduce VOCs in the end product. VOCs from seating cushions, headliner foam systems and floor carpets made with Elastoflex fulfill critical requirements for major OEMs without compromising physical properties. The integral skin foam system Elastoflex®, made with a waterblown process, is typically



BASF's waterborne basecoat system helps reduce VOCs emissions in car makers' paint shops.



A non-solvent polyurethane reduces VOC emissions in car interiors.

used for steering wheel systems. In collaboration with Yanfeng Automotive Interiors, a major Chinese auto parts manufacturer, BASF developed a prototype automotive instrument panel made with Haptex®, a non-solvent based polyurethane system for synthetic leather. There is no solvent involved during the process, differentiating it from conventional organic solvent-based wet and dry processes, thus reducing emissions in the car cabin.

BASF is also contributing to VOC reduction in the commercial transport industry by supplying locally produced waterborne coatings solutions to Beijing Ruiweitong Engineering Machinery Co., Ltd., a Chinese manufacturer of railway maintenance machinery. In 2017, Ruiweitong became the first in China's commercial transportation sector to use waterborne coatings in all layers of its machinery.



BASF waterborne coatings technologies are used in Ruiweitong's railway maintenance machinery.

Lowering emissions of motor vehicles

- Locally developed solution helps Great Wall Motors meet China Stage 6 standards

By the end of 2016, pollutants from motor vehicle emissions in China totaled 44.7 million tons¹. The government released China National Stage 6 emission regulations (China Stage 6), one of the world's most stringent standards.

As the global leader in emissions control technologies, BASF is working with Great Wall Motors to apply the new Four-Way Conversion Catalyst (FWC™) system to its future models of light-duty gasoline vehicles to meet the China Stage 6b² standard. With a lower backpressure, the FWC solution removes all four types of pollutants from gasoline engines, including carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NOx) and particulate matter (PM), with only one component, which will not impair the performance of the engine and maximizes fuel efficiency.

In addition, BASF experts have developed innovative coating technologies which enable a proven high conversion rate and filtration efficiency in the alternating channels of the substrates. In terms of new limits of Real Driving Emissions³ in China Stage 6b, BASF is also leveraging its experience in meeting the Euro 6 emission standard.

With this approach, the FWC solution helps Great Wall meet lower limits for CO, HC and NOx, and tighter control of PM from gasoline-engine powered vehicles, as required by China Stage 6 and various stringent emissions standards in overseas markets.

Apart from FWC, BASF is also developing the Lean NOx Trap for light-duty diesel vehicles to meet the stringent China Stage 6 standard.



The four-way conversion catalyst system lowers emissions of light-duty gasoline vehicles to meet the stringent China Stage 6 emissions standard.

¹ 2017 Annual Report on Environmental Management of Motor Vehicles in China, Ministry of Environmental Protection of the People's Republic of China

² Under China Stage 6, there are two sets of emission limits to be implemented in two phases nationwide—China 6a in July 2020 and China 6b in July 2023. Limit values for China 6a are generally comparable with those under Euro 6 standard, while China 6b further lowers the limits.

³ As opposed to the laboratory test cycles, Real Driving Emissions measures vehicle emissions under real driving environment.

Helping Chinese car makers go global

- Comprehensive coatings products for BELGEE in Belarus
- Support for SGMW's production in Indonesia

As Chinese car makers upgrade their products and technologies catering to the dynamic domestic market, they are also actively seeking opportunities for a global presence, including in developing markets. BASF is helping its Chinese partners go global with its global network and know-how, to achieve mutual growth.

As the sole supplier of automotive coating solutions to BELGEE, a joint venture between local brand champion Geely and the Belarusian auto maker BELAZ, BASF is supplying its new plant near Minsk, Belarus, with comprehensive coatings products for both car body and plastic parts. The plant is BELGEE's first production facility, producing 60,000 car bodies for sport utility vehicles for the

Russian, Belarusian, Ukrainian and Kazakh markets annually. With a long-term partnership with Geely in China and BASF's automotive coatings expertise in the Eastern European markets, BASF pooled an international team from China, Russia and Germany to work together throughout the startup phase of the new plant, providing professional and technical support to BELGEE.

In Indonesia, BASF supported the first local plant of another long-term Chinese partner SAIC-GM-Wuling Automobile (SGMW) to start its production in 2017. Through close collaboration with SGMW's research and development team in China, BASF helped SGMW meet the specific requirements of local regulations for emissions and provided engineering and technical support from China. The start of production for BASF's first catalyst project with SGMW Indonesia is expected in 2018. BASF also provided local engineering support to the SGMW plant for the production of lightweight polyurethane foam for the headlining and hood liner, as well as polyamide 6 for the engine hood.



Members of the project team from BASF's coatings division. With its comprehensive layer portfolio, BASF contributes to the strengthened market position of BELGEE in Eastern Europe.

Seating applications

BASF's seating applications were presented at the SGMW-BASF Tech Day in Cikarang, Indonesia. We offer a wide range of innovative solutions in polyurethane (PU) and polyamide for the car interiors. Elastoflex® W flexible PU foams are used for the automotive seating cushion application with a one-step process, which are lightweight with low VOCs. This creates a comfortable environment in the car cabin.

For more information, please see on.basf.com/2Gul3Vt



Powering e-mobility

- Comprehensive coatings and brake fluid solutions for NIO and Chehejia
- Lightweight solutions for new energy vehicle manufacturers

BASF is supporting China's new energy vehicle (NEV) industry with advanced battery materials, innovative lightweight solutions in engineering plastics and polyurethanes, automotive coatings, and brake fluid solutions, to enable the rapid development of e-mobility in China.

