



Automotive Technology

Company Presentation

November 2023

thyssenkrupp Automotive Technology

engineering.tomorrow.together.



thyssenkrupp

Our businesses in figures | Fiscal year 2022/23

Automotive Technology¹



€7.9 billion

Sales

€266 million

Adjusted EBIT

31,689

Employees

Decarbon Technologies¹



€3.4 billion

€28 million

15,101

Materials Services



€13.6 billion

€178 million

16,329

Steel Europe



€12.4 billion

€320 million

26,822

Marine Systems



€1.8 billion

€73 million

7,745²

1. Pro forma, AT in new structure incl. Forged Technologies, Springs & Stabilizers and Automation Engineering, DT in new structure incl. Rothe Erde (former Bearings), thyssenkrupp nucera, Uhde und Polysius
2. Pro forma, without employees tk Transrapid GmbH



Automotive Technology

Dependable partner to the auto industry

€7.9 billion

Sales¹

€266 million

Adjusted EBIT¹

31,689

Employees¹

The thyssenkrupp group's automotive division develops and manufactures **high-tech components** and **systems** and **vehicle assembly lines** for the international auto industry.

The product and service portfolio includes **chassis technologies** such as steering and damping systems, components for **conventional** and **alternative powertrains**, the **assembly of axle systems**, as well as the development of **assembly systems for bodywork construction** and the **mass production of lightweight body components**. Furthermore, we specialize in the production of **springs and stabilizers** for various types of vehicles, as well as components and systems for **tracked vehicle undercarriages**.

Automotive Technology has a **global production network** comprising more than 90 sites in Europe, Asia, and North and South America.



