



Angst+Pfister

A Global
Organization

An Engineering Lead Producer
of a Complete Range of
Technical Components



Angst + Pfister Group

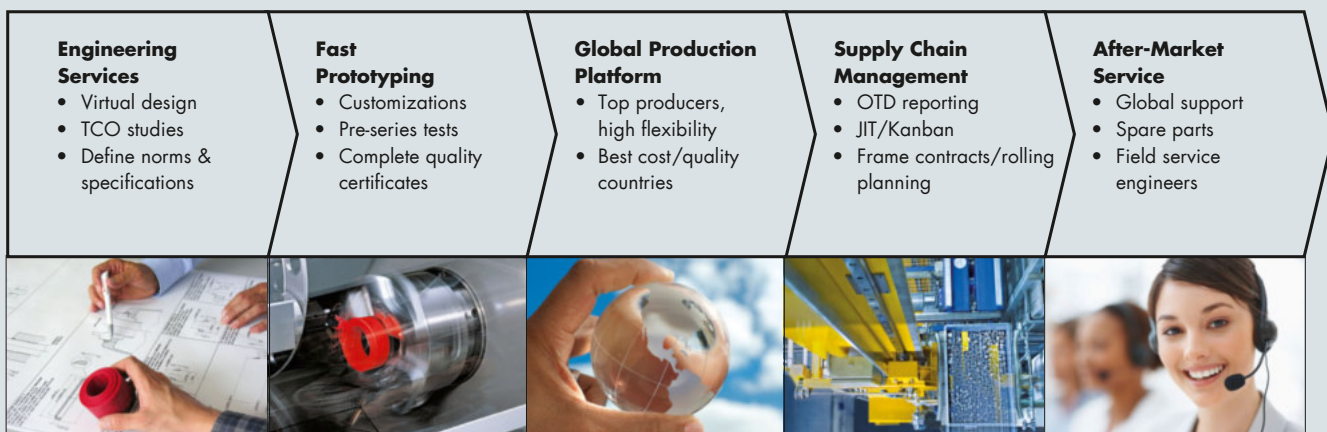
A leading international technical manufacturer and service provider for high-end industrial components

A valuable partner

Even the largest piece of equipment consists of many small components. If one component is defective, the entire machine can fail, causing downtime, warranty claims and brand erosion. Therefore, high-quality components are crucial for efficient and trouble-free operations.

Angst + Pfister works closely together with their customers to quickly develop innovative solutions. We select the best-cost global production location, meeting our customers' quality standards and delivery requirements. We exceed our customers' expectations by ensuring a solution with a sustainable competitive advantage. Our Value Chain seamlessly integrates into our customers' development, procurement and entire supply chain processes to deliver measurable savings and efficiency.

Value Chain

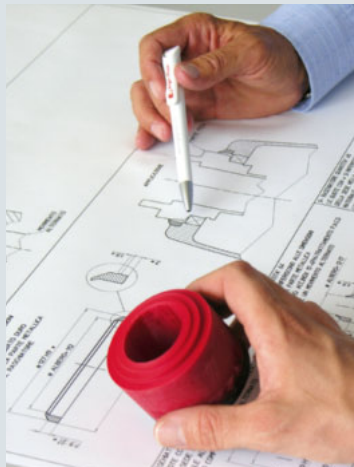


Value-Adding Services

The whole Angst + Pfister Group is greater than the sum of its parts

Customized Engineering Solutions

- + Our engineers include highly specialized product application experts
 - + Our depth of knowledge in both materials and production processes
 - + Our virtual design, finite element analyses and endurance testing
 - + Our ability to provide innovative solutions produced internationally
- = Accelerating the time-to-money and reducing total cost of ownership**



Global Production Platform

- + Full Quality Management System (ISO 9001) (TS16949)
 - + Own production capabilities and reserved production capacity
 - + Fast prototyping, small batch and series production capacity
 - + Production platform in 15 countries around the world
- = Selecting the best location for every component's cost-effective production**



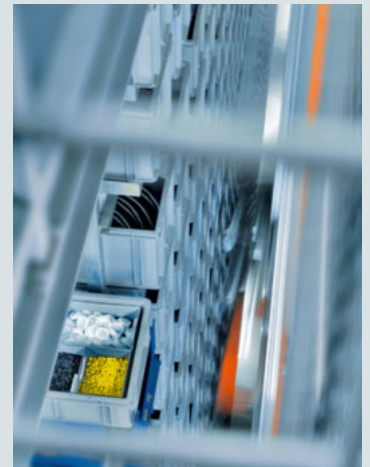
Enhancing Procurement Efficiency

- + Offering an enormous range of 200,000 standard and customer-specific parts
 - + Global sourcing offices in China, Italy, Switzerland, and Turkey
 - + Economies of scale from our huge procurement volumes
 - + Flexible electronic order processing that eases connectivity of EDI
- = Delivering first-cost savings while reducing purchasing process costs**



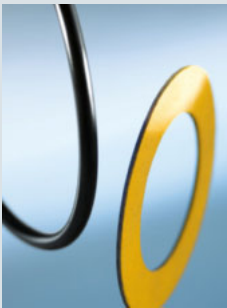
Supply Chain Management

- + Centralized 23,000-square-meter, state-of-the-art global logistics center
 - + Over 140,000 different technical components kept in stock
 - + 48-hour availability anywhere in Europe and serving over 50 countries
 - + Blanket purchasing agreements, Kanban and just-in-time capabilities
- = Improving working capital across global production facilities**



Complete Range of Products

Providing high-quality technical
components – all from one source



APSOseal®

Angst + Pfister's vast experience in sealing applications and our varied product range provide the groundwork for successful solutions in sealing technology.



