



# 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."

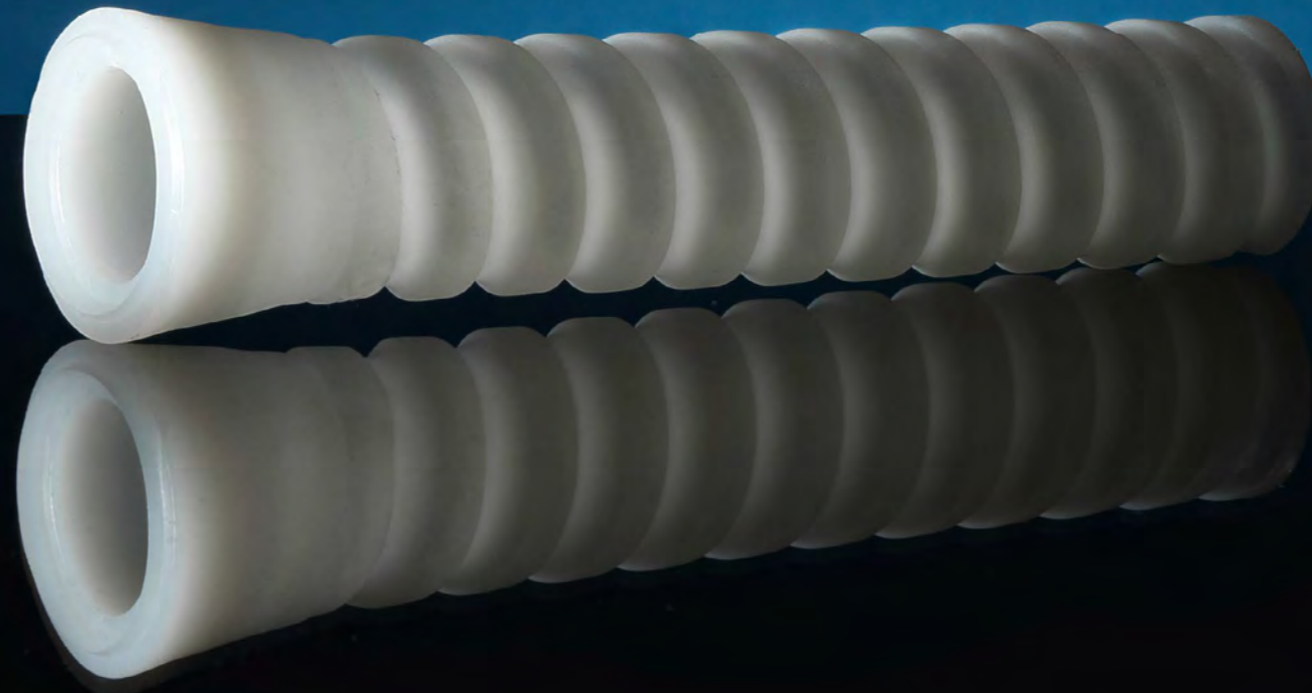
Nowadays, plastics are specifically used for many developments in automotive and rail engineering, in the electrical and home appliances industries as well as in medical engineering and diagnostics. Wirthwein as a pioneer of technical progress develops solutions.

*From left: Rainer Zepke (Chief Financial Officer),  
Frank Wirthwein (Chief Sales Officer and Spokesman of the Executive Board),  
and Marcus Wirthwein (Chief Technical Officer)*





# WE FORM IDEAS.



# 3,650

EMPLOYEES WORLDWIDE WORK FOR THE WIRTHWEIN-GROUP

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

As an expert for innovative forms we have been fulfilling individual customer requests since 1949. With 23 companies in Europe, Asia, and the USA we are close to our customers worldwide. The Wirthwein-Group employs more than 3,650 people in the business units of Automotive, Railway, Electrical and Home Appliances Industries, Medical Engineering and Interior Fittings.

Wirthwein has always been an owner-operated family business. This is why we are independent and dynamic. We cultivate long-term relationships in the market. We are a reliable and stable partner.

Wirthwein applies state-of-the-art technologies on the spot, where our customers need the components and modules, locally anchored throughout the world.

With the two companies Bembé Parkett and Winkler Design the Wirthwein-Group is also active in the business unit of interior fittings. The group-wide collaboration creates synergies, which our customers profit from in terms of innovative and cost-effective solutions. However different the business units, quality standards are equally high across the Group.

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

We form processes with highly complex requirements in 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 the most varied industrial sectors.

Wirthwein sets standards to transfer knowledge between the business units. Our high efficiency and constantly high product quality give our customers a sense of security. Your technological advantage is guaranteed by our development skills.

Quality is a hallmark of Wirthwein and the basis for joint success.

As a producer of safety-relevant plastic components for rail superstructure a maximum of quality reliability has been standard for us for many decades. This quality philosophy applies to all business units likewise. We are a Q1 supplier of Deutsche Bahn AG and an A supplier of significant system providers.