BASF is the sole supplier for automotive coatings and brake fluid for ES8, the high-performance smart electric sports utility vehicle of the Chinese NEV manufacturer NIO. Through joint development among NIO's design team in Germany and BASF coatings' global and local teams, ES8 uses BASF coatings solutions for surface pre-treatment and all coatings layers, as well as an advanced thin-film

technology for metal protection and waterborne coatings. Adapting its experience with gasoline vehicles to NEVs, BASF enhanced the safety and reliability of ES8's brake system with the brake fluid solution HYDRAULAN® 404. BASF has also been appointed as an exclusive coatings and brake fluid supplier by CHJ Automotive, a newly established Chinese manufacturer focusing on smart electric vehicles, to supply its first plant in Changzhou, Jiangsu Province.

To help NEVs further reduce energy consumption, in 2017 BASF developed solutions for electric vehicles including lightweight chassis, mounts, brackets and stabilizer links. These are among BASF's various lightweight solutions made of engineering plastics, supplied to leading Chinese NEV makers.



BASF's solutions create an attractive appearance and excellent performance for ES8, the first electric car from NIO.



The smart electric vehicle from Chehejia adopts coatings and brake fluid solutions from BASF.

Construction

The increasing urbanization of China's population will require new paradigms for urban environments, housing and construction. Sustainability is a crucial aspect of this process. BASF solutions help make buildings more durable, resource and energy efficient and more comfortable.

Long-lasting, sustainable urban infrastructure

- Prolonging the lifespan of wastewater tanks in Shanghai
- Anti-corrosion protection for Hangzhou Bay Bridge
- Coastal protection on Hengsha Island
- Utility poles withstand severe weather in Chinese cities and mountainous regions

The accelerating urbanization of China demands robust and sustainable infrastructure that ensures quality of life for citizens while reducing environmental impact.

One BASF solution helps tackle this issue in wastewater tanks. BASF has applied its new polyurea coatings solution MasterSeal® 7000 CR to tackle corrosion in all of the mixed chemical sewage tanks at Sino French Water's Shanghai plant, and consequently prevented sewage from polluting urban ground water. This non-solvent coatings system is highly resistant to abrasion and biogenic sulfuric acid corrosion, thus withstanding severe conditions involved in various treatment processes at the plant, including homogenization, neutralizing, anoxic ponds, aeration and secondary sedimentation. Thanks to its high moisture tolerance and water-proofing properties, the application of



MasterSeal 7000 CR is applied to the sewage tank of Sino French Water's Shanghai plant.



BASF's underwater grouting technologies help to protect bridges against seawater corrosion.

MasterSeal 7000 CR was successfully completed in the plant even in the rainy season of Shanghai, for an area of 12,000 m², the largest among its global applications to date.

With a set of underwater grouting technologies, BASF contributed to protecting the Hangzhou Bay Bridge in China's east coast against the chloride corrosion of seawater. The Advanced Pile Encapsulation system prevented seawater from penetrating into the bridge pile by sealing the bottom between the concrete jacket and the pile cap. The protection was further enhanced by two locally developed solutions. As a high-strength repair mortar, MasterEmaco S 188 was applied to the bottom of the pile cap, while MasterRoc® MP 709, a highly reactive two-component acrylic grouting resin, was injected into the gap between the concrete jacket and the pile cap.



Elastocoast slope protection system is used at Hengsha Island in Shanghai.



Polyurethane composite utility poles help ensure power supply in China's mountainous regions.

In 2017, BASF applied Elastocoast® for the first time in China to the coastal revetment of several regions, among which Hengsha Island in Shanghai was the largest area of application. The 108-meter slope protection system neutralized the impact of massive waves from China East Sea, resulting from its porous structure mixed by mechanically bonded gravel and a two-component polyurethane plastic. Construction of over 1,000 square meters was done within three weeks by conquering the challenges posed by tides as well as underwater curing in low temperatures. With its cavities, the system also provided potential habitats for various benthos in the estuarine wetland of the island, while these organisms serve as a vital source of food for migratory birds coming to the island.

In the typhoon-ravaged Guangdong Province, BASF helped secure urban electricity supply with its highly wind-resistant polyurethane (PU) utility poles. A locally developed innovation, these utility poles use a high-strength and high-flexibility PU composite Elastolit®, made by compounding glass fiber and PU through filament winding process to reach higher strength. Applications of these

lightweight and installation-friendly utility poles were further extended to mountainous regions such as the Yellow Mountain in Anhui Province and the plateau in Yunnan Province, to restore power following blackouts caused by severe winter weather.

Reducing energy in construction with prefabrication

- CPC wall insulation system and sealant technology

A prefabricated building (prefab) is constructed by assembling factory-made components or units on-site. The prefab ensures better quality control of the components and accelerates the building process, thus reducing energy consumption and on-site construction waste. The Chinese government is making it mandatory nationwide for 30% of new buildings to be prefab before 2025¹.

BASF is stepping up its efforts to co-develop prefab solutions with local partners, led by its Industry Team Construction China. The solutions can adapt CPC (Concrete-Polyurethane – Concrete) wall systems to the specific building structure and production process in China. Sandwiching the polyurethane foam between two layers of concrete, CPC proves better insulation properties without increasing the wall thickness, while simplifying construction through an innovative semi-automated injection process.



Building prefabrication makes on-site construction more efficient and ensures better quality control of building components.

BASF is also introducing its advanced polyurethane sealant formulation technology to China's prefab industry, to enhance the watertightness and safety of the buildings, and provide further potential for local production. Together with leading Chinese companies in the industry, BASF strives to promote sustainable construction by contributing to new industry standards for prefab.

¹ Guidelines on developing prefabricated buildings by General Office of the State Council of the People's Republic of China

Food and nutrition

In 2050, nearly 10 billion people will live on this planet, and to feed and meet the demands of the future global population is a challenge. BASF is committed to the health and welfare of both people and the natural environment, with innovative products and solutions along the entire food supply chain. This includes solutions to support sustainable agriculture, safety of food processing and food contact materials, and the personalization of nutrition for specific needs.