APSOdrive®

Angst + Pfister's progressive and varied range of products provide the foundation for drive and automation solutions for the most demanding technical requirements.



APSOvib®

The extensive range of materials and components offered by Angst + Pfister is your solution to take effective measures against vibration.



APSOplast®

Angst + Pfister always keeps abreast of developments in plastics technology to supply our customers with the latest polymer materials in a variety of forms.



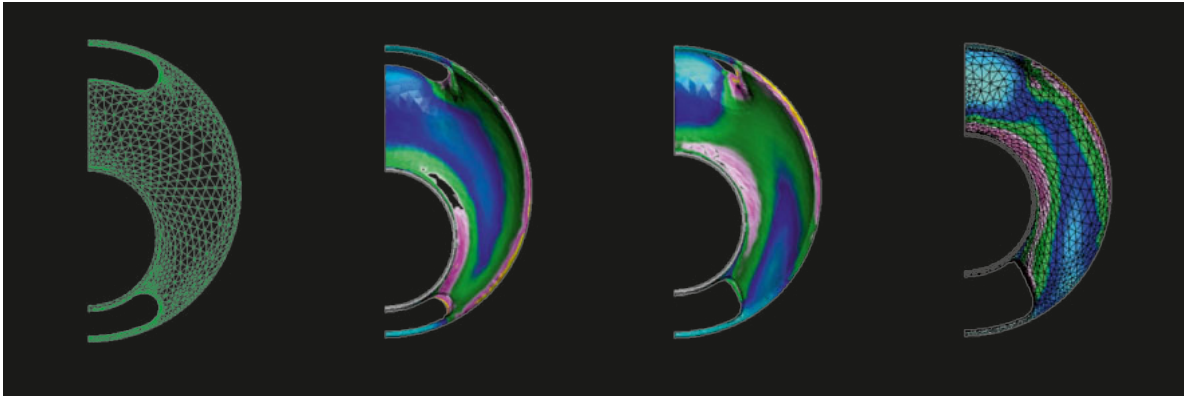
APSOfluid®

If you are looking for fluid technology pipes, hoses and fittings for any type of media, Angst + Pfister's complete range offers the optimum solution.

Customized
Engineering
Solutions

Innovative products
and customized interdisciplinary
solutions from Angst + Pfister





In order to make the development processes quicker and more efficient, Angst+Pfister relies on numerical simulation and CAE analysis.

Our engineers have experience in various fields and always keep the overall system in mind to provide comprehensive solutions. They work in close cooperation with our customers to develop tailor-made solutions. The target is always to decrease the total cost of ownership and to accelerate the time-to-money process.

Engineering assessment

Over the years, Angst+Pfister has amassed expertise across a broad range of industries. Our engineering specialists develop innovative tailor-made solutions for practically any application within our five core product areas.

Design-in and cost-out

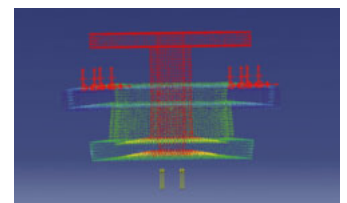
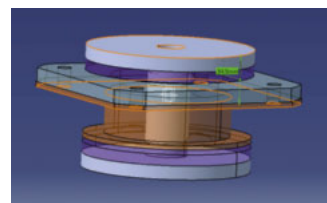
Our application engineers' excellent knowledge of materials and deep understanding of the production process make Angst+Pfister the ideal partner for customer-specific product solutions. Helping our customers systematically save money by reducing total cost of ownership.

Prototyping and samples

During the development process, Angst+Pfister saves time for customers not only by quickly creating prototypes, but also by manufacturing pilot series. We also provide declarations of conformity with a wide variety of industry regulatory norms and certifications.

Series production

Drawing on our global production platform, Angst+Pfister consistently supplies the technical component that exactly complies with the detailed product specifications and all pre-agreed quality certifications and industry standards.



