

# BASF in Greater China Report 2014



150 years

 **BASF**  
We create chemistry

In this picture, BASF employees, Jida Liu (left) from Performance Chemicals business unit and Fish Shen from Supply Chain and Information Service Platform, were building the prototype with their teammates for the social project idea at the "Connected to Care" Employee Jamming event, which was held during Creator Space™ tour Shanghai stop.

## Chemicals

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



### Key data Chemicals (in million €)

	2014	2013	Change in %
Sales	16,968	16,994	(0.2)
Thereof Petrochemicals	7,832	7,785	0.6
Monomers	6,337	6,385	(0.8)
Intermediates	2,799	2,824	(0.9)
EBITDA	3,212	2,956	8.7
Income from operations before special items	2,367	2,182	8.5
Income from operations (EBIT)	2,396	2,086	14.9

## Performance Products

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



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

	2014	2013	Change in %
Sales	15,433	15,534	(0.7)
Thereof Dispersions & Pigments	3,869	3,851	0.5
Care Chemicals	4,835	4,871	(0.7)
Nutrition & Health	2,029	2,088	(2.8)
Paper Chemicals	1,371	1,442	(4.9)
Performance Chemicals	3,329	3,282	1.4
EBITDA	2,232	1,987	12.3
Income from operations before special items	1,455	1,365	6.6
Income from operations (EBIT)	1,417	1,100	28.8

## Functional Materials & Solutions

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



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

	2014	2013	Change in %
Sales	17,725	17,252	2.7
Thereof Catalysts	6,135	5,708	7.5
Construction Chemicals	2,060	2,120	(2.8)
Coatings	2,984	2,927	1.9
Performance Materials	6,546	6,497	0.8
EBITDA	1,678	1,498	12.0
Income from operations before special items	1,197	1,070	11.9
Income from operations (EBIT)	1,150	1,027	12.0

## Agricultural Solutions

The Agricultural Solutions segment provides innovative solutions in the areas of chemical and biological crop protection, seed treatment and water management as well as solutions for nutrient supply and plant stress. Our research in plant biotechnology concentrates on plants for greater efficiency in agriculture, better nutrition, and use as renewable raw materials.

Research and development expenses, sales, earnings and all other data of BASF Plant Science are not included in the Agricultural Solutions segment; they are reported in Other.



### Key data Agricultural Solutions (in million €)

	2014	2013	Change in %
Sales	5,446	5,227	4.2
EBITDA	1,297	1,375	(5.7)
Income from operations before special items	1,109	1,222	(9.2)
Income from operations (EBIT)	1,108	1,208	(8.3)

## Oil & Gas

We focus our exploration and production on oil and gas-rich regions in Europe, North Africa, Russia, South America and the Middle East. Together with our Russian partner Gazprom, we are active in the transport, storage and trading of natural gas in Europe.



### Key data Oil & Gas (in million €)

	2014	2013	Change in %
Sales	15,145	14,776	2.5
Thereof Exploration & Production	2,938	2,929	0.3
Natural Gas Trading	12,207	11,847	3.0
EBITDA	2,626	3,149	(16.6)
Income from operations before special items	1,795	1,856	(3.3)
Income from operations (EBIT)	1,688	2,403	(29.8)
Net income	1,464	1,730	(15.4)

# BASF Group 2014 at a glance

At BASF, we create chemistry – and have been doing so for 150 years. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through research and innovation, we support our customers in nearly every industry in meeting the current and future needs of society. We have summed up this contribution in our corporate purpose: **We create chemistry for a sustainable future.**

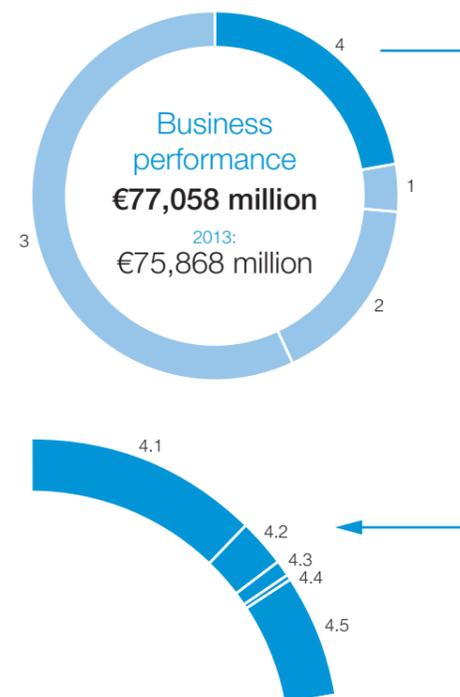
## Economic data

		2014	2013 <sup>1</sup>	Change in %
Sales	million €	74,326	73,973	0.5
Income from operations before depreciation and amortization (EBITDA)	million €	11,043	10,432	5.9
Income from operations (EBIT) before special items	million €	7,357	7,077	4.0
Income from operations (EBIT)	million €	7,626	7,160	6.5
Income from operations (EBIT) after cost of capital	million €	1,368	1,768	(22.6)
Income before taxes and minority interests	million €	7,203	6,600	9.1
Net income	million €	5,155	4,792	7.6
Earnings per share	€	5.61	5.22	7.5
Adjusted earnings per share	€	5.44	5.31	2.4
Dividend per share	€	2.80	2.70	3.7
Cash provided by operating activities	million €	6,958	8,100	(14.1)
Additions to property, plant and equipment and intangible assets <sup>2</sup>	million €	7,285	7,726	(5.7)
Depreciation and amortization <sup>2</sup>	million €	3,417	3,272	4.4
Return on assets	%	11.7	11.5	–
Return on equity after tax	%	19.7	19.2	–

## Value added 2014

### Creation of value added<sup>3</sup> (in million €)

	2014	2013 <sup>1</sup>
Business performance	77,058	75,868
1 Amortization and depreciation	(3,417)	(3,272)
2 Services purchased, energy costs and other expenses	(13,259)	(12,540)
3 Cost of raw materials and merchandise	(42,978)	(43,141)
<b>4 Value added</b>	<b>17,404</b>	<b>16,915</b>



### Use of value added

	2014	2013 <sup>1</sup>
4.1 Employees	53.0%	54.9%
4.2 Government	11.4%	10.8%
4.3 Creditors	4.1%	4.1%
4.4 Minority interests	1.9%	1.9%
4.5 Shareholders (dividend and retention)	29.6%	28.3%

<sup>1</sup> The figures for the 2013 business year have been restated following BASF's and Gazprom's agreement on December 18, 2014, not to proceed with an asset swap planned for the end of 2014. This required the dissolution of the disposal group created at the end of 2012 to which the affected assets and liabilities had been reclassified in the financial statements. A detailed overview of the resulting adjustments to 2013 and 2014 can be found at [basf.com/publications](http://basf.com/publications).

<sup>2</sup> Including acquisitions

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

## Innovation

		2014	2013	Change in %
Research expenses	million €	1,884	1,849	1.9
Number of employees in research and development at year-end		10,697	10,631	0.6

## Employees and society

		2014	2013	Change in %
Employees at year-end		113,292	112,206	1.0
Apprentices at year-end		3,186	3,060	4.1
Personnel expenses	million €	9,224	9,285	(0.7)
Donations and sponsorship	million €	45.4	49.2	(7.7)

## Supply chain management and Responsible Care

		2014	2013	Change in %
Number of on-site sustainability audits of raw material suppliers		120	155	(22.6)
Number of environmental and safety audits		121	132	(8.3)
Number of short-notice audits		73	22	231.8
Number of occupational medicine and health protection audits		48	44	9.1

## Safety and health

		2014	2013	Change in %
Transportation accidents	per 10,000 shipments	0.20	0.22	(9.1)
Product spillages during transportation	per 10,000 shipments	0.23	0.23	0
Lost-time injuries	per million working hours	1.5	1.4	2.8
Health Performance Index		0.91	0.89	2.2

## Environment

		2014	2013	Change in %
Primary energy usage <sup>4</sup>	million MWh	59.0	59.2	(0.3)
Energy efficiency in production processes	metric tons of sales product/MWh	0.588	0.592	(0.7)
Total water withdrawal	million cubic meters	1,877	1,781	5.4
Withdrawal of drinking water	million cubic meters	22.7	22.6	0.4
Emissions of organic substances to water <sup>5</sup>	thousand metric tons	18.7	19.7	(5.1)
Emissions of nitrogen to water <sup>5</sup>	thousand metric tons	3.2	2.9	10.3
Emissions of heavy metals to water <sup>5</sup>	metric tons	21.5	21.9	(1.8)
Emissions of greenhouse gases	million metric tons of CO <sub>2</sub> equivalents	22.4	23.0	(2.6)
Emissions to air (air pollutants) <sup>5</sup>	thousand metric tons	31.5	32.4	(2.8)
Waste	million metric tons	2.1	2.5	(16.0)
Operating costs for environmental protection facilities	million €	897	893	0.4
Investments in environmental protection	million €	349	325	7.4

<sup>4</sup> Primary energy used in BASF's plants as well as in the plants of our energy suppliers to cover energy demand for production processes

<sup>5</sup> Excluding emissions from oil and gas production

# BASF in Greater China Report 2014

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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 2014. This report also carries an overview of BASF Group along with its financial performance, prepared in accordance with the requirements of the German Commercial Code and the International Financial Reporting Standards (IFRS). The figures reported for the 2013 business year have been restated following BASF’s and Gazprom’s decision on December 18, 2014, not to proceed with an asset swap planned for the end of 2014. This made it necessary to dissolve the disposal group to which the affected assets and liabilities had been reclassified in the financial statements at the end of 2012. 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, 2014.

## Welcome

### Letter from the president

#### *Dear Stakeholders*

In 2014, the volatility of the global economy continued. China has now entered a period of more moderate growth, and sustainability and the transformation of industry are on top of the agenda.

For BASF, 2014 was also challenging. With sales of €5.5 billion, our business performance last year in Greater China matched the level of the previous year. Focusing on innovation and sustainability, we have seen very positive developments in the business areas of Electronic Materials, Performance Chemicals and Nutrition & Health.

Our investment in Greater China continued, as we are proactively driving growth and transformation of the chemical industry for the future. We started up new plants for crop protection, acrylic acid, superabsorbent polymers and automotive coatings in 2014, and will continue to operate them over the next decades.

We are further strengthening our local innovation capabilities, which is the driving force for the development of the chemical industry. 2014 was an important year for our research and development presence in Greater China. The Innovation Campus in Shanghai – already our largest research site in Asia – is being expanded. Since its inauguration two years ago, we have established closer collaborations with customers and with the science community, and it is exciting to see new solutions that address China's sustainability challenges – for example, the new, patent pending co-extrudable Ultradur® window profile, which greatly reduces heat transfer and thus reduces energy consumption for heating and cooling of buildings.



BASF turns 150 in 2015, and we have been active in Greater China for 130 years. While celebrating our history of innovation, we want to take this opportunity to engage our employees, customers and partners to co-create answers to our common challenges.

In particular, I would like to thank you for your interest in BASF and for working with us on solutions for the future.

I look forward to celebrating our anniversary together with you in 2015!

*Albert Heuser*

**Dr. Albert Heuser**  
President Functions Asia Pacific  
President and Chairman Greater China, BASF



2015 is a special year for BASF as we celebrate our 150<sup>th</sup> anniversary. We have launched the Creator Space™ program to connect all ideas, discussions and activities regarding the anniversary themes: urban living, smart energy and food. From March 20 to 27, the Creator Space tour came to Shanghai, with a special focus on the future of urban living.



The wastewater treatment plant that went into operation in 1974 in Ludwigshafen is to date one of the largest of its kind in Europe. It purifies wastewater from BASF and surrounding communities. Its capacity is sufficient to purify the wastewater of a city with six million inhabitants.

## The BASF Group

At BASF, we create chemistry – and have been doing so for 150 years. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. In the BASF Group, around 113,000 employees work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our broad portfolio is arranged into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas.

### Organization of the BASF Group

- 14 divisions grouped into five segments
- Regional divisions, corporate units and competence centers support our business

Until the end of 2014, five segments contained 14 divisions that managed and bore operational responsibility for our 65 global and regional business units. The divisions develop strategies for our 85 strategic business units and are organized according to sectors or products.

As of January 1, 2015, we reorganized our paper chemicals business in order to sharpen our competitive edge. This involved dissolving the Paper Chemicals division and continuing the paper chemicals business in the Performance Chemicals and Dispersions & Pigments divisions. By doing so, we can utilize synergies along the existing value chains and at the same time remain a reliable, high-performing partner for the paper industry.

The regional divisions contribute to the local development of our business and help exploit market potential. They are also responsible for optimizing infrastructure for our business. For financial reporting purposes, our divisions are organized into the following four regions: Europe; North America; Asia Pacific; and South America, Africa, Middle East.

Three central divisions, six corporate units and ten competence centers provide services for the BASF Group in areas such as finance, investor relations, communications, human resources, research, engineering, and site management, as well as environment, health and safety.

### Markets and sites

- BASF companies in more than 80 countries
- Six Verbund sites and 353 additional production sites worldwide

BASF has companies in more than 80 countries and supplies products to a large number of business partners in nearly every part of the world. In 2014, we achieved 44% of our sales (excluding Oil & Gas) with customers in Europe. In addition, 26% of sales were generated in North America; 21%

in Asia Pacific; and 9% in South America, Africa, Middle East. Based on the entire BASF Group, 55% of our sales were to customers in Europe, 20% in North America, 17% in Asia Pacific and 8% in South America, Africa, Middle East.

We operate six Verbund sites as well as 353 additional production sites worldwide. Our Verbund site in Ludwigshafen is the world's largest integrated chemical complex. This was where the Verbund concept was originally developed and steadily honed before being put into practice at additional sites.

### Verbund

- Intelligent plant networking in the Production Verbund
- Technology and Know-how Verbund

The Verbund system is one of BASF's great strengths. Here, we add value as one company by using our resources efficiently. The Production Verbund, for example, intelligently links production units and energy demand so that heat released by production processes can be used as energy in other plants. Furthermore, by-products of one plant can serve as feedstock elsewhere. In this system, chemical processes run with lower energy consumption and higher product yield. This not only saves us raw materials and energy, it also avoids emissions, lowers logistics costs and makes use of synergies.

Another important part of the Verbund concept is the Technology and Know-How Verbund. Expert knowledge is pooled into our global research platforms.

For more on the Verbund concept, see [basf.com/verbund\\_e](http://basf.com/verbund_e)

### Corporate legal structure

As the publicly traded parent company of BASF Group, BASF SE takes a central role: Directly or indirectly, it holds the shares in the companies belonging to the BASF Group, and is also the largest operating company. The majority of Group companies cover a broad spectrum of our business. In some, we concentrate on specific business areas: The Wintershall Group, for example, focuses on oil and gas activities. In the BASF Group Consolidated Financial Statements, 274 companies including BASF SE are fully consolidated. We consolidate seven joint operations on a proportional basis, and 34 companies are accounted for using the equity method.

## Corporate strategy

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

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

### Our corporate purpose

#### ■ We create chemistry for a sustainable future

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

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

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

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

### Our strategic principles

- We add value as one company
- We innovate to make our customers more successful
- We drive sustainable solutions
- We form the best team

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

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

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

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

### Our values

- Creative
- Open
- Responsible
- Entrepreneurial

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

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

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

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

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

## Goals

### Employees

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

### Safety, security and health

	2020 Goals	Status at year-end 2014
<b>Transport</b>		
Transportation accidents per 10,000 shipments (baseline 2003)	–70%	–64.3%
<b>Production</b>		
Lost-time injuries per million working hours (baseline 2002)	–80%	–54.5%
Health Performance Index (annual goal)	>0.9	0.91
<b>Products</b>		
Risk assessment of products sold by BASF worldwide in quantities of more than one metric ton per year	>99%	61.4%

### Environment

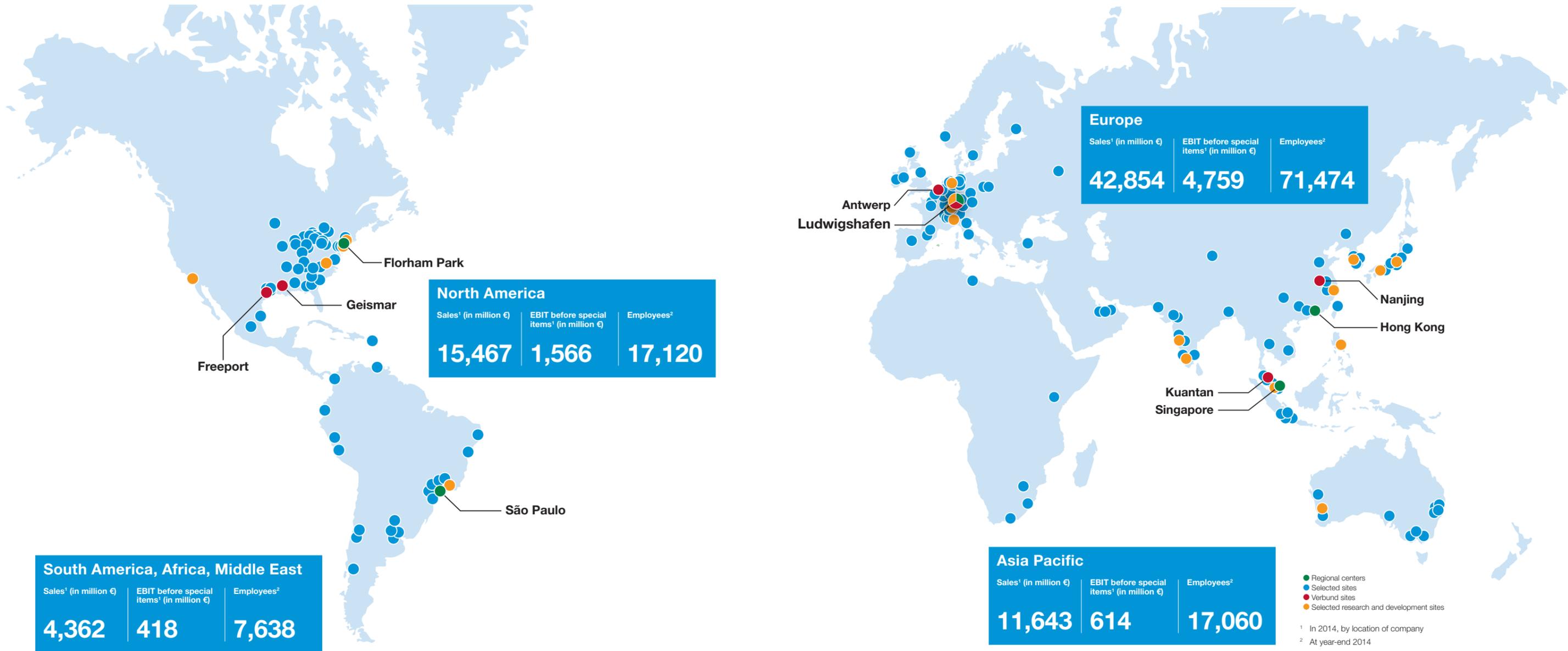
	2020 Goals	Status at year-end 2014
<b>Energy and climate protection<sup>1</sup></b>		
Improvement of energy efficiency in production processes <sup>2</sup> (baseline 2002)	+35%	+19.0%
Greenhouse gas emissions per metric ton of sales product <sup>2</sup> (baseline 2002)	–40%	–33.9%
<b>Water</b>		
Emission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

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

<sup>2</sup> Excluding oil and gas production

### BASF in the regions

BASF Group sales 2014: €74,326 million; EBIT before special items 2014: €7,357 million



#### South America, Africa, Middle East

At €4,362 million, sales for companies headquartered in South America, Africa, Middle East were 1% below the level of 2013. Sales grew by 8% in local currency terms. Income from operations before special items rose by 8% to €418 million.

#### North America

At €15,467 million, sales for companies headquartered in North America were up by 6% compared with 2013. In local currency terms, this was an increase of 7%. Income from operations before special items rose by 2% to €1,566 million.

#### Europe

Sales at companies headquartered in the region Europe decreased by 1% to €42,854 million. Income from operations before special items amounted to €4,759 million, an increase of 10% compared with 2013.

#### Asia Pacific

Sales at companies headquartered in the Asia Pacific region reached €11,643 million, a level comparable with that of the previous year. In local currency terms, sales rose by 1%. Income from operations before special items fell by 27% to €614 million.

<sup>1</sup> In 2014, by location of company  
<sup>2</sup> At year-end 2014

## BASF celebrates 150 years

2015 is a special year for BASF as we celebrate our 150<sup>th</sup> anniversary. Since the company's foundation in 1865, innovation has been the force guiding BASF's development. We want to celebrate together with our employees, customers and partners and see how BASF milestones over the past century and a half have brought pioneering technological achievements to life. Besides looking back, we also want to connect the past with the present and create something that lasts into the future. "Co-creation and celebration" is our anniversary motto.

### Anniversary program aims at future challenges

- Anniversary year focuses on urban living, smart energy and food

In 2050, more than nine billion people will live on the Earth. The ever-growing demand for good living conditions, energy and nutritious food can only be met with the help of innovations. We aim to work together on answering the major questions facing society, where chemistry plays an important role. That is why we have made these topics the focus of our anniversary program: urban living, smart energy and food.



Anniversary theme: urban living

**What will the cities of the future look like?** It is estimated that more than 70% of the world's population will live in cities in 2050. How will we be able to provide adequate living space and ensure quality of life for more and more people? How can we create intelligent transport systems? And will there be enough of our existing resources, such as water, for everyone?

**Where will the energy we need come from?** By 2050, humanity will consume two to three times more energy than it does today. We require energy for industry and living, but fossil fuels are finite. How can we therefore use, store and transport energy more efficiently? And how can we further expand our renewable energy sources in a cost-efficient manner?



Anniversary theme: smart energy

**How can there be enough nutritious food for everyone?** Providing enough food for a growing world population will be one of the challenges of the decades ahead. Many people are already suffering from hunger. How can we manage to nourish everyone? How can we combat malnutrition and at the same time curb the overproduction of valuable foods? Also, the bad eating habits common in industrialized countries can lead to health problems like obesity. What will the agriculture of the future look like?



Anniversary theme: food

### Co-creation and celebration around the globe

- Creator Space™ program includes interactive website, tour stops in six cities and three scientific symposia
- Various events and activities worldwide

Co-creation is an important component in the evolving innovation landscape. By connecting companies with a diverse mix of stakeholders in a process of shared value creation, innovations can be accelerated and outcomes improved. Therefore, BASF and its partners are preparing a series of co-creation events worldwide in 2015.

By combining a celebration of the company's heritage with its response to the challenges of the future, the company brings together people and ideas from around the world. BASF has launched the Creator Space™ program to connect all ideas, discussions and activities regarding the anniversary themes: urban living, smart energy and food.

One of its elements is the Creator Space online platform. Similar to a social network, it sparks discussion between employees, experts, customers and anyone interested in the anniversary topics. Creator Space is also going on tour, offering a program of lectures, workshops and cultural events in various cities. Scientific symposia are taking place in Europe, North America and Asia. Employees are celebrating in all regions at individual sites worldwide with diverse events, such as employee festivals.

For more information, see [creator-space.basf.com](http://creator-space.basf.com)



Anniversary motto: co-creation and celebration

### Our anniversary activities in Greater China

BASF has been doing business in Greater China for 130 years. Leveraging this historical milestone, we are further connecting with our stakeholders, so as to co-create new ideas and solutions that better address the challenges of the future.

We have engaged our employees, customers and suppliers, as well as experts from industrial and non-profit organizations, into a variety of activities since March 20, 2015, when the Creator Space tour kicked off in Shanghai. This week-long series of event was designed to develop ideas for the future of urban living, and comprised ten co-creation activities, with contribution from a total of 1,200 participants.

In parallel, "Breaking New Ground", a book about the history of BASF in China from 1865 to the present, was published in Beijing on March 23, 2015. Readers are able to explore the story of how BASF became the largest foreign investor in the chemical industry in China. The book is available in three languages: Chinese, English and German.

A series of other activities in Greater China is being held throughout the anniversary year, including the Creator Space Science Symposium in November, bringing together world renowned experts from academia and industry for intelligent and affordable solutions in mobility, construction and water management; "150 Minutes" parties among employees across BASF sites; as well as additional co-creation activities with customers and industries.

For more on the Creator Space program in Greater China, see page 12

### The anniversary – and then?

Some co-created visions for the future will become reality: The most promising ideas arising from the anniversary program will be selected by an expert team in early 2016 and transformed into projects, making a lasting contribution to solving challenges and strengthening BASF's collaboration with partners.

<b>January 16–23:</b> Creator Space tour in <b>Mumbai</b> , Focus: Water	<b>March 9–10:</b> Creator Space science symposium <b>Ludwigshafen</b> : Smart energy for a sustainable future	<b>March 20–27:</b> Creator Space tour in <b>Shanghai</b> , Focus: Urban living	<b>April 23:</b> Anniversary event in <b>Ludwigshafen</b>	<b>May 26–30:</b> 50th German Youth Science Competition ("Jugend forscht") in <b>Ludwigshafen</b>	<b>May 26–31:</b> Creator Space tour in <b>New York</b> , Focus: Housing of the future	<b>June 23–24:</b> Creator Space science symposium in <b>Chicago</b> : Sustainable food chain – from field to table	<b>August 17–23:</b> Creator Space tour in <b>São Paulo</b> , Focus: Food and food loss avoidance	<b>October 26–30:</b> Creator Space tour in <b>Barcelona</b> , Focus: Sustainable food chain	<b>November 10–11:</b> Creator Space science symposium in <b>Shanghai</b> : Sustainable urban living	<b>November 20–29:</b> Creator Space tour in <b>Ludwigshafen</b> , Focus: Smart energy
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### Creator Space™ tour Shanghai

- Focus on the challenges of urban living
- Participation from broad range of stakeholder groups

By 2020, 60% of Chinese will be living in cities. How will the choices of 700 million urban consumers in China influence the balance of economy, environment, and social needs? From March 20 to 27, 2015, the Creator Space tour came to Shanghai, connecting people and ideas to create proposals addressing this question.

During the eight-day tour, we adopted a mixture of formats to ignite discussions on a variety of topics covering home living, consumption behavior, and transportation, among different groups of people. More than 1,200 participants, from industry, academia, science, social development, culture and arts, governmental and non-profit organizations, were engaged in these inspirational, interactive and collaborative activities.

**Urban Living Summit: Our lifestyle choices shape the future.** This two-day summit focused on the topic of urban lifestyle and consumer choices in the areas of food, electronics and textiles. Around 80 experts from leading companies, governmental and non-profit organizations, as well as students from leading universities, brought their expertise from different fields. They discussed current and future challenges



Participants co-created solutions to better manage organic waste.

and developed ideas to improve the quality of urban living while reducing the environmental, social, and economic pressures that come along with rapid urbanization.

**Sustainable Transport Creatathon: from inspiration to action.** BASF hosted a 24-hour creatathon focused on transportation and its environmental impact. Seven university teams were engaged in this activity, and developed app-based solutions to help urban residents make better transport decisions. Professional app developers and leading entrepreneurs in Shanghai worked side by side throughout the ideation and prototyping process. The winning proposal, the “Carbon Coin” app designed by the team from East China Normal University, promotes the concept of carbon trading among consumers, by awarding them with carbon coins for choosing more sustainable means of transportation.

**“Connected to Care” Employee Jamming.** “Connected to Care” is a global corporate volunteering contest, open to all employees who would like to realize a local, charitable project together with colleagues, friends, family members, and in cooperation with a non-profit organization. At the Creator Space tour in Shanghai, employees and six non-profit organizations “jammed” together for a full day to develop ideas and proposals related to one of the three anniversary themes. The resulting project proposals were submitted to BASF’s global contest to win funding for implementation.



BASF employees jammed together with NGO experts on social project ideas.



The “Uncertain Space” is an art installation aiming to inspire participants to explore challenges and solutions in an interactive way.

**Organic Waste Management Jamming.** In China, most organic waste is currently landfilled or incinerated. Industrial composting, which is a more environmentally friendly alternative, requires active participation from all parties. Around 70 policy makers, scholars, non-profit organization representatives and key players along the value chain participated in a full-day jamming session to develop solutions for better management of organic waste.

**Asia Pacific PhD Challenge.** The BASF Asia Pacific PhD Challenge is a regional competition for PhD candidates majoring in chemistry, engineering, polymer and material sciences, to inspire them to think critically and provide answers to future mobility problems using their expertise and creativity.

For more on the Asia Pacific PhD Challenge, see page 31

**BASF Kids’ Lab: Experience the biggest job on earth.** BASF Kids’ Lab, active in China for more than a decade, is a popular program that engages kids and their parents in safe, hands-on and interactive experiments. At a special session at the Creator Space tour in Shanghai, we focused on farming, the biggest job on earth. Through observation and experiments, around 160 kids learned how plants grow and how they are important to our health.

**Cultural activities.** To help participants visualize, generate and appreciate new ideas for the future of urban living, several art and cultural activities were held in parallel during the eight-day tour. The “Uncertain Space”, an 80-square-meter art installation placed at the entrance, inspired participants to explore the challenges and solutions in an interactive way. The “Keywords Lab” showcased topical issues for urban living, drawn from earlier interviews with BASF stakeholders. At the cinema nights, participants watched documentary films on food, consumption and urban living.

## BASF in Asia Pacific

### An interview with Sanjeev Gandhi

#### What do you see as the biggest challenges for BASF in the region?

Increasing market volatility and slowing growth in certain areas in Asia Pacific are the two main challenges we face. In order for us to fully leverage our strengths, we will continue to work very closely with our customers – because the most value-adding solutions come from close cooperation between us and the customers.

In this increasingly competitive environment, we will continue to grow profitably by maintaining strict cost discipline and ensuring that our solutions address the key issues that our customers need to tackle: enabling a better quality of life during a period of rapid urbanization; providing smart energy while minimizing use of natural resources; and supplying high quality food and nutrition to a growing population.

#### What is the future of innovation at BASF in Asia Pacific?

Innovation is one of the key factors that differentiates us from the competition in Asia Pacific. Our strong research and development (R&D) network in the region enables us to be close to our customers and to develop the right products and solutions for the local markets. Research fields that we are focusing on include battery materials, organic synthesis, and advanced materials and systems. And we are locating more of our global R&D operations here. By 2020, we plan to have a quarter of our global R&D staff located in Asia Pacific. All this ensures that our customers in Asia Pacific benefit from our vast global knowledge.

#### How will BASF handle the tougher competitive environment in Asia Pacific?

Our key strength is our team – we have excellent people who develop solutions for and with our customers. With our presence in all the key markets in Asia Pacific, we have the ability to adapt our products to local market needs.

At the same time, we continuously increase the efficiency in our operations. Today, we can build a plant at 30% lower engineering cost and 12 months faster than we



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

could five years ago. An additional advantage for us is that we are operating with global standards. This gives us a head start in a region where customers demand compliance to worldclass standards.

#### What are BASF's plans for China?

Building on 130 years of partnership, Greater China continues to be one of the most important markets for BASF, and is becoming the innovation hub for the region. The second phase of the Innovation Campus Asia Pacific in Shanghai, to be completed in 2015, will house one of the three global research platforms – Advanced Materials & System Research. We will forge even closer partnerships with our local customers and partners, to collaborate on solutions that tackle current and future challenges.

## Asia Pacific at a glance

#### Economy

In 2014, sales to customers in the Asia Pacific region reached approximately €12.3 billion, a level comparable with that of the previous year. Volume-driven sales growth in Performance Products, Functional Materials & Solutions and Agriculture Solutions Segments was offset by negative currency effects and falling price. Income from operations before special items fell by 27% to €614 million, mostly weighed down by lower prices in the Monomers division.

BASF will invest approximately €10 billion to develop its production base between 2013 and 2020. Milestones in 2014 included opening a new production site in Dahej, India; starting up the Crop Protection division's first Asia Pacific plant in Rudong, China; and inaugurating new plants in China for superabsorbents, acrylic acid, butyl acrylate and automotive coatings. We also began constructing plants to produce butanediol and PolyTHF® in Korla, China; aroma chemicals in Kuantan, Malaysia; and isononanol in Maoming, China.

The new Electronic Materials R&D Center in Suwon, South Korea, has further strengthened our presence in the global Research Verbund. The continued expansion of the Innovation Campus Asia Pacific in Shanghai, China, and a new Innovation Campus in Mumbai, India, will also contribute to this. To improve profitability in Asia Pacific, we enacted a program to increase efficiency and expand our ability to tap market potential.

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

Year	Sales (billion €)
2014	12.3
2013	12.5
2012	12.5

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

Year	EBIT (million €)
2014	614
2013	842
2012	888

#### Environment

BASF is continuously exploring new ways to minimize emissions and to improve our resources use. In Japan, for example, we launched a pilot project in 2014 aiming to monitor and capture small amounts of unused ambient energy. Also in 2014, BASF started a project requiring its sites in the region to adhere to the standards established by the multi-stakeholder European Water Stewardship.

We also aim to make our production and delivery of goods significantly more energy efficient by increasing the proportion of sales from local production. Our aim is to produce 75% of our Asia Pacific sales locally by 2020.

At the customer level, resource scarcity drives the need for more innovative and sustainable solutions in the region. During 2014, BASF introduced a number of solutions to help customers in the Asia Pacific region meet their environmental targets, for example with a project to promote better waste management in Pune, India, with compostable waste bags.

Also in 2014, we rolled out the global chemical industry supplier sustainability audit program "Together for Sustainability", and conducted extensive sustainability supplier training in China.

#### Employees and society

As of the end of 2014, BASF employed 17,060 people in the Asia Pacific region (2013: 16,708). Ongoing efforts in learning and development are crucial to forming the best team, and BASF put additional focus in 2014 on creating pathways to development through continued learning. With the opening of the regional Learning Campus in Singapore, we provide our employees in the region with additional programs for personal and professional development.

Number of employees (as of December 31)

Year	Employees
2014	17,060
2013	16,708
2012	16,406

This year, employees around Asia Pacific submitted and voted online for their favorite community projects in BASF's global corporate volunteering contest. The 150 project ideas with the most votes will receive funding from BASF of up to €5,000 each.

## BASF in Greater China

### 130 years of growth

BASF is celebrating its 150th anniversary in 2015. This year also marks 130 years of BASF's history in Greater China. In 1885, the company began selling textile dyes in China, one of the most important chemical products of the time. Since then, BASF's activities in the country have grown and diversified steadily. Over the last 20 years, it has invested more than €5 billion – and more than €7 billion with its partners – in Greater China. BASF has now established a strong local production base and research capability, as well as an extensive distribution network, all of which are managed from the company's Greater China headquarters in Shanghai.

#### Pioneering spirit: entering China

In 1913, China already accounted for 14% of the company's global sales. For example, Indigo dyers in South China were important buyers of the company's dyes at the time. Starting in the 1940s, war and political upheaval made China activities more difficult for many years. Despite these circumstances, BASF managed to get back into the business in the 1950s, starting with trading dyes again, later adding fertilizers. BASF hired Hong Kong-based German company Jepsen & Co. as its exclusive trading agent with China.

As early as 1962, the BASF Board of Executive Directors declared a general interest in building production facilities in Greater China. The first investment was realized in 1969, when BASF founded a subsidiary in Taiwan under the name



A dye label for the Chinese market 130 years ago

Teh Hsin Dyes and Chemicals Co. Ltd. This entity bought into Cheng Kuang Chemical Co. Ltd., which operated a formulation factory for crop protection products in Taipei. The joint venture became the nucleus of BASF's growth in Taiwan: In 1984, it was renamed BASF Taiwan Ltd.

In the 1970s, BASF traded an ever-increasing range of chemicals through Jepsen & Co., covering 30 major industries for BASF products such as organic intermediates; almost all plastics produced by BASF at the time were also available to China during this decade. At the end of the decade, BASF's revenue in China had reached some 100 million Deutschmarks – a business scope large enough to require conducting the business independently. 1982 marked the launch of BASF China Ltd. in Hong Kong.

A few years later, the time had come for direct investment into production sites in Mainland China: In 1988, BASF founded its first joint venture: Shanghai Gaoqiao BASF Dispersions Co. Ltd., which as BASF's longest-standing production facility in China makes styrene-butadiene dispersions for paper coating and carpets. Other joint ventures followed, including Shanghai BASF Colorants and Auxiliaries Co. Ltd., BASF Shanghai Coatings Co. Ltd. and BASF Vitamins in Shenyang. In 1995, BASF established its East Asia regional headquarters in Hong Kong, reflecting the increasing importance of the China market.

#### Stronger Greater China presence

In 2000, after years of exploration and talks, BASF and China Petroleum & Chemical Corp. (Sinopec) established the BASF-YPC Co. Ltd. joint venture to build a Verbund site in Nanjing which involved an initial joint investment by both partners of \$2.9 billion. This venture marked the largest single investment in BASF's history. In 2005, the Verbund site started production, and it is now one of six such BASF Verbund sites in the world. Construction was subject to some of the strictest safety rules China had seen at the time, and proceeded without any major incident. In 2006, the partners agreed to expand the site, and the second phase was inaugurated in 2012. To date, the joint investment has totaled to \$5.2 billion. Further expansion is underway. For example, BASF-YPC inaugurated a new superabsorbent polymers plant in 2014.



During construction, the Verbund site in Nanjing achieved 10 million work hours without an accident.

The new Verbund site marked a phase of remarkable growth and expansion. In Shanghai, BASF developed production clusters around the Gaoqiao and Caojing areas, all equipped with advanced production technologies. In Caojing, BASF inaugurated its first wholly-owned factory in China in 2005: a PolyTHF plant which, together with a precursor factory, is now the world's largest complex for making PolyTHF, a chemical compound used for making elastic fibers. Together with foreign and local partners, in 2006, BASF opened an integrated isocyanate production facility at the Shanghai Chemical Industrial Park in Caojing, making methylene diphenyl diisocyanate (MDI) and toluene diisocyanate (TDI). In order to serve the growing market of West China, BASF has started expanding the MDI plant in Shanghai, and is currently constructing another large MDI plant in Chongqing.

Major global acquisitions by BASF since 2005 have also benefited its China activities. For instance, BASF acquired and integrated the electronic chemicals business of Merck Group in 2005, the construction chemicals business of Degussa and the catalysts business from Engelhard Corp. in 2006, specialty chemical makers Ciba in 2009 and Cognis in 2010, as well as battery materials manufacturer Novolyte Technologies in 2012.

#### Joint success with partners

Over the years, BASF's China presence has become more sophisticated and intertwined with all its global operations. In 2004, BASF centralized the administration of its China business and moved its Greater China headquarters to Shanghai, which was then integrated with its major production and research facilities at the Pudong New Area in 2012. The Pudong site has since become one of BASF's biggest integrated sites outside of Germany, enabling closer collaboration with customers in Greater China through holistic approaches.

At the same time, BASF has built up an extensive research and development network in China to provide tailor-made solutions to local customers, or to pursue research together with clients. 2007 marked the opening of BASF's first research facility in China, an R&D center for automotive industry solutions in Shanghai, which was followed by various labs and technical centers in the country. In 2012, the Innovation Campus Asia Pacific was inaugurated at the Pudong site, and has become the most important innovation hub in the region.

#### Responsibility along the value chain

BASF has been committed to the principles of Responsible Care, a voluntary initiative of the chemical industry for continuous improvement in the areas of environmental protection, health and safety, since 1992. This also encompasses the supply chain. In 2011, BASF became the founding member of the "Together for Sustainability" initiative for the global standardization of supplier evaluations and auditing in the chemical industry.

BASF became a member of the founding presidium of the Global Compact Network China in 2011, which calls on companies in China to align their strategies in human rights, labor, environment and anti-corruption.

#### 1885–1990: Entering China

- 1969: first investment in Taiwan
- 1982: launch of BASF China Ltd. in Hong Kong
- 1988: first joint venture in mainland China

#### 1990–2000: Deepening engagement

- 1995: launch of BASF East Asia regional headquarters in Hong Kong

#### 2000–2005: Major investments

- 2000: BASF-YPC established
- 2004: Greater China headquarters relocated to Shanghai

#### 2005–2014: Growth and integration

- Major acquisitions
- Growing numbers of production and R&D facilities
- 2012: launch of Innovation Campus Asia Pacific in Shanghai

#### 2015: 130 years of growth and future perspectives

## Business development

Greater China is BASF's third-largest market worldwide. In 2014, the company achieved sales of €5.5 billion to customers located in Mainland China, Taiwan and Hong Kong, and had 8,033 employees in Greater China. With major investments in Nanjing, Shanghai and Chongqing, the company is one of the largest foreign investors in China's chemical industry. Altogether, BASF operates 22 major wholly-owned subsidiaries and eight major joint ventures in Greater China.

Sales (billion €)  
(by location of customer)

2014	5.5	
2013	5.5	
2012	5.1	

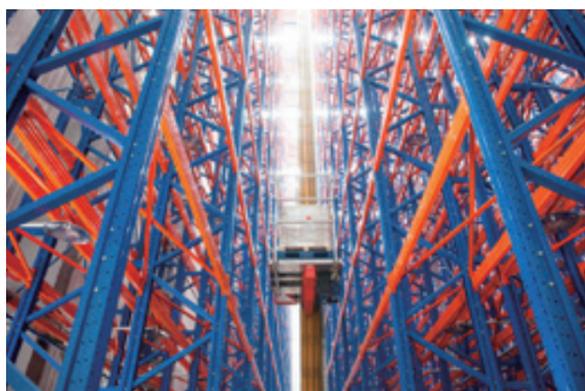
### Shanghai: expanding production and research

- New phase of Innovation Campus Asia Pacific (Shanghai)
- Multiple new and expanded production facilities

BASF's Greater China headquarters is located at the recently expanded Pudong site in Shanghai, which is also home to the company's Innovation Campus Asia Pacific. The Innovation Campus, inaugurated in 2012, is already undergoing expansion as a new research and development building and auxiliary facilities are under construction, scheduled to be completed in 2015. The site is quickly becoming one of the company's major integrated sites outside of Germany.

[For more on the Innovation Campus Asia Pacific, see page 30](#)

Eight BASF production plants are located at the Pudong site, where the company produces engineering plastics and specialty chemicals, such as amino resins, pigment preparations, leather and textile chemicals, coolants, brake fluids and dispersions. BASF also operates a thermoplastic polyurethanes plant, a Cellasto® microcellular polyurethane elastomer plant and a system house. In June, BASF's now biggest compounding facility in Asia Pacific for Ultramid® polyamide and Ultradur® polybutylene terephthalate compounds started operation ahead of schedule. Moreover, BASF has enlarged capacity of Elastollan® thermoplastics polyurethane elastomers, and is currently expanding the Technical R&D Center for Performance Materials, and production facilities of Cellasto® microcellular polyurethane components.



BASF's Jinqiao site now houses an automated warehousing facility.

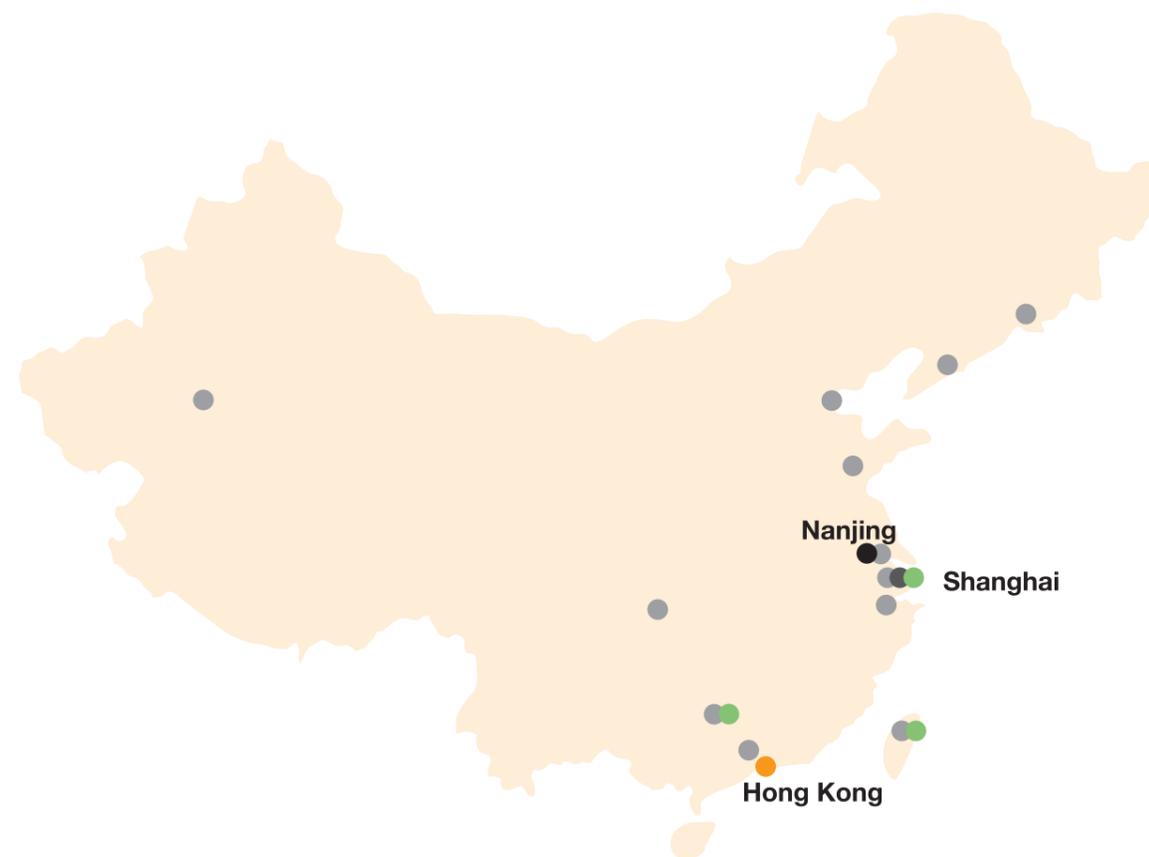
Nearby at its Jinqiao site, BASF produces advanced mobile emissions catalysts for light and heavy duty vehicles. The site recently doubled its production capacity in China. This additional capacity went into operation in October 2014.

[For more on emissions catalysts, see page 24](#)

BASF was among the first companies to operate production facilities at the Shanghai Chemical Industry Park (SCIP) in Caojing. There, the company runs two joint ventures with Huntsman, Shanghai Hua Yi (Group) Co., Sinopec Assets Management Corp. and Shanghai Chlor-Alkali Chemical Co. Ltd. to manufacture methylene diphenyl diisocyanate (MDI) and toluene diisocyanate (TDI), which are the key components for the production of polyurethanes, used in the automotive and construction industries, and in products such as refrigerators, upholstery, mattresses and footwear. In order to double MDI capacity at Caojing to 480,000 metric tons per year, BASF and its partners started building a new plant in 2014. In addition, they plan to build a hydrogen chloride recycling plant for the production of chlorine, a precursor for MDI.

At SCIP, we also operate a growing number of wholly-owned production facilities. The plant for PolyTHF® (poly-tetrahydrofuran), a major raw material for spandex fibers, was BASF's first large-scale wholly-owned facility in China. It started operation in 2005 and is currently being expanded. The facility manufacturing Basonat® (polyisocyanate) for the coating and furniture finishing industry, started in 2007, has added a second production line in 2014. Another plant produces precious metals-based salts and solutions for BASF's mobile emissions catalysts production and other industrial applications. In December 2014, BASF started constructing a new facility that will produce base metal catalysts, custom catalysts and adsorbents. Additionally, a new Ultramid polymerization plant began production in May 2015, becoming BASF's first polyamide polymerization plant in Asia Pacific.

## Sites



● Asia Pacific regional headquarters ● Greater China headquarters ● Verbund site ● Selected production sites ● Most important research sites

### BASF in Greater China

Facts and figures<sup>1</sup>

With major investments in Nanjing, Shanghai and Chongqing, BASF is one of the largest foreign investors in China's chemical industry. In 2014, it achieved sales of over €5.5 billion to customers located in Greater China, and has more than 8,000 employees in Greater China.

Headquartered in Shanghai, BASF in Greater China currently operates 22 major wholly owned subsidiaries and eight major joint ventures and maintains a number of sales offices, for example in Hong Kong, Beijing, Shanghai, Guangzhou, Hefei, Shenyang, Chongqing, Changchun, Xiamen, Chengdu, Qingdao and Taipei. BASF's business in Greater China includes intermediates, monomers, petrochemicals, dispersions & pigments, care chemicals, nutrition & health, paper chemicals, performance chemicals, catalysts, construction chemicals, coatings, performance materials and crop protection.

Sales in 2014  
**€5.5 billion**

Employees<sup>2</sup>  
**8,033**

<sup>1</sup> Some sites are not shown due to scale. Site and office numbers refer to companies of significant size where BASF holds a stake greater than 50%.

<sup>2</sup> As of December 31, 2014

In July 2014, our joint venture company, BASF Shanghai Coatings Co., inaugurated its second, state-of-the-art automotive coatings plant at SCIP within BASF's production cluster. Next to it, BASF is building a world-class resin factory which will start manufacturing high performance resins and electrocoat in 2015. The close proximity of these two plants will create a high level of synergies and operational efficiency.

### Nanjing: expanding production

- Three new plants inaugurated at BASF-YPC Verbund site in 2014
- New coating additives plant opened at adjacent wholly-owned BASF site
- Several plants at wholly-owned site currently undergoing expansion

Nanjing is the location of BASF's largest production facility in China, the integrated petrochemical Verbund site BASF-YPC Co. Ltd. (BASF-YPC), jointly operated by BASF and its long-standing partner, China Petroleum & Chemical Co. (Sinopec). The partners are continuously enlarging the site. In 2014, BASF and Sinopec inaugurated two new plants, for acrylic acid and superabsorbent polymers, as well as a new butyl acrylate plant. The three plants further strengthen the propylene value chain. Moreover, BASF-YPC announced that it would build a new plant for neopentylglycol, a polyalcohol used for coatings, textiles and construction.

BASF's Verbund system is unique in the industry, and an example of how we add value as one company. Our Verbund sites achieve extremely efficient production and high level of safety by clustering plants and re-using by-products. For example, BASF-YPC provides raw materials, utilities and services to its adjoining BASF Nanjing site, which is wholly owned by BASF and manufactures chemicals for water treatment, paper, tire, paint and coating industries.

Also in Nanjing, near the Verbund site, BASF operates a cluster of wholly-owned facilities, including a plant for water treatment and paper manufacturing. A factory opened in 2013 for tert-Butylamine, an intermediate for the production of accelerators for the rubber and tire industry, is already undergoing expansion. The plant is integrated with the

production facilities of BASF-YPC. At the same site, in 2014 the company opened a new production plant for coating additives for the Chinese and Asia Pacific markets, which will help BASF respond more flexibly to growing market demands. BASF is building a facility to manufacture specialty amines, which is scheduled to come on stream in late 2015. Its main products will be dimethylaminopropylamine and polyetheramines, both as precursors for a wide variety of chemical products.

### Chongqing: MDI plant construction completed

- Mechanical completion of MDI project achieved in 2014
- BASF set record with 24 million safe working hours in constructing the MDI plant

Development of the large-scale, wholly-owned BASF plant for MDI in Chongqing is steadily progressing. In 2014, the project achieved mechanical completion with a remarkable record of 24 million working hours with no accident. With an investment of around CNY 8 billion (approximately €860 million), the site located at Changshou Economic & Technological Development Area, is designed to produce 400,000 tons of MDI per year. The new facility will form the nexus of a new industry hub in Western China. MDI is a precursor for polyurethane, an extremely versatile plastic material used in many everyday products.



New plant for superabsorbent polymers at BASF-YPC Co. Ltd. in Nanjing, China.



In Rudong, BASF launched its first crop protection plant in China.

### Around mainland China: new projects and sites

- New formulation and packaging plant in Rudong
- BASF and Markor further develop PolyTHF and butanediol joint ventures in Xinjiang

In August 2014, BASF Crop Protection launched its first plant in China, for the formulation and packaging of fungicides, insecticides and herbicides. The facility, located in an industrial park near Rudong in coastal Jiangsu Province, enables the company to directly address the needs of local partners and growers. The plant has an annual capacity of 10,000 metric tons and is part of a series of investments and initiatives for agriculture in Asia Pacific.

In February 2014, BASF and Xinjiang Markor Chemical Industry Co., Ltd. (Markor), received regulatory approval from the Xinjiang Ministry of Commerce to take the next steps in their two joint ventures for the production of butanediol (BDO) and PolyTHF in Korla, northwestern Xinjiang Uygur autonomous region. The annual capacities of the plants located in Korla will be 100,000 tons of BDO and 50,000 tons of PolyTHF. The joint ventures will create synergies for Markor, the leading BDO producer in China, and BASF, the largest BDO producer worldwide with the leading PolyTHF technology. PolyTHF is primarily used to make elastic spandex fibers for a large variety of textiles, while BDO is used in the manufacturing of technical plastics, polyurethanes, solvents, electronic chemicals and elastic fibers. The first units of the project are scheduled to go on stream in 2015.



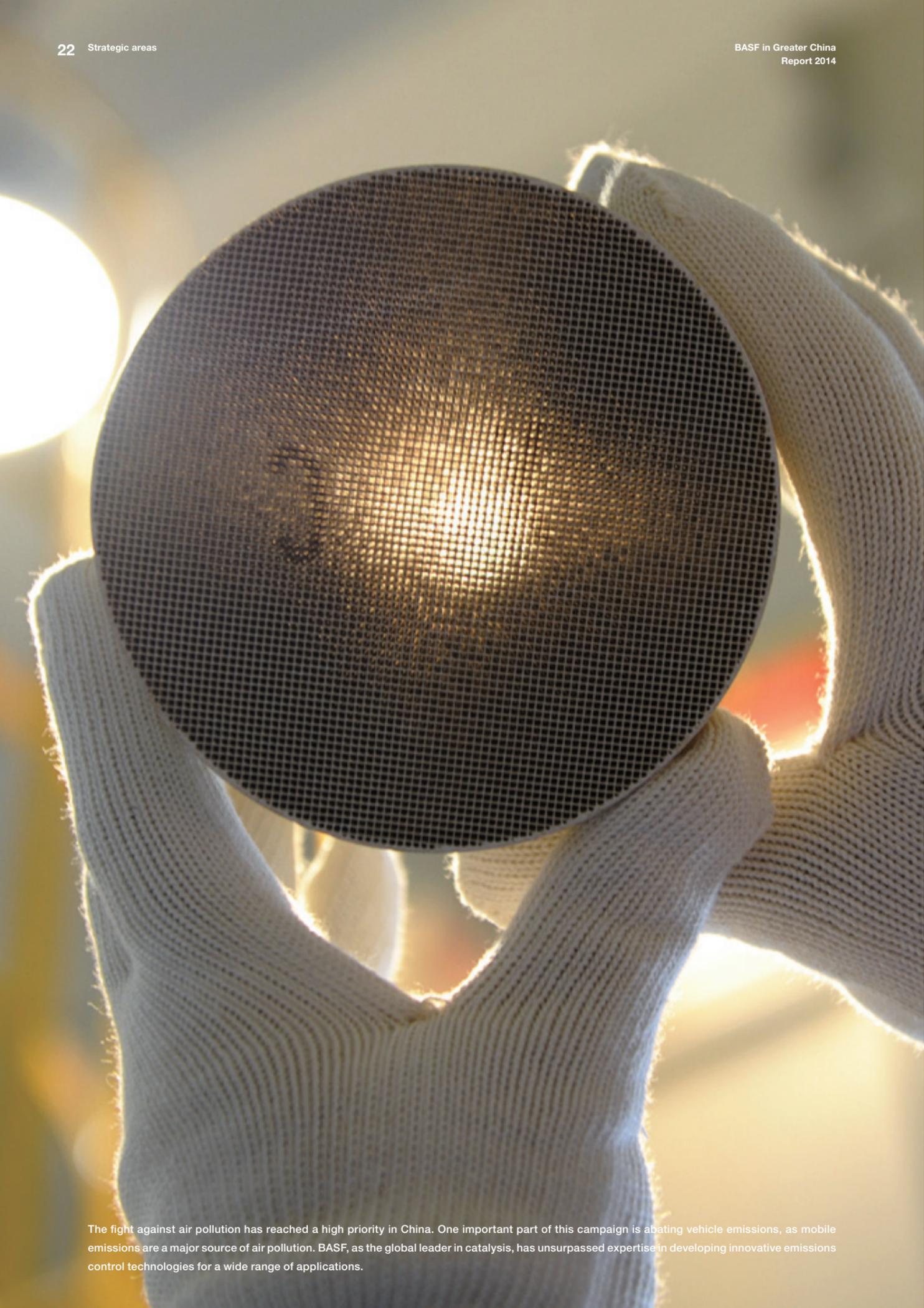
BASF acquired Taiwan Sheen Soon, a global leader for TPU adhesives.

### Taiwan: new facilities and acquisition

- New facilities for electronics industry inaugurated
- BASF acquired thermoplastic polyurethanes precursor maker Taiwan Sheen Soon

In February 2015, BASF inaugurated new facilities for electronic materials industry. The facilities, which are primarily located at the Kuanyin Industrial Park in Taoyuan, will serve the local and regional markets for semiconductors, displays and metal systems. BASF has started operation of its new ultra-pure, electronic-grade sulfuric acid and ammonia water production plants. The expansion at Kuanyin also includes a new factory making Catamold®, BASF's ready-to-mold feedstock for metal injection molding, a process in the production of electronic devices. BASF also opened three technology labs related to the electronics industry.

In December 2014, BASF announced that it would acquire the business and assets of Taiwan Sheen Soon (TWSS) in Taiwan and Mainland China. TWSS is a global leader of base materials for thermoplastic polyurethane (TPU) adhesives. The acquisition of TWSS and its adhesives business complements BASF's established position in TPU extrusion, as well as injection molding grades for various segments such as footwear, and will therefore further strengthen BASF's competences in this important growing market.



The fight against air pollution has reached a high priority in China. One important part of this campaign is abating vehicle emissions, as mobile emissions are a major source of air pollution. BASF, as the global leader in catalysis, has unsurpassed expertise in developing innovative emissions control technologies for a wide range of applications.

## Strategic areas Overview

**In 2050, more than nine billion people will live on our planet. The world population and its demands will keep growing, while the planet's resources are finite. If nothing changes, we will need the resources of almost three of our planets to meet the demands of the population. This will pose huge global challenges.**

We see three major areas in which innovations based on our chemistry will play a key role.

### Resources, environment and climate

Dramatically rising energy demand is one of the world's most pressing challenges. In addition, access to clean water and efficient use of resources are becoming increasingly important.

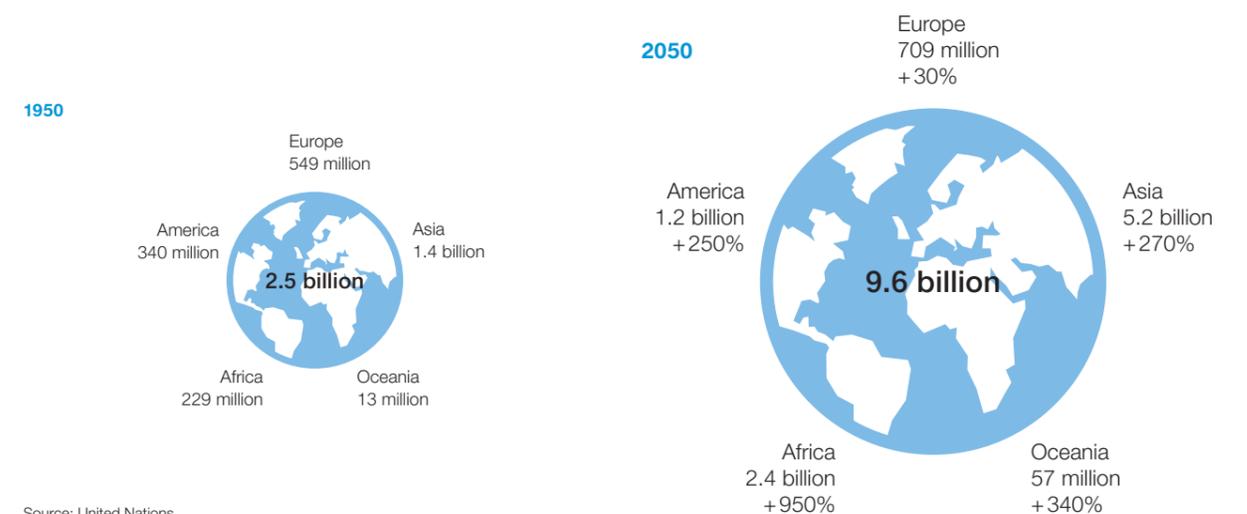
### Food and nutrition

A growing world population obviously needs correspondingly more food. And it will be necessary to enhance nutrition quality.

### Quality of life

Population growth and globalization present further challenges. Aspirations differ greatly from region to region and among different social groups, but there is a common ambition: people want to improve their individual quality of life.

#### World population growth



Source: United Nations

## Resources, environment and climate

### Sustainable solutions powered by chemistry

**Air pollution in China's urban areas has become an increasingly prominent challenge. Air pollution can be significantly reduced by generating energy from cleaner sources, and by reducing emissions from vehicles and industrial plants. BASF offers solutions from chemistry to many fields related to the quest for cleaner air in China and the world.**

#### Fewer emissions, cleaner air

- China puts a high priority on fighting air pollution
- BASF catalysis solutions help address air quality

The fight against air pollution has reached a high priority in China. One important part of this ongoing battle is abating vehicle emissions, which are a major source of air pollution. China is therefore continually tightening vehicle emissions standards.

BASF, as the global leader in catalysis, has unsurpassed expertise in developing innovative emissions control technologies for a wide range of applications. For example, BASF has developed a Four-Way Conversion Catalyst (FWC™) system, presented in 2013. Developed on the basis of the Three-Way Conversion Catalyst, which removes substances such as carbon monoxide (CO), hydrocarbon (HC) and nitrogen oxide (NO<sub>x</sub>), the FWC additionally removes particulate matter (PM). Tighter control of PM is required in the most stringent standards such as Euro 6c, which are being introduced in a number of regions around the world.

BASF also provides a broad range of diesel emissions control technologies for trucks. An effective solution to reduce emissions from diesel-powered light and heavy trucks is BASF's innovative SCRof™ (Selective Catalytic Reduction on Filter) system that has integrated CO, HC, NO<sub>x</sub> and PM reduction into one system, with only one filtration substrate. SCRof enables diesel trucks to meet the most stringent emissions regulations in an effective and cost-saving manner.

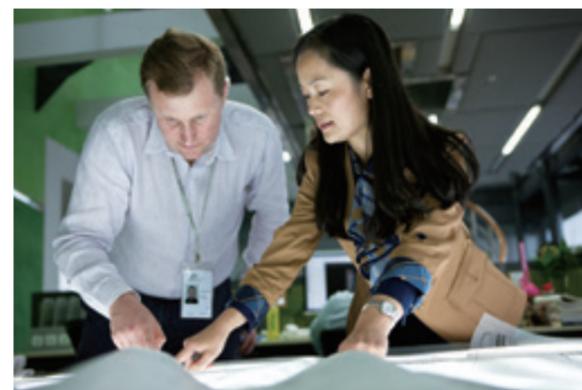
In China, BASF has been cooperating with the Chinese Research Academy of Environmental Sciences (CRAES) on emissions reduction for many years. Under a new strategic agreement signed in August 2014, the two organizations expand their partnership in order to help tackling deteriorating

air quality resulting partially from vehicle exhaust, particularly in Beijing and North China. BASF and CRAES will investigate the testing and monitoring of vehicle exhaust after-treatment devices for the Chinese market in order to develop relevant monitoring measures and technical policies for China. Additionally, the two partners will conduct research on emissions of vehicles while they are in use. CRAES is the top national non-profit research institute for environmental protection, under China's Ministry of Environmental Protection.

#### Support for sustainable construction in China

- China promotes energy-efficient buildings
- BASF provides advanced insulation solutions to prominent passive house

China is promoting the construction of energy-efficient buildings as an important contributor to energy saving and pollution control. The so-called passive house is a building with ultra-low energy-consumption which only needs "passive" methods such as natural ventilation and lighting to create a comfortable indoor environment. During warmer months, passive houses make use of passive cooling techniques such as strategic shading to keep comfortably cool. Special windows, a building envelope consisting of a highly insulated roof and floor slab, and highly insulated exterior walls keep the desired warmth in the house – or undesirable heat out. A ventilation system imperceptibly supplies constant fresh air.



BASF works with Chinese real estate developers to develop system solutions for passive houses.

BASF offers a wide range of insulation materials and promotes sustainable construction concepts in China, including those for passive houses. The company contributed insulation solutions to the Passive House Bruck Green Boutique Hotel (Architect: Peter Ruge Architekten) built by Landsea Group at its Green Building Research and Development Center in Changxing, Zhejiang Province. Bruck, constructed in a partnership between Landsea, the Passive House Institute (PHI) of Germany and the German Energy Agency, was inaugurated and simultaneously certified by PHI in August 2014. It is the first passive house erected by a Chinese developer in a climate zone with hot summers and cold winters.

BASF provided a range of high performance products and solutions for Bruck, including Elastospray® CH spray polyurethane foam for the roof, and Neopor® foam insulation solution for its exterior walls. Elastospray CH is an integrated solution for insulation and waterproofing. Containing tiny graphite particles that reflect radiant heat, Neopor foam enhances insulation performance by 20% compared to conventional insulation panels.

BASF solutions can be found everywhere in a passive house, as the company offers a wide range of products that support many aspects of this concept, such as roof insulation, exterior wall insulation, basement and flooring insulation, energy-efficient windows and many others. In March 2015, BASF launched WALLTITE®, an airtight insulation solution and a quality control program in China. As a polyurethane sprayfoam based package solution, WALLTITE helps raise the energy efficiency of new buildings up to 75%, and prolongs the life span of buildings by preventing premature deterioration and reducing the risk of condensation and mold.

#### Empowering wind energy in China

- MasterFlow® 9500 grout for experimental offshore wind farm near Zhuhai
- Coating solutions for wind turbine blades

Wind energy is an important part of China's push to raise the share of non-fossil energy in its energy mix to 11.4% by the end of 2015<sup>1</sup>. China already had installed 96 Gigawatts of wind power capacity by the end of 2014<sup>2</sup>, which is expected to rise further in the coming years. After installing most wind farms on the vast windy plains of its northwestern regions, China is now piloting offshore projects along its coast.



BASF offers grouting and coating solutions to China's wind market.

BASF is supporting China's first research project on the integration of offshore wind farms with a smart electricity grid, located off the coast near Zhuhai in the far south. The ongoing project, designed with an eventual capacity of 200 Megawatts, is also the first experimental project for wind generators in a sea area prone to typhoons. BASF contributes its MasterFlow® 9500, an ultra-high strength high-performance offshore grout. It is the first such project for BASF in China.

MasterFlow 9500 is a durable, secure grout specially designed for the foundations of offshore wind turbines. The material develops a high strength very early on, and can be applied at lower temperatures, compared to conventional products. This makes MasterFlow 9500 suitable for use in colder water and during shorter weather windows.

BASF also provides special coating solutions for wind turbine blades. BASF RELEST® Wind Coating System brings long-lasting performance to rotor blades and helps the wind turbines function effectively with cost-efficiency. Our new RELEST Wind Leading Edge system protects rotor blades even better – especially on the edges – from the enormous stress of rain, hail, snow, sand and ultraviolet rays. Previously, an intensive process involving a special film was required in order to provide such protection. With RELEST Wind Leading Edge, the paint can be applied directly following pretreatment. In the past, a rotor blade's film had to be entirely removed for repair work, whereas now the damage spots can be treated individually and thus more efficiently. One of China's five biggest blade producers is using RELEST.

<sup>1</sup> Source: China's 12<sup>th</sup> Five Year Plan

<sup>2</sup> As announced by China's National Energy Administration on Feb.12, 2015

## Food and nutrition

### Solutions for safe and healthy food

**BASF is working in many fields to help secure a quality, fresh food supply for a growing world population. To cater for ever-increasing demand for food, the company supports farmers to optimize their agricultural production. With our solutions, farmers can make the best use of natural resources including soil and water. At the same time, it is important that we get the most out of what we have available, as the world wastes about one third of its food. Here, good packaging helps food last longer and BASF has developed a range of packaging products, sealants and light stabilizers to protect food.**

#### Agricultural solutions for Chinese farmers

- **Wide range of crop protection and seed treatment products support farmers in a challenging environment**
- **New AgCelence® centers in Yunnan and Guangdong**

Agriculture is constantly facing new challenges: rising production costs, higher standards of environmental protection, and the need to feed a growing world population. To operate successfully under these circumstances, farmers need consistent quality and high yields.

BASF's fungicide, insecticide, herbicide and seed treatment products help farmers to effectively control diseases, pests and weeds, and to sustainably increase yields and quality of their crops. BASF regularly informs and educates farmers in China about the optimal use of its products to ensure that these products and solutions are applied with due care for human and animal health and environmental protection – which in turn helps preserve the farmers' precious land. Tens of thousands of farmers participated in BASF's training programs in 2014. The company has thus won wide recognition across China: In 2014, BASF received the "Chinese Farmers' Favorite Pesticide Brand" title, awarded by local media based on farmer surveys, for the third time in a row.

AgCelence® is our brand for products that provide farmer benefits beyond regular crop protection by increasing the health and fitness of plants. The benefits observed when AgCelence products are applied include increased stress tolerance and vitality, higher yields, improved marketable quality, and increased production. In August 2014, BASF opened its first two new AgCelence centers in China – one in



Tens of thousands of Chinese farmers participated in BASF's training programs in 2014 to learn crop protection methods.

Boluo, Guangdong province, and another in Xishuangbanna, Yunnan province. These centers, built as a learning platform for the growers, comprise an AgCelence testing store and an innovation garden. There, BASF experts offer advice and diagnoses of existing crop problems of the farmers, and explain the value of AgCelence products, with model cases presented at the innovation garden. In 2015, more AgCelence centers will be opened around the country.

In 2014, BASF organized an "AgCelence – Plant Health Tour", during which a caravan visited multiple rural places across China, covering various commercial crops and grain crops like rice. At each station, experts from BASF and local organizations introduced plant protection knowledge, analyzed plant diseases and pests, offered solutions and shared success experiences with local farmers.

#### Well-packaged food for urban dwellers

- **Rapid urbanization spurs growth in packaged food**
- **Cleaner and more efficient production of cooking bags with Ultramid®**

Rapid urbanization across the world has promoted the rise of packaged food. Good food packaging is essential to guarantee freshness and cleanliness of food. It can prevent food spoilage and extend shelf life, thereby reduce waste.

BASF offers the packaging industry a wide range of materials and solutions to meet the needs of urban living. These products are not limited to plastic packaging, but also include paper, cardboard, carton, metal and glass packaging. BASF provides raw materials for different applications such as rigid and flexible plastics, foams, paper, cardboard, carton as well as labels and closures. Additionally, increasing numbers of consumers ask for recyclable or biodegradable packaging. To this end, BASF has developed its biodegradable and certified compostable polymer ecovio®. Organic waste collected in compostable bags, drinking cups or food plates made with ecovio can be hygienically disposed and composted together with the bag, cup or plate.

BASF's Ultramid® polyamide is especially well-suited for the food packaging sector due to its high strength, outstanding thermoformability, high thermal stability with resistance to sterilizing temperatures, and very good barrier properties against gases. In April 2014, BASF and Guangdong Jinming Machinery Company Limited signed a strategic partnership to jointly develop solutions for the co-extrusion film industry to enhance film functionality, and to increase production efficiency.

In another project, BASF cooperated with Zhuhai Fucheng Science and Technology Co., Ltd, a major producer of retort pouch and food packaging in China, to develop an efficient production procedure for innovative food cooking bags, by using Ultramid. It significantly reduces the production time for retort pouches through the use of a single manufacturing pass. Traditionally, the production of retort pouches requires the lamination of at least two substrates. Thus, the new technology saves time, cost and energy.

#### Tougher flooring, safer food

- **Flooring is a key factor that impacts food safety**
- **BASF supplies Ucrete® flooring to two food processing plants of Chia Tai Group**

The food processing industry requires the strictest standards of quality, hygiene and safety. In open food areas in particular, a high-performance functional flooring forms the basis for quality products. In the meat industry, for example, boning, cutting and slicing in particular put flooring systems to the test; organic liquids such as blood and fats can severely soil the floor. BASF's Ucrete® industrial flooring,

using the unique Ucrete heavy duty polyurethane resin binder system, fulfills all the strict requirements and is used throughout the food industries.

Ucrete is essentially inert, non-biodegradable and will not support any bacterial or fungal growth. The floors are dense and impervious, meaning that soil and contamination remains at the surface, and they dry completely in a very short time. As a result, germs and bacteria cannot take hold on an Ucrete floor making them as cleanable as stainless steel. Ucrete thus protects the food processed as well as the workers' health and the environment. Moreover, Ucrete floors withstand spillages up to 150°C. In 2014, BASF supplied Ucrete to an application area of 30,000m<sup>2</sup> for two newly-built food processing plants in the coastal cities of Qingdao and Qinhuangdao, owned and operated by Chia Tai Group, a Thai conglomerate that produces processed food such as meat and ready-to-eat products.

Ucrete lasts for many years even in very aggressive industrial and process environments. Apart from the food industry, Ucrete is thus also highly suitable to other sectors such as the chemical or pharmaceutical industry.



BASF's Ucrete® industrial flooring fulfills strict requirements in the food industry.

## Quality of life

### Solutions to make our daily life safe and comfortable

Although chemistry is usually invisible, solutions from chemistry contribute significantly to the comfort, safety and convenience of our daily lives.

#### Polyurethanes solutions for automotives

- PU based plastics solutions for the all-electric BMW i3
- Customers in China recognize BASF's innovative PU solutions

BASF is the leading supplier of polyurethane (PU) solutions for systems, specialties and PU basic products. PU can be used as flexible or rigid foam, which makes it one of the most versatile materials in existence. In transportation, PU is used for a vast range of hard and soft vehicle parts such as seating, body parts or coatings, providing high quality and comfort, while enabling lightweighting as well as the reduction of noise and volatile organic compounds (VOC).

The new electric vehicle from BMW Group, the BMW i3, was launched in China in 2014. BASF supplies the i3 with various newly developed components made from performance materials such as Ultramid®, Ultradur® and Elastolit®. The BMW i3 is the first commercialized vehicle these pioneering solutions have been applied to. BASF's Elastolit® PU system, for example, boasts high fatigue strength and damage tolerance. It has been used in the i3's self-supporting rear seat shell. The component integrates a variety of functions such as the cupholder attachment and storage tray, saving on both assembly work and weight. Moreover, the PU structural foam Elastolit D is used as a reinforcing material in the whole roof frame, including the A-pillar.

BASF's PU solutions are widely available in China where customers recognize the quality of the company's products.



BASF supplied the BMW i3 with various newly developed PU components.

In April 2014, BASF was honored as an "Excellent Supplier" by Great Wall Motors Co. Ltd. (GMW). The award recognizes BASF's outstanding contribution in developing customized high quality interior parts with enhanced safety and comfort based on Elastofoam® I, integral skin foam systems, and Elastoflex® W, flexible foam systems. This marks the third time in a row that BASF receives an "Excellent Supplier" award from GWM.

#### Plasticizer for sensitive applications

- Trusted Partners program in Asia Pacific engages local companies for safety
- Success story with Wenno™ and Vinyl Tech

Safety is of prime importance to our customers and end-users, including when it comes to the use of the right plasticizers for sensitive applications, such as food packaging, medical devices and toys.

BASF designed Hexamoll® DINCH®, the company's trusted non-phthalate plasticizer, for applications with close human contact. Thanks to its excellent toxicological profile and low migration rate, Hexamoll DINCH has become an established plasticizer in sensitive applications. It is widely used in the production of soft polyvinyl chloride (PVC), a material used for many products surrounding us. To engage industry leaders across Asia Pacific who put safety as their highest priority along the soft PVC value chain, BASF in 2012 initiated the Hexamoll DINCH Trusted Partners program. The program took new steps in 2014.

To join the program, companies have to complete a qualification process, conducted by the BASF Plasticizer Application Laboratory Center in Shanghai and an independent German certification body, TÜV Rheinland. Once a company becomes a Hexamoll DINCH Trusted Partner, it can take advantage of various benefits from BASF such as technical and marketing advice, exclusive market and product information or industry networking opportunities. Companies from Greater China, India, Japan, South Korea, Indonesia and Vietnam participate in the program.

The demand for Hexamoll DINCH in Asia Pacific is growing rapidly. With the successful start-up of a second production plant in Ludwigshafen in May 2014, BASF has doubled its capacity for Hexamoll DINCH to 200,000 metric tons per year in order to satisfy the growing demand.

Parents in particular put the highest priority on safety when selecting products for their children. Shing Hing Plastic Manufacturing Ltd. from Hong Kong designs and manufactures PVC animal figurines, and has been a Trusted Partner since the launch of the program. They use Hexamoll DINCH in their Wenno™ brand, which is available worldwide. Vinyl Tech Enterprise Co., Ltd., a Taiwan-based manufacturer of luxury vinyl flooring, is another company that turned to Hexamoll DINCH at a time when awareness grew that safe plasticizers are essential for developing high-quality PVC flooring. The company was among the first companies introducing non-phthalate vinyl flooring to Europe. Hexamoll DINCH, thus, helped Vinyl Tech's "ProjectFloors" brand become one of the top brands in Europe.

#### Cleaning water with chemistry

- Zetag® flocculants for sewage water treatment widely used in China
- Inge® Multibore® ultrafine filter membranes installed in water reuse project in Rizhao and water purification project in Daqing

Water is the main source of life and an essential resource for health and development. However, it is increasingly becoming a scarce resource as the world population and the demand for water continue to grow. As a leading provider of chemical solutions for water treatment, BASF contributes significantly to the worldwide efforts to close the water supply gap. BASF's water solutions include products to purify raw water used for making drinking water, as well as products to treat waste water and to reduce sludge volumes.

For many years, BASF's Zetag® cationic polyacrylamide flocculant range has been used in the sludge dewatering process in industrial and municipal sewage treatment. Optimizing the dewatered biosolids is essential to maintaining the sustainability and efficiency of the process. Higher cake solids reduce the energy required for transporting and disposing it at a landfill. Furthermore, if the cake is dry enough, it can be incinerated as fuel to generate energy. BASF's Zetag flocculants ensure that the solid-liquid separation process results in driest possible solids. Zetag solutions are widely applied in sewage treatment in several major cities in China, such as in Beijing, Shanghai, Chengdu and Xi'an.



BASF in 2014 globally launched Zetag® ULTRA for sewage treatment purposes.

As an extension, BASF in 2014 globally launched Zetag ULTRA. Its highly effective binding capability enables advanced dewatering performance compared with conventional flocculants. The higher proportion of cake solids in the dewatered sludge benefits the environment, as less energy is required for transportation, disposal and incineration. This has a positive impact on the treatment facility's carbon footprint.

Another innovative technology provided by BASF is ultrafiltration which is a membrane separation process used to treat drinking water, process water, sewage and sea water. Inge® GmbH, acquired by BASF in 2011, is a global leading provider of this technology. Inge's Multibore® ultrafiltration membranes have tiny pores with a diameter of only about 20 nanometers: 3,000 times smaller than the diameter of a human hair. Thus, the membrane can effectively intercept algae, colloids, bacteria, viruses and other harmful substances. The patented Multibore membrane technology combines seven individual capillaries in a highly robust fiber – an arrangement that significantly increases the membrane's stability and eliminates the risk of fiber breakage.

In 2014, the Multibore system was installed at the Urban Sewage and Reclaimed Water Reuse Center of Shandong Asia Pacific SSYM Pulp & Paper Co., Ltd. in the coastal city of Rizhao. The center is the first project in China using reclaimed urban sewage for the pulp and paper industry production in China and has managed to dispose 7.07 million tons of urban sewage. Multibore was also adopted in 2014 by China's first drinking water project with a capacity of 50,000 tons per day in Daqing. It supplies clean drinking water reaching China's latest standards for quality drinking water, for 500,000 people in this area.

## Innovation

### Fostering research cooperation across Asia Pacific

**Innovation in chemistry enables economic, environmental and social development. BASF is committed to fostering innovation in Greater China by constantly expanding its research capabilities. The company's Innovation Campus Asia Pacific in Shanghai is emerging as an important research hub for the Asia Pacific region, which is projected to encompass a growing share of BASF's global research activities.**

#### Growing research facilities in Greater China

- R&D facilities throughout Greater China undergoing expansion
- One of BASF's three global research platforms to be headquartered in Shanghai

BASF Innovation Campus Asia Pacific in Shanghai is the company's most important research and development (R&D) center in the region and is expected to become one of its largest R&D sites outside of Germany. Only two years after its inauguration, BASF broke ground on the second phase in July 2014. The expansion, scheduled for completion in 2015, will include an additional R&D building and auxiliary facilities. With the expansion, existing research areas such as advanced materials and systems will be further strengthened. New areas such as formulations, chemical processes and engineering will be added to serve growth industries such as automotive, construction, health and nutrition, and home and personal care.

In 2014, a global formulation research team has been launched at the Innovation Campus, focusing on areas such



Researchers at Innovation Campus Asia Pacific (Shanghai) monitor the properties of polyurethane block foam.

as electronic materials, home and personal care, performance materials and coatings. Additionally, a new mathematics group has been established, working on statistics and operations research. The Technical R&D Center for performance materials is also under expansion at the Pudong site. Altogether, BASF is operating around 15 R&D units at the Innovation Campus in Shanghai.

Apart from its facilities in Shanghai, BASF also operates R&D facilities in other locations in Greater China. In Taiwan, BASF operates an R&D center for electronic materials in Taoyuan, which was recently expanded to include three new labs related to research and application testing of electronic materials in February 2015. BASF also has a Catalyst Engine Lab in Guilin.

In the future, BASF is further enhancing its global R&D network. By 2020, 50% of its research activities are to be conducted outside Europe, half of this in Asia Pacific. To this end, we are further optimizing our research organization and will bundle our competencies in three global platforms located at three key global sites. From 2016, Advanced Materials & Systems Research will be headquartered at BASF's Innovation Campus Asia Pacific in Shanghai, while Process Research & Chemical Engineering and Bioscience Research are respectively headquartered in Germany and the United States.

All three global research platforms will support the R&D needs of BASF's customers around the world, which will increase our attractiveness as a partner and as an employer in the regions. The new structure will firmly establish the position of the Innovation Campus in Shanghai as one key pillar of BASF's research and development.



A researcher at the new lab for electronic materials in Taiwan.

#### Science cooperation

- BASF Innovation Campus Asia Pacific established as the hub for research cooperation
- Collaboration at Network for Advanced Materials Open Research
- R&D project with Chinese Academy of Sciences

Nurturing close cooperation with leading institutes and universities across the world is essential to BASF's goal to form a global R&D Verbund. BASF's Innovation Campus Asia Pacific aims to foster cooperation among scientists, technical experts, business colleagues and customers to together innovate for the future. It has thus created an effective network that connects BASF with the regional science community.

In early 2014, BASF and seven top Asian universities have established a joint research network, led by the Innovation Campus in Shanghai. This Network for Advanced Materials Open Research (NAO) is a research platform jointly supported by BASF and leading universities and institutes in the field of advanced materials in China, Japan and South Korea.

NAO's topic clusters include but are not limited to surfaces and interfaces, composite materials, new monomers and new polymers, membrane materials, performance systems and polymer processing. 15 PhD and post-doctoral candidates are conducting research in the NAO framework, supported and advised by a scientific committee comprising six independent professors from leading universities in Asia Pacific and three scientists from BASF. Together with the open research centers JONAS in Europe and NORA in North America, NAO represents an important part of the BASF global academic network.

Other cooperation projects include an agreement between BASF and the Institute of Process Engineering of the Chinese Academy of Sciences on R&D collaboration in the field of enhanced process control for emulsification, signed in August 2014. Since 1997, BASF has invested substantially to support R&D collaboration projects with Chinese universities and relevant research institutes under the Chinese Academy of Sciences.



A team participating in the PhD challenge present their idea at a special session at the Creator Space™ tour in Shanghai.

#### Nurturing aspiring young scientists

- CCS-BASF Youth Innovation Prize recognizes four young scholars from Beijing
- BASF Asia Pacific PhD Challenge calls for ideas on future mobility

Since 2001, BASF and the Chinese Chemical Society (CCS) annually present the CCS-BASF Youth Innovation Prize to young Chinese scholars to recognize outstanding commitment and achievements in new discoveries in chemistry and related academic areas. So far, 28 scientists have been awarded. In 2014, four scientists from the Chinese Academy of Sciences and Tsinghua University were honored, in recognition of their potential in areas including supra-molecular chemistry and chemical biology, fine chemicals and organic synthesis, chemical reaction engineering, carbon-based new energy materials, and composite and metal nanoparticles.

To encourage cross-country and cross-discipline idea exchanges on how to drive sustainable mobility, BASF launched the Asia Pacific PhD Challenge in October 2014 as a regional competition for PhD candidates majoring in chemistry, engineering, polymer and material sciences. PhD candidates were asked to submit their ideas and proposals on topics such as alternative fuel, lightweighting, emissions reduction, comfort and sustainable production. A team from Murdoch University in Perth, Australia, won the grand prize with a proposal of adopting microalgae as an alternative sustainable way for fuel production. The winning team will be awarded a trip to BASF's International Summer Course in Germany in August 2015, and invited to the Creator Space™ Science Symposium in Shanghai in November 2015.

## New solutions from Asia Pacific for the world

**BASF research labs across Asia Pacific are a source of constant innovation for the world, with efficient and sustainable products for many industrial sectors. Two years after its inception, the BASF Innovation Campus Asia Pacific in Shanghai has already generated several new solutions that are now tested in the market. Much of this research is conducted in close cooperation with partners, institutions and customers.**

### PU utility poles that withstand typhoons

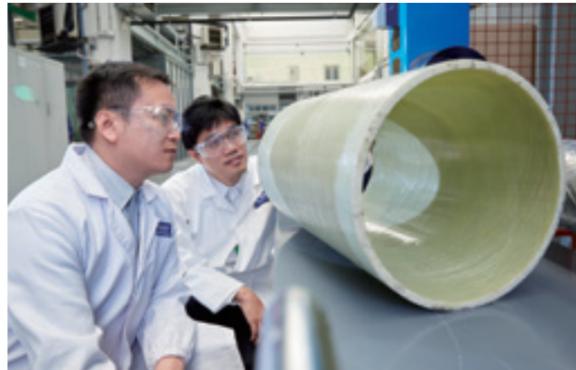
- Polyurethane composite solutions for utility poles
- Lightweight solution replacing concrete, with stronger bending strength and wind resistance

Stability even under attack by strong winds is essential for utility poles, especially in areas prone to storms or typhoons like the coastal areas of South China. Inspired by this local need in China, BASF's researchers in Shanghai have developed a high-strength and high-flexibility polyurethane (PU) composite utility poles made with a material called Elastolit® to replace concrete. Elastolit is a compound of glass fiber and PU, and has a bending strength at least 2.5 times higher than concrete poles.

This has been achieved through an innovative filament winding process which creates circular composite products with a hollow core by winding fiber material and a resin such as polyurethane around a mandrel mold. The BASF scientists successfully overcame the challenge posed by the high reaction speed of PU, which allows only a short time window to complete the reaction between the two materials.

PU utility poles by BASF are not only strong and flexible. Their impact, corrosion and UV resistance are also excellent. In addition, owing to their hollow core and lightweight raw material, they weigh only about 250kg, around one-fourth of the weight of the concrete utility poles, and can be carried and set up manually with lower transportation cost.

Utility poles made with Elastolit have been erected in pilot projects in South China. In July 2014, they proved their superior wind resistance when the typhoon Rammasun hit Guangdong province. More than 70,000 concrete and metal utility poles were destroyed, while PU utility poles built with BASF's Elastolit were unaffected. Customers in Southeast Asia, which sees frequent typhoons, have since shown intense interest in these utility poles.



Researchers in Shanghai inspect a sample of the PU utility pole.

### TPU fiber for bare yarn knitting

- New generation Elastollan® TPU developed locally in Shanghai for bare yarn knitting
- Optimizing production and expanding use of melt-spun elastic fibers for sportswear, stockings and underwear

In October 2014, BASF launched an innovative grade of Elastollan® thermoplastic polyurethane (TPU) elastomers for the production of melt-spun elastic fibers, which was developed by BASF scientists in Shanghai. The new product can be directly used in the bare yarn knitting process without first needing to be covered with polyethylene terephthalate or polyamide yarn, which greatly improves productivity in relevant textile industries. Stickiness and breakability of the yarn during the process are also reduced.

Moreover, as the new generation elastic fiber made from Elastollan possesses improved thermal resistance, fabric made from it can be processed under higher heat settings and dyeing conditions than normal melt-spun elastic fibers. Melt-spun elastic fiber is mostly used in garments that require a high degree of comfort and compatibility such as sportswear, stockings, and underwear. BASF is the world's leading supplier of TPU.

### New co-extrudable Ultradur® developed as window profile reinforcement

- Solution for lightweight reinforcement of window profiles
- The world's first co-extrudable PBT Ultradur® helps save energy

In April 2014, BASF introduced its new co-extrudable polybutylene terephthalate (PBT) Ultradur® for the reinforcement of thermally insulated PVC window profiles. The new product is a



BASF and partners presented magnetocaloric wine cooler prototype.

lightweight replacement of steel, commonly used as reinforcement. Jointly developed with Dalian Shide Group, the new co-extrudable Ultradur has a melting point closer to that of PVC than steel. This enables a one-step optimized extrusion process of the window profiles.

Ultradur is a high strength, highly thermal insulating but lightweight reinforcement that provides the mechanical properties required to withstand strong winds and greatly reduces heat transfer through the window profile. Due to better insulation, a PVC window profile reinforced with PBT reduces energy consumption for heating and cooling by 15% to 20% compared to a PVC window profile reinforced with steel. Ultradur thus helps achieving energy efficient construction.

This new, patent pending co-extrudable Ultradur is the first engineering plastics innovation developed at BASF's Innovation Campus in Shanghai. With mass production having started in July 2014, the new product is already available on the Chinese market and will be promoted to overseas markets, including Europe, the United States, Japan and South Korea.

### New melt emulsification technology reduces energy and emissions

- Melt emulsification process developed for graft polyol, a key raw material for polyurethane manufacture
- New process simplifies production, saves energy and reduces VOC emissions of finished products

BASF researchers in Shanghai are leading global efforts to develop a brand new melt emulsification process to replace the standard polymerization process in the synthesis of graft polyol, a key raw material for polyurethane (PU) manufacture. Graft polyol is a stable dispersion of functional polymers in liquid polyether polyol which is widely used in automotive industries.

The new production method consists of a continuous process, simplifying intermediate steps. This greatly reduces investment and manufacturing costs. The new process also reduces the impact on the environment as it requires less energy and raw materials, and generates fewer byproducts. It uses polymers instead of monomers as raw materials, which greatly lowers emissions of volatile organic compounds (VOC) from the final products such as automotive seating.

A successful customer trial was conducted together with a key customer in the transportation field in China in 2014. Exploration in other Asian markets is underway.

### Helping local brands go international with innovative solutions

- BASF now exclusive supplier of automotive coatings for Chery's new plant in Brazil
- BASF, Haier and Astronautics present magnetocaloric wine cooler prototype in Las Vegas, USA

BASF's long-standing relationship with its clients in Greater China is increasingly expanded to the international stage as well. With its innovative products and solutions, BASF supports Chinese companies in their quest to succeed in global markets.

For example, BASF's Coatings division has become the sole supplier of automotive coatings to the new plant of the Chinese automaker Chery in Jacareí, Brazil, which is their first plant outside of China and started operations in August 2014. In the agreement with Chery signed in January 2015, BASF supplies CathoGuard® 800 and waterborne paints which contain new technologies that enable higher efficiency, extra protection against corrosion and lower VOC without impairing the quality of the coating or the color tone.

BASF also collaborated with China's Haier, a leading global manufacturer of household appliances, and Astronautics Corporation of America, a global technology company, on the development of a magnetocaloric wine cooler. A prototype was presented in January 2015. A magnetocaloric heat pump – a cooling device based on magnetocaloric materials – is an ideal alternative to traditional compressor-based refrigeration technology. Theoretical studies demonstrate that this system can be up to 35% more energy-efficient than traditional vapor compression systems. Using BASF's magnetocaloric materials, Astronautics developed the magnetocaloric heat pump integrated into Haier's prototype wine cooler. Haier contributed their knowledge of household appliances, and plans to introduce the technology into the market within the next couple of years.

## Environment, health and safety Responsible Care Management System

BASF's Responsible Care Management System (RCMS) comprises the global rules, standards and procedures for environmental and health protection, safety and security for the various stations along our value chain. It allows BASF to achieve compliance with regulatory and internal requirements, to operate safe and environmentally sound facilities and to manufacture safe products. Adherence to the processes in RCMS drives continuous improvement in performance and increases the efficiency and effectiveness of environment, health and safety-related activities.

### Product stewardship

- Extensive information given on all safety aspects of BASF's products
- Global Trade System ensures compliance with international and local regulations

We review the safety of our products all the way from research to production and finally to our customers' use of the products. The aim is to ensure that our products do not endanger people or the environment throughout their life cycle if they are used responsibly and in the manner intended. We provide extensive information on our chemical products to customers and the public, for example through safety data sheets in more than 30 languages including Chinese. We also include the latest regulatory requirements in China into our product safety system to ensure our Chinese safety data sheets and product safety labels are in compliance with China's regulatory framework.

BASF also operates a Global Trade System which is an internal trade control compliance checks and control system to protect and support our business activities. Under this system, we conduct regulatory compliance checks for every order placed in regard to national laws and international conventions that regulate imports, exports or domestic trade. In 2014, two new sites in Greater China were included in the system.

### Transportation and distribution safety

- Revised Group directive for transportation safety
- Updated process descriptions for classification of hazardous materials

BASF has strict rules in regard to handling, storage and transportation of our chemical products and raw materials at all stages. In 2014, the Group directive for transportation was updated, which includes specifying responsibilities within our worldwide network and ensuring consistent standards including in China. We also revised process descriptions for classification and product clearance in accordance with global dangerous goods regulations. We thereby ensure that chemical products are classified according to globally uniform standards, in line with relevant transportation laws, and that they are cleared for their various modes of transport.

We also stipulate worldwide requirements for our logistics service providers (LSP) and assess them in terms of safety and quality. In 2014, we evaluated many LSPs in Greater China. In addition to our routine LSP audits, we now also conduct spot inspections at LSP sites to ensure implementation of the guideline.

BASF constantly assesses risks for transporting raw materials with high hazard potential. For example, in 2013 BASF global experts worked with the European Chemical Industry Council to develop a guideline for conducting such risk assessments in order to push forward uniform transportation safety standards in the chemical industry. We began to implement this new guideline in Greater China in 2014 by conducting risk assessments for naphtha and liquefied petroleum gas, based on its stipulations.

At the same time, we have increased the frequency of updates on accidents, incidents and near-misses from a yearly report to half-year reports. Each time, we analyze root causes together with our LSP. If an incident occurs despite all preventive measures, we provide swift and coordinated assistance worldwide. We have 24 advisors on transportation and distribution safety in Greater China who work closely with global BASF experts.



Staff review the documents before they unload the raw materials at one of BASF's sites in Nanjing.

### Occupational safety

- Hazard Identification Program introduced to all sites in Greater China
- Contractor safety management system ensures safety of contractor workers at our sites
- Global Safety Days held across Greater China sites

We never compromise on safety. We do not only work according to clearly defined safety rules, but also rely on the commitment of our employees to maintaining their own and their colleagues' safety. Globally, by 2020 BASF aims reduce the lost time injury rate per million working hours by 80% compared with 2002. Ultimately, we want to prevent all injuries and accidents.

In 2014, the work-related lost time injury rate per million working hours of our employees at BASF in Greater China was 0.5 (2013: 0.6). The work-related lost time injury rate per million working hours of contractors is 0.9, representing an increase compared with the previous year (2013: 0.5). An increasing number of new contractors in our emerging sites in China require us to further enhance education and supervision to reduce the incident rate for contractors. There were no fatal accidents in 2014.

Lost time injury rate BASF employees (per million working hours)

2014	0.5	<div style="width: 50%;"></div>
2013	0.6	<div style="width: 60%;"></div>
2012	0.3	<div style="width: 30%;"></div>

Lost time injury rate contractors (per million working hours)

2014	0.9	<div style="width: 90%;"></div>
2013	0.5	<div style="width: 50%;"></div>
2012	0.2	<div style="width: 20%;"></div>

As a chemical company, we conduct many activities that required strict safety protocols, such as handling chemicals, or construction work. Our global Hazard Identification Program has been introduced to all sites in Greater China in 2014. The respective sites have to eliminate the identified hazards and develop a culture of personal accountability for safety. This is a supplementary tool, in addition to existing mandatory processes and tools which have been successfully implemented at all our sites over the years.

We have set up a comprehensive safety management system for contractors working on our site. In particular, we are working to maintain constant supervision to ensure that contractors adhere to BASF's safety standards while they are at our sites.

In 2014, we also conducted the annual Global Safety Days program to further raise awareness of safety and to share best practices worldwide. Various safety activities were held, such as a safety knowledge competition, fire drills, or forklift competitions.

All BASF employees and contractors in Greater China are encouraged to report any incident and unsafe situation, and these are shared monthly within the team. Every critical incident is recorded in our regional Incident Management System. These reports include the root causes of every incident as well as the lessons learned and measures taken afterwards. This database helps us to identify potential weak points and track all due actions.

### Occupational health

- **Greater China scores high on BASF's Health Performance Index**
- **Travel health program launched in 2014**

Worldwide standards for occupational medicine and health protection within BASF are specified in a Group Directive that is implemented by a global network of experts. In 2014 BASF held numerous emergency drills and health promotion activities globally. Greater China was an integral part of these drills and activities.

We regularly conduct occupational medical audits to monitor our performance. Medical information of our employees in Greater China is managed in a way consistent with BASF's global standards and criteria, including data privacy and confidentiality. Overall, Greater China in 2014 continued to reach the goal of our Health Performance Index, which comprises five components: recognized cases of occupational disease, medical emergency planning, first aid, preventive medicine and health promotion.

In 2014, BASF Greater China launched a travel health program. The program covers medical counselling before leaving, medical emergency response during business trips and medical support after the journey.



An emergency drill was conducted at the Pudong site, Shanghai, in 2014.

### Process safety

- **Five-step review system helps prevent incidents at new sites**
- **Regular updates of safety concepts at all plants**

When designing a new facility, BASF focuses on incident prevention from the earliest stage of planning. We apply a five-step review system from conception to startup which involves early consideration of the most important aspects of safety and protection of health and the environment. These elements are then monitored during every stage of planning. We use a risk matrix to assess probability and potential impact of risks, and stipulate appropriate protective measures.

In order to constantly improve the safety of our production facilities worldwide, BASF continues to update safety concepts in all of its plants. We review their implementation in ten-year intervals in plants with a medium to high hazard potential. In 2014, we introduced special software to standardize the documentation of safety reviews. In China, we organized explosion protection training for sites where work involves dust operation. We also enhanced process safety training for new EHS employees and production employees in 2014.



Employees take an EHS quiz at the event for Global Safety Days at the Pudong site, Shanghai.

Since 2008, we have used the number of process safety incidents as a key performance indicator, using the definition set by the European Chemical Industry Council. This indicator comprises fire, explosions and the release of substances. We perform a detailed investigation into every incident, analyze the root causes and use the findings to further optimize our process safety.

### Emergency response and community awareness

- **Requirements defined for emergency response and fire prevention**
- **Training held for staff handling hazardous materials**
- **BASF's offsite emergency network in China expanded to the northern regions**

In order to ensure uniformly high standards around the world for safety and security, health and environmental protection, we stipulated requirements for emergency response planning and fire prevention in the BASF Group in 2014. In order to fulfill these new global requirements and to ensure high standards in Greater China, we carried out a review of existing measures and conducted separate fire prevention inspections at our sites.

In 2014, BASF organized several training sessions for staff handling hazardous materials for our site emergency response teams along the lines of a Group directive. They were conducted with the support from global and regional emergency response teams according to the "train the trainers" concept, so as to further enhance site competence. We are prepared for potential incidents in our production plants with specific plans that can also involve partners and suppliers as well as cities, communities and neighboring companies.

BASF continually expands its off-site emergency network in China, which is based on the concept of mutual aid: Sites provide consultancy, rescue and support to other sites in case of an accident happening during transportation within the region. All accidents are first reported via BASF's Emergency Call Center, which provides 24-hour services to our sites, customers and the public. In 2014, several cases were successfully handled within the emergency response network in Greater China.

We also cooperate with China's State Administration of Work Safety through regular forums and meetings where we contribute BASF's emergency response experience and promote the German Transport Accident Information and Emergency Response System concept for implementation in China. In October 2014, BASF was nominated to be one of the team members of Shanghai's municipal dangerous goods rescue team. As a leader of the emergency response working group of the China Petroleum & Chemical Industry Federation, of which BASF is a member, the company also actively promotes its emergency response concept to other members.

### Security

- **Global requirements on protection measures for employees and the company**
- **Strict implementation of security measures at sites in Greater China**

We regularly audit and review how measures are implemented for the comprehensive protection of our employees and the company – for example, against loss of knowledge – as well

as for the worldwide protection of our sites against third-party interference. Investment projects are analyzed in regard to potential risks in planned production facilities and the safety, security and health of our employees. Business travelers, transferees and local employees in countries with elevated security risks are informed about appropriate protection measures and individually counseled where necessary.

We strictly implement these global and regional requirements for preventive measures to protect our sites in Greater China. Measures include training and site security review programs for the protection of knowledge and intellectual property, especially at new production sites and our Innovation Campus Asia Pacific in Shanghai.

### Audits

- Regular audits ensure BASF's EHS standards are met at all sites

Regular EHS audits according to Responsible Care standards help ensure that standards for environmental and health protection, safety and security are met. We carry out these internal audits at BASF sites and at companies in which BASF is a majority shareholder. During the audits, we create an environmental, safety and security profile that shows whether our performance is sufficient to properly address the respective hazard potentials at each site. If this is not the case, auditors and site managers agree on measures, which will soon after be verified by follow-up audits. BASF also carries out regular EHS and security inspections at production sites, R&D labs, as well as offices.

Our internal audit system complies with the international standards for external auditing procedures, ISO 19011 and OHSAS 18001. In Greater China, many sites have been certified in accordance with the ISO 14001 standard for their Environmental Management System.

BASF's business and manufacturing operations in Greater China strictly follow the local regulations. We monitor the EHS related regulations closely, and cascade follow-up actions to our operation teams after analysis, so that all our sites can make timely adjustment and meet the new requirements.

### Promoting Responsible Care in Greater China

- BASF shares its best practices in China through various channels
- Responsible Care Best Organizer Award received from CPCIF

As the world's leading chemical company, BASF takes responsibility to promote the internationally accepted best practices of the chemical industry in Greater China. In addition to bringing its Responsible Care Management System to Greater China more than a decade ago, BASF also introduced several other tools such as Road Safety & Quality Assessment Scheme for the local logistics service provider management, in collaboration with the Association of International Chemical Manufacturers.

Moreover, BASF shares its best practices with customers and suppliers via different platforms such as the Together for Sustainability (TfS) initiative and "BASF China Suppliers Sustainability Training" course.

[For more on TfS, see page 48](#)

To further promote such practices, BASF has joined the China Petroleum & Chemical Industry Federation (CPCIF) in 2013, and has since taken up leading roles there in emergency response, chemical regulatory advocacy and public communication. In November 2014, BASF received the first CPCIF Responsible Care Best Organizer Award for its ongoing, outstanding efforts in implementing and promoting Responsible Care in China's petroleum and chemical industry. BASF was the only multinational enterprise listed among the awardees.

