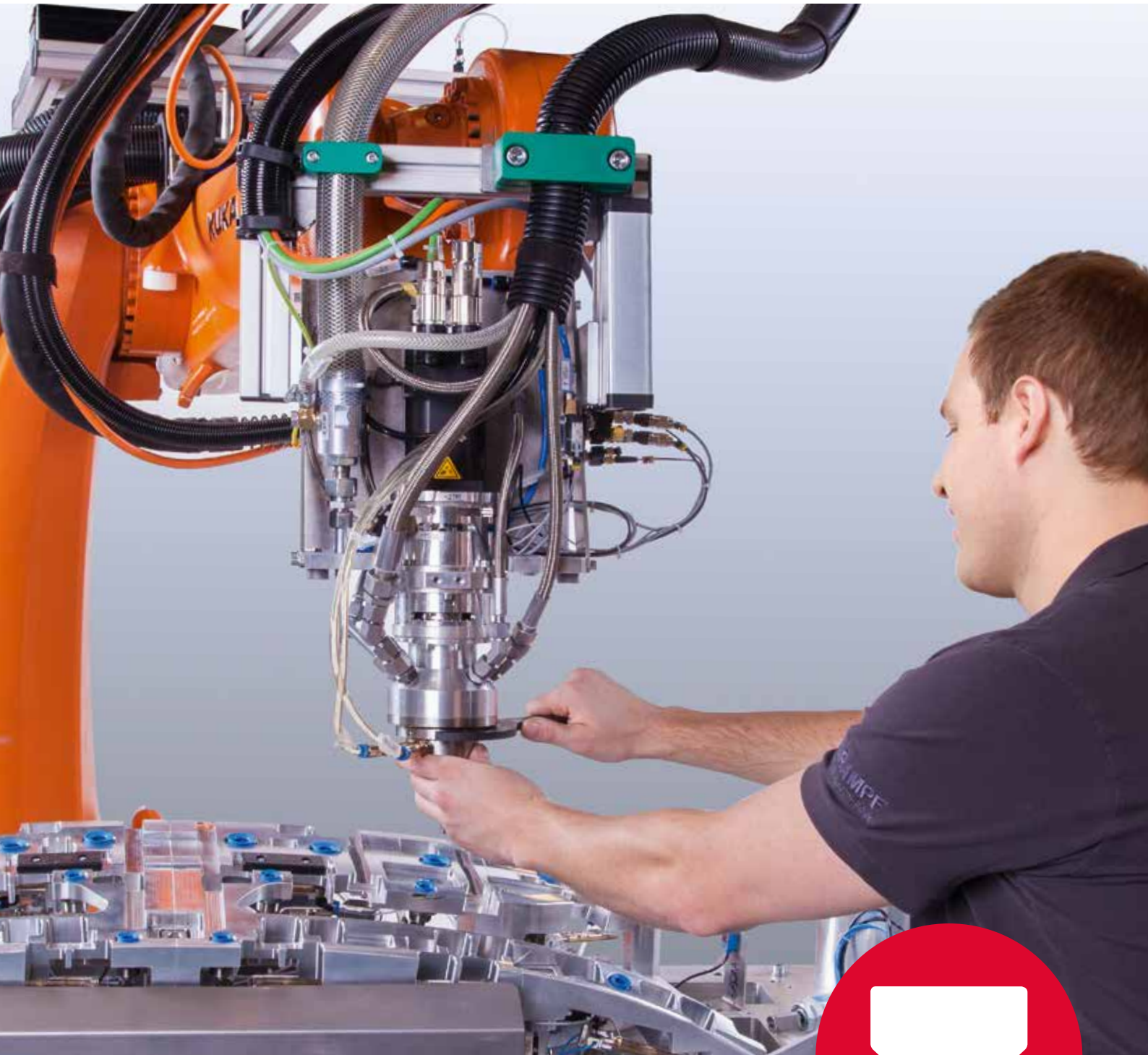


RAMPF | Production Systems



Innovative production systems with integrated dispensing systems

RAMPF Group

The international RAMPF Group stands for **engineering and chemical solutions** and caters to the economic and ecological needs of industry.

