



We create chemistry

BASF in Greater China Report 2019





← **Cover photo:** Two colleagues discuss functional packaging coatings for food contact applications. From resins and additives that enhance packaging performance, safety and appearance, to certified biodegradable plastics, BASF provides a wide range of materials and solutions for sustainable food packaging.  For more information on sustainable food packaging, see page 42.

On this page: BASF's Verbund site in Ludwigshafen, Germany is the world's largest integrated chemical complex owned by a single company. It is also the cradle of the Verbund concept, where production facilities, energy flows and logistics are intelligently networked together in order to utilize resources as efficiently as possible.

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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 2019. 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, 2019.



Over the past decade, BASF has been continuously boosting its local production capabilities in Greater China.

BASF Group 2019 at a glance

Key data

		2019	2018	+/-
Sales ¹	million €	59,316	60,220	(1.5%)
EBITDA before special items ¹	million €	8,217	9,271	(11.4%)
EBITDA ¹	million €	8,036	8,970	(10.4%)
EBIT before special items ¹	million €	4,536	6,281	(27.8%)
EBIT ¹	million €	4,052	5,974	(32.2%)
Net income	million €	8,421	4,707	78.9%
ROCE ¹	%	7.7	12.0	-
Earnings per share	€	9.17	5.12	79.1%
Assets	million €	86,950	86,556	0.5%
Investments including acquisitions ²	million €	4,097	10,735	(61.8%)

		2019	2018	+/-
Employees at year-end		117,628	122,404	(3.9%)
Personnel expenses	million €	10,924	10,659	2.5%
Research and development expenses ¹	million €	2,158	1,994	8.2%
Greenhouse gas emissions ³	million metric tons of CO ₂ equivalents	20.1	21.9	(8.2%)
Energy efficiency in production processes	kilogram of sales product/MWh	598	626	(4.5%)
Accelerator sales	million €	15,017	14,284	5.1%
Number of on-site sustainability audits of raw material suppliers		81	100	(19.0%)

Segment data ⁴



Chemicals

Million €

Sales	2019	9,532
	2018	11,694
EBIT before special items	2019	791
	2018	1,587



Materials

Million €

Sales	2019	11,466
	2018	13,270
EBIT before special items	2019	1,003
	2018	2,400



Industrial Solutions

Million €

Sales	2019	8,389
	2018	9,120
EBIT before special items	2019	820
	2018	668



Surface Technologies

Million €

Sales	2019	13,142
	2018	11,199
EBIT before special items	2019	722
	2018	617



Nutrition & Care

Million €

Sales	2019	6,075
	2018	5,940
EBIT before special items	2019	793
	2018	736



Agricultural Solutions

Million €

Sales	2019	7,814
	2018	6,156
EBIT before special items	2019	1,095
	2018	734

¹ Restated figures, for more information, see basf.com/report

² Additions to intangible assets and property, plant and equipment

³ Excluding sale of energy to third parties

⁴ The segment data for 2018 has been restated to reflect the new segment structure. Figures do not include the construction chemicals activities presented as discontinued operations.

Welcome

Letter from the President

Dear Stakeholders,

The world is living through a peculiar period of time due to the coronavirus pandemic. The past months have demonstrated that only by working together – as individuals, companies and societies – can we succeed in overcoming the unprecedented crisis.

At BASF in Greater China, we have been taking extensive measures to protect our employees, to supply our customers and to support our communities in the best possible way. We strongly believe these efforts not only are essential for tackling the immediate challenges, but also are cues for our paths forward.

The past 2019 was also shadowed by a challenging macro environment. Trade conflicts, political uncertainties and lower demand from key customer industries weighed on our businesses. The company showed resilience in fighting a strong headwind: Our sales to customers in Greater China amounted to more than €7.3 billion (2018: €7.2 billion¹).

In 2019, we continued to invest in Greater China. We officially launched the smart Verbund project in Zhanjiang, Guangdong province and commenced building its first plants with an aim to supply advanced products and solutions to our customers in South China. We enhanced our R&D capabilities by inaugurating new facilities at the Innovation Campus Shanghai, including the regional Automotive Application Center and the Process Catalysis R&D Center. In addition, we started several new plants with increased production capacities to fulfill the market demands.

Sustainability is at the core of what we do at BASF. Sustainable production means lower impact on the environment and improved health and safety of people. In 2019, we managed to achieve emissions reduction and even better occupational safety performance in Greater China. We took continuous measures in process improvements and technology upgrades at the production sites. We aspire to fulfill our social responsibility by supporting local communities around the production sites. We engaged with stakeholders via open communication and diverse social engagement projects that contribute to people's well-being.



2019 marked the start of our organizational realignment to provide customers with a new experience at BASF. We are simplifying processes and procedures. We are transforming ourselves into a more agile and customer-centric company. Some strategic measures have already generated positive results. At the same time, we made strides in digitalization, especially in smart manufacturing and digital business models, to improve efficiency, enhance safety and boost business growth.

Greater China is an important market for the company's long-term profitable growth. By 2030, around two-thirds of growth in global chemical production will come from here. We want to participate in this growth by working even more closely with our customers and partners. Together we will overcome the challenge of the moment and build a viable and sustainable future for everyone.

A handwritten signature in blue ink, which appears to read 'Stephan Kothrade'. The signature is fluid and stylized, written in a cursive-like font.

Dr. Stephan Kothrade
President and Chairman Greater China, BASF

¹ The sales data for 2018 has been restated. Figures do not include the construction chemicals activities presented as discontinued operations.

The BASF Group

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 118,000 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 divided into the Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions segments.

Organization of the BASF Group in 2019

As of January 1, 2019, we have 11 divisions grouped into six segments as follows:

- **Chemicals:** Petrochemicals, Intermediates
- **Materials:** Performance Materials, Monomers
- **Industrial Solutions:** Dispersions & Pigments, Performance Chemicals
- **Surface Technologies:** Catalysts, Coatings
- **Nutrition & Care:** Care Chemicals, Nutrition & Health
- **Agricultural Solutions:** Agricultural Solutions

The segment data for 2018 presented in this report has been restated to reflect the new segment structure.

On December 21, 2019, BASF and an affiliate of Lone Star, a global private equity firm, signed an agreement on the sale of BASF's construction chemicals business. The purchase price on a cash and debt-free basis is €3.17 billion. The transaction is expected to close in the third quarter of 2020, subject to the approval of the relevant competition authorities. The Construction Chemicals division was previously reported under the Surface Technologies segment. The signing of the agreement had an immediate effect on the reporting of BASF Group. Retroactively as of January 1, 2018, sales and earnings of the Construction Chemicals division are no longer included in sales, EBITDA, EBIT and EBIT before special items of the BASF Group. Until closing, the income after taxes of the construction chemicals business will be presented in the income after taxes of BASF Group as a separate item ("Income after taxes from discontinued operations").

Following the approval of all relevant authorities, BASF and LetterOne completed the merger of Wintershall and DEA on May 1, 2019. In September 2018, BASF and LetterOne had signed a transaction agreement to merge their respective oil and gas businesses in a joint venture. Shareholder loans were replaced by bank loans in the course of the merger. Since May 1, 2019, BASF's participating interest in Wintershall Dea has been reported in the Consolidated Financial Statements of the BASF Group according to the equity method, with an initial valuation at fair value. The gain from the transition from full consolidation to the equity method is shown in income after taxes from discontinued operations.

Since May 1, 2019, BASF has reported its share of Wintershall Dea's net income in EBIT before special items and in EBIT of the BASF Group, presented under Other. BASF and LetterOne intend to list Wintershall Dea on the stock exchange by way of an initial public offering (IPO) in the second half of 2020, provided market conditions are suitable.

The disclosures and indicators in the Management's Report on sustainability in 2019 no longer include data on Wintershall. The construction chemicals business is included in the disclosures on environmental protection, health and safety, employees and compliance, but has already been removed from the sales-related sustainability figures. The business acquired from Bayer in 2018 is included in the indicators. For more information, see basf.com/report.

BASF's new segment structure allows for a more differentiated steering of our businesses according to their market-specific competitive environment. It increases transparency regarding the results of our segments and divisions and highlights the importance of the Verbund and value chains to our business success. BASF aims to clearly position its businesses against their relevant competitors and establish a high-performance organization to enable BASF to be successful in an increasingly competitive market environment.

Our divisions bear operational responsibility here and are organized according to sectors or products. They manage our 54 global and regional business units and develop strategies for the 76 strategic business units.¹

Our regional and country organizations help to leverage market potential. For financial reporting purposes, we organize the regional divisions into four regions: Europe; North America; Asia Pacific; South America, Africa, Middle East.

Together with our divisions, the three global research divisions – Process Research & Chemical Engineering, Advanced Materials & Systems Research and Bioscience Research – safeguard our innovative capacity and competitiveness.

Business processes such as the procurement of raw materials and services, production and transport to customers were the shared responsibility of the divisions and the functional units in 2019. Seven functional units and eight corporate units supported the BASF Group's business activities. The functional and corporate units provided services in the areas of finance, human resources, tax and legal, engineering, site management, purchasing and logistics, environmental protection, health and safety, investor relations, and communications. As part of the further development of the corporate strategy, in 2019 BASF embedded business-critical parts of its functional units into the divisions, such as engineering services, procurement and logistics. This increased customer proximity and improved customer-specific agility. We have also created leaner structures in our functional units, research and development and in governance functions.

¹ Excluding the construction chemicals activities presented as discontinued operations

Organizational realignment as of January 1, 2020

BASF has created the conditions for greater customer proximity, increased competitiveness and profitable growth with an organizational realignment as part of the implementation of its strategy. We are streamlining our administration, sharpening the roles of services and regions, and simplifying procedures and processes as part of our ongoing Excellence Program. Customer-focused operating divisions, cross-functional service units and regions as well as a lean Corporate Center are the cornerstones of the new organization.

The Corporate Center units support the Board of Executive Directors in steering the company as a whole. These include central tasks from the following areas: strategy; finance; law, compliance and tax; environmental protection, health and safety; human resources; communications; investor relations and internal audit.

In addition, four global service units were established: Global Engineering Services and Global Digital Services offer services for individual sites, globally for the divisions or other units of the BASF Group. Global Procurement makes purchasing even more effective. The newly established Global Business Services unit will be a global, flexible and demand-driven service unit that strengthens the competitiveness of the divisions and provides services in areas such as finance, human resources, environmental protection, health and safety, intellectual property, communications, supply chain and consulting.

The role of regions and countries is being sharpened. Going forward, they will primarily represent BASF locally and even better support the growth of business units with local proximity to customers.

The ongoing Excellence Program is expected to contribute €2 billion to EBITDA annually from the end of 2021 onward compared with baseline 2018. BASF expects a reduction of a total of around 6,000 positions worldwide until the end of 2021. This decrease results from the organizational simplification and from efficiency gains in administration, the service units and the operating divisions. In addition, central, functional and regional structures are being streamlined in the context of the announced portfolio changes.

Sites and Verbund

BASF has companies in more than 90 countries. We operate six Verbund sites and 361 additional production sites worldwide. Our Verbund site in Ludwigshafen, Germany, is the world's largest chemical complex owned by a single company that was developed as an integrated network. This was where the Verbund principle was originally established and continuously optimized before being implemented at additional sites.

The Verbund system is one of BASF's great strengths. We add value 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 intelligent Verbund principle for more than production, applying it for technologies, the market and digitalization as well. Expert knowledge is pooled in our global research divisions.

Procurement and sales markets

BASF supplies products and services to around 100,000 customers¹ 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 75,000 Tier 1 suppliers² from different sectors worldwide. They supply us with important raw materials, chemicals, investment goods and consumables, and perform a range of services. Important raw materials (based on volume) include naphtha, liquid gas, natural gas, benzene and caustic soda.

Business and competitive environment

BASF's global presence means that it operates in the context of local, regional and global developments and a wide range of conditions. These include:

- Global economic environment
- Legal and political requirements (such as European Union regulations)
- International trade agreements
- Industry standards
- Environmental agreements (such as the E.U. Emissions Trading System)
- Social aspects (such as the U.N. Universal Declaration of Human Rights)

BASF holds one of the top three market positions in around 70% of the business areas in which it is active. Our most important global competitors include Arkema, Bayer, Clariant, Corteva, Covestro, Dow, Dupont, DSM, Evonik, Formosa Plastics, Huntsman, Lanxess, SABIC, Sinopec, Solvay, Syngenta, Wanhua 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 of the BASF Group, BASF SE takes a central position: Directly or indirectly, it holds the shares in the companies belonging to the BASF Group, and is also one of the largest operating companies. The majority of Group companies cover a broad spectrum of our business. In the BASF Group Consolidated Financial Statements, 295 companies including BASF SE are fully consolidated. We consolidate seven joint operations on a proportional basis, and account for 25 companies using the equity method.

¹ The number of customers refers to all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.

² BASF considers all direct suppliers of the BASF Group in the business year concerned as Tier 1 suppliers. These are suppliers that provide us with raw materials, investment goods, consumables and services. Suppliers can be natural persons, companies or legal persons under public law.

Our Strategy

Corporate Strategy

At BASF, we are passionate about chemistry and our customers. To be the world's leading chemical company for our customers, we will grow profitably and create value for society. Thanks to our expertise, our innovative and entrepreneurial spirit, and the power of our Verbund integration, we make a decisive contribution to changing the world we live in for the better. This is our goal. This is what drives us and what we do best: We create chemistry for a sustainable future.

Today, the world is changing more rapidly than ever before, driven by demographic change and new digital technologies. Our customers in different industries and regions face diverse social and environmental challenges due to limited natural resources, climate change and the increasing demands of a growing global population. Chemistry is key to solving many of these challenges. By combining our unique expertise with our customers' competence, we can jointly develop profitable, innovative and sustainable solutions for these global challenges.

Our purpose reflects what we do and why we do it: 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. This is why we offer products and solutions that are designed to make the best use of available resources and help to overcome challenges.

Our aspiration is to be the world's leading chemical company and achieve profitable growth. We aim to primarily grow organically and thus are strengthening our customer focus. Our growth strategy is based on investment in strategic growth markets and innovation-driven sectors. The Asian market continues to play a key role here. With a share of more than 40%, China is already the world's largest chemical market and drives the growth of global chemical production. By 2030, China's share will increase to nearly 50% – and we want to participate in this growth. To further our growth in this dynamic market, we plan to build an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. We also want to expand our existing joint venture with Sinopec at the Verbund site in Nanjing.

Corporate purpose

We create chemistry for a sustainable future

Customer Orientation

Our customers are our number one priority. We want to view everything we do through the lens of customer relevance. BASF supplies products and services to around 100,000 customers¹ 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.

Customer focus and customer industry orientation

- **BASF puts customers at the center of its decisions and activities**
- **Closer dialog with our customers to increase customer satisfaction**

To be the world's leading chemical company for our customers, we want to further strengthen our customer focus throughout the entire organization. This is why we are aligning our business even closer with the needs of our customers.

Our diverse portfolio – from basic chemicals to high value-added products and system solutions – means that we are active in many value chains and value creation networks. As a result, we use various business strategies, which we flexibly adapt to the needs of individual industries. These range from cost leadership to tailored, customer-specific solutions for downstream products. This industry orientation is primarily driven forward and enhanced by the divisions. Around half of our business units are oriented toward specific industries.

