

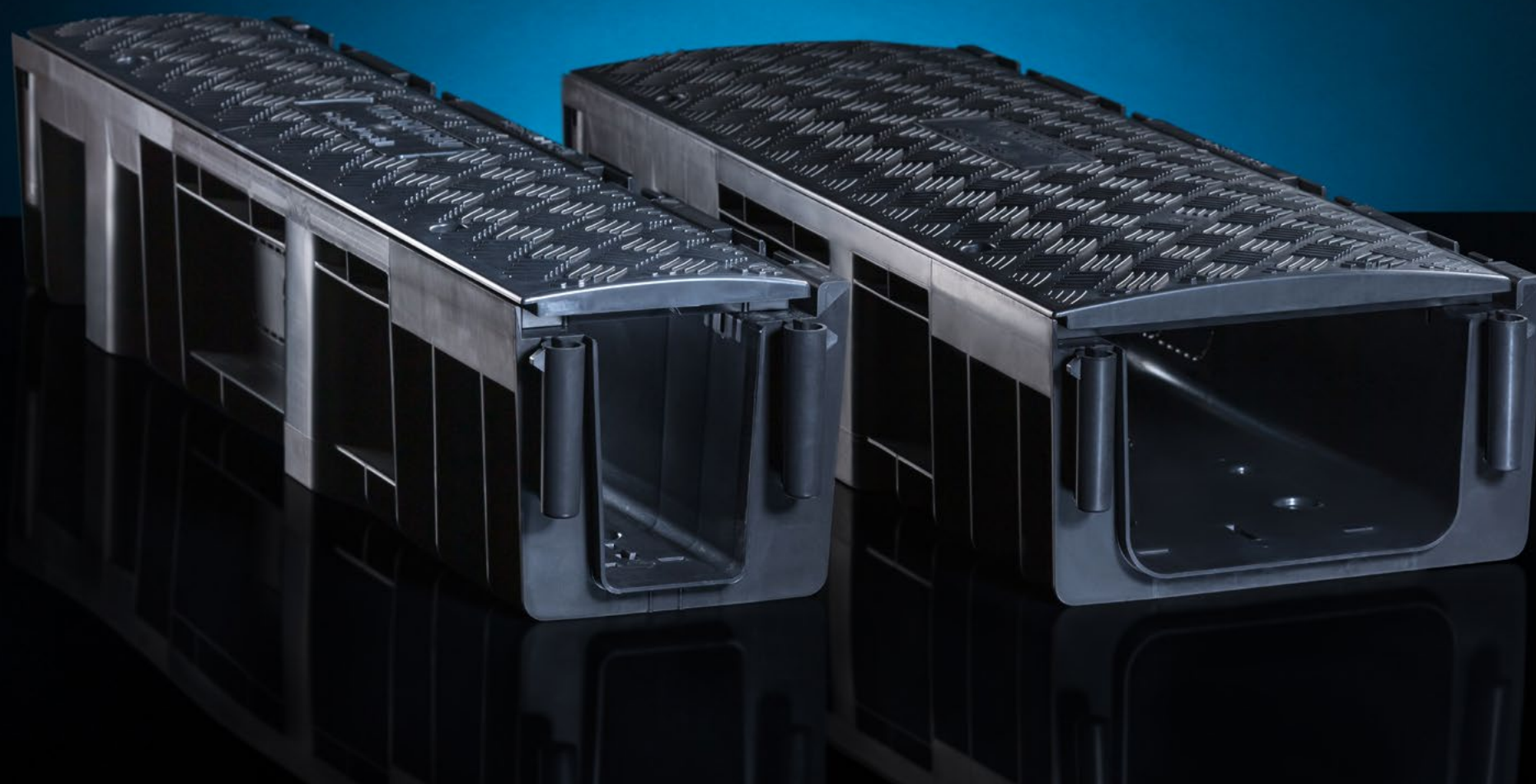


FORMING INNOVATION



IT HAS ALWAYS BEEN ONE OF MANKIND'S HIGH ARTS
TO GIVE IMPORTANT THINGS A SPECIAL FORM.

PLASTICS, GREEK [PLASTIKI]: THE FORMING/FORMED



IT IS OUR HIGH ART TO GIVE SPECIAL THINGS
THE RIGHT FORM.

"PLASTICS ARE INNOVATIVE MATERIALS."

The specific application of plastics has become indispensable for many developments in automotive engineering, railroads, the electrical industry, the production of home appliances, as well as in the medical technology and diagnostics industries.



From left: Thomas Kraus (Chief Sales Officer), Holm Rippenhausen (Chief Technical Officer) and Dr. Ralf Zander (Spokesman of the Executive Board and Chief Financial Officer).



Marcus Wirthwein (Chairman of the Supervisory Board).





WE FORM IDEAS.



3,000

EMPLOYEES IN THE ENTIRE GROUP WORLDWIDE

As an expert for innovative forms we have been fulfilling individual customer requests since 1949.

As a specialist for innovative forms, we have been working on individual customer requirements since 1949. With 22 companies across Europe, Asia, and the USA, we maintain close proximity to our customers worldwide. Around 3,000 employees work for the Wirthwein Group in the Mobility, Rail Infrastructure, New Energy, Home Appliance, Medical and Interior Design business units.

