

SCHAEFFLER



Creative Technology for Automobiles
Precision that Moves You





Engineering and Manufacturing – At the Customer’s Side, Everywhere in the World

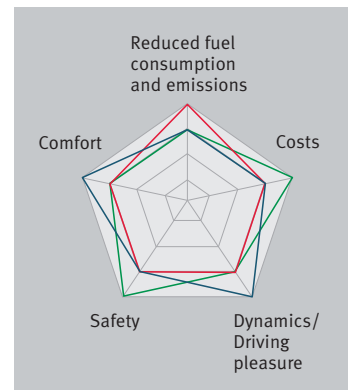
Being close to our customers is one of Schaeffler’s hallmarks. Our 180 locations around the world ensure that we are precisely where our customers need us – nearby. Our engineering, production and maintenance services provide a local presence and a local commitment to each region. Together with our customers, we develop solutions on site that fulfill the specific needs of the different markets. Our local manufacturing facilities enable us to provide just-in-sequence deliveries, rapid response times and service right at the customer’s doorstep.

Creative Technology for Automobiles

Higher fuel economy and lower emissions, increased safety and comfort, greater driving pleasure: faced with the realities of dwindling resources, ever-increasing global mobility and a growing strain on the environment, today's automobiles must satisfy a wide array of demands while reconciling seemingly contradictory trends. We fully understand tomorrow's automotive engineering challenges. Together with our customers, we are hard at work developing tomorrow's solutions – today.

With its INA, LuK and FAG brands, Schaeffler develops and manufactures precision components and systems for engines, transmissions and chassis applications. Our wide range of products includes components for both vehicles with internal combustion engine drivetrains, as well as solutions for hybrid vehicles and electric mobility.

Thanks to our global network of R&D centers, manufacturing plants and subsidiaries, we enjoy a strong presence with comprehensive engineering and production capabilities in all markets. Our expertise in state-of-the-art manufacturing technologies enables us to deliver the highest levels of precision, flexibility and cost-effectiveness in volume production.



Schaeffler supplies technically and economically sophisticated solutions for the most varied requirements of the automotive industry.



Switchable valvetrain components, such as switchable tappets, allow an engine's performance characteristics to be optimally adapted to the particular driving situation. The resulting improvements in fuel economy and emissions are an indispensable contribution to tomorrow's transportation needs.



The INA Brand: From Needle Roller Bearings to the Fully Variable Valvetrain

Engineering and manufacturing expertise, exceptional collaborative relationships with our customers and a high degree of creativity – these are the hallmarks of quality that have long made INA a pioneering innovator and engineering partner for the automotive industry. Over the years, INA has evolved from being a provider of individual bearings and components into a supplier of comprehensive system solutions. This product portfolio spans a remarkable range of products and technological innovations from valve-lash adjustment elements, partially and fully variable valvetrains as well as chain and belt drive systems, to transmission bearings and components, all the way to bearings for chassis and accessory drive units as well as electromechanical systems.

It all began with an ingenious idea when Dr.-Ing. (E.h.) Georg Schaeffler developed the cage-guided needle roller bearing in 1949. Compared with conventional bearings, this new type of bearing was significantly lighter, more reliable, more compact and could also be used at higher speeds – advantages that had a profound impact on the automotive industry, particularly in the design of transmissions. By 1951, the cage-guided needle roller bearing was already being produced in large volumes. And just two years later, it was standard equipment on vehicles such as the legendary VW Beetle. In 1959, INA began developing and manufacturing engine components.

Today, in close cooperation with its customers, INA develops and manufactures components for engines, transmissions and chassis. Its unique expertise in manufacturing technology guarantees both precision and economic efficiency in high-volume production runs.



The remarkable success story of INA's cage-guided needle roller bearing began inside automotive transmissions. Our automotive division has continuously expanded ever since. In the late 1950s, INA started manufacturing engine components. Today, variable valvetrain technology helps to increase fuel economy and reduce emissions.



Safety and comfort are absolutely critical in a modern vehicle. Wheel bearings with integrated sensors not only perform the basic tasks of rotating, supporting and guiding the wheel, but they also capture data on driving conditions and provide indispensable information that is used to regulate anti-lock braking (ABS), traction control (ASR) and stability control (ESP) systems.



The FAG Brand: From Ball Bearings to Advanced Wheel Bearings with Integrated Sensors

In the automotive sector, FAG develops and produces rolling bearings in high volumes for engines, transmissions and chassis applications throughout the world. FAG's core competencies not only include bearings for transmissions, clutches, MacPherson struts and spring seats, but also – in particular – wheel bearings. In this area, FAG focuses on the integration of mechanical and electronic components, such as sensors in wheel bearings that measure wheel force and braking power. FAG is also considered a technology and market leader for hub assemblies and insert bearings used by manufacturers of commercial vehicles and axles. These products set the highest standards for safety, durability and load carrying capacity.

The FAG brand's success story began with a groundbreaking idea: In 1883, Friedrich Fischer invented the ball grinding machine. This device made it possible – for the first time in history – to produce large numbers of absolutely round steel balls by grinding. With this invention, Fischer provided the foundation for the entire rolling bearing industry.

Today, FAG remains a pioneering innovator with a broad product portfolio not only for all types of motor vehicles, but also for applications in almost every industrial sector – from machine tools to wind power. FAG has been part of the Schaeffler Group since 2001.



FAG has been a pioneering innovator for rolling bearings since 1883. This applies especially to FAG wheel bearings, which have been used in passenger cars and commercial vehicles since the very beginning of automotive engineering. For example, today's "Twin Tandem" angular contact ball bearings are used in trucks and SUVs.



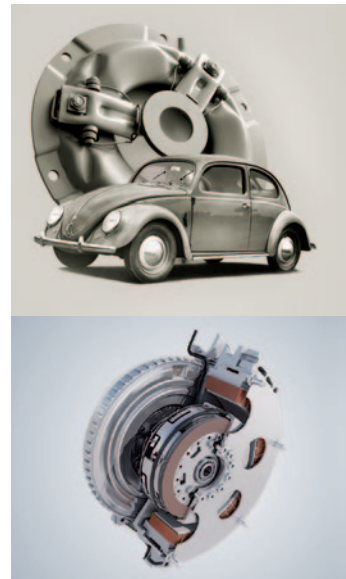
Modern double clutch transmissions increase drivetrain efficiency by combining the fuel economy of a manual transmission with the comfort of an automatic transmission. They offer an excellent foundation for progressively hybridizing the drivetrain on a modular basis – from mild to full hybrid.



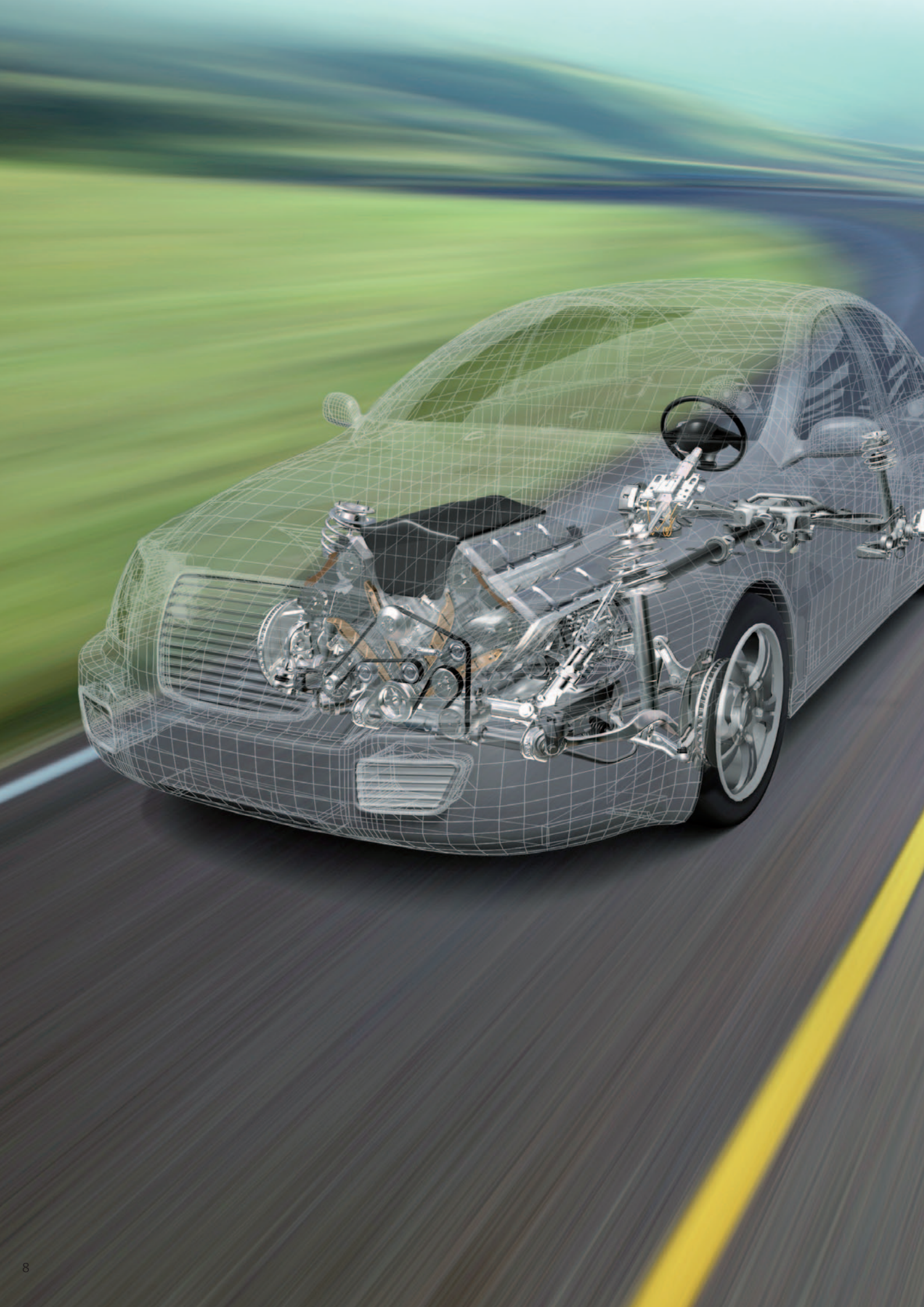
The LuK Brand: From the Diaphragm Spring Clutch to Innovative Transmission Components

