

## Cars Full of Ideas for the Automotive Mobility of the Future

Schaeffler's concept vehicles CO<sub>2</sub>ncept-10%, Schaeffler Hybrid and ACTIVEDRIVE show the company's modern approach to automobility. Full of ideas and focusing on the future, these vehicles function as test platforms for realistic testing of various

components and systems. They are true practice-oriented labs. Thus, it's possible to create advanced systems and efficient components and prove their effectiveness on field by using the structure of several car models as a base, without having to change

them completely. Many innovating projects have come up from these working methods with expressive and proven results, which have made Schaeffler a worldwide reference model for the development of products for the automotive segment.

### CO<sub>2</sub>ncept-10%

Based on a Porsche Cayenne, Schaeffler proves the improvement potentials achieved in vehicles with internal combustion engines. Solutions that do not change the vehicles basic configuration. The optimization of the classic drivetrain includes the use of electrified components instead of the hydraulic actuated elements used before.

### Schaeffler Hybrid

Based on a compact Opel Corsa, the Schaeffler Hybrid works as a testing lab. This advanced project facilitates a practical comparison of the various options available in electric mobility – operations with internal combustion engines and the parallel hybrid, serial with range extender up to all-electric drive operation modes.

### ACTIVEDRIVE

Four-wheel drive and based on a Skoda Octavia Scout. Its active electric differential (*eDifferential*) mounted on the front and rear axles, allied to an electric drive, controls the drive power in each wheel individually facilitating the torque vectoring among them.



**SCHAEFFLER**

## The Automotive Industry's System Partner

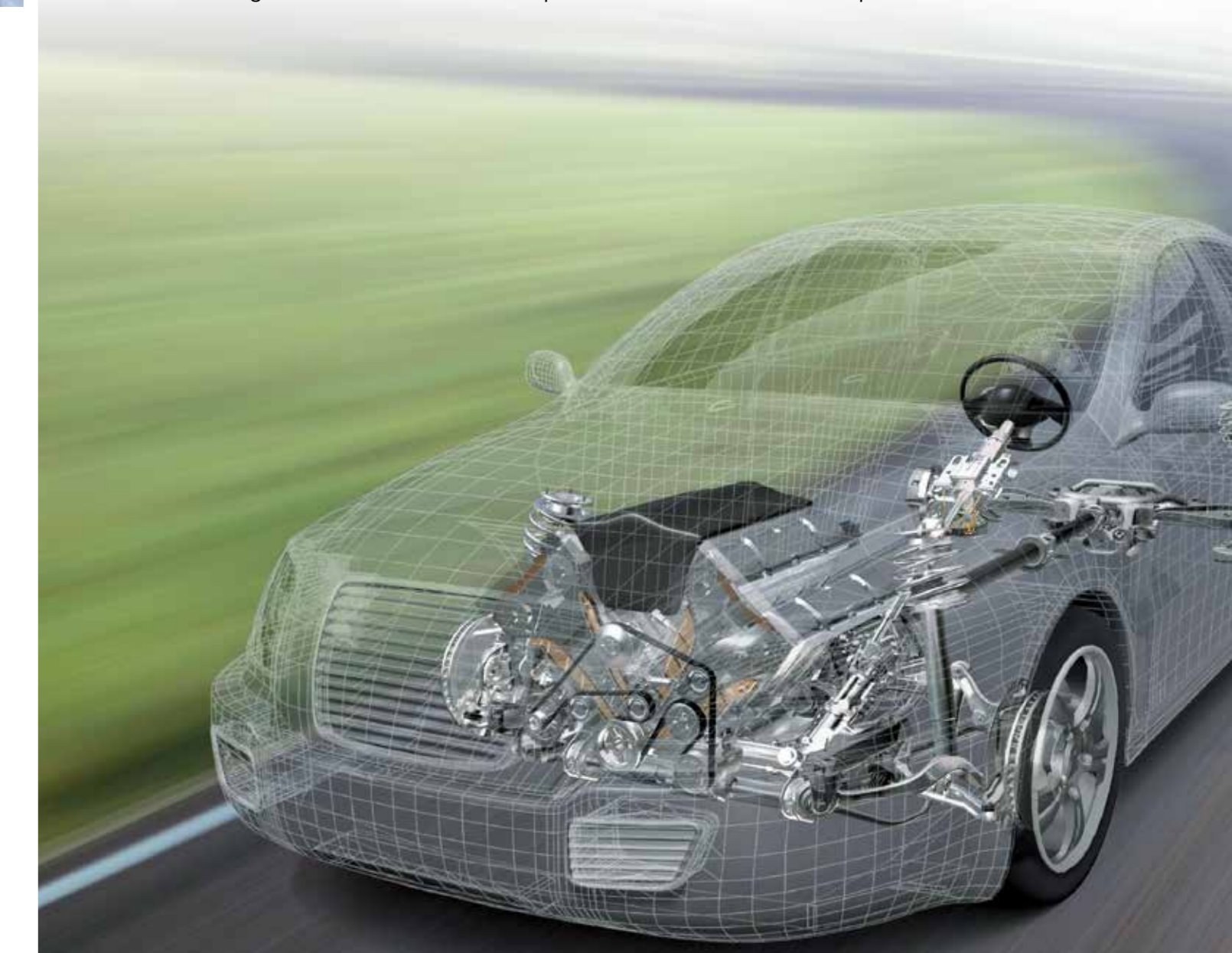
With its INA, FAG, and LuK brands, Schaeffler is active in the automotive, industrial, and aerospace sectors. Approximately 76,000 employees at 180 locations around the world are dedicated to serving our customers wherever they may be located. As a family-owned company, the Schaeffler is focused on responsible 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 commitment and focus, as well as mutual trust and dependability. Close relationships with our customers and collaborative development work are hallmarks of Schaeffler. 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 volume production. With our

R&D centers, applications departments, and manufacturing facilities, we are present in all markets and, therefore, easily accessible to our customers. This way, we are always ready to fulfill your specific needs – quickly, efficiently, and anywhere around the world. Approