We innovate to fuel growth in Asia Pacific
Cautionary note regarding forward-looking statements

This presentation contains forward-looking statements. These forward-looking statements are based on current estimates and projections of the Board of Executive Directors and on currently available information. These forward-looking statements are not guarantees of the future developments and results outlined therein. Rather, they depend on a number of factors, involve various risks and uncertainties, and are based on assumptions that may not prove to be accurate. Such risk factors particularly include those discussed on pages 111 to 118 of the BASF Report 2016. The BASF Report is available online at basf.com/report. BASF does not assume any obligation to update the forward-looking statements contained in this presentation.
1. At a glance: BASF in Asia Pacific and China

2. Innovating to fuel growth in Asia Pacific
BASF is growing in and with Asia Pacific

1890  First business contact in India

1966  First production in China

1989  Business started in Malaysia

2005  Inauguration of Nanjing Verbund site

2012  Inauguration of Shanghai Innovation Campus

2015  Inauguration of Chongqing MDI plant

1850s  1950s  1970s  1990s  2010s

1885  First delegate in China

1954  First business contact in South Korea

1982  Ulsan site started in South Korea

1988  First production in Japan

2001  Inauguration of Kuantan Verbund site

2014  Inauguration of Dahej site

2017  Inauguration of Mumbai Innovation Campus

Investor Field Trip BASF Pudong Site, Shanghai, September 25, 2017
BASF is present in **17** countries

Customers from **38** markets

~**100** production sites*

~**120** sales offices*

**18,156** employees**

~**€12.2 billion** sales***

~**€1.1 billion** EBIT

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* 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%.

** Employee number as of December 31, 2016

*** Sales by location of customer; as of December 31, 2016

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Investor Field Trip BASF Pudong Site, Shanghai, September 25, 2017
BASF’s performance in Asia Pacific

Sales* (billion €)

- 2012: 12.5
- 2013: 12.4
- 2014: 12.3
- 2015: 12.3
- 2016: 12.2
- H1 2017: 7.0

EBIT (billion €)

- 2012: 0.9
- 2013: 0.8
- 2014: 0.7
- 2015: 0.4
- 2016: 1.1
- H1 2017: 1.0

Developments in first half of 2017

- Considerable growth in sales due to higher prices and volumes
- Steep rise in earnings, driven by the Chemicals and Functional Materials & Solutions segments
- Inauguration of automotive catalysts plant and Innovation Campus in India
- Inauguration of new plant for emollients and waxes in Jinshan, China
- First regional Automotive Application Center to be set up in Shanghai, China

* By location of customer
BASF in Asia Pacific: balanced portfolio

Sales* by segment in 2016 (billion €)

- Functional Materials & Solutions: 37%
- Performance Products: 29%
- Chemicals: 27%
- Automotive Solutions: 4%
- Other: 3%

Total: €12.2 billion

Sales* by sub-region in 2016 (billion €)

- Greater China: 49%
- South East Asia: 15%
- Japan: 13%
- South Asia: 11%
- South Korea: 9%
- Australia, New Zealand: 3%

Total: €12.2 billion

* Sales to third parties by location of customer
We participate in innovative and growing markets

Estimated CAGR 2015–2020 for selected industries, Asia Pacific

- **Electronics**: 6.7%
- **Consumer Products**: 4.9%
- **Construction**: 4.4%
- **Agriculture**: 3.1%
- **Transportation**: 2.9%

Source: BASF
Agenda

1. At a glance: BASF in Asia Pacific and China
2. Innovating to fuel growth in Asia Pacific
R&D in chemistry lays the foundation for future innovation

**Synthetic dyes**
- **1869** Alizarin
- **1897** Indigo
- **1901** Indanthrene blue
- **1913** Ammonia
- **1923** Methanol
- **1930** Polystyrene
- **1934** Magnetic tape
- **1949** U46 herbicide
- **1951** Styropor®
- **1963** Vitamin A
- **1974** Basagran® herbicide
- **1980** Citral
- **1990** Vitamin B2
- **1993** Strobilurine fungicide
- **1996** Neopor®
- **1998** Infinergy®
- **2000** Neopor®
- **2006** Neopor®
- **2008** HPPO
- **2011** Opus® fungicide
- **2013** Infinergy®
- **2015** Slentite®
- **2016** Maglis®
- **2015** DroughtGard®
- **2013** FWCTM Four-Way-Conversion Catalyst
- **2015** Xemium® fungicide

**Fertilizers**
- **1869** Ammonia
- **1913** Polystyrene
- **1923** Methanol
- **1930** Polystyrene
- **1934** Magnetic tape
- **1949** U46 herbicide
- **1951** Styropor®
- **1963** Vitamin A
- **1974** Basagran® herbicide
- **1980** Citral
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**Plastics / foams**
- **1900** Polystyrene
- **1930** Polystyrene
- **1934** Magnetic tape
- **1949** U46 herbicide
- **1951** Styropor®
- **1963** Vitamin A
- **1974** Basagran® herbicide
- **1980** Citral
- **1990** Vitamin B2
- **1993** Strobilurine fungicide
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- **2013** FWCTM Four-Way-Conversion Catalyst
- **2015** Xemium® fungicide