For nearly five decades now, LuK has been synonymous with innovation, customer focus and quality for numerous products that make up a vehicle's drivetrain. These qualities have made the brand a highly sought-after international partner for the automotive industry. When Dr.-Ing. (E.h.) Georg and Dr. Wilhelm Schaeffler founded LuK in 1965, their goal was to supply diaphragm spring clutches for the successor of the VW Beetle. Today, almost one car in three worldwide is fitted with a LuK clutch.

As a technology leader in many areas, LuK can look back on a legacy of having developed many groundbreaking innovations. In 1965, LuK was the first company in Europe to market a diaphragm spring clutch, and in 1985 it launched the first dual mass flywheel. This was followed by the introduction of components for CVTs that could handle more than 300 Nm of torque, as well as the "easytronic" – the world's first electromagnetically-automated manual gearbox. In 1997, LuK began engineering and manufacturing torque converters in the U.S.; Germany followed in 2004. Current R&D efforts focus on components for hybrid drives as well as on the further development of conventional transmission components, in particular of future-oriented double clutch systems.



LuK's success story began with the introduction of the first diaphragm spring clutch in Europe. Modern hybrid clutches are the vital link that gives effective distribution of the drive forces supplied by the internal combustion engine and the electric motor.



SCHAEFFLER



FAG

A Systems Partner

of the Automotive Industry

Schaeffler Automotive

Modern cars are not only expected to be dynamic and powerful, but also quiet and economical, while, at the same time, comfortable and safe. It takes creative technology using innovative products to reconcile these apparently conflicting trends. And all these requirements apply not only to vehicles with classic internal combustion engine drivetrains, but also to hybrid and electric vehicles. As a partner of the automotive industry, we are the leaders in developing and manufacturing system solutions for the demanding challenges facing our automotive future.

Close relationships with our customers and collaborative development work are hallmarks of Schaeffler Automotive. Using innovative ideas, creative engineering and comprehensive manufacturing expertise, we provide solutions for our customers that begin at the product-development phase and continue through to volume production.

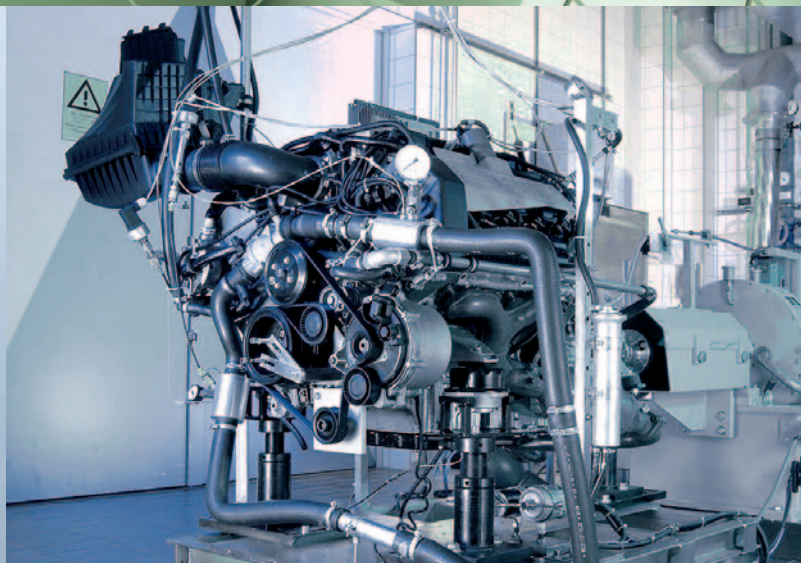
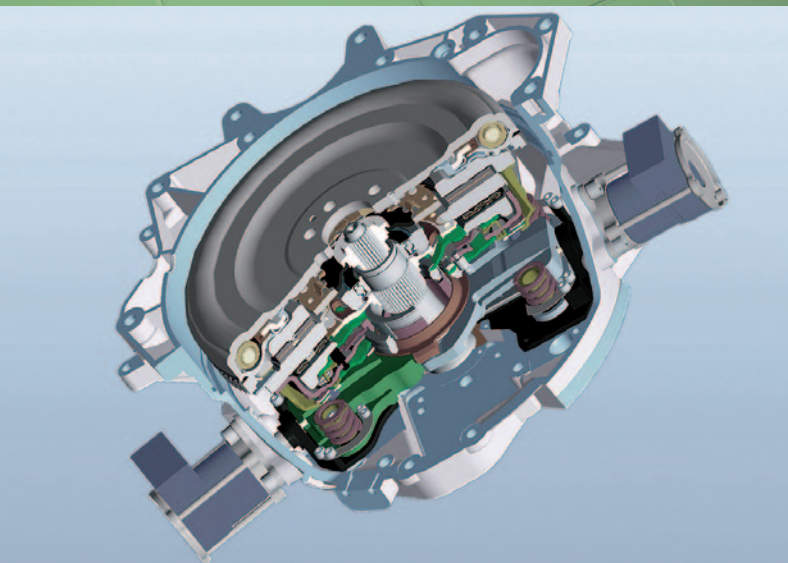
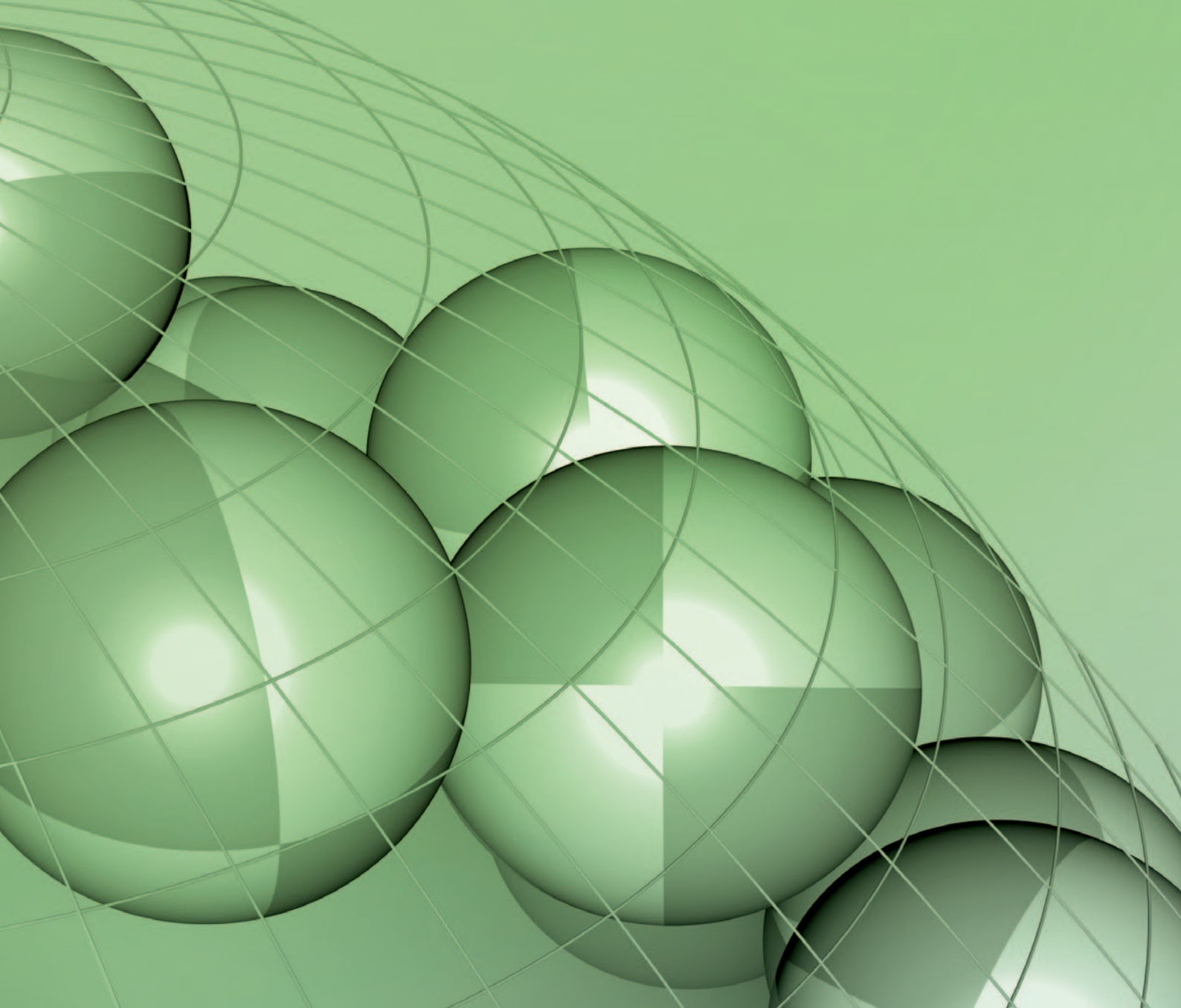
Approximately 5,500 Schaeffler employees are constantly focused on product development, conceiving about 1,000 new products every year. Operating 40 R&D centers, Schaeffler can draw upon a global network of development expertise. The eMobility Systems Division is part of this worldwide network. Complex drive units, consisting of transmission, electric motor, power electronics and software are developed here and integrated into the vehicle. The eMobility Systems Division helps to move people into the future in a more sustainable and comfortable manner.