Better yields with environmental benefits

- Solutions for soil protection and water retention
- Protecting field crops from fungi

BASF develops innovative solutions for growers to achieve better yields while minimizing environmental impact. Agnique® IR, an agrochemical polymer, treats soil without compromising fertility. Through crumb stabilization and fines flocculation, Agnique IR can stabilize soil structure and facilitate infiltration of water into soil, with only a low dosage in application. In 2017, Agnique IR was applied for the first time in China to the sandy soils in Hainan Province for the cultivation of watermelon. It helped keep the water in soil about 30% longer after irrigation, thus saving water and energy consumption as well as reducing the outdoor work for farmers in hot weather.

As a leading solution provider of crop protection, BASF is extending its expertise in specialty crops to field crops in China. Seltima® and Opera®, two fungicides from the Agcelence® family for field crops, are highly recognized by Chinese farmers and authorities. In 2017, more than 200,000



The suspo-emulsion fungicide Opera provides preventive control of diseases in maize.

hectares of rice were treated with Seltima and around 300,000 farmers benefited from its effectiveness in disease prevention and treatment as well as better yields of the crops. It also became the first officially-registered pyraclostrobin fungicide with safe application for rice in China. Applications of Opera in 2017 also increased significantly compared to 2016, providing both disease prevention and treatment for around 180,000 hectares and 540,000 farmers. Both were listed as recommended products of the year by the National Agricultural Technology Extension Service Centre and several Chinese provinces.

Food safety in processing

- UCRETE® flooring ensures safer food processing
- Paper coating binder Basonal® reduces VOCs in the food contact board
- Specialty plastic Ultrason® resists high temperatures in cooking

Keeping abreast with new food safety regulations in China, BASF is supporting local manufacturers in food-related industries to meet stringent standards throughout the value chain, from processing, packaging to cooking at home.

BASF is contributing to higher standards of meat quality, hygiene and safety for Tianjin Guoshun Meat Manufacturing Company (Guoshun). The UCRETE flooring system, a unique polyurethane resin technology, was applied in Guoshun's meat handling and manufacturing areas. UCRETE provides a floor surface of high durability and resistance to chemicals, thermal shock and slip, while hindering bacterial or fungal growth. The system is among the few worldwide approved by Hazard Analysis and Critical Control Path (HACCP), an international food safety system against food contamination. The qualification will support Guoshun in meeting higher standard of quality and ensuring quality as the exclusive meat supplier for the 13th National Games of the People's Republic of China held in Tianjin in 2017.

In China, the new regulation GB 9685-2016 for food contact materials has set higher hygienic standards for food packaging and tightened measurement for volatile organic compounds (VOCs). The research and development team at BASF in China developed the low-VOC and low-odor paper coating binder Basonal FCB for food contact boards, which does not contain any non-permitted food contact additives. It meets the stringent GB 9685-2016 food safety regulations by minimizing the amount of key odor-causing components typically found in conventional styrene-butadiene chemistry to almost non-detectable levels. Other crucial additives identified



The low-VOC and low-odor paper coating binder Basonal FCB meets the stringent GB 9685-2016 food safety regulations.

as potential sources of odor were also eliminated in the polymerization process. These innovative developments resulted in odor free lattices and the lowest possible total VOC levels without compromising printability. Basonal FCB has been recognized by major Chinese packaging manufacturers for various types of food packaging in China.

BASF's amorphous thermoplastic, Ultrason E2010, ensures food safety in cooking. When applied in the cooker lid, the specialty plastic is highly resistant to high temperatures, food colorants and cleaning agents with a longer functional life span. Complying with regulations for food contact applications in the United States and Europe, it also meets the requirements of the Chinese regulation GB4806.6 on food



When applied in the cooker lid, Ultrason E2010 can resist high temperature, food colorants and cleaning agents.

safety standards for plastic resins used in food contact. Major international manufacturers of high-end cooking utensils have adopted the material in their new products.

Personalized nutrition solutions

- Personalized nutrition solutions co-developed with By-Health
- Research funding for studies on Asian demographics and diets

Consumers are increasingly interested in nutritional benefits of what they are eating, the effectiveness of exercise and the efficacy of nutritional supplements. With its broad portfolio of science-based health concepts and solutions, BASF Newtrition® has entered a 10-year cooperation agreement with By-Health, a leading supplement brand in China, to co-develop concepts and technologies for personalized nutrition solutions to better meet the evolving needs of consumers and to conduct



The high-efficacy soy powder supplemented with plant sterols is proven to lower LDL-cholesterol by up to 15%.

joint clinical research on sarcopenia¹ in the elderly. BASF also supports researchers in Asia Pacific in their studies of nutritional topics relevant for the region's demographics and diets through its Newtrition Asia Research Grant program, first launched in 2012. In 2017, using a prototype of the plant sterol enriched soy milk beverage, a study funded by the grant proved the efficacy of plant sterols in reducing cardiovascular disease risk factors among Chinese elderly with mild to moderately high cholesterol level².

¹ Sarcopenia is the age-related degenerative loss of muscle mass, strength and function that affects balance, gait and overall ability to perform essential daily tasks.

² The study recruited 170 men and women (aged 55 – 65) with mild to moderately high cholesterol. Respondents were given either two grams of plant sterols in 30 grams of soy milk or a placebo. After daily intake for six months, respondents in the group supplemented with plant sterols observed a significant reduction in total cholesterol by 9.3% and LDL-cholesterol by 11.4% without any effects on HDL-cholesterol.

Home living

Homes, the places where people spend much of their time, need to be a safe, clean and durable environment. As the world's leading chemical supplier for interior paints, furniture materials and ingredients for home care products, BASF provides innovative and sustainable solutions to enable healthy indoor living in ordinary households.

