

Dispersions & Pigments



Industrial Solutions

 **BASF**

We create chemistry

Dispersions & Pigments

Gops Pillay

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BASF Capital Markets Day, March 26, 2021

Cautionary note regarding forward-looking statements

This presentation contains forward-looking statements. These statements are based on current estimates and projections of the Board of Executive Directors and currently available information. Forward-looking statements are not guarantees of the future developments and results outlined therein. These are dependent on a number of factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. Such risk factors include those discussed in Opportunities and Risks on pages 158 to 166 of the BASF Report 2020. BASF does not assume any obligation to update the forward-looking statements contained in this presentation above and beyond the legal requirements.

We provide solutions for the market trends that drive our customers



Environmental awareness

- **Waterborne solutions** for more sustainable offerings
- Healthier, **low-emission** products
- Use of **renewable resources** with **biomass balance** products
- Products based on **circular solutions** to enable **recycling**
- **Anode binder solutions** to support e-mobility



Digitalization

- **Electronic materials** for new-generation semiconductors
- Increased online purchasing requiring **printing and packaging** materials
- Digitalization as a lever to improve **operational efficiency** and ensure **competitiveness**
- Digital collaboration tools to connect with our **customers**

Dispersions & Pigments:¹ Our products add value to multiple industrial applications



Main applications

- Adhesives
- Architectural, construction, paper coatings
- Nonwovens

Key customer examples

- Behr, Sika



Main applications

- Automotive, industrial coatings
- Furniture and flooring
- Printing and packaging

Key customer examples

- PPG, Sun Chemical/DIC Group

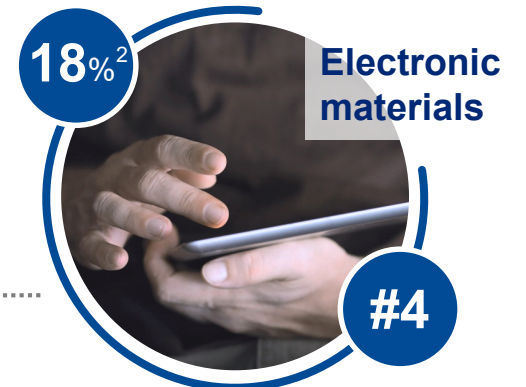


Main applications

- Adhesives
- Architectural, paper, industrial, automotive and wood coatings
- Printing and packaging

Key customer examples

- Akzo Nobel, Henkel



Main applications

- No.1 position in ultra-pure materials for semiconductors
- Displays
- Metal powder injection molding

Key customer examples

- TSMC, Intel, Samsung

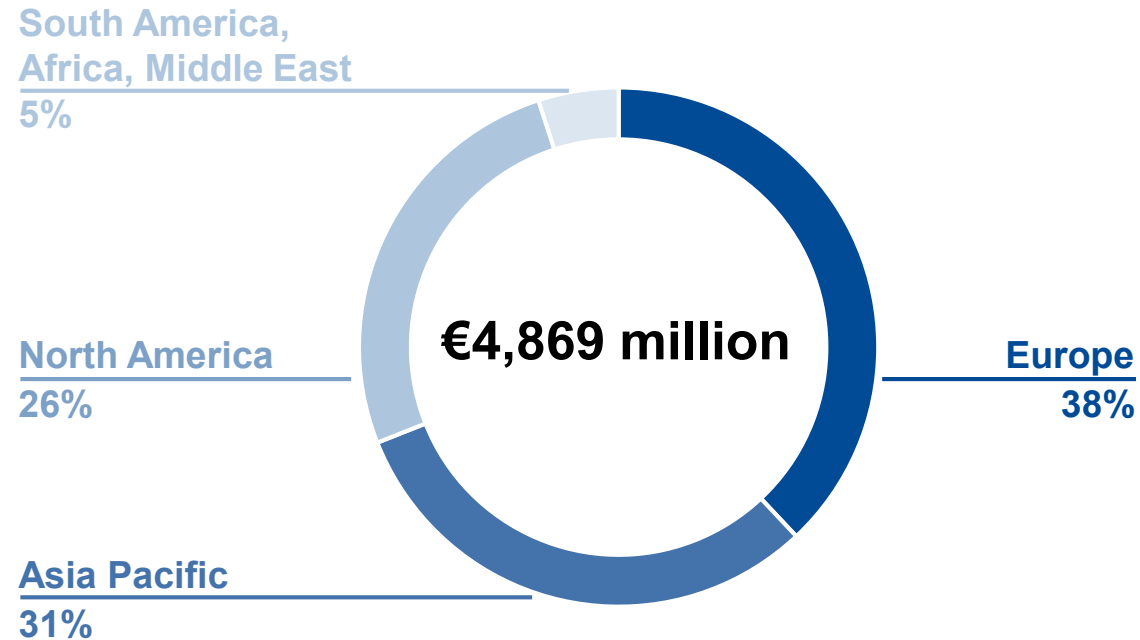
Key materials for multiple industries, but predominantly serving the coatings industry

