



A MEMBER OF THE  
**HILGER&KERN** GROUP

## **Metering and mixing technology for the automotive industry**

GREASING, BONDING, SEALING, POTTING,  
COMPOSITES AND GASKETING



# One partner for dispensing all materials

Individual solutions for reliable production processes in the automotive industry

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## Car Body & Exterior

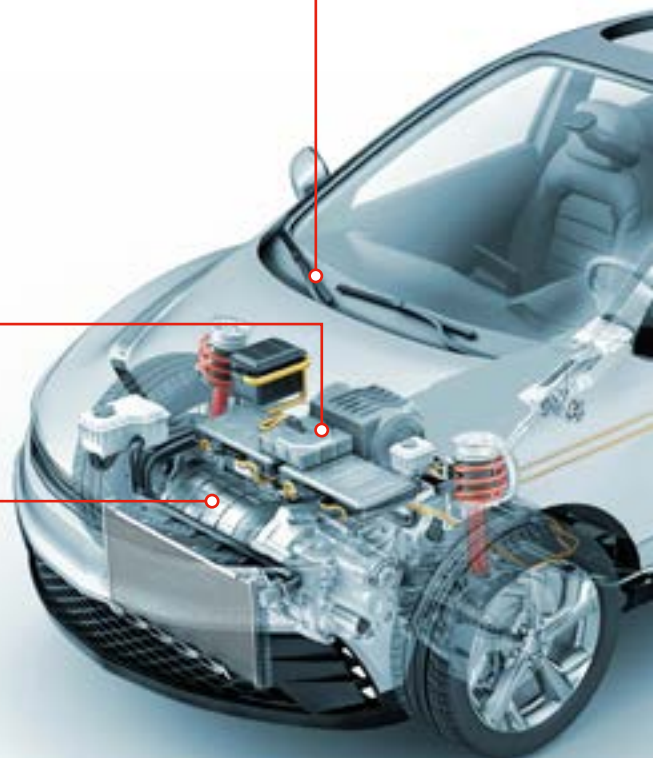
- **Lubrication:** windscreen wiper, door and locking systems, windows, sunroof, mirrors, front, rear and brake lights, ...
- **Bonding + Sealing:** spoiler, windows, sunroof, front, rear and brake lights, ...
- **Potting electronics, TC-Materials:** front, rear and brake lights, ...
- **Gasketing:** door and locking systems, front, rear and brake lights, ...
- **Composites:** lightweight parts made from glass fibre-reinforced plastics (GRP) or carbon fibre-reinforced plastics (CRP), ...

## Electronic systems

- **Dispensing electrically and non-electrically conductive adhesives, dispensing conformal coatings, bonding & sealing, potting electronics and TC materials:**  
ADAS - Advanced Driver Assistance Systems: parking and distance sensors, ABS systems, ESP systems, engine control, ...

## Electric motor

- **Lubrication:** electric motor, drive shafts and cardan joints, connectors, ...
- **Bonding + Sealing:** electric motor, drive shafts and cardan joints, electronics, ...
- **Potting, TC Materials and Gasketing:** connectors, electronics, ...



Up to 300 sealant, adhesive, potting and gasketing applications as well as more than 150 lubrication applications are involved in the production process of a modern car. As a full-service provider, DOPAG offers intelligent solutions for all these applications.

### Interior

- **Lubrication:** seats and seat belts, sun visors, switches and buttons, ventilation systems, rear view mirror, steering wheel, airbags, ...
- **Bonding + Sealing:** displays, rear view mirror, loudspeakers, airbags
- **Potting:** switches and buttons, displays, ...
- **Gasketing:** air cleaner and ventilation systems, sun visors, interior door panels, loudspeakers, ...