Sustainable furniture

- Improving the value chain of the furniture industry
- MDI adhesive for wooden furniture

In view of higher environmental standards and greater consumer demand, Chinese furniture manufacturers are working to enhance sustainability and product quality through innovation in both materials and design. The goal for leading furniture brand owners is to secure long-term access to sustainable material and change the way the industry works. It is vital that all suppliers comply with their specific technical standards.

With our expertise and global know-how, BASF has been collaborating with leading local furniture manufacturers and provided solutions from design to production. Through workshops with designers and manufacturers for new furniture models, new ideas were translated into solutions. BASF's



Chairs and furniture made with BASF's solutions and technologies are durable and comply with environmental regulations.

innovative "shape-in-once" technology for molded foam enabled design flexibility and shortened the production process. Polyurethane and engineering plastic solutions were also successfully applied by furniture manufacturers in East and South China. The collaboration contributed to the sustainability goals of the furniture brand owners and improved quality along the value chain of the Chinese furniture industry.

Methylene diphenyl diisocyanate (MDI), a chemical used primarily for the production of polyurethane foam, is also used



Adhesives from MDI prevent VOC emissions in wooden furniture and ensure stronger wood binding.

to make high-performance adhesives for wooden furniture. It ensures much stronger binding of wood and a longer shelf life, with permanent water resistance at room temperature. MDI can effectively replace phenol formaldehyde or melamine fortified urea formaldehyde in most wood-based panels.

BASF is extending its global expertise and local production capabilities of MDI adhesive technology to the wood-based panels in China. BASF offers a comprehensive solution that can be used with China's wide variety of woods, and has tailored local production processes to the specific demands of Chinese manufacturers. This results in higher quality, stability and better physical properties than similar products in the market. With MDI production in Caojing, Shanghai, and Chongqing, BASF supplies MDI adhesive solutions to Dare Global Wood, Asia's largest manufacturer of wood-based panels.

Eco-friendly household cleaners

- Supporting industry transition to concentrated liquid laundry detergents
- Extending industrial cleaning technology to household automatic dishwashers

The Chinese detergent industry has been moving from powder to liquid laundry detergents (LLDs) over the past decade. Compared to powder detergents, LLDs are more convenient and safer to use, with appealing product esthetics and lower resource consumption. The latest concentrated and ultra concentrated liquid laundry detergents (CLLDs) will further save energy and water.

Combining the functional polymer Sokalan® HP 20, the mild and natural based surfactant alkyl polyglucoside and the high performing optical brightener Tinopal® CBS-X, BASF has developed an innovative solution for CLLDs for Chinese households. Just a small amount of detergent, easily diluted into water, results in high performance washing. To this end, BASF works closely with the China Cleaning Industry Association (CCIA) and leading companies to promote the transition to CLLDs among local detergent manufacturers. Together with this association, in 2016 and 2017 BASF co-organized several industry forums on this topic. BASF helped a top Chinese detergent manufacturer to develop its first CLLD. The solution has now also been applied in products from other major LLD producers, including regular LLD and detergent pods.

As automatic dishwashers are becoming popular in Chinese households, safe and highly efficient detergents with a lower environmental impact are in demand among manufacturers and consumers.

Previously applied in hotels and restaurants, the chelating agent Trilon® M is a high-performance phosphate alternative for



Concentrated liquid laundry detergents improve washing efficiency and reduce environmental impact.



When applied in automatic dishwashing detergents, Trilon M is readily biodegradable and safe for both the environment and people.

automatic dishwashing detergents. Capable of binding hard water ions effectively with its small molecules, it can prevent lime scale buildup on the dishes during the dishwashing cycle. Suitable for applications in both liquid and solid forms, Trilon M is readily biodegradable and safe for both the environment and people. In 2017, it was applied in automatic dishwasher detergent by customers in China.

BASF has been a key member of CCIA and National Standardization Technical Committee on Surfactants and Detergents (SAC/TC272) for several years, cooperating closely with associations and customers. In 2017, we further proposed a list of components for food contact detergents and provided relevant safety and technical information, including Trilon M, to the China Research Institute of Daily Chemical Industry. The proposed components will serve as a reference for industry associations in establishing a positive list of food contact detergent raw materials.

Healthy indoor environments

- **Formaldpure™ catalyst removes formaldehyde in the air**
- **Near-zero VOC dispersion for fresher indoor air**

Formaldehyde is a common indoor air pollutant found in homes and office buildings, and at elevated levels it can be highly irritating to the eyes, nose and lungs. Leveraging its broad catalyst portfolio and experience, BASF has introduced its formaldehyde removal solution Formaldpure in China, the first market before going global. By oxidizing formaldehyde catalytically into carbon dioxide and water, Formaldpure can purify the air in residential, commercial and public buildings, and use less energy than carbon-based solutions. Cross-regional teams from BASF Greater China and the United States successfully developed a new catalyst and coating technology for this new field of application and ensured it performs efficiently and durably at room temperature. They also worked closely with international and local original equipment manufacturers, distributors and raw material suppliers to tailor-make the solution for various Chinese air purifier brands. BASF will further extend its catalyst solutions to tackle indoor pollutants other than formaldehyde.



Ordinary households are affected by various air pollutants.



Improving indoor air quality is a vital issue for Chinese households.

In the paints with Acronal ECO 7653, **0.27g/L** of TVOC level based on C14¹ is recorded in a comparison test

Chinese consumers and property developers are increasingly looking for safer products with less volatile organic compounds (VOCs), low odor, and high functional performance such as stain resistance and high durability. In response to the market demand, BASF brought business teams, researchers, developers, technicians and production experts together in the innovation process to find the right polymer dispersions for architectural coatings. Through close collaboration with key paint producers from an early stage and with first-hand feedback from customers, the team developed the innovative third-generation water-based premium dispersion for interior paints, Acronal® ECO 7653. This new solution delivers near-zero VOCs, with its TVOC (total volatile organic compounds) level as low as 0.27g/L, much lower than the 20g/L required by the Chinese Green Standard (JG/T 481-2015). Although low VOCs do not necessarily mean low odor, an odor sniffing test proves that paints with Acronal ECO 7653 have the lowest possible odor level. Acronal ECO 7653 also accommodates stain resistance and burnish resistance properties in paints, and is suitable for both residential and commercial buildings and mission critical infrastructures, such as operating theaters, isolated wards, MRI system room, radiology laboratories, and microelectronic manufacturing.



