

## Rexroth – Automation Partner for the Automotive Industry

Productivity. Standardization. Flexibility.



# Bosch Rexroth. The Drive & Control Company

**Rexroth is the global leader in the supply of all specialized and integrated Drive and Control technologies. The company of the Bosch Group stands for highest quality and service to customers.**

Whether the need is electric drives and controls, hydraulics, pneumatics or linear motion and assembly technologies, Rexroth supports users worldwide with innovative components, modules, systems and services that enhance efficiency in the production process. Rexroth products always incorporate state-of-the-art technology that consistently adheres to international standards in the hardware and software sectors.

Rexroth combines its comprehensive range of drive, control, and motion products with a unique application experience. Specialists in industry-oriented application centers work out the optimal solution for the task at hand in cooperation with machine builders and users.

Regardless of whether the job calls for components and modules incorporating a specific technology or the optimal interaction of various Drive and Control technologies to achieve a system sol-



ution, only Rexroth offers the full spectrum of automation technology from a single source. This unique capability also creates business advantages by reducing the number of suppliers and simplifying the procurement and logistics processes.

Rexroth pursues the objective of zero-defects in all products and services. The company adheres to an established process-oriented quality assurance system based on tools and methods that have been tried and tested in the automotive industry.

## Detailed automotive brochures:

- Press Shop
- Body Shop
- Paint Shop
- Powertrain Engines and Transmissions
- Powertrain Assembly
- Final Assembly





## Common Experience – Common Language

**Many years of close cooperation with the automotive industry create a common ground: Rexroth's processes and products accurately reflect the requirements of the automotive industry.**

Rexroth cooperates closely with machine manufacturers and auto-makers to find the decisive automation concepts and solutions for enhanced productivity.

The unique application know-how in all automobile manufacturing production areas simplifies collaboration and leads quickly to custom-tailored solutions. Only Rexroth offers the entire spectrum of drive system and control solutions from a single source, thus saving both time and effort in project planning phase, procurement and daily use.

For five decades, Rexroth has been a defining force in the greater productivity achieved by the automotive industry, whether it is the first maintenance-free servo motor, the development of internal high-pressure hydroforming and drawing cushions, process control for resistance welding, tightening and metal forming technology, pneumatic systems or linear motion and assembly technologies.



In addition, Rexroth's processes and philosophy are a perfect fit for the automotive industry. As a company of the Bosch Group, Rexroth stands for consistency, innovation and quality, thus satisfying the toughest requirements of the automotive industry.

## Many Processes – One Automation Partner

**Automation components and system solutions optimally tailored to one another for all production areas of the automotive manufacturing process: Thanks to the perfect collaboration of all Drive and Control technologies, Rexroth enhances productivity.**

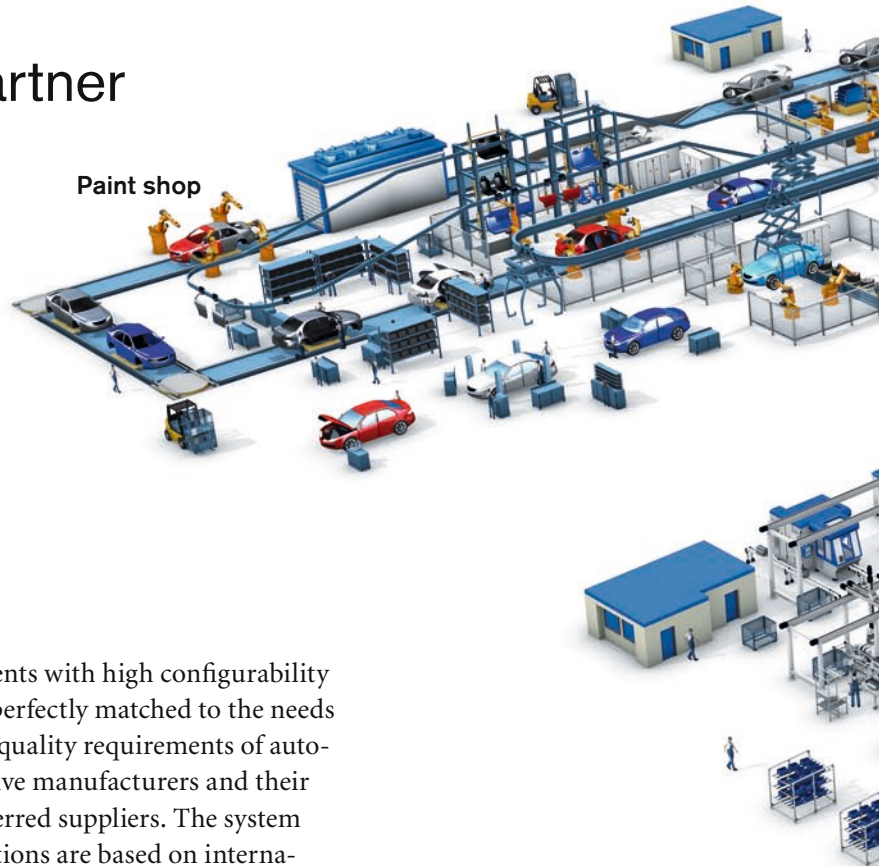
Whether they are metal forming with tons of force, machining operations with  $\mu\text{m}$ -precision, perfectly reliable weld joints or flexible assembly lines: Rexroth components and automation solutions find their application at every stage of production and assembly – press shop, body shop, paint shop, powertrain engines and transmissions, powertrain assembly and final assembly. Rexroth delivers ideal solutions both for automotive manufacturers and their suppliers: The specific task is the deciding factor – Rexroth implements it as custom-designed automation solutions. It is precisely this versatility that opens up new options for standardizing automation throughout the entire range of production areas.