### Charging infrastructure

- **Lubrication:** electronics and connectors, ...
- **Bonding + Sealing:** electrically & non electrically conductive adhesives housing, ...
- **Potting, TC Materials:** electric and electronic components, ...
- **Gasketing:** PU foam gaskets for sealing of housing/box

### Battery

- **Lubrication:** electronics and connectors, ...
- **Bonding + Sealing:** housing, battery cells, ...
- **Potting, TC Materials:** electronics and connectors, battery cells, ...
- **Gasketing:** housing, ...

### Chassis

- **Lubrication:** brakes, steering, shock absorber, wheel bearings steering gear, ...
- **Bonding + Sealing:** brakes, steering, steering gear, ...



# Peak performance

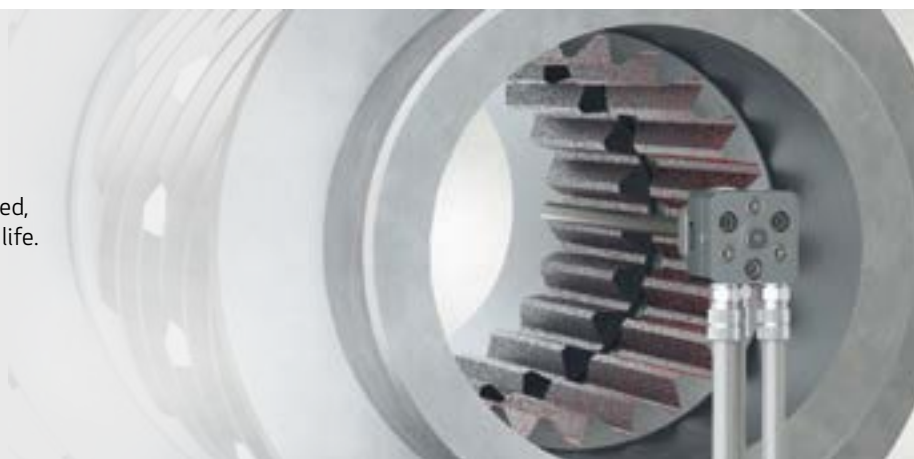
For more than 40 years our technicians and engineers know dosing systems within industry productions. There is almost no material that we have not yet processed.

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## Greasing and oiling

Moving parts or seals are greased, which ensures a long functional life.

→ [dopag.com/lubrication](https://dopag.com/lubrication)



## Bonding and sealing

A large variety of materials such as glass, metal or plastics are joined with 1K and 2K adhesives and sealants.

→ [dopag.com/bonding-sealing](https://dopag.com/bonding-sealing)



## Composites

DOPAG offers a range of metering and mixing systems for the production of lightweight parts made from glass fibre-reinforced plastics (GRP) or carbon fibre-reinforced plastics (CRP).

→ [dopag.com/composites](https://dopag.com/composites)





## Electronic Potting

Electrical and electronic components are potted with epoxy resin, for example, and thus protected against dust, moisture, corrosion and shock, as well as providing sight protection and protection against replication.

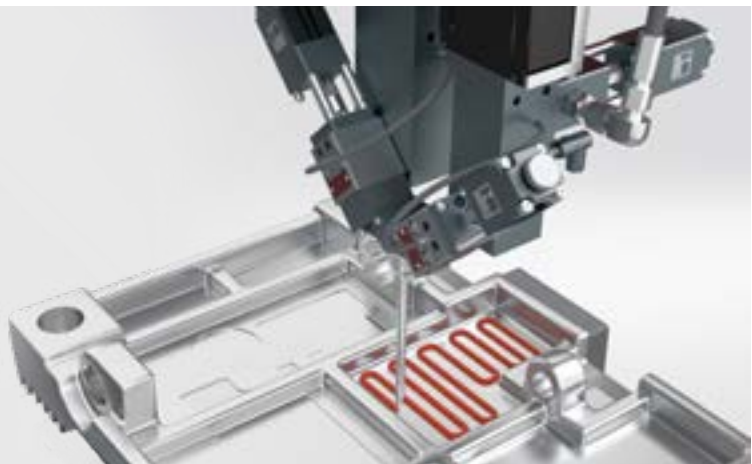
→ [dopag.com/potting](https://dopag.com/potting)



## TC Materials

In order to dissipate heat, thermally conductive materials are used in various areas. These include not only gap fillers but also thermally conductive potting compounds and adhesives.