Interior wall paints with Acronal ECO 7653 secure a healthy indoor space for both adults and kids.



Particle size distribution of dispersions

The particle size distribution (PSD) of a polymer dispersion influences properties such as mechanical stability, viscosity, and water whitening resistance.

Leveraging the analytical competencies of BASF Innovation Campus Shanghai, the development of Acronal ECO 7653 adopts the method of capillary hydrodynamic fractionation to analyze the PSD of the dispersion.

¹ C14 refers to 14 carbon units, used in the measurement of VOC with an average length of C14 and a maximum boiling



Employees and Society

Employees

Employees forming the “best team” are the foundation of our excellent performance and ensure our long-term success: their skills, commitment and motivation make BASF competitive and fit for the future. This belief is seen in the tangible efforts and resources we put into the development of the employees as well as into company sponsored activities to strengthen the team. As of the end of 2017, BASF in Greater China had a total of 8,982 employees (2016: 8,805).

Number of employees (as of December 31)

2017	8,982	<div style="width: 100%;"></div>
2016	8,805	<div style="width: 97%;"></div>
2015	8,416	<div style="width: 93%;"></div>

Recruitment

- BASF “Grow” Graduate Program®
- Apprentice program for production operators
- Practice teaching program for full-time professional Master candidates with ECUST

Finding new talent is essential to BASF’s human resource strategy. By offering a variety of programs for fresh graduates, BASF collaborates with Chinese universities and vocational schools to cultivate the next generation of our talent pool.

The 24-month BASF “Grow” Graduate Program® prepares the talent pipeline at the entry level. Coached by designated mentors, each trainee experiences three to four rotations in three professional areas – business and functions, manufacturing and engineering, and research and development. In 2017, BASF conducted a special series of campus talks. This series reached more than 2,500 students at eight key universities, among other outreach activities in more than 100 universities across Greater China. Additionally, we initiated online campus talks in 2017, engaging with 6,800 students from more than 660 universities both at home and abroad. So far, the program has helped BASF enroll several hundred trainees in China, and many of them are now working at key positions in the company.

The joint apprentice program “ROOTS - Operator” enriches the pool of production operators. Since 2015, we have run the program with Shanghai Petrochemical Academy (SPA), including joint professional training sessions and a twelve-month internship at BASF production sites in Greater China. Many of the participants are already employed at BASF.

BASF jointly runs the practice teaching program for full-time professional Master candidates with Eastern China University of Science & Technology (ECUST). Composed of full-time classroom lectures in the first year and a half-year internship at BASF, the program allows the students to combine theory with practice – especially with a BASF mentor’s one-on-one coaching and on-the-job training during the internship.

Career Development

- Multiple learning opportunities for diverse needs
- Leadership Impact Model introduced
- New development track for R&D employees

At BASF, each employee is expected to actively shape his or her own development. To support this, we offer a variety of learning opportunities and career patterns to help employees reach their aspirations.

As a learning organization, BASF provides a wide range of opportunities, from classroom sessions to online courses, for various stages of career development. In 2017, we held courses for units and sites throughout Greater China, targeting at diverse business needs and operational excellence. The Marketplace of Connected Minds (MoCM), a regular regional training program, offered deeper insight into the business in general and facilitated exchange across the region. In 2017, training courses were also extended to the new online platform Micro-learning@BASF to supplement face-to-face learning. In the first six months, the new platform enabled over 1,000 employees to make use of gap time for learning. Jointly hosted by BASF and SPA, an Operator Summer Camp helped the operators at BASF to intensify their job-related knowledge and skills. Since its launch in 2016, 40 operators have completed the program by the end of 2017, covering pumping, distillation, absorption, drying, heat transfer, chemical instruments, process control and chemical process.

Developing leadership excellence is another priority of our employee development strategy. Launched by BASF globally in 2017, a new Leadership Impact Model connects the three fundamental dimensions of strategy, operations and people. Held in both virtual sessions and workshops, the model has been adopted by units throughout BASF in Greater China, coupled with follow-up sessions on self-reflection and feedback.



BASF offers a variety of learning opportunities to employees.

Students attend the BASF Campus Talk session. Each year, Campus Talk events attract thousands of students from top Chinese universities to get to know BASF.

To diversify the career patterns for its employees, BASF launched a new career track for research and development (R&D) employees in Asia Pacific in 2017. The new R&D Specialist Track aims to recognize contributions and outstanding performance of its specialists, as well as to build up a strong collaborative network for innovation.

EAP workshops were held at offices and sites around mainland China. In Taiwan, the program also provides employees with personal legal, financial and medical counseling in addition to psychological consultation.

BASF's Joint Trade Union further contributes to the harmonious and enjoyable working environment of the company. Focusing on culture and education, a variety of

Working at BASF

- Meeting needs of employees at different career stages
- Employee Assistance Program
- Joint Trade Union activities

BASF strives to meet the needs of its employees at different stages of their career, by tailoring benefits, lifelong learning and development opportunities, an inclusive, safe and collaborative working environment, as well as competitive compensation. In 2017, we further developed this approach by extending awareness throughout the organization.

The Employee Assistance Program (EAP), first launched in Greater China in 2013, offers psychological and emotional support to employees and their families. Employees can call a round-the-clock hotline which is answered by external qualified professionals and treated with strict confidentiality. In 2017,



The young journalist group consists of employees' children, who act as journalists to report major events held by the company.

you@BASF

PERIODIC TABLE

BASF strives to meet the needs of employees at different stages of their career.

activities were held in 2017, such as the launch of a “mobile library”, a poetry society, a young journalist group and a kids’ Christmas party.