Rexroth offers a wide range of products in which standard com-

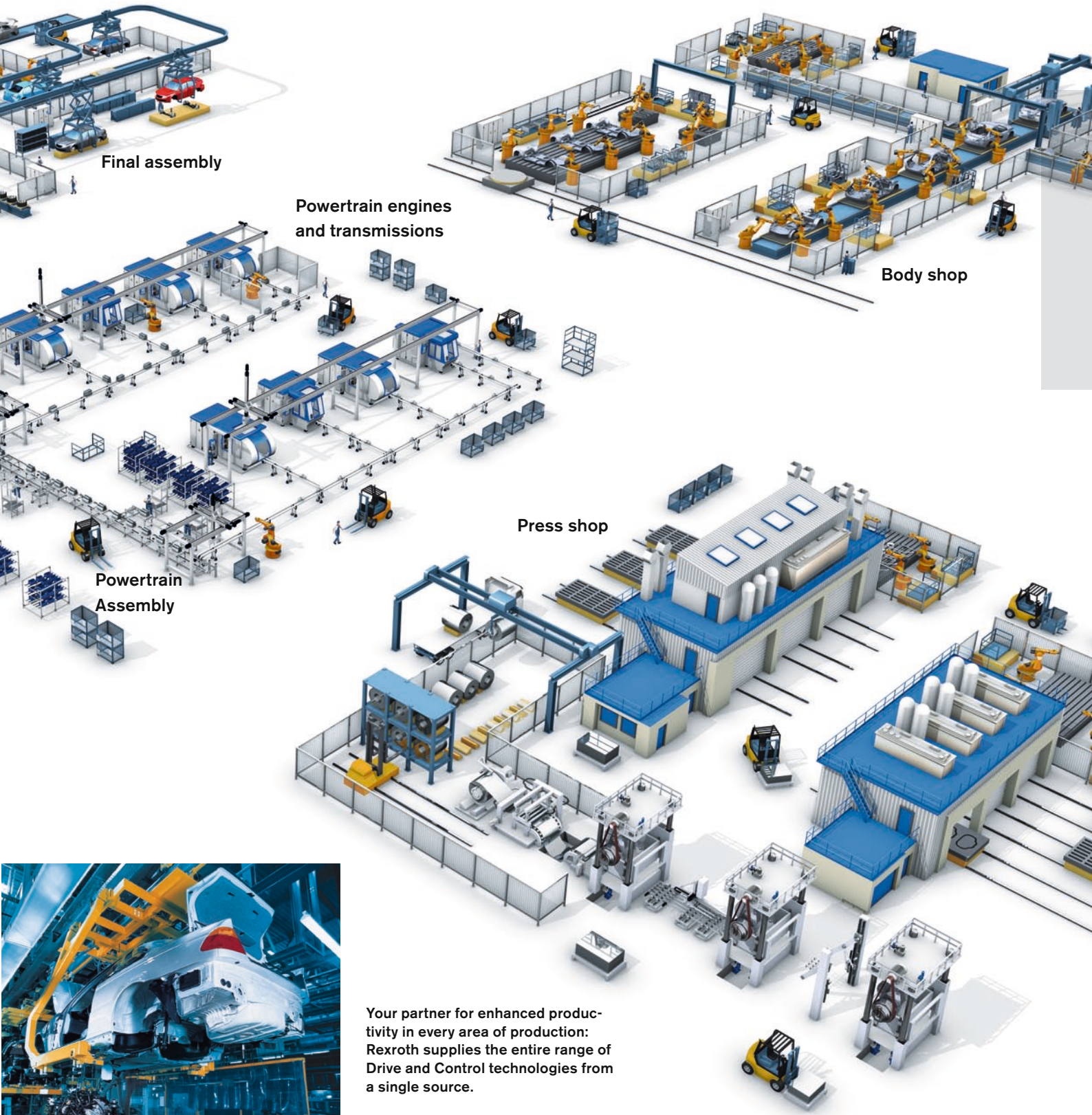
ponents with high configurability are perfectly matched to the needs and quality requirements of automotive manufacturers and their preferred suppliers. The system solutions are based on internationally recognized standards and open interfaces. The close cooperation between global account management and the product specialists at Rexroth's Application Centers and national subsidiaries support regular and seamless communication. Rexroth speaks the customer's language in every country of the world – including the technical terminology.