Efficient Engineering

From the moment the initial concept begins to take shape, we are already assisting our customers with state-of-the-art engineering techniques and our expertise in manufacturing technology. For the design and modeling phase, we employ FE analysis, calculation software developed in-house, as well as dynamic simulation methods. Rapid prototyping and flexible sample production allow us to quickly manufacture pre-production models, which we then optimize on test rigs and proving grounds, as well as under realistic conditions with regard to functionality, durability and efficiency.

This process enables us to shorten development times while still ensuring the highest standards of quality. Not merely restricted to individual products, our expertise extends to the entire system. We test single components as well as the complete vehicle and optimize our products, always keeping the entire system in mind.

We also perform basic research on innovative materials and in tribology. Our materials development is focused on improving the properties of existing materials, sometimes even replacing conventional substances. Here, a major focus is on developing innovative component coatings that are designed to extend service life and reduce friction.



We always consider the entire system, not just individual components. With our resources for calculation, simulation, prototyping and testing, we can handle even the most complex functional requirements and development processes.

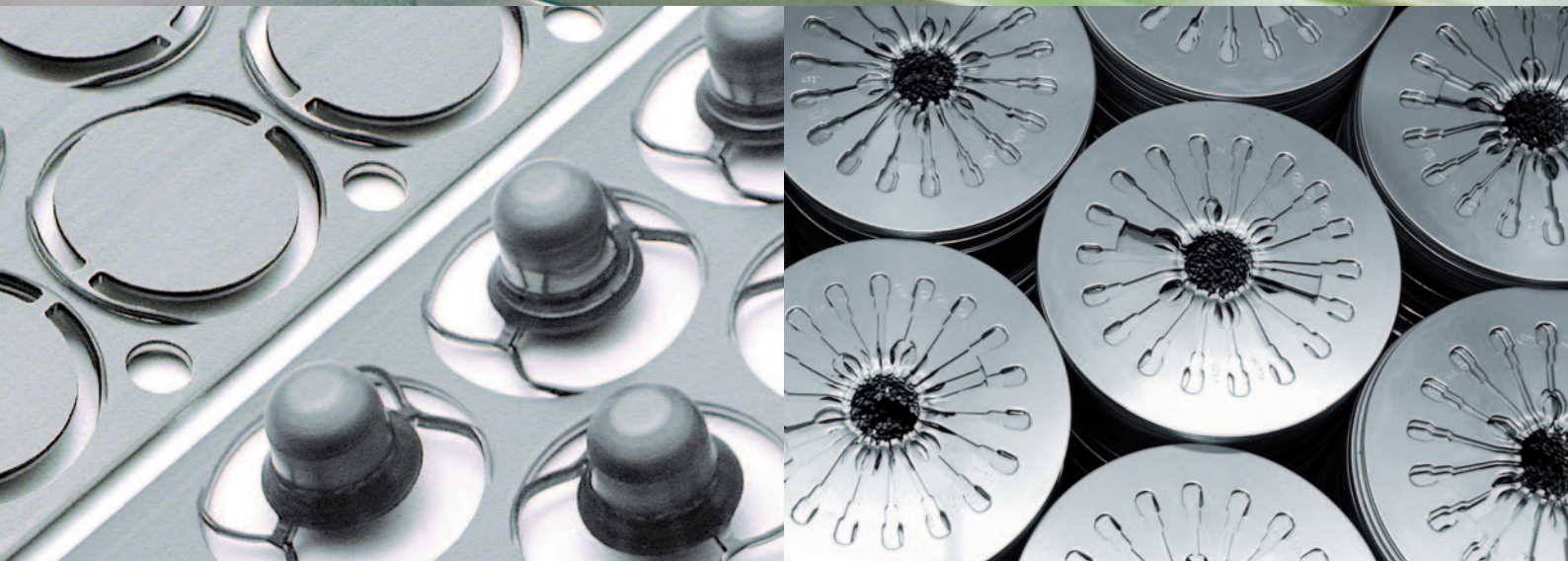
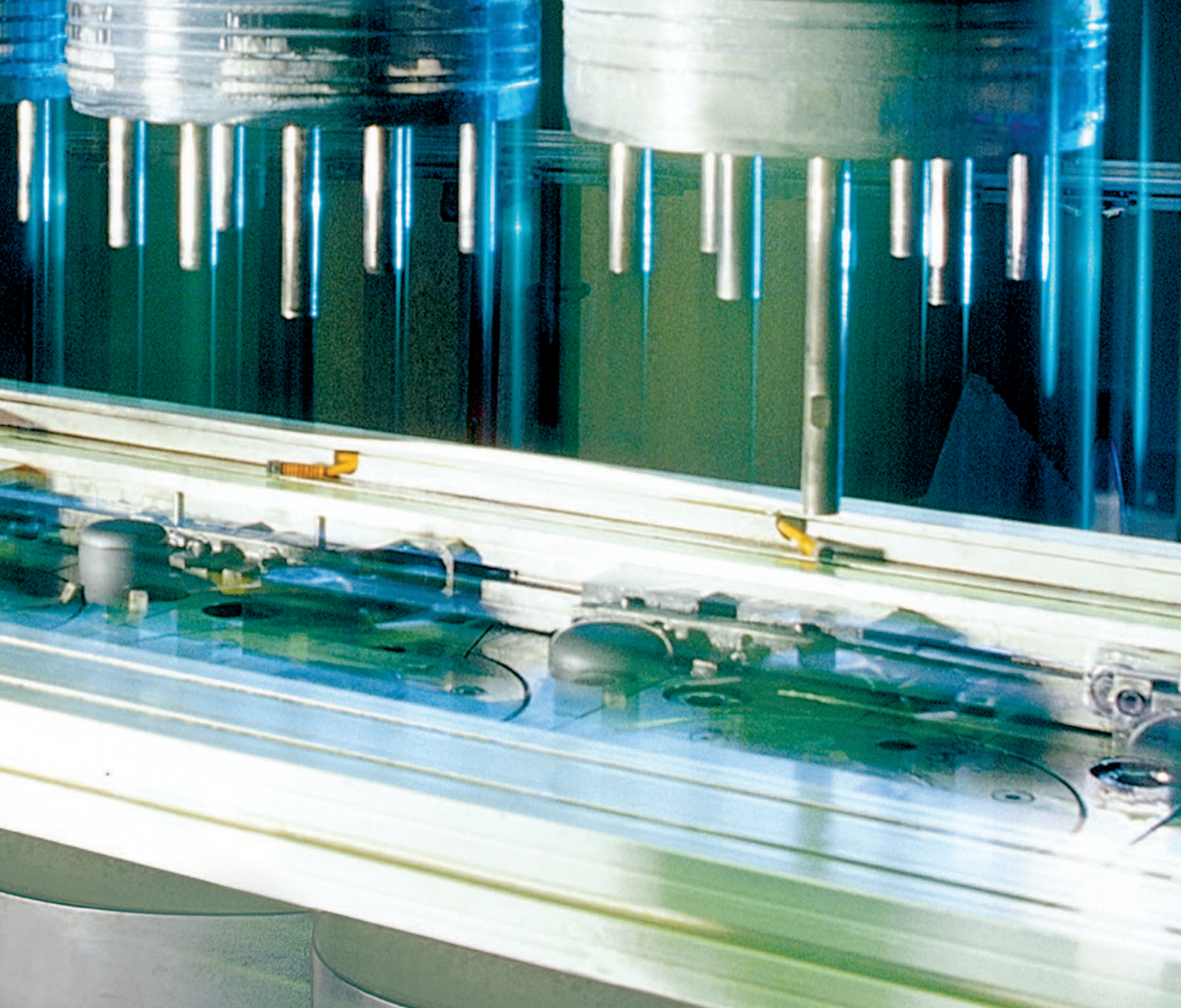


