



We create chemistry

# BASF in Greater China Report 2022







### Cover photo:

At BASF Shanshan R&D Innovation Center, an employee tests the electrochemical performance of cathode active materials, which play a crucial role in improving the performance of lithium-ion batteries in electric vehicles and consumer electronics.

### On this page:

At BASF, emergency response means being prepared at all times and at all locations for a possible incident at our company. In Greater China, fire prevention inspections are carried out regularly at sites to keep the firefighting systems in good working order.

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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 2022. 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, 2022.



In September 2022, BASF announced the inauguration of the first plant of its new Zhanjiang Verbund site in Guangdong. The next construction phase of the Zhanjiang site will focus on the core of the Verbund, including a steam cracker and several downstream plants.

# BASF Group

## 2022 – At a glance

### Sales

**€87.3 billion**  
(2021: €78.6 billion)

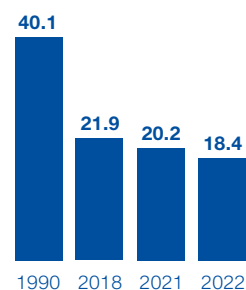
### EBIT before special items

**€6.9 billion**  
(2021: €7.8 billion)

### ROCE

**10.0%**  
(2021: 13.7%)

### Greenhouse gas emissions (million metric tons of CO<sub>2</sub> equivalents)



### Capital expenditures (capex)

**€4.1 billion**  
(2021: €3.4 billion)

### Employees at year-end

**111,481**  
(2021: 111,047)

### Research and development expenses

**€2.3 billion**  
(2021: €2.2 billion)

### Personnel expenses

**€11.4 billion**  
(2021: €11.1 billion)

## Segment data



### Chemicals

		Million €
Sales	2022	14,895
	2021	13,579
EBIT before special items	2022	1,956
	2021	3,092



### Surface Technologies

		Million €
Sales	2022	21,283
	2021	22,659
EBIT before special items	2022	902
	2021	800



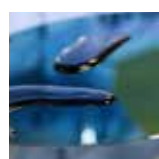
### Materials

		Million €
Sales	2022	18,443
	2021	15,214
EBIT before special items	2022	1,840
	2021	2,418



### Nutrition and Care

		Million €
Sales	2022	8,066
	2021	6,442
EBIT before special items	2022	618
	2021	497



### Industrial Solutions

		Million €
Sales	2022	9,992
	2021	8,876
EBIT before special items	2022	1,091
	2021	1,006



### Agricultural Solutions

		Million €
Sales	2022	10,280
	2021	8,162
EBIT before special items	2022	1,220
	2021	715



## Welcome Letter from the President

*Dear stakeholders,*

BASF Greater China had a volatile and challenging year in 2022, but it was still a significant and incredible year. BASF continues its long-term endeavors to contribute to Greater China's economic, environmental, and social success.

I am so proud of our team's perseverance, dedication, and commitment throughout the year to ensuring safe production, timely deliveries, and business continuity. We achieved sales of approximately €11.6 billion in 2022 (2021: around €12 billion) to customers in Greater China.

We are continuously expanding our local production capabilities to meet the growing demand for chemicals in the dynamic Chinese market. The expanded and new plants at the Nanjing Verbund site – jointly operated with Sinopec – will be operational by late 2023.

We inaugurated the first plant at the new Zhanjiang Verbund site in 2022, producing engineering plastics compounds for our Chinese customers, primarily in the automotive and electronics industries. The Zhanjiang Verbund site would be BASF's largest investment with up to €10 billion by 2030, and is now in the main construction phase, with a focus on building the heart of the Verbund including a steam cracker and downstream chemical plants.

Last year, we expanded our battery materials production capacity in Changsha and Shizuishan, and formed a joint venture with Heraeus in Pinghu to recover precious metals from spent automotive catalysts, in order to strengthen our strategic position in battery materials and the automotive industry while promoting the circular economy in China.

Furthermore, the third phase of our Innovation Campus Shanghai was in full construction and will be operational in 2023. With a total investment of almost €280 million in Innovation Campus Shanghai, we will strengthen our local innovation capabilities in China. We will continue to collaborate with our customers and partners in China to co-create innovative and sustainable solutions for China and the rest of world, leveraging our expanding global network.

BASF aims to achieve net zero greenhouse gas emissions globally by 2050. In Greater China, we have reduced carbon emissions in our operations by 19% despite an increase of almost 60% in sales



volume compared to 2017. This is mainly attributed by continuously improving the energy and process efficiency of our plants through digitalization and increasing the usage of renewable energy. Safety remains our top priority. We will continue to promote a safety culture throughout our businesses and the value chain.

We strive to be responsible corporate citizens in the areas where we operate. Despite the challenges posed by the coronavirus pandemic last year, we continued to engage with our local communities, celebrated the 20th anniversary of BASF Kids' Lab in Greater China with new initiatives, and organized our annual employee volunteer clean-up programs across the country.

Moving forward, 2023 will continue to be fraught with challenges and uncertainties. Nonetheless, I am confident and optimistic about the future since we have a strong manufacturing footprint, a leadership position in sustainability, and growing innovation capabilities in Greater China. I am excited to work with all of our stakeholders to co-create a more sustainable future in Greater China!

A handwritten signature in blue ink, appearing to read 'Jeffrey Lou'. The signature is fluid and cursive.

Dr. Jeffrey Lou  
President and Chairman Greater China, BASF

# The BASF Group

**At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 111,500 employees contribute worldwide to the success of our around 82,000 customers in nearly all sectors. Our customer portfolio ranges from major global customers and small and medium-sized enterprises to end consumers.**

## At a glance

**111,481**

Employees around the world

**239**

Production sites worldwide

- Six segments with eleven operating divisions
- Verbund structure ensures efficient and reliable production
- High-performance organization for greater customer proximity, increased competitiveness and profitable growth
- Around 82,000 customers are at the core of our strategy
- More than 70,000 Tier 1 suppliers

## Sites and Verbund

As one of the world's largest chemical companies, BASF is present in 91 countries. We operate 239 production sites worldwide – including Ludwigshafen, the world's largest integrated chemical complex owned by a single company. It was there, in 1865, that the foundation stone was laid for the Verbund concept, which remains a key strength of BASF today: Intelligently linking and steering our plants in a Verbund structure creates efficient value chains – from basic chemicals to high value added solutions such as coatings or crop protection products. The Verbund enables us to manage our production in a resource-efficient, carbon-optimized and reliable way. By-products from one facility are used as feedstocks elsewhere, for example. This saves us raw materials and energy, avoids emissions, lowers logistics costs and leverages synergies.

In addition to Ludwigshafen, Germany, BASF operates five other Verbund sites in Antwerp, Belgium; Freeport, Texas; Geismar, Louisiana; Kuantan, Malaysia; and Nanjing, China. Another Verbund site is being built in Zhanjiang in the southern Chinese province of Guangdong.

## Organization of the BASF Group

We steer our six segments along our value chains to address the needs of our customers with differentiated solutions and business strategies.

- **Chemicals:** The segment supplies BASF's other segments and customers with basic chemicals and intermediates.
- **Materials:** The segment offers advanced materials and their precursors for the plastics and plastics processing industries.
- **Industrial Solutions:** The segment develops and markets ingredients and additives for industrial applications.
- **Surface Technologies:** The segment offers chemical solutions for surfaces and automotive coatings, as well as battery materials and catalysts.
- **Nutrition and Care:** The segment produces ingredients and solutions for consumer applications such as human and animal nutrition, and home and personal care.
- **Agricultural Solutions:** The segment is an integrated provider of seeds, crop protection and digital solutions for the agricultural sector.

This segment structure enables us to steer our businesses in a differentiated way according to market-specific requirements and the competitive environment. We provide a high level of transparency around the results of our segments and show the importance of the Verbund and value chains to our business success. BASF aims to differentiate its businesses from their competitors and establish a high-performance organization to enable BASF to be successful in an increasingly competitive market environment.

The operating divisions, the service units, the regions and the corporate center are the cornerstones of the BASF organization. This organizational structure lays the foundation for customer proximity, competitiveness and profitable growth.

Our eleven divisions bear strategic and operational responsibility and are organized according to sectors or products. They manage the 52 global and regional business units and develop strategies for 72 strategic business units.

BASF's regional and national companies represent the Group locally and support the growth of business units with local proximity to customers. For financial reporting purposes, we organize the regional companies into four regions: Europe, North America, Asia Pacific, as well as South America, Africa and Middle East.

To strengthen our innovation capabilities, we reorganized our global research activities in 2022 and aligned them even more closely with the needs of our customers. As part of this, we integrated downstream research into the divisions and bundled activities with broad relevance for our customers in a research division. This division is globally positioned with research centers in Europe, North America and Asia Pacific.

Five service units provide competitive services for the operating divisions and sites: Global Engineering Services, Global Digital Services, Global Procurement, European Site & Verbund Management and Global Business Services (finance, human resources, environmental protection, health, safety and quality, intellectual

property, communications, procurement, supply chain and in-house consulting services).

We have driven forward the bundling of services and resources in the Global Business Services unit, making greater use of the digitalization of processes.

The Corporate Center supports the Board of Executive Directors in steering the company as a whole. These include central tasks from the following areas: strategy, finance and controlling, compliance and law, tax, environmental protection, health, safety and quality, human resources, communications, investor relations, corporate audit and the Net Zero Accelerator unit.

### Procurement and Sales Markets

BASF supplies products and services to around 82,000 customers<sup>1</sup> from various sectors in almost every country in the world. Our customer portfolio ranges from major global customers and small and medium-sized enterprises to end consumers.

We work with over 70,000 Tier 1 suppliers<sup>2</sup> 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.

#### BASF sales by industry 2022

Direct customers

>20%	Chemicals and plastics   Transportation (respectively)
10%–20%	Agriculture   Consumer goods (respectively)
<10%	Construction   Electronics   Energy and resources   Health and nutrition (respectively)

### 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 and political environment
- Legal and political requirements (e.g. E.U. regulations)
- International trade agreements
- Industry standards
- Environmental agreements (e.g. E.U. Emissions Trading System)
- Social aspects (e.g. U.N. Universal Declaration of Human Rights)

BASF holds one of the top three market positions in around 80% of the business areas in which it is active. Our most important global

competitors include Arkema, Bayer, Clariant, Corteva, Covestro, Dow, Dupont, DSM, Evonik, Huntsman, Lanxess, SABIC, Sinopec, Solvay, Sumitomo Chemical, Syngenta, Wanhua and many hundreds of local and regional competitors. We expect competitors from Asia and the Middle East in particular to continue to grow in significance in the years ahead.

### Corporate Legal Structure

As the publicly listed 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. In the BASF Group Consolidated Financial Statements, 248 companies including BASF SE are fully consolidated. We consolidate nine joint operations on a proportional basis and account for 23 companies using the equity method.

 For more information on the companies belonging to the BASF Group, see [basf.com/en/corporategovernance](https://basf.com/en/corporategovernance)

<sup>1</sup> 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.

<sup>2</sup> 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

**Chemistry is our passion. We want to be the most attractive partner for our customers to overcome challenges that can be solved with chemistry. Our customers are at the center of everything we do. With our products and technologies, our innovative and entrepreneurial spirit and the power of our Verbund integration, we want to grow profitably and at the same time, create value for society and the environment. This is our goal, which is embedded in our corporate purpose: We create chemistry for a sustainable future.**

Humankind is facing enormous challenges. The climate is changing, natural resources are becoming scarcer, pressure on ecosystems is increasing and our growing world population needs to be fed. More and more urgently than ever, solutions are needed for a sustainable future. Chemistry plays a key role here. In almost all areas of life, it can pave the way to greater sustainability with innovative products and technologies and accelerate the change needed to achieve this. This belief is expressed in our corporate purpose: We create chemistry for a sustainable future.

Our mission and motivation is to grow profitably and make a positive contribution to society and the environment. For example, BASF's solutions help to protect the climate, avoid or recycle waste, use resources more efficiently, produce healthy and affordable food, and enable climate-smart mobility.

At the same time, we are undergoing profound changes. We need to transform our company, as we have done repeatedly in the more than 150-year history of BASF. This time, we are moving toward climate neutrality and the circular economy. This involves managing long-term policy decisions like the European Green Deal, overcoming the consequences of current geopolitical conflicts such as the war in Ukraine, and driving forward digitalization. All of this requires a clear vision as well as a high degree of creativity and flexibility.

Both long-term trends and short-term developments in an environment characterized by volatility and uncertainty are challenging for the chemical industry. At the same time, they also open up numerous opportunities for new business areas and innovative products.

We want to lead the way in the chemical industry and responsibly shape the change – with ambitious targets and a concrete roadmap: We are gradually switching our energy and raw materials supplies from fossil to renewable sources. We are adapting our Verbund structure to the new circumstances as the basis for resource-efficient, safe and reliable production. We are developing new, pioneering carbon-free and low-carbon production processes for our products. We are accelerating our innovation processes and deepening cooperation with customers, suppliers and other partners to develop high-performance products with a lower carbon footprint. We are developing recycling technologies for various waste streams to strengthen the circular economy. We are harnessing the many opportunities of digitalization across all areas of the company. We are systematically aligning our portfolio with growth areas and future

technologies, and are integrating sustainability into our value chains even more strongly. We create a working environment in which our employees can thrive and contribute to BASF's long-term success.

## Our Strategic Action Areas

BASF's strategic orientation is founded on a comprehensive analysis of our markets, competitors and the economic environment. We continuously monitor global trends and short-term developments and anticipate the resulting opportunities and risks. The following six strategic action areas enable us to focus on our customers while strengthening our leading position in a competitive environment.

**Innovation** is the bedrock of our success. BASF is a leader in the chemical industry with around 10,000 employees in research and development and R&D spending of around €2.3 billion. We are expanding this position by strengthening our research activities, bringing research and development even closer together, and fostering cooperation.