For more information about Rexroth's capability for finding the right components and solutions for the automotive industry, please consult the detailed brochures for the individual production areas or visit us at:

**[www.boschrexroth.com/automotive](http://www.boschrexroth.com/automotive)**







Final assembly

Powertrain engines  
and transmissions

Body shop

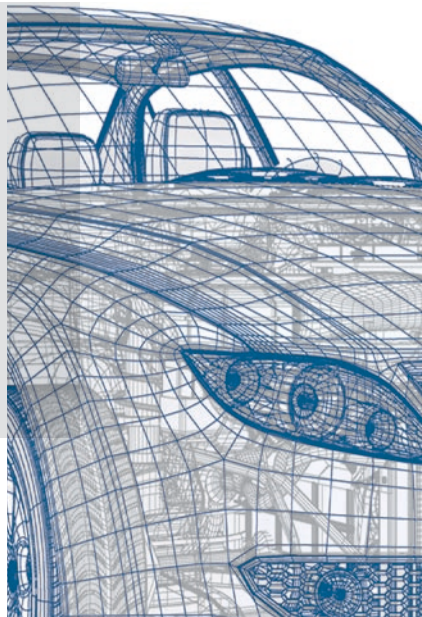
Press shop

Powertrain  
Assembly

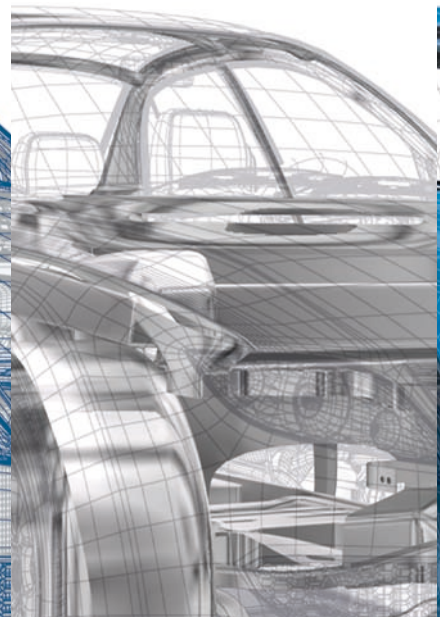
Your partner for enhanced produc-  
tivity in every area of production:  
Rexroth supplies the entire range of  
Drive and Control technologies from  
a single source.

## The Challenges

There is hardly an industry where competition is as fierce as in the automotive industry. In no other sector are requirements for automation set so high. Rexroth knows these requirements and converts them to solutions.