Automotive Technology Business Units

Automation Engineering



Automotive Body Solutions



Automotive Systems



Bilstein



Dynamic Components



Forged Technologies



Springs & Stabilizers



Steering

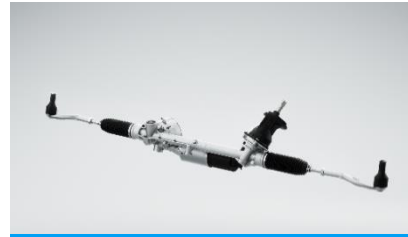


Components and services for the automotive industry

Automotive Technology¹



€7.9 bn sales¹
31,689 employees¹



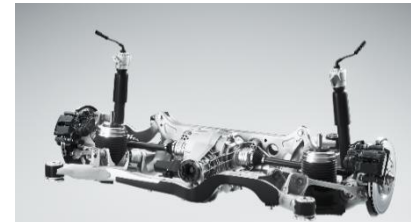
Steering



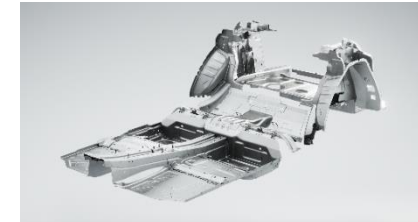
Bilstein



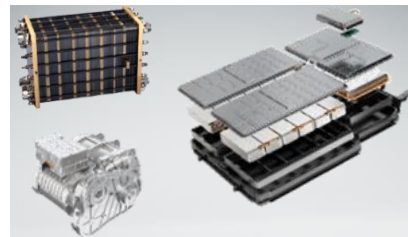
Dynamic Components



Automotive Systems



Automotive Body Solutions



Automation Engineering



Springs & Stabilizers



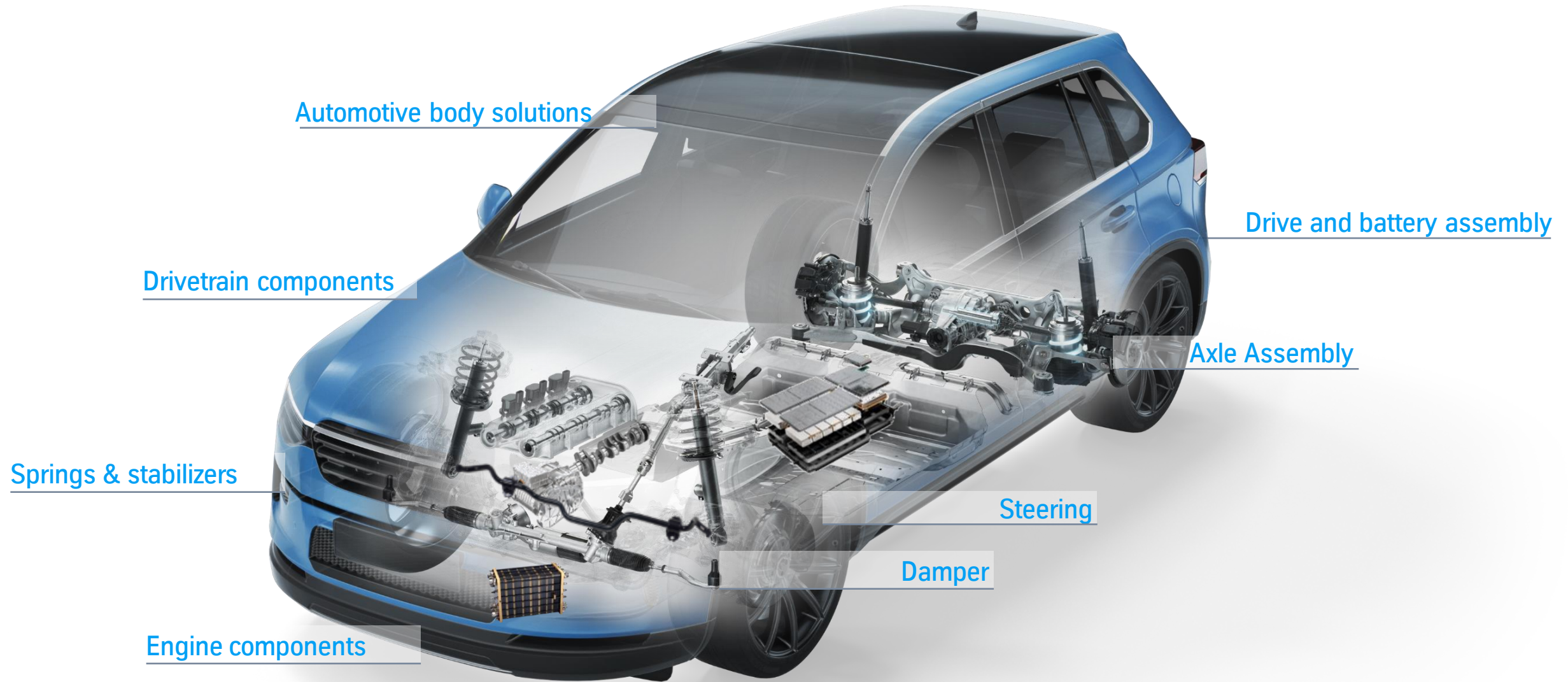
Forged Technologies

Our competencies: Mission critical chassis and powertrain components & plant engineering services

¹ Pro forma, AT with new structure incl. Forged Technologies, Springs & Stabilizers and Automation Engineering



Our products in Light Vehicles



Leading market positions as an automotive supplier



9 out of 10
premium light vehicles
are driven by our
components

Every **fourth** car in the
world is equipped with
thyssenkrupp steering
components!