We are continually refining our organization to even better meet the different needs of our customers. In 2019, we embedded significant parts of our functional services – including parts of research and development, IT, procurement, human resources and communications – into the operating divisions. This makes the operating divisions more agile, enabling them to target specific market demands and differentiate themselves from the competition. We also simplified processes to make the way we work more effective, more efficient and more agile. The objective is to satisfy customer requests in a more focused and targeted way and improve our reaction times so that our customers experience a new BASF.

We aim to put the customer at the center of our decisions and everything we do. Our ability to optimally combine our in-depth expertise with our wide range of resources reflects our ambition to be more than just a supplier. We position ourselves as a solution-oriented system provider. We want to work closely with our partners to develop custom solutions that are both profitable and sustainable. We contribute our expertise to optimize processes and applications together with our customers.

To even better understand our customers' needs, we regularly ask them for feedback on our performance. In 2019, we rolled out the Net Promoter System® worldwide to establish ongoing, closer dialog with customers and further increase customer satisfaction and customer loyalty. This digital platform creates a framework to learn from feedback and respond quickly.

In 2019, we also worked on an expanded IT-based customer relationship management system. We want to roll out this state-of-the-art, even more user-friendly application in 2020 to help sales employees deliver customer support.

We are also pursuing a series of measures that will increase transparency for our customers, enhance customer service and explore joint growth potential. Our comprehensive understanding of value chains and value creation networks as well as our global setup and market knowledge remain key success factors.

¹ The number of customers refers to all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.

Our Targets

Business success tomorrow means creating value for the environment, society and business. We have set ourselves ambitious global targets along our entire value chain. We report transparently on our target achievement so that our customers, investors, employees and other stakeholders can track our progress.

We want to grow faster than the market and thus be economically successful and profitable. Furthermore, we want to provide answers to the most pressing challenges of our time. To combat climate change and global warming, we have resolved to limit total greenhouse gas emissions from our production sites and our energy

purchases to the 2018 level while growing production volumes. In other words, we want to decouple greenhouse gas emissions from organic growth. We have also defined targets for safety for people and the environment, a sustainable product portfolio, responsible procurement, sustainable water management, engaged employees, and inclusion of diversity.

The objective of these targets is to steer our business into a sustainable future and, at the same time, contribute to the implementation of the United Nations' Sustainable Development Goals (SDGs).¹ We are focusing on issues where we as a company can make a significant contribution, such as climate protection, sustainable consumption and production, and fighting hunger.

Status of Target Achievement in 2019



¹ For more information on the Sustainable Development Goals (SDGs), see sustainabledevelopment.un.org

² Return on capital employed (ROCE) is a measure of the profitability of our operations. We calculate this indicator as the EBIT generated by the segments as a percentage of the average cost of capital basis.

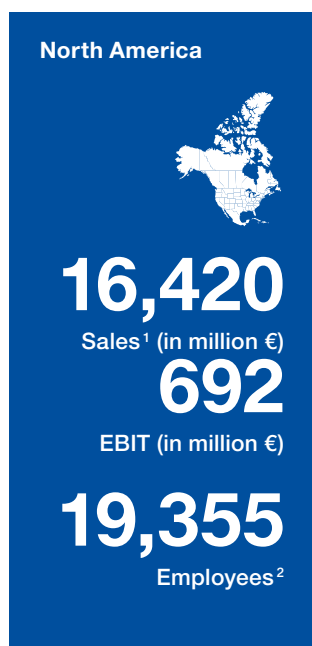
³ Dividend proposed by the Board of Executive Directors

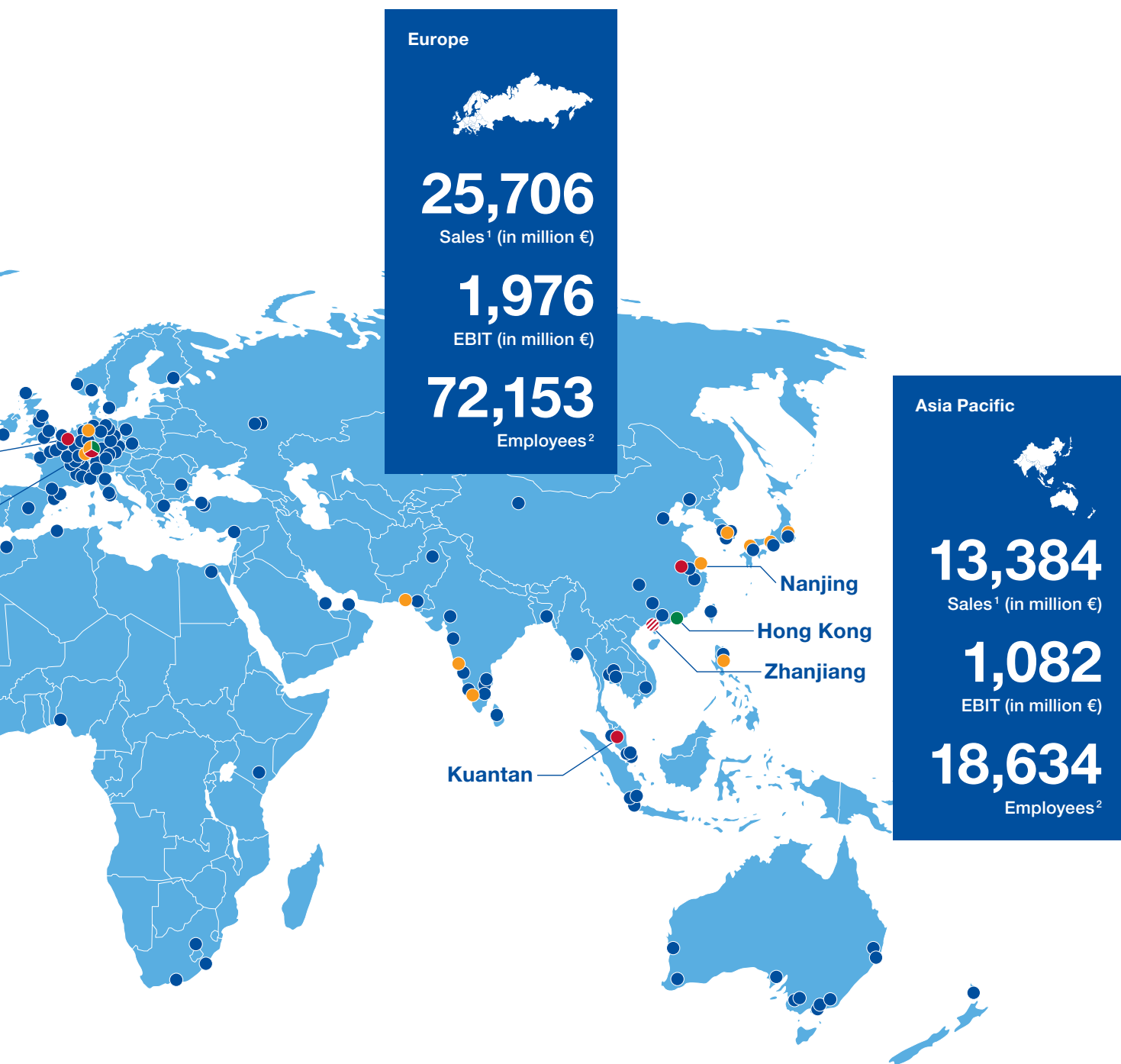
⁴ Accelerator products are products that make a substantial sustainability contribution in the value chain.

⁵ We understand relevant spend as procurement volumes with suppliers defined as "relevant." For more information, see basf.com/report

BASF in the regions

BASF Group sales 2019: €59,316 million;
EBIT 2019: €4,052 million





Europe

25,706
Sales¹ (in million €)

1,976
EBIT (in million €)

72,153
Employees²

Asia Pacific

13,384
Sales¹ (in million €)

1,082
EBIT (in million €)

18,634
Employees²

Nanjing

Hong Kong

Zhanjiang

Kuantan

- Regional centers
- Selected sites
- Verbund sites
- ▨ Planned Verbund site
- Selected research and development sites

¹ In 2019, by location of company
² At year-end 2019

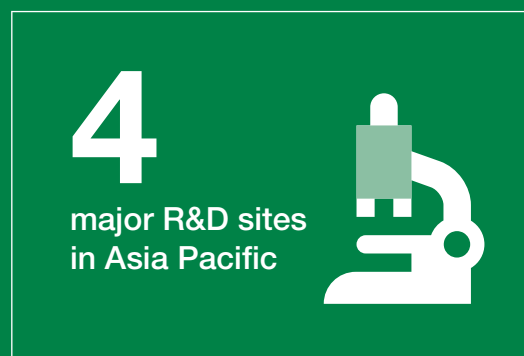
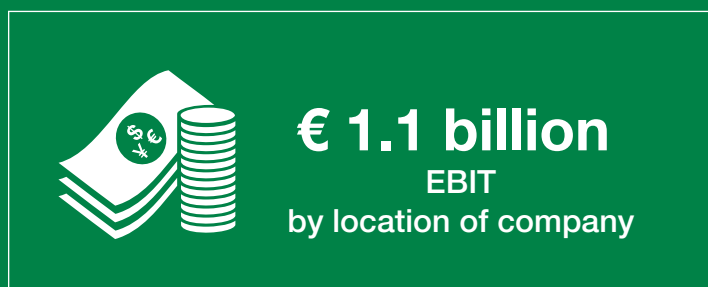
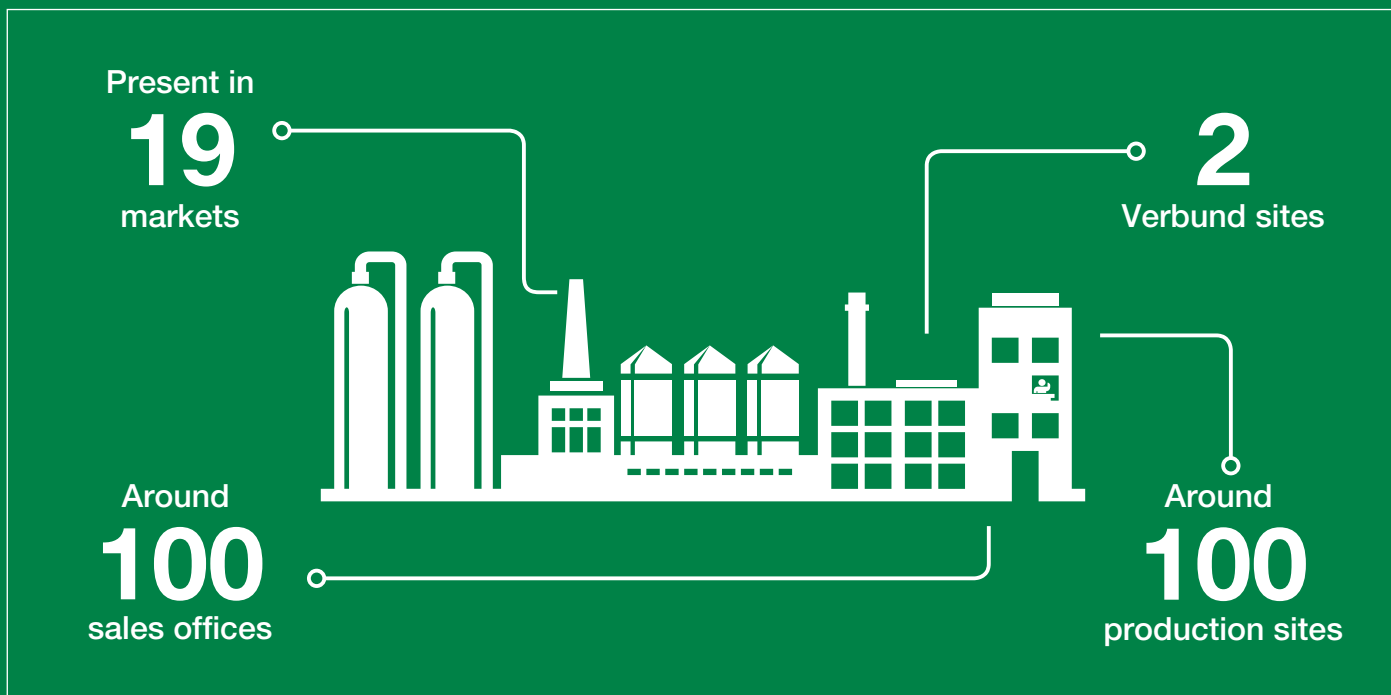
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To drive forward our growth in Asia Pacific, we are expanding our existing joint venture with Sinopec in Nanjing, China.

BASF in Asia Pacific

At a glance



Innovation

Innovation in chemistry enables economic, environmental, and social development. Thus, innovation 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 and development capabilities.

Growing R&D capabilities in Asia Pacific

- **BASF expanded innovation capabilities in Asia to strengthen collaboration with customers**
- **BASF Creation Centers empower customers to transform creative ideas into commercial solutions**

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. BASF operates major R&D sites located in China, India, Japan and Korea.

BASF operates two Innovation Campuses, in Shanghai, China, and Mumbai, India. Their concept is unique to Asia Pacific and brings all parties, including R&D, business and production units, to a single integrated site. Each Innovation Campus is an integral part of BASF’s global Know-How Verbund and houses global, regional and local R&D projects.

The Innovation Campus Shanghai, located at the BASF Shanghai Pudong Innovation Park, was inaugurated in 2012 and expanded in 2015 and 2019. It is BASF’s global headquarters of Advanced Materials & Systems Research division.

The Innovation Campus Shanghai has a broad research portfolio in the areas of advanced materials, chemical process engineering, and environmental catalysts. Combining technical development



The Innovation Campus Shanghai is the largest R&D site of BASF in the region and serves as the global headquarters of BASF’s Advanced Materials & Systems Research division.

capabilities of the operating divisions, with industrial design expertise, the Innovation Campus Shanghai serves the innovation demand of almost all major industries.

To attract, develop and retain R&D talent in Asia Pacific, BASF set up a vocational training center at the Innovation Campus Shanghai to develop a tailor-made program for lab assistants in collaboration with a selected college in Shanghai. This program enables young talents to develop strong skills and pursue a successful career in R&D.

The Innovation Campus Mumbai, with complementary research focus on crop protection and specialty chemicals, is an important pillar of BASF’s growing R&D network in Asia Pacific. It includes state-of-the-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. It is located next to the office buildings and production plant of BASF’s Thane site in Navi Mumbai.

BASF R&D setup in Asia Pacific

● Innovation Campuses
● Other major R&D sites

Asia Pacific R&D sites

Innovation Campus Shanghai

- Focus: Advanced Materials, Process Engineering, Catalysts
- Creation Center

Innovation Campus Mumbai

- Focus: Crop Protection, Specialty Chemicals
- Creation Center

R&D Center Amagasaki

- Focus: Battery Materials

R&D Center Suwon

- Focus: Electronics



The Creation Centers in Shanghai, Yokohama, and Mumbai bring customers and BASF's experts together to transform conceptual ideas into creative solutions.