Our quality management system meets the IATF 16949 requirements, which is also represented by the individual plants being certified according to:

- IATF 16949
- ISO 14001
- ISO 13485
- VDA 6.4
- ISO 9001
- ISO 50001
- ISO 15378

# 80,500 T

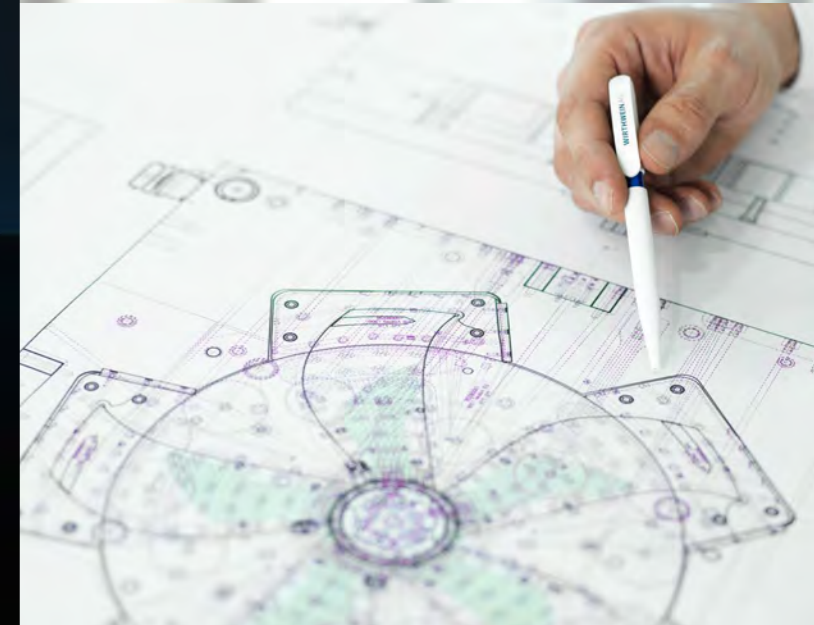
OF PLASTICS ARE PROCESSED EVERY YEAR

## WE FORM PROCESSES.



WIRTHWEIN SKILLS

# DEVELOPMENT AND DESIGN



## Concept and Development

Customers approach us with the most diverse requests and challenging projects. We care for each and every requirement no matter which business unit it concerns. We go about processes together with our customers from the beginning on. From the first sketch up to the delivery of the finished product we clarify workflows and processes to create injection molds and out of them plastic components and assemblies from our ideas.

Our development work is based on specific customer and project partner requirements. 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. It ensures a smooth transition from development to design to production across all business units and country borders.

## Design and Construction

In close collaboration with our in-house mold design and construction department we coordinate with you and implement production alternatives. Precise design drawings and 3D animations provide our customers with important information concerning component behavior and manufacturability.

Particularly sophisticated constructions require additional engineering services, such as filling simulations or also deformation- and strength calculations. Substances, materials, and procedures are carefully chosen and optimized.



WIRTHWEIN SKILLS

# MOLD DESIGN AND PRODUCTION



## Mold- and Toolmaking

Tool design and construction is a key factor for us as a full service supplier in plastics engineering. Our decades of comprehensive experience in the business units of Automotive, Railway, Electrical and Home Appliances Industries and Medical Engineering are a prerequisite to extensively transfer know-how. The Wirthwein plants work closely together and offer true flexibility in this network. It is this exchange of know-how across the group companies that helps to find innovative solutions to complex tasks quickly.

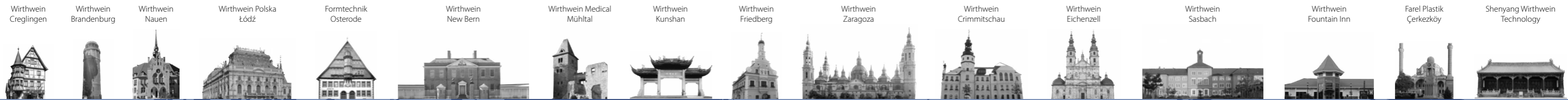
Moreover, we are highly flexible and dynamic also in terms of size and weight: we offer production solutions from valve caps with a total height of 2.255mm to axial wheels with a diameter of almost one meter to suds containers with a weight of 6kg up to injection molds with a size of 1,000 x 1,800mm or also a weight up to 20t.

## Production and Logistics

We constantly strive to improve ourselves. We apply state-of-the-art technologies in all processing steps, incorporate a great range of machinery, and offer comprehensive quality assurance. By doing so, we ensure high efficiency and effectiveness in the production of complex plastic parts. We work highly flexibly in the thermoplastic injection molding of technical plastic parts with charge- and shot weights of between 3g and 10kg. Our customers can count on our products' outstanding features. Now and in the future and no matter which Wirthwein plant produces them.

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.





OUR CUSTOMERS HAVE A TOTAL OF

162,000m<sup>2</sup>

PRODUCTION AND STORAGE AREA AT OUR PLANTS WORLDWIDE.

# WIRTHWEIN WORLDWIDE

PLASTICS PRODUCTION SITES AROUND THE WORLD

# 70

WIRTHWEIN PLASTIC  
COMPONENTS BUILT  
IN ONE CAR



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

We globally develop and mass-produce parts for the automotive industry. Our customers include renowned automobile manufacturers and system suppliers. Our particular strength lies in the dovetailing of development, project management, in-house mold construction, and the use of state-of-the-art manufacturing technologies.

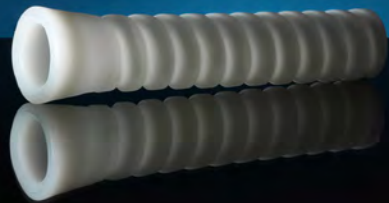
COMPONENTS FOR

# 30,000

KILOMETERS OF  
RAILWAY LINES

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

We supply products for more than 30,000 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 the electrical industry –  
We keep things in motion.

Pretty quietly though. The use of high-performance plastics greatly reduces noise emission of radial- and axial fans. We apply the most sophisticated materials also for other industrial applications, such as deformation- and temperature resistance.

# 100 MIO

COMPONENTS BUILT IN HOME APPLIANCES



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

We develop, produce, and check 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 work at our own plants as well as shop in shop with our business partners.

ANNUAL PRODUCTION VOLUME OF

# 1 BN

PLASTICS SYSTEMS



In pure form for medical, diagnostics, and pharmaceuticals –  
We bring plastics to life.

As a system supplier of sophisticated plastic components and 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 clean room plastics processing and in-house tool making.

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