We see **sustainability** as an integral part of our strategy as well as our targets, steering processes and business models. Our approach covers the entire value chain – from the responsible procurement of our raw materials and safety and resource efficiency in production to sustainable solutions for our customers.

## Good to know



## Our customers in focus

BASF supplies products and services to around 82,000 customers from almost all sectors and countries around the world. Our customers are mainly global and small and medium-sized companies, but also include end consumers. We are continually refining our organizational structure so that our operating divisions can flexibly address specific market and customer requirements and differentiate themselves from the competition. The operating divisions pursue different business strategies – from cost leadership in basic chemicals to tailored system solutions for specific customer applications. Above and beyond this, we are intensifying cooperation with our customers to jointly leverage innovation and growth potential. For instance, we have established around 60 strategic customer networks to address the needs of our most important customers even better and more quickly.



Our core business is the **production** and processing of chemicals. Our strength here lies in the Verbund. It opens up numerous synergies and advantages for us, for example in the development and application of new technologies. We are therefore continuing to invest in our Verbund structure. At the same time, we are strengthening our presence in growth regions in order to produce locally for the local markets and thus close to our customers.

## Our six strategic action areas

### Innovation, sustainability, production, digitalization, portfolio and employees

We want to leverage the diverse growth potential of **digitalization** and seize the associated opportunities to the benefit of our customers. To achieve this, we promote digital skills among our employees, cooperate with partners and make digital technologies and ways of working an integral part of our business.

Investments, acquisitions and divestitures play a key role in strengthening our **portfolio**. We are focusing on innovation-driven growth areas and sustainable technologies such as battery materials, polymer technologies and catalytic and biotechnological methods.

Our **employees** are key to BASF's success. That is why we believe that it is important to have an inspiring working environment that fosters and develops employees' individual talents and enables them and their teams to perform at their best.

## Our Values and Global Standards

We want to help change the world for the better. This is what drives us and is at the core of our corporate purpose. How we act is critical. BASF's four corporate values serve as a compass for us worldwide and are simultaneously an expression of our ambitions and our shared identity.

Together with our Code of Conduct and our global standards, our CORE values lay the foundation for responsible conduct and trust-based relationships with our stakeholders. They define how we want to work together – as a team, with our customers and our partners:

**Creative:** We make great products and solutions for our customers. This is why we embrace bold ideas and give them space to grow. We act with optimism and inspire one another.

**Open:** We value diversity, in people, opinions and experience. This is why we foster feedback based on honesty, respect and mutual trust. We learn from setbacks.

**Responsible:** We value the health and safety of people above all else. We make sustainability part of every decision. We are committed to strict compliance and environmental standards.

**Entrepreneurial:** We focus on our customers, as individuals and as a company. We seize opportunities and think ahead. We take ownership and embrace personal accountability.

Our standards are based on, and in some cases, exceed existing laws and regulations and take internationally recognized principles into account. We respect and promote:

- The Universal Declaration of Human Rights and the two U.N. Human Rights Covenants
- The 10 principles of the U.N. Global Compact
- The core labor standards of the ILO and the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy
- The OECD Guidelines for Multinational Enterprises
- The Responsible Care® Global Charter
- The German Corporate Governance Code

We stipulate binding rules for our employees with our standards and guidelines that apply throughout the Group. Our aim is to prevent compliance violations from the outset through compulsory training for all employees and special training for leaders. The Corporate Audit department continuously monitors compliance with requirements. We regularly assess our performance in environmental protection, health and safety as part of our Responsible Care Management System. We realize our responsibility to behave in accordance with international and social standards largely in three ways: through our Compliance Program, including Code of Conduct and compliance hotlines, through close dialog with stakeholders and through the global management process to respect international labor norms. We pursue sustainability-oriented supply chain management and expect our business partners to comply with prevailing laws, regulations and internationally recognized principles. Here, too, we have established appropriate monitoring systems.

See [basf.com/humanrights](https://basf.com/humanrights) for more information on the Policy Statement on Human Rights and a comprehensive report on the implementation of due diligence in accordance with the requirements of the National Action Plan developed by the German government, and in accordance with the U.N. Guiding Principles on Business and Human Rights

For more information on the Human Rights Advisory Council, see [basf.com/human-rights-council](https://basf.com/human-rights-council)

For more information on labor and social standards, see [basf.com/labor\\_social\\_standards](https://basf.com/labor_social_standards)

## Our Targets and Target Achievement 2022

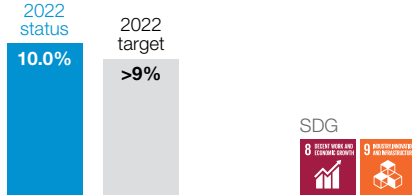
Our objective is profitable growth: We want to grow sales volumes faster than global chemical production, further increase our profitability, achieve a return on capital employed (ROCE) considerably above the cost of capital percentage and increase the dividend per share every year based on a strong free cash flow.

chains and use resources responsibly. We want to further improve safety in production. Furthermore, we aim to promote diversity within the company and create a working environment in which our employees feel that they can thrive and perform at their best.

In addition to these financial targets, we have set ourselves broad sustainability targets. We want to significantly reduce our CO<sub>2</sub> emissions in the coming years and align our product portfolio even more strongly with climate protection and the circular economy. To achieve this, we are updating the methodology used to assess our product portfolio against defined sustainability criteria and will apply it for the first time in 2023. We are also working to strengthen sustainability in our supply

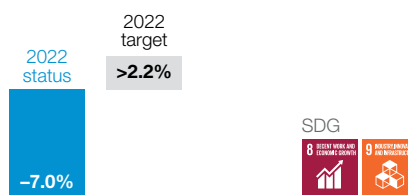
The objective of these targets is to steer our business into a more sustainable future, and at the same time, contribute to the United Nations' Sustainable Development Goals (SDGs). We are focusing here on issues that we as a company can influence – especially SDG 2 (Zero hunger), SDG 5 (Gender equality), SDG 6 (Clean water and sanitation), SDG 7 (Affordable and clean energy), SDG 8 (Decent work and economic growth), SDG 12 (Responsible consumption and production) and SDG 13 (Climate action).

### Profitable growth

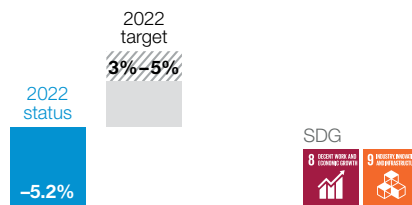


Most important key performance indicator

Achieve a **return on capital employed (ROCE)** considerably above the cost of capital percentage every year



Grow **sales volumes** faster than global chemical production every year

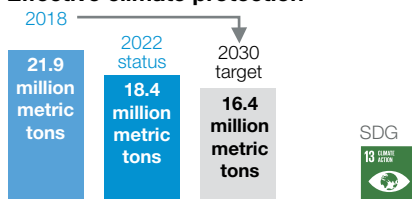


Increase **EBITDA before special items** by 3% to 5% per year



Increase the **dividend per share** every year based on a strong free cash flow

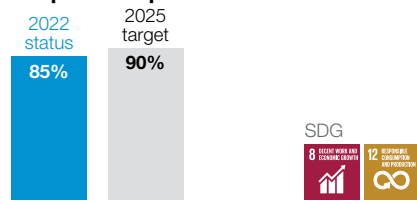
### Effective climate protection



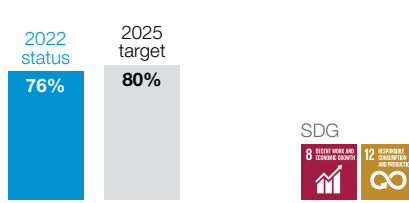
Most important key performance indicator

Reduce our absolute **CO<sub>2</sub> emissions<sup>2</sup>** by 25% by 2030 (baseline: 2018)

### Responsible procurement

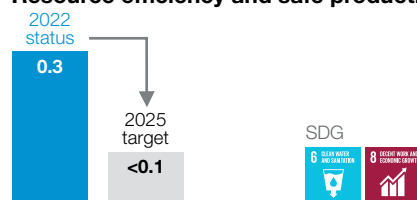


Cover 90% of our relevant spend with **sustainability evaluations** by 2025

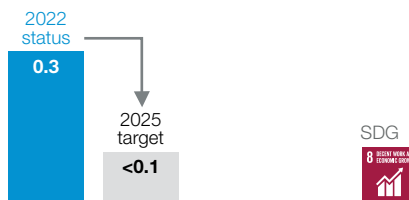


Have 80% of our suppliers improve their **sustainability performance** upon re-evaluation

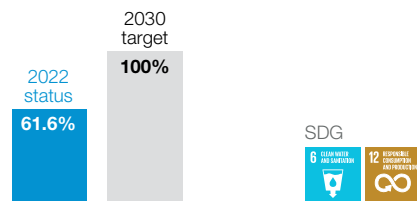
### Resource efficiency and safe production



Reduce worldwide **process safety incidents** per 200,000 working hours to  $\leq 0.1$  by 2025<sup>3</sup>

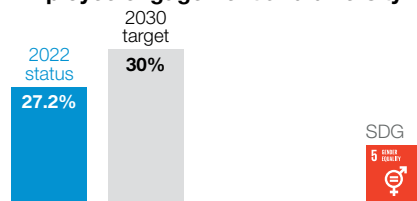


Reduce the worldwide **lost-time injury rate** per 200,000 working hours to  $\leq 0.1$  by 2025<sup>3</sup>

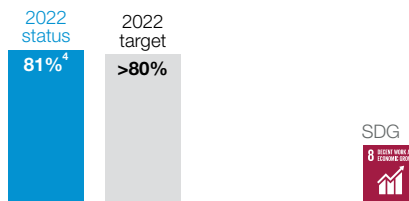


Introduce **sustainable water management** at our production sites in water stress areas and at our Verbund sites by 2030

### Employee engagement and diversity



Increase the proportion of **women in leadership positions** with disciplinary responsibility to 30% by 2030



More than 80% of our **employees** feel that at BASF, they can thrive and perform at their best

↙ Reduction target

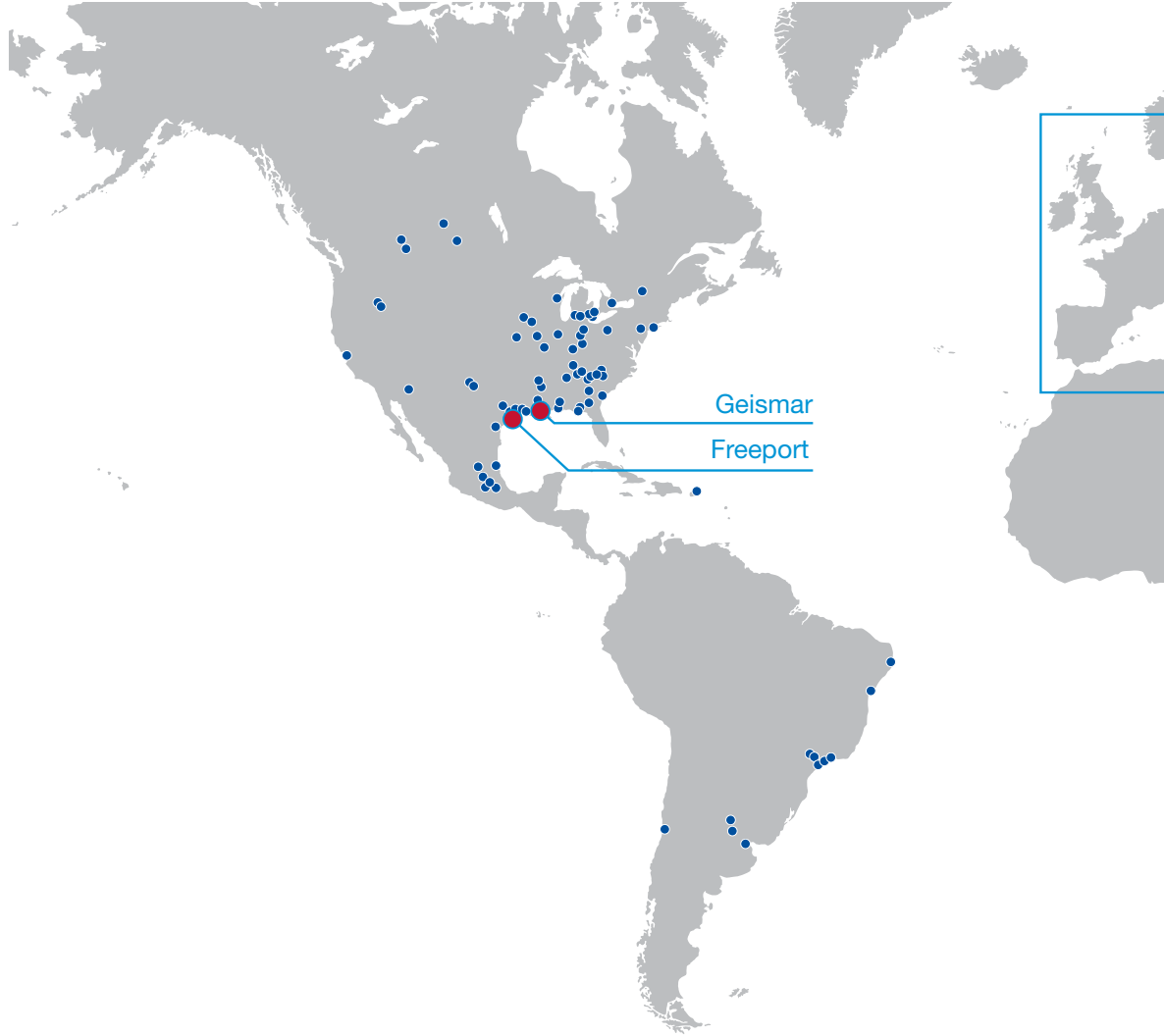
- 1 Dividend confirmed at the Annual Shareholders' Meeting.
- 2 Scope 1 and Scope 2 (excluding the sale of energy to third parties, including offsetting). The target includes greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The baseline year is 2018.
- 3 We will update the safety targets and report according to a new system in 2023.
- 4 We regularly calculate the employee engagement level. The most recent survey was conducted in 2022.