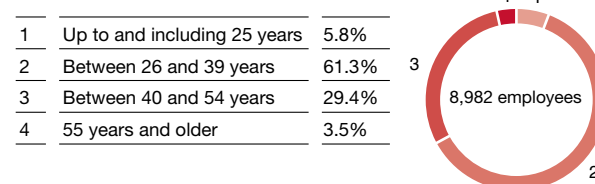
For the eighth consecutive year, BASF has been certified as one of China’s Top Employers by the Top Employers Institute, this year ranking third. BASF was also awarded “Employer Excellent China 2017” by 51job.com for the eighth year, and acknowledged in the category of “Excellence in Employee Development Planning”.

Inclusion of diversity

For BASF, inclusion of diversity is one of the essential keys to business success and the well-being of its employees. We promote an inclusive culture that embraces the diversity of people, experiences and capabilities, with the aim to boost creativity and motivation, and enhance the teams’ performance.

All employees are offered equal opportunities at BASF regardless of gender, race and age. In 2017, the largest proportion (61.3%) of employees at BASF in Greater China was in the 26-39 year-old range (2016: 62.2%).

BASF employee age structure as of December 31, 2017 (%)
(Proportion of employees %)



Compliance

- BASF expects and promotes commitment to laws, labor standards and business ethics
- Comprehensive system of compliance management

Compliance with national laws and the core labor standards of the International Labor Organization forms the basis of BASF’s operations around the world and in Greater China. Commitment to the highest standards of legal compliance and business ethics runs deeply through the entire organization. To this end, our globally standardized Code of Conduct summarizes important laws and corporate policies that govern the behavior of all BASF employees in their dealings with business partners, officials, colleagues and society. The Code of Conduct is supplemented by further internal guidelines such as the Asia Pacific Gifts & Entertainment Guidelines of BASF.

At a global level, BASF’s Chief Compliance Officer reports directly to the Chairman of the Board of Executive Directors and manages the further development of its global compliance organization and its Compliance Management System. He is supported in this task by more than 100 compliance officers worldwide in the regions and countries, including Greater China, as well as in the divisions. All employees are required within a prescribed time frame to take part in basic compliance training, refresher courses and special tutorials.

In 2017, BASF held a special series of more than 50 live compliance training sessions in Mainland China, including initial compliance training for new BASF employees, comprehensive compliance sessions and tailor-made anti-trust workshops. Those training efforts, in addition to mandatory electronic training sessions, covered more than 2,700 employees in Greater China. Legal and compliance team in Greater China was invited by business partners of BASF to share more information about BASF’s well-established compliance program.

BASF particularly encourages its employees to actively and promptly seek guidance if in doubt. For this, they can consult their managers, dedicated specialist departments, and company compliance officers. BASF has also set up external compliance hotlines worldwide, including in Greater China, which employees can use – also anonymously – to report suspected or actual violations of laws or company guidelines. All hotlines are also open to the public. Each report is documented according to specific criteria, properly investigated in line with standard internal procedures and addressed as quickly as possible. The outcome of the investigation as well as any measures taken are documented accordingly and included in internal reports. Several cases have been investigated in Greater China in 2017, some of which resulted in additional control measures and other consequences.

BASF’s Corporate Audit department monitors adherence to compliance principles, covering various areas in which compliance violations could occur. Overall, the audits confirmed the effectiveness of the compliance management system both in Greater China and around the world.

BASF’s business partners in sales are monitored for potential compliance risks based on the Guideline on Business Partner Due Diligence, which has been in effect since 2015, using a checklist, a questionnaire and an internet-based analysis. A dedicated global Supplier Code of Conduct applies to its suppliers.

For more information on the BASF Code of Conduct, please visit basf.com/code_of_conduct

Occupational health and safety

Occupational health

- **Global standards for corporate occupational health management**
- **2017 global Health Campaign focusing on lung and respiratory health**

BASF Corporate Health Management system promotes and maintains the health and productivity of its employees. Supported by numerous emergency drills and health promotion measures, our worldwide standards for corporate health management are specified in a directive implemented by a global network of experts.

BASF's 2017 global Health Campaign focused on lung and respiratory health. Based on a self-evaluation in the form of a questionnaire, employees received individual recommendations and were offered lung function testing. If pathological symptoms were indicated in the testing, they were provided further consultation with a physician. In Greater China, the Health Campaign took place at almost all production sites and offices, including a "smoking cessation program" at certain sites. Respiratory protection devices used at production areas were checked in terms of model selection, fit testing and equipment hygiene maintenance, etc. We also carried out a Chemical Health Risk Assessment Program covering all chemicals at production areas in 2017. These activities complemented the health checks offered to employees regularly, and chemical management at the workplace.

In 2017, BASF audited a number of sites with respect to occupational health in Greater China. In addition, for several sites with low to medium health risks, health performance control visits were arranged.

For more information on occupational medicine, health promotion campaigns and the Health Performance Index, see basf.com/health

Occupational safety

- **Employees and contractors instructed on safe behavior**
- **Global Safety Days focus on order, cleanliness and housekeeping discipline**

The safety of employees, contractors and neighbors is the top priority at BASF. To this end, we have set ambitious goals for occupational safety and constantly monitor progress towards these goals with a set of comprehensive preventive measures.

In order to prevent work-related accidents, BASF promotes risk-conscious behavior and safe working practices for every individual, while constantly refining and enhancing safety requirements. In 2017, complementary training sessions on safe procedures were held to strengthen risk awareness among its employees and contractors. We implemented measures such as systematic hazard assessments, specific and ongoing

qualification measures and safety initiatives. To further eliminate risks from the source, BASF analyzes accidents, incidents and their causes in detail, from which hazard analyses and risk minimization measures were derived as prevention tools. In addition, regular dialog sessions at sites were conducted for best practice sharing and, most importantly, the cultivation of a safety culture.