Examples for FEM analysis to design high-performing antivibration element

Angst + Pfister's expertise in	Engineering assessment	Design-in and cost-out	Prototyping and samples	Series production
Engineering	– Industry and application references	– Virtual design – Total cost of ownership	– Customization workshops deliver full functionality	– Global sourcing – Production scheduling
Services	– Feasibility studies – Innovative ideas	– CAD, CAE drawings – Numerical analysis	– Fast prototyping – Pre-series production tests	– Blanket purchasing contracts – Just-in-time/Kanban
Obvious customer benefits	– Clearly defined norms	– Detailed product specifications	– Quality certification documents and testing	– Supply chain solutions

Global
Production
Platform

Angst + Pfister offers
best-cost production
capabilities worldwide





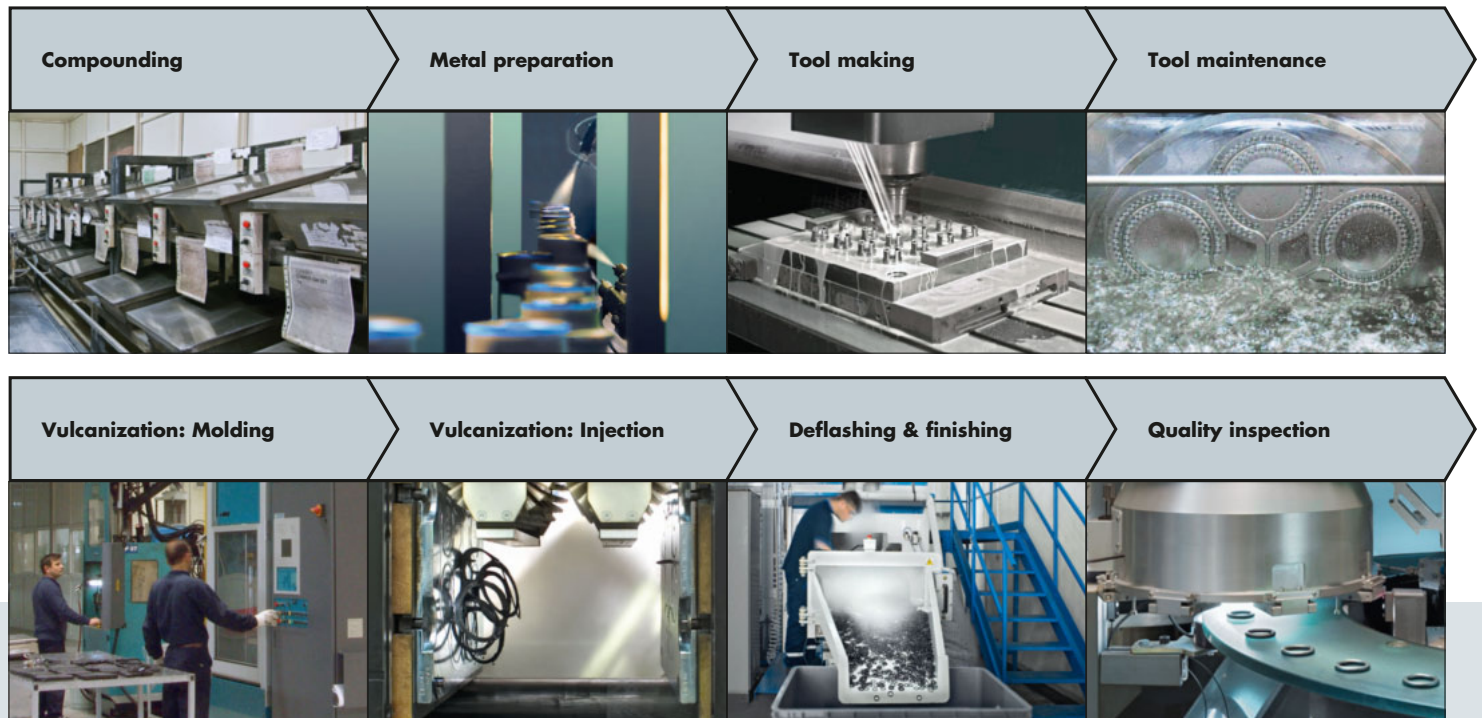
Highly flexible capabilities for fast prototyping, small batch to large series production.

We deliver the production capabilities you need with our international manufacturing plants and global partners. This global flexibility provides our customers with the most cost-effective production platform. The best-cost country selection criteria are based on our customers' quality, quantity and supply chain demands.

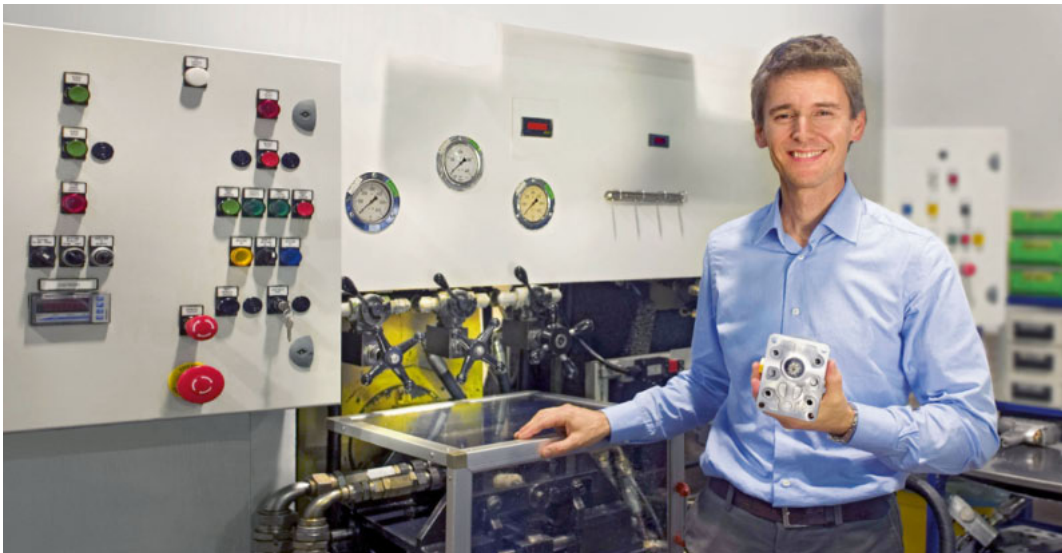
Some production key figures:

- **Global production platform** in 15 countries
- **10 areas of manufacturing excellence** within our Global Logistics Center
- Capability to engineer and manufacture **1 to over 1 million units** from fast prototyping to large series production

Quality control of the entire production process



ISO 9001:2008
 ISO 14001:2004
 ISO TS 16949



“The customized solutions that the engineers at Angst+Pfister developed for us meet our demanding application specifications.”

Gian Luca Fapoldi, Turolla OCG



O-rings

The largest stock of O-rings in Europe, covering all dimensions and global certifications for: drinking water, food, medical and gas applications you need, as well as materials for the most challenging chemical and thermal applications under Angst+Pfister's proprietary NORMATEC® brand, HITEC® O-rings and FEP-O-SEAL®.



Rotary seals

Our sealing range spans the full spectrum of rotational movements' applications. Special dynamic seals can be produced according to customers' exact specifications (oil seals, cassette seals, face seals, V-rings V-packings).



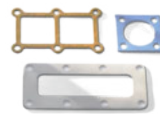
Hydraulic and pneumatic sealing systems

Our range includes lip seals, composite seals, piston seals, rod seals, scrapers and sliding tapes for hydraulic and pneumatic applications.



Sealing profiles and sealing tapes

A complete range of elastomer round and square cords plus a huge range of standard hand guard, door, joint and clamping profiles are available from stock. We manufacture profile shapes according to customers' requirements as well as inflatable seals under our AIRMATIC® sealing system.



Sealing plates and flat gaskets

We provide a wide assortment of sheets in different rubber material, fiber gasket materials and PTFE materials either cut-to-size or as flat gasket per customer's drawing. Thanks to our own punching shop, we can provide parts within short lead times. Our sealing plates are ideal for the harshest temperatures, all mediums and high-pressure applications.



Molded seals

Our engineers design molded seals according customers' requirements. All kinds of materials are available including rubber/metal parts.



Our state-of-the-art vulcanization injection manufacturing line

APSOvib®
Antivibration
Technology

Trendsetting technologies for efficient suppression of vibrations and noise emissions – APSOvib® Antivibration Technology solutions





“When it comes to vibration isolation, we turned to the engineers of Angst+Pfister. After an extensive and comprehensive analysis, they developed the ideal solution for us and our customers.”

Martin Wimmer, Jungheinrich



Standard insulating buffers

A complete range of APSOVib®, standardized and custom-designed round buffers, stop buffers, universal equipment elements, jointing and suspension elements and rubber/metal sleeves.



Machine-bearing elements

Large selection of high-quality rubber-metal bonded parts that include leveling machine pedestals, articulated pedestals, wedge mounts and levelling plates.



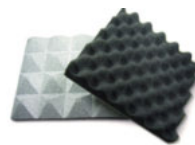
PUR foams, rubber and spring elements

From small machines to large railway stations, the wide spectrum of APSOPUR® PUR polyurethane foams and ECOVIB® recycled rubber materials provide the right solution and air bellows, gas springs, for specific applications.



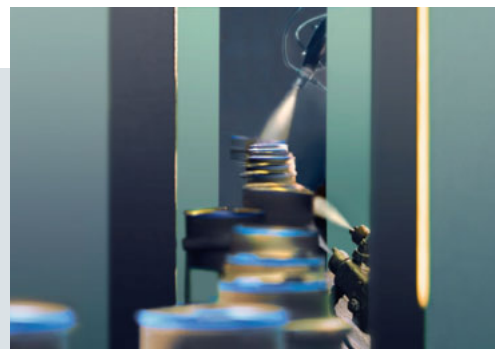
Bearing elements

Optimal solutions for large equipment, from steel spring elements, air springs to insulating mats. Additional elements that control structure-borne noise such as: stabilizers, conical bearings, rubber/metal rails and steel cable dampers.



Sound-absorbing materials

Offering a complete range of materials and insulating plates, with or without adhesive and covering layers, according to customers' requirements to combat structural or air-borne noise.