# BASF in the Regions

BASF Group sales 2022: €87,327 million

BASF Group employees 2022: 111,481



**NORTH AMERICA**

**24.3**  
Sales (billion €)<sup>1</sup>

**16,036**  
Employees<sup>2</sup>

**SOUTH AMERICA, AFRICA, MIDDLE EAST**

**5.9**  
Sales (billion €)<sup>1</sup>

**7,035**  
Employees<sup>2</sup>

**EUROPE**

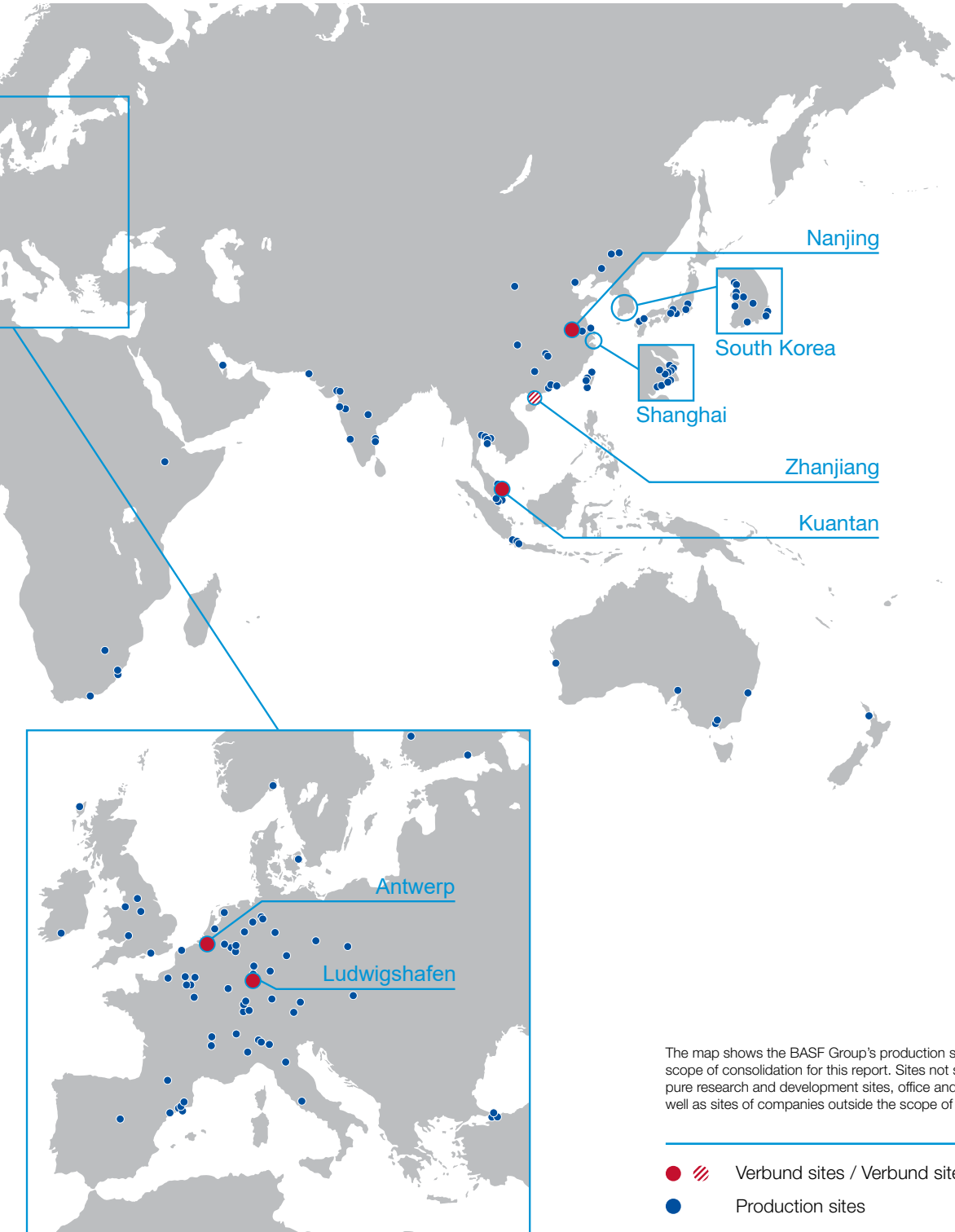
**35.8**  
Sales (billion €)<sup>1</sup>

**67,958**  
Employees<sup>2</sup>

**ASIA PACIFIC**

**21.3**  
Sales (billion €)<sup>1</sup>

**20,452**  
Employees<sup>2</sup>



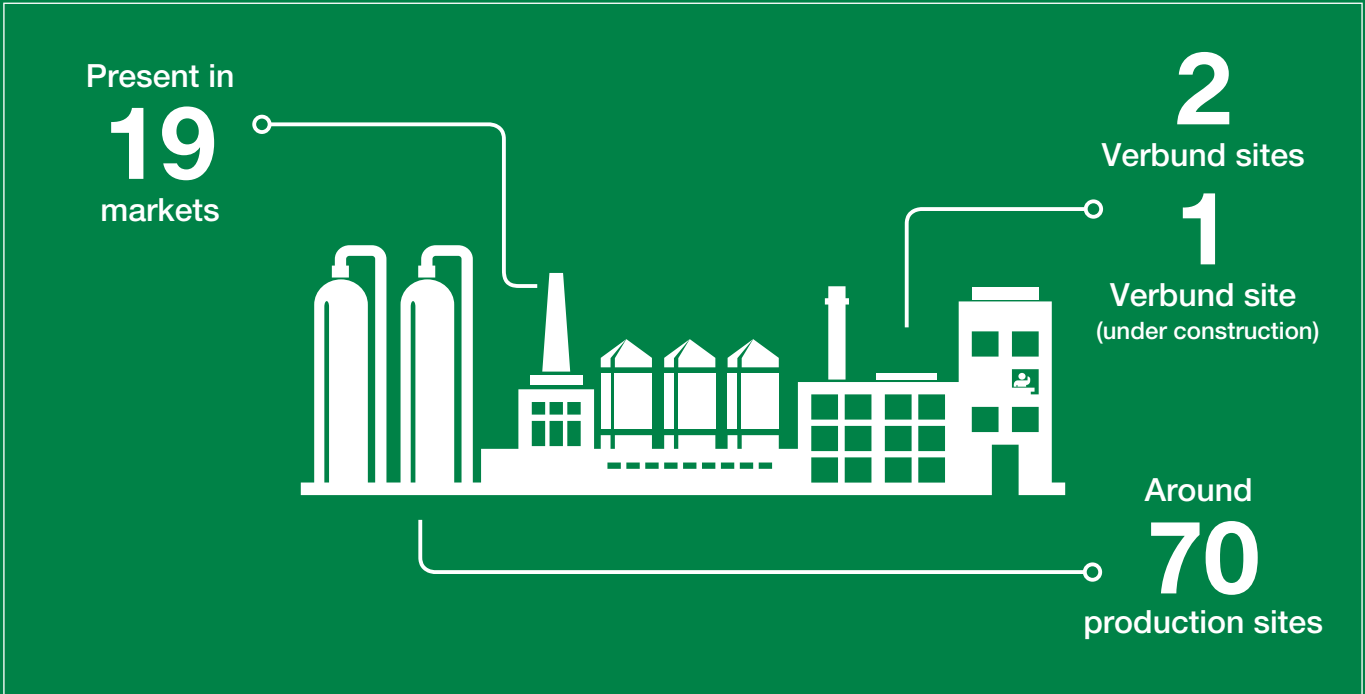
The map shows the BASF Group's production sites according to the scope of consolidation for this report. Sites not shown on the map include pure research and development sites, office and warehouse locations as well as sites of companies outside the scope of consolidation.

- / ▨ Verbund sites / Verbund site under construction
- Production sites

1 In 2022, by location of company  
2 At year-end 2022

# BASF in Asia Pacific

At a glance







A researcher is conducting a regular check on the valve reading in the Process Catalysis Lab at Innovation Campus Shanghai.

## Innovation

**Innovation is the bedrock of BASF's success as a leading chemical company and is the key driver for its profitable growth. Asia is now the largest regional chemical market in the world and there is a growing demand for more sustainable products and solutions. We focus on developing sustainable solutions for our customers by helping them to reduce their carbon footprint, use resources more efficiently or manufacture products in a more eco-friendly way. This is how we safeguard our competitiveness in the long term and make our contribution to society.**

### Growing R&D capabilities in Asia Pacific

#### ■ Growing R&D capabilities will further accelerate innovations for BASF's customers

BASF has been continuously expanding its research and development footprint in Asia Pacific to drive innovation by integrating customer and market needs at an early stage. BASF operates two Innovation Campuses respectively in Shanghai, China, and Mumbai, India.

The Innovation Campus allows BASF to bring together all the stakeholders in the innovation chain including research and development (R&D), business and production units in an integrated site. Each Innovation Campus is an integral part of BASF's global Know-How Verbund and runs 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. Combining technical development capabilities of the operating divisions with industrial design expertise, the Innovation Campus Shanghai serves the demand of almost all major industries.



Two researchers are operating the reaction calorimetry in the safety lab at Innovation Campus Shanghai.

In 2022, BASF launched a new Elastollan® Thermoplastic Polyurethane (TPU), which is optimized for charging cables of fast charging piles. As the new grade is softer, it is more flexible and easier to handle than conventional charging cables of fast charging piles.

BASF won the 2022 Ringier Technology Innovation Award in the category "Architectural coating industry products" in recognition of its Acronal® PLUS 7679 which has succeeded in upgrading kids' paint in the premium market of Greater China. Established since 2006, this award has been presented to pioneers in the coatings industry.

The Innovation Campus Mumbai, with complementary research focusing 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 India under one roof. It is located next to the office building and the production plant of BASF's Thane site in Navi Mumbai. In 2022, the Performance Products Discovery team inaugurated a new kilo lab facility at the Innovation Campus Mumbai. This facility will greatly help to improve the capabilities for kilo scale synthesis and process development projects, particularly in crop protection. The Innovation Campus Mumbai also organized an online scientific symposium (across global sites) on crop protection and research related topics, where experts from different fields and different regions shared their research findings.

In Changsha Hunan, BASF Shanshan Battery Materials Co., Ltd, a joint venture of BASF (51%) and Shanshan (49%), operates an advanced R&D innovation center that focuses on the development of metal recycling technology, precursors, and cathode active materials. Cathode active materials play a crucial role in improving the performance of lithium-ion batteries



At BASF Shanshan R&D Innovation Center, an analytical technician is testing the moisture content of cathode tapes.



## BASF in Asia Pacific: major R&D sites

### Innovation Campus Shanghai

Focus: R&D for chemicals and catalysis, materials, specialty chemicals, analytics, digitalization for R&D, Creation Center

in electric vehicles and consumer electronics. Leveraging BASF's global innovation network, researchers are now working together to accelerate product and application development that meets the diverse needs of customers and make e-mobility a reality for everyone.

#### Driving open innovation with academia and industry

- **The Network for Asian Open Research (NAO) promoting collaboration between BASF and researchers in Asia**

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 220 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.

In response to the call of the Chinese authorities to "strengthen the innovation engine and build a new high ground for independent innovation", Pudong New District in Shanghai has launched the GOI (Group Open Innovation) program, which aims to leverage the innovation resources and global innovation network of large enterprises to build a seven-in-one collaborative innovation system.

BASF joined the GOI with a new Open Innovation Center to be built with NAO. This new Open Innovation Center will form a mutually synergetic innovation community with high-tech innovative enterprises to promote effective transformation and value creation of scientific research results. It is thereby enhancing BASF's innovation efficiency and optimizing the ecosystem. The Center plans to empower high-tech enterprises. From 2022 to 2024, the scope covers the fields of technology, business and ecology.

Since the establishment of NAO, BASF and its partners have completed more than 135 joint research projects. Currently, NAO projects cover a wide range of research areas including recycling and upcycling, renewables, new application-driven research (such as new monomers, polymers, formulations, analytics and processing technology), sustainable process research such as

### Innovation Campus Mumbai

Focus: Crop protection, process development, specialty chemicals, analytics, Creation Center

catalysis, plastic recycling, Carbon Capture and Utilization (CCUS), e-mobility, as well as digitalization and smart manufacturing 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.

#### Nurturing research talents

- **BASF's Postdoctoral Research Station recognized as "Collaborative Innovation" case**
- **Fostering industry talents through "Fascinating Chemistry" program for 20 years**

BASF was awarded as one of the "Top 10 Collaborative Innovation Foreign Invested Enterprises in Shanghai 2021" by the Science and Technology Commission of Shanghai Municipality. The company's postdoctoral research station was recognized as a "Collaborative Innovation" case for foreign-invested enterprises in Shanghai.

BASF was approved to establish a Postdoctoral Research Station in China for the first time in 2021. From 2021 till 2025, BASF targets to recruit postdocs annually for a two-year research collaboration. BASF will provide the talents with a wide range of online and offline training courses, cutting-edge and challenging research projects, and an open research atmosphere. The establishment of BASF's postdoctoral research station reflects our strong commitment to nurturing talents. In the future, the workstation will continue to bring new talents to the company within the enterprise, promote scientific innovation, open new channels for local R&D teams to cultivate talents, and provide various growth opportunities for high-level scientific talents.