In 2019, BASF launched three Creation Centers in Mumbai, Yokohama, and Shanghai. The Centers bring customers and BASF's experts together to transform conceptual ideas into creative solutions. Equipped with world-class workshop facilities and interactive material showcases, BASF provides resources to discover, understand, and create new and improved products and solutions with BASF materials. Customers can explore materials, use interactive digital tools, and participate in ideation and material consultancy workshops.

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, and quality of life. BASF's R&D Center in Amagasaki, Japan, focuses on developing innovative materials to improve battery performance. 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.

Driving open innovation with academia and industry

- **BASF expanded Network for Asian Open Research (NAO) to India**
- **New collaboration with Tsinghua x-lab provides a platform to find the right partners for joint research projects**

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 300 partners from universities, institutes, and companies, forming a key pillar of BASF's global Know-How Verbund. In Asia Pacific, the Network for Asian Open Research (NAO) has been a joint platform steered by BASF as well as leading universities and institutes in the region since 2014.



A vocational training center has been set up at the Innovation Campus Shanghai developing a tailor-made concept for lab assistants.

In 2019, BASF further expanded its partner network by including the Indian Institute of Technology Bombay (IITB) and the National Chemical Laboratory Pune (NCL). The network has been expanded to 12 university partners across China, Japan, South Korea and India, further enhancing BASF's open innovation capabilities in Asia Pacific.

BASF is broadening its search to identify promising proposals that will generate innovative and sustainable solutions. BASF and Tsinghua x-lab, an innovative education platform of Tsinghua University, hosted innovate (48), a 48-hour entrepreneurship competition to search for scientific innovations projects contributing to environmental sustainability. 11 project teams presented their ideas to a judging panel comprising start-up investors and corporate incubators, including BASF Venture Capital. The team of Beijing TC air Tech won the first prize. The team will receive support and expertise in chemical innovation from BASF for further project development.

Since its establishment, BASF and its partners have completed more than 43 joint research projects, with 11 postdoctoral students joining BASF after the projects' completion. Currently, NAO projects cover research areas, including new monomers and polymers, surfaces and interfaces, coating, zeolites, insecticide, as well as digitalization in R&D. For example, BASF is partnering with Sichuan University to explore improved solutions addressing important market needs such as high chemical resistance of polyamide blends.



BASF is committed to fostering innovation in Asia Pacific by constantly enhancing its local research and development capabilities.



BASF in Greater China

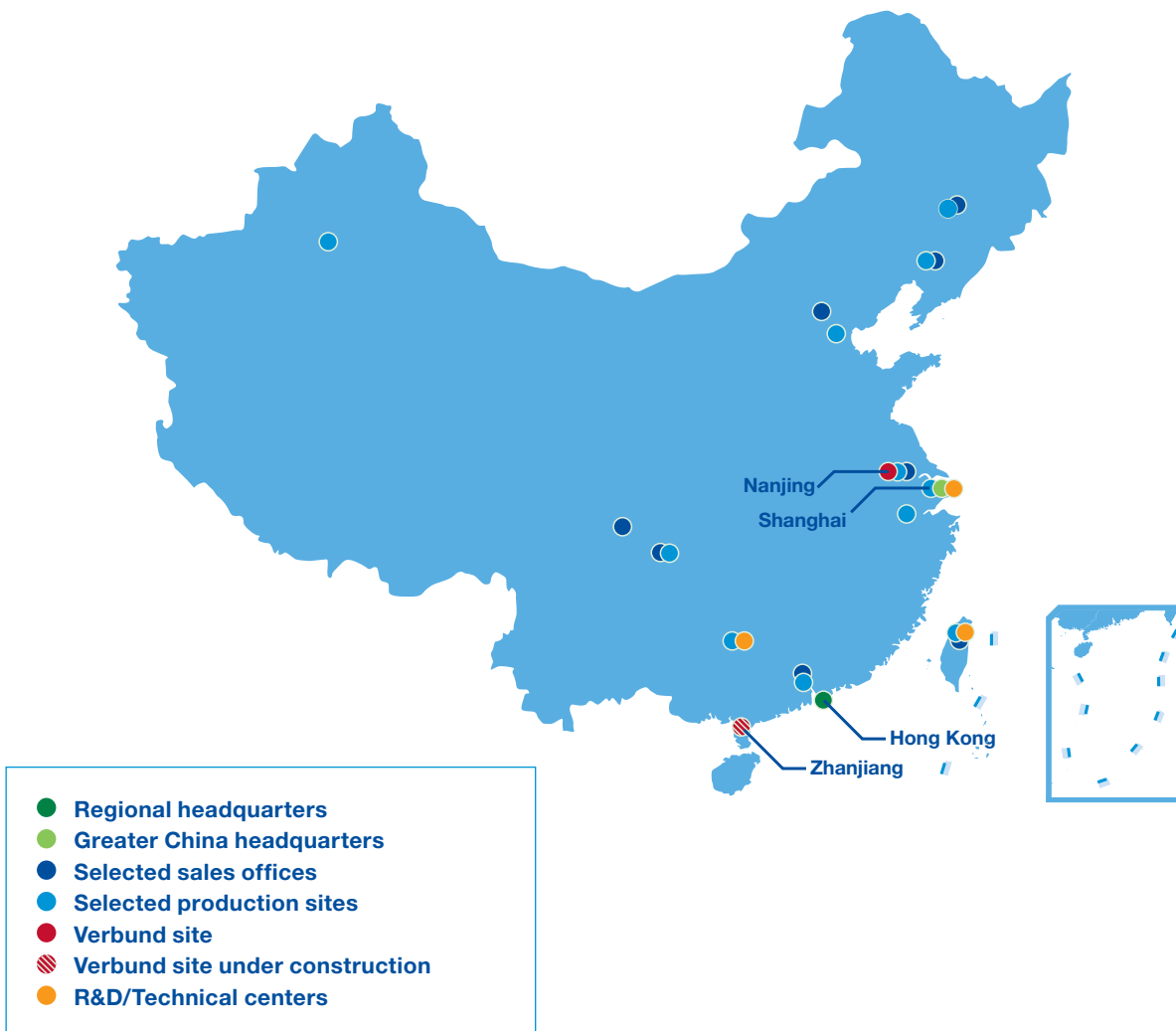
At a glance

BASF has been a committed partner to Greater China since 1885. With larger production sites in Shanghai, Nanjing and Chongqing, BASF is a major foreign investor in the country's chemical industry, and operates the Innovation Campus Shanghai, a global and regional research and development hub. BASF posted sales of more than €7.3 billion in 2019 to customers in Greater China and employed 9,230 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 28 major wholly-owned subsidiaries, 9 major joint ventures, and maintains 24 sales offices in Greater China. BASF's business in Greater China includes petrochemicals, intermediates, performance materials, monomers, dispersions & pigments, performance chemicals, catalysts, coatings, care chemicals, nutrition and health and agricultural solutions.

These solutions are used in almost all areas of daily life such as in houses, cars, food, agriculture, pharmaceuticals, textile, household goods, electronic equipment and packaging. Over the past 20 years, BASF has invested more than €6 billion in Greater China (more than €9 billion with partners) to build a locally competitive production, marketing, sales, technical service and innovation network.

Our sites



Some sites are not shown in the map due to scale. Site and office numbers refer to the companies of significant size where BASF holds a stake greater than 50%.
 Map reference: GS(2016)2923, Ministry of Natural Resources of China

BASF Shanghai Pudong Innovation Park

An integrated site with global, regional and local activities for research and development, production, sales and marketing, and functional units

- Location: Gaoqiao, Pudong, Shanghai
- Key milestones:
 - Established in 1994
 - Became a wholly-owned BASF entity in 2000
 - Home to the BASF Greater China headquarters (legal entity since 2004; operations since 2012)
 - Innovation Campus Shanghai established in 2012
 - Operating eight production plants and a wastewater treatment plant by end of 2019
- 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, detergent, metal complex dyes, leather auxiliaries and polyvinylpyrrolidone (PVP)

BASF Shanghai Caojing site

A major production site with one wholly-owned company and three joint ventures

- Location: Shanghai Chemical Industry Park in Caojing, Shanghai
- Key milestones:
 - Established in 2002
 - First PolyTHF® production in 2003
 - Operating 15 production plants as of the end of 2019
- Major companies:
 - BASF Chemicals Co. Ltd. (wholly-owned)
 - BASF Shanghai Coatings Co. Ltd. (joint venture with Shanghai Huayi Fine Chemical Co., Ltd)
 - Shanghai Lianheng Isocyanate Co. Ltd. and Shanghai BASF Polyurethane Company Limited (two joint ventures with several partners)
- Products: Polytetrahydrofuran (PolyTHF®), TDI (toluene diisocyanate), MDI (methylene diphenyl diisocyanate), polyisocyanate (Basonat®), precious metals-based salts and solutions, automotive coatings, resins and electrocoat, polyamide polymerization and process catalysts

BASF Nanjing Verbund site

An integrated Verbund site jointly run by BASF and Sinopec (50-50)

- Location: Nanjing Jiangbei New Materials High-Tech Park, Nanjing
- Key milestones:
 - Established in 2000
 - Commercial production since 2005
 - Inauguration of its second phase in 2012
 - Operating 33 production plants by end of 2019
- 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.
- Published 2019 facts and figures:
 - Total investment of \$5.5 billion
 - 1,942 employees
 - Sales in 2019: €2.5 billion (~CNY 19.6 billion)

BASF Nanjing Site

A BASF wholly-owned production site for multiple products, including water-treatment monomers to coating additives

- Location: Nanjing Jiangbei New Materials High-tech Park, Jiangbei New Area, Nanjing
- Key milestones:
 - Became BASF's wholly-owned company in 2009, and renamed as BASF Specialty Chemicals (Nanjing) Co. Ltd. in 2011
 - Operating eight plants as of the end of 2019
- Products: Quaternized cationic monomer, polyetheramine, dimethylaminopropylamine, anionic polyacrylamide, cationic polyacrylamide, coating additives, tert.-Butylamine, acrylamide, 1,2-Propylenediamine, and n-Octylamine

BASF Chongqing site

BASF wholly-owned production site for MDI

- Location: Changshou Economic & Technological Development Area, Chongqing
- Key milestones:
 - First MDI production in 2015
 - Completion of new steam methane reformer in 2018
- Product: MDI with annual capacity of 400,000 metric tons
- Total investment: approximately CNY 8 billion

Sales in 2019 (by location of customer)

more than
€ 7.3 billion

Employees (as of December 31, 2019)

9,230

Business development

BASF posted sales of more than €7.3 billion in 2019 to customers in Greater China. Responding to the dynamic market environment, we continue to invest in production and R&D to support the growth of our local customers. We offer high quality products and innovative solutions at a faster pace to a broad range of business areas.

Sales (by location of customer)¹

Million €		
2019	7,323	
2018	7,213	
2017	7,273	

¹ The sales data for 2018 has been restated.

Growing local presence

- **Commencement of the new wholly-owned Verbund project in Zhanjiang, Guangdong**
- **New and expanded facilities across Greater China**

In order to meet China's ever-growing market demand, BASF is continuously expanding local production capacity and broadening its product portfolio.

In November 2019, BASF officially launched its new smart Verbund project in Zhanjiang, Guangdong province and commenced building its first plants. Announced in July 2018, the project would be BASF's largest investment with up to US\$10 billion upon completion and would be operated under the sole responsibility of BASF. It will include a steam cracker with a capacity of 1 million metric tons of ethylene per year and plants for consumer-oriented products. The new Verbund site will adopt a smart manufacturing concept based on cutting-edge technologies, maximizing resources and energy efficiency and reducing the environmental impact. The site will utilize automated packaging, high-tech control systems and automated guided vehicles.

The new Verbund site will be built in phases. The first plants will produce engineering plastics and thermoplastic polyurethane (TPU). The engineering plastics plant is scheduled to be operational by 2022 to serve the increasing needs of various growth industries in southern China and throughout Asia.

At its Caojing site in Shanghai, BASF inaugurated a new world-scale antioxidants manufacturing plant with an annual capacity of 42,000 tons in two phases in 2019, including the units for liquid antioxidants, formgiving, and powder blending in January and the synthesis plant for the antioxidants Irgafos® 168 and Irganox® 1076 in December. It was the first time that BASF used a modular concept to build a plant that was pre-fabricated with plant modules off site, which shortened the construction time by half.



BASF officially commenced its smart Verbund project in Zhanjiang, Guangdong in November 2019.



BASF plans to expand tBA production capacity in Nanjing.

During the first quarter of 2019, BASF ramped up commercial production of its new production line for polyacrylamide powder at its wholly-owned site in Nanjing. The additional 20,000 metric tons per year capacity of polyacrylamide will support mining customers in Asia Pacific.

In July 2019, BASF announced to build a second production plant for tert-Butylamine (tBA) – an intermediate to produce vulcanization accelerators for the rubber and tire industry – at its wholly-owned production site in Nanjing. The plant will start up in 2022 and adopt advanced BASF technology which generates a minimal amount of by-products in an advanced production process.

At its Jiangmen site in Guangdong Province, BASF started construction of a new facility for automotive refinish coatings to support market growth and customers across the region. The plant will double the production capacity of the site and will start operation in the first half of 2022.



BASF plans to double the production capacity of automotive refinish coatings in its site in Jiangmen, Guangdong Province.



BASF closed the acquisition of polyamide business from Solvay.

Global acquisitions

- **Acquisition of Solvay's integrated polyamide business completed in January 2020**
- **Strengthening biotechnology footprint to enter natural flavors and fragrances (F&F) ingredients market**

On January 31, 2020, BASF closed the acquisition of Solvay's polyamide (PA 6.6) business. The transaction broadens BASF's polyamide capabilities with innovative solutions such as Technyl®. This will enable BASF to support its customers with better engineering plastics solutions for autonomous driving and e-mobility, for example. Through the backward integration into the key raw material adiponitrile (ADN), BASF will now be present along the entire value chain for polyamide 6.6 and improve its supply reliability. The transaction also enhances the company's access to growth markets in Asia as well as in North and South America. It includes eight production sites in Germany, France, China, India, South Korea, Brazil and Mexico as well as research and development centers and technical consultation centers in Asia, North and South America.

In October 2019, BASF announced the acquisition of Dutch company Isobionics, an innovation leader in biotechnology which serves the global market for natural F&F. BASF also signed a cooperation agreement with Conagen, a research leader in biotechnology. Known as a leading supplier of synthetic aroma ingredients, BASF now enters the market for natural F&F ingredients by broadening its portfolio with natural ingredients such as vanillin, nootkatone and valencene. The company intends to advance the technology for biotech-based aroma ingredients by combining its own R&D excellence and broad market access with the know-how and expertise of Isobionics and Conagen.

Strong partnership with local customers

Strategic partnerships for co-development of sustainability solutions

Aligning our business with our customers' needs is our primary focus. Our ability to combine in-depth expertise with a wide range of resources to meet specific customer demands makes BASF a solution-oriented system provider in China and the world.

For example, BASF has been an important partner to Huaфон Group over the past two decades. In 2019, the two companies extended the cooperation beyond existing business areas. For instance, BASF introduced the Together for Sustainability (TfS) initiative that helps Huaфон improve its sustainability practices through the global standardization of supplier evaluations and auditing. Huaфон is also among the first customers who utilize BASF's WeChat-based solution for real-time logistic tracking.