Our range of competencies includes:

- > Production and recycling of **materials** for modeling, lightweight construction, bonding, and protection
- > **Technical production systems** for precise, dynamic positioning and automation, as well as technologies for complex composite parts production
- > **Comprehensive range of solutions and services**, particularly for innovative customer-specific requirements

This know-how helps our customers achieve profitable and sustainable growth.

Trusting relationships are of utmost importance to RAMPF. They are a vital part of the success story of the family-owned company, which now spans over 35 years.

RAMPF thinks globally and acts locally. The company has production facilities strategically located in Germany, in the United States, Canada, China, and Japan.

RAMPF Production Systems

Based in Zimmern o. R., the company is one of the world's leading suppliers of innovative systems for processing single-, dual-, and multi-component reactive plastic systems.

In addition to our core competence of mixing and dispensing technology, we provide product-specific automation concepts with integrated parts transport and heat treatment, assembly and joining technology, as well as logistic and quality assurance solutions.

The customer-specific solutions include integrating both surface activation processes as well as testing and measuring technology to safeguard production processes.

Prototypes and small series for customers are produced in the application engineering center. These might be needed for feasibility studies or series bridging, for example.

This wide-ranging expertise enables RAMPF Production Systems to provide its customers with complete solutions for their production facilities.



Machine Systems



Production Systems



Composite Solutions



Eco Solutions



Polymer Solutions



Tooling Solutions

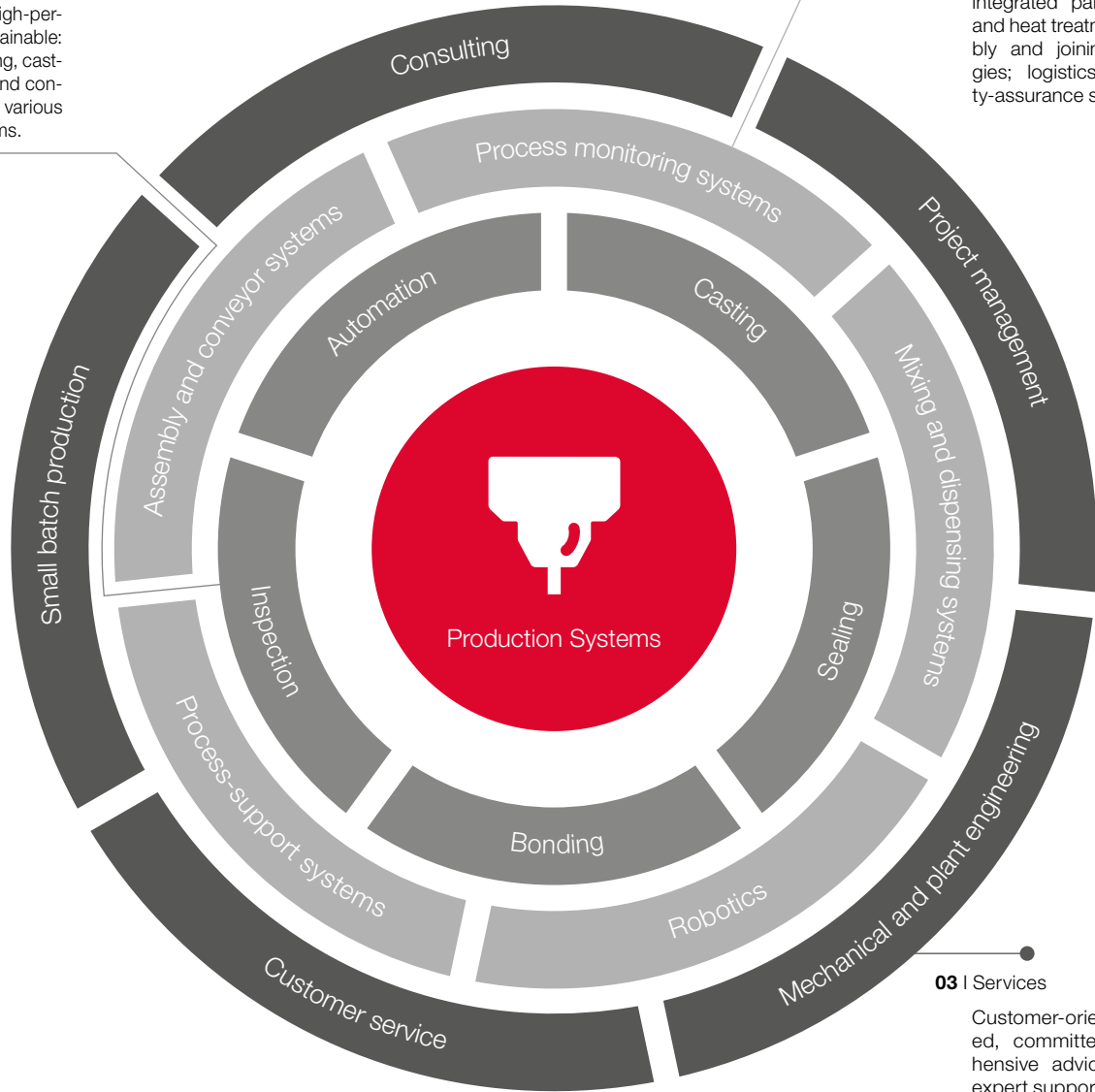
Range of products and services

01 | Skills