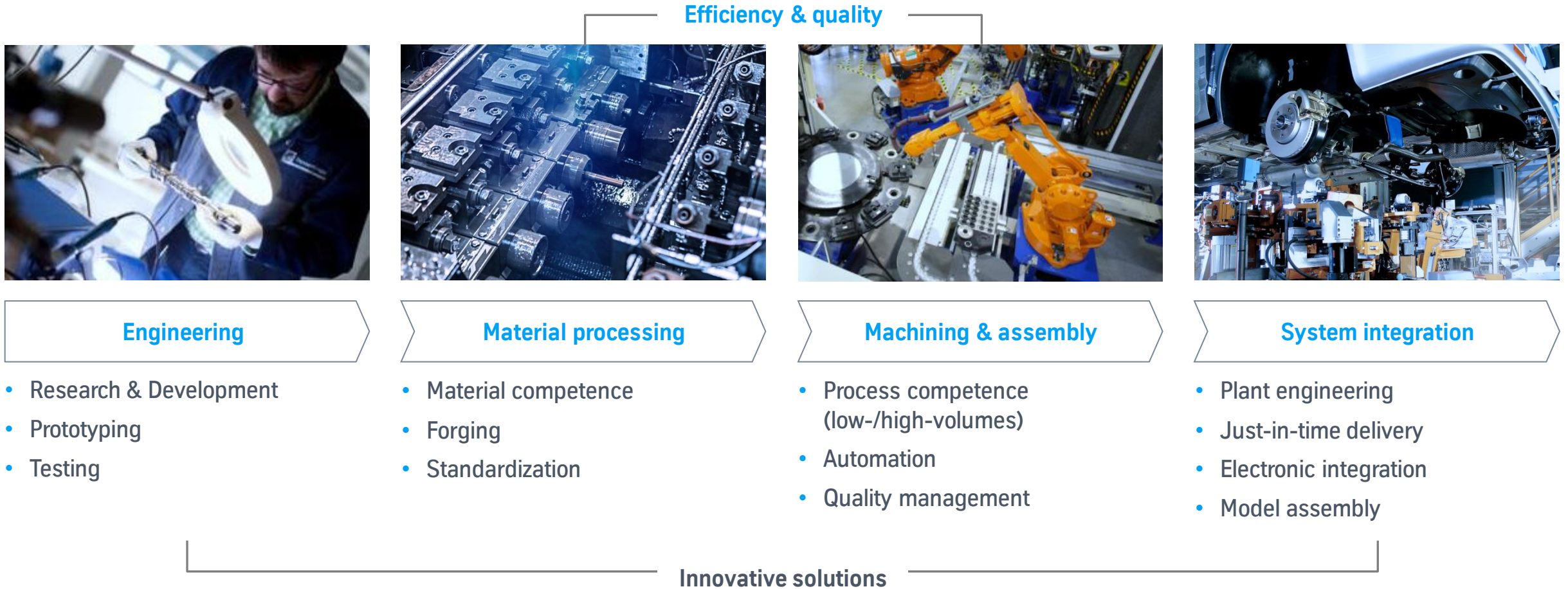
thyssenkrupp **Bilstein**:
One of the world's most
prominent brand for
high performance shock
absorbers.