High-Performance Manufacturing Techniques

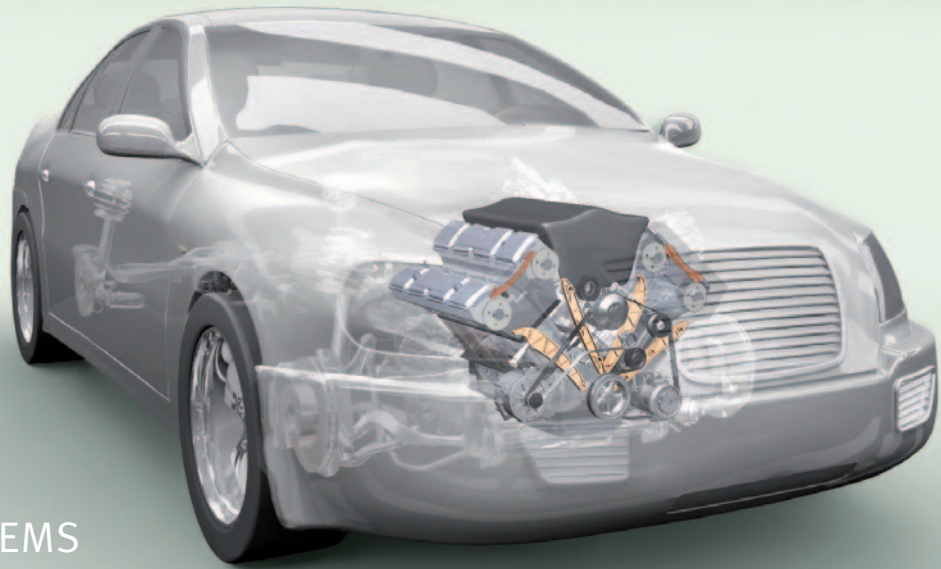
From the product development process to the production stage, Schaeffler Automotive is constantly focused on developing the manufacturing process. As a global supplier, we have access to employees, technologies and manufacturing facilities that ensure cost effectiveness and quality in volume production, as well as just-in-sequence delivery all over the world.

Efficient production methods are a prerequisite for being able to economically manufacture precision products in large quantities. When employing efficient manufacturing technologies, we are able to draw upon our vast and unique body of knowledge. All quality-related work is performed in-house, mostly on networked and automated manufacturing lines. This allows us to make sure that our products maintain a consistently high standard of quality, while our customers benefit from an outstanding price/performance ratio.

Quality as a central corporate goal has been firmly anchored at Schaeffler in the form of the Zero Defect target, which applies to all processes and products. A uniform quality management system in all plants worldwide ensures compliance with high standards that are verified and monitored by means of regular audits. Numerous certificates gained in accordance with top international standards verify the success of our quality policy. We consider these certificates and commendations to be obligatory for the continuous enhancement of our quality standards. We understand this to be a prerequisite for further expanding our leadership role with regard to technology, reliability and economic efficiency.



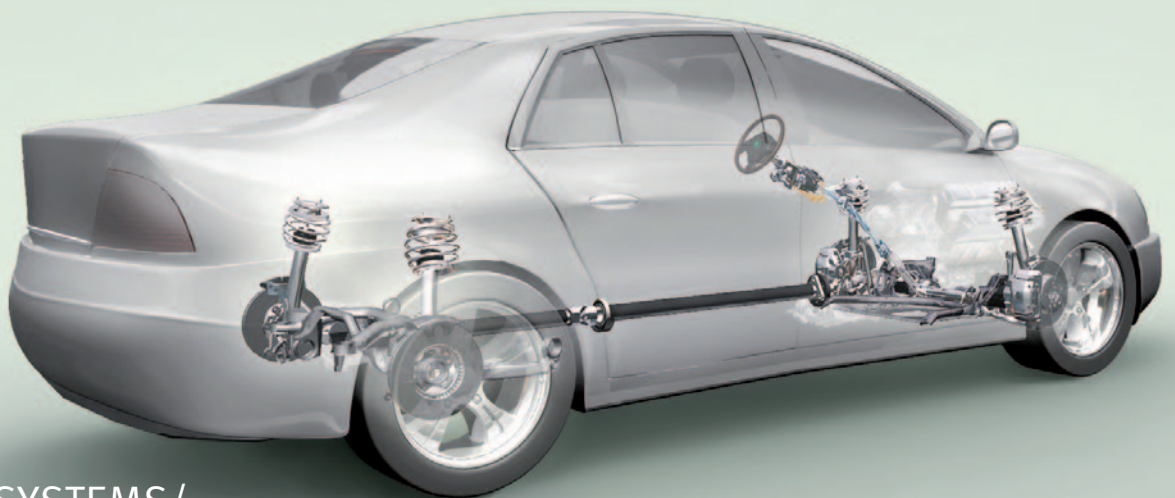
We have unmatched expertise in modern manufacturing technologies and push the limits of today's cutting-edge technology. In particular, cold forming through deep drawing combines maximum precision with high cost effectiveness in volume production.






ENGINE SYSTEMS



TRANSMISSION
SYSTEMS



CHASSIS SYSTEMS/
ACCESSORIES

			
Engine Systems Engine Applications, Chain and Belt Drives	○		
Transmission Systems Transmission Applications, Clutch and Transmission Systems, CVTs, Torque Converters	○	○	○
Chassis Systems/Accessories Chassis Applications, Applications for Accessories	○	○	
eMobility Systems Division	○	○	○

A thorough understanding of the systems that comprise the entire automotive drivetrain, combined with comprehensive engineering expertise and manufacturing skills, enable us to perform continuous development work in collaboration with – and for – the customer. Expanding and intelligently networking our real and virtual engineering resources ensures speed, quality and rapid availability.

We put all our skills and expertise into products which we believe provide the answers to the key automotive challenges of today and tomorrow: reduced fuel consumption and emissions, improved active and passive safety systems, as well as greater driving comfort. At the same time, performance and driving pleasure must not fall by the wayside. As a systems partner, Schaeffler Automotive possesses all the key competencies necessary to meet these challenges. With our precision products and systems for engines, transmissions and chassis applications, we offer innovative and cost-effective solutions to our customers.

ENGINE COMPONENTS AND SYSTEMS

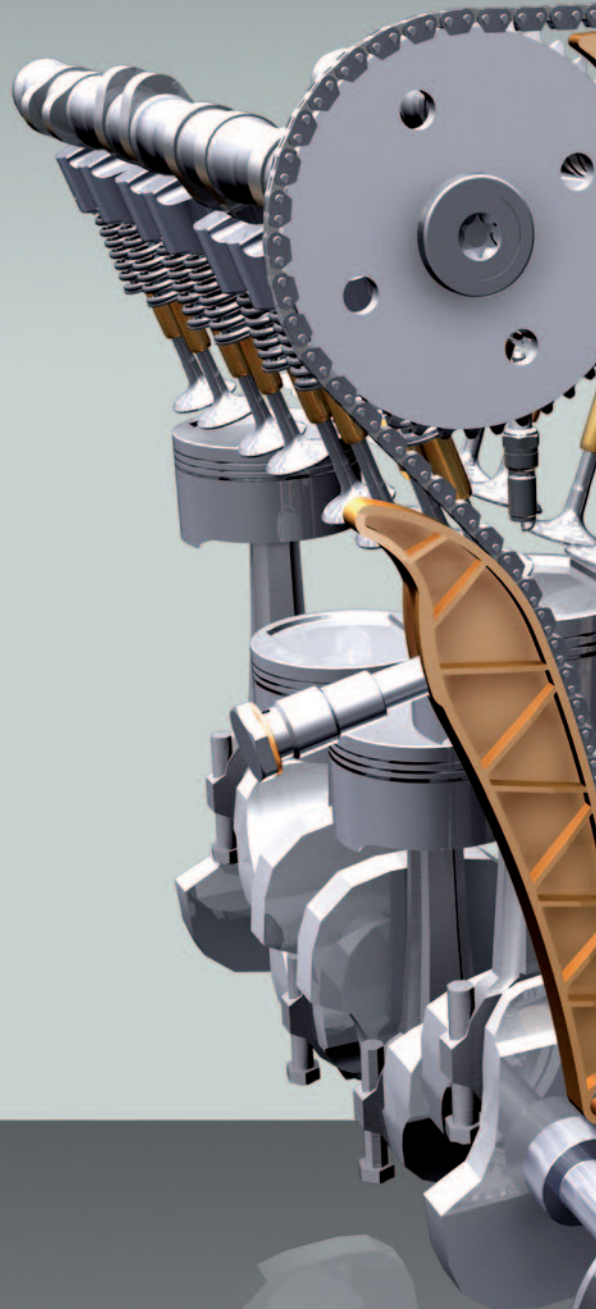
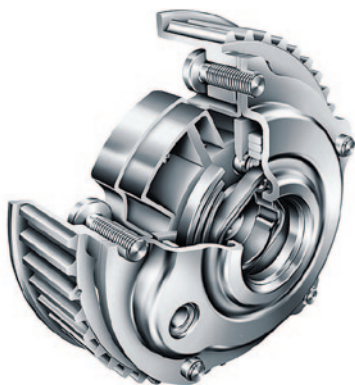
STANDARD VALVETRAINS