Automated preparation of bonded rubber-metal components

APSOfluid®
Fluid Handling
Technology

From simple hoses to ready-to-install
conduit systems – APSOfluid®
delivers solutions for any challenge





“Angst+Pfister’s reliability and innovativeness, and the joint further development of ideas, products and processes, help us to keep time-to-market short and to reach our goals.”

Daniel Sturzenegger, ABB Schweiz



High-performance hose lines

Our manufactured hoses are ready-to-install and we provide corrugated metal hoses for temperatures from -270 to $+600$ degrees Celsius. Hoses with various inner layers such as PTFE, UPE are in stock. ASSIWELL®, TETRAFLEX® and TETRAWELL® belong to our core brands for high performance.



Hydraulic components and high pressure connections

The HYDROFLEX®, FLEXITREL® hoses are made from high-quality elastomers or plastics to satisfy every demand, whether medium, high or maximum pressure. Hose lines are manufactured in our own workshops. We provide as standard hose fittings and Voss cutting ring fittings with zinc-nickel coating.



Food and beverage hoses

Our range of products is market-related with all the necessary approvals such as DVGW, KTW, FDA in materials such as NBR, EPDM, CIIR and silicone. The complete product assortment of our key brands GOLDSTAR and LACTAPRESS is available in stock.



Fittings and compensators

A complete range of standard fittings produced in brass, steel or stainless steel materials. Additionally, many norm fittings as well as quick coupling (FLAT-STAR) belong to our assortment. Compensators with bellow elements, manufactured in elastomers, PTFE or metallic materials complete our fluid technology range.



General industrial and suction hoses

Our UNIFLEX®, BENOLPRESS®, AIRSPIR hose lines conduct the widest range of mediums, whether solid, liquid or gas. We are a one-stop shop that crafts clever solutions according to your exact specifications.



Pneumatic components

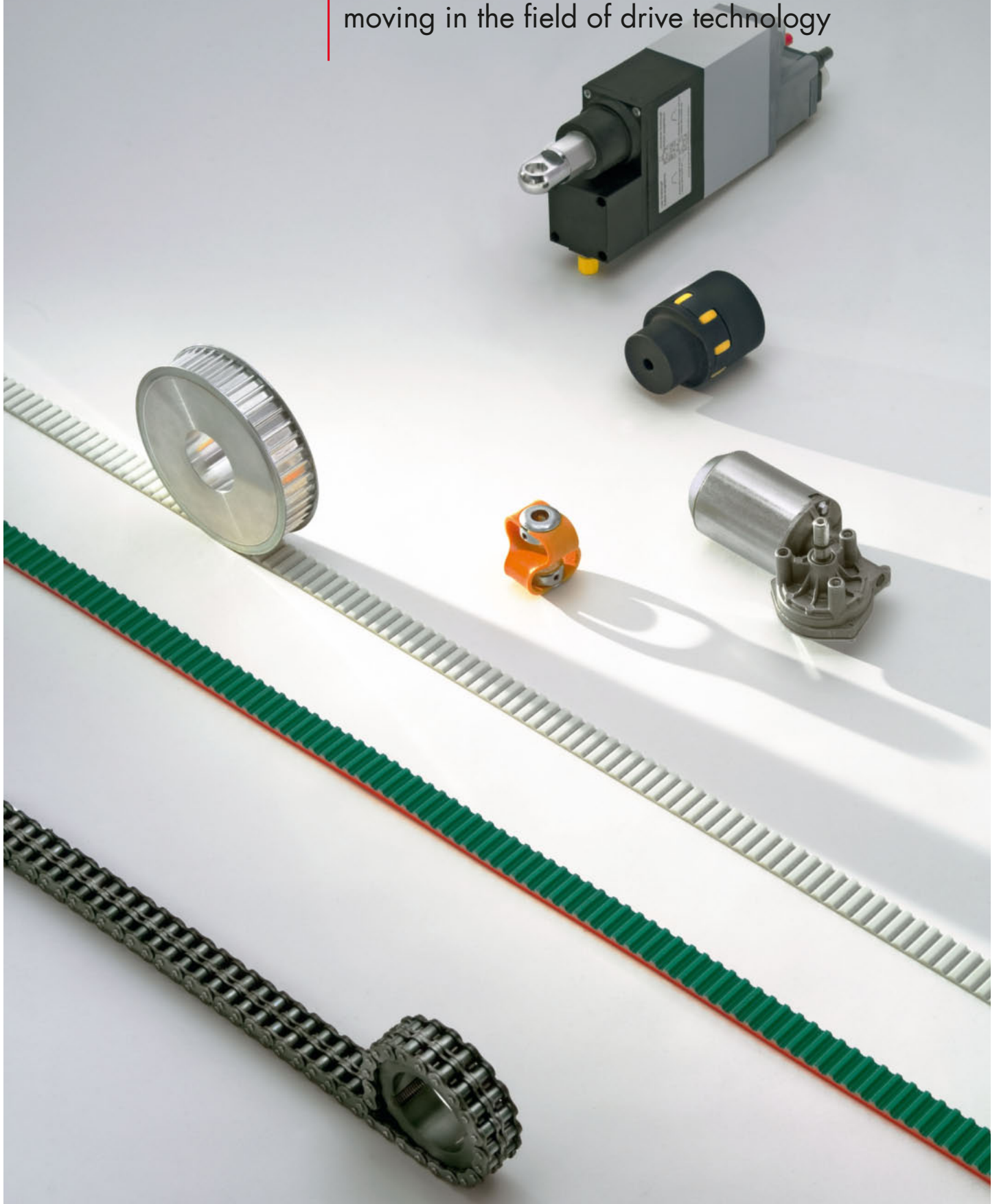
As a preferred SMC sales partner, we supply all components for pneumatic application or automatic processes. The range is completed by FLEXILON® plastic pipes, which is the right components for conducting air to the targeted place.