→ [dopag.com/tc](https://dopag.com/tc)



## Gasketing

PU foam gaskets, among other things, provide a perfect sealing of housings from the outside and protect the electronics from dust and moisture.

→ [dopag.com/gasketing](https://dopag.com/gasketing)



# Individually configured solutions for the automotive industry

Modular system to meet specific requirements

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## MATERIAL SUPPLY

Drum pumps



Pressure vessels



Transfer pumps & refilling units



## MONITORING & CONTROL

Control units



Pressure regulators



## APPLICATORS

Metering & dispensing valves

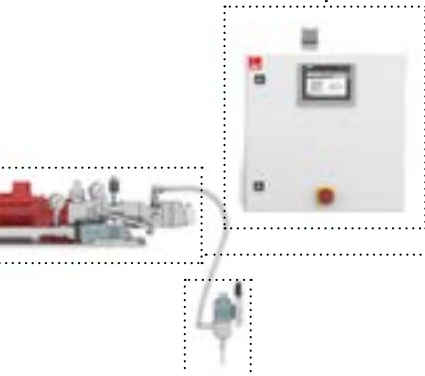


Instead of selling standard equipment, we provide customised systems that are specifically designed to meet the challenges. Our engineers know your industry and have extensive material know-how. With this experience, we accompany you from planning to commissioning and predictive maintenance.

Gear flow meters



Different sensors



## METERING TECHNOLOGIES

Gear pumps



Piston metering units



Progressive cavity pumps



Spray &amp; shot valves



Rotary applicator



# Broad product portfolio

DOPAG offers the entire range for processing one- and two-component materials: from material supply to automation

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## Metering components and pumps

- Drum pumps
- Gear pumps
- Progressive cavity pumps
- Material pressure regulator
- Dispensing valves
- Metering valves
- Components for monitoring and Control
- Accessories

→ [dopag.com/components](https://dopag.com/components)



## Metering systems for 1-component materials

### GEAR METERING SYSTEMS

- eldodis
- coredis

### PISTON DOSING SYSTEM

- vectodis

### PROGRESSIVE CAVITY PUMP SYSTEMS

- rotordis

→ [dopag.com/1K](https://dopag.com/1K)



## Metering and mixing systems for 2-component materials

### GEAR METERING SYSTEMS

- compomix
- eldomix
- evomix DF
- gelcomix
- gluemix

### PISTON DOSING SYSTEM

- vectomix + vectomix TC
- variomix
- economix
- silcomix
- coatingmix

### PROGRESSIVE CAVITY PUMP SYSTEMS

- rotormix

→ [dopag.com/2K](https://dopag.com/2K)





## Dynamic mixing system

- dynamicLine

→ [dopag.com/dynamicline](https://dopag.com/dynamicline)



## Automation

- Production cell
- Stand-alone Systems
- Individual systems

→ [dopag.com/automation](https://dopag.com/automation)

# Realised projects

Examples of customized metering and mixing systems in the automotive industry

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## Grease dispensing for brake systems

### Requirements:

The production of ball screws for brake systems requires two lubricant applications, since the component must be both greased and oiled at the same time.

### Our solution:

We configured two individual lubricant application systems, that meet all the requirements in terms of accuracy, repeatability and cycle time. The ball screw drive is greased on a rotary table using a chamber metering valve. For the oiling application we devised a special adapter. A system integrator incorporated them into the entire production line.

→ [www.dopag.com/brake-systems](http://www.dopag.com/brake-systems)



## Secure Bonding of tailgates and highgates

### Requirements:

A plastic component has to be bonded to a metal or composite plate. The metering and mixing system should ensure uniform standards worldwide.