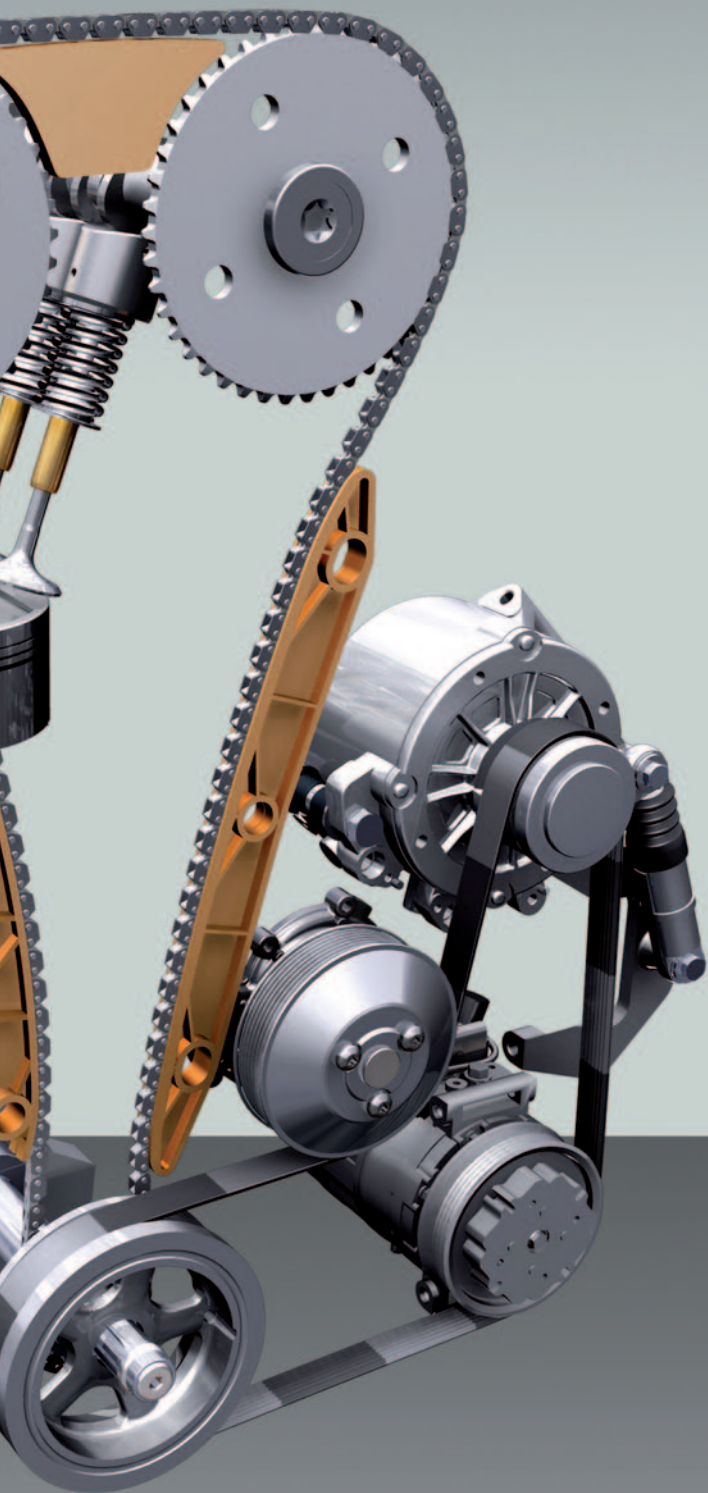
VARIABLE VALVETRAINS



CAMSHAFT PHASING SYSTEMS



Our precision products have a profound impact on helping engines to consume less fuel and comply with increasingly stringent emissions standards. At the same time, they ensure enhanced driving comfort and vehicle dynamics, while also extending maintenance intervals and service life. Our product portfolio includes valve-lash adjustment elements, variable valvetrain and camshaft phasing systems, chain and belt drives optimized for low noise and long service life, as well as rolling bearing supports for engine shafts.



Mechanical Tappets · Hydraulic Tappets · Finger Followers · Rocker Arms · Cam Levers

Maintenance-Free for Life

Components that are used for valve-lash adjustment enable precise valve lash and a low-friction valvetrain – maintenance-free for the entire life of the engine. Schaeffler Automotive develops and manufactures valve-lash adjustment components for engines with overhead camshafts (OHC) or overhead valves (OHV), for direct and indirect drive, as well as for hydraulic or mechanical lash adjustment.

Fully Variable Electro-Hydraulic Valve Control System UniAir · Cam Shifting Systems · Mechanical Switchable Tappets · Hydraulic Switchable Tappets · Switchable Finger Followers · Switchable Pivot Elements · Switchable Roller Tappets · Switchable Valves

Maximum Efficiency

Switchable valvetrain components used for valve-lift adjustment and cylinder deactivation permit a variety of valve-lift curves and optimize the engine's torque characteristics and maximum power output. Depending on the type of engine, it is therefore possible to reduce fuel consumption and exhaust emissions while increasing power and torque. Cylinder deactivation is predominantly used in large-displacement engines and leads to significant improvements in fuel economy.

Camshaft Phasing Units for Chain Drives · Camshaft Phasing Units for Belt Drives · Solenoid Valves

Economical and Dynamic

Camshaft phasing systems also make a significant contribution to reducing fuel consumption and emissions. They optimize valve timing across a wide range of engine loads and speeds, thereby increasing vehicle dynamics and driving pleasure. Belt- and chain-driven systems are available that can be used to adjust either a single camshaft, both camshafts synchronously, or both camshafts independently of each other. Lightweight camshaft phasing units are made from deep-drawn sheet metal.

Chain Drive Systems · Tooth, Roller and Sleeve Chains for Primary Drive Systems · Tensioner Blades and Chain Guides · Chain Tensioners (Main Drive) · Camshaft-Drive Tensioners (Auxiliary Drives)

CHAIN DRIVES

Precision and Reliability

Schaeffler is the only company in the world with a complete range of chains for automotive applications that encompasses all types of engine timing chains, tensioned chains for continuously-variable automatic transmissions and drive chains for transfer cases and differentials. Schaeffler also develops and manufactures all ancillary components for chain drives, such as chain tensioners, chain guides and chain sprockets.

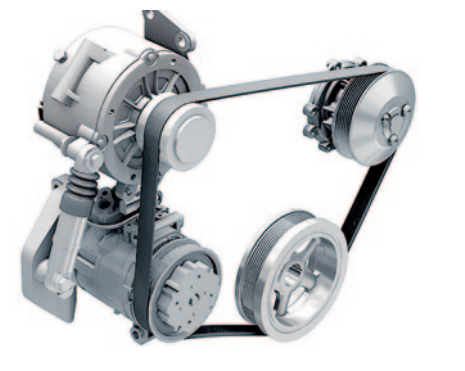


Belt Drive Systems · Primary Drives · Toothed-Belt Tensioners for Primary Drives · Toothed Chains in the Primary Drive · Auxiliary Drives · Mechanically-Dampened Belt Tensioners · Hydraulically-Dampened Belt Tensioners · Belt-Driven Starter Generator Drives (RSG) · Tensioning Systems for Belt-Driven Starter Generators · Tensioner and Idler Pulleys · Overrunning Alternator Pulleys (OAP) · Thermal Management Modules

BELT DRIVES

Smooth Running and Low Vibration

Belt drives are used for controlling engine timing and for driving accessories. As a systems supplier, we develop and manufacture tensioner and idler pulleys, hydraulic and mechanical belt-tensioning systems, as well as alternator decoupling devices. Operating absolutely maintenance-free, these systems are perfectly matched to each other and set the standard for durability. The belt-driven starter generator represents a highly effective approach to hybridizing the drivetrain. This device allows the engine to operate in a comfortable and efficient start/stop mode, thereby making a significant contribution toward reducing fuel consumption and emissions. The thermal management module is a key to energy-efficient engine temperature control.