Over **100 million** vehicles
worldwide rely on our
valvetrain solutions

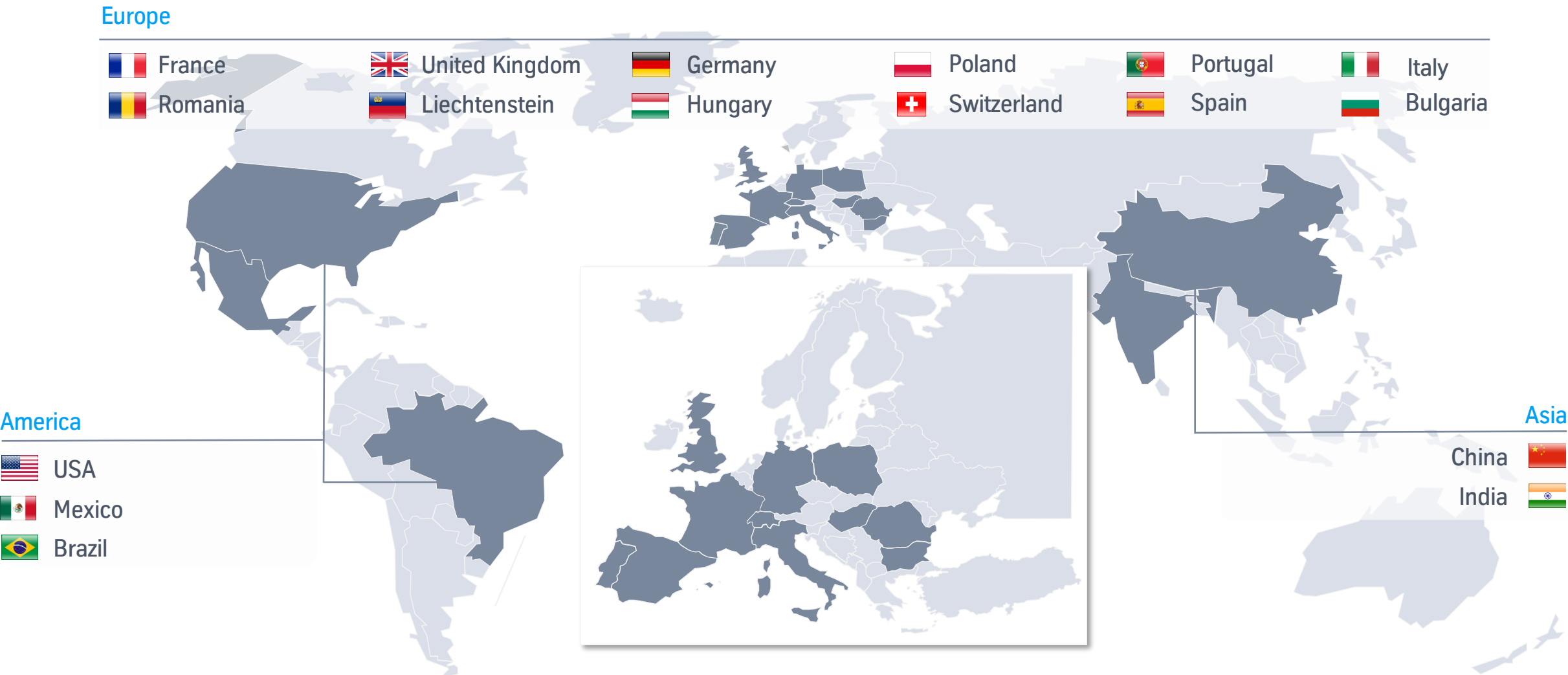


Our strength: Integrated value chain

Focus on efficient, robust processes and innovative solutions



Business Segment Automotive Technology: 93 production sites worldwide



A large orange industrial robotic arm is positioned over a complex assembly line. The line features various mechanical components, including blue pneumatic cylinders, metal brackets, and a series of blue and white plastic parts arranged in rows. The background shows a factory setting with other machinery and structural elements.

Business Unit Automation Engineering

Services: Production systems for powertrain & battery

12 sites worldwide

Business Unit Automation Engineering – Products & services

Assembly, testing and service solutions for:

Powertrain



We feel at home in the technical implementation of complex production systems for the electric and conventional drive train.

Here, we place a special focus on the assembly and testing of electric drive units with the associated components such as rotors and inverters.

Battery



Regardless of the cell shape, we offer our customers reliable, flexible and, if required, highly automated plant technology for the implementation of cell, module and pack assemblies. Depending on customer requirements, the degree of automation and variability can be individually tailored.

Specially developed and proven solutions are used for special processes such as joining, inspection or testing technology.

Fuel cell & electrolyzer



Our production facilities are based on both clocked and flow processes. We cover the entire value chain from MEA (Membrane Electrode Assembly) and bipolar plates to stacking and balance-of-plant assembly.

We meet the high demands of the often high-frequency quality testing with a variety of our own solutions, such as leak tests or end-of-line tests.



Business Unit Automotive Body Solutions

Services: Car body solutions

9 sites worldwide



Business Unit Automotive Body Solutions – Services

Integrated body solutions



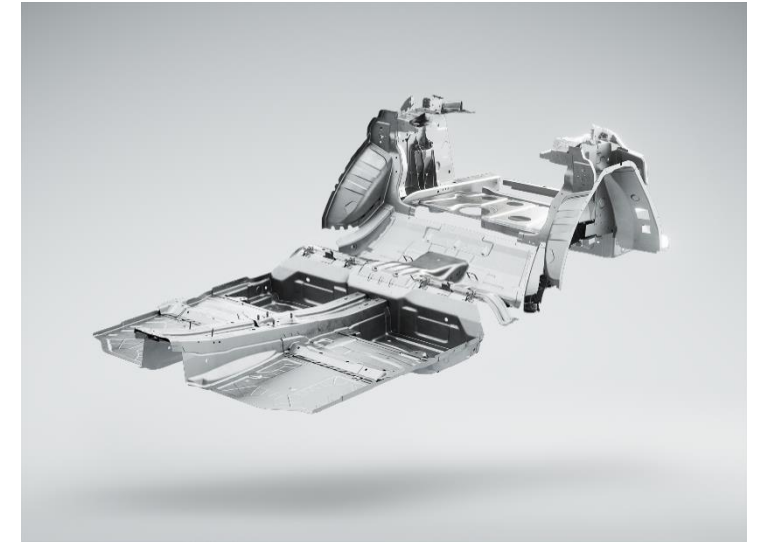
Automotive Body Solutions covers the entire value chain from manufacturing equipment and tooling to car body production. For customers, this offers the advantage that a single supplier assumes overall responsibility for quality and also ensures a very fast and flexible build-up of series production capacities.