In June 2019, BASF and Sichuan Lutianhua Co. Ltd. (Lutianhua) signed a Memorandum of Understanding (MoU) to co-develop a pilot production plant that will significantly reduce carbon emissions and increase energy efficiency in producing dimethyl ether (DME) from syngas compared to the traditional process. According to the MoU, Lutianhua will invest and build the plant with a step-change technology that is developed by BASF and Linde. BASF will supply new, high-performance catalyst systems that enable one-step conversion of syngas to DME while Linde will provide its newly developed process design and engineering for direct DME synthesis. DME is a methanol equivalent and can be used as an intermediate to produce lower olefins like ethylene and propylene.

In November 2019, BASF was selected as one of the strategic partners to support Evergrande New Energy Auto to develop new electric vehicles under its brand Hengchi. The two companies will work together in the areas of coatings, engine coolants, brake fluids, as well as engineering plastics and polyurethanes solutions.

BASF Venture Capital

Venture Capital investment helps BASF expand innovation capabilities in China

BASF Venture Capital invests worldwide in young companies and funds that offer disruptive technologies and transformative business models, with the aim of creating new growth potential for BASF. One of its strategic focus areas is new chemical technologies and materials. In 2019, BASF Venture Capital invested in Chinese private equity fund Longwater Advanced Materials Fund. Longwater Investment is a pioneer growth capital investor in advanced materials and chemistry-related technologies in China. It has built a strong network with competent start-ups and is therefore a powerful partner in this field.

E-commerce and digital business model

- Expansion of portfolio on BASF's B2B e-commerce platform on 1688.com
- Cooperation with 1688.com to develop a new consumer-to-manufacturer model

BASF has further advanced its e-commerce presence and digital business model in China. As of the end of 2019, more than 80 high-performance products are available for sale via its flagship store at 1688.com. Among these are Accelerator products that make a substantial sustainability contribution in the value chain.



The laundry beads with advanced materials supplied by BASF were developed under the C2M model, leveraging the consumer behavior data from Alibaba in the product development period.

Moreover, BASF and 1688.com signed a strategic cooperation agreement to develop a consumer-to-manufacturer (C2M) model. With access to advanced materials from BASF and first-hand consumer feedback online, manufacturers are able to produce high quality consumer products to meet specific market needs. A number of projects under the C2M model rolled out in 2019 received positive feedback from the market. For example, high performance laundry beads with concentrated liquid laundry detergents were developed based on the big data analysis on consumer behavior from Alibaba. The development period was shortened from 2-3 months to 20 days. In addition, kitchen gloves contained BASF's non-phthalate plasticizer Hexamoll DINCH®, one of the Accelerator products, and lingerie detergents with the ultra-mild surfactant-APG and anti-bacterial technology also hit the Chinese consumer market on Tmall.com.



BASF Corporate Commitments cover every part of our value chain and operations to deliver long-term business success.

Supplier management

At BASF, we align economic goals with environmental and social responsibility throughout our entire value chain. We engage our suppliers as important partners in our value chain. Together with them, we aim to minimize risks and create added value that go beyond procurement itself.

BASF Corporate Commitment

We source responsibly

Sustainable procurement

- **Together for Sustainability (TfS) initiative standardizes supplier audits in Greater China**
- **Local supplier sustainability training with East China University of Science and Technology (ECUST)**

BASF selects and evaluates suppliers based on environmental, social and corporate governance standards in addition to economic criteria. Our Supplier Code of Conduct is founded on internationally recognized guidelines, such as the principles of the United Nations' Global Compact, the U.N. Guiding Principles on Business and Human Rights, the International Labor Organization (ILO) conventions and the topic areas of the Responsible Care® initiative. It covers compliance with human rights, labor and social standards, and anti-discrimination and anti-corruption policies in addition to protecting the environment.

BASF strives to continuously improve sustainability performance in its procurement activities and conducts sustainability evaluations on suppliers. We are a founding member of the Together for Sustainability (TfS) initiative of leading chemical companies for 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 for both suppliers and TfS member companies by a globally uniform questionnaire. In 2019, the 22 members conducted a total of 4,197 sustainability assessments and 309 audits, including a large number in Greater China. In addition, more than 200 participants attended training on improvement in environmental, social and corporate governance in Mainland China.

To enhance sustainability performance of our suppliers in Mainland China, we have been collaborating with ECUST to provide in-depth sustainability training sessions since 2014. We trained employees from 49 suppliers in 2019. We also updated the training materials based on new regulations to include recent best practices in TfS initiative and EHS, among others.

Building an innovative and sustainable supply chain

- **Shenxing Taibao Award to recognize best logistics service providers**
- **Environmental-friendly coating delivery solution for automakers in Mainland China**
- **Real time logistic tracking App for agricultural solutions in Taiwan**

BASF sells its products to customers across Greater China and exports to other countries as well. It is crucial that our logistics service providers (LSPs) are aware of and comply with our sustainability standards. We manage and develop our LSPs to enhance their sustainability practices. BASF and its joint venture company BASF-YPC in Nanjing have jointly hosted the Best Logistics Service Award, Shenxing Taibao Award since 2012, to recognize LSPs for their good performance in safety, efficiency, compliance, commitment, reliability and emergency preparedness. During BASF's 6th Logistics Service Providers Conference in October 2019 in Shanghai, 4 out of 97 participating logistic suppliers received this award.

The Chinese government is continuously raising safety standards and environmental requirements for the transportation of chemical goods, including coating materials. To this end, we have developed an innovative e-coat ISO-tank delivery solution for the automotive industry. This new transportation service uses customized tanks installed with temperature control equipment and is subject to strict and regular silicone-free cleaning. It therefore minimizes pollution and leakage risks during handling and transportation, while effectively reducing packaging materials and hazardous wastes. This solution was first adopted by SAIC Zhengzhou plant.



The new coating delivery solution helps customers to comply with environmental regulations, reduce transportation risks and costs, thus raising productivity.

In Taiwan, BASF launched a QR code-based logistic App for agricultural solutions in May 2019. By connecting to the tolling sites, warehouses, wholesalers, retailers and BASF sales teams via a digital platform, the App provides real-time logistics information of products to wholesalers and logistic suppliers, thus increasing transparency along the supply chain, improving inventory monitoring and optimizing channel performance.

Environmental protection, health and safety

Health and safety

The safety of our employees, contractors and neighbors, and protecting the environment are our top priorities. We have set globally binding standards for health and safety, security and environmental protection. A worldwide network of experts supports us in the implementation of these standards. We promote risk awareness among our employees and contractors, and perform systematic hazard assessments, specific qualification measures and global safety initiatives.

BASF Corporate Commitment

We produce safely for people and the environment

Product stewardship

- **Extensive chemical safety information for all people who handle our products**
- **Chemical risk assessment project won Shanghai Science and Technology Award**

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

BASF provides extensive information on all our chemical sales products to our customers with safety data sheets (SDS) in around 40 languages, including Chinese. The company also incorporates the latest regulatory requirements in China in its product safety system to ensure its local safety data sheets and product safety labels are in compliance with China's regulatory framework. In addition to the SDS and safety label, we also provide our customers with the Information Sheet Product Safety (ISP) and Declaration of Compliance (DOC) for extensive information on product safety.

To promote science-based product stewardship practices in Greater China, BASF has been working closely with local authorities to support the development of regulations and guidelines for chemical management. We share our expertise on regulation and compliance management through industry association workshops. BASF chairs Regulatory Working Group of China Petroleum and Chemical Industry Federation (CPCIF). In recognition of its efforts, BASF was awarded as the Excellent Contributor in Chemical Regulatory Advocacy in 2019.

BASF supports customers, suppliers and other partners to fulfill their industry or application-specific product requirements through product stewardship events. In 2019, over 200 customers and suppliers participated in such events and gave positive feedback.



At BASF, we value the health and safety of people above all else.



Operators conducting regular plant inspections with digital devices to reduce incidents.



We conduct routine examination of trucks to ensure they are in a safe condition when entering and leaving the site.

In 2019, BASF received the Shanghai Science and Technology Award from Shanghai municipal government for its project “Chemical hazards identification, exposure characterization, risk assessment and management”. Co-developed by BASF’s Product Safety & Regulations team and some governmental institutes, such as Shanghai Academy of Environmental Sciences (SAES), the project used computer simulation to assess environmental risks of the emission of hazardous substances to water. The results have been successfully used in the hazard screening of key environmental chemicals in China.

Process safety

- Regular review of plant protection plans and performance of safety inspections and safety-related measures
- Perpetual initiatives to reduce process safety incidents

BASF’s global process safety standards provide the framework for the safe planning, construction and operation of the plants as well as the protection of people and the environment. Our experts have developed a plan for every plant that considers the key aspects of safety, health and environmental protection – from concept to startup – and stipulates specific protection measures.

To maintain the highest level of safety at plants across their entire life cycle, BASF reviews the implementation of the protection plan in all facilities at regular intervals, in regard to risk potential, on-time performance of the required safety inspections and any resulting safety-related measures. We regularly update our plants’ safety concepts in line with changing technologies as necessary. We use our integrated risk management software to record plant safety concepts and implementation checks to ensure that documents are in place and actions are tracked. We continue to improve process safety by investigating every single incident in detail, analyzing its root causes and using the findings to derive suitable preventive measures. These best practices of incident prevention and safety alerts are shared with all sites around Greater China on a regular basis.

In 2018, BASF adapted its global reporting on process safety incidents, using the number of process safety incidents per 200,000

working hours as a key performance indicator. Globally, we have set ourselves the goal of reducing process safety incidents to a rate of no more than 0.1 per 200,000 working hours by 2025. In 2019, we recorded 0.03 process safety incidents per 200,000 working hours in Greater China.

Process safety incidents (PSIs)

per 200,000 working hours

2019	0.03	<div style="width: 15%;"></div>
2018	0.04	<div style="width: 20%;"></div>
2017	0.09	<div style="width: 45%;"></div>

Transportation and distribution safety

- Minimizing risks along the entire transportation chain
- Promoting transportation and distribution safety in China

We want our products to be safely loaded, transported, handled and stored. This is why we work closely with reliable logistics partners, following global standards in an effective collaboration. Our goal is to minimize risks along the entire transportation chain – from loading and transportation to unloading at our customers’ sites. We have defined global guidelines and requirements for the storage of our products, and we regularly make inspections to ensure full compliance.

We regularly assess the safety and environmental risks of transporting and storing raw materials and products with high hazard potential. We use BASF’s global guidelines which are based on the guidelines set by the European Chemical Industry Council (Cefic). Some of them even go beyond national and international dangerous goods requirements.

We stipulate worldwide requirements for our logistics service providers (LSPs) and assess them in terms of safety and quality. In

2019, we evaluated several dozen of LSPs across Greater China, using our own evaluation and monitoring tools as well as internationally approved schemes.

We systematically implement our measures to improve transportation safety and report, in particular, on goods spillages that could lead to significant environmental impact.

We are actively involved in external networks to promote and implement the latest safety practices for domestic transportation of chemicals in China. For instance, BASF was a major contributor to China's Chemical Road Safety Assessment System (CRSAS) launched in 2018. By the end of 2019, 30 chemical companies and 190 logistics companies joined as members. We also offered training to LSPs at the workshops organized by CRSAS. BASF has been supporting local authorities in the revision and upgrading of regulations for dangerous goods. In 2019, we contributed to the regulation upgrade of the safety management on dangerous goods packed in limited quantity and excepted quantity.

Emergency response

- **Regular review of emergency response systems in case of incidents**
- **Emergency response capabilities recognized by local authorities**

BASF prepares rigorously for incidents and crisis. In the event of an incident, our global, regional and local emergency response plans and crisis management mechanisms will be triggered, depending on the scope of the incident. We believe that qualified professionals, advanced technical equipment, and science-based, effective emergency response plans are key to optimizing our emergency preparedness and improving our emergency response capabilities. In Greater China, we regularly perform fire prevention inspections at all sites, review emergency response plans, hold emergency drills and carry out training to improve emergency preparedness. In 2019, one site in Shanghai was recognized by the local authority as a model company in fire safety management.

By working closely with industry associations and local authorities, BASF actively promotes emergency management in Greater China. For instance, we have been sharing emergency response best practices among chemical companies at various workshops organized by industry associations and other organizations. In 2019, we were invited by the Ministry of Emergency Management of the People's Republic of China to support the establishment of the national standards of personal protective equipment (PPE).

Security

- **Comprehensive protection measures against third-party infringement**
- **Enhanced risk awareness among employee**

We analyze potential safety and security risks associated with investment projects and strategic plans and define appropriate



We conduct emergency response drills regularly at all sites.



The BASF fire brigade at Caojing site in Shanghai holds a fire drill.

safety and security concepts. Our guiding principle is to identify risks for the company at an early stage, assess them properly and derive appropriate safeguard measures.

BASF protects its employees, sites and company knowledge against third-party infringement. This includes, for example, potential terrorist risks in the communities surrounding our production sites and addressing the issue of cybersecurity. BASF has a comprehensive program in place to continually improve its ability to prevent, detect and react to cybersecurity incidents as technology advances. By establishing a global Cyber Security Defense Center, BASF has made its cybersecurity experts available round the clock, including teams in Greater China.

We work to sensitize all employees about protecting information and our know-how. Throughout 2019, we continued to organize a variety of information sharing activities for our employees to enhance their risk awareness, including training, case study sharing, and interactive resources. We also defined mandatory requirements for performing audits and to ensure process compliance when dealing with sensitive information.

We inform BASF’s business travelers and transferees to and from Greater China about appropriate protection measures prior to and during travel in countries with elevated security risks. After any major incident such as a terrorist attack or a natural catastrophe, we can use a standardized global travel tracking system to locate and contact employees in the affected regions.

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

Occupational safety

- **Comprehensive safety management system for accident prevention**
- **Strengthening safety awareness among employees**

The safety of our employees, contractors, neighbors and the public is our top priority. For this reason, we have set ourselves ambitious goals for occupational safety. We also regularly monitor progress toward our goals with a set of comprehensive preventive measures.

To prevent work-related injuries, BASF promotes risk-conscious behavior and safe working practices for every individual through incident analysis and regular exchange of experiential knowledge. We are constantly refining and enhancing our safety processes. All employees and contractors in Greater China are encouraged to report any incidents and potential hazards in the regional “Accident and Incident Management System”. Root causes and corrective actions will be followed up by the relevant site or office. Key learning from significant incidents will be shared throughout the company on a monthly basis.

To further support risk assessment of non-routine activities, we have developed digital solutions to improve the efficiency of task application and approval. The “e-Permit to Work” system enables



When performing overhead work, professionals must have appropriate personal protective equipment (PPEs).

users to take photos and videos to record the real conditions of a task. This system was piloted at one site in 2019.

Guided by its global safety initiative, BASF has been cultivating a safety culture through various campaigns. The 2019 “Global Safety Days”, under the theme “Safe choices become safe habits”, aimed to increase risk awareness among employees, enabling them to identify and eliminate threats before they become dangerous. Around 9,500 employees and contractors from more than 30 offices and sites in Greater China participated in the events. A creative competition “Safety Moment” was organized to encourage employees to share their best practices in occupational safety. Furthermore, some employees volunteered to promote safety awareness and behavior at offices and sites through various activities.