TIG welding capabilities according to the most demanding certifications

APSOdrive®
Drive Technology

A comprehensive portfolio of automation products and technical solutions for the most accurate movements – APSOdrive® gets things moving in the field of drive technology





“If we are confronted with a problem, I can talk to Angst+Pfister about it. I know that I can count on them to come up with a suitable solution.”

Urs Hauert, Gilgen Logistics AG



Timing belts

A full range of polyurethane and rubber timing belts, manufactured to meet specific power and conveyor transmissions. Let our application engineers design your entire APSOdrive® solution.



Pulleys

Standard timing and v-belt pulleys as well as custom-made items, produced to exacting client drawings and specifications.



V-Belt drives

Standard, narrow and cogged V-belts are available, as well as multi-rib drives.



Electrical drive technology and couplings

We provide a complete range of motion control systems: electrical linear actuators, DC gear motors and DC controllers, AC motors, stepper motors and servo drive systems, as well as torsional flexible or rigid couplings.



Tension meter and drive accessories

Our own compact belt-tension-measuring device: a must for perfect belt drive installations and efficient use of our drive accessories (tensioning and clamping plates, tension rollers).



Chain drives and conveyor chains

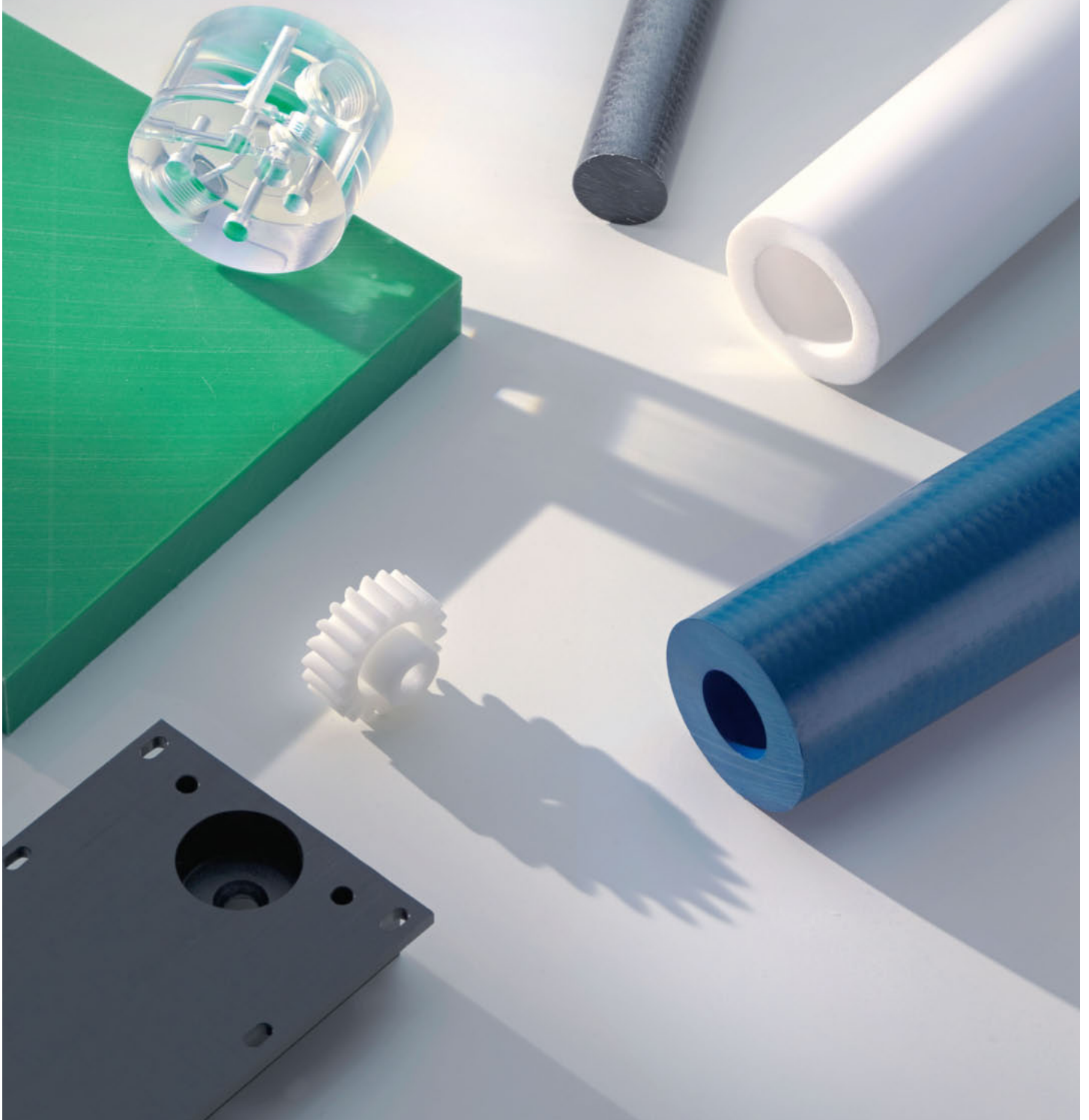
We offer a wide assortment of roller, conveyor and flat-top chains, chain sprockets and chain tensioners.