In addition, BASF is supporting talents at all levels. The Fascinating Chemistry program was launched in September 2003 by Peking University and BASF. It is designed as a long-term elective course for non-chemical background first-year students to stimulate their interests and enthusiasm in chemistry and the chemical industry. Nationally renowned professors and BASF scientists form the dynamic faculty who interpret various aspects of chemistry in vivid presentations. The course comprises 14 lectures, covering topics like colloid and interfacial chemistry, polymer chemistry, synthetic chemistry, nanoscale materials, insights into the chemical industry, as well as chemical experiments. It is one of the most popular scientific courses in Peking University.



# BASF in Greater China

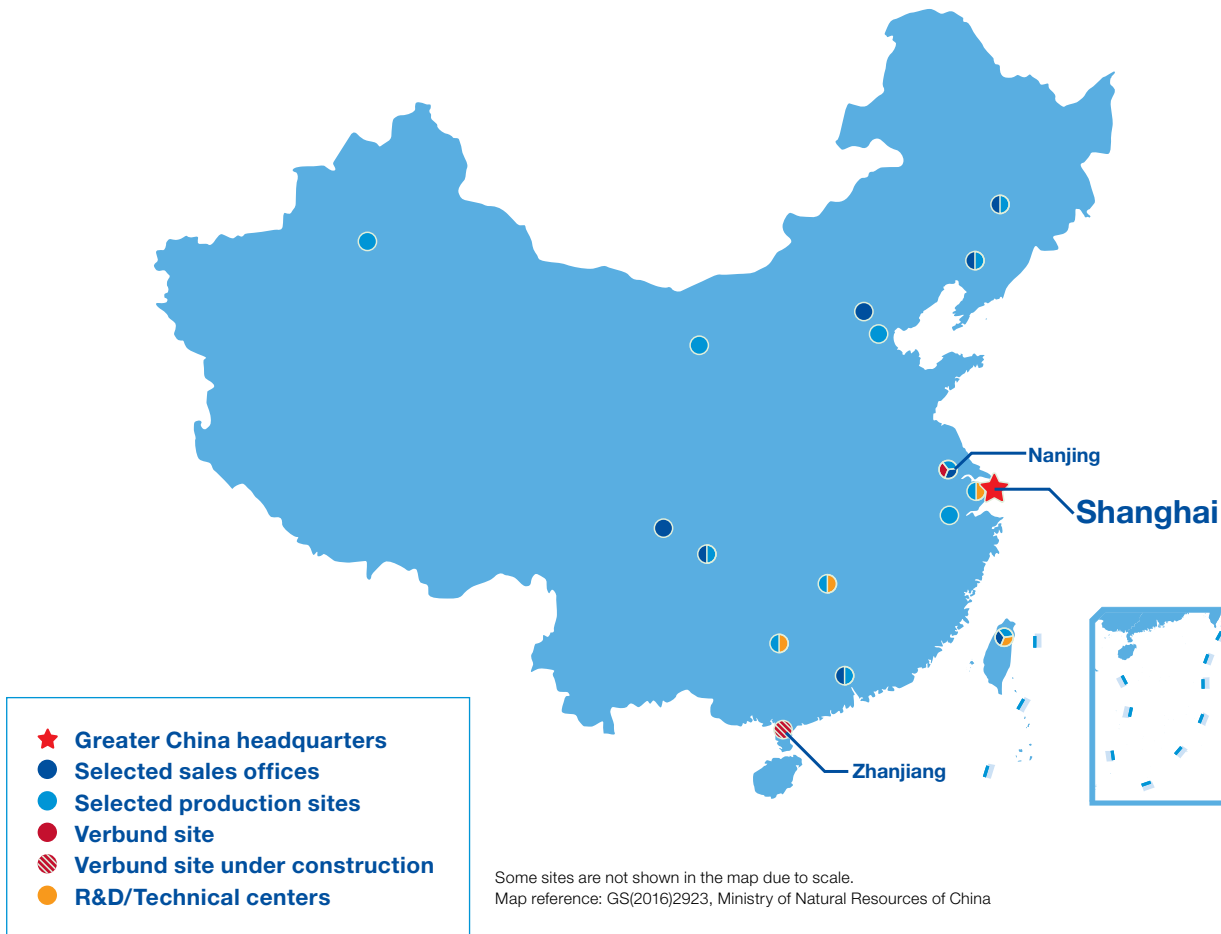
## At a glance

**BASF has been a committed partner to Greater China since 1885. With larger production sites in Shanghai, Nanjing, Chongqing, and Zhanjiang (under construction), BASF is a major foreign investor in the country’s chemical industry, and operates the Innovation Campus Shanghai, BASF’s largest R&D site in Asia. BASF posted sales of approximately €11.6 billion<sup>1</sup> in 2022 to customers in Greater China and employed 11,411 people as of the end of the year. Greater China is currently BASF’s second largest market after the United States.**

BASF currently operates 26 major wholly-owned subsidiaries, 10 major joint ventures, and maintains 23 sales offices in Greater China. BASF’s business in Greater China includes Petrochemicals, Intermediates, Performance Materials, Monomers, Dispersions and Resins, 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, textiles, household goods, electronic equipment, and packaging. Over the past 20 years, BASF has invested more than €9 billion in Greater China (more than €13 billion with partners) to build a locally competitive production, marketing, sales, technical service and innovation network.

### Our sites



## BASF in Greater China

Sales in 2022 (by location of customer)  
approximately

**€11.6 billion**

Employees (as of December 31, 2022)

**Over 11,400**

<sup>1</sup> Sales of BASF Group companies in the scope of consolidation, as of December 31, 2022. Sales of joint ventures and associated companies with BASF’s investment of between 20% and 50% in general which are consolidated at equity (e.g., BASF-YPC Company Limited) are not included.

## BASF Major Sites in Greater 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 nine production plants and a wastewater treatment plant by end of 2022

**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, polyvinylpyrrolidone (PVP), 3D printing materials and mobile emissions catalysts

### BASF Shanghai Caojing site

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

Location: Shanghai Chemical Industry Park in Caojing, Shanghai

Key milestones:

- Established in 2002, first PolyTHF® production in 2005
- Operating 16 production plants as of the end of 2022

Major companies:

- BASF Chemicals Co. Ltd. (wholly-owned)
- BASF Shanghai Coatings Co. Ltd. (JV with Shanghai Huayi Fine Chemical Co., Ltd)
- Shanghai Lianheng Isocyanate Co.Ltd. and Shanghai BASF Polyurethane Company Limited (two JVs with several partners)

**Products:** PolyTHF® (Polytetrahydrofuran), TDI (toluene diisocyanate), MDI (methylene diphenyl diisocyanate), Basonat® (polyisocyanate), precious metals-based salts and solutions, automotive coatings, resins and electrocoat, polyamide polymerization and process catalysts and antioxidants

### BASF Nanjing site

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

Location: Nanjing Jiangbei New Materials High-tech Park, Jiangsu

Key milestones:

- Became BASF's wholly-owned company in 2009, renamed as BASF Specialty Chemicals (Nanjing) Co. Ltd. in 2011
- Operating nine plants as of the end of 2022

**Products:** AGEFLEX® FA1Q80MC, anionic flocculant, cationic flocculant, t-BA (tert-Butylamine), DMAPA (3-(dimethylamino) propylamine), PEA (polyetheramine), N-octylamine A/P, 1,2-propylenediamine, additives for painting, ink, coating and adhesive

### BASF Nanjing Verbund site

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

Location: Nanjing Jiangbei New Materials High-tech Park, Jiangsu

Key milestones:

- Established in 2000, commercial production since 2005
- Inauguration of its second phase in 2012
- Operating 33 production plants by end of 2022

**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, polyisobutylene, etc.

2022 key facts and figures:

- Total investment of \$5.5 billion
- 2,113 employees
- Sales in 2022: around €3.6 billion

### BASF Chongqing site

BASF wholly-owned production site for MDI (methylene diphenyl diisocyanate)

Location: Changshou Economic & Technological Development Area, Chongqing

Key milestones:

- First MDI production in 2015
- Completion of new steam methane reformer in 2018

**Products:** MDI with annual capacity of 400,000 metric tons

### BASF Zhanjiang Verbund site (under construction)

Built and operated under the sole responsibility of BASF. Upon completion, the site will be BASF's largest single investment to date and ultimately BASF's third-largest site worldwide (following Ludwigshafen, Germany, and Antwerp, Belgium)

Location: Economic and Technological Development Zone, Zhanjiang, Guangdong province

Key milestones:

- MoU signed in Berlin in July 2018
- Commencement of the project in November 2019
- Started piling of the first plants in May 2020
- Announced the inauguration of the first plant producing engineering plastics in September 2022
- The whole Verbund site is planned to be completed by 2030

**Investment:** Up to €10 billion by 2030

**Plants and products:**

- The BASF Zhanjiang Verbund site will be built in phases
- The next phase on the core of Verbund, consisting of a steam cracker of ethylene and further downstream plants for intermediate chemicals, care chemicals, nutrition and health products, is expected to come on stream by 2025



Made with certified compostable ecovio® by BASF, the food trays are ovenable, microwavable and compostable.



# Business Development

**In 2022, BASF posted sales of approximately €11.6 billion to customers in Greater China. We are committed to being close to our customers and growing together with them. To date, BASF has invested more than €9 billion in Greater China (more than €13 billion with partners) to build a locally competitive production, marketing, sales, technical service, and innovation network. Our investments enable us to serve our local customers' needs with sustainable and innovative products and solutions.**

## Sales (by location of customer)

Million €

2022	11,624
2021	12,036

## Strategic investments in Greater China

- Continued expansion of Nanjing Verbund site in cooperation with Sinopec
- Zhanjiang Verbund site project is well on schedule; the first plant has been inaugurated and the core of the Verbund is under construction
- Expanded production capacity in Changsha and Shizuishan for battery materials
- Joint venture formed with Heraeus to provide precious metal recycling solutions in China

To respond to growing demand from various industries in the Chinese market, BASF is strategically expanding its local production, not only at its Verbund sites in Nanjing and Zhanjiang but also at other sites across the country.

In April 2022, BASF and Sinopec broke ground for the expansion of their Verbund site operated by BASF-YPC Co., Ltd. (BASF-YPC), a 50:50 joint venture from both companies in Nanjing. This expansion includes new production capacities of several downstream chemical plants for propionic acid, propionic aldehyde, ethylene amines, ethanol amines and purified ethylene oxide, along with building a new tert-butyl acrylate plant. The new plant is the first in which this advanced production technology is applied outside of Germany. The expanded and new plants are planned to come on stream throughout 2023.

The new Zhanjiang Verbund site, with an investment of up to €10 billion is being built in phases. The project is well on schedule. In September 2022, BASF announced the inauguration of the first plant of its Zhanjiang Verbund site, producing 60,000 metric tons of engineering plastics compounds per year and bringing BASF's total capacity for engineering plastics in Asia Pacific to 428,000 metric tons as of 2023. This new plant will enable BASF to meet the

growing demand of its customers, particularly in the automotive and electronics industries. A plant producing thermoplastic polyurethanes (TPU) will come on stream in 2023.

The next construction phase of the Zhanjiang Verbund site will focus on the core of the Verbund, including a steam cracker and several downstream plants. A new world-scale Neopentyl Glycol (NPG) plant with an annual production capacity of 80,000 metric tons will be built to strengthen BASF's position as one of the world's leading NPG manufacturers. The new NPG plant is expected to come on stream in 2025, by when BASF's global NPG capacity will be boosted from 255,000 metric tons to 335,000 metric tons annually.

To meet the fast-growing demands of the electric vehicle industry, BASF Shanshan Battery Materials Co., Ltd. (BSBM), a BASF majority-owned company in China (BASF 51%; Shanshan 49%), expanded its battery materials capacity in Changsha, Hunan province, and Shizuishan, Ningxia province in 2022. The new lines in Changsha gradually started commissioning from the fourth quarter in 2022, enabling BSBM to expand its annual capacity for cathode active materials to 100kt.

The expansion project incorporates innovative energy recovery technologies including off-gas, waste heat and oxygen recycling, which are independently developed based on BSBM's broad industrial operational experience and BASF's chemical process design know-how.

China has limited natural resources in Platinum Group Metals (PGMs) – which consists predominately of platinum, palladium and rhodium – and strongly relies on imports. To recover PGMs from spent automotive catalytic converters and enable a circular economy, BASF and Heraeus have formed a 50:50 joint venture named BASF HERAEUS (China) Metal Resource Co., Ltd, in Pinghu. The ground-breaking for the construction of the new company was held in November 2022 and will be operational by 2023. Recycled precious metals are also very environmentally friendly and have a CO<sub>2</sub> footprint that can be as much as 90% lower than primary metals from a mine.



BASF and SINOPEC broke ground for the expansion of the joint Verbund site in Nanjing.