An employee experiencing Virtual Reality (VR) fire escape game during the Global Safety Day.

In 2018, BASF adapted its key performance indicator in the global reporting on lost-time injury rate, based on the number of occupational safety incidents per 200,000 working hours of BASF employees, leased personnel and contractors. Globally, we have set ourselves a goal of reducing occupational safety incidents to a rate of no more than 0.1 per 200,000 working hours by 2025. In 2019, we recorded 0.03 work-related lost-time injuries per 200,000 working hours. No fatality occurred in BASF Greater China.

Lost-time injury rate

Per 200,000 working hours		
2019	0.03	<div style="width: 15%;"></div>
2018	0.06	<div style="width: 30%;"></div>
2017	0.06	<div style="width: 30%;"></div>

Fatalities

Total		
2019	0	
2018	0	
2017	1	<div style="width: 10%;"></div>

Occupational health

- **Global standards for corporate occupational health management**
- **2019 global Health Campaign focusing on mindfulness**

Our global corporate health management serves to promote and maintain the health and productivity of our employees. Our worldwide standards for occupational health are specified in a directive that is implemented by a global network of experts. This is supported by numerous emergency drills and health promotion measures.

We measure our performance in health protection using the Health Performance Index (HPI). The HPI comprises five components: recognized occupational diseases, medical emergency preparedness, first aid, preventive medicine and health promotion. Each component contributes a maximum of 0.2 to the total score, meaning that the highest possible score is 1.0. We aim to reach a value of more than 0.9 every year. With an HPI of 0.97, we once again reached the goal in 2019 (2018: 0.96).

BASF's 2019 Global Health Campaign "Moment to Moment" focuses on mindfulness. The aim was to sensitize our employees to conscious and safe behavior in their everyday working and personal lives. In Greater China, the Health Campaign took place at almost all production sites and offices. Employees were invited to activities such as lectures on work-and-life balance, breathing and meditation exercises.

We raise employee awareness of health topics through offers tailored toward specific target groups. The BASF health checks form the foundation of our global health promotion program and are offered to employees at regular intervals. In 2019, we also produced a series of online training videos on office ergonomics to help employees stay healthy at work. At a site in Shanghai, the corporate health management team introduced a digital platform to store and analyze occupational health data.



The office mini break exercise helps to relieve muscle fatigue and promote spine health.

BASF audited several sites with regard to occupational health in Greater China in 2019. In addition, health performance control visits were conducted at sites with low to medium health risks.

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

Promoting Responsible Care® in Greater China

- **Continuous implementation of Responsible Care in Greater China**
- **BASF awarded for its Responsible Care efforts**

Responsible Care® is a voluntary commitment by the global chemical industry to drive continuous improvement and achieve excellence in environment, health, safety and security performance. BASF has been a long-standing member. We have set up a Responsible Care Management System which has been comprehensively implemented in Greater China, to systematically address risks. This system comprises global directives, standards and procedures for safety, security, health and environmental protection for the various stations along our value chain. Our regulations cover the transportation of raw materials, activities at our sites and warehouses, and distribution of our products as well as our customers' application of the products.

In Greater China, BASF actively promotes the Responsible Care concept among its partners along the value chain, including customers, raw material suppliers and service providers. We introduce tools such as self-assessments for continuous improvement and gate checks for all trucks before entering and leaving chemical production and storage facilities.

BASF has been an active member of the CPCIF since 2013. Through various channels, we have taken a leading role in supporting emergency response, transportation and distribution safety, chemical regulatory advocacy, communication, sustainable production and other topics related to Responsible Care. In 2019, BASF held several conferences and workshops of emergency response and occupational health. At the 10th China Petroleum & Chemical International Conference (CPCIC) in September 2019, we shared our latest practices in smart manufacturing and introduced ideas on how digital applications help improve the level of the safety management in railway transportation. BASF also chairs the Responsible Care committee, emergency response sub-committee and transportation and distribution safety sub-committee of the Association of International Chemical Manufacturers (AICM) and organized several workshops to share our best practices of emergency response among member companies.

In recognition of its outstanding performance in the practice of Responsible Care and promotion of sustainable growth of the chemical industry, BASF received the 2019 AICM Responsible Care Chairman Award and the 2019 CPCIF Responsible Care Best Organization Award.

Energy efficiency and environmental protection

Chemical industry is energy-intensive. At BASF, we are committed to energy efficiency and global climate protection. We strive to reduce emissions along the value chain and to ensure high efficiency by employing advanced technologies and processes. To this end, we are constantly upgrading our facilities.

BASF Corporate Commitment

We produce efficiently

Energy

■ **Energy consumption stable with less fuel consumption**

In 2019, the total energy consumption of BASF sites in Greater China remained stable. Electricity and steam consumption slightly increased mainly due to a high production load and new plants launched in 2019.

Electricity consumption totaled 726,343 megawatt hours (MWh) in 2019 (2018: 711,766 MWh), while steam consumption totaled 3,352,637 metric tons (2018: 3,168,231 metric tons). Fuel consumption for our central energy supply was 10% lower than 2018, totaling 871,900 MWh (2018: 974,394 MWh). The decrease

was mainly due to the process optimization at the Chongqing site, where we were able to recover more steam generated from the process reactor heat. As a result, natural gas consumption was reduced.

Electricity consumption

MWh		
2019	726,343	<div style="width: 100%;"></div>
2018	711,766	<div style="width: 97.9%;"></div>
2017	706,897	<div style="width: 97.2%;"></div>

Steam consumption

Metric tons		
2019	3,352,637	<div style="width: 100%;"></div>
2018	3,168,231	<div style="width: 94.5%;"></div>
2017	3,272,701	<div style="width: 97.6%;"></div>

Fuel consumption (central power plants and boilers)

MWh		
2019	871,900	<div style="width: 89.5%;"></div>
2018	974,394	<div style="width: 100%;"></div>
2017	892,587	<div style="width: 91.7%;"></div>



We have been optimizing energy efficiency measures at our production plants to reduce energy consumption.

Continuous energy efficiency improvement is one of BASF's long-term targets. We strive to continually reduce our specific energy consumption per ton of product. In 2019, many sites in Greater China made efforts to save energy. For example, one site in Shanghai improved its chiller's electricity efficiency by installing inert gas purging equipment in the compressor system. Another site in Shanghai achieved electricity savings through optimizing the operation of its nitrogen circulation system. A third site in Shanghai optimized its operation loading through the adjustment of its production process, resulting in a reduction in fuel consumption. One site in Jiangsu used sensors to monitor the insulation performance of the pipes and equipment and made preventive maintenance to save electricity. Another site in Jiangsu improved its flare system to reduce natural gas consumption. The Chongqing site reused more steam generated from process reactors, lowering the site's natural gas consumption. One site in Taiwan replaced light bulbs with LED lighting to save electricity.

Moreover, BASF continuously reduces its carbon emissions in Greater China through energy optimization, advanced technology, and improvements in our production. Six sites in Shanghai have been actively participating in the local pilot carbon emissions trading scheme (ETS). We also work closely with industry associations such as CPCIF and AICM in preparation for the national ETS and conduct dialogues with relevant authorities.

BASF will introduce certified energy management systems (DIN EN ISO 50001) at all relevant production sites by 2020. Since 2016, several sites in Greater China have been ISO 50001 certified. All energy efficiency measures are recorded in a global database, available as best practices for all our sites worldwide.

Emissions to air

■ Slight reduction of greenhouse gas (GHG) and emissions to air

In 2018, BASF announced that the company will achieve CO₂-neutral growth until 2030, despite targeting considerable annual production growth. In line with the new corporate strategy to reduce GHG emissions, BASF sites in Greater China have taken various measures. As a result, emissions of greenhouse gases from BASF's chemical operations in Greater China decreased slightly to 1.109 million metric tons in 2019 (2018: 1.129 million metric tons), despite a higher production volume. For instance, the Chongqing site depended more on hydrogen for its fuel, resulting in much lower carbon emissions compared to 2018. Some sites also improved the electricity efficiency of their energy-intensive facilities in order to reduce carbon emissions. For example, one site in Shanghai upgraded its compressor system to reduce electricity consumption resulting in lower carbon emissions. Another site in Shanghai purchased electricity from renewable resources.

Greenhouse gas emissions

Metric tons of CO ₂ equivalents ¹		
2019	1,109,006	<div style="width: 98%;"></div>
2018	1,128,620	<div style="width: 100%;"></div>
2017	1,193,221	<div style="width: 105%;"></div>

¹ CO₂ equivalents consist of CO₂, N₂O, CH₄, HFC, PFC, SF₆

Air pollutants² (without CH₄)

Metric tons		
2019	299	<div style="width: 88%;"></div>
2018	328	<div style="width: 100%;"></div>
2017	306	<div style="width: 93%;"></div>

² Air pollutants consist of: CO, NO, SO_x, NMVOC (Non-methane volatile organic compounds), dust, NH₃, and other inorganic compounds

Apart from greenhouse gas emissions, BASF also measures emissions of air pollutants, including inorganic compounds such as carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x) and ammonia, as well as dust or non-methane volatile organic compounds (NMVOC). In 2019, absolute emissions of air pollutants from BASF's chemical operations in Greater China decreased to 299 metric tons (2018: 328 metric tons). This reduction was mainly the result of lower fugitive NMVOC emissions, thanks to the Leakage Detection and Repair (LDAR) program at one Shanghai site. Several sites upgraded their NMVOC treatment facilities to meet the country's increasingly stringent VOCs emission standards. Some sites in Shanghai and Jiangsu installed online monitoring facilities and set internal alarms to avoid any potential emissions beyond the limit. Almost all sites with NMVOC emissions in Shanghai, Jiangsu, Guangdong, Jilin and Xinjiang conducted the LDAR program for fugitive NMVOC, resulting in significant reductions of these emissions. Meanwhile, one site in Shanghai applied mobile emission catalysts to its offgas treatment process, reducing its NO_x emission significantly to meet China's new emission limits.



Digitalization plays a vital role in environment protection at BASF.

Water

- Sustainable water management with mandatory protection plans
- Reduction of water consumption

Water is of fundamental importance to chemical production. It is used as a coolant, solvent and cleaning agent, as well as to make our products. BASF is committed to the responsible use of water along the entire value chain and especially in its production sites' water catchment areas. Therefore, we have set ourselves a global goal for sustainable water management.

We aim to use water as sparingly as possible and further reduce emissions to water. To do so, we have set up group requirements with globally applicable standards. BASF sites in Greater China follow these group requirements and are exploring related measures. Moreover, we plan to implement the European Water Stewardship (EWS) standard in all BASF sites in water stress areas and at our Verbund sites by 2030. To date, 17 sites in water stressed areas in Greater China have complied with EWS standards, and two more sites are scheduled to follow in 2020.

To avoid unanticipated emissions and the pollution of surface or groundwater, we have developed water protection strategies for each production site, as a mandatory part of the global Responsible Care® initiative. These protection strategies involve identifying and

evaluating potential risks of unexpected wastewater emissions. The sites also draw up suitable monitoring approaches. We use audits to check if all necessary measures are being implemented.

In 2019, several online monitoring systems for wastewater were introduced to our sites in Greater China to record relevant pollutants in a timely manner.

In 2019, we were able to maintain the low level of emissions of water pollutants to the environment that was achieved in 2018, despite production expansion. Emissions of organic substances (COD) totaled 125 metric tons (2018: 120 metric tons). Nitrogen emissions were at 12 metric tons (2018: 11 metric tons), and heavy metals

Emissions to water

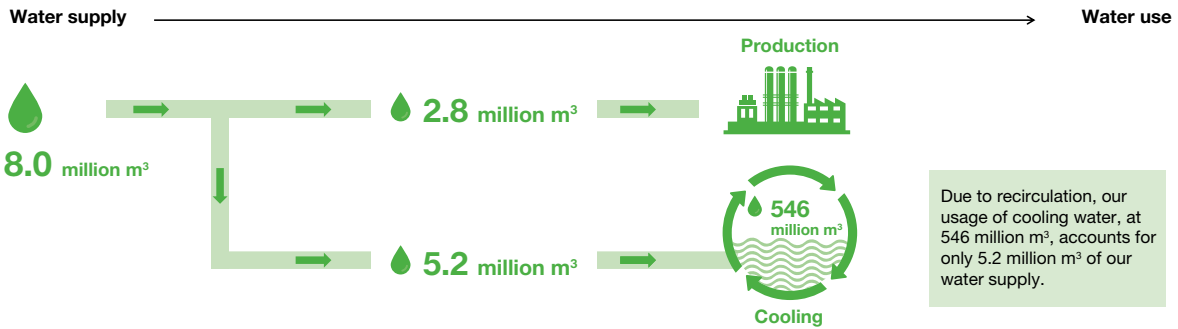
Metric tons			
Organic substances (COD)	2019	125	<div style="width: 100%; height: 10px; background-color: #4CAF50;"></div>
	2018	120	<div style="width: 96%; height: 10px; background-color: #4CAF50;"></div>
	2017	120	<div style="width: 96%; height: 10px; background-color: #4CAF50;"></div>
Nitrogen	2019	12	<div style="width: 100%; height: 10px; background-color: #4CAF50;"></div>
	2018	11	<div style="width: 92%; height: 10px; background-color: #4CAF50;"></div>
	2017	10	<div style="width: 83%; height: 10px; background-color: #4CAF50;"></div>
Heavy metals	2019	0.03	<div style="width: 3%; height: 10px; background-color: #4CAF50;"></div>
	2018	0.03	<div style="width: 3%; height: 10px; background-color: #4CAF50;"></div>
	2017	0.1	<div style="width: 30%; height: 10px; background-color: #4CAF50;"></div>



We are introducing sustainable water management at all BASF sites in water stress areas and at our Verbund sites.

Water use in Greater China

Million cubic meters



Water supply

Million cubic meters

Year	Water supply (Million cubic meters)
2019	8.0
2018	8.6
2017	8.1

Water use

Million cubic meters

Year	Production (Million cubic meters)	Cooling (Million cubic meters)
2019	2.8	546
2018	3.0	521
2017	2.6	498

emissions remained the same level at 0.03 metric tons (2018: 0.03 metric tons). In 2019, one site in Shanghai reduced COD emissions by upgrading its wastewater treatment facility to improve COD removal efficiency. A site in Taiwan achieved its COD reduction by recovering raw materials from wastewater to production.

In 2019, BASF in Greater China managed to reduce its total water use by 6% to 8.0 million cubic meters of water (2018: 8.6 million cubic meters), even though production capacities were expanded. Several sites in Greater China carried out water-saving measures. For example, one site in Shanghai upgraded its cooling water system to reduce consumption of the makeup water. Another site in Shanghai improved its cooling tower fan to reduce evaporation loss.

We predominantly use water for cooling, after which we recirculate it back to our supply sources. By recirculating as much water as possible, we reduce overall water use. Water for cooling at BASF sites in Greater China amounted to 546 million cubic meters in 2019 (2018: 521 million cubic meters). The slight increase mainly resulted from two new water-cooling systems installed by one site in Nanjing for production expansion. Thanks to recirculation, the actual usage of cooling water accounted for only 5.2 million cubic meters of our total water supply in 2019, a decrease of 0.4 million cubic meters compared with 2018 (2018: 5.6 million cubic meters).