¹ On August 29, 2019, BASF and DIC reached an agreement on the acquisition of BASF's global pigments business. The transaction is expected to close in H1 2021, subject to the approval of the U.S. competition authorities.

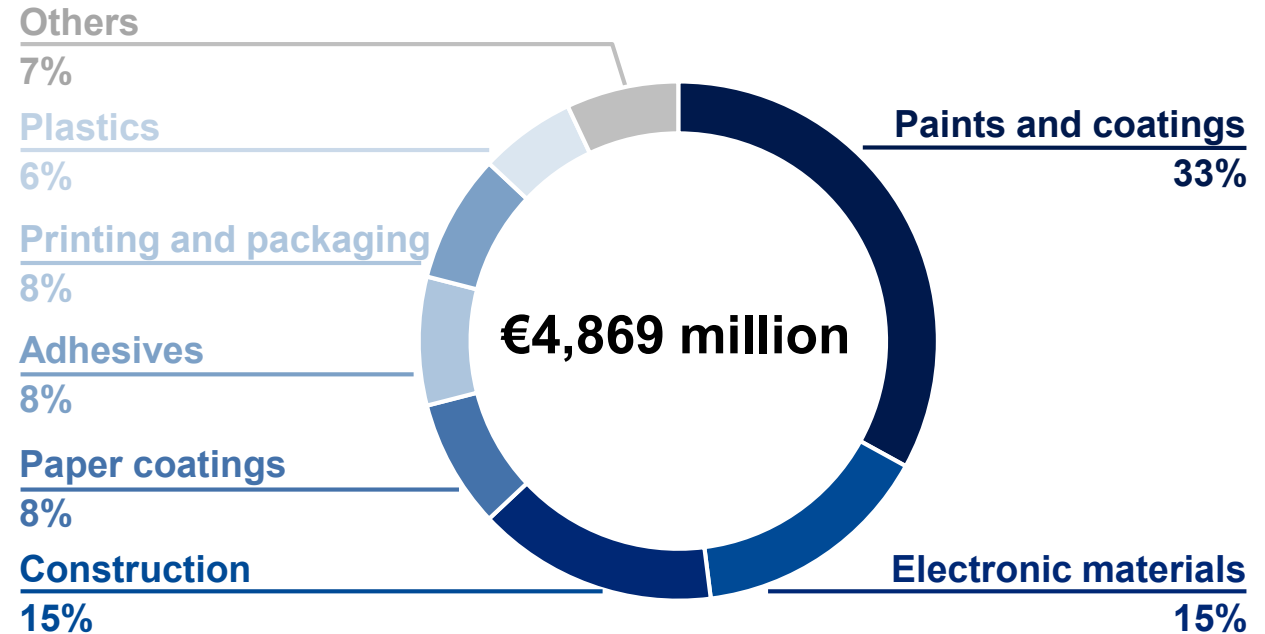
² Percentage of the division's sales 2020, excluding the pigments business.