Press shop



Body shop

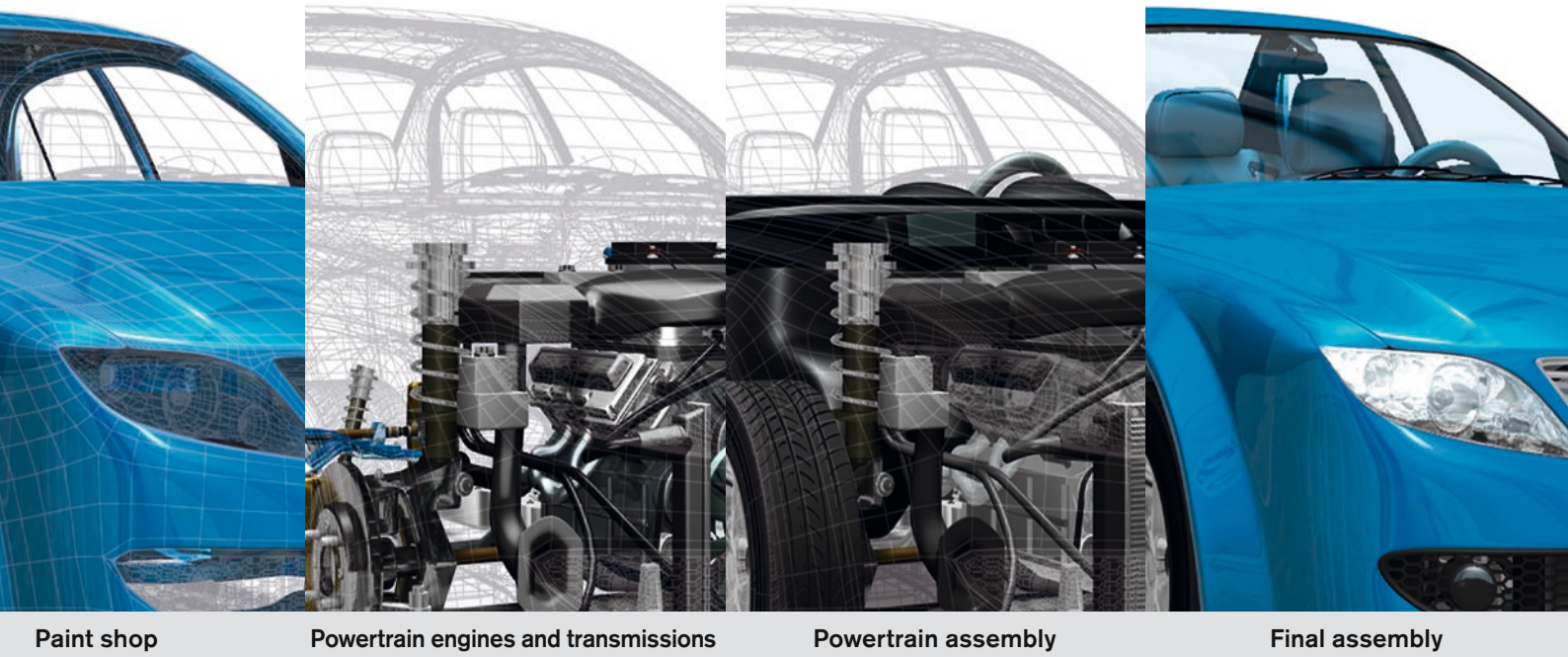
The requirements set by the automotive industry's demands on automation are as varied as the individual production areas themselves. Nevertheless, some common challenges determine the customers' specifications for all automation concepts and products:

**Quality:** Only suppliers that apply and systematically employ the quality methods and tools of the automotive industry can meet the high standards of this industry.

**Total Cost of Ownership:** The total cost of machinery is made up of several factors, the purchase price being only one of them. Of greater significance are the costs over the total life cycle.

**Standardization:** As in the car itself, the worldwide standardization of components and modules lowers costs. A single supplier for the entire automation technology reduces complexity and simplifies both stock-keeping of spare parts and service.





Paint shop

Powertrain engines and transmissions

Powertrain assembly

Final assembly

**Safety:** Its two dimensions place it at the top of the priority list: The protection of operators and maintenance personnel is always of utmost importance, but just as important is ensuring that machines and systems remain consistently available to meet production goals.

**Flexibility:** Reduced retooling times or machining different workpieces on a single line require intelligent automation solutions that use scalable components.

**Production systems:** Flexible and modular systems for assembly workplaces support the introduction of lean production with minimum effort. Rexroth responds by offering optimized concepts for higher productivity at high- and low-cost sites.

**Simulation:** As early as the planning phase, Rexroth simulation programs are designed with the special characteristics of each type of drive technology in mind to support secure design and dimension definition for all components. Mathematical models in particular support digital factory planning and accelerate the timeline for the start of production.