Angst+Pfister can completely customize timing belts according to clients' requirements

APSOplast®
Engineering Plastics
Technology

Capable of rising to any challenge
with know-how, state-of-the-art materials
and in a wide variety of shapes –
APSOplast® Engineering Plastics Technology





“Our collaboration goes beyond challenges and deliveries. We both want to succeed.”

Iwan Wissenburg, COMET,
Plasma Control Technologies



Semi-finished products – standard shapes and cut-to-size

Any desired thermoplastic and thermoset material is available in a wide range of shapes including sheets, foils, rods, tubes, plates or blocks. For some engineering plastics, Angst+Pfister can claim to have one of the largest assortments in Europe with immediate availability.



Finished parts manufactured according to customer specifications

Our global manufacturing platform provides milling, turning, waterjet- and laser-cutting services. We offer injection molding and reaction-injection molding (RIM) as well as customized extrusion and pultrusion profiles. Further services include vacuum thermoforming, warm forming, hot-wire-bending, welding and bonding. Angst+Pfister also provides a wide array of surface treatments such as abrasive or anti-static coatings.



Special articles parts and plastic protection elements

We supply common plastic items including standard bearing bushes, sliding and guiding belts, adhesive tapes, sealing tapes, shrink-fit hoses, PTFE-impregnated glass fabric and foils, plug-in or screw-in caps, plugs and covers that can be used for protecting, securing, closing, covering, sealing or identification purposes.



Plastic components turning in our mechanical workshop

**Integrated
Supply Chain
Management**

Reducing costs through optimized procurement processes, category management and consolidated deliveries





The guaranteed quality of the delivered parts enables customers to greatly simplify their incoming goods inspection procedures and contributes to trouble-free production runs.

More than 80% of the total cost of C-parts stems from the so-called process costs. Our integrated supply chain management reduces up to 40% of total costs by streamlining processes and standardizing control systems.

Cost of industrial components

Source your components at the best possible price by leveraging our huge purchasing volumes and global production platform. Blanket purchase contracts additionally ensure the best prices and immediate availability.

Costs of procurement

Our wide assortment is supplied to our customers by over 50 vendors that we manage. Partnering with Angst+Pfister to consolidate suppliers and connect to our flexible electronic ordering processes (EDI) is a key to enhancing productivity.

Packaging & transportation

Rationalizing the number of C-parts suppliers consolidates the number of orders and shipments received thereby reducing costs. Additionally, bundled shipments and Kanban solutions can substantially reduce packaging and transportation costs.

Costs of warehousing

Our 23,000-square-meter state-of-the-art Global Logistics Center has over 100,000 different items in stock that can be delivered anywhere in Europe within 48 hours. On Time Delivery (OTD) measurements ensures business continuity across multiple global production facilities.

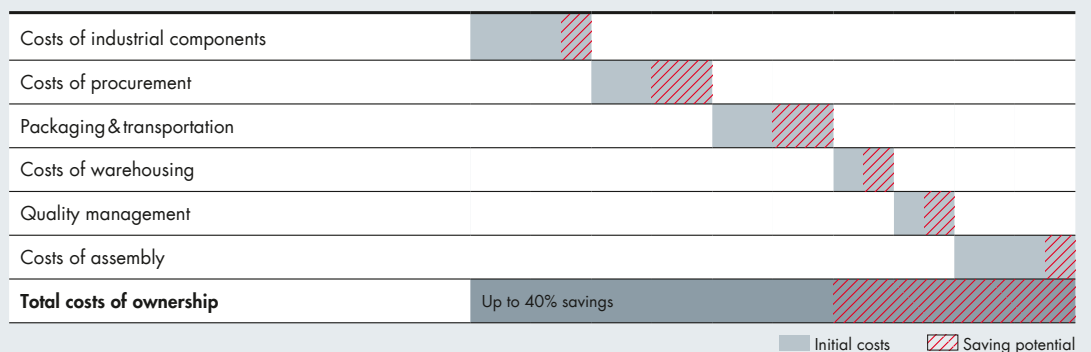
Quality management

As an ISO 9001:2008-certified enterprise, Angst+Pfister can deliver directly into your production process to save money on incoming goods inspection. We carry out quality control on each order received and maintain high quality standards for our strategically selected production partners to ensure business continuity.