We have a strong presence across major markets and target industries

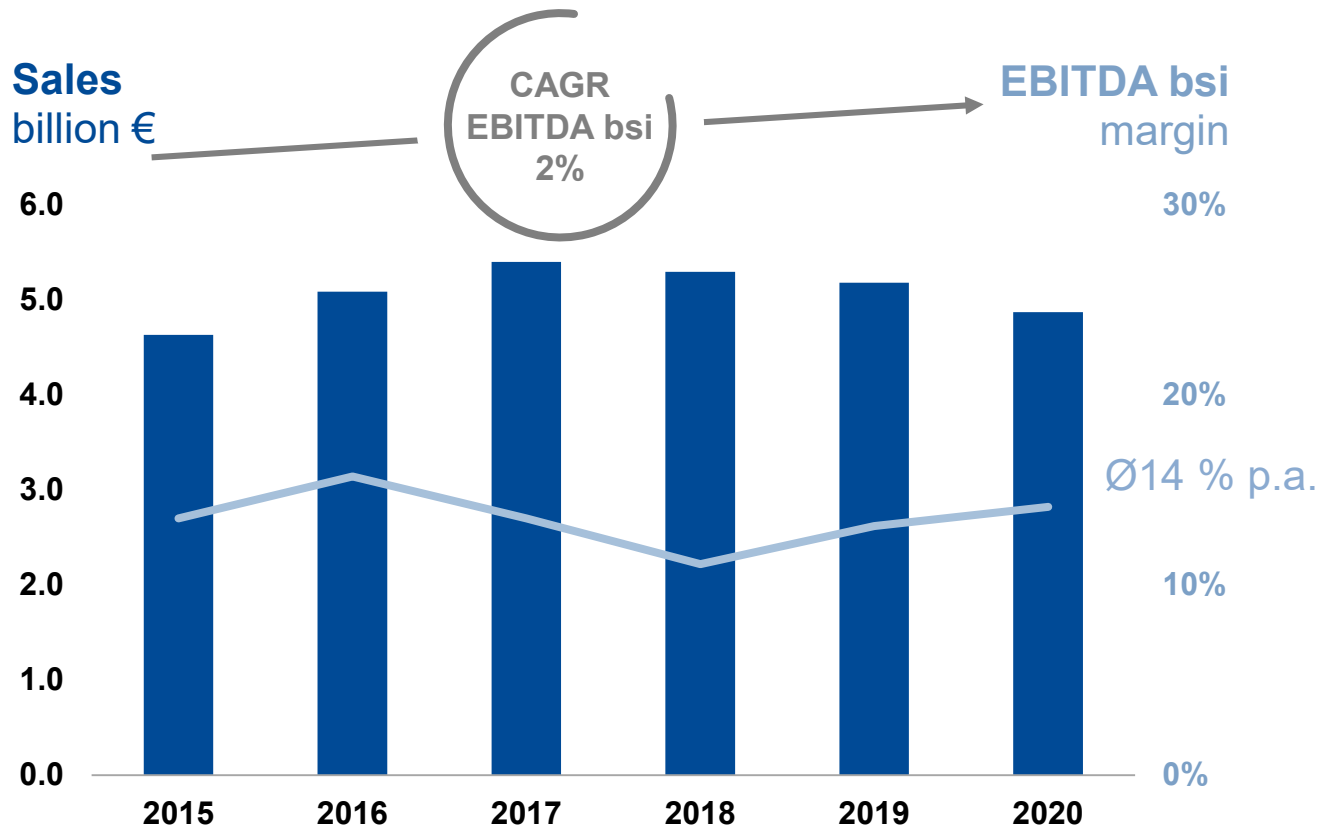
Sales by region¹ 2020
million €



Sales by direct customer industry 2020
million €



We are a consistent and stable earnings contributor for the BASF Group



- Steady profitability and capital efficiency, with continual portfolio optimization
- Volume growth in core businesses
 - ▶ 2020: 3%, despite the pandemic
 - ▶ 2015 to 2019 (CAGR): 2%
- Business development linked to GDP; inbuilt resilience due to broad range of customer industries