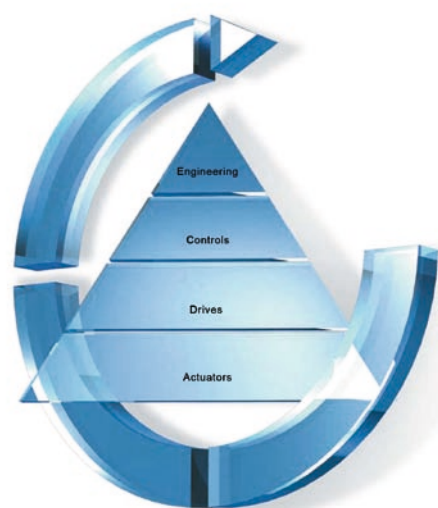
**Condition Monitoring:** Measuring wear and tear online makes sure, that the right part is replaced at just the right time. Maintenance concepts based on actual conditions enhance availability and reduce service costs while supporting optimal integration of planned maintenance into production cycles.

**Retrofitting:** Even if processes change, new tasks are pending or modern automation components improve performance, retrofitting can prolong the life cycle of machines and systems.

## Solutions – Open, Decentralized, Mechatronic

The task at hand decides what the most economical solution will be – not the product range of the automation partner. Rexroth consistently meets this challenge like no other supplier.

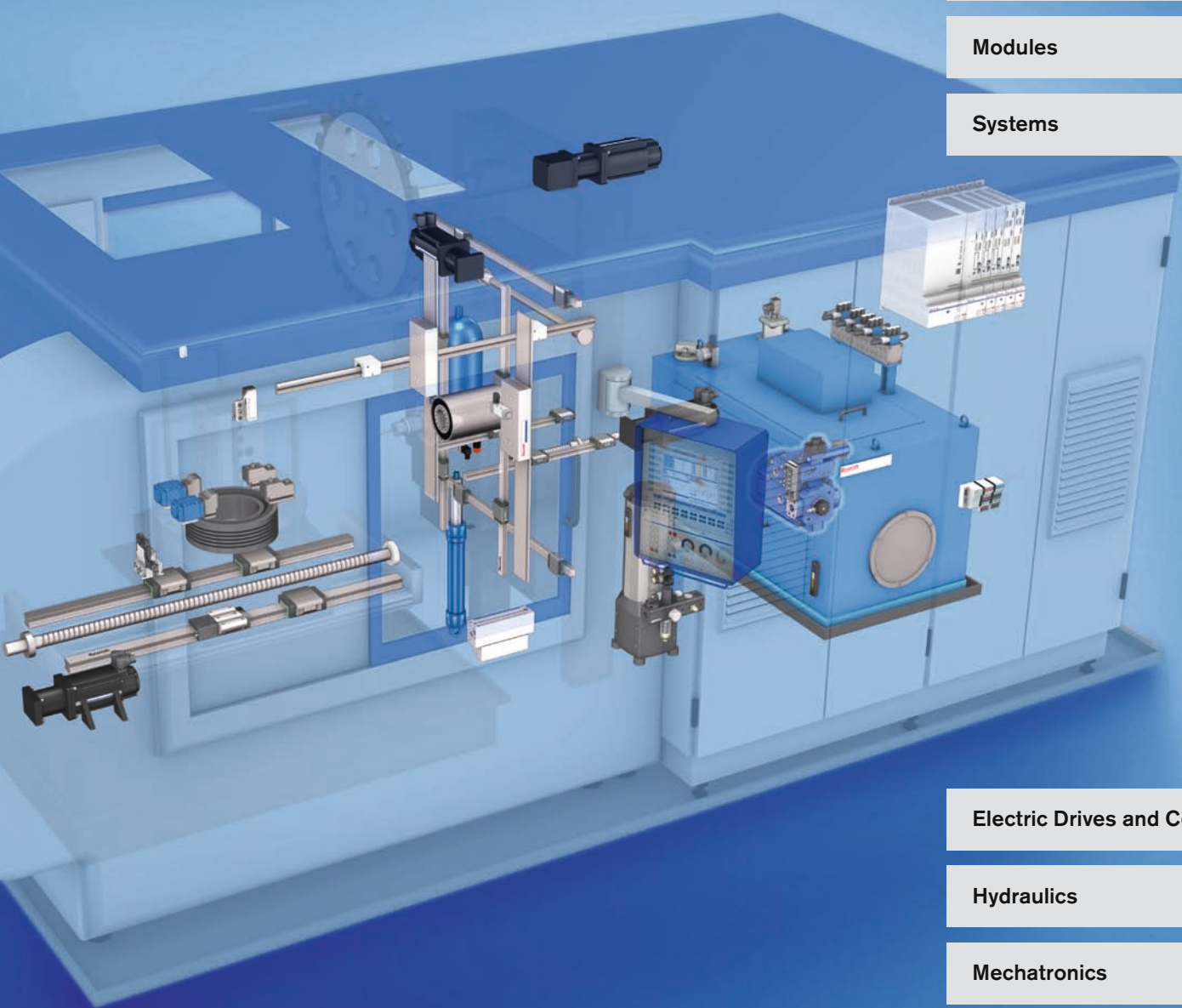
The Rexroth product portfolio embraces the entire range of Drive and Control technologies: electric drive and control systems, hydraulics, linear motion and assembly technology as well as pneumatics. In each technology field, users will find scalable components that precisely match their requirements while enhancing reliability. Increasingly, Rexroth also combines standard components perfectly tailored to one another with systems of a certain technology all the way to integrated solutions that combine elements of diverse technical sectors, thereby further simplifying automation. This lowers the **total cost of ownership** and simplifies worldwide standardization in the automotive industry.