Rolling Bearing Supports for Balancer Shafts · Lightweight Balancer Shafts · Rolling Bearing Supports for Camshafts · Rolling Bearing Supports for Crankshafts

ENGINE SHAFTS SUPPORTED BY ROLLING BEARINGS

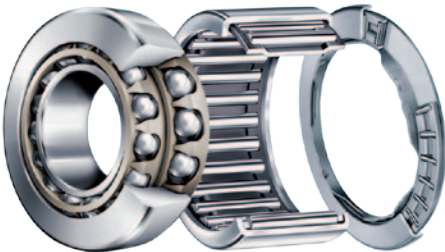
Less Friction inside the Engine

Schaeffler Automotive develops innovative solutions for rolling bearing supports in crankshafts, camshafts and balancer shafts that offer considerable potential for reducing power losses in the engine, and, therefore, improved fuel economy and lower emissions. Balancer shafts with rolling bearing supports, for example, generate approximately 50% less friction compared with shafts supported by plain bearings. Schaeffler has also succeeded in developing an optimized design for balancer shafts that is up to 40% lighter with no performance losses.



TRANSMISSION COMPONENTS AND SYSTEMS

BEARING SUPPORTS FOR TRANSMISSIONS AND REAR AXLE DRIVES



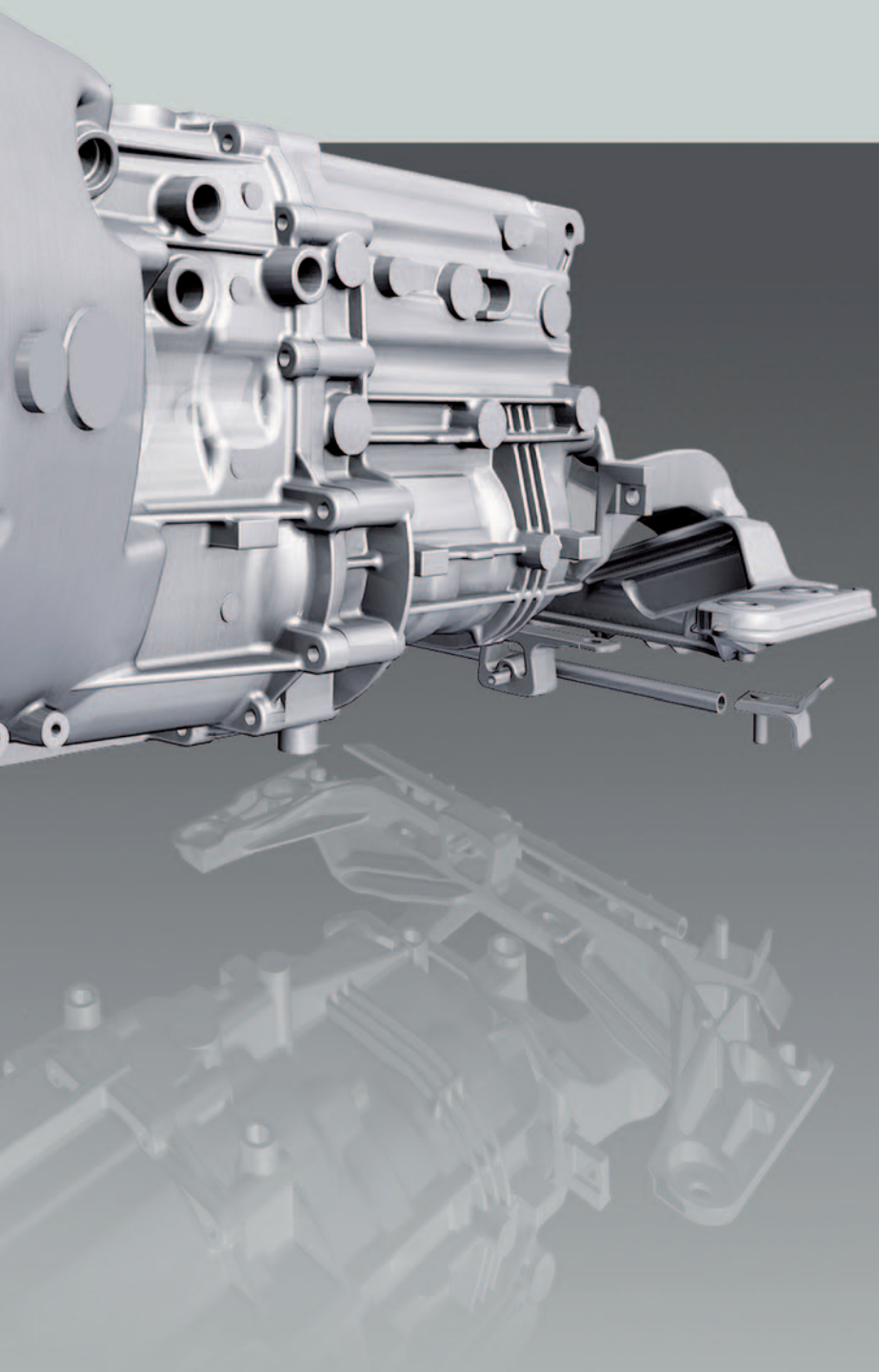
LIGHTWEIGHT DIFFERENTIALS



CLUTCHES/SHIFT SYSTEMS/ SYNCHRONIZERS



Recent years have seen the development of several new types of transmissions that have already made it into volume production. Automated manual transmissions, double-clutch transmissions and CVTs have joined the “classic” manual and automatic transmissions. Applications designed for alternative drive systems, such as hybrid drivetrains, round off the spectrum of future transmission designs. With its innovative components and systems, Schaeffler Automotive is significantly advancing the development of all types of designs and concepts in pursuit of increased driving comfort and reduced fuel consumption.



Needle Roller Bearings · Ball Bearings · Tapered Roller Bearings · Drawn Cup Roller Bearings · Planetary Gear Sets · Angular Contact Ball Bearings · Tandem Angular Contact Ball Bearings

A Systematic Approach

Schaeffler Automotive offers system solutions for all the bearings used in a transmission system – space-saving, low-friction and capable of handling high loads. This also includes solutions for radial and axial bearing supports of transmission shafts and gears, as well as complete planetary gear sets. When devising solutions, we look beyond the individual bearing, as we understand and consider the entire system. Conventional tapered roller bearings are being replaced by tandem angular contact ball bearings with two different pitch circles that are designed to support pinions and differentials in the front and rear axle drives. Less friction, and therefore reduced heat build-up, results in significantly higher efficiency which in turn leads to improved fuel economy. This allows modern cars to lower exhaust emissions and consume less fuel, while extending the service life of the individual components.

Lightweight Differentials

Weight reduction and more space

More compact, lighter, quieter, more efficient and even higher performance – these are the attributes of the innovative lightweight differential. The completely new architecture of this component allows the installation space to be reduced by 70%. The lightweight differential has spur gears arranged as a planetary gear set in one plane, which results in 30% lower weight compared with the conventional design. The lightweight differential is also a key component for innovative solutions in electric mobility, such as the eDifferential.

Clutches · Clutch Discs · Clutch Release Systems/Clutch Release Bearings · Peak Torque Limiters · Clutch-Servo Assistance · Linings · Shift Systems · Gearshift Units/Gearshift Domes · Drawn Cup Needle Roller Bearing for Linear and Rotary Motion · Shift Detents · Gearshift Sleeves · Intermediate Rings for Synchronizers

Shifting with Feeling

In manual transmissions, our components for clutches, shifters and synchronizers ensure quick, secure and precise gear changes. Our clutch-release systems and self-adjusting clutches require very little force to operate and feature automatic wear compensation. Gearshift and synchronization components deliver smooth shifts – from long and comfortable to short and sporty. Early on in the design process, our simulation technology developed in-house enables us to preview the actual shifting characteristics, so that the “feel” of the shift system matches the intended application.

Solutions for Automated Manual Transmissions · Solutions for Double-Clutch Transmissions · Solutions for Hybridized Double-Clutch Transmissions

Automated Solutions Come in Twos

We are a vital partner of the automotive industry in the development of new transmission designs. Recent innovations include automated manual transmissions and double-clutch transmissions that offer comfortable operation and dynamic performance while reducing fuel consumption. A concept used in hybrid drives is the hybridized double-clutch transmission. By integrating an electric motor, all the hybrid features – such as the start/stop function, regenerative braking and the ability to downsize the combustion engine through a booster function – are available without adding extra components.

SOLUTIONS FOR DOUBLE-CLUTCH AND AUTOMATED TRANSMISSIONS



Pulley Sets for CVTs · Chains for CVTs · Torque Converters · Torque Converter Lockup Clutches

Enhanced Comfort through Automatic Transmissions

In addition to supplying the complete set of bearings for shafts and gears as well as planetary gear sets, Schaeffler Automotive also offers components for automatic transmissions, especially torque converters and torque converter lockup clutches. With our components for continuously-variable transmissions (CVTs), such as pulley sets, link-plate chains and hydraulic components, we brought the first high-performance CVT to market in partnership with Audi. This can be used with powerful engines that generate up to 400 Nm of torque.