At the Seventh China International Forum on Work Safety in September 2014, BASF, as the only multinational chemical company present, advocated to build a safety culture along the value chain of the chemical industry. BASF also conducted a direct dialog with China's National Emergency Response Center to enhance communication regarding emergency response management and further cooperation.

## Environmental protection

### Energy

- Energy consumption in China slightly rising due to facility expansion
- Strong efforts to improve energy efficiency

In 2014, the total energy consumption of BASF sites in Greater China rose, mainly resulting from increased production volume and several expansions in Jiangsu and Shanghai. Electricity consumption totaled 442,327 megawatt hours (MWh) (2013: 420,987 MWh), and steam consumption totaled 2,630,049 metric tons (2013: 2,584,327 metric tons). Fuel consumption for central energy supply decreased to 694,802 MWh in 2014 (2013: 820,302 MWh). Our strong effort to improve energy efficiency is expected to result in continual improvement in coming years.

#### Electricity consumption (MWh)

2014	442,327	
2013	420,987	
2012	376,375	

#### Steam consumption (metric tons)

2014	2,630,049	
2013	2,584,327	
2012	2,406,035	

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

2014	694,802	
2013	820,302	
2012	821,198	

### Emissions to air

- Sites in Greater China slightly reduced greenhouse gas emissions
- Numerous GHG emission abatement measures in 2014
- Rise in overall emissions to air due to site expansion

In 2014, emission of greenhouse gases (GHG) from BASF's chemical operations in Greater China went down slightly, to 910,355 metric tons (2013: 918,331 metric tons). This was achieved despite increased production volume and expansion project at several sites. This success is mainly owed to BASF's ongoing initiatives to apply or optimize low carbon

fuel. Many sites undertook energy saving and GHG emission reduction measures in 2014. For example, at one site in Shanghai, we optimized its cooling water system, which brought savings in power and water consumption. We also reduced natural gas consumption through process optimization at this site. At another site in Shanghai, we optimized its product portfolio and also reduced waste and fuel consumption in the boiler, which together led to a GHG emission reduction of 5%. At one site in Guangdong, we optimized its burner process and added a new frequency converter to control the combustion air quantity, which resulted in a 47% reduction of diesel oil consumption in comparison with 2013.

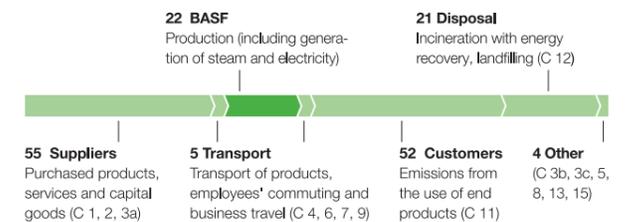
#### Greenhouse gas emissions (metric tons of CO<sub>2</sub> equivalents<sup>1</sup>)

2014	910,355	
2013	918,331	
2012	828,494	

<sup>1</sup> CO<sub>2</sub> equivalents include: CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFC, PFC, SF<sub>6</sub>

On a global basis, BASF has been publishing a comprehensive corporate carbon footprint since 2008. This reports on all emissions along the value chain and shows the volume of emissions prevented through the use of our climate protection products. We plan our climate protection activities along the value chain based on our corporate carbon footprint. In 2014, for example, we implemented a technical improvement in our steel drums together with one of our packaging material suppliers. This reduced the amount of raw materials needed for production and decreased the emission of GHG. Through various measures to reduce our raw material requirements, the emission of GHG associated with producing these raw materials was decreased by a total of around 100,000 metric tons in 2014.

#### Global greenhouse gas emissions along the BASF value chain in 2014<sup>1</sup> (in million metric tons of CO<sub>2</sub> equivalents)



<sup>1</sup> According to Greenhouse Gas Protocol, Scope 1, 2 and 3 (categories within Scope 3 shown in parentheses)

In 2014, emissions of air pollutants from BASF's chemical operations in Greater China totaled 548 metric tons (2013: 530 metric tons). This increase was mainly due to high production volumes and several operation expansions in Jiangsu and Shanghai.

**Air pollutants<sup>1</sup>** (metric tons)

2014	548	
2013	530	
2012	439	

<sup>1</sup> Air pollutants consist of: CO, NO<sub>x</sub>, SO<sub>x</sub>, NMVOC (Non-methane volatile organic compounds), dust, NH<sub>3</sub>, and other inorganic compounds

We strive to apply environmentally friendly fuel to reduce air pollutant emissions. At one site in Jiangsu in 2014, we started using natural gas instead of LPG as clean fuel for the Regenerative Thermal Oxidizer, while at another site, we replaced diesel with biodiesel for its boiler. At a site in Guangdong, we optimized the thermal reactor system to save diesel, thus reducing emissions to air. In order to reduce volatile organic compound (VOC) emissions from our production, in April 2014 BASF conducted a specific workshop about VOC reduction with the support of an expert from BASF Germany. As a result, five sites in Shanghai have completed a VOC reduction program which included, for instance, leakage detection and repair measures.

**Water**

- Water protection programs at all sites in Greater China
- Process optimization and recycling help to cut water use
- Actions to reduce emissions to water

**Water use in Greater China in 2014** (million cubic meters)

Water supply		Water use		
2014	6.0	2014	2013	2012
2013	6.1	1 Production	2.3	2.4
2012	6.0	2 Cooling	317.1	312.4
				291.8

Although we used 317.1 million cubic meters of water for cooling and 2.3 million cubic meters of water for production in 2014, thanks to recirculation, our actual water supply was only 6.0 million cubic meters.

Water is a fundamental component in our production process. We use water as a coolant, solvent and cleaning agent, as well as for the production itself. We are committed to responsible water use along the entire value chain. To this end, we have set ourselves goals to use water as sparingly as possible and to further reduce emissions to water. We constantly explore measures for implementing sustainable water management, especially at production sites in water stress areas. One of our aims is to identify savings potential in order to use as little water as possible. BASF sites in Greater China thoroughly follow a relevant Group directive that sets global standards and includes measures for implementing sustainable water management at our sites.

In October 2014, BASF started a project requiring its China sites to adhere to the standards established by the multi-stakeholder European Water Stewardship (EWS). Sites in water stress areas in Greater China were asked to apply the EWS standard which assesses, verifies and communicates responsible Water Stewardship practices of corporate entities.

BASF strives to gradually reduce water consumption and to reuse as much as possible. In 2014, BASF used 6.0 million cubic meters of water in Greater China, slightly less than in 2013 (6.1 million cubic meters). The decrease of water supply mainly results from process optimization, water recycling and reuse projects at several sites. For example, at one site in Shanghai, we optimized the process of the cooling water system, so that steam condensate is reused as makeup water in the system. As a result, the site saved about 0.3 million cubic meters of water in 2014 compared to the previous year.

BASF uses most of the water for cooling purposes, where we recirculate as much water as possible. In Greater China, the water for cooling amounted to 317.1 million cubic meters in 2014 (2013: 312.4 million cubic meters). The increase of water consumption is mainly due to high production volume and several operation expansions in Jiangsu and Shanghai.

To avoid unanticipated emissions, we constantly review the water protection programs of an increasing number of our sites in China. This review process will be expanded to all production sites in Greater China by 2015. Waste water risk assessment helps us to identify the potential risk of unexpected waste water release. Many sites in Greater China already apply online waste water monitoring systems that enable us to quickly catch relevant pollutants in our waste water.

In 2014, emissions of chemical oxygen demand (COD) increased to 169 metric tons (2013: 161 metric tons). Nitrogen emissions decreased to 19 metric tons totally (2013: 22 metric tons). Emissions of heavy metals were at 0.1 metric tons (2013: 0.1 metric tons). The COD increase is mainly due to high production volume and several operation expansions in Jiangsu and Shanghai. At the same time, some sites achieved lower COD emissions via process optimization. For example, at one site in Shanghai, we reduced our waste water by 80% after optimizing its scrubber system. The project avoids some 30,000 metric tons of waste water annually, and consequently also reduces COD emissions. At another site in Jiangsu, we reused our waste water in the production process.

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

2014	169	
2013	161	
2012	123	

**Emissions to water: Nitrogen** (metric tons)

2014	19	
2013	22	
2012	17	

**Emissions to water: Heavy metals** (metric tons)

2014	0.1	
2013	0.1	
2012	0.1	

**Waste**

- Maintained recycling rate, despite higher waste volume

We regularly explore possibilities for preventing waste. If waste is unavoidable, we analyze whether a particular type of waste is suitable for recycling or energy recovery. In 2014, waste generated from BASF's chemical operations in Greater China totaled 69,757 metric tons (2013: 66,867 metric tons). This increase is mainly due to high production volume and several operation expansions in Jiangsu and Shanghai. Meanwhile, the recovery rate was kept at 76% (2013:76%).

BASF continued working on waste reduction and recycling in 2014. For example, at one site in Shanghai, we separated fuel from waste liquid for reutilization. At another site in Shanghai, we also optimized the package system: We replaced iron drums with intermediate bulk containers for one product so as to reduce the total packaging amount. At a site in Guangdong, we reduced defective products by 6% through optimization.

**Waste** (metric tons)

2014	69,757	76%	
2013	66,867	76%	
2012	53,191	77%	

Amount of waste Amount of recycled waste

**Carbon Emission Trading System in China**

- Six sites in Shanghai participating in the pilot carbon emissions trading scheme

In Greater China, we are committed to continuously reducing carbon emissions through our advanced technology in production process and energy optimization. Since 2012, six BASF sites in Shanghai have been actively participating in the pilot carbon emissions trading scheme approved by the National Development and Reform Commission. These sites have completed Emissions Trading System obligations via surrendering 2013 certificates. We also worked closely with industry organizations to ensure an open dialog with the government.

# Employees

## Forming the best team

**BASF employees are fundamental to achieving the goals of the company's "We create chemistry" strategy. To meet the targets established by our Asia Pacific strategy, the company requires a high performance culture. BASF aims to attract the right people and create space for their performance and personal development across regions, divisions and teams. By putting a clear focus on three strategic directions: excellent people, excellent place to work and excellent leaders, BASF provides a comprehensive framework for top performance. As of the end of 2014, BASF had 8,033 employees (2013: 7,606) in Greater China.**

Number of employees (as of December 31)

2014	8,033	<div style="width: 100%;"></div>
2013	7,606	<div style="width: 94.7%;"></div>
2012	7,305	<div style="width: 90.9%;"></div>

### Recruitment and new graduate programs

- **BASF in China offers attractive positions with Greater China, Asia Pacific and global focus**
- **"Grow" Graduate Program™ and campus talks seek out and cultivate future talents in China**
- **"Roots – Laboratory" apprentice program to build up talent pipeline for technical functions in labs from 2015**

BASF offers talented candidates many ways to enter the company, and employs experts and professionals in a wide range of areas across Greater China. In order to encourage the best people to seek out a career at BASF, we have designed various information and recruitment programs for experienced talents and fresh graduates in China.

BASF "Grow" Graduate Program™, which started in 2007, aims to identify and develop talented, passionate and enthusiastic graduates all over China by offering customized training to develop a solid foundation of knowledge and professional skills required for future success. The recruited graduates are assigned to one of three development areas: business and functions, manufacturing and engineering, research and development. They are accompanied by a dedicated guide and experience different job roles over a period of 24 months. Upon completion of the program, they will proceed to a permanent role.

Since its inception, several hundred graduates have joined the company through the program. One important element of BASF's graduate program is our popular yearly Campus Talk sessions, which toured selected universities in nine cities and attracted more than thousands of participants in 2014.

In 2014, BASF launched "Roots – Laboratory", a R&D apprentice program for the research facilities and development laboratories in Shanghai. The program aims to recruit qualified college graduates with a chemistry background and trains them to become reliable lab technicians through a 12-month curriculum run by BASF and East China University of Science and Technology. Five experienced assistant chemists were selected and trained as internal trainers to guide the apprentices throughout the program. The first group of candidates have started their six-month internship at BASF since January 2015, and will later be recruited as apprentices.

### Career development

- **New global online learning and development platform rolled out**
- **Employee Development Process applied to more employees in Greater China**

Continuous development of our employees is an essential part of BASF's Best Team Strategy. Thereby, the company supports employees in actively shaping their own development. The main focus is on fostering employees' unique talents and meeting their development objectives, while allowing BASF's corporate objectives to be fulfilled. Qualified BASF employees in China are given the opportunity to take part in customized leadership programs, which aim to cultivate local and global leaders within the talent pool at BASF in China through a structured approach.

In August 2014, Asia Pacific was the first region to roll out BASF's new internal IT platform called SuccessFactors. It comprises three modules – Employee Development, Performance Management and Learning Management – and is easily accessible online. The Employee Development module includes a comprehensive employee profile including career history and development objectives. The Performance Management module supports annual target setting and review process. In the Learning Management module, employees can register web-based or classroom courses online via an improved and interactive learning system.

BASF's employee development initiatives are constantly updated and further improved in order to reach the best possible results. In 2014, BASF expanded its global Employee Development Project, which aims to establish BASF as "the place to build a career", to a broader base of employees than before. For example, in order to cater to the needs of front-line employees working in production and related areas, we have designed and begun implementing a more targeted employee development process for this group in Greater China in 2014.



Training champions for the "Roots – Laboratory" program practice their coaching skills in Ludwigshafen.

### Work-life balance

- **BASF supports employees in managing compatibility of career and family life**
- **Social and leisure programs**

Various studies have demonstrated that a healthy work-life balance is becoming increasingly important to employees, particularly younger ones. BASF is committed to creating an attractive workplace that balances the needs of our employees with the company's requirements. BASF therefore supports employees in managing compatibility of family and career, and offers flexible solutions that can be adapted to different life circumstances of each individual employee. Moreover, we constantly review working conditions at our factories, including equipment, transportation and working hours.

BASF runs a number of programs to offer fun experiences to our employees and their family members. For example, "BASF Global Family" is an international vacation exchange program for teenage children of BASF employees worldwide. BASF host families in various countries provide accommodation and activities for BASF children from other countries, and vice versa. Since 2006, hundreds of teenagers from 30 countries have taken part and enjoyed staying overseas during their summer holiday. In 2014, 20 teenagers in Greater China joined the program.

In 2014, BASF's Joint Trade Union in Shanghai organized various leisure activities such as Yoga and Tai Chi courses, a company badminton team, the BASF Sports Day in Shanghai, and lectures on parenting.



Managers play a key role in employees' career development.

### Inclusion of diversity

- **Inclusion of diversity as an important component for business success**
- **BASF offers equal opportunities to all employees, women and men, old and young**

In order to address the various demands of our customers and markets, we rely on the best team in all areas and functions around the globe. The inclusion of diversity is an important component of our strategic human resources management. It helps us to continuously improve our team's performance and power of innovation, and increases creativity, motivation and identification with the company. Therefore, BASF fosters the inclusive culture that respects differences to attract and retain the best people. We also promote an environment that facilitates the creation of best teams and effective leadership.

We offer equal opportunities to all employees and are committed to the equal treatment of men and women. Moreover, BASF employees come from a variety of age groups. In 2014, the largest proportion of employees in Greater China was in the 26 to 39 years of age group, same as in 2013.

Employee age structure (proportion of employees %)

Up to and including 25 years	7.8	<div style="width: 7.8%;"></div>
Between 26 and 39 years	61.6	<div style="width: 61.6%;"></div>
Between 40 and 54 years	28.2	<div style="width: 28.2%;"></div>
55 years and older	2.4	<div style="width: 2.4%;"></div>



BASF fosters the inclusive culture that respects differences to attract and retain the best people.

### Employee care

- **BASF's 2014 global health promotion campaign tackles back pain**
- **EAP provides emotional support to people in need**

BASF regards the health and safety of its employees essential for a good workplace. Thus, the company runs a number of initiatives to promote a healthy lifestyle and to support employees in need. In June 2014, BASF has brought its 6<sup>th</sup> global health promotion campaign under the motto "Healthy Back at Work" to Greater China. During a period of three months, employees of 33 sites and offices were provided with individual back health programs such as self-evaluation, advice on exercise and relaxation programs based on this evaluation, as well as back exercise classes and lectures conducted by professional coaches. Many employees have also received elastic fitness bands for back exercise along with guiding brochures. Back pain is one of the most common medical problems. It is estimated that 80% of the world population have experienced back pain at least once in their lifetime.

BASF's Employee Assistance Program (EAP) offers psychological and emotional support to employees and their families in mainland China. They can call a round-the-clock hotline which is answered by external qualified professionals

and treated with strict confidentiality. Since launched in 2013, EAP has helped many people in China who called to consult on topics regarding self-development, interpersonal relationship, marriage and parenting, as well as emotional and psychological issues. BASF Taiwan has also run EAP since 2011, which provides employees and their families with personal legal, financial and medical counseling in addition to psychological consultation.

### Compliance

- **50 external hotlines worldwide providing guidance and support**
- **New e-learning program on compliance launched in 2014**

Compliance with national law and the core labor standards of the International Labor Organization (ILO) forms the basis of our social responsibility. BASF's Chief Compliance Officer manages the implementation of our Compliance Management System, supported by 89 compliance officers worldwide. BASF also employs compliance officers in Greater China.

We particularly encourage our employees to actively and promptly seek guidance if in doubt. For this, they can consult not only their managers but also dedicated specialist departments and company compliance officers. We have also set up 50 external hotlines worldwide, including China, which our employees can turn to anonymously. We make sure that all concerns are processed and answered within a short period of time.