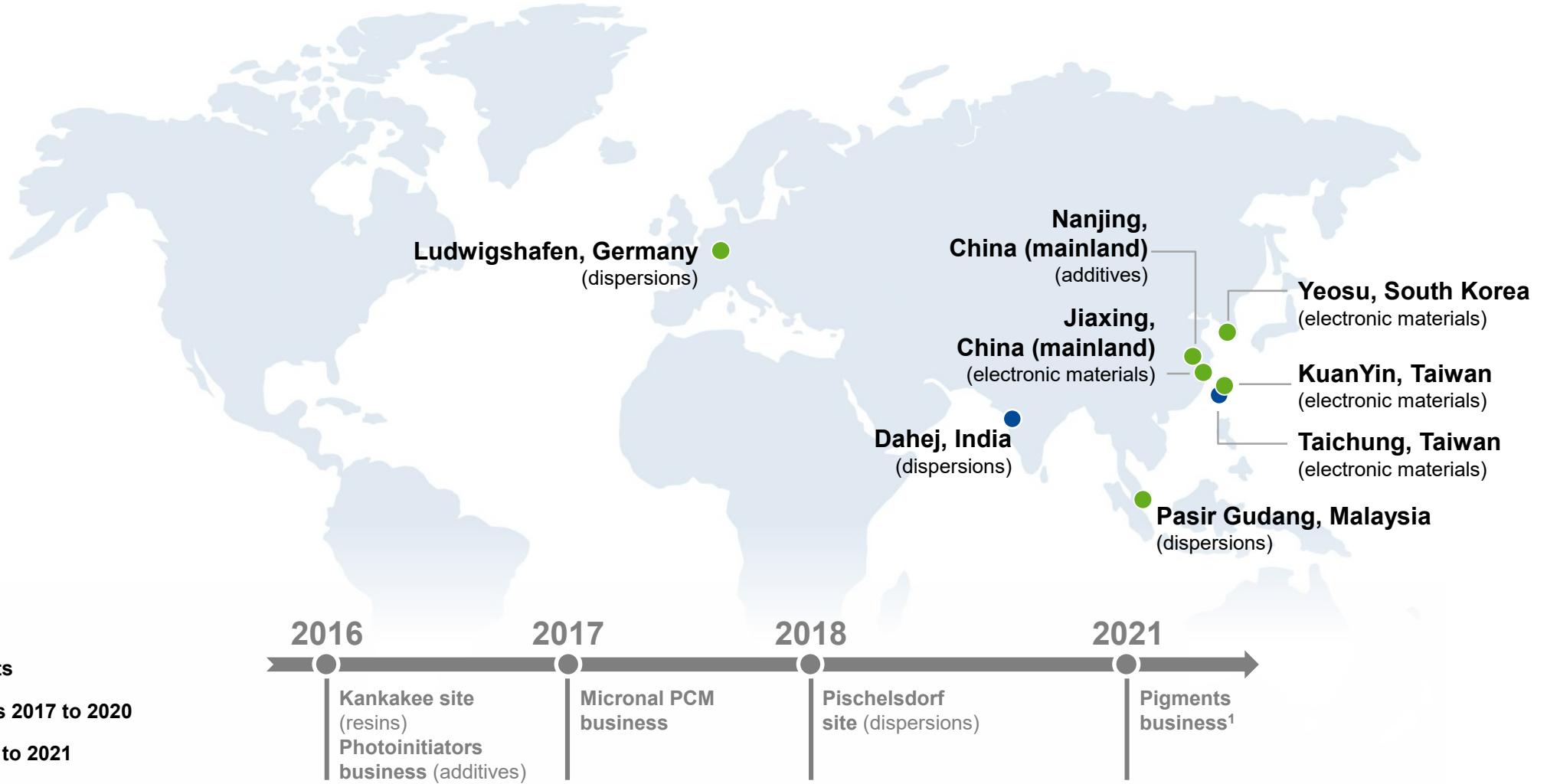
Effective January 1, 2017, the Chemicals and Performance Products segments' activities for the electronics industry were merged and allocated to the operating division Dispersions & Pigments as the electronic materials global business unit. To facilitate comparability, the relevant figures for 2016 were adjusted accordingly.

We are close to our customers



- Dispersions
- Resins
- Additives
- Electronic materials

We invest selectively where it matters for long-term growth



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We strive for profitable growth through customer focus, efficient operations and sustainable innovations

Sustainability

We promote waterborne solutions to reduce emissions

Innovation

We have strong R&D expertise and application know-how to serve customer needs

Digitalization

We continually improve efficiency and collaboration models

Asia Pacific

We are a locally present partner to capture growth momentum

Collaboration

We leverage close cooperation and partnerships for long-term growth

Our waterborne product portfolio enables emission reductions

- **Waterborne solutions** across our portfolio provide significant sustainability benefits such as **low VOC¹**, a **healthier and safer working environment** as well as a **reduced carbon footprint**
- Our high-performance waterborne **resins for industrial coatings** provide additional benefits: **durability, light weight, special effects and high definition**
- Our **additives** portfolio enables **enhanced processing** of waterborne formulations
- Our semi-aqueous cleaning **mixtures for semiconductors** provide superior performance and **reduction of waste**, both resulting in **improved cost-in-use**