### Our solution:

We placed the entire mixing head of the eldomix at the end of a robot arm. All requirements for metering accuracy can be met. With the eldomix, it is possible to meter a very challenging material at a high flow rate and to maintain a very narrow error rate. We are able to replicate the metering and mixing system at all desired final locations from the automotive supplier worldwide.

→ [www.dopag.com/tailgates](http://www.dopag.com/tailgates)

Find more realised projects here:

→ [dopag.com/realised-projects](http://dopag.com/realised-projects)



## Automated sealing of cardan shafts

### Requirements:

The customer required an automated and precise solution for metering a 1K sealant. A key component of cardan shafts is the closing cover, on which a sealant is applied.

### Our solution:

We provided a customised multifunctional cell. The 1K sealant is applied by a membrane dispensing valve attached to a robotic hand. The parts are inserted manually into the carrier system. Large quantities can be processed quickly with a total of 30 to 40 different variants – with up to twelve individual parts depending on the carrier system that is used.

→ [www.dopag.com/cardan-shafts](http://www.dopag.com/cardan-shafts)



## Series production of PU foam gaskets

### Requirements:

Our customer asked for an automated plant for applying PU gaskets to speaker modules. The system should feature a flexible overall design so that PU gaskets can be applied to multiple different components at multiple points.

### Our solution:

We configured a fully automated system based on the dynamicLine. The robots handle the components. The sealing foam is applied by the dynamic mixing head. Extensive process reliability systems were installed to meet all of the requirements and ensure consistently high quality.

→ [www.dopag.com/speaker-modules](http://www.dopag.com/speaker-modules)

# All-around carefree service

We ensure your stable series-production

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## For a hassle-free start:

- Perfect installation of the entire system
- All-round start-up: We accompany you until your series production is running stably.
- Customer-specific training

## For long-term stable production:

- Preventive inspections and maintenance contracts
- KPI analysis
- Complete overhaul