Project business



The project business comprises the operating equipment needed for automotive prototype and series production of car bodies. Our product portfolio ranges from prototype construction, die construction and plant engineering to standard products such as folding, door sealing, laser and adhesive systems.

Serial production



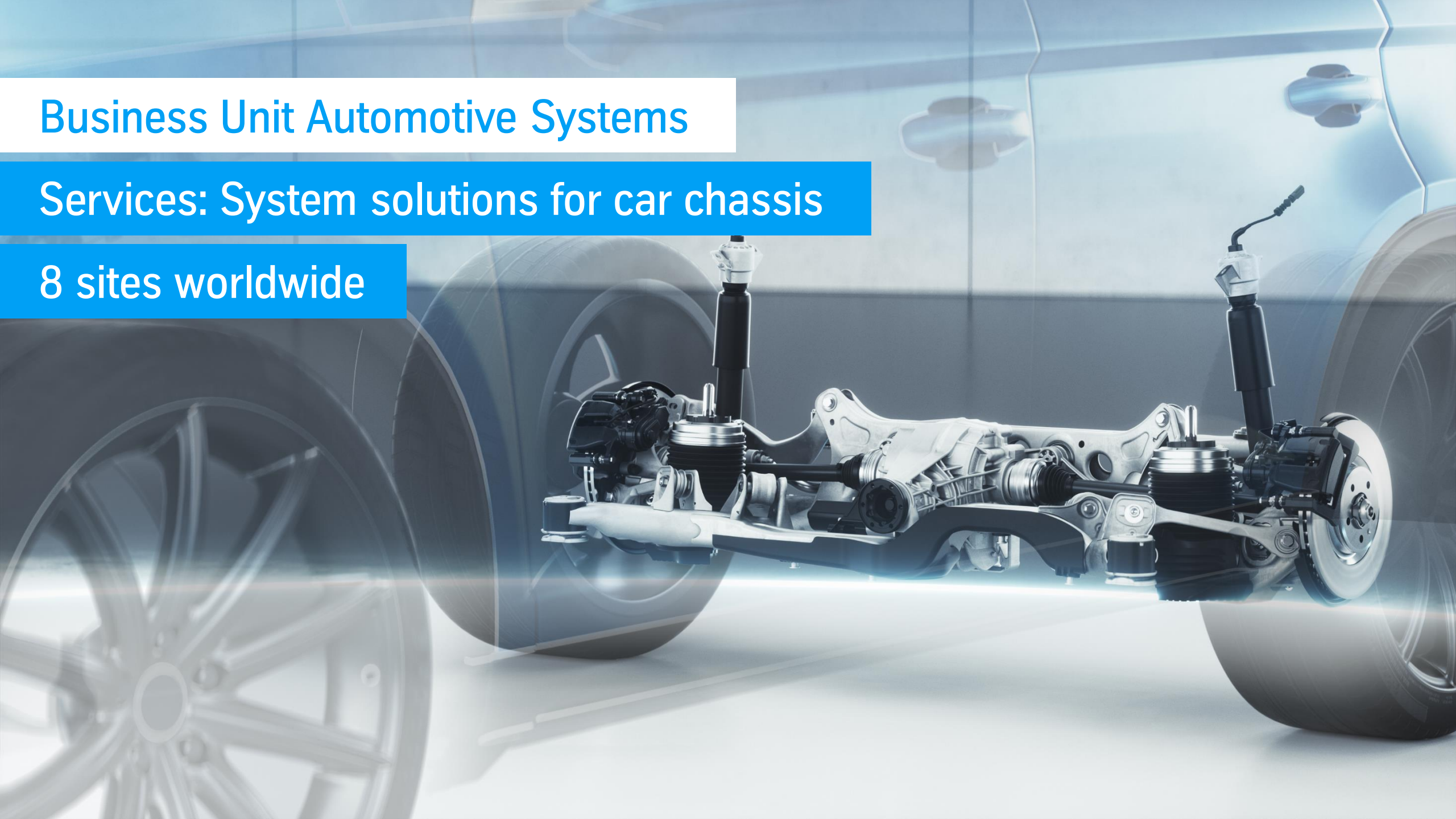
In the area of serial production, our customers will find the right partner for sophisticated and complex body structures and components including ready to paint car bodies.