**Health care & nutrition, crop protection**
- **1900** Polystyrene
- **1930** Polystyrene
- **1934** Magnetic tape
- **1949** U46 herbicide
- **1951** Styropor®
- **1963** Vitamin A
- **1974** Basagran® herbicide
- **1980** Citral
- **1990** Vitamin B2
- **1993** Strobilurine fungicide
- **1996** Neopor®
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- **2015** Xemium® fungicide

**Systems**
- **1900** Polystyrene
- **1930** Polystyrene
- **1934** Magnetic tape
- **1949** U46 herbicide
- **1951** Styropor®
- **1963** Vitamin A
- **1974** Basagran® herbicide
- **1980** Citral
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BASF global R&D at a glance

€1,863 million expenditure in 2016

10,000 employees worldwide in R&D

3,000 running research projects

850 new patents filed in 2016
Our innovation landscape is getting complex (1985–2015)

- Patent applications: 100 x
- Chinese patent applications: 3 x
- Academic publications: 3 x
- Chinese academic institutes: 2 x
- US risk capital: 20 x
Need for quick adaption to this fast changing environment

- Academic research broadens
- Chinese competitors leverage R&D
- Start-ups drive technology
- Technological progress accelerates
- Battle for talent intensifies
Asia Pacific: home to headquarters of Advanced Materials & Systems Research

Effective January 2016, BASF established regional Research Hubs across the globe.
Effective and efficient R&D for innovation in growth markets

Globalization of R&D

- R&D Center Suwon
  - Focus: Electronics

- R&D Center Amagasaki
  - Focus: Electronics, Battery Materials

- Innovation Campus Shanghai
  - Focus: Advanced Materials, Process Engineering, Environmental Catalysts

- Innovation Campus Mumbai
  - Focus: Crop Protection, Specialty Chemicals
Globalization of R&D

A unique concept: Innovation Campus

- **Shanghai 2012**
  - €145 million investment
  - 600+ R&D employees from 15 nationalities
  - Headquarters of Advanced Materials & Systems Research

- **Mumbai 2017**
  - €50 million investment
  - 100+ R&D professionals
  - Space for over 300 R&D professionals in the future
  - Focus areas: crop protection, specialty chemicals

Innovation Campus

- R&D employees
- Business community
- Media
- Investors
- Government
- NGO
- Customers
- Science & academia
Globalization of R&D

Addressing Asian market needs

Success factors: identifying market trends, close interaction with customers and enhanced local R&D capabilities

- Tailored solution for GEELY, with advanced EMPRO™ emission catalyst
- Reduced use of precious metals, meeting new Chinese regulations
- Low VOC acrylic dispersions Acronal® ECO
- Tailored for Asian customers with added functionalities, e.g., stain resistance
- Coating system with differentiated performance
- Lean portfolio including waterborne mono-coat and integrated paint systems
- New Sokalan® HP 20 developed with Chinese market leader
- First super-concentrated liquid detergent with high whiteness performance
Digitalization in R&D: enabling new digital solutions for our businesses

By integrating digital technologies into BASF’s everyday R&D operations we will boost effectiveness of research, increase efficiency and open up new innovation opportunities.

- Effective performance of ~1.75 Petaflop
- Dramatically reducing simulation and modeling time from months to days
- 65th place in the TOP500 list, the fastest computer in the chemical industry
Digitalization in R&D

Stain-resistant coating: faster market entry by digital engineering

New stain-resistant coating for the furniture industry developed based on systematic data analysis

**Challenge**
No suitable water-based white furniture coating with improved resistance against colored stains found via classical experiments

**Research**
Data analysis led to dedicated experiments

**Solution**
Newly developed formulation enabled accelerated market entry

Number of experiments reduced by factor 10
Innovate with our partners: network for Asian Open Research (NAO)

* Tsinghua University
* Beijing University of Chemical Technology
* Sichuan University
* The Chinese University of Hong Kong
* Changchun Institute of Applied Chemistry
* Kyoto University
* Seoul National University
* Fudan University
* Zhejiang University

* Universities with long time collaboration or at least 2 collaboration projects
We innovate to fuel growth in Asia Pacific

Globalization of R&D

Digitalization in R&D

Open innovation
R&D Center Amagasaki, Japan
Focus: electronics and battery materials

- BASF’s first facility in Asia Pacific to combine development with application technologies
- Developing innovative materials that will improve lithium ion battery performance and increase the driving range of electric vehicles
- R&D Center Amagasaki also includes activities in electronics, pigments, plastic additives, packaging and adhesives

Established in 2001, lab for battery materials added in 2013
R&D Center Suwon, South Korea
Focus: electronic materials

- BASF’s first electronic materials laboratory in Korea
- Focusing on application development in close collaboration with major customers in Korea and across entire Asia
- Located at Sungkyunkwan University’s Natural Science Campus in Suwon
- Equipped with modern tools for Integrated Circuit and display fabrication to match customer processes

Electronic Materials lab opened in 2014