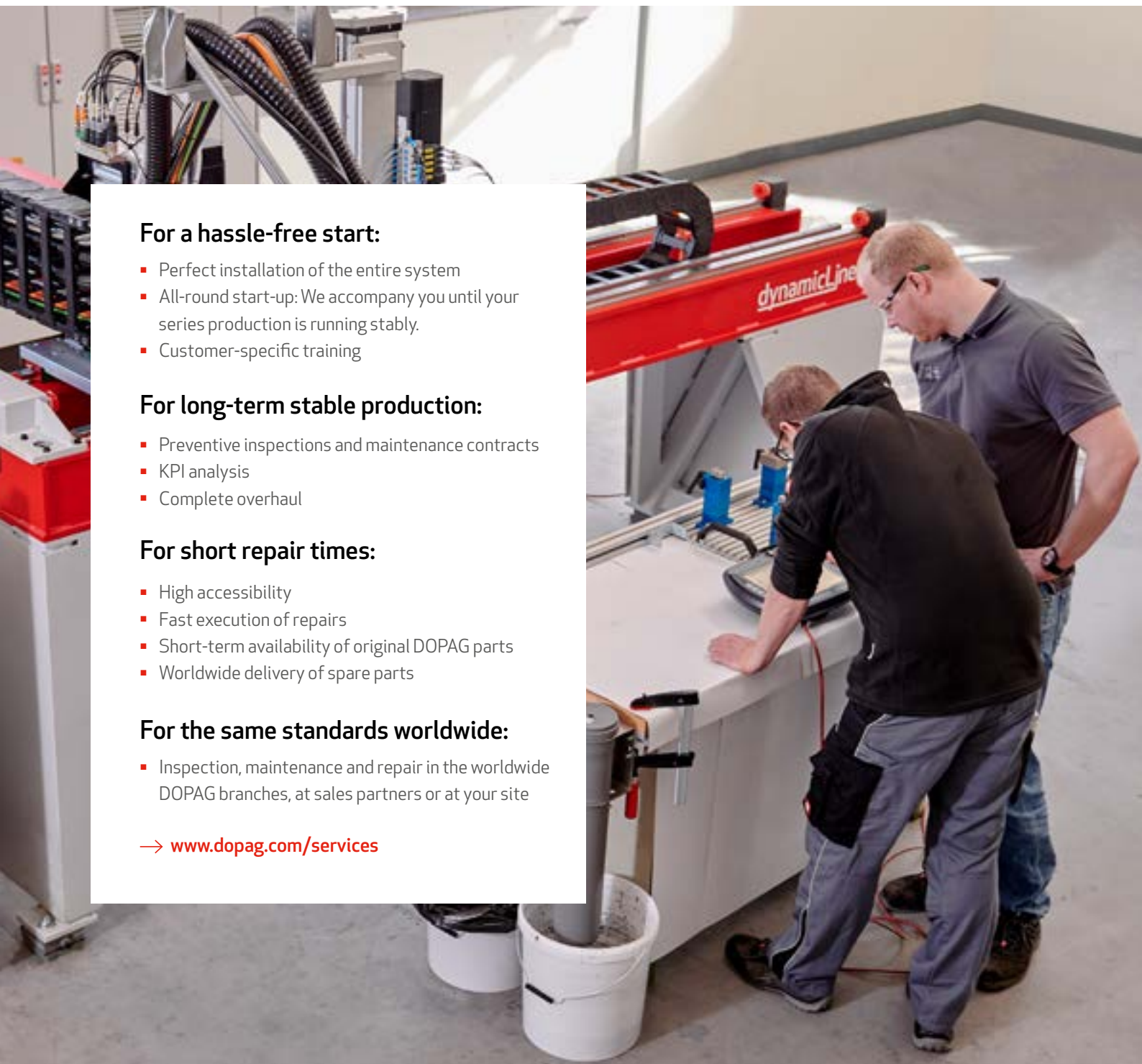
## For short repair times:

- High accessibility
- Fast execution of repairs
- Short-term availability of original DOPAG parts
- Worldwide delivery of spare parts

## For the same standards worldwide:

- Inspection, maintenance and repair in the worldwide DOPAG branches, at sales partners or at your site

→ [www.dopag.com/services](http://www.dopag.com/services)



# What makes us unique in the market?

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## **Experience**

for more than 45 years in  
metering and mixing technology

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## **Customized solutions**

designed to meet your  
challenges

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## **One partner**

for all applications and  
materials

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## **Complete project competence**