The components from the individual technology sectors pursue a common objective: Best-In-Class products and the highest **quality**. Rexroth already places special emphasis during development to make sure that different technologies are combined in a single automation environment to increase productivity reserves for the user.

In its system solutions, Rexroth consistently employs open interfaces and globally recognized **standards**. This applies to national and international standards for physical interfaces as well as to open programming and communications. As a result of this, the system solutions fit optimally in the corresponding manufacturing and IT environment of the user.





Components

Modules

Systems

Electric Drives and Controls

Hydraulics

Mechatronics

Pneumatics

In addition, even at the software level, control systems from Rexroth reflect the unique characteristics of hydraulic, pneumatic and electromechanical systems to extract their full performance potential while enhancing **flexibility**.

Whether in automated processes, partially-automated operations or during assembly in modern production systems, Rexroth compo-

nents and solutions let their users play it safe. **Safety** for people and maximum **productivity**. Standardization pays off – regardless of whether the user employs Rexroth drives, controllers or PC-based control systems: The universal, standardized platforms mean that programs and program components are written once and are ready for use in a variety of new applications. This clearly reduces

engineering time and opens up new freedom levels of flexible adjustment to address new tasks. Even after commissioning, Rexroth stays at the user's side as a powerful partner in all areas of Drive and Control technology. The entire range of services also includes innovative **condition monitoring** concepts all the way to **retrofit**.

## As Global as the Automotive Industry

**Wherever vehicles are built or outsourced components are manufactured: Rexroth is always on-site to offer comprehensive support.**

Rexroth has a long history of cooperation with automakers across all continents. Whether they are automotive manufacturers or their top suppliers, Best-In-Class products and system solutions from Rexroth demonstrate reliability and productivity in hundreds of plants.

Regardless where the automotive industry establishes its new production plants, Rexroth is already there. Rexroth's large group of knowledgeable engineering, sales and service professionals have an increasing presence in over 80 countries. Bosch Rexroth AG focuses the application expertise garnered from its global activities on each individual site, anywhere in the world, and combines it with local competence. Project planning, commissioning, training and service: We always speak your language.





## Many Tasks – One Contact

**Faster and easier: This applies to automation and in daily collaboration. Rexroth's Global Account Management coordinates the entire array of joint activities for automotive manufacturers and their top suppliers.**



■ Automotive plants  
■ Rexroth sites

Doing business with Rexroth is simple, even if the tasks are complex. Regardless of the continent or technology, Global Account Management in its role as the central partner and consultant consistently brings the best professionals to one table for a fast and reliable response to the challenges that arise.

Rexroth relies on uniform processes and standards – reflecting the practices of the global automotive industry. International cooperation with a single automation partner offers another advantage: It simplifies the global implementation of defined specifications for vehicle manufacturers to actively foster standardization.

### **Lifelong Partnership – Customized Service**

This reliability applies to the entire product and service life cycle. The comprehensive service network

reliably ensures rapid response. At Rexroth, our service concept extends well beyond supplying replacement parts and setting up on-site consignment depots. Rexroth Service personnel work on-site at the client's plant in close cooperation with the end-user. Condition monitoring and remote maintenance concepts combine with an innovative service package for all Drive and Control technologies to enhance equipment availability and improve the planning of maintenance cycles. From project-planning stage and operation all the way to retrofitting, Rexroth accompanies the automotive industry user through the entire life cycle of the automation system – in what is, in reality, a lifelong partnership.

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