SOLUTIONS FOR AUTOMATIC TRANSMISSIONS



Dual Mass Flywheels · Balancer Shaft Dampers · Crankshaft Dampers

TORSIONAL VIBRATION DAMPERS

A Smooth-Running Drivetrain

The dual mass flywheel makes it possible to enjoy a more comfortable driving experience while consuming less fuel, as it reduces the vibrations in the drivetrain. Among its many contributions, this innovation has had a profound impact on the success of the diesel engine. The innovative dual mass flywheel with centrifugal pendulum-type absorber is another key component for improved fuel economy and lower exhaust emissions, and it enables even higher driving comfort at the same time. Today, there are also components available that can dampen vibrations in the engine, such as dampers for crankshafts and balancer shafts.



CHASSIS AND ACCESSORY COMPONENTS AND SYSTEMS

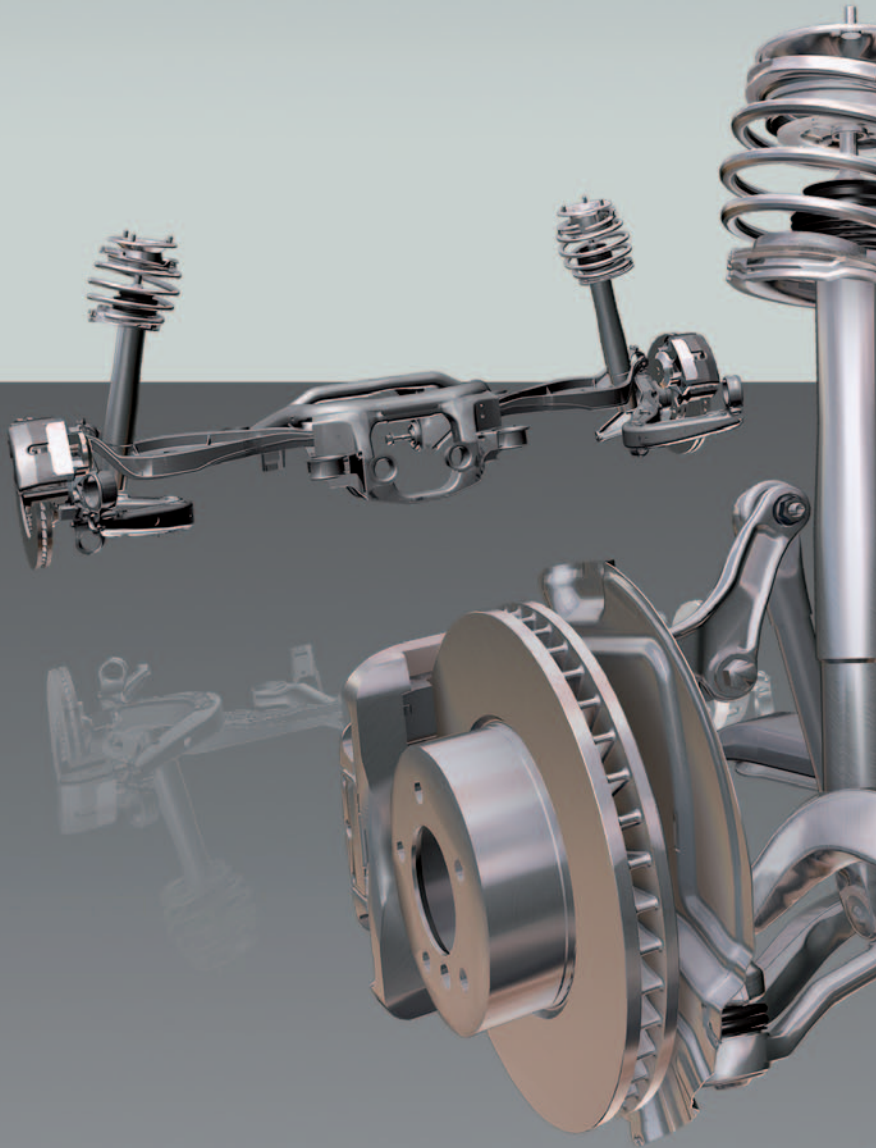
BEARINGS FOR CHASSIS APPLICATIONS



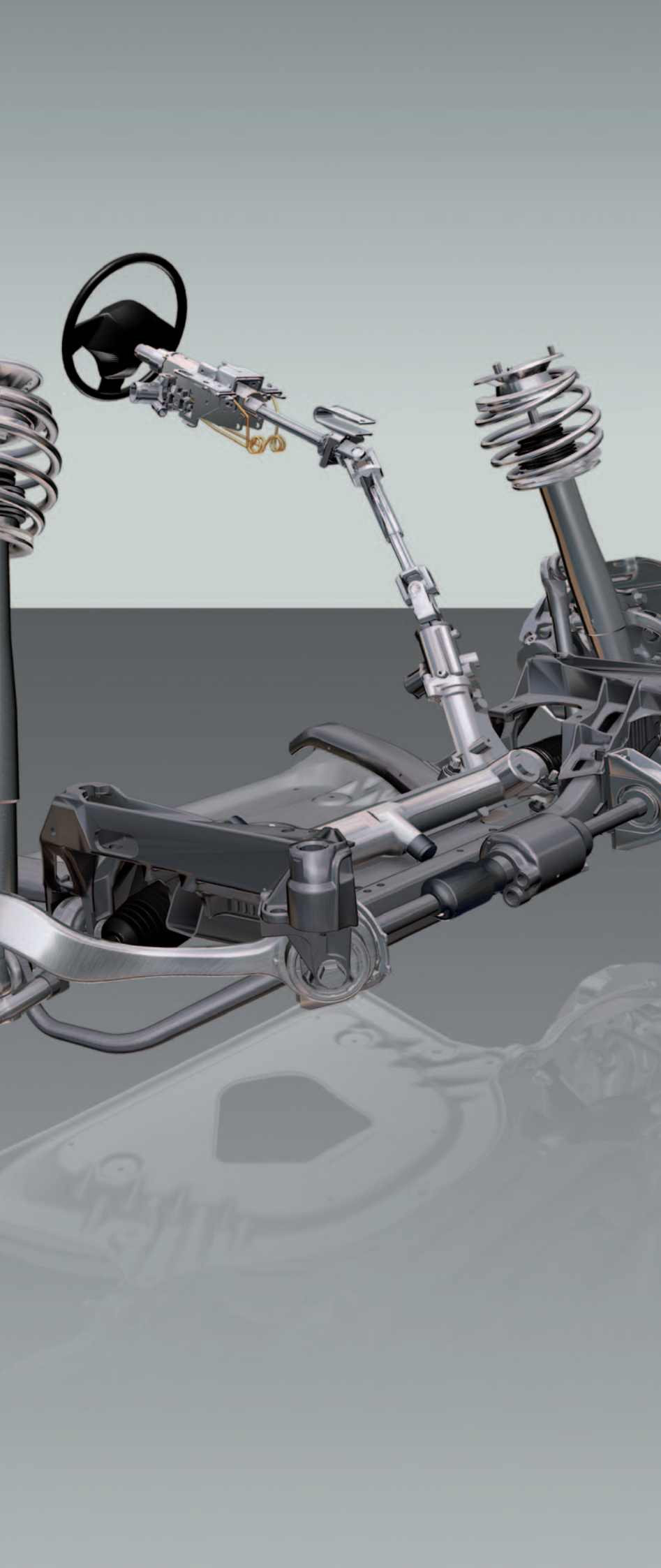
BEARINGS AND COMPONENTS FOR THE STEERING COLUMN



WHEEL BEARINGS



Today, our solutions for chassis applications go far beyond mere bearings – we have reengineered them to the point that they are now complete mechatronic systems: with sophisticated technology ranging from integrated sensors for capturing data, to electromechanical actuators for active chassis applications. While our focus is on increased safety and comfort, our products also meet the demands for cost-effectiveness, compact dimensions, ease of installation and maintenance-free service life. Bearings for accessories and special applications for commercial vehicles round off our product portfolio.



MacPherson Strut Bearings · Spring Seat Bearings · Universal Joint Bearings (IPH fitting method) · Tripod Rollers

Sophisticated Solutions

Our bearing solutions for the chassis are fully engineered – from design through production to assembly. Our drawn and hardened universal joint bearings, for example are designed to transfer torques in steering shafts and driveshafts with zero backlash. Compared with conventionally-manufactured products, they offer significantly higher load carrying capacity. To optimize running smoothness, we have even developed a special assembly technique along with the corresponding machines.

Steering Column Bearings · Clamping Devices · Linear Bearings/ Displacement Bearings · Power Steering Pump Bearings

Precise and Comfortable Steering

The steering not only controls the vehicle's direction, but it also directly communicates driving "feel" and comfort to the driver, while also contributing significantly to driver safety. Here, the bearings inside the steering column play a crucial role. Our extensive R&D work on bearings and components for the steering column has resulted in greater protection for the driver in crash situations, improved steering comfort and reduced vibrations in the steering wheel.