Since its foundation, Wirthwein has been an owner-managed family business. This makes us independent and dynamic. We cultivate long-term relationships in the market and are a reliable and stable partner.

Wirthwein produces using state-of-the-art technology there where our customers need the components and assemblies. That is, all over the world. Nevertheless, we are regionally anchored. With Bembé Parkett and Winkler Design, the Group is also active in the Interior Design industry. The cross-group collaboration creates synergies which our customers benefit from: in terms of innovative yet economical solutions. However diverse the business areas are, the group-wide quality standards are equally high.

Plastics – it is indeed an art to form products of this material.

We form processes with highly complex requirements for automation technology and multi-level production. When it comes to plastics technology, Wirthwein provides a particularly comprehensive service portfolio. Our customers greatly profit from our extensive know-how which we apply across a wide range of industries.

Wirthwein sets standards through the transfer of knowledge between its business units. High cost-effectiveness and constantly high product quality give our customers a sense of security. Our development expertise also guarantees you a technological edge.

Quality is the hallmark of Wirthwein and the basis for mutual success.

As a producer of safety-relevant plastic components for railroad superstructures, maximum quality assurance has been standard for us for decades. This quality philosophy applies to all business areas likewise. We are Q1-supplier of Deutsche Bahn AG and A-supplier of renowned OEMs as well as important system suppliers.

Our quality management system complies with IATF 16949 requirements, which is also confirmed by the certifications we have received at our sites:

- IATF 16949
- ISO 14001
- ISO 13485
- ISO 9001
- ISO 50001
- ISO 15378
- TISAX result available

80,500 T

OF PLASTICS ARE PROCESSED EVERY YEAR

WE FORM PROCESSES.



WIRTHWEIN SKILLS

DEVELOPMENT AND DESIGN



Concept and Development

Our customers come to us with a wide variety of requests and challenging projects. We take care of every requirement regardless of the industry. Right from the start, we tackle processes together with our customers. From the first sketch to the delivery of the finished products, we clarify workflow and processes to turn ideas into injection molds and then into plastic components and assemblies.

Our development work is based on the specific requirements of customers and project partners. State-of-the-art methods and tools as well as highly qualified staff form the basis of our development work to create innovative top-quality products. This ensures a smooth transition from development to design to production, across all industries and national borders.

Design and Construction

Manufacturing variants are coordinated and implemented with you in close cooperation with our in-house mold making department. Precise design drawings and 3D animations provide you with important information on component behavior and manufacturability.

Particularly sophisticated designs require additional engineering services such as filling simulations, warpage or strength calculations. Materials and processes are carefully selected and optimized.



WIRTHWEIN SKILLS

MOLD DESIGN AND PRODUCTION



Mold- and Toolmaking

Toolmaking is a key factor for us as a full-service supplier in plastics engineering. Our decades of comprehensive experience in the business fields of Mobility, Rail Infrastructure, New Energy, Home Appliance and Medical is a prerequisite for a broad transfer of know-how. The Wirthwein plants work closely together and create true flexibility in this network. This international exchange of know-how throughout the group forces innovative solutions for complex tasks.

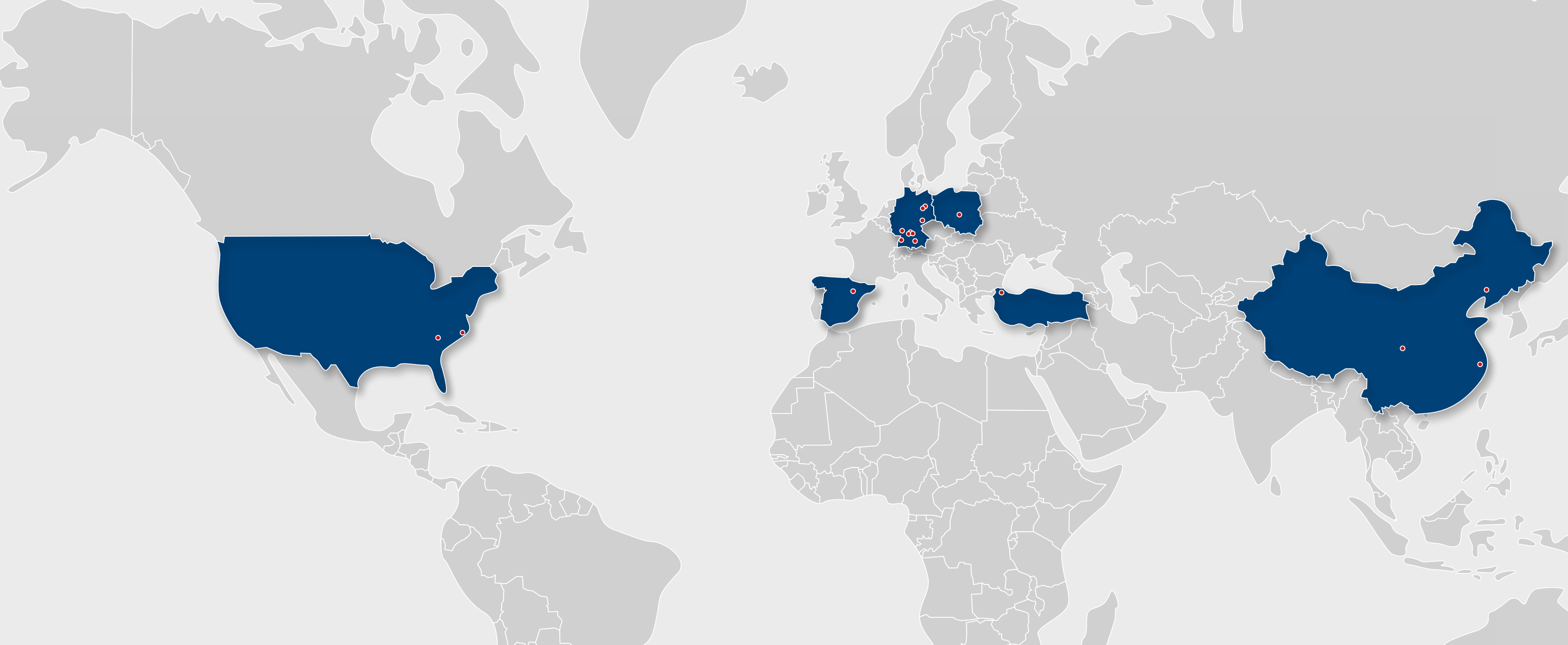
We are also very flexible and dynamic when it comes to size and weight - we offer solutions from the production of components with a wall thickness of 0.5 mm, axial wheels with a diameter of almost one meter, suds containers with a weight of 6 kg, to injection molds with sizes of 1,000 x 1,800 millimeters and a weight of 20 tons.