Guided by its global safety initiative, BASF has been cultivating safety culture through various campaigns. With activities at more than 30 sites and offices in Greater China, our 2017 Global Safety Days focused on order, cleanliness and housekeeping discipline to help reduce the risk of accidents. A total of 6,300 employees and contractors attended the campaign.

More than
30
sites and offices in Greater China held special events during 2017 Global Safety Days

Globally, BASF has set its goal to reduce the lost-time injury rate per one million working hours to 0.5 at most by 2025¹. In 2017, the lost-time injury rate per million working hours at BASF sites in Greater China was 0.3 (2016: 0.5). The rate for contractors increased to 0.5 in 2017 (2016: 0.4). Unfortunately, an operator from a contractor company passed away after a traffic accident at one site in 2017. Following the accident, we immediately organized comprehensive traffic safety optimization programs including refresher training on traffic safety for employees and contractors on site. Additional measures were reviewed based on the cause of the accident.

Lost time injury rate - BASF employees and leased personnel (per million working hours)

2017	0.3	<div style="width: 30%;"></div>
2016	0.5	<div style="width: 50%;"></div>
2015	0.5	<div style="width: 50%;"></div>

Fatalities (total)

2017	1	<div style="width: 10%;"></div>
2016	1	<div style="width: 10%;"></div>
2015	1	<div style="width: 10%;"></div>

Lost time injury rate - contractors (per million working hours)

2017	0.5	<div style="width: 50%;"></div>
2016	0.4	<div style="width: 40%;"></div>
2015	0.3	<div style="width: 30%;"></div>



The "Safety Champion" program is rolled out at Greater China sites to improve safety awareness and share best practices among operators.



An operator fills a drum while wearing a face shield.



On-the-spot safety instruction



A utility hole protection net prevents injuries from falls.



Emergency shower facilities can be found in every plant and laboratory.

¹ For 2018, BASF will adapt its reporting on accidents and incidents to the recommendations of the International Council of Chemical Associations (ICCA), the European Chemical Industry Council (CEFIC) and the German Chemicals Industry Association (VCI). To implement these recommendations, we also have to convert our targets. Consequently, its goal from 2018 onward is to reduce occupational safety incidents to a rate of no more than 0.1 per 200,000 working hours by 2025.

Social engagement

Through social engagement at BASF, we aim to contribute to the United Nations Sustainable Development Goals through two approaches: Corporate Citizenship and Starting Ventures. Through our not-for-profit projects, we improve the quality of life of the communities around our sites and worldwide. We also initiate business-oriented projects to improve the quality of life of low-income consumers and value chain partners in developing and emerging countries.

Stakeholder engagement

- Community Advisory Panels for dialog with residents of the local communities
- Open Day at major sites in Greater China
- Stakeholder dialog sessions with Chinese NGOs

To enhance mutual understanding with various key stakeholder groups in Greater China, BASF conducts open dialog in a variety of forms, to better support the needs of the community where we operate.



Dr. Stephan Kothrade, President Functions Asia Pacific and President and Chairman Greater China, BASF, greets new members of the Shanghai Pudong CAP.

BASF supports many Community Advisory Panels (CAPs) around our larger production sites worldwide. Members of CAPs are elected from the local communities to regularly and openly discuss common issues of mutual interest with the management of BASF. In Greater China, BASF supports CAPs in Shanghai, Nanjing, Chongqing and Taiwan.

In 2017, the new term of 19 CAP members at BASF Shanghai Pudong Innovation Park was selected from more than 160 applicants from the neighborhood. With diverse backgrounds, they will continuously foster open and transparent dialog between BASF and local residents.

At BASF-YPC Co. Ltd. (BASF-YPC), the 50:50 joint venture Verbund site of BASF and SINOPEC in Nanjing, a dialog session on environmental impact is held annually to foster exchange among the management of BASF-YPC, its neighboring community, officials from local authorities and environmental experts.



Marko Murtonen, General Manager of BASF Chongqing site, explains product applications to Chongqing CAP members during their visit to Huafon Group, a customer of BASF.

For the first time, the Chongqing CAP visited a customer of BASF, Chongqing Huafon Chemical Co. Ltd. Members were introduced to BASF's role in downstream industries.

BASF invites members of the neighboring communities to open days at various sites in Greater China. BASF-YPC welcomed more than 120 residents from the neighborhood to its 2017 Open Day. Through a guided tour and various activities, participants were able to gain a clearer understanding of BASF-YPC's safe production systems and its advanced energy saving and waste treatment measures.



The BASF-YPC Open Day attracts local residents from nearby communities.

BASF Maoming Petrochemical Co. Ltd., a joint venture between BASF and SINOPEC, held the first BASF Day together with the local Maoming Municipality featuring chemistry-based applications, attracting more than 300 visitors from the neighboring communities, government organizations and local schools.

The BASF site in Shanghai Caojing combined its annual Firefighting Sports Day with the Open Day event of Shanghai Chemical Industry Park, attended by 300 members of the community. As the only foreign-invested company to win the Shanghai 119 Firefighting Advanced Group Award, BASF sought to raise safety awareness and emergency response level of the whole park, in which it plays a leading role.

In November 2017, representatives from 12 Chinese environmental and educational non-governmental organizations (NGOs) across the country were invited to BASF's annual stakeholder dialog event in Shanghai. Highlighting the topic of water challenges and protection, BASF executives and experts exchanged their views with NGOs and shared experiences and innovative solutions in sustainable water management. Participants also visited Shanghai Waterworks Science & Technology Museum at Shanghai Yangshupu Water Plant, the oldest water plant with surface water as its source.