Waste

- Reduction of waste volume
- Audit on external waste management companies

BASF aims to avoid waste as much as possible. If waste is unavoidable, we review the options for recycling or energy recovery to close the materials cycles by leveraging BASF's existing Verbund structures for efficient waste management. Waste generated from our chemical operations in Greater China decreased to 81,136 metric tons in 2019 (2018: 87,352 metric tons), while the recovery rate was stable at 66% (2018: 65%). One site in Taiwan recovered raw materials from wastewater to reduce hazardous waste disposal. A Xinjiang site optimized its purging process to minimize liquid waste. The site also optimized its packaging materials and specifications to reduce packaging waste. One site in Jiangsu decreased its hazardous waste disposal by reducing the water ratio in the sludge through installing an additional filter press. A root cause analysis was conducted at a Taiwan site to reduce waste from each process of production. This brought about significant waste reduction in 2019.

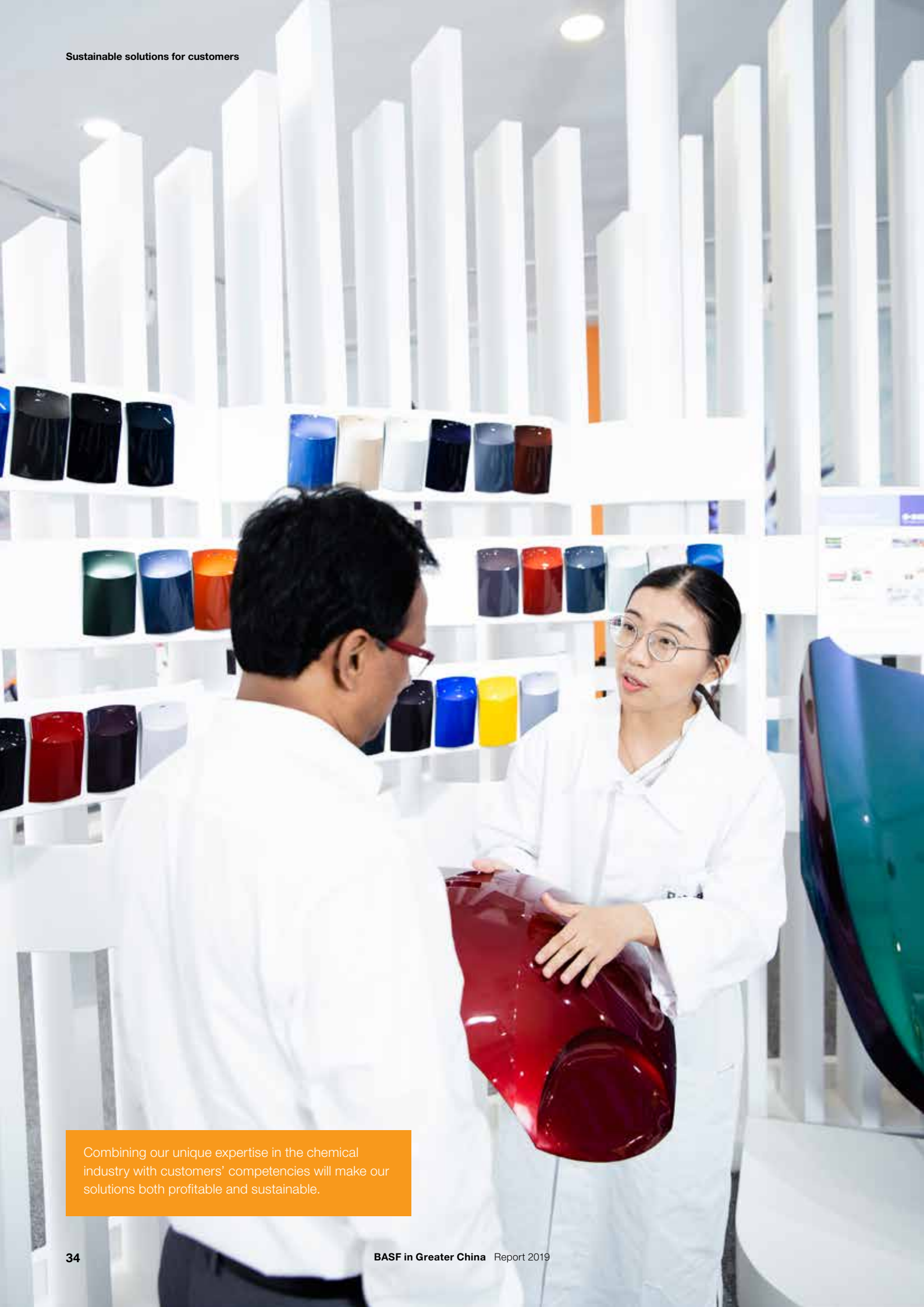
Meanwhile, we regularly audit external waste management companies we work with, ensuring that our hazardous waste is properly disposed of to prevent soil contamination. We closely monitor the soil and groundwater status at our sites in Greater China and have documented the information in a global database since 2013.

Waste

Metric tons

Year	Total amount of waste (Metric tons)	Recycling and thermal recovery (%)
2019	81,136	66%
2018	87,352	65%
2017	83,006	67%

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



Combining our unique expertise in the chemical industry with customers' competencies will make our solutions both profitable and sustainable.

Sustainable solutions for customers

Mobility

Sustainability has become the most important focus for the Chinese automotive industry. Both the government and Chinese car owners are demanding more efficient and cleaner vehicles alongside modernized and appealing designs. As a leading partner to major automotive manufacturers, BASF supports China's auto industry with a broad range of chemistry-based innovative solutions.

BASF Corporate Commitment

We drive sustainable products and solutions

Lower emissions

- **Strong partnership with Honda supplying FWC™ system for emission standard China 6 cars**
- **New locally developed catalyst technology FWC+™ increases particle filtration efficiency**

To further reduce air pollution caused by vehicles and improve air quality, China started implementing the new emission standard China 6 for light-duty cars in July 2019 in key cities.

BASF is committed to supporting the automotive customers to meet the new standard with its sustainable solutions. One of the core technologies for abating emissions is BASF's four-way conversion catalyst (FWC™). In doing so, we have been working closely with automakers, such as Honda, to get their models prepared in time for tougher regulations, by securing a fast and stable supply of FWC™. The system uses only one component to remove all four types of pollutants from gasoline engines, including carbon monoxide, hydrocarbons, nitrogen oxides and particulate matter. FWC™ system thus enables compliance of cars with the strictest China 6b emission limits while minimizing negative effects on the engine's performance.



From advanced engine catalysts to lightweight engineering plastics, BASF helps drive innovations that support the sustainable development of the automotive industry.



BASF celebrates production of 100 million catalysts

In 2019, BASF celebrated an important milestone: the production of the 100 millionth automotive catalytic converter for the local market at its mobile emission catalyst site in Shanghai. The site is an integrated hub with regional and local activities for R&D, production, and business development of mobile emissions catalysts for gasoline vehicles, diesel vehicles, and motorcycles. BASF is a leading supplier of mobile emission catalysts for top automakers in China and the world.

As original equipment manufacturers (OEM) are raising their expectations to not only meet but exceed current emission standards, BASF has been accelerating its technology development to increase the filtration efficiency in particle number (PN) of the catalyst system. The resulting FWC+™ system can now reach ultra high particle filtration efficiency with only minimal increases in backpressure at 0km, without sacrificing fuel economy. It thus meets the requirement in the real-driving emission test. In 2019, leading car manufacturers in China, such as Great Wall Motor (GWM), SAIC Motor Commercial Vehicle (SMCV), Dongfeng Xiaokang (DFSK) are among the first who completed the validation of FWC+™, while several customers in China and Europe are now involved in the early implementation of FWC+™.

Lighter weight vehicle

- **Lightweight and strong paper honeycomb trunk floors by Elastoskin®**
- **Elastofoam® integral skin engine covers to reduce noise and vibration**

Facing stricter regulations on emissions and fuel efficiency, automakers want lightweight materials to reduce fuel consumption



BASF's innovative polyurethane solution for engine covers offers a quieter and more comfortable journey for passengers.

while increasing load capacities. Thanks to advanced materials from BASF, traditional vehicle parts can be replaced with versatile plastics solutions, which make vehicles lighter without compromising their performance.

In 2019, Green & Light Automotive Components, an innovative car parts manufacturer based in China, introduced an easy-to-clean surface cover for car trunk floors, using a polyurethane (PU) paper honeycomb structure jointly developed with Elastoskin®, a PU skin technology from BASF. The solution comprises a paper honeycomb enclosed by two fiberglass mats, and pressed with Elastoflex® E semi-rigid PU foam, thereby reducing component weight by 20-30% while retaining the same strength and stiffness.

Two major auto component manufacturers Hefei Kaijie and Shanghai Feili adopted BASF's Elastofoam® PU integral foam for use in engine covers. Elastofoam® contributes to lighter vehicle weight, thereby supporting to reduce fuel consumption and emissions. Thanks to its excellent performance against noise, vibration, and harshness, it helps make cars quieter and provides riders with better experience inside vehicles. Furthermore, engine covers made with this material are produced with a simple, one-step process, saving time and resources used in the manufacturing process.

Sustainable paints

- **New waterborne one-layer coating ColorEco developed in Shanghai**
- **Instant color recognition with new NORBIN® Minimatch**

For many years, BASF has been bringing innovative coating solutions to China's automotive industry, supporting automakers to increase productivity and reduce energy use and environmental footprint.

In 2019, BASF presented ColorEco, a complete sustainable coating solution tailor-made for Light Commercial Vehicle (LCV) and Compact Multi-Purpose Vehicles (CMPV) segments. The ColorEco portfolio is comprised of a waterborne monocoat for solid colors and a waterborne Integrated Process II (IP2) system for metallic colors. Developed locally at the company's Innovation Campus Shanghai, it helps automotive manufacturers meet strict regulations for emissions of volatile organic compounds (VOCs), while saving energy and materials. The conventional system requires four coating layers. With the IP2 for metallic colors, the first layer primer is integrated into the basecoat with better functionality. With monocoat, it is even possible to integrate three steps into one. In China, the ColorEco solution has first been applied on LCVs made by Jianghuai Automotive (JAC).

In 2019, BASF launched the NORBIN® Minimatch, a palm-sized digital color match tool that efficiently matches the right NORBIN® refinish color to cars. The device can automatically detect the color of the car surface and display the color formula within 30 seconds. Replacing the traditional color card comparison method, the device offers a smart and convenient customer experience.

Shaping the future of mobility

- **Flame-retardant engineering plastics essential for electric vehicles (EV)**
- **Radar-optimized plastics support sensor development for driverless cars**

Future automotive trends such as electrification and autonomous driving require constant materials innovation.

BASF's battery materials help shape the future of electromobility. To ensure the safety and efficiency of batteries, BASF also provides advanced materials for battery coolants, battery cell fillers, and pack liners for fire-insulation. For example, BASF's Ultramid® polyamide (PA) used in EV's battery upper cover and power electronics housing can achieve electromagnetic shielding properties, thus improving the safety and performance of the component.



Material innovation is driving safety and design of future vehicles.

The safety of EVs is also crucial to the success of electromobility. Flame-retardant plastics are indispensable in enabling savings in terms of weight and installation space required for high-voltage components. Engineering plastics such as special PA and polybutylene terephthalate (PBT) grades from BASF meet the highest requirements in flame retardance, color stability, mechanics and electric insulation. Their intrinsic insulating properties also contribute to the safety of vehicles. BASF has a portfolio of various PA6 and PA66 grades that ensure dependable microelectronics in control equipment and sensors that help prevent electric corrosion damage to circuits.

In driverless vehicles, the number of sensors will increase significantly in higher levels of automation. The large-scale production of these sensors such as radar, lidar, infrared (IR) or ultrasonic sensors can only be guaranteed by using special plastics. For example, BASF's radar-optimized plastics are used for radar transmission and absorption. They help increase accuracy of the radar sensors, thereby improving the functionality of autonomous vehicles.



ColorEco is a novel waterborne monocoat and waterborne integrated paint system.

Construction

The decisions made about structures built today will have a significant impact on the quality of life for future generations. BASF is working closely together with industry stakeholders to enable successful sustainable construction projects. With chemistry-based solutions from BASF, buildings and infrastructure can be more durable, require fewer resources for maintenance and have a smaller ecological footprint.

Supporting 5G facilities

- **Robust and lightweight polyurethane solutions secure 5G telecommunication towers**
- **Plastic additives shield base stations from UV light**

China officially kicked off commercialization of 5G network services in 2019. To ensure 5G networks function fast and reliably, robust telecom infrastructure is essential. BASF is supporting the upgrade of the infrastructure with its innovative material solutions.

In 2019, Anhui Huike Hengyuan Composite Material Materials Co., Ltd produced 60 5G telecommunication towers made with BASF's

innovative Elastolit® polyurethane (PU) material solutions, across Beijing, Suzhou, Heilongjiang and Jiangxi cities in China. Compared to conventional concrete or steel base materials, towers produced with Elastolit® are lighter, faster to install even in remote areas, and can stand firm in severe weather conditions. They are also more cost-effective compared to traditional steel towers. As Elastolit® is resistant to rust and corrosion, it requires less maintenance. It is also covered in a specially formulated UV-resistant topcoat which extends its service life. It is fire-resistant and can self-extinguish quickly.

The outdoor base station that uses radio waves to relay communications between mobile devices and the core network is usually made of polycarbonate. It may undergo various degradation reactions when exposed to sunlight. With BASF's Tinuvin® 360 light stabilizer, the base stations can withstand weathering and degradation, thus maintaining stable service with an extended life span. Tinuvin® 360 can be added to the polycarbonate resins during the production stage. Low volatility reduces die build-up and allows longer running times, resulting in more stable processing, reduced production time and maintenance costs. In addition, it can achieve high UV (ultraviolet) screen performance in the final electronic casing. In 2019, Tinuvin® 360 was used by Shenzhen Xingshengdi New Materials Co., Ltd to produce 5G base stations for major international telecommunications companies.



A number of BASF's innovative material solutions can be applied to 5G base stations to ensure stable data transmission.

Improving indoor environment

- **Anti-formaldehyde dispersion for healthier indoor air**
- **Supporting CWI Early Childhood Education Center renovation**
- **A broader portfolio of low-blue lighting products for better eye health**

Product safety is one of the most important requirements among Chinese consumers when they choose paint products. To meet customers' needs for healthier indoor air, in 2019 BASF launched Acronal® Plus 7676, a low-odor and low-VOC dispersion for formaldehyde absorbing paints. High quality interior paints made with Acronal® Plus 7676 can effectively reduce formaldehyde in the air¹. With superior resistance to scrub, burnish and stain, formulated paints are especially suitable for sensitive applications such as children's rooms, kindergartens or nurseries.

BASF is committed to supporting education for children in a safe and healthy environment. In August 2019, BASF participated in the renovation project for China Welfare Institute (CWI) Early Childhood Education Center. With years of knowledge and experience in the field of sustainable construction, BASF offered a wide range of solutions to the center, including FINESTONE® INTERECO Blautopf interior wall paint for sustained formaldehyde decomposition, MasterTop® 1325 polyurethane flooring system with hygienic, sound absorbing and slip resistance features, and Sunvue® lighting system with low blue light.