Costs of assembly

Through the design and procurement of complete sub-assemblies, Angst+Pfister can save valuable steps in our customers' production processes. Additional services like Kanban supply chain solutions can further improve productivity.

Cost-saving potential along the supply chain



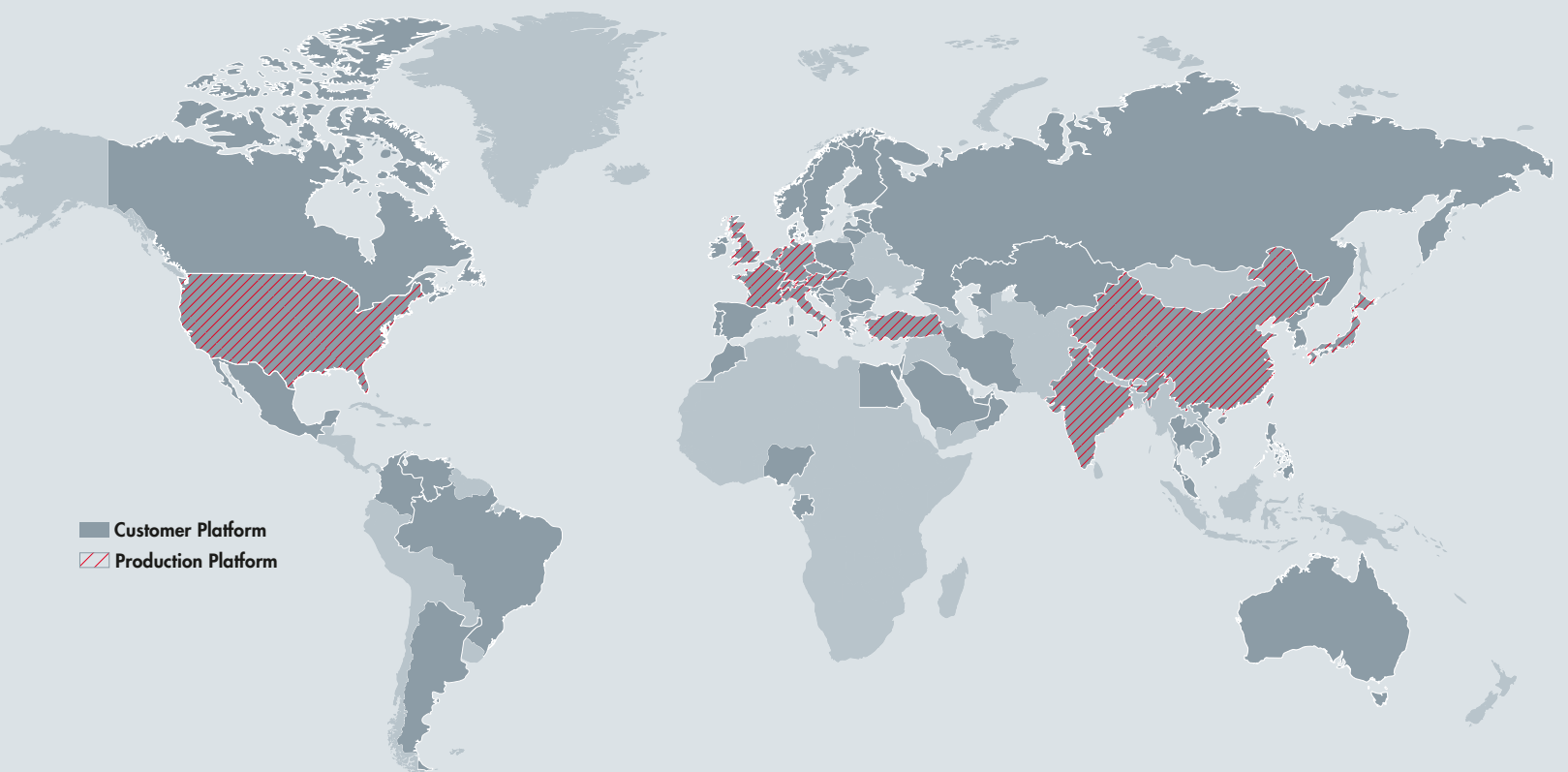
**Technical Expertise
on Site**

A highly competent, passionate and dedicated international team is locally ready to meet your global needs



An International Network

Providing customer support around the world



■ Customer Platform
▨ Production Platform

Customer Platform

The Angst+Pfister Group supplies its services to every corner of the globe. Offering solutions tailored to the customer's specific needs with our local application specialists. We are providing engineering-lead solutions to thousands of original equipment manufacturers in over 50 countries.

Production Platform

Our global production platform spans across 15 countries. In addition to our own state-of-the-art manufacturing, we have reserved capacity with internationally renowned production partners. This allows us to always select the best production location based on our customers' quality, quantity and delivery requirements.