**Increasing the use of renewable energy**

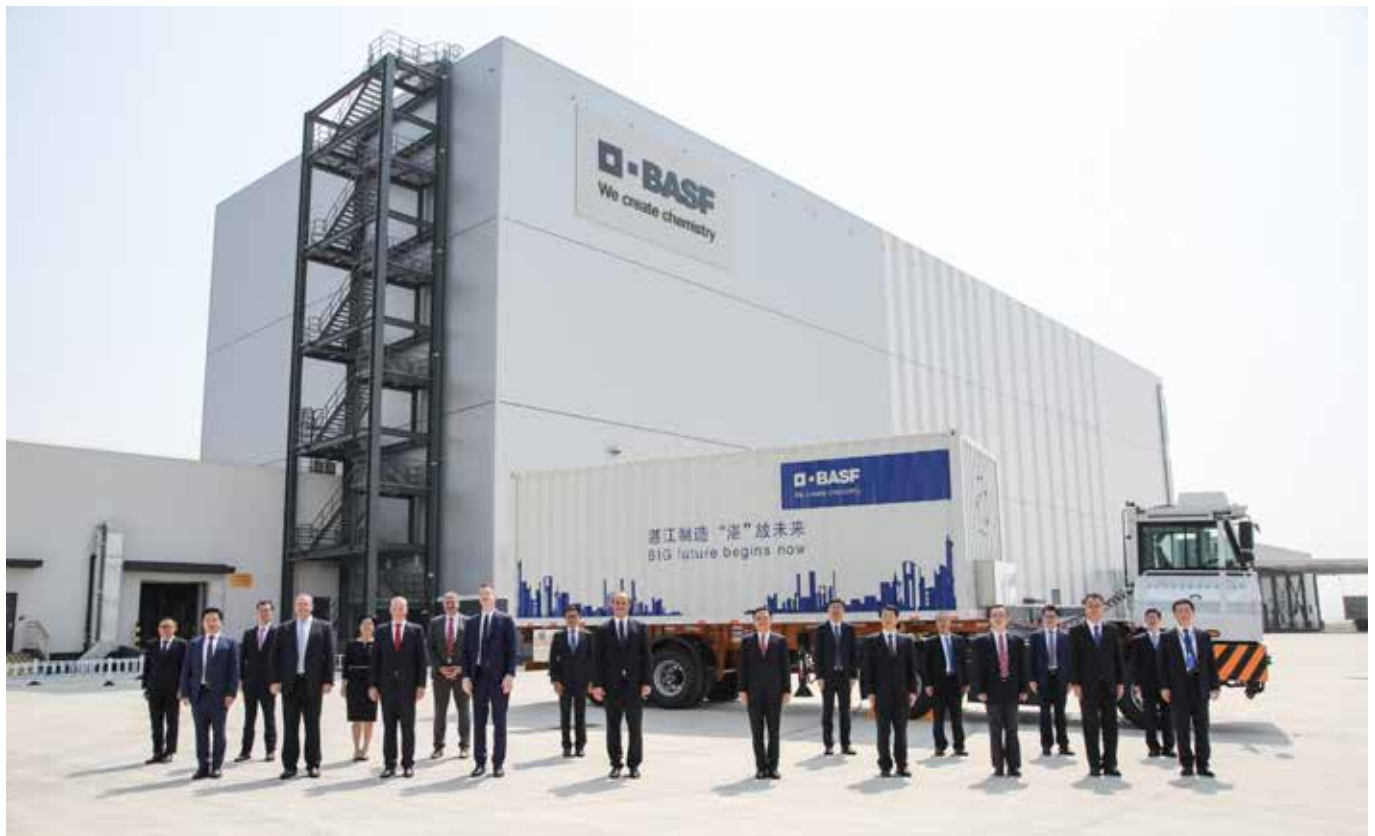
- Accelerated supply of renewable electricity to Zhanjiang Verbund site
- BASF's first power storage station in China went into operation

In 2022, BASF reaffirmed its ambitious climate targets: Compared to 2018, the company aims to reduce greenhouse gas emissions by 25% by 2030<sup>1</sup>. BASF's long-term goal is to achieve net zero greenhouse gas emissions by 2050<sup>1</sup>. Increasing the use of renewable energy is one of the key levers to achieve BASF's net zero emissions targets.

BASF supplies its first plants at the Zhanjiang Verbund site with

100% renewable electricity and aims to power the entire Zhanjiang Verbund site with 100% renewable electricity by 2025 by partnering with various energy suppliers.

In December 2022, BASF's first power storage station in China went into operation at its Shanghai Pudong Innovation Park (Pudong site), where BASF Greater China headquarters are situated. Co-established by BASF and China Three Gorges Corporation, this power storage station employs the world-leading lithium iron phosphate energy storage technology with a total capacity of 12MWh of renewable energy electricity per cycle, guaranteeing the continuous supply of green electricity for its Pudong site.



BASF announced the inauguration of the first plant of its Zhanjiang Verbund site in September 2022.

<sup>1</sup> Scope 1 and Scope 2 (excluding the sale of energy to third parties, including offsetting). The target includes greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO<sub>2</sub> equivalents (CO<sub>2</sub>e).

## Growing capabilities in local production and R&D

- Expanded capacity for automotive refinish coatings in Jiangmen
- Enhanced Chemetall's local production and innovation capabilities
- Rollout of multiple sustainability certifications at various plants in China
- Several sites celebrated milestones and anniversaries

At BASF, our strategy is to invest where our customers are located and where there is corresponding market growth. We continue to strengthen our advanced production footprint and R&D capabilities in China to support the growing demands of our local customers.

In Shanghai, BASF opened a new production plant for fuel performance additives at its Pudong site in August 2022, addressing the increasing regional demand for fuel performance additives and bringing greater supply stability and flexibility to customers in Asia.

In Jiangmen, BASF expanded the annual production capacity of automotive refinish coatings to 30,000 metric tons at BASF Coatings (Guangdong) Co., Ltd., strengthening BASF's position as a leading and innovative coatings supplier to the automotive industry in China and the rest of Asia.

In 2022, BASF further enhanced its local production and innovation capabilities in China for its Surface Treatment business unit operating under the Chemetall brand. In October, BASF opened its first regional innovation center for applied surface treatment technology solutions, the Chemetall Innovation and Technology Center in Shanghai. In November, BASF inaugurated the company's largest surface treatment production site in Pinghu, Zhejiang province. This will support local demand on high-performance surface treatment solutions of various market segments such as automotive OEMs and components, coils, general industry, cold forming, aerospace, aluminium finishing, and glass processing.

BASF has received multiple sustainability certifications to better support our customers to achieve their sustainability targets.



BASF's first power storage station in China went into operation at its Shanghai Pudong Innovation Park in 2022.

BASF's Thermoplastic Polyurethane (TPU) plant at the Pudong site is certified with the Global Recycled Standard (GRS) and Recycled Claim Standard (RCS), which validate the quantity of the recycled content used in the manufacture of TPU. BASF's Polyol and Polyurethane Systems (PU) plant in Nansha, Guangzhou, is ISCC+ certified.

BASF has also received a biomass certification for its resins plant at Caojing site, as well as its paint manufacturing sites in Minhang and Caojing, operated by BASF Shanghai Coatings Co., Ltd. With this certification, BASF has launched its first automotive coatings using renewable feedstock, the ColorBrite® Airspace Blue ReSource basecoat, to its customers in China. Certified by REDcert<sup>2</sup> according to the biomass balance approach, this basecoat product enables around 20% reduction in product carbon footprint, as reviewed by the external sustainability consultant.

2022 marked an important year for the establishment of several BASF sites in Greater China. BASF Shanghai Coatings Co., Ltd., a 60:40 joint venture of BASF and Shanghai Huayi Chemical Co., Ltd., celebrated its 25<sup>th</sup> anniversary in October. The company manufactures and sells various high quality automotive OEM coatings products to customers in China. The Kaohsiung site, a key production site of the Care Chemical division, celebrated its 30<sup>th</sup> anniversary in November.



The Chemetall Innovation and Technology Center is BASF's first regional center for applied surface treatment technology in Shanghai, China.



In October 2022, BASF celebrated the first anniversary of "Sustainability Covalence" with its founding partners in Anhui province.

### Partnering for low-carbon emission projects

- **Sustainability Covalence celebrated its 1<sup>st</sup> anniversary, promoting Product Carbon Footprint calculation methodology and low-carbon procurement**
- **Collaborated with Sinopec, Baowu and Shell to explore CCUS Project**
- **Collaborated with Huayuan Group on sustainable and innovative solutions**
- **Partnered with China BlueChemical and Wuhuan Engineering to promote low-carbon development and utilization of marine gas resources**

BASF celebrated the first anniversary of Sustainability Covalence with its founding partners in Hefei, Anhui province in October 2022. During the forum themed "Unlimited Vitality", which was co-organised by BASF and one of the co-founding partners – Huaheng Biotechnology – BASF shared its carbon calculation methodology and called for action on low-carbon procurement along the value chain.

BASF, Sinopec, Shell and Baowu signed a Memorandum of Understanding in Shanghai in November 2022 on an open-source Carbon Capture utilization and storage (CCUS) project with a scale of tens of millions of tons per year in East China. The four partners aim to develop a supply chain of low-carbon products and to contribute to the development of the CCUS industry and China's dual carbon targets.

BASF and Huayuan Group – a major Chinese player in the industry of high-end manufacturing, new energy, and advanced materials – formed a strategic partnership on sustainable and innovative solutions. Leveraging BASF's deep know-how and extensive innovative solutions in the chemical industry, both companies will

cooperate closely in metal pre-treatment technologies, pharmaceutical materials, and sustainable packaging materials.

BASF signed a joint development agreement with the leading natural gas producer China BlueChemical Limited Company and the chemical engineering company Wuhuan Engineering Co., Ltd., to promote low-carbon development and utilization of marine gas resources. BASF's solution helps to improve process energy efficiency and carbon efficiency beyond existing commercial catalyst and process technology.

### Co-creation with customers for sustainability across industries

- **Teamed up with REEF Technology to improve quality of plastic recycle materials**
- **Launched innovative industrial eco-packaging with Nippon Paint China**
- **Formed partnership with local start-up Ingredi and invested in its equity**
- **Co-developed Paving Integrated Photovoltaic panels with Solar Earth**

At BASF, sustainable solutions are often born through cross-industry co-creations. In 2022, BASF collaborated on innovative solutions for low-carbon development, plastic recycling, improved industrial packaging materials, and impactful sustainable progress across industries.

To develop state-of-the-art recycle materials formulations for applications used in the automotive, packaging and consumer industries, BASF signed a strategic cooperation agreement with Zhejiang REEF Technology Co., Ltd. BASF will provide newly launched



IrgaCycle™ additive solutions, technical consultancy and support on recycled polymer formulations conducted at BASF's test facilities. BASF would co-create with REEF Technology to support the plastic circular economy and to contribute to the increase of the percentage of mechanically recycled content.

BASF and Nippon Paint China, the leading coatings manufacturer, jointly launched an eco-friendly industrial packaging which has been adopted by the Nippon Paint dry-mixed mortar series products. With BASF's water-based acrylic dispersion Joncryl® High-Performance Barrier (HPB) as the barrier material, the new packaging material is commercialized for the construction of dry mortar products of Nippon Paint. With excellent vapor and water resistance properties, Joncryl® HPB can replace plastics used in traditional packaging and significantly improve the recyclability of paper-based packaging, achieving the innovative application of "Paper Replacing Plastics" in industrial packaging.

BASF partnered with Ingredi, a local supplier of natural actives and solutions for the personal care industry. BASF also made a strategic equity investment into Ingredi. Established in 2017, Ingredi has shown strong capabilities in identifying new personal care active ingredients from natural plants found in the Himalayas. Through the equity investment from BASF, Ingredi will be able to extend its production facilities. In addition, BASF will jointly work with Ingredi on new solutions and commercialize them in the global personal care market.

BASF and Solar Earth Technologies Ltd. co-developed Paving Integrated Photovoltaic (PIPV) panels which can be installed on new or existing roads and other surfaces. The co-creation is part of the ongoing partnership between the two companies to develop innovative energy-efficient technologies that will advance the next wave of solar power applications.



The reusable to go mugs made of BASF Ultrason® can be part of a reuse and multiple-cycle system that saves valuable resources and avoids packaging waste.

## Collaborating towards sustainable mobility

- **Ebusbar showcased a concept supercharging pile made with BASF's innovative material solutions**
- **Collaborated on the promotion and extension of the value chain in automotive aftersales refinish industry with major OEMs**

As the leading chemical partner for all major automotive OEMs, BASF continued to support China's new energy vehicle industry with advanced battery materials, automotive coatings, engineering plastics and polyurethanes in 2022. These innovative solutions contribute to the rapid development of e-mobility in China.

The charging infrastructure is key in enabling the widespread use of electric vehicles. The construction of charging piles has accelerated in tandem based on market needs and government investment. High-powered charging piles bring higher feasibility and better consumer experience in charging electric vehicles. BASF and Ebusbar showcased a concept supercharging pile made with BASF's innovative material solutions. Ultramid® PA, Ultramid® Advanced PPA, Ultradur® PBT, and Elastollan® TPU are used in different components of the concept supercharging pile, including the housing of electronic parts, charging guns, breakers, switches, safety components, cables, and a cooling system.

BASF proactively collaborated with major automotive OEMs to promote and explore valued-added solutions along the value chain in the aftersales market. In 2022, BASF successfully launched a Customized Color Design project with LEXUS in China in an effort to improve LEXUS's customer loyalty and increase its after-sales output. BASF also took this opportunity to show its refinish products directly to car owners. This project yielded a win-win solution for automotive OEMs, car dealers, and car owners.



To develop new talent in the automotive refinish industry, BASF supported the WorldSkills Shanghai 2022 Car Painting Category.



# Supplier Management

As a global enterprise, we have a responsibility to meticulously manage our supply chains. BASF aims to improve its supply chains sustainably and exceed customer expectations through its industry collaborations and digitalization strategies.

## BASF Corporate Commitment

We source responsibly.

### Sustainable procurement

- Continued Supplier CO<sub>2</sub> Management Program
- Chemical industry agrees on a global standard for calculating the Product Carbon Footprint

BASF is committed to improving sustainability in the overall supply chain of the chemical industry by having suppliers adhere to internationally recognized environmental, social and governance (ESG) standards and regulations. BASF continued its Supplier CO<sub>2</sub> Management Program in 2022 and extended invitations to suppliers, including those from Greater China, to join the program. By educating our suppliers on Product Carbon Footprint evaluation methodologies and tools, the program seeks to increase the transparency of the CO<sub>2</sub> emissions associated with our purchased raw materials. This allows our suppliers to identify medium-term measures for optimization.

BASF's Supplier Code of Conduct is based on internationally recognized guidelines, including compliance with human rights, anti-discrimination and anti-corruption policies, as well as environmental protection. Over 3,000 new suppliers in Asia Pacific signed our Supplier Code of Conduct in 2022.