Acronal® 6292: Converting challenges into solutions

High hiding power

Excellent scrub resistance

Low-odor

Eco-friendly



- **Acronal® 6292** is a styrene-acrylic binder, containing low volatile organic compounds. Its **increased pigment binding power** makes it a **cost-competitive** alternative to vinyl acetate ethylene emulsions
- A **biomass balance** version, **Acronal® MB 6492** from **renewable feedstock** uses less fossil-based resources and **reduces the carbon footprint** by up to 90% with no change in performance or customer formulation
- Acronal® 6292 facilitates the manufacture of **biocide-free paints** tested and certified by independent agencies
- Paints based on Acronal® 6292 provide **superior indoor air quality**. They are a growing part of product portfolios of major paint manufacturers
- The use of Acronal® 6292 provides a **broad latitude for paint formulations**

We innovate with and for our customers

CoLab

CoLab
Collaboration tool for our
R&D partnership

Username

Password

Sign in

Forgot Password?

Don't have an account?

Collaborative platform for R&D projects providing customer insights and faster information sharing

Lab Assistant

Easy to access web-based application to find BASF solutions for relevant industries, e.g., architectural coatings

Global R&D drives more sustainable solutions such as

- Waterborne and low-emission solutions
- Recyclability of end products
- Enablers for lower energy consumption
- Bio-based and biodegradable solutions

and provides efficient innovation through

- Dedicated platforms for major customer industries
- Effective leverage of the power of digitalization

9 major R&D sites across all regions

20% of sales from recent innovation¹

Catamold® PANACEA: Innovative solutions enable next-generation smart devices



More than 30 million smartphones with **Catamold® PANACEA** inside

- Process-ready, high-quality granulate for metal injection molding technology
- Enables lightweight metal parts with complex geometries
- Provides excellent surface quality as well as resistance to scratches and corrosion
- Supports new solutions for smartphones, tablets and wearable devices, e.g., camera frames for triple camera systems
- Helps device manufacturers to reduce their material costs by up to 30%