Wheel Bearings · Wheel Modules · Four-Row Angular Contact Ball Bearings (Twin Tandem)

Innovative Wheel Bearing Solutions

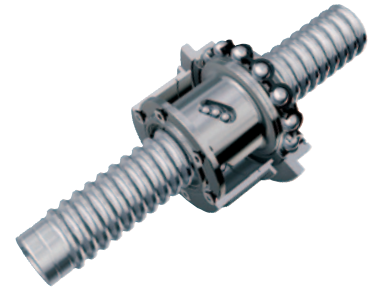
Our solutions for maintenance-free wheel bearings range from compact bearing units to highly-integrated assemblies that incorporate the wheel carrier. Built-in sensors supply data used for the controlling of ABS, ESP, as well as active-chassis settings. Wheel forces can be measured continuously. For wheel bearings in vans, SUVs and light trucks, we have developed a special four-row angular contact ball bearing that can replace conventional tapered roller bearings and significantly reduces fuel consumption and emissions. The innovative wheel bearing with face spline offers capacity reserves in addition to weight reduction, optimized installation and longer service life.

Roll Stabilizers · Ball Screw Drives · Electromechanical Steering Systems · Ride-Height Leveling Systems · Track and Camber Adjustment

ELECTROMECHANICAL ACTUATORS

Ingenious Technology for Active Chassis Applications

Our electrically-driven ball screw drive actuators can be used in numerous innovative automotive chassis applications, for example in electromechanical steering systems. Offering greater comfort, lower costs and reduced fuel consumption, these systems can replace the complex hydraulic power steering systems. Other application examples include electromechanical roll stabilizers and brakes, as well as active chassis-adjustment systems for ride-height leveling, or for track and camber adjustment.

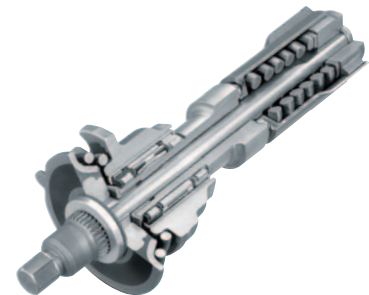


Kingpin Bearings · Stabilizer Bearings · Brake Adjusters · Half-Shells · Insert Bearings

APPLICATIONS FOR COMMERCIAL VEHICLES

Safety and Durability

We also develop products that are specifically designed to meet the requirements of commercial-vehicle chassis. Our automatic adjuster unit for brakes used on commercial vehicles compensates for brake lining wear, thereby ensuring optimum braking performance. Kingpin bearings used in the steered axles in commercial vehicles can absorb radial and axial loads. They are maintenance-free and sealed to keep out moisture and dirt. Superior reliability and durability distinguish our range of wheel bearings that have been specifically developed for commercial vehicles; they deliver miles and miles of maintenance-free service.



ABS Pump Bearings · Throttle-Valve Bearings · Turbocharger Bearings · Starter Motor Bearings · Air-Conditioning Compressor Bearings · Water Pump Bearings · Plain Bearings

BEARINGS FOR ACCESSORY DEVICES AND VEHICLE INTERIORS

Reliable under Extreme Conditions

Accessory devices in vehicles require specific bearings to ensure reliable operation. Whether in ABS pumps or water pumps, throttle valves or bearing supports in the air-conditioning compressor and starter – we have developed the right products for every application. Each is matched to the part’s specific function and operating environment, thereby ensuring smooth and maintenance-free operation – even under extreme temperatures and dirty conditions, as well as in very tight spaces. We also offer individually-designed plastic-composite plain bearings that are used in the vehicle’s interior, as well as in convertible tops, sunroofs and other automotive applications.





CO₂ncept-10 %

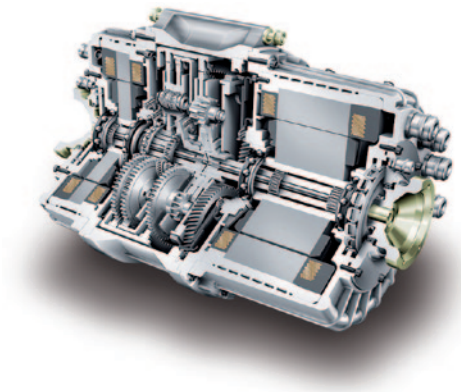


HYBRID TECHNOLOGIES



ACTIVE DRIVE

Versatile expertise for efficient mobility – Schaeffler offers innovative solutions for the optimization of the internal combustion engine drivetrain as well as key components for hybrid vehicles and advanced solutions for electric vehicles. Full of innovative ideas, the CO₂ncept-10 %, Schaeffler Hybrid and ACTIVE DRIVE concept cars demonstrate Schaeffler's wide range of forward-looking solutions.



Cars Full of Ideas for Future Automobility

The concept vehicles CO₂ncept-10 %, Schaeffler Hybrid and ACTIVeDRIVE demonstrate Schaeffler's vision of modern automobility. Full of forward-looking ideas, these cars also serve as platforms for testing various components and systems under realistic conditions.

With its CO₂ncept-10 % vehicle based on the Porsche Cayenne, Schaeffler is impressively demonstrating the improvement potentials that can be achieved through consistent detailed work on vehicles with internal combustion engines. In the case of the CO₂ncept-10 %, these optimization measures cover detailed solutions that are already available or close to volume production, but do not touch the vehicle's basic configuration. Moreover, the optimization of the classic drive train also includes the use of electrified components instead of the previous hydraulically actuated elements.

Based on a compact Opel Corsa, the Schaeffler Hybrid incorporates ideas for various hybrid solutions and serves as a practice-oriented testing laboratory. This versatile and variable advance development project enables a practical comparison of a wide range of options in the field of electric mobility. The driving modes represented range from classic operation with internal combustion engine and operating modes as parallel and serial hybrid with range extender to fully electric driving.

The ACTIVeDRIVE is a purely electric vehicle with four-wheel drive, based on a Skoda Octavia Scout. One of the vehicle's innovations is its active electric differential (eDifferential) which is installed both on the front and on the rear axles. This component combines the electric drive with the option of wheel-selective drive power control. This enables torque vectoring – torque distribution between the right and the left wheel –, which enhances driving dynamics, driving safety and driving comfort. The use of two eDifferentials enables the longitudinal distribution of drive forces. With this innovation, Schaeffler has once again assumed a pioneering role.



For over 30 years now, Schaeffler Automotive Aftermarket has been responsible for the worldwide spare parts business of the three product brands INA, LuK and FAG. With about 11,500 distribution partners around the world as well as 27 sales offices and locations, the company stands for a high level of customer proximity and service quality.

Smooth Repairs, Satisfied Customers!

Innovative Repair Solutions from Schaeffler Automotive Aftermarket

The Automotive Aftermarket division is in charge of Schaeffler's worldwide automotive spare parts business. Its product range encompasses repair solutions for drivetrains, engines and transmissions, as well as for chassis applications. With more than 40,000 items of the INA, LuK and FAG brands – all of them in OE quality – as well as with repair solutions for cars, trucks and tractors, Automotive Aftermarket is a powerful partner of spare parts distributors and repair shops around the world. In addition, its Ruville trademark has earned a reputation as a specialist in the global spare parts business for cars and commercial vehicles and stands for system solutions in OE quality.

Service Concepts and Know-How Transfer

Far beyond the mere provision of spare parts, Schaeffler Automotive Aftermarket has focused right from the beginning on initiating important service concepts and has made significant contributions to providing relevant information to repair shops and car dealers. The company helps to optimize order and delivery processes, it promotes staff qualification and product and systems knowledge, and it offers marketing support. For example, the communication platforms TecDoc and TecCom were co-founded under the auspices of the Aftermarket specialists, as was the Partslife initiative, a disposal and recycling system for the independent automotive spare parts market. Schaeffler Automotive Aftermarket's services also include the market research software Auto-View as well as the Internet-based RepXpert portal that provides a complete vehicle parts catalog, installation instructions and maintenance plans, to name just a few.

As one of the leading global aftermarket organizations, Schaeffler's Automotive Aftermarket division has set itself the goal of continuously working on even better repair solutions and services – in close partnership and collaboration with its customers and for safeguarding the future of the independent repair market.

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We reserve the right to make technical changes.

Together We Move the World

Schaeffler is a world-renowned supplier of precision components and systems for engines, transmissions and chassis applications for the automotive industry, as well as a leading manufacturer of rolling bearings and linear products. As a reliable engineering partner, we satisfy our customers with an unmatched combination of creativity and remarkable innovative ability, convenient locations and immediate accessibility throughout the world, highest levels of quality in all of our processes, as well as the ability to quickly respond to individual needs.

With its three strong brands, INA, FAG and LuK, Schaeffler is a partner of the automotive industry and over 60 sectors comprised in the Industrial Division – from medical engineering and machine tools, wind power and electric mobility to the aerospace industry. Approximately 70,000 employees at 180 locations around the world are dedicated to serving our customers wherever they may be located.

As a family-owned company, Schaeffler is focused on responsible management principles, consistent company growth and actively shaping the corporate culture. Whether we are interacting with customers or with others within the company, our guiding principles are extraordinary commitment and focus, as well as mutual trust and dependability. In everything we do, our work is defined by a passion to continuously improve our products and processes. We are proud to be judged on the merits of these values.



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