BASF also expanded its Sunvue® lighting product portfolio by launching a new LED screen light for digital devices, as well as two desk lamps in Tmall and JD stores: Sunvue LED Desk Lamp and Sunvue Low Blue Lighting Huiqing. Made with BASF's patented organic color conversion technology, the lighting tubes can significantly reduce blue light, and have a higher color rendering index (CRI) up to 95, which is closer to that of natural sunlight.

Keeping temperature stable at the desired level

- **Elastopir® insulation system makes a polar station habitable**
- **Supplying the first locally manufactured PIR panels in Taiwan**

Advanced insulation is key to effective climate protection. BASF produces a series of highly energy-efficient polyurethane insulation materials that drive a positive effect on the environment and are applicable to various scenarios.

In 2019, BASF Elastopir® insulation material was used by Jingxue Energy Saving Technology Co., Ltd., China's leading supplier of energy-efficient insulation systems and cold stores, for its



The renovated classrooms will offer children better learning facilities as well as improved safety conditions.



Elastopir® systems formed with the aid of special PIR catalysts can withstand temperatures up to 260°C and provide excellent fire protection properties.

construction project for the new Brazilian Comandante Ferraz research station on King George Island in the Antarctic. Thanks to its low thermal conductivity, excellent mechanical strength and thermal stability, station façade made with Elastopir® withstands extreme sub-zero temperatures as well as strong snows and winds. In addition, it resists corrosion and keeps maintenance needs to a minimum, and has optimal fire resistance behavior.

Elastopir® based on polyisocyanurate (PIR) solutions can also be used in a broad range of applications, including civil architecture, industrial constructions and even livestock buildings to achieve energy efficiency and better comfort. In 2019, BASF also supplied a PIR manufacturer with insulation materials and solutions to produce PIR panels for the first time in Taiwan.

¹ Certification according to China JC/T 1074 – 2008

Food and nutrition

Demand for a higher quality of food products in China is on the rise. Leveraging its extensive competencies in food and agriculture, BASF has made continuous contributions to sustainable agriculture, food supply, and nutrition.

Safer feeds for animal growth

■ Formic acid to replace antibiotics

By 2020, Mainland China will eliminate the use of antibiotics in poultry and livestock feed. BASF is committed to offering high-quality feed additives and effective feed solutions for balanced and sustainable animal growth. In response to the new policy, we have provided a range of organic acid-based alternatives to antibiotics. Formic acid in feed additives is one example which has been adopted by more and more feed producers in China. It helps suppress pathogens in feed and drinking water, thus protecting animals. It also reduces the pH in the gastrointestinal tract, promoting digestion and absorption of nutrients. As it effectively acidifies the gastrointestinal tract while inhibiting harmful bacteria, formic acid minimizes the occurrence of diarrhea in animals and improves the survival rate. It, therefore, ensures the safety and quality of animal products.



As an effective way of acidifying feed while eliminating pathogens, formic acid has been widely used in the production of feed for swine and poultry industries.

Practical tools for higher yields

- Expanding insecticide portfolio with Inscalis®
- Stabilizing nitrogen loss with Vibelsoil®
- Tinuvin® NOR® 356 light stabilizers for agricultural plastics
- Agrochemical adjuvant to enhance drone spraying performance



BASF now serves farmers with a wide-ranging portfolio of agricultural solutions from seeds, traits products and crop protection to digital solutions.



Inscalis® is a powerful tool designed to control piercing and sucking insects in a variety of row and specialty crops, including cucumbers, tomatoes, cotton, and apples.

It is more important than ever to meet farmers' demands for new tools to control insects in the fields due to widespread resistance to insecticides nowadays.

In 2019, BASF successfully launched Inscalis® insecticide in China as a precise solution for controlling piercing-sucking insect pests in a variety of row and specialty crops, including cucumbers, tomatoes, cotton, and apples. With a quick onset of action, Inscalis® insecticide stops insects' feeding, reducing nutrient loss, and vectoring of harmful viral pathogens. In addition, derived from a natural fermentation process, it has a favorable environmental profile with low toxicity to beneficial insects, including pollinators. Inscalis® insecticide is now available in two high-performing formulations, Sefina® and Inveris®.

To minimize nitrogen loss in urea-based and ammonium-based fertilizers, BASF introduced Vibelsol® nitrification inhibitor to China. Vibelsol® slows down the natural transformation of ammonium via nitrite to nitrate in the soil for 4-10 weeks by inhibiting the activity of the enzyme of nitrosomonas bacteria. During this period, nitrogen loss caused by nitrate leaching and nitrous oxide emissions was reduced by about 50% on average, thus leaving more nitrogen available for the plants. In 2019, BASF cooperated with three leading local partners to develop Vibelsol® treated fertilizers for the local market. As a result, the new products increase nitrogen use efficiency for higher crop yields and environmental protection.

Agricultural films, such as greenhouse covers, contribute to stable food productivity all year round. However, they may become brittle and generate significant plastic wastes to the soil after being exposed to intense UV radiation, heat, and crop treatments, including agrochemicals, elemental sulfur, and disinfection products. With extensive competency in light and thermal stabilization as well as in-depth knowledge of agricultural market requirements, BASF released Tinuvin® NOR® 356 light stabilizers in 2019. When added to the polymer, it neutralizes the complex chain reactions and disrupts the reaction cascade. In this way, it protects agricultural films and extends their durability, helping farmers produce in a sustainable and competitive way.



BASF is bringing the concept of "snack carrot" to China.

In China, drones are now widely used for spray applications in the fields, which effectively save labor costs and enhance productivity. Nevertheless, challenges remain in terms of spray accuracy and efficacy. With its expertise in agent ingredient and formulation, BASF unveiled a new agrochemical adjuvant Agnique® for spraying drones in 2019. Based on the requirements of drones, Agnique® alters the physicochemical properties of spray solutions and creates drift-control and anti-evaporation performance, thus improving deposition accuracy and boosting the efficacy of pesticides. Derived from natural sources, the new agrochemical adjuvant is biodegradable and compatible with major foliar fertilizers and pesticides.

Fruit varieties for fresh snacking experiences

- Eating carrot as a snack
- Sweet melon from core to skin

Under the Nunhems® Brand, BASF offers a broad portfolio of vegetable seeds and unique traits to meet market and consumer demands. In 2019, Nunhems® successfully commercialized two solutions, jointly developed with customers, which bring better tastes and diverse options to Chinese consumers.

Consumers, especially the younger generation want to enjoy tasty fruit and vegetables with convenience. Nunhems® is bringing the concept of "snack carrots" to China with two new baby carrot varieties. With high Brix levels and crispness, the varieties are sweeter, juicier and more tender than ordinary carrots, ideal for eating fresh without cooking. They also provide a large amount of nutrients, including beta carotene, vitamin A and vitamin C.

In 2019, Nunhems® also launched a new thin-skinned sweet melon variety, featuring a unique black rind and a crisp, fresh, sweet-tasting flesh. An even Brix level from the seeds to skin means that more of the melon is edible, giving higher value for money.

Quality of life

Chinese consumers are pursuing a healthier and better quality of life and paying greater attention to more diversified and personalized products with higher environmental and safety performance. With a broad portfolio of products across different industries, BASF is committed to bringing timely chemistry-based innovative solutions to its customers, thus satisfying consumers' aspirations.

Safer food packaging

- **Biopolymer ecovio® adopted for online food delivery**
- **Defoamer in compliance with major food contact regulations**

Chinese food, often hot and oily, brings challenges to food container manufacturers, while the increasingly stringent local regulations on waste composition call for sustainable food packaging. BASF's biopolymer ecovio® offers a creative solution in both respects. At the 4th Taobao Maker Festival held by Alibaba in September 2019, Ele.me served food and drinks in paper bowls and cups coated with BASF's certified compostable ecovio® PS 1606. After use, these bowls and cups can be composted directly with separately collected food wastes in an industrial composting facility. ecovio® is biodegradable by microorganisms and their enzymes, leaving only water, carbon dioxide, and biomass. This helps to close the loop on food wastes, ensuring that precious nutrients are returned to the soil. Food containers coated with ecovio® are resistant to oil and temperature up to 100°C, ensuring the food inside remains safe. They have passed the stringent tests set by the Shanghai Institute of Quality Inspection and Technical Research and received certification for food contact and online catering services.



The ecovio®-coated bowls and cups can be composted directly after use with separately collected food waste in an industrial composting facility.

In 2019, BASF launched Foamaster® WO 2360 to address the ever-growing demand for defoamers in food contact applications, especially in paper-based food packaging with functional coatings and adhesives. Foamaster® WO 2360 is one of the first defoamers that complies with China's 9685-2016 for adhesives requiring food contact. It also conforms to major global food contact regulations. It meets all established test criteria such as efficiency in defoaming and antifoaming and has fast foam break time and excellent stability. It helps formulators develop coatings and adhesives that minimize foam defects, thereby reducing packing or labelling related failures in the marketplace.

Fashion-inspired material solutions

- **PolyTHF™ Inside brand assures customers of high quality and consistent performance**
- **Streetwear collections made with Freeflex® fiber and Haptex®**
- **Four material solutions fused into one athleisure shoe**

The super-elastic spandex has become one of the most popular textile materials and is often found in a variety of apparels, including sportswear, intimate apparel, outerwear, and swimsuits. Yet, when used in some types of fabrics such as denim, spandex often loses its elasticity after multiple treatment processes. Therefore, innovation in raw materials and production technologies plays a crucial role. BASF leverages its knowledge and expertise on PolyTHF (polytetrahydrofuran), the key material to produce spandex, with the launch of the "PolyTHF™ Inside" brand to the market in 2019.

The spandex products endorsed with the new brand ensure the resulting fabrics are smooth, form-fitting and durable. It also provides spandex manufacturers with guaranteed production stability and product performance. As a long-term partner, BASF grants the



The "PolyTHF™ Inside" brand represents high product quality and BASF's commitment to offering customized, innovative solutions to customers.



New streetwear collections use BASF materials to bring style and functionality to daily life.

Chinese spandex yarn producer, Hangzhou Banglian Spandex, rights to adopt the “PolyTHF™ Inside” brand for its spandex yarns for denim fabrics.

BASF collaborated with Enchi Shen, a renowned fashion designer, to unveil “Hybrid”, a 2019 streetwear collection combining fashion-forward designs and functionality made possible with fabric innovation based on BASF’s advanced material solutions Freeflex® fiber and Haptex® polyurethane (PU). Made of Elastollan® thermoplastic polyurethane (TPU), Freeflex® fiber is extremely stretchable to fit all body shapes and provides unmatched comfort. Its low heat setting temperature enables fabrics to dry quickly and saves energy in its production and daily use. Haptex®, an innovative PU solution for synthetic leather, not only provides good haptics and high peel strength that ensures texturing, but also complies with stringent volatile organic compounds (VOC) standards. Both materials enable designers to create various visual and textural elements in the collection.

BASF also joined forces with Longterm Concept and footwear designer Gu Guoyi to develop a newly designed athleisure shoe, X-Swift, which showcases four BASF advanced material innovations fused into one shoe with the latest footwear automation technology. The outsole made of Elastollan® Thermoplastic Polyurethane (TPU) incorporates a high grip tread pattern to optimize traction and to provide maximum surface contact. X-Swift’s midsole features the high rebound polyurethane Elastopan® for excellent cushioning and durability. The midsole is also complemented by a unique, breathable insole made of Elastopan® that is engineered to work with the high-performance sock liner. X-Swift features an innovative, two-piece material upper construction made with sustainable synthetic leather Haptex® and fiber made with Freeflex® TPU. The materials minimize the seams and stitch lines to provide superior comfort and performance.



BASF’s ultra-hydrating ampoule solution contains PatchH2O™, an active ingredient for an instant, cumulative, and sustained moisture effect for the skin.

Total solutions for personal care applications

■ Supporting customers to accelerate product launch time

The personal care market has become increasingly complex and is evolving at an ever-accelerating pace. Emphasis on individual needs has led to a high degree of product differentiation. Meanwhile, consumers seek more transparency on the composition of a product. In response to these trends, BASF has come up with a total solution that features basic multi-purpose formulations with essential ingredients. Personal care product manufacturers can simply add in a few ingredients for additional features. The pre-formulated solutions will help our customers speed up the product development cycle, enabling them to launch new, high-quality products in a faster, easier, and more efficient way.

BASF has successfully launched these products for skincare, haircare, and sun care segments. In skincare, BASF has introduced several ready-to-use ampoules for hydrating and anti-aging applications. Ampoules provide a more concentrated version of a serum with a higher amount of active ingredients and thus faster results. BASF’s ultra-hydrating ampoule solutions contain PatchH2O™, an active ingredient for an instant, cumulative and sustained moisturization of the skin. In haircare, a BASF solution called Scalp Care 2.0 tackles scalp itching and sensitivity. Its active ingredients have soothing and moisturizing effects. Consumer clinical testing has proved the solution’s effectiveness in anti-itching. Meanwhile, BASF’s new sunscreen solution for sensitive skin combines 100% naturally-derived mild emulsifiers with highly efficient ultraviolet absorbers, ensuring a high level of protection and water-resisting property.



We engage with employees and offer them various tools and skills to drive their career development.

Employees and society

Employees

BASF attaches great importance to attracting and cultivating talents as employees are crucial to the success of the company. In 2019, we continued to enrich our talent pool with new initiatives while catering to the personal and career development needs of our current employees. We aim to foster a working environment that inspires and connects people.

As of the end of 2019, BASF in Greater China had a total of 9,230 employees (2018: 9,317).

Number of employees (as of December 31)

2019	9,230	
2018	9,317	
2017	8,982	

BASF Corporate Commitment

We value people and treat them with respect

Recruitment

- **BASF “Grow+” Management Trainee Program for graduates**
- **Summer Internship Program for university students**
- **Building technical and production talent pool in South China**

Attracting and recruiting the right talent is a crucial part of BASF’s people strategy. In Greater China, we have launched a variety of programs to reach potential candidates.

The launch of the BASF “Grow+” Management Trainee Program was a strategic step to create a strong talent pipeline at the entry level. The first group of Grow+ trainees was successfully brought on board in 2019. This well-designed program offers job rotation, on-the-job training, systematic learning resources, and challenges through working on a wide variety of projects with leaders and professionals. This program aims to develop trainees with an entrepreneurial mindset and the skills necessary to become future leaders and technical experts. Based on their overall performance and BASF’s development areas, trainees will be offered key positions after they have completed the program.



BASF “Grow+” Management Trainee Program aims to recruit, train, and develop graduates with customized development plans, systematic learning opportunities, and exposure to various projects and challenges.

The newly launched BASF Summer Internship Program targets final-year students of bachelor’s and master’s degrees. It aims to engage high-potential candidates early and prepare them for a solid career at BASF or the chemical industry. It also reinforces the company’s commitment to developing a professional workforce for the chemical industry in China. During the two-month internship, candidates are assigned specific projects with real-business issues in the fields of their expertise. The program also provides students with learning and engagement activities as well as result tracking and performance reviews. In 2019, 21 candidates completed the program from which 18 were fast-tracked to the BASF “Grow+” Management Trainee program.