Under the initiative Together for Sustainability (TfS), 37 companies from the chemical industry, including BASF, have agreed on a global standard for calculating the Product Carbon Footprint. BASF continues to conduct supplier evaluations and trainings based on the framework of high sustainability standards. The BASF Group



BASF aims to create an integrated supply chain with our customers, suppliers and partners thereby increasing the transparency of the entire supply chain through digitalization approaches.

conducted a total of 79 audits and 963 online assessments in 2022. In Greater China, BASF conducted 58 on-site audits and 287 online assessments of local suppliers in the same year.

The sustainability training webinars conducted by TfS members and EcoVadis were an integral part of the supplier development process in 2022. Over 1,900 participants from around the globe, including more than 400 from Greater China, joined the webinars. In addition, TfS launched a new online learning platform, TfS Academy, with the intention of assisting its value chain partners with further optimization. With 335 courses available in ten distinct languages, the platform encompasses the entire spectrum of ESG-related topics.

### Agile, resilient, and digital supply chains

- Ensuring deliveries to customers and business continuity
- BASF recognized as one of Shanghai's most innovative supply chain cases

During the COVID-19 resurgence in 2022, BASF Greater China responded quickly and approached all feasible resources to overcome shortages and ensure uninterrupted deliveries to its customers. For on-site logistics operations, BASF leveraged waterways, railways and redistribution modes and implemented "no contact" and closed-loop operation models if needed.

BASF worked closely with local logistics providers to guarantee the smooth mailing of invoices to customers in order to maintain the VAT invoice process. This cross-department team dispatched roughly 28,000 VAT invoices.

At the 9th Shanghai Supply Chain Development Conference & Yangtze River Delta Supply Chain Innovation Summit Forum, BASF was recognized as one of Shanghai's exemplary supply chain innovation and application cases. This award was in recognition of BASF's on-site logistics digital innovations at the Pudong site, which included Yard Management, SAP Extended Warehouse Management (SAP EWM), Automated Guided Vehicle (AGV), and Forklift Safety Management.



BASF enlisted as Shanghai's excellent case of supply chain innovation and application.



At BASF, safety is our utmost priority. Our EHS professionals play a critical role in preventing incidents and accidents and reducing any possible adverse effects resulting from the operating conditions.



# Environmental Protection, Health and Safety

## Health and Safety

**Our first priority is to protect both people and the environment. Our core business – the development, production, processing, and transportation of chemicals – necessitates a responsible approach. We address environmental, health and safety risks with a comprehensive Responsible Care® Management System. With this system, we expect our employees and partners to understand the potential hazards of working with our products, substances and plants and handle them appropriately.**

### BASF Corporate Commitment

**We produce safely and efficiently.**

### Product stewardship

- Upholding high standards of product stewardship worldwide
- Sharing expertise to support regulation development and implementation in China

BASF is dedicated to minimizing the negative effects of our products on the environment, health, and safety while optimizing performance. This commitment is enshrined in our Responsible Care® charter. We ensure that our products do not pose any risks to humans or the environment when used responsibly.

We have put in place internal guidelines and comply with all relevant national and international laws to ensure high levels of product safety around the world. The Environmental Protection, Health, Safety and Quality unit in the Corporate Center conducts regular audits to guarantee high standards of product stewardship.

We subject our products to a variety of tests and assessments in order to uncover potential harmful qualities or dangers to health and the environment at an earlier stage. This is to ensure that necessary measures and recommendations are in place at



At BASF, we value the health and safety of people above all else. Wherever we do business, we act responsibly – not just complying with all relevant regulations but going the extra mile to reduce risks and minimize our environmental impact.

every stage of the product lifecycle. We give easy access to information and related hazards of our products to those who buy, sell, use, transport, or dispose them using the Globally Harmonized System (GHS), which is used to classify and mark our products globally. All the relevant information is managed via a global database.

Various regional and national chemical restrictions have evolved in recent years. We share our expertise and make helpful recommendations for regulation formulation and implementation in China with local authorities.

### Process safety

- **Process safety experts conduct regular safety reviews**
- **Lower safety incident rate as result of the Process Safety Incident Reduction Program**

Process safety is a core part of ensuring safe, effective, and sustainable production. We adhere to stringent safety standards in the planning, construction and operation of our plants around the world. Our global guidelines provide the framework for the safe construction and operation of our plants to guarantee the safety of people and the environment. The safety concept developed by our experts for each plant considers the key aspects of safety, health, and environmental protection – from the initial design of plants to the end of the production phase – and sets out specific safety measures. Regular implementation checks are carried out to ensure that all processes comply with the safety concept and are always up-to-date.

Extensive mitigation plans are well-designed, particularly for hazardous materials in storage, reactivity, and physical processing in operations, as well as energy management. To ensure the highest level of safety at our plants across their entire lifecycles, we make sure that our protection concepts, safety reviews and resulting safety measures are carried out in all our plants at timely intervals based on potential risks. Our plants' safety and security concepts are updated on a regular basis by taking new technologies and regulatory developments into account. In 2022, we began monitoring and assessing newly published process safety norms and standards on a monthly basis to guarantee that all BASF locations in China fulfill local requirements.

Process safety incidents (PSIs) are a critical performance indicator. BASF's global target is to reduce the safety incident rate to less than 0.1 per 200,000 working hours by 2025. The PSI rate in Greater China was reduced to 0.01 per 200,000 working hours (2021: 0.03) in 2022. This achievement can be attributed to the Process Safety Incident Reduction Program, which focuses on the continued improvement of incident management by investigating all safety incidents, analyzing root causes, and implementing adjustments as needed.

To continuously improve process safety performance, a number of initiatives were taken in China, including the conduct of the Environment, Health, and Safety (EHS) review, the Pre-Startup Safety Review (PSSR), and the Responsible Care® audit. To further enhance the expertise of our colleagues, custom-made process safety workshops and training on topics such as Management of Change (MOC), PSSR and local regulation updates were organized. We continue to adopt a globally uniform strategy to manage changes in regulatory requirements in order to constantly improve the identification and control of risks at plants.

### Process safety incidents (PSIs)

per 200,000 working hours



### Occupational safety

- **Cultivating a safety culture through diverse activities and digital campaigns**
- **Optimizing the Permit to Work System according to latest national standards**

To create a safe and secure work environment, we encourage risk-averse behaviour and safe working practices. Based on our expertise, we are constantly refining and enhancing our requirements and training.

In 2022, BASF launched the Global Safety Days (GSD) campaign with the slogan "Think safety, act safely!" in Greater China. More than 200 safety activities were carried out both online and offline to increase our employees' knowledge and awareness. Over 16,000 BASF employees and contractors in Greater China participated in this campaign.

The annual Greater China EHS Awareness and Knowledge Competition (GEAR) program was held for the third time to promote the safety culture among employees. Over 3,100 BASF employees and contractors took part in this self-learning and interactive program. More than 2,400 participants joined the online competition across Greater China. BASF GEAR (Campus), an online competition that was launched in 2022 on EHS knowledge, attracted more than 200 students from 4 Chinese vocational schools to join.

The timely optimization of our work permit system is critical to ensuring compliance with the new national standard (GB30871-2022), which stipulates the safety criteria of special work in hazardous chemicals firms in Greater China. An online workshop was organized to introduce the latest national standard codes, and a working group was set up to optimize the work permit system to meet the new regulation.



By 2025, BASF hopes to reduce the global lost-time injury rate to less than 0.1 per 200,000 working hours. In Greater China, we recorded 0.04 work-related lost-time injuries per 200,000 working hours in 2022. Unfortunately, there was one fatal work-related accident in 2022. At the Changsha site in Hunan Province, an employee suffered fatal injuries while performing cleaning activities.

At BASF, safety is our top priority. We do everything we can to prevent accidents, review the relevant processes of each case, and use our findings to take appropriate measures to prevent them from happening again. These include regular campaigns and training aimed at increasing staff safety awareness and improving safety operations.

Starting 2023, there will be changes in the incident reporting whereby BASF will report the High Severity Work Process Related Injury Rate (HSIR) with a target of 0.05 until 2030. This will be the main Key Performance Index (KPI) for occupational safety incident management steering purpose and the aim is to focus on high severity incident to create more awareness to avoid incidents with high consequences.

**Lost-time injury rate**

per 200,000 working hours

2022	0.04
2021	0.02

**Fatalities**

Total

2022	1
2021	0



A safety expert is having a safety plant walkabout at the tank farm of Auxiliary Plant at Pudong site.

**Occupational health**

- **Worldwide standards for occupational health guided by experts**
- **Global Health Campaign “Good morning – regeneration through sleep”**
- **Ensuring medical emergency preparedness at sites and providing adequate health support to employees during Covid-19 resurgence**

At BASF, our commitment to providing a safe and healthy work environment is unwavering. BASF’s global corporate health management team is in charge of encouraging and maintaining our employees’ health and well-being. Regular health checks form the core of our global health promotion program. We also offer personalized health programs to certain groups in order to promote awareness of various health issues.

The annual Global Health Campaign in 2022 was themed “Good morning – regeneration through sleep”. The global initiative comprised interactive events and a wide range of virtual and in-person seminars on the various elements that influence peaceful sleep, with over 400 sites globally participating, including sites in China.

The Health Performance Index (HPI) is used to assess our health care performance. It consists of five components: recognized occupational diseases, medical emergency preparedness, first aid, preventive medicine, and health promotion. With the highest score being 1.0, each component contributes a maximum of 0.2 to the total score. At BASF, 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 2022 (2021: 0.96) in Greater China.

We continued to make significant efforts in epidemic prevention at our Greater China sites in 2022. Employees can use the digital tool in the employee portal to report their health status on a voluntary basis. Our health experts provided round-the-clock medical consultation services for all employees in Greater China. In August, BASF and the Shanghai No.7 People’s Hospital signed an agreement to form the Alliance of “Harmonious Health,” which strengthened the cooperation between the BASF Pudong site and the No.7 hospital on medical emergencies accessibility of medical services, and health management. The hospital also provided training to our medical staff at our Pudong site clinic to improve their medical skills and knowledge.

**Transportation and distribution safety**

- **Ensuring full compliance with road safety regulations**

We work with reliable logistics partners to ensure safe transportation, handling, and storage of our products. To ensure distribution safety, it is crucial to ensure full compliance with road safety laws through the execution of various programs. These

initiatives include an internal Transportation and Distribution Safety (TDS) Review for BASF sites, a Chemical Road Safety Assessment System (CRSAS) and a Warehouse Safety Assessment (WSA) for all our logistics service providers. TDS Reviews cover 26 production sites in China and involve more than 70 TDS Responsible Persons who are in charge of TDS related tasks. All internal procedures are reviewed on a regular basis in accordance with global questionnaires and methodologies to ensure compliance with both local regulations and BASF standards. In 2022, our logistics service providers in China performed a total of 35 CRSAS and 20 WSA.

Working with various industrial partners, BASF created a uniform assessment scheme for warehouse service providers in the chemical industry. The Chemical Warehouse Safety Assessment System (CWSAS) is supported by industry associations, and BASF is one of the technical committee members. BASF assisted CWSAS in developing procedures and methodologies, as well as providing training to 31 appointed independent assessors. The CWSAS system officially went live in December 2022. Within BASF, we will actively promote CWSAS development and intend to replace our internal WSA by CWSAS step-by-step.

As part of the technical committee of CRSAS and CWSAS, we continue to share our perspectives and expertise with other chemical industry players and authorities, particularly in the issuance of the new national standard, GB 15603 “General Rules for Storage of Hazardous Chemicals”, which will go into effect on July 1, 2023.

## Emergency response

- **Prompt emergency response with extensive preventive measures**
- **BASF Greater China’s first turbo-jet combined foam fire truck went into service at Caojing site**
- **Shanghai Pudong Innovation Park has been recognized for best practices in firefighting management for six consecutive years**

BASF strives to avoid safety-related incidents as much as possible. We have implemented preventative measures with clearly defined responsibilities and procedures at all sites. A highly skilled emergency response team reacts quickly to any incident that occurs in operations, transportation, or along the supply chain.

Throughout 2022, we organized emergency response training and drills based on real scenarios in a variety of forms at our sites in Greater China. Our Caojing site officially received the first turbo-jet combination foam fire truck (turbo-jet fire truck). It is the first imported turbo-jet fire truck to be used in East China, boosting the Caojing site’s capability to handle incidents and emergencies.

We continued to contribute to emergency and standard formulation in Greater China. Shanghai Pudong Innovation Park has been



BASF Greater China’s first turbo-jet combined foam fire truck went into service at Caojing site.

recognized for best practices in firefighting management for six straight years largely due to BASF’s exceptional firefighting management.

## Security

- **“Security by design” principle to review and optimize IT applications**
- **Raising employees’ risk awareness on cybersecurity with mandatory training**
- **Regular risk assessments on onsite security**

We protect our employees, sites, plants, and proprietary information from unauthorized access. Cybersecurity and information security play an increasingly important role. The “security by design” principle is applied to critically review and optimize IT applications from a cybersecurity perspective throughout the application development phase. We take various measures, including providing training programs to our employees, to increase our capability to prevent, identify and react to security incidents. BASF’s group-wide recommendations for information protection were also updated in line with the latest developments in 2022.

To improve awareness of security threats, we scheduled mandatory online training for all staff. Cybersecurity has become increasingly important, especially for those who work from home. The training was also designed in different formats, such as seminars, case studies, and interactive training. In 2022, around 58,000 BASF Group employees, including 5,300 from Greater China, completed basic cyber security and information protection training.

Another important aspect of security is site security. Our security teams handle everything from site access controls to protection from industrial espionage. Potential safety and security hazards are routinely considered for all investment projects and strategic initiatives. The basic premise is to identify potential risks early on, assess them properly and devise appropriate safeguards.

## Energy efficiency and environmental protection

**We are committed to energy efficiency and global climate protection in this energy-intensive industry. We aim to significantly reduce our carbon footprint through our carbon management programs, which include adopting advanced technologies and processes, constantly upgrading facilities, and increasing our use of renewable energies. Our production processes are being optimized to be as energy-efficient as possible with the help of comprehensive energy management. Over the long term, we will continue to develop new processes and technologies to reduce our carbon emissions.**

### Energy

- **Total energy consumption increased as a result of full reporting of acquired sites**

The total energy consumption of BASF sites in Greater China in 2022 increased, primarily due to the full reporting of four acquired facilities in 2021. Due to full reporting, certain sites recorded higher production and usage of residue fuel and fossil fuel. Electricity consumption increased by 14.1% to 1.159 million megawatt hours (MWh) in 2022 (2021: 1.015 million MWh). Steam supply totaled 3.091 million megawatt hours, 0.5% more than in 2021 (2021: 3.076 million MWh). The usage of fossil and residual

fuels in power plants for production was 1.6% higher in 2022 than in 2021 (2022: 0.927 million MWh, 2021: 0.912 million MWh).

#### Electricity consumption

MWh

2022	1,158,703
2021	1,015,216

#### Steam supply

MWh

2022	3,091,140
2021	3,076,013

#### Fossil & residual fuel used for power supply

MWh

2022	927,021
2021	912,096



A co-worker uses an intelligent inspection tool to monitor the production process at the site. BASF has been at the forefront of digital transformation, covering topics from safe manufacturing to operational excellence.

We are committed to our carbon neutrality goals by improving energy efficiency. In 2022, most of our sites in Greater China made great efforts to reduce energy consumption. One site in Chongqing reduced energy consumption by improving cold insulation. Another site in Shanghai also implemented various measures, including the use of renewable energy. Since BASF Greater China's first photovoltaic (PV) power station became operational in 2020, we have been expanding the PV panel installation area to improve the share of renewable energy in the site's electricity supply. The PV panels have now been implemented and contributed to CO<sub>2</sub> emission reduction.

We also collaborated with external partners to further improve energy efficiency. Shanghai has eight sites actively engaging in the local pilot carbon emissions trading scheme (ETS). We work closely with industry associations such as the China Petroleum and Chemical Industry Federation (CPCIF) and the Association of International Chemical Manufacturers (AICM) in preparing for the design and implementation of national ETS, and proactively promoting regular dialogues with relevant authorities.

## Emissions to air

### Decrease in greenhouse gas (GHG) emissions due to increase use of renewable energy

BASF wants to reduce its greenhouse gas emissions worldwide by 25% by 2030<sup>1</sup> compared with 2018, and achieve net zero greenhouse emissions by 2050<sup>1</sup>. All BASF sites in Greater China have implemented various measures to contribute to this ambitious goal.

In 2022, GHG emissions from BASF's chemical operations in Greater China totaled 1.176 million metric tons, down by 0.5% compared with last year (2021: 1.182 million) due to increase use of renewable energy.

Aside from greenhouse gas emissions, BASF also monitors non-GHG air pollutants such as inorganic compounds like carbon monoxide (CO), sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>) and ammonia, as well as dust or non-methane volatile organic compounds (NMVOC). Air pollutants from BASF's chemical operations in Greater China were 318 metric tons (up by 1.9% compared with 312 metric tons in 2021).

In Greater China, several sites implemented a real-time graphical CO<sub>2</sub> footprint management dashboard. It can accurately harness the carbon emissions of each process unit and shed light on defining optimal carbon emission limits for optimization in the plant by leveraging concrete process know-how.

## Greenhouse gas emissions

Metric tons of CO<sub>2</sub> equivalents<sup>a</sup>

2022	1,175,815
2021	1,181,711

<sup>a</sup> CO<sub>2</sub> equivalents consist of CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFC, PFC, SF<sub>6</sub>

## Air pollutants<sup>b</sup> (without CH<sub>4</sub>)

Metric tons

2022	318
2021	312

<sup>b</sup> Air pollutants consist of: CO, NO, SO<sub>x</sub>, NMVOC (Non-methane volatile organic compounds), dust, NH<sub>3</sub>, and other inorganic compounds

## Water

- Sustainable water management with mandatory protection plans
- Using water responsibly

Water is a precious and critical resource in the chemical industry. It is used as coolant, solvent, cleaning agent, and in the manufacturing of our products. BASF has set global goals for sustainable water management, including the responsible use of water in our production sites' water catchment areas and along the entire value chain. BASF sites in Greater China adhere to group requirements that are aligned with the globally applicable standards and are exploring associated initiatives. The European Water Stewardship (EWS) Project has been completed at 14 BASF locations in water-stressed parts of Greater China, with four more sites planned by 2030.

To avoid unforeseen emissions and the pollution of surface or groundwater, BASF developed a water protection strategy for each manufacturing site, as a mandatory part of the global Responsible Care<sup>®</sup> initiative, of which BASF is a member. The wastewater protection plan involves assessing the risks of wastewater and drawing up suitable monitoring methods. Wastewater risk assessment helps identify the potential risks of unexpected wastewater releases. Regular audits are carried out to ensure that appropriate measures are implemented and complied with.

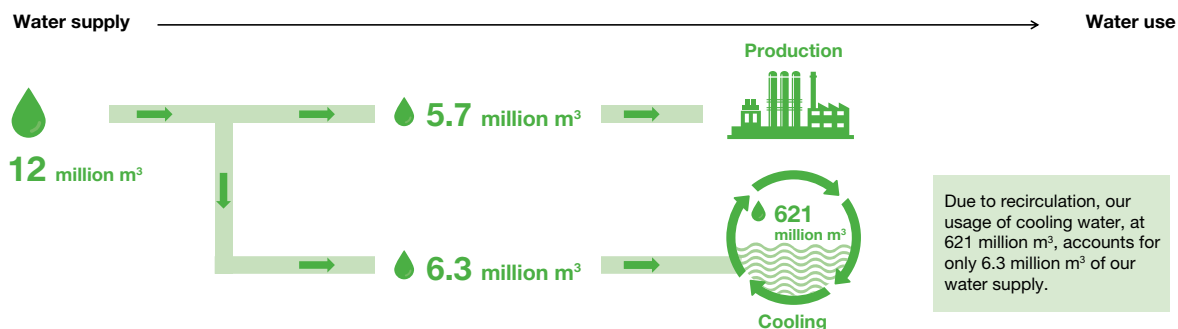
Emissions of water pollutants in Greater China increased in 2022 compared with 2021, mainly due to the full reporting of four acquired sites in 2021. Emissions of organic substances (COD) totaled 108.6 metric tons (2021: 104.2 metric tons). Phosphorus emissions were at 0.602 metric tons (2021: 1.097 metric tons).

<sup>1</sup> Scope 1 and Scope 2 (excluding the sale of energy to third parties, including offsetting). The target includes greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO<sub>2</sub> equivalents (CO<sub>2</sub>e).



### Water use in Greater China

Million cubic meters



#### Water supply

Million cubic meters

	2022	2021
Water supply	12	12.1

#### Water use

Million cubic meters

	Production	Cooling
2022	5.7	621
2021	5.1	611

Nitrogen emissions were at 15.2 metric tons (2021: 11.5 metric tons), while heavy metal emissions rose to 0.039 metric tons (2021: 0.037 metric tons).

We continued to improve water usage at our China sites. One site in Shanghai optimized the amount of circulating cooling water by controlling of hand valve to reduce the cooling flowrate. Another plant in Shanghai switched to onsite distillation water to wash material, which not only met product process requirements but also reduced wash water consumption by 30%.

In Greater China, the total water supply was 12 million cubic meters in 2022 (2021: 12.1 million cubic meters). Among them, 5.7 million cubic meters were used in production (2021: 5.1 million cubic meters), with the remaining predominantly used for cooling purposes. We conserve water by recirculating as much water as possible. The recirculated water used for cooling at BASF's Greater China sites amounted to 621 million cubic meters in 2022 (2021: 611 million cubic meters).

### Emission to water

Metric tons

	2022	2021
Organic Substance (COD)	108.6	104.2
Phosphorus	0.602	1.097
Nitrogen	15.2	11.5
Heavy metals	0.039	0.037

### Waste

- Continuous efforts to reduce and recycle waste
- Audits of external waste management companies

BASF strives to design products and processes that minimize waste as much as possible. If waste is unavoidable, we explore recycling or energy recovery options at BASF's existing Verbund site. Waste from BASF's chemical operations in Greater China totaled 96,680 metric tons in 2022, a significant 11.7% drop from the year before (2021: 109,489 metric tons).

One site in Shanghai optimized the wastewater pre-treatment process to limit the generation of hazardous waste. In 2022, the total amount of waste recovered was at 69,378 metric tons (2021: 79,598 metric tons); while the total waste disposed was at 27,302 metric tons (2021: 29,891 metric tons).

External waste management providers are audited on a regular basis to ensure that hazardous waste is appropriately processed and disposed of. Since 2013, we have been closely monitoring the soil and groundwater status of all sites in Greater China.

### Waste

Metric tons

	2022	2021
Total amount of waste	96,680	109,489
Amount of waste recovered	69,378	79,598
Amount of waste disposed	27,302	29,891



At BASF, we are committed to fostering an inspiring working environment in which our employees can thrive and perform at their best.

# Employees and Society

## Employees

**Employee engagement and empowerment are key to BASF's success. We want to attract and retain talents and support them in their career growth. For years, BASF has been committed to creating an inspiring working environment that connects and fosters talents and enables them to perform at their best.**

**At the end of 2022, BASF employed 11,411 people in Greater China (2021: 11,070).**

The number of employees in Greater China (as of December 31, 2022)

2022	11,411
2021	11,070

### BASF Corporate Commitment

**We value people and treat them with respect.**

#### Recruitment

- Launched the “Blooming in Zhanjiang” Program for graduates across China
- Continued school-enterprise collaboration for developing operational talents
- Enhanced the hiring experience through innovative recruitment solutions

BASF's success relies on its capability of matching the right people to the suitable jobs. In Greater China, we have implemented multiple recruitment strategies to attract potential candidates.

Launched in 2022, the “Blooming in Zhanjiang” Graduate Program aims to identify young talents across China and develop them for the BASF Zhanjiang Verbund site. New graduates will benefit from a systematic training program working alongside experienced leaders and colleagues in their professional field. Each graduate is supposed to bring their passion and play a vital role, adding their unique ideas to the implementation of the Smart Verbund concept and sustainable production at the Zhanjiang site.

Strategic school-enterprise collaboration is also crucial to developing operational talents for BASF in China. Over 400 students have been selected and enrolled to BASF classes in four collaborative vocational schools from southern, central, and north-western regions of China. In 2022, BASF continued in-depth collaborations with vocational schools to build up an operational talents pipeline for its Zhanjiang Verbund site. Students from these schools participated in the tailor-made curriculums, internships and relevant technical trainings. Guidance from experienced mentors helped to improve their professional knowledge and practical skills.

BASF HR digital transformation launched a new cloud-based recruitment management system in 2022. The new solution improves hiring experience and recruitment effectiveness with innovative functionalities, such as resume matching, artificial intelligence interview, online assessment, and talent pool management. The end-to-end recruitment processes are extensively integrated into this system, providing a user-friendly experience which is already receiving positive feedback. For example, applicants can complete their applications with just one-click. Since the system went live, more than 96,000 job applications have been received.

#### Career development

- Learning and development: adopting multiple learning approaches
- Technical Leadership Talent Development focuses on enhancing necessary skills to build a sustainable production pipeline
- BASF micro-learning fosters self-driven learning

Learning and development are key success factors for a strong



BASF offers its employees a wide variety of learning and development opportunities in each phase of their career.





BASF strives to cultivate an inspiring work environment based on mutual respect, trust and appreciation.

and future-oriented company culture. Learning can happen in various formats and places. In Greater China, we are committed to empowering employees and promoting a culture of openness, collaboration, and continuous learning.

To support BASF's expanding production footprint in Greater China, we implemented the Technical Leadership Talent Development program with heavy emphasis on its leadership pipeline. Through the program, talents from the technical community enhanced their capabilities in five dimensions: work management, influence and cross boundary impact, business acumen, team leadership, technical expertise and operational results. By the end of 2022, around 400 participants including shift leaders, plant managers, production supervisors and managers have attended the related programs.

The Micro-Learning program in Greater China has proven to be a highly effective solution for self-paced learning. Covering topics including business, leadership, and workplace skills, it is designed to meet the individual learning needs of employees with great flexibility and offers employees an abundance of bite-sized online learning resources. In 2022, the Micro-Learning program offered over 1,300 courses and 16,000 online audio and video files, representing a seven-fold increase over 2021. The total learning time of employees in Greater China has surpassed 40,000 hours, a three-fold increase compared to the previous year.

## Employee engagement and well-being

- **Global employee survey: Employee Voices**
- **Offering flexible working arrangements**
- **Continuous care to employees in need during the Covid-19 resurgence**

BASF is committed to fostering a safe, healthy, and inclusive workplace to ensure that the well-being and needs of our employees are taken good care of.

In 2022, BASF conducted its annual global employee survey Employee Voices, aiming to listen to employees and formulate actions to improve the working environment. The survey measures and tracks the status of the engagement level as well as key influencing factors like work atmosphere, development & recognition, effectiveness, change readiness, purpose & mission, and customer focus.

To support the diverse needs of our employees in China, flexible working arrangements have become an important element in the workplace. If working conditions allow, BASF employees are empowered to enjoy flexibility in their working hours and workplace settings, while maintaining a strong sense of personal accountability for delivering results. This approach enables employees to benefit from improved work-life management while keeping the company's high-performance standards. Having proven their value during the COVID-19 pandemic, our flexible working arrangements will remain an important strategic element, enabling BASF to stand out as a future-ready employer of choice.