Innovative, high-performance, sustainable: Foaming, sealing, casting, bonding, and conducting using various polymer systems.

02 | Production Systems

Automation, digitalization, precision: Project-specific automation concepts with integrated parts transport and heat treatment; assembly and joining technologies; logistics and quality-assurance solutions.



03 | Services

Customer-oriented, skilled, committed: Comprehensive advice and fast, expert support; top-quality prototype and small-series production at reasonable prices.

» At RAMPF Production Systems, developing innovative solutions is part of what we do every day. Because our production systems for sealing, bonding, foaming, and casting must fulfill the requirements of our customers, whose products have to be competitive on the global market. «

01
Skills



High performance, sustainable | Solutions for sealing, bonding, foaming, and casting

of single-, dual-, and multi-component reactive plastic systems

Developing process technology for sealing, bonding, foaming, and casting various polymer systems is the core competence of RAMPF Production Systems.

We specialize in

- > Project planning for customer-specific production systems with integrated dispensing processes
- > Manufacturing turnkey production systems with a standardized user interface and integrated measuring and data management
- > Global service support through our own branches and partners



Your advantages

- > Reliable production thanks to standardized process engineering – integrated into a complete solution
- > Cutting-edge HMI architecture for safe operation and transparent process statuses
- > Flexible production systems for easy product changes

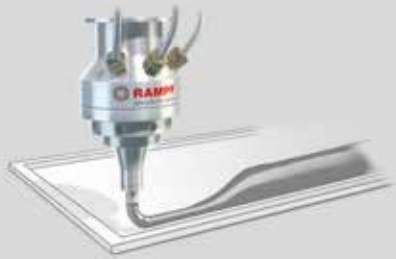


01

Skills

Foaming

On our systems, we process all standard polyurethane and silicone foams into sealants. Multi-axis robots apply these to level and curved surfaces. After curing, a seamless seal is bonded to the component that provides static protection against dust and moisture. The seals can also be manufactured in molds.