With the commencement of its Verbund project in Zhanjiang, BASF is offering career opportunities to young engineering and production talents. The company has launched several programs in this area. The BASF Young Site Engineer (YSE) Program targets engineering graduates. Through the two-year program, candidates will learn and develop valuable skills within a smart-manufacturing environment and participate in the building of the new Verbund site from the very beginning. Each candidate will



The Young Site Engineer Program enables graduates to develop relevant skills and advance career opportunities in a smart manufacturing environment.

have a tailor-made development plan, allowing them to participate in various engineering projects and receive professional guidance from experts and project managers. To foster young production talent, BASF has entered into a partnership with Maoming Polytechnic, a leading vocational training college in Guangdong Province, to develop a customized vocational curriculum that integrates BASF-related knowledge. Practical training has been increased by at least 15% to offer more hands-on experience to the students.

Career development

- **LEADx leadership development program**
- **Taking ownership of career development with self-nomination**

Believing that everyone has their own talent, BASF has developed various programs for employee career development.

To keep abreast of the changing business landscape, future leaders have to be agile, customer-focused, and entrepreneurial in order to drive sustainable growth. To identify future leaders and accelerate their development, BASF has introduced Leadership Excellence Asia Pacific (LEADx) in Greater China.

This new regional leadership development program offers a simple, transparent, and flexible approach that helps high-performing employees, with leadership potential to advance their development at a faster pace. With this approach, employees can create a personal development plan for their desired career paths, supported by a diverse portfolio of on-demand and scalable digital learning resources.

Apart from the nomination from respective managers, this program also accepts self-nomination, encouraging competent and aspiring employees to proactively drive their career path and seek personal advancement within the organization.



Each BASF employee is invited and expected to actively shape their own career development with support from their managers.

Working at BASF

- Global employee survey - Employee Voices
- Flexible Benefit Plan
- Employee Assistance Program
- Top Employer in China for the tenth consecutive year

BASF is committed to creating an inclusive and inspiring workplace to meet employees' needs of both personal and professional development. The company continually reviews its working conditions at offices and production sites and finds new ways to improve the welfare of employees.

In 2019, BASF conducted a new annual global employee survey – Employee Voices. It is an anonymous online survey that measures and tracks the current engagement level based on influencing factors, such as agility, recognition, inclusion, innovation, customer focus, and personal development opportunities. As part of the corporate strategy, BASF has set a new goal for Employee Engagement: more than 80% of its employees feel that at BASF, they can thrive and perform at their best. Our 2019 employee survey showed an engagement index of 79%. Despite significant challenges associated with restructuring measures, this score is already close to the target we set ourselves. We continue to aim to increase this score to over 80%.

The Flexible Benefit Plan¹ came into effect in 2019. BASF employees can personalize their benefit package according to their individual needs, including extending the benefits to their spouses and parents.

Since 2013, the company has been offering psychological counseling to BASF employees and their direct family members through the Employee Assistance Program (EAP) all year round in Greater China. In Taiwan, the local EAP also provides employees with legal, financial, and medical counseling from qualified professional consultants. All information is treated with strict confidentiality.

BASF's Joint Trade Union aims to create a harmonious and enjoyable working environment for employees with various social activities. A wide range of events were held in 2019, including employee outings, book clubs, culture and technology salons, and summer and winter camps for employees and their families.

In recognition of its long-term efforts in talent development, compensation, and benefits, as well as corporate culture, BASF was certified as a Top Employer in China by the Top Employers



During the Summer Camp organized by the Joint Trade Union, employees' children are offered opportunities to communicate with their Japanese peers and make new friends.

Institute for the tenth consecutive year, ranking among the Top 10 in 2019.

Inclusion of diversity

BASF encourages people from different backgrounds to draw on their individual perspectives and skills to grow our business. Through the inclusion of diversity, we aim to boost our teams' performance and innovation and increase creativity and motivation.

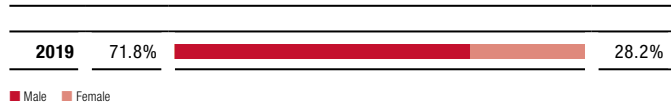


Diversity of our employees boosts the power of innovation.

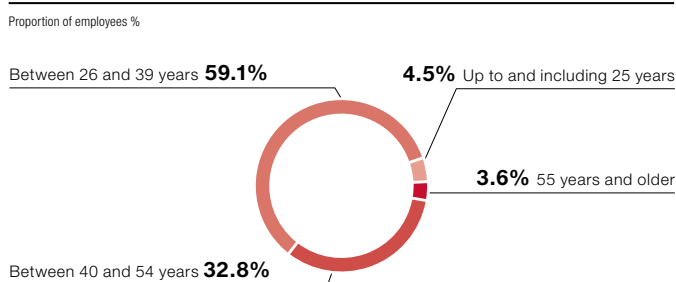
¹ The plan is implemented at BASF's wholly-owned enterprises in Mainland China.

All employees are offered equal opportunities at BASF, regardless of gender, age, and nationality. In 2019, 28.2% of BASF employees in Greater China were female. The most substantial proportion (59.1%) of employees at BASF in Greater China was in the 26-39 year-old range (2018: 61.1%).

Gender (as of December 31)



BASF employee age structure (as of December 31, 2019)



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 relevant laws and corporate policies that govern the behavior of all BASF employees in their interaction with business partners, officials, colleagues, and community.

At a global level, BASF’s Chief Compliance Officer (CCO) 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. The CCO is supported in this task by more than 100 compliance officers worldwide in the regions and countries, including Greater China.

All employees are required to take part in basic compliance training, refresher courses, and special tutorials within a prescribed time frame. In 2019, BASF held a series of 37 live compliance training sessions and tailor-made antitrust workshops in Mainland China. This training program, along with the mandatory online training sessions, covered more than 2,100 employees in Greater China. Additionally, the legal and compliance team in Greater China was invited by business partners of BASF to share experiences and good practices of its 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 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. A number of compliance cases were reported and investigated in Greater China in 2019. Cases where violation or misconduct had been substantiated resulted in disciplinary actions and implementation of additional control measures.

Apart from training and investigations, a comprehensive legal and compliance risk assessment has been carried out by BASF since 2018 based on a systematic dialog with functional leaders in Greater China focusing on key risks associated with their operations and mitigations are jointly explored and implemented.

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

Social engagement

With the United Nations' Sustainable Development Goals (SDGs) as guiding principles, BASF's social engagement activities contribute to solving current and future social challenges. We continue our commitment to supporting a better quality of life in the communities around our sites, setting up learning opportunities, and creating a long-term impact.

Stakeholder and community engagement

- Dialog with local communities through Community Advisory Panels
- Good Neighbor Program supporting neighboring communities
- Stakeholder dialog with Chinese NGOs

To enhance mutual understanding and increase transparency with various key stakeholder groups in Greater China, BASF conducts a range of engagement programs, including open dialog sessions, community activities, and open days to better support the needs of the communities where we operate.

Community Advisory Panels (CAP) is one of the important platforms that we use to engage the communities around our major production sites. CAP members are selected from local communities to meet regularly and discuss topics of common interest with BASF's site management. In Greater China, BASF supports CAPs in Shanghai, Chongqing, and Nanjing.

In 2019, more than 20 local community representatives, including CAP members at BASF Shanghai Pudong Innovation Park, visited the company's Agricultural Test Station to learn about its innovative applications in agriculture. In Chongqing, CAP members visited Meixin Group, a customer of BASF, to understand how BASF has supported Meixin's product innovation and responsible production. In Nanjing, along with its annual dialog session about environmental



Marko Murtonen, General Manager of BASF Chongqing site, presents a book about safety to a pupil at Yanjia Experimental Primary School.

impact, BASF-YPC Co. Ltd. organized a river clean-up in the local community last summer.

BASF's Good Neighbor program supports schools and homes for the elderly in the communities. In September 2019, BASF visited a primary school in Zhanjiang and a primary school near the Chongqing site and shared safety knowledge with the first graders. In Chongqing, BASF donated 250 safety caps and books as new-school-year gifts for pupils. In both cities, BASF sent Mid-Autumn Festival greetings to local homes for the elderly. In 2019, BASF also donated rice to a neighboring community in Shanghai and a television set to a nomadic community in Xinjiang.

BASF regularly invites the neighboring communities to open days at major sites in Greater China. In November 2019, BASF welcomed more than 80 residents and CAP representatives to its open day at the Shanghai Pudong Innovation Park. Through a guided site tour and various activities, visitors got a better understanding of how BASF's chemistry-based innovations improve the quality of life and contribute to sustainable development.



During a field harvesting activity in Shanghai, BASF management and the local CAP members learned how BASF's agriculture solutions ensure food safety and improve crop health.



Kids enjoy various activities including games and fun experiments during the open day.

In October 2019, representatives from environmental and educational non-governmental organizations (NGOs) across the country were invited to BASF's annual stakeholder dialog in Shanghai. With the theme "sustainability and circular plastics", BASF executives and experts shared with the NGO representatives its sustainability strategy, best practices in the circular economy, such as the ChemCycling® project. Products were also showcased to demonstrate how innovation in chemistry can improve the quality of life and address the challenges of plastic waste.

Corporate Citizenship

- Employee volunteering activities held across Greater China
- Donations and sponsorships for various causes
- BASF Kids' Lab celebrated 150th anniversary of the Periodic Table of Elements

BASF strives to improve the well-being of individuals in the surroundings of its sites through donations or not-for-profit activities. We encourage our employees to participate in volunteering and social engagement activities.

BASF sponsors a variety of volunteering options creating opportunities for employees to work with local partners. Many of these initiatives have been running for years.

In Shanghai, BASF has been supporting a long-term initiative "Intellectual Assistance to the Disabled" run by the Shanghai Association of Persons with Physical Disability since 2005. Through the "Goodwill Teacher" program, BASF employees volunteer their time on weekends to offer free oral English tuition to teenagers with disabled parents. In addition, BASF set up a scholarship in 2006 and continues to finance hundreds of outstanding or underprivileged students for high school or university tuition.

In Hong Kong, BASF cooperated with Redress, an environmental NGO, to collect used clothes for reuse and recycling. The BASF team collected over 110 kilograms of clothing, helping raise awareness about the impact that "fast fashion" has on the environment and promoting a circular fashion economy.



Employee volunteers engage students through interactive exercises in English classes.

BASF Taiwan Volunteer Club organized weekend activities such as cooking, baking, and planting for Reindeer Children's Home, an NGO for orphans, the poor, and children who have suffered abuse. Volunteers also provided guidance in career development for middle school students from underprivileged families in Chiayi County, together with Shiou Ping Education Foundation. Moreover, employees held a Christmas celebration activity with members of Kindgarden, a social welfare organization dedicated to accommodating people with intellectual disabilities.

In 2019, BASF spent over €0.5 million (approx. CNY 4.5 million) to various organizations and causes in Greater China.



For example, BASF donated CNY 200,000 to support the education of impoverished students in Gaoqiao Town in Pudong. BASF also donated CNY 100,000 to help autistic children in Shanghai for their basic education and specialized training. Through the "Grow with BASF" program, the company offered hands-on chemistry experiments and donated books and stationery to children living in villages, covering six primary schools in Fujian, Henan, Heilongjiang, Sichuan, and the Inner Mongolia Autonomous Region.

BASF supports science education in Greater China to nurture aspiring young scientists through various activities. BASF, as a member of the China Petroleum and Chemical Industry Federation, co-organized the Young Talents' Chemical Innovation Challenge (Hackathon 2019) in Shanghai. Under the theme of "New Plastic



The "Grow with BASF" program offers inspiring hands-on chemistry experiments and donated books and stationery to children living in the local villages.



Students monitoring their self-designed chemical-powered cars during the 2019 China Chem-E-Car Competition®.



In the experiment "Poly Lab", kids learn about various properties of plastics and discuss how to separate different types of plastics for recycling.

Economy", the Hackathon encouraged students to explore product innovation, process innovation, and paradigm change to address challenges posed by plastics. BASF also sponsored 2019 China Chem-E-Car Competition® in Nanjing. Undergraduate participants were required to design a chemical-powered car that can travel and stop at a given distance with a specified load.

Since 2005, BASF has been running the "BASF Fascinating Chemistry" course for non-chemistry freshmen at Peking University. It comprises 14 lectures jointly developed by renowned professors and BASF scientists, aiming to arouse students' interest and passion for chemistry and the chemical industry. As one of the most popular joint courses at Peking University, more than 80 students with various backgrounds attended the course in 2019. BASF experts were also invited to give lectures to chemistry students at Tongji University in 2019.

BASF Kids' Lab, a long-standing science education program for children aged 6-12, encourages them to explore science and discover the magic of chemistry through simple and safe experiments. In 2019, the program celebrated the 150th

anniversary of the Periodic Table by offering visitors an interactive and immersive "journey of chemical elements". In Beijing, BASF Kids' Lab was integrated into "The Periodic Law" exhibition at the China Science & Technology Museum. At the "Elements Workshop", kids conducted lifestyle-oriented experiments under the guidance of well-trained university volunteers, helping them understand scientific principles through hand-on experiments. In addition to the summer events, BASF developed a portfolio of digital online learning resources with exciting experiments and stories about chemical elements, allowing kids to explore their learning journey from elementary to high school, anytime, anywhere.

BASF also initiated a series of science activities, seminars and open days, to stimulate interest among teenagers and increase knowledge about chemistry.

Around 9,500 children took part in the 2019 sessions in Shanghai, Beijing, Chongqing, Taipei, Kaohsiung and Hong Kong. More than 200,000 children have participated in BASF Kids' Lab in Greater China since 2002.



Dr. Stefan Bruening, Vice President, BASF Innovation Campus Shanghai, explains the important role that chemistry plays in the daily lives.



Kids experienced "Element Workshop" at the China Science & Technology Museum.



A BASF scientist worked as a volunteer tour guide to help science fans understand how chemistry provides solutions to global challenges.

Starting Ventures

- **New solutions to improve cleaning waste management in rural Guangxi**
- **Donating innovative LED light solutions to a primary school in Shanghai**

Through Starting Ventures, BASF develops business solutions that empower people with low incomes to achieve a better quality of life. These projects thereby contribute to our social engagement and long-term business success.

In 2019, BASF and its partners launched a project in Du'an Yao Autonomous County, Guangxi, to improve the sanitation facilities, such as trash bins, trash trucks and waste transfer stations. BASF worked with partners to develop a new cleaning solution with better performance and higher efficiency, using less water and having no negative impact on the environment. BASF also provided technical know-how to local partners to set up a training program tailored for sanitation workers, helping them better understand science-based procedures for cleaning sanitation facilities.

Another project uses the lighting solutions developed by BASF to improve the learning environment for more than 1,000 children at a primary school in Shanghai. The fluorescent tubes in classrooms and function rooms at Gaohang Campus of Pudong Gaoqiao Town Primary School are replaced with Sunvue® LED low blue light tubes and panels that enhance color rendition and protect student's eyesight from blue rays.

Selected prizes and awards

To recognize its commitment to sustainability and social engagement in Greater China, BASF has received the "Best Corporate Citizenship" award from 21st Century Media Group for the 15th year in a row.



BASF was also ranked second by the Taiwan-based business publication CommonWealth Magazine in the "multinational companies" category of its annual "Excellence in Corporate Social Responsibility" ranking.



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