Corporate citizenship

- Collaboration with Songshuhui-Association of Science Communicators
- Donation of LED light bulbs for school children near Kuanyin site
- Donation of materials for school renovation

BASF supports initiatives that have a long-term impact, and develops its not-for-profit activities in cooperation with partners and target groups, while strengthening existing projects.

In 2017, BASF organized public science education programs with the Songshuhui-Association of Science Communicators, a leading Chinese non-profit science education organization. The science salons attracted over 200 participants, while an online discussion on scientific thinking generated over 7.5 million views and responses.

BASF also collaborated with NPI Foundation, one of the largest agencies supporting the development of the social sector in China, to launch the "Clean Water Class" public education program in Shanghai, to raise public awareness of clean and safe drinking water, and to foster interest in science. Around 50 local school students, NGO staff and community members participated in the first of a series of interactive workshops, which will be rolled out throughout 2018. Along with the education program, BASF donated seven terminal water purification systems valued at over CNY 400,000 to two shared NGO incubation facilities in Shanghai. The donated

systems, powered by BASF's leading ultrafiltration membrane technology, provide a reliable source of drinking water directly to the 60 NGOs and cater for around 60,000 visitors each year.

BASF's Kuanyin site in Taoyuan, Taiwan, donated about 3,000 T8 fluorescent LED lighting tubes to two local primary schools with limited resources. BASF employees implemented the "Sunshine lighting project", to improve the lighting conditions in the classrooms with BASF's newly developed color converting technology. After installation, the average illuminance in the schools increased by about 50%, while the energy consumption dropped nearly 50%.



Kids are conducting interactive experiments at the "Clean Water Class".

In Hong Kong, BASF sponsored Nature Works 2017, an environmental leadership program organized by The Nature Conservancy. Under this program, 150 students in Hong Kong secondary schools developed conservation projects impacting their own schools. Three of the teams were also mentored by BASF volunteers.

BASF also joined Landsea Green Group Co. Ltd., the leading Chinese green property development operator and life service provider, in the "Green Bud Action" program, a

In 2017, BASF donated

¥400,000

worth of terminal water purification systems to benefit

60

non-governmental organizations

renovation project to improve indoor air quality at Chinese kindergartens. By providing low volatile organic compound interior wall coatings for free, BASF contributed to the renovation of ten kindergartens and two facilities for special needs children in China.

In recognition of our commitment to sustainability in China, BASF has received the “Best Corporate Citizenship” award from 21st Century Media Group for 13 consecutive years, and was the only chemical company awarded in 2017. Also for the first time, BASF was among the top three companies in the annual listing of “Outstanding Contribution for Fortune Global 500 Enterprises in China” by *Southern Weekly* newspaper. We have been included in this list for 11 consecutive years.



Primary school classrooms after the installation of T8 fluorescent LED lighting tubes using BASF's newly developed color converting technology.



BASF mentors in Hong Kong help students develop an implementation plan for their conservation project.



Employee volunteering

- Goodwill teachers
- Taiwan Volunteer Club

BASF sponsors various volunteering options and encourages its employees worldwide to participate.

For more than a decade, the “Goodwill Teacher” program has been supporting the Shanghai Association of Persons with Physical Disability (SAPPD) for its long-term initiative “Intellectual Assistance to the Disabled”. The initiative helps teenagers from disabled families who often face challenges at school and cannot afford extracurricular tutoring. Since 2005, BASF volunteers have been teaching oral English to these students during weekends. As an extension of the program, BASF set up a scholarship in 2006 and has financed hundreds of outstanding or underprivileged students. In 2017, we were awarded by SAPPD as one of the “Outstanding Companies for Intellectual Assistance to the Disabled” for the ninth consecutive year.

The BASF Taiwan Volunteer Club offers long-term support to social welfare organizations through public fundraising efforts and donations. In 2017, the club held a Christmas celebration and donated gifts to members of Kindgarden, a home to people with intellectual disabilities, and children at the Reindeer Children Home. Together with the Hsiuping Education Foundation, the club also holds a “career exploration camp” each year for middle school students from underprivileged families in Chiayi County. Students are encouraged to explore their vocational interests by learning about occupations such as music producers, bakery chefs, tea makers, sales representatives, social workers, and so on.



BASF was awarded by the Taiwan business publication *CommonWealth* magazine in its annual top 10 “Excellence in Corporate Social Responsibility”. BASF ranked second in 2017.

BASF Kids' Lab

- Almost 12,000 participants in Greater China in 2017
- “Clever Foodies” program launched for global 20th anniversary



Two children try the new “Clever Foodie” experiment at 2017 Kids' Lab in Shanghai.

Kids' Lab, a hands-on chemistry workshop for children aged 6-12, allows children to experience and discover the world of chemistry and science. To celebrate the global 20th anniversary of Kids' Lab, a new experiment program, “Clever Foodies”,



Since 2002, Kids' Lab has helped popularize the fun of chemistry education.

was created to foster dietary awareness and healthier eating habits among children. It was rolled out at Kids' Lab sessions throughout Greater China. Now young scientists can also click online to choose from a vast array of interactive experiments in the Virtual Lab. In 2017, a series of online experiments, named “Experiments with Dr. Bubbles”, were launched via WeChat in China. Updated on a monthly basis, the online experiments further engage parents and children to explore the magic of chemistry at home together.



A volunteer teacher instructs children about the experiment at Kids' Lab in Chongqing.

2017 marked 15 years of Kids' Lab in Greater China, with the number of participants reaching 11,939 by year end. To date, BASF has hosted a total of 184,078 participants in 11 cities in Greater China, including Shanghai, Beijing, Chongqing, Taipei, Kaohsiung and Hong Kong, supported by nearly 1,000 university students as volunteer teachers.

Since 2002, in Greater China,

184,078

children have participated in BASF Kids' Lab.

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