Guidance from project  
planning to commissioning

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## **Carefree service**

Global service capacity and high  
availability of spare parts

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## **Worldwide on site**

for our customers with our  
own subsidiaries

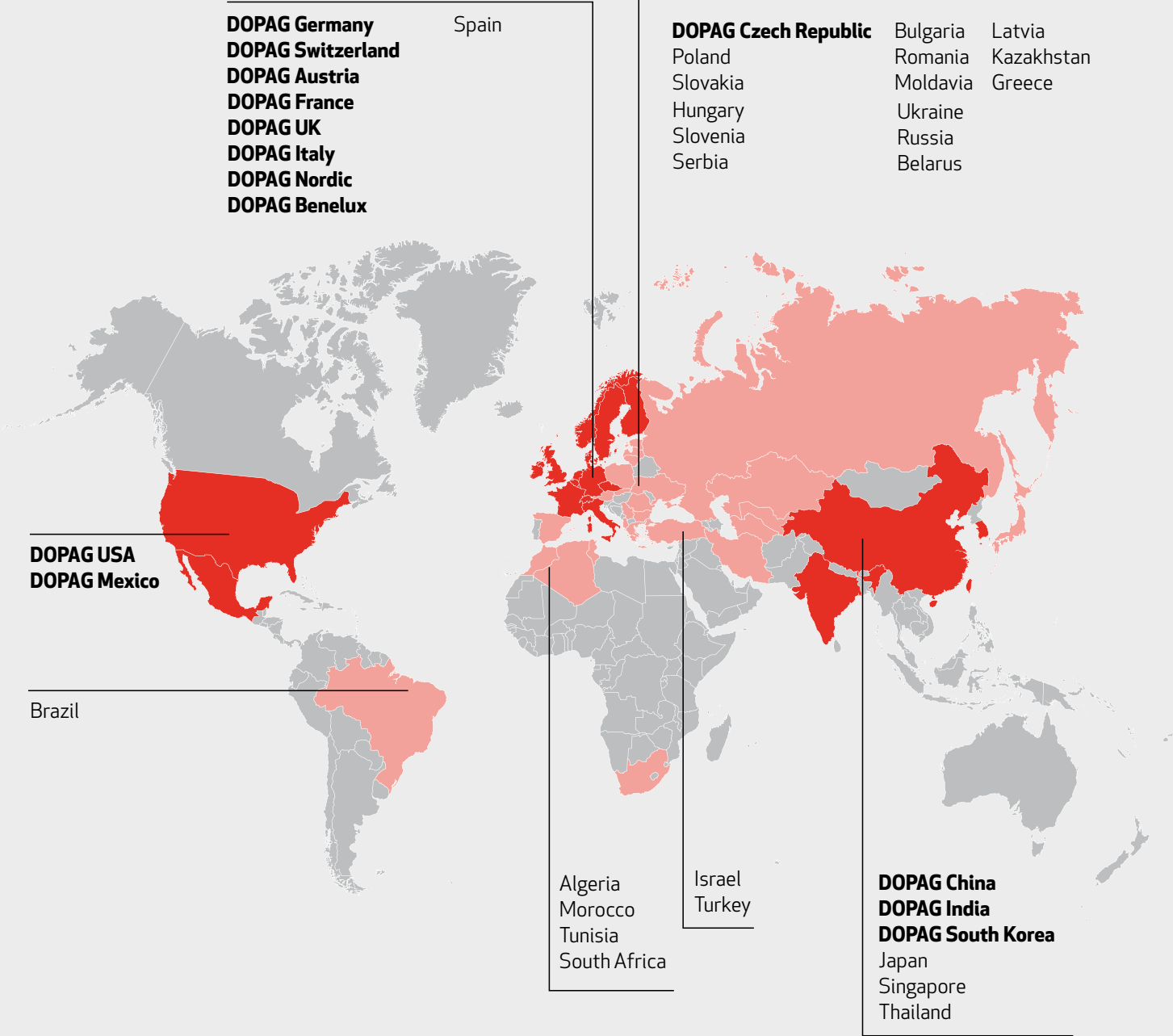
## **3 reasons to choose DOPAG**

1. Highest precision and  
quality
2. Maximum of production  
stability
3. Peak productivity and  
cost savings through  
shorter production  
cycles and material  
reductions



# Global availability

DOPAG teams are on site for you



# In good company

The automotive industry relies on metering systems from DOPAG

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A MEMBER OF THE  
**HILGER&KERN GROUP**

We are one of the world's most experienced manufacturers of high-quality metering technology. Wherever adhesives, resins, silicones or lubricants are metered and applied in industrial production, we offer reliable, precise solutions. We provide systems and components for highly automated production processes, including for the automotive, wind, household appliances and electrical industries, as well as for aviation.

DOPAG is part of the HILGER & KERN GROUP, a reliable supplier and a development and service partner to industrial companies in a variety of market segments for almost 100 years. The group employs around 350 people and has subsidiaries and distributors in more than 40 countries.



## Global sales and service network

Find your local DOPAG contact

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### **DOPAG Benelux**

Bunnik

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### **DOPAG China**

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We're present in more than 40 countries. Find your local sales partner here:

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