Production and Logistics

We constantly strive to improve ourselves. With state-of-the-art technologies in all process steps, an extensive fleet of state-of-the-art machinery and comprehensive quality assurance, we ensure efficiency and effectiveness in the production of complex plastic parts. We work flexibly in the thermoplastic injection molding of technical plastic parts with insert and shot weights from 0.007 grams to 12 kilograms. Our customers can always rely on the outstanding properties of our products - today and in the future and at whichever Wirthwein plant.

As a long-standing system supplier we offer you ecologically sustainable and well thought out logistics concepts with short transportation routes, high package densities, and protective wrapping. We deliver just in sequence to your assembly line and therefore orient by your production cycle. Our intelligent transport planning helps to keep your storage- and inventory costs as low as possible.

- Wirthwein Fountain Inn
- Wirthwein New Bern
- Wirthwein Zaragoza
- Wirthwein Sasbach
- Wirthwein Medical Mühlthal
- Bembé Parkett Bad Mergentheim
- Winkler Design Röttingen
- Wirthwein Creglingen
- Wirthwein Friedberg
- Wirthwein Crimmitschau
- Wirthwein Brandenburg
- Wirthwein Nauen
- Wirthwein Polska Łódź
- Farel Plastik Çerkezköy
- Xi'an Wirthwein Plastic Technology
- Wirthwein Kunshan
- Shenyang Wirthwein Technology



WIRTHWEIN LOCATIONS WORLDWIDE

70

WIRTHWEIN PLASTIC
COMPONENTS BUILT
IN ONE CAR



In top form for Mobility –
We mold plastics into shape.

We develop components for the automotive industry and manufacture them in series at our locations around the world. Among our customers are well-known automotive manufacturers and system suppliers. Our strength lies in the close interaction between development, project management, in-house toolmaking and the use of state-of-the-art production technologies.

COMPONENTS FOR

40,000

KILOMETERS OF
RAILWAY LINES

High performance for Rail Infrastructure –
We put trains on the right tracks.

We supply products for more than 40,000 kilometers of railroad tracks worldwide. We supply the rail superstructure with hundreds of millions of our products every year, such as dowels, intermediate plates or angle guide plates for rail fastening systems, and cable ducts.



8MIO

FAN WHEELS
PRODUCED
EVERY YEAR



Stable form for New Energy –
We keep things in motion.

Pretty quietly though. The use of high-performance plastics greatly reduces noise emission of radial- and axial fans. We also use state-of-the-art materials for many other industrial applications, such as dimensional stability and temperature resistance

100 MIO

COMPONENTS BUILT IN HOME APPLIANCES



Perfect form for Home Appliance –
We are a strong partner for your home.

We develop, produce, and test almost any kind of plastic components and assembly groups for home appliances, such as washing machines, tumble dryers, dishwashers, stoves, cooling- and floor care devices. As a full service supplier and globally operating system supplier we do not only produce in our own plants but also offer shop-in-shop solutions to our business partners.

ANNUAL PRODUCTION VOLUME OF

2BN

PLASTICS SYSTEMS



In pure form for Medical –
We bring plastics to life.

As a system supplier of sophisticated plastic systems and primary packaging material, we meet the specific requirements on the medical, diagnostics, and pharmaceuticals industries. We design, develop, and produce your ideas. We have the passion for maximum precision in both plastics processing in the clean room and in-house toolmaking.



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