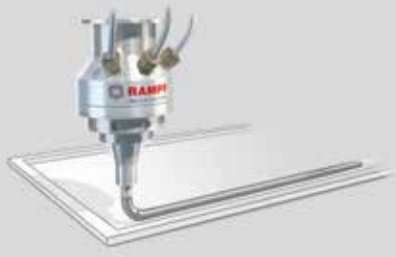


Your advantages

- > Low-maintenance, dynamic mixing technology
- > Regulated air load for consistent quality
- > Turnkey production systems for maximum productivity

Sealing

Sealing involves applying elastomers to level or curved surfaces. After curing, a tight, elastic seal adheres to the component, providing static protection against liquids.



Your advantages

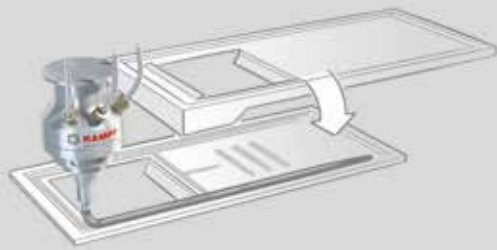
- > Pressure-stable, static mixing technology for consistent mix quality
- > Displacement-free shut-off technology for precise overlapping points
- > Production systems with integrated heat treatment and leakage testing



Technologies | Foaming, sealing, bonding, conducting

Bonding

We process all kinds of multi-component adhesives into precisely reactive products and apply these to the joints after first activating the latter. The joining process can be manual or automated. The crosslinking process occurs under defined conditions.



Your advantages

- > Dynamic mixing technology for top reactivity – even for viscous adhesives
- > Integrated surface activation for controlled adhesion
- > Intelligent joining tools with fast curing

Conducting

Accurate dispensing of reactive, thermally or electrically conductive polymers for conducting heat or electricity. The highly filled materials require low-wear dispensing systems to ensure precise dispensing in the long term.



Your advantages

- > Static mixing – also of smallest dispensing quantities
- > Low-wear piston dispensing systems for low-maintenance and high precision
- > Turnkey systems with integrated image processing



01

Skills

Casting under atmosphere

Casting without process forces is a stress-free way of providing lasting protection for sensitive electronic assemblies. Casting materials based on polyurethane, silicone, or epoxy resin are used to embed the components. With casting processes (single- or multi-step) designed by RAMPF, parts are produced that are reliably protected from contact, moisture, and damage.

Casting under vacuum

Components with windings, narrow gaps, or shapes that are difficult to vent can be cast without air bubbles under vacuum. This facilitates the manufacture of products that meet high insulation requirements and guarantees their long-lasting performance, also in extreme conditions. Furthermore, the vacuum technology enables the manufacture of optically transparent connections.



Your advantages

- > Support in selecting the suitable casting material
- > Perfect alignment of material preparation, dispensing pumps, and mixing technology to suit your process conditions
- > Complete production solutions – incl. all auxiliary processes – for efficient production



Technologies | Casting and automation

Automation of production facilities with integrated dispensing technology

Process expertise combined with the best automation solution generates the highest customer benefit.

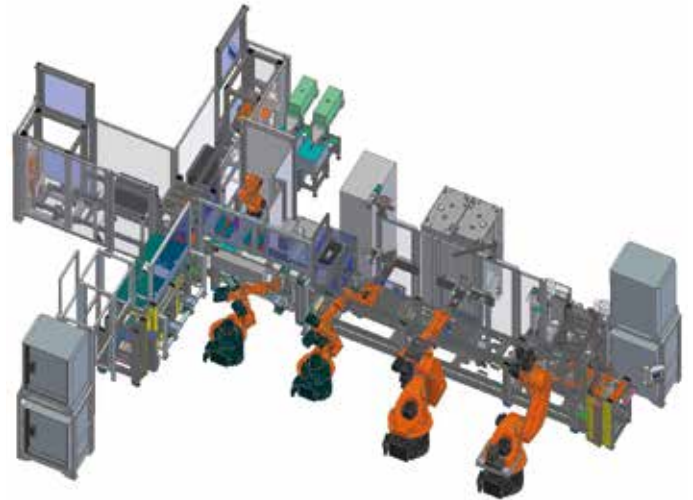
Our automation expertise covers the fields of:

- > Handling and robotics
(e.g. KUKA, ABB, FANUC, DENSO)
- > Component transport
(part carriers, conveyor belts, and rotary indexing tables)
- > Control technology (e.g. SIEMENS, Beckhoff)
- > Recording all process parameters with MES connection
- > Constructing tools and equipment
- > Heat treatment (infra-red, convection, HF procedure)
- > Image processing and sensors
- > Contactless measuring technology

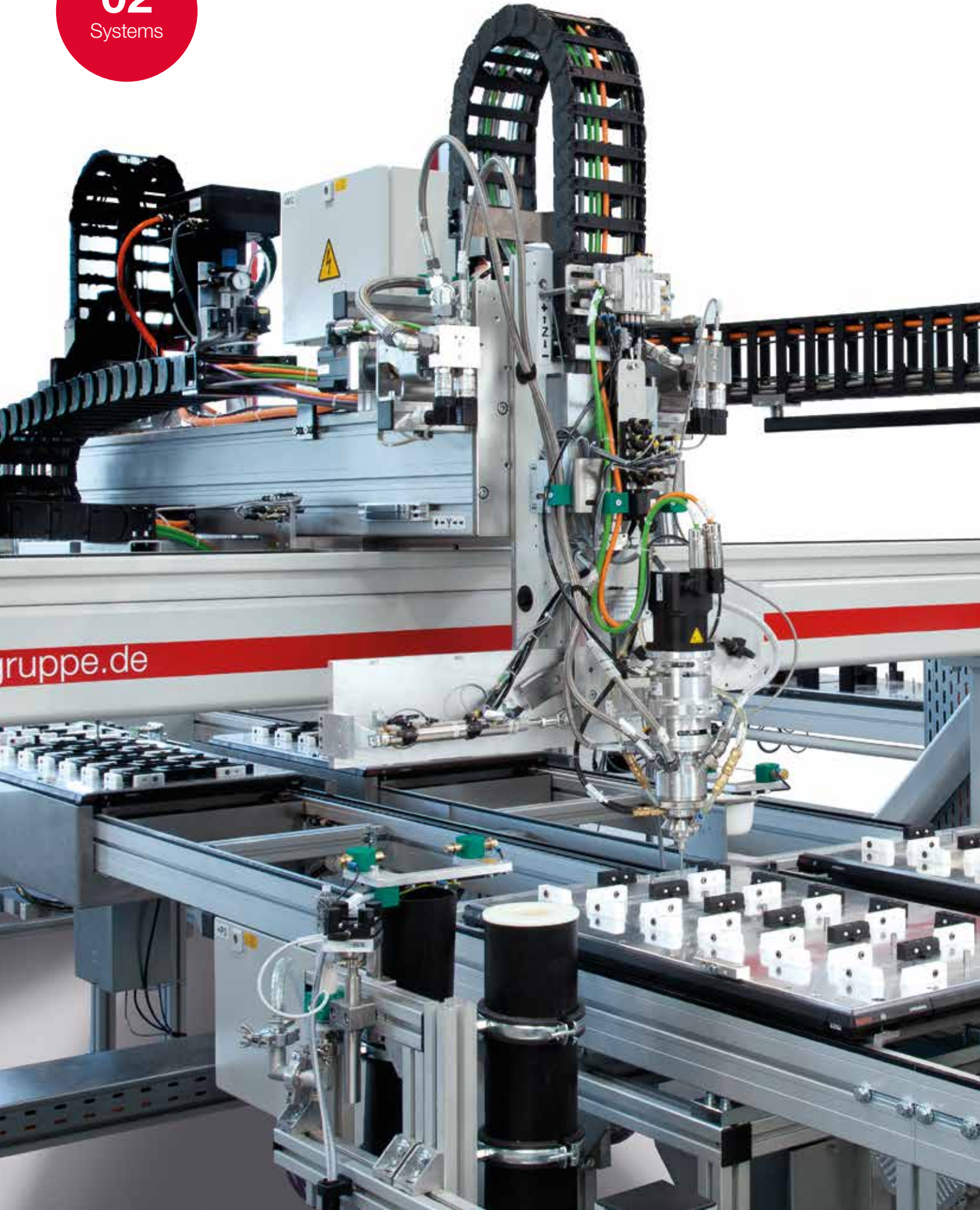


Your advantages

- > One contact for all aspects of project automation
- > Standardized graphic interface for simple operation and fast maintenance
- > Installation and maintenance by certified service personnel worldwide



02
Systems



Dispensing systems | Dynamism, interaction, and data management

for optimized production processes with best results

Every production process places unique requirements on the components of a dispensing system. For the best dispensing results, it is vital that material transport and preparation, dispensing, mixing technology, and moving axes are perfectly aligned.

Embedded in compact dispensing cells or dispensing robots, RAMPF dispensing systems form the perfect basis for production or integration into production systems.

Combined with high-performance controllers from SIEMENS or Beckhoff, RAMPF dispensing systems meet every requirement in terms of dynamism, interaction, and data management.

- > The DC-CNC dispensing cell series offers the perfect dispensing solution for every production process – from the small desktop dispensing cell to cells with working areas of 1,000 × 1,000 mm.
- > For dynamic dispensing tasks on large components, the DR-CNC dispensing robots achieve best results over a maximum working area of 5,000 × 1,250 mm.
- > The C-DS modular dispensing system enables the simultaneous processing of all standard materials – even up to three components. The C-DS can easily be integrated into customers' own systems.