Business Unit Automotive Systems

Services: System solutions for car chassis

8 sites worldwide



Business Unit Automotive Systems – Services

Module assembly



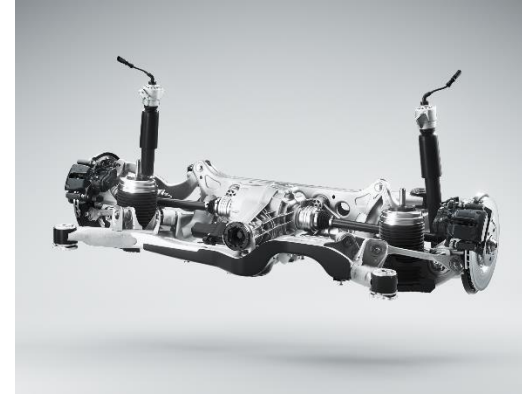
Module assembly includes the assembly of individual components that are grouped into smaller assembly units and ordered separately by the OEM.

Just-in-sequence/Just-in-time



We deliver chassis systems to OEMs just-in-time and just-in-sequence. Though synchronous with the sequence of the production requires the utmost from systems and processes.

System assembly



Front and rear axle assembly and on request assembly of powertrain. Specially installed assembly lines are used for these complex systems.

Other services



In the business area of axle assembly, we offer a series of additional services. For example, these include supplier management and assembly services as well as logistics and quality management.



Business Unit Bilstein

Products: Dampers & Suspension struts

9 sites worldwide



Business Unit Bilstein – Products

Conventional/passive dampers



The classic hydraulic gas-pressure shock absorber is used in most automobiles today. For our partners in the auto industry we are constantly developing new solutions to improve road holding and driving enjoyment.

Semi-active dampers



Sensors detect the current driving situation. A control unit records this information and optimizes the damping force for each damper individually. This provides greater safety as well as higher driving comfort.

eSuspension



Equipped with the innovative combination of a conventional controlled shock absorber and an active hydraulic cylinder, eSuspension technology enables fully active adjustment of the suspension to any driving situation - for an unprecedented feeling of comfort in any driving situation.

Aftermarket



Stock replacement, tuning and motorsports – throughout the world thyssenkrupp products stand for outstanding suspension quality and performance.



Business Unit Dynamic Components

Products: Drivetrain components

10 sites worldwide



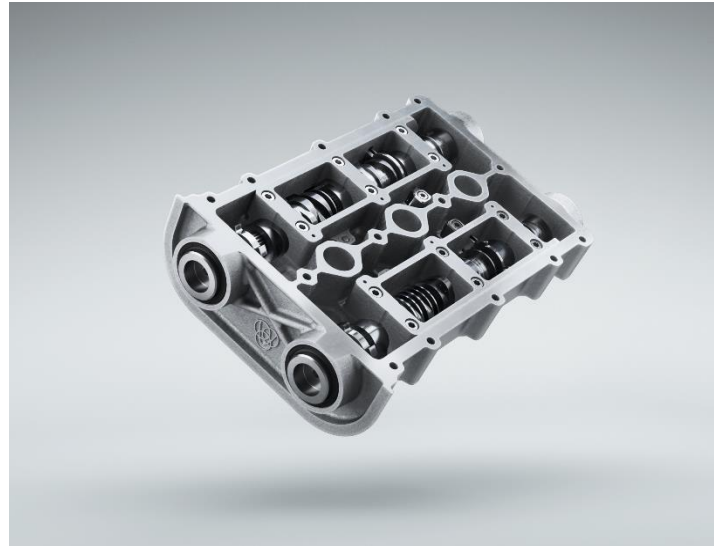
Business Unit Dynamic Components – Products

Conventional valve train



Assembled camshafts and cylinder head cover modules enable weight savings and make a significant contribution to reducing emissions in your vehicle fleet.