We optimize for efficiency and reliability through digitalization



Dual-arm robot to test adhesives



Digital material profiling lab for resins



Kinetic modelling

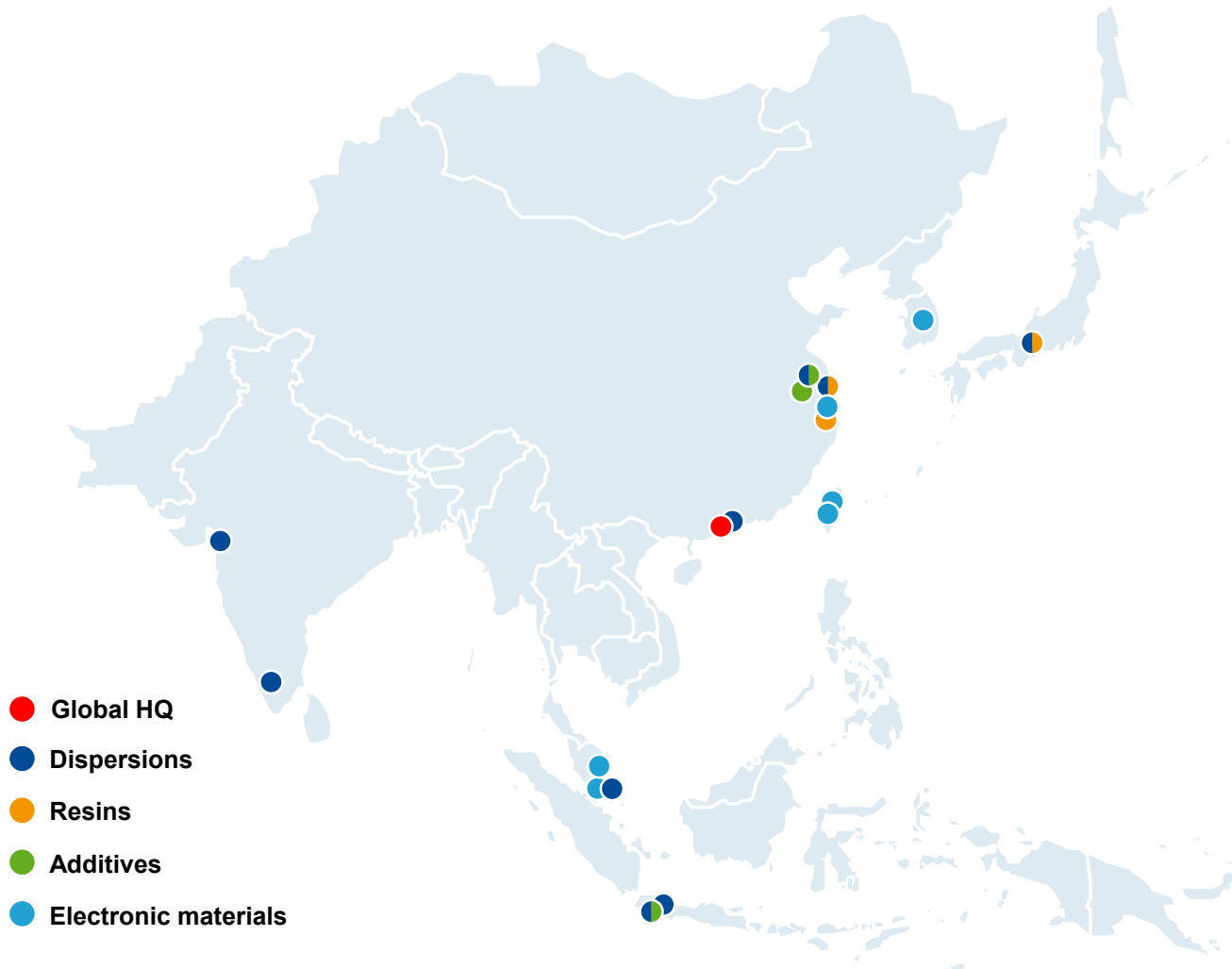
Digitalization in R&D

- Robotic application testing of **adhesives**, including evaluation of failure mode, data management and automated cleaning, processing 100 samples per day
- Automated, standardized application testing of **resins** for mechanical and optical properties, processing 200 samples per day

Digitalization in operations

- Rapid **product scale-up** to meet urgent customer demand
- Adapted waterborne polymer dispersion production in Cengkareng, Indonesia, to set up parallel production in Pasir Gudang, Malaysia, using kinetic modelling
- Significant **efficiency gains** from testing and feedback, precise parameter guidance to scale up recipes

We foster customer partnerships in our key growth markets



Global headquarters in Hong Kong

- Strong support for **customers in Asia Pacific** with
 - ▶ **~1,600** employees; strong local talent pipeline
 - ▶ **17 major sites** in proximity to local customers
 - ▶ **R&D and technical centers** in China, India, Korea and Indonesia
 - ▶ global innovation centers for construction at Shanghai **innovation campus**
- **Enabling** customers to
 - ▶ expand their operations in other regions
 - ▶ transition toward eco-friendly, premium products
 - ▶ enhance their products with advanced electronic materials

We help customers to capture business opportunities

“We’ve been incredibly impressed with BASF through these challenging times... The transparency and collaboration between our team members has been superb and has helped us get back in stock quickly.”

Behr President Jeff Filley



Behr and BASF have established a **strategic partnership** over more than 20 years of **collaboration**

- ▶ BASF supports new product development for architectural coatings
- ▶ Behr has recognized BASF’s contributions, for example, with multiple “Supplier Excellence” awards

BASF worked closely with Behr to **meet surging demand** during the pandemic **with reliable supplies**

- ▶ Rising demand for DIY paints during lockdowns required a rapid ramp-up of production at Behr
- ▶ BASF was able to leverage its operational flexibility to meet Behr’s increased need for raw materials

We actively optimize our portfolio, operations and customer relationships for profitable growth

Sustainability

- **Waterborne solutions** for better health, safety and environment
- **Reduced carbon footprint** with mass balance products

Innovation

- **Dedicated R&D platforms** in all regions with strong application know-how
- **Focus on performance**, cost and sustainability

Digitalization

- Efficiency gains in all aspects of our business, to **reduce cost-to-serve**
- **New interfaces** for more effective customer engagement

Asia Pacific

- **Strong** asset base and **R&D set-up** to capture growth
- **Preferred partner** for our local customers to expand their global reach

Collaboration

- **Customers** are **at the center** of everything we do
- **Strategic partnerships** to address market trends and challenges



We create chemistry