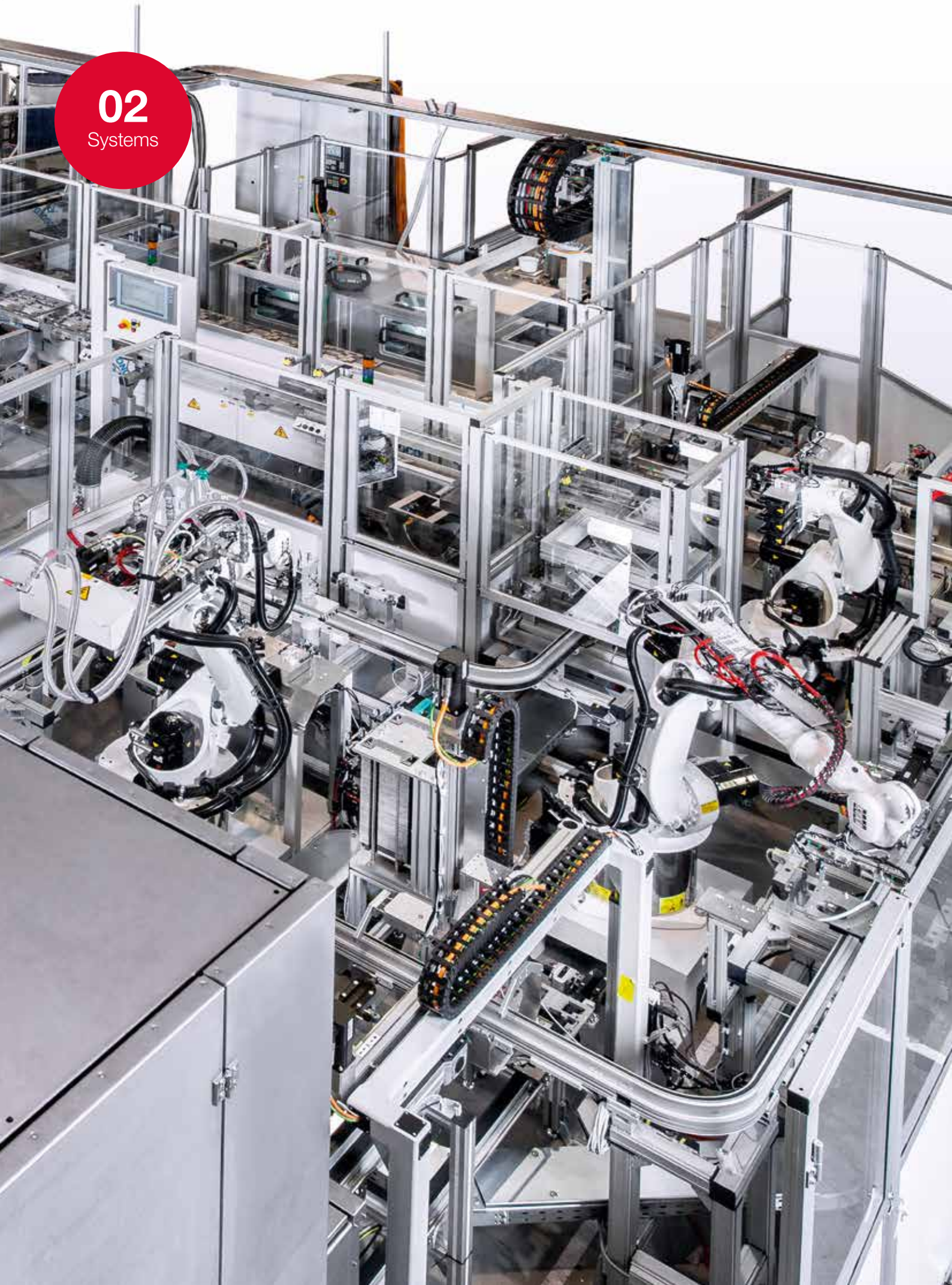
Your advantages

- > Processing of all standard reactive plastics – from water-thin to highly viscous
- > Dynamic mixing heads for dispensing rates from 0.002 – 150 g/sec
- > Mixing ratios from 100:100 – 100:1