Variable valve train



Assembled camshafts and cylinder head cover modules with integrated cylinder deactivation and stroke variability enable even greater efficiency in the existing installation space.

Electric drive



Rotor shafts as an essential core component of the electric drives in weight-optimized design.



Business Unit Forged Technologies

Products: Forged components

16 sites worldwide



Business Unit Forged Technologies – Products

Engine components



Crankshafts and connection rods are used in nearly every type of combustion engine. These components are critical to successful, trouble-free motor function – and not only now, but over many years.

Truck chassis parts



Forged and machined front axle beams are a safety critical components for the chassis of trucks. These components are manufactured on one of the world's most efficient forging lines in Homburg, Germany.

Undercarriages



The thyssenkrupp brand Berco supplies manufacturers and operators of chain-driven construction machinery with a complete range of high-quality undercarriage systems and components.

Aftermarket



The designated Berco Aftermarket organization provides spare-parts for the global dealer network. A high level of flexibility and availability is the foundation for customer service.



Business Unit Springs & Stabilizers

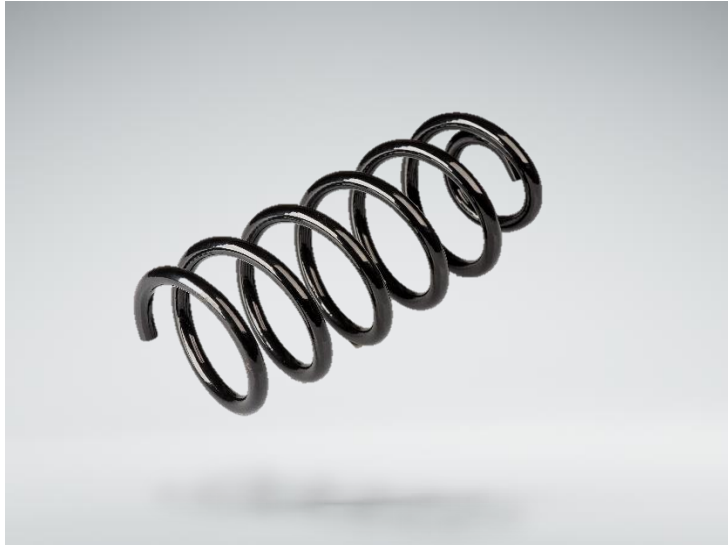
Products: Springs & Stabilizers

8 sites worldwide



Business Unit Springs & Stabilizers – Products

Coil Springs



We offer a wide range of coil springs, from barrel springs (miniblock springs) and conical springs to side load compensating springs, cylindrical coil springs and ThermoTecSprings®. We are also experts in the design and validation of suitable spring seats, sleeves, and appropriate assembly processes.

Stabilizer bars



We offer a great portfolio ranging from solid and tubular stabilizers to light weight stabilizer bars for the automobile industry and work towards meeting special requirements for weight reduction, while maintaining the same functionality and long service life.

Heavy duty business



We also offer leaf springs and heavy stabilizer bars that are typically utilized in heavy duty vehicles and are specifically manufactured to withstand higher vehicle weight. Beside chassis springs we also produce power springs for the application in brake cylinders of trucks.





Business Unit Steering

Products: Steering systems

21 sites worldwide

Business Unit Steering – Products and Services

Steering Mechanic Systems & Components



Single components and systems for steering torque transmission, steering wheel position adjustment, crash energy absorption and interfaces to the vehicle environment

Steering Mechatronic Systems



Full range of layouts, assistance levels and safety goals of brushless motor driven electrically powered steering systems (EPS).

Software



Low and high level software for the safety and functionality of all steering systems. Software modules for the interaction of steering, powertrain, brakes and dampers.

Services



Concept, simulation, prototypes and test bench validation. Testing with modular demonstrator vehicles and in customer vehicles. Benchmark competition systems.

Advanced Engineering (OEM cooperations)



Stand-alone and OEM-cooperation in the fields of innovations and future mobility. Steer-by-Wire, Autonomous Drive, Vehicle Motion Control, Brake-by-Wire, etc.

Non-steering Mechanic Components



Wide range of cold forged components for unlimited applications in automotive and non-automotive applications