Moreover, BASF employees regularly receive mandatory compliance training which is tailored to the characteristics of the region in which they operate. In 2014, more than 59,000 employees worldwide, took part in a total of 65,000 hours of compliance training, including employees in Greater China. We also introduced a new e-learning program on compliance in 2014. In Greater China, several thousand employees attended compliance training and workshops, covering anti-trust, anti-corruption, conflicts of interest, gifts and entertainment, environment, health and safety, trade control, contract law and other major compliance topics. BASF not only continually strengthens and refreshes its employees' compliance knowledge but also diligently promote BASF's compliance principles to its business partners.

## Society

### Initiatives to support local communities

**BASF is involved in diverse projects worldwide, especially in the communities where our sites are located. There, we foster education, science, social projects, sports and cultural events. We have taken many of our global initiatives to China and have also developed local ideas to support people in need.**

#### Fun with chemistry at BASF Kids' Lab

- **Safe experiments for kids in 30 countries**
- **Over 15,000 young participants in China in 2014**

BASF Kid's Lab was first launched in 1997 at the company's headquarters in Germany, with the aim of encouraging children to have fun learning chemistry through experiments using familiar materials from day-to-day life. Over the years, the company has brought Kids' Lab to 30 countries around the world. At this event, children conduct hands-on, safe chemical experiments and learn about how chemistry can be used to benefit the environment. Local BASF employees support the program by serving as volunteer instructors. In China, more than 151,000 children have participated in the yearly program since its inception in 2002.

In 2014 alone, over 15,000 kids took part in Kids' Lab sessions in Shanghai, Beijing, Chongqing, Hong Kong, Taipei, Kaohsiung and Kuanyin. One of the three experiments in 2014 was called "Water purification": Children made "dirty water" by adding sand, bits of wood, soap powder and blue dye to the water. Then they cleaned the water by decanting and sieving solids, precipitating soap with alum and removing the dye by adsorption on charcoal powder. This showed them how waste water is purified in sewage plants for reuse.

During the Kids' Lab stops in Taipei and Kaohsiung, BASF also offered parallel science seminars to the kids' parents on the topics of UV protection and plasticizer.

#### Goodwill Teacher program

- **"Goodwill Teacher" program in Shanghai celebrates ten years**
- **Scholarships granted to teenagers and young adults since 2006**
- **"Run for charity" collects fund for the program**

In 2014, BASF's employee voluntary program in Shanghai called "Goodwill Teacher" celebrated its 10<sup>th</sup> anniversary. The program supports the "Intellectual Assistance to the Disabled"



Over 15,000 kids participated in BASF Kids' Lab in 2014.

initiative organized by the Shanghai Association of Persons with Physical Disability. The initiative helps teenagers from families with disabled parents who often face challenges at school and cannot afford extracurricular tutoring. BASF employee volunteers offer free oral English tuition to these students on weekends.

As an extension of the program, BASF has set up a scholarship in 2006, supporting outstanding students from this underprivileged group to finance their high school or university tuition. In 2013, the scholarship was extended to impoverished children as well.

"Run for Charity", a fundraising activity is held every two years during the company's Sports Day in Shanghai. In 2014, over 120 employees volunteered to run in the competition and were financially sponsored by their colleagues. The collected funds were donated to the program.

During the past ten years, the "Goodwill Teacher" program has created a culture of paying forward: many beneficiaries have later become volunteers themselves. It has won various recognitions over the years, including being named one of the "2013 Shanghai Top 10 Youth Public Welfare Projects" endorsed by the Shanghai Municipal Government.

### Steady progress in Ya'an earthquake relief

- **BASF Stiftung-funded earthquake relief measures well underway in Ya'an**
- **Reconstruction of two BASF Stiftung-supported schools completed in 2014**
- **Program to improve local education**

After the earthquake in Ya'an, Sichuan Province, in 2013, BASF Stiftung, a charitable foundation based in Germany, BASF and its employees donated CNY 2.8 million to support the earthquake relief. BASF and BASF Stiftung also cooperated with Save the Children and UN-Habitat (the United Nations Agency for Human Settlements) to set up disaster reconstruction measures and disaster prevention programs. The measures focus on rehabilitation and educational projects in the affected region with an emphasis on the two schools (Muma School in Meishan and Yongquan Village School in Ya'an, Sichuan Province) that previously were supported by BASF and BASF Stiftung after the devastating earthquake in 2008.

The funds have been allocated to two project components: The first component focuses on the repair and maintenance of the two schools conducted by UN-Habitat. The other component focuses on different educational facilities in the affected areas carried out by Save the Children, aiming at providing a safe and protective environment for children in disaster-prone areas as well as contributing to the improvement of the quality of basic education in the region.

In August 2014, the repair and rehabilitation of both schools was completed by UN-Habitat. The educational program implemented by Save the Children is still ongoing; after finishing one-year training courses for teachers on psychosocial support and disaster risk reduction, which have benefited more than 20,000 children in 23 primary schools. Save the Children kicked off a two-year program in December 2014 to improve the quality of basic education at schools in Liangshan Prefecture, Sichuan Province.

BASF has a long-term commitment to education and continues to provide necessary assistance to its supported schools. For example, an annual BASF scholarship was granted to outstanding students at Muma School. BASF employees also paid visit to the schools on a regular basis to interact with the students and deliver school supplies.



Volunteers in Taiwan clean up garbage on the beach.

### Taiwan Volunteer Club

- **Beach clean-up activities in northern and southern Taiwan**
- **Support for social welfare organization Kindgarden in Kuanyin**

Formed by employees, the BASF Taiwan Volunteer Club runs environmental protection projects and helps people in need in the neighboring community. In 2014, BASF colleagues and their family members joined hands at two beach clean-up activities in northern and southern Taiwan. In northern Taiwan, for instance, 127 people picked up 114 kilograms of garbage, including floating wood, ropes and bottles.

Near BASF's Kuanyin site, some of our customers and other companies work together in supporting Kindgarden, a social welfare organization that provides care for people with intellectual disabilities and teaches them work skills through bakery classes. As Kindgarden needed to expand its facilities, the BASF Taiwan Volunteer Club supported a Charity Fair to raise funds for the new building. Construction began in early 2014 and is scheduled to be completed in 2015.

### "Color, Way of Love"

- **Nippon Paint and BASF jointly organize school repainting project for Chongqing Wenmiao Elementary School**
- **Interactive sessions held at the school to inspire creativity**

In August 2014, BASF and Nippon Paint launched a repainting project entitled "Color, Way of Love" at the Chongqing Wenmiao Elementary School in Chongqing where BASF is building a large-scale plant to produce methylene diphenyl diisocyanate. The project marks the first time that BASF has partnered with Nippon Paint on an activity of this kind in China. Through this project, both companies are leveraging their resources to help children in a remote area to improve their learning environment.

Nippon Paint and BASF also held interactive activities at the school, such as art courses, to inspire the children's creativity and enhance their interest in natural sciences. Nippon Paint launched the "Color, Way of Love" project in 2009, focusing on China's HOPE school projects in poor, remote areas.

### China Industry Summer Course

- **36 PhD and graduate students attended 2014 BASF Greater China Summer Course in Shanghai**

For three days in August 2014, 36 PhD and graduate students from 17 leading universities and research institutes in Greater China attended the 2014 BASF Greater China Industry Summer Course in Shanghai. The program serves as a window for Chinese university students to learn more about BASF and to cultivate their understanding of social and environmental responsibility as future chemistry professionals. The annual program was initiated in 2006, and to date, several hundred outstanding students have attended the Summer Course.

### Social activities around production sites

- **Community Advisory Panels to conduct frequent dialogs with neighbors**
- **Support for local social programs**

BASF has set up 84 Community Advisory Panels (CAPs) globally, primarily at our larger production sites. Consisting of a group of individuals who live near or around a chemical facility and who represent the fabric of the local community, a CAP is a forum for open and transparent dialog between

citizens and plant management. In Greater China, BASF supports CAPs in Shanghai, Chongqing, Nanjing and Taiwan.

In Chongqing, regular CAP meetings in 2014 focused on topics including the updates on the project progress, EHS measures and recruitment process. The CAP also provides a platform for social networking with the local community: during a site Open Day hosted by BASF in November 2014, families of the CAP, the neighborhood and BASF employees gathered at the site for a carnival event.

At the Pudong site in Shanghai, where the company's Greater China headquarters is now located, BASF has supported a local CAP since 2000. The group conducts frequent dialog sessions between local residents and BASF, and participates in activities organized by the local community. In October 2014, BASF took part in an educational event for 300 children and family members, organized by the Gaoqiao government, in Shanghai's Pudong District. Under the theme "Protecting the earth, you are the small guardians", organizers for the first time engaged companies to promote the local environmental protection laws and strengthen environmental education among residents. Also in Pudong, BASF donated CNY 500,000 to support the renovation of day-care centers for the elderly in the Ling Qiao area of the Gaoqiao Town, which will be completed in 2015.

### Recognition for CSR and sustainability

- **Companies in Pudong issue new joint declaration on CSR**
- **"BASF in Greater China – Report" recognized**
- **BASF received Best Social Contribution Practice award**

In October 2014, BASF, together with some other 20 companies in Shanghai's Pudong New Area officially reiterated their "CSR Joint Declaration", a strong commitment to fulfilling corporate responsibility and engaging more stakeholders to join CSR initiatives. The "CSR Joint Declaration" was originally drawn up by the local government's Pudong Joint-Conference Office of CSR in 2007 as part of its efforts to work together with businesses towards a common goal to continuously implement CSR and elevate the district's responsible competitiveness.

BASF was recognized jointly by Shanghai Municipal Commission of Commerce and Shanghai Association of Enterprises with Foreign Investment in August 2014, for its continuous efforts in publishing "BASF in Greater China – Report". In January 2015, BASF received an award for Best Social Contribution Practice, presented by Pudong Commission of Commerce, Pudong TV and Pudong Times.

## Sustainability along the value chain

Within our procurement process, we pay great attention to sustainability along the entire value chain, including raw materials, technical goods and services, as well as logistics solutions. Sustainable procurement involves strengthening our suppliers' awareness of BASF's standards and expectations, helping to shape their contribution to the industry as a whole. BASF's practice in supply chain management were profiled in the "Global Compact Network China Yearbook 2014" published by the local branch of United Nations Global Compact (UNGC).

### Sustainability in procurement

- Global Supplier Code of Conduct
- First "Together for Sustainability" Conference held in Shanghai

Both new and existing suppliers are selected and evaluated not only on the basis of economic criteria, but also with respect to environmental, social and corporate governance standards. Our Supplier Code of Conduct is founded on internationally recognized guidelines, such as the principles of the United Nations' Global Compact, the International Labor Organization (ILO) conventions and the topic areas of the Responsible Care Initiative. Available in 26 languages including Chinese, the Code of Conduct covers environmental protection as well as compliance with human rights, labor and social standards, and antidiscrimination and anticorruption policies.

BASF is a founding member of the "Together for Sustainability" (TfS) initiative of leading chemical companies for the global standardization of supplier evaluations and auditing. This initiative, which is expected to play an important role in China due to its extensive supply chains, aims to develop and implement a global program for the responsible supply of goods and services, and to improve suppliers' environmental and social standards. The evaluation process is simplified for both suppliers and TfS member companies through a globally uniform questionnaire. The initiative's members conducted a total of 2,605 sustainability assessments and 93 audits in 2014. Since its inception in 2011, the initiative has grown its membership from six to twelve.

In October 2014, TfS held its first global conference in Shanghai. Around 350 participants attended the event, from TfS member companies, suppliers, local and international associations, as well as non-governmental organizations. The main topics included sustainable supply chains and specific sustainability requirements in the chemical industry.



BASF representatives were speaking at the TfS conference.

The conference also provided an overview on key audit results achieved so far and the improvement processes at the supplier level.

### Supplier awareness and competitiveness

- "BASF China Suppliers Sustainability Training" course established with ECUST
- First Logistics Service Provider's Day with focus on sustainability

BASF is working closely with suppliers and aims to support its procurement partners in applying best sustainability practices.

Partnering with East China University of Science and Technology (ECUST), BASF initiated the "China Suppliers Sustainability Training" course in 2014. The curriculum targets executives from some 2,000 BASF suppliers in China within the next five years. Upon invitation, top management and EHS managers from suppliers attend a one-day course at the university which combines topics such as corporate governance and management, labor and human rights as well as EHS. The course allows suppliers in China to gain access to tools, experience and insights needed to meet industry standards as well as BASF expectations. It also aims to help raise their sustainability standards, increasing their competitiveness in both domestic and international markets.

In June 2014, BASF and BASF-YPC Co. Ltd. jointly held their first Logistics Service Providers' Day in Nanjing, focusing on sustainable development in the chemical logistics industry in China. With this event, BASF aims to strengthen the awareness of its logistics service providers about the sustainability challenges of the chemical industry and



Top management and EHS managers participated in BASF's "China Suppliers Sustainability Training" course.

improve their EHS standards and service performance. During the event, the two companies presented their fourth Shenxingtaobao Award for logistics service providers which recognizes best-in-class EHS performance, service performance and delivery of innovative and cost efficient solutions. The criteria of Shenxingtaobao Award had been updated in 2014, with emphasis on their SECURE performance, which stands for safety, efficiency, compliance, underwriting, reliability, and emergency preparedness.

### Optimizing logistics and distribution network

- Six distribution centers planned as part of BUJU project
- First distribution center in Tianjin launched in late 2014
- Transportation of products switched from road to waterways to reduce emissions

BASF initiated the "BUJU" project in 2013 to further optimize the supply and distribution network in Greater China. The name stems from the Chinese words BU and JU which together mean "distribution network" and "blueprint". Central to the project are six distribution centers to be founded by 2016, continuous transport optimization and a centralized cooperation with preferred logistics service providers. As part of the project, multi-modal transportation will be adopted where possible to reduce transport-related emissions.

The first distribution center in Tianjin is already in operation. In November 2014, the first batch of goods arrived at the center, which now acts as a transportation and logistics hub for BASF in North China. By creating an interface with the preferred logistics service provider – Sinotrans in North China

– the distribution center provides an integrated solution to carry products from BASF sites to Tianjin distribution center and from there on to our customers, which improves internal delivery efficiency and saves cost.

In order to reduce cost and carbon emissions caused by transportation, the BUJU project team has also initiated a switch from truck to waterway transportation wherever possible. In 2014, thousands of tons of products were transferred from truck to water transport which led to a significant reduction of emissions, as well as cost savings.

### Engaging industry partners

- Pursuing a sustainable value chain through the "1+3" project
- "Golden Bee" initiative and long-term CSR commitment

For many years, BASF has worked on establishing a sustainable value chain in China through its "1+3" project initiated in 2006 under the platform of the China Business Council for Sustainable Development. During the project, one company, such as BASF, teams up with three types of partners along the value chain – customer, supplier and logistics service provider – to share best practices in corporate social responsibility (CSR). These partners then introduce the same concept to three of their partners. Through this initiative, BASF has engaged 27 partner companies who have since made substantial progress.

BASF launched the Golden Bee CSR China Honor Roll in 2008 together with "WTO Tribune", a magazine under China's Ministry of Commerce. It promotes responsible business operations and annually recognizes companies for their outstanding CSR performance, with a special focus on small and medium-size enterprises. With 36 enterprises awarded in 2014, a total of 204 companies have been recognized to date, including 15 partner companies from BASF's "1+3" project.

In 2011, together with "WTO Tribune" and other companies, BASF initiated the "Golden Bee 2020", which encourages collaboration among different companies and industries to achieve common sustainability goals. Since the inauguration, the initiative has identified and developed 12 action groups which have inspired cross-boundary collaboration and solutions. BASF leads the action group "Sustainable Supply Chain". In this action group, BASF brings together sectors including chemical, food, energy and automobile industries.

## Selected prizes and awards

### Global 500 Climat Disclosure Leadership Index

In 2014, BASF again achieved the maximum disclosure score of 100 points and came out as leader of the Energy & Materials sector of the Carbon Disclosure Leadership Index (CDLI). It is the tenth time that BASF has qualified for the index.



### Listed in Dow Jones Sustainability Index

BASF was included in the Dow Jones Sustainability World Index (DJSI World) for the 14<sup>th</sup> consecutive year. The company has been especially recognized for its engagement in the areas eco-efficiency, environmental reporting, labor practices and human rights.



### China's Top Employer 2015

For the fifth consecutive year, BASF was recognized as one of China's Top Employers by the Top Employers Institute, one of the world's leading research institutions in the field of human resources, leadership and strategy. The company was specifically honored for its outstanding programs developing and supporting employees in different stages of their career.



### Best Corporate Citizenship Award

BASF has received the "Best Corporate Citizenship" award by the 21<sup>st</sup> Century News Group for the tenth consecutive time. BASF was recognized especially for its commitment to employees, environment, resources and society.



### Fortune Global 500 Enterprises in China

In 2014, the influential newspaper "Southern Weekend" has ranked BASF twelfth in its annual listing of "Outstanding Contribution of Fortune Global 500 Enterprises in China". In 2014, BASF has also received the highest ranking among multinational chemical companies.



### Top 50 corporate citizens in Taiwan

The influential local business publication "CommonWealth Magazine" has included BASF Taiwan for the second consecutive year in its annual top ten ranking for "Excellence in Corporate Social Responsibility" in the category of multinational companies, honoring its longterm commitment to industrial safety culture and environmental protection.



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BASF supports the worldwide Responsible Care initiative of the chemical industry.

#### Further information

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