02

Systems



Production systems | Comprehensive process expertise

for the optimal manufacturing process for your products

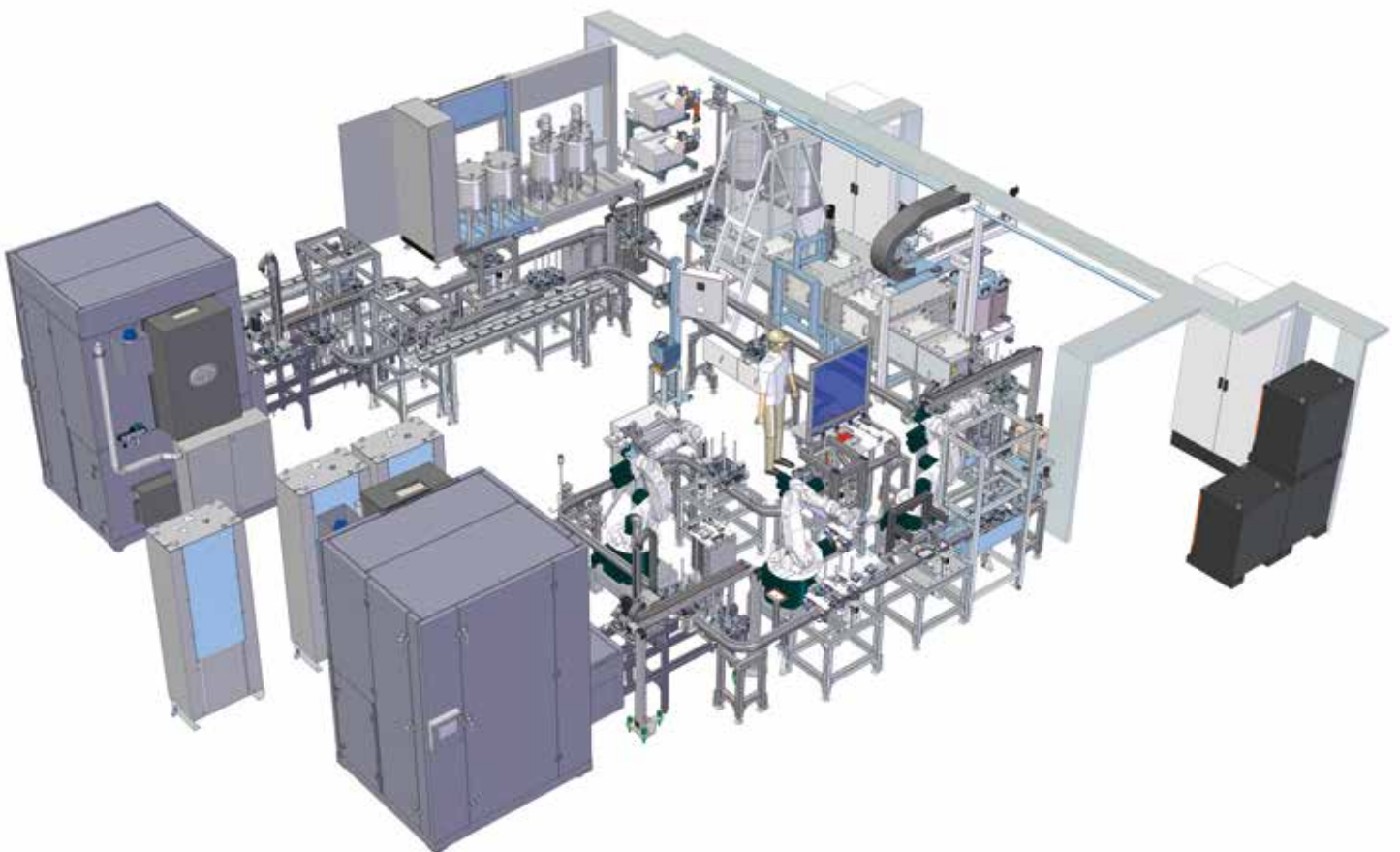
RAMPF Production Systems plans, designs, and assembles customer-specific production systems based on standardized components. This ensures that only tried-and-tested products are used for each individual task.

RAMPF integrates KUKA, ABB, FANUC, and DENSO robots. These are programmed to perfectly meet your needs. Thanks to our process expertise, we are thus able to ensure the perfect manufacturing process for your products. We buy in process expertise from specialized companies and integrate this into our systems and control technology. RAMPF delivers each system with only one user interface and provides process information to higher-level systems.



Your advantages

- > One partner for processing nearly all standard reactive plastics
- > Very high process accuracy
- > Production systems customized to your requirements



03
Services



Service | Expertise and commitment

for your success – from the idea to the finished product

We find the best solution for your application. Why? Because of the comprehensive application experience we have gathered from the implementation of over 2,800 projects. And because our engineering, application technology, and automation experts work together very closely for your success.

Initial feasibility studies are created in application engineering, and prototypes and samples are produced. Long-term tests provide detailed information about maintenance costs and performance data, as well as initial stimulus for further improvements to products and production processes.

Small series production service

We can produce parts for you on our machinery – in accordance with your process requirements – to bridge delivery times or to support series launches. We offer production capacities for foam gaskets, casting, and bonding.

In our ISO 7-class clean room, casting and bonding processes are conducted to the highest cleanliness requirements – including under vacuum.

Training center

Maintenance, programming, and process training can be booked as either individual or group courses. The course content is adapted to your requirements.



Your advantages

- > Fast expert support for the entire product life cycle of your machinery
- > Material and systems technology from a single source – RAMPF's professional and comprehensive service
- > RAMPF – your end-to-end development partner and service provider



RAMPF Group | Locations