At BASF, caring about the well-being of our employees is our utmost priority. The outbreak of local COVID-19 cases in China in 2022 impacted many employees in their life and work. To



Employees were having recreational activities after work during the period of close-loop site management.

support our employees and their families in need, BASF arranged urgent deliveries such as daily necessities, medicine, and other goods to them.

**Cultivating a diverse and inclusive workplace**

- Progress made in promoting gender equality in the workplace
- Fostering a diversified workforce

At BASF, we value workplace diversity and gender equality, counting them as vital to achieving long-term success. We are committed to increasing the proportion of women in leadership roles to 30% globally by 2030. We have achieved a significant progress toward this goal. In the BASF Group, the global proportion of female leaders with disciplinary responsibility was 27.2% at the end of 2022 (2021: 25.6%). In Greater China, the proportion of female leaders with disciplinary responsibility was 29.3% at the end of 2022 (2021: 28.5%).

We are committed to providing equal opportunities to all employees, regardless of gender, age, and nationality. In 2022,

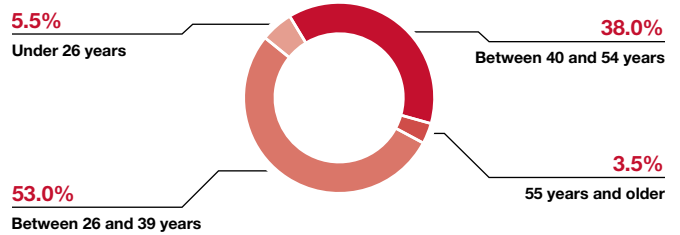
27.1% of BASF employees in Greater China were female (2021: 26.9%). The most substantial proportion (53%) of employees at BASF in Greater China was in the range of 26 to 39 years old.

**Gender among BASF employees in Greater China**  
(as of December 31, 2022)



**BASF employee age structure in Greater China**

Proportion of employees %



Employee engagement and empowerment are key to the success of BASF. We are committed to empowering employees and promoting a culture of openness, collaboration, and continuous learning.

## Compliance

BASF is committed to upholding a high standard of legal compliance and business ethics. Our group-wide Compliance Program aims to ensure adherence to legal regulations, the company's internal guidelines, and ethical business practices. Our Code of Conduct firmly embeds these mandatory standards into the day-to-day operations of our employees.

### Compliance Program and Code of Conduct

- **Commitment to laws, labor standards, and business ethics**
- **Regular compliance training for employees**

BASF's Compliance Program is based on our corporate values and voluntary commitments, as well as international standards. It describes our commitment to responsible conduct and our expectations of how all BASF employees will interact with business partners, officials, co-workers, and the community. At the core of our Compliance Program is the global, standardized Code of Conduct. All employees and managers are obligated to adhere to its guidelines, which cover topics ranging from corruption and antitrust laws to human rights, labor and social standards, conflicts of interest and trade control, and data privacy protection.

Abiding by compliance standards is the foundation of responsible leadership. This has also been embedded in our values. We are convinced that adhering to these standards will be critical in ensuring our company's long-term success. Our efforts are principally aimed at preventing violations from the outset.

One key element in the prevention of compliance violations is compulsory training and workshops held offline like in classrooms or online courses. All employees in Greater China are required, within a prescribed time frame, to take part in basic compliance training, refresher courses and special tutorials dealing with, for example, antitrust legislation, taxes or trade control regulations. In 2022, more than 2,300 participants in Greater China received approximately 20 sessions of compliance training.

### Compliance culture at BASF Greater China

We firmly believe that for corporate responsibility to be successful, there must be an active culture within the company that lives by these guidelines. We expect all employees to act in line with the principles as embedded in our Global Code of Conduct. Managers play an important role here – they serve as examples, communicating our values and culture both internally and externally.

### Monitoring adherence to our compliance principles

At the global level, BASF's Chief Compliance Officer (CCO) reports directly to the Chairman of the Board of Executive Directors and oversees the further development of our global compliance organization and our Compliance Management System. The CCO is supported in this task by the Corporate Compliance unit and more than 100 compliance officers worldwide in the divisions, regions, and countries, including Greater China.

We encourage our employees (should they be in doubt) to actively seek guidance by consulting their managers, specialist departments, such as the legal department, and company compliance officers. In addition, we have set up more than 50 external hotlines worldwide that our employees can use – including anonymously – to report potential violations of laws or company guidelines. All hotlines and the website can be accessed by the public. Each concern is documented according to specific criteria, properly investigated in line with standard internal procedures and answered as quickly as possible. The outcome of the investigation, as well as any measures taken, is documented accordingly, and included in internal reports.

In 2022, our compliance team in Asia Pacific completed a number of tasks, including: providing practical guidance to business units and senior management with respect to the latest developments in anti-trust laws; monitoring the development of the United States sanctions or China counter-sanctions measures, and complying with the new data protection and cybersecurity laws.

In 2022, our external hotlines and other channels in Greater China received calls and emails. The information received related to all categories of our Code of Conduct. We carefully investigated all cases of suspected misconduct that came to our attention and, when necessary, took countermeasures on a case-by-case basis. These included, for example, improved control mechanisms, additional information and training measures, clarification, and expansion of the relevant internal regulations, as well as disciplinary measures as appropriate.

In 2022, our compliance team in China proactively adjusted our risk management system to respond to the continuous developments and complexities of the China's Corporate Social Credit System (CSCS). To better safeguard BASF's compliance performance and rating level under the CSCS, the company has established an internal risk assessment mechanism and a monthly monitoring process, and offered timely regulatory updates, numerous compliance trainings, and one-on-one systematic dialogues with the relevant key stakeholders.



## Societal Engagement

**Societal engagement is a cornerstone of our corporate social responsibility. At BASF, we strive to help achieve the United Nation’s Sustainable Goals (SDGs) and strengthen local communities around our production sites worldwide. Our success is connected to the well-being of the communities where we operate. In 2022, we reaffirmed our commitments to making a positive long-term impact on the environment and society.**

### Stakeholder and community engagement

- **Continuing dialogues with local communities through Community Advisory Panels and various programs**
- **Donating to support medical professionals and vulnerable communities in response to local pandemic outbreak**

Stakeholder and community engagement is an essential part of BASF’s sustainability strategy. At BASF, we aspire to grow our business in ways that are sustainable from economic, environmental, and social perspectives. To foster and enhance mutual understanding with our neighbouring communities and stakeholders in an open and transparent manner, we have been actively conducting community programs in China in past two decades.

The Community Advisory Panels (CAP) are one of the most important platforms where BASF actively engages with local communities around its major production sites. CAP members selected from the local communities meet up with BASF site management to discuss topics of common interests on a regular basis. In Greater China, BASF supports CAPs in Shanghai, Chongqing, Nanjing, and Zhanjiang.



BASF published its first Chinese science picture book in 2022.



A new experiment “Magic Ink” was launched during the 2022 BASF Kids’ Lab Summer Camp.

In Shanghai, the CAP of Shanghai Pudong Innovation Park (Pudong site) held its 9<sup>th</sup> meeting with more than 20 community representatives in early 2022, inviting them to visit BASF Minhang site and learn how BASF contributes to the automotive industry through its advanced sustainable coating solutions.

In late May, 40 community representatives from both the BASF Pudong site CAP and local Lingqiao community participated in the “BASF Good Neighbour” online event. Representatives from the BASF Pudong site shared updates on the close-loop site operations, and expressed deep gratitude to the frontline community workers, volunteers, and resident representatives.

In Chongqing, BASF invited 20 resident representatives from the neighboring community to celebrate the Dragon Boat Festival at the site. Dr. Jan Nouwen, General Manager of BASF Chongqing site, shared with the representatives the site operation status. BASF employees and local representatives made dumplings together. All handmade dumplings were delivered to the local nursing home.

In response to pandemic outbreak in Shanghai, BASF donated one million RMB to Shanghai Soong Ching Ling Foundation in April to support front-line medical professionals, elderly, and vulnerable communities.

### BASF Greater China expenses for societal engagement activities in 2022

around

**€0.38 million**

## Science education

- **Celebrating the 20<sup>th</sup> anniversary of BASF Kids' Lab in Greater China with various new programs and initiatives**
- **Publishing BASF's first Chinese science picture book *Cool the Planet – Lead a Low-carbon Lifestyle***
- **Continuing Community Science Talk in Zhanjiang**
- **Fostering young talents during Hackathon 2022**

BASF believes that chemistry plays a significant role in tackling various challenges in daily life, and education is key to achieving personal success and societal sustainability. BASF has been committed to promoting science education in Greater China, and to supporting SDG4, "Quality education".

Over the past two decades, BASF has been organizing Kids' Lab events in Greater China. The program promotes science education among kids, enabling them to explore the wonder of chemistry and foster their interest for scientific exploration via interesting hands-on experiments. In 2022, BASF celebrated the 20<sup>th</sup> anniversary of BASF Kids' Lab in Greater China through various programs and formats.

In July, BASF launched its first three-day Kids' Lab online summer camp, in collaboration with China Science and Technology Museum, Shanghai Science and Technology Museum, and Chongqing Science and Technology Museum. Kids played with experimental kits provided by BASF at home. Tailored for Chinese children, the new experiment called "Magic Ink" guided kids to proactively solve problems in an inquiry-based learning approach.

BASF also donated 1,000 sets of Kids' Lab experiment kits to the Maitian Education Foundation, benefiting 2,000 students

across the country. With the support of volunteers from Maitian Education Foundation, nine experimental programs were completed, and 335 students participated. More programs will be arranged in 2023.

In August, to inspire the young generation around low-carbon concepts, BASF, together with Juvenile and Children's Publishing House, published its first Chinese science picture book "Cool the Planet – Lead a Low-carbon Lifestyle." In conjunction with the launch of the book, BASF donated 1,000 books to Shanghai Soong Ching Ling Foundation, to plant "green" seeds in more children's minds. These books were distributed to schools in remote areas and schools for children of migrant workers in Shanghai.

In Taiwan, BASF brought the interactive Kids' Lab program to Hai-Chian Elementary School in Taichung. Students got to know the importance of water resources and learnt how dirty water can be turned into clean water through chemical reactions.

In Zhanjiang, BASF continued its Community Science Talk to build a strong connection with local communities and enhance their awareness on biodiversity and ecology conservation. In 2022, the program focused on marine ecological protection, specifically on white dolphins, an endangered species that is occasionally spotted around the area.

To further cultivate and nurture potential talents in the chemical industry, BASF continued to support the 4<sup>th</sup> Young Talents' Chemical Innovation Challenge (2022 Hackathon), organized by the China Petroleum and Chemical Industry Federation (CPCIF). With the support from BASF's mentors, the "BOOST PTBA" team, with students from Beijing Institute of Technology and China Agricultural University, won the third prize.



BASF organized an interactive Kids' Lab program for students from Hai-Chian Elementary School in Taichung, Taiwan.



BASF employees in Shanghai joined its annual nationwide employee volunteering clean-up campaign in October 2022.

**Volunteering for the people and the planet**

- **Employee volunteers contributed to reducing plastic waste in the environment**
- **Launched local biodiversity protection programs in Zhanjiang**
- **Donation to kids in Yunnan**
- **Celebrating the Mid-Autumn Festival with local communities in Taoyuan, Taiwan**

BASF aspires to contribute to a better planet and encourages its employees to participate in various local volunteering projects.

Around 2022 World Clean-up Day, as the co-founder of the Alliance to End Plastic Waste (AEPW), BASF launched its annual employee volunteer clean-up campaign. Under the AEPW’s initiatives of “Clean4Change” to promote reduction and elimination of plastic waste in the natural environment, over 110 BASF employees from Shanghai, Guilin, Tianjin, and Taipei participated in the activity with their family and friends. A total of 580 kilograms of waste was collected, including polystyrene foams, plastics, PET bottles, bottle caps and fishing nets.

In July, BASF, in partnership with Zhanjiang Birds Watching Society Association (ZJBWS), launched a local biodiversity protection program with the focus on natural education and the protection of endangered birds. In October, employees from BASF and ZJBWS participated in the pilot bird watching activity at Jijia town, Leizhou City. Over 160 birds were monitored, including spotted eagles and crested serpent eagles which showed up for the first time in 2022 in Zhanjiang. This bird watching activity provided the groundwork contributing to future biodiversity protection.



A local bird watching activity was conducted in Zhanjiang.

As a responsible corporate citizen, BASF continuously devotes to charity projects to bring positive impacts on vulnerable communities surrounding the sites. In early 2022, BASF Venture Capital (BVCC) donated winter clothes together with 680 brand new notebooks donated by colleagues to two kindergartens and one primary school in Yunnan.

In Taiwan, nearly 40 BASF employee volunteers and their families participated in a yolk pastries DIY event in Taoyuan and delivered handmade pastries to underprivileged elderly communities. In addition, BASF employee volunteers also donated yolk pastries to eight children’s homes located in several cities where BASF production sites are situated.

**Prizes and awards**

In recognition of our commitment to sustainability and social engagement in Greater China, BASF received the “Best Corporate Citizenship” award from 21<sup>st</sup> Century Media Group for the 18<sup>th</sup> year in a row and was named an “Outstanding Responsible Enterprise” by Southern Weekly for the 15<sup>th</sup> consecutive year.

BASF’s Joncryl® HPB (High Performance Barrier) coating solution was named as one of the winning cases of 2022 APEC “Sustainable Consumption and Production”.

BASF Haptex®, a solution for synthetic leather with zero organic solvents, was enlisted as a case of excellence in low-carbon development in the Shanghai Foreign-Invested Enterprises Green and Low-Carbon Development Report.

BASF was also named China’s Top Employer 2023 for the 13<sup>th</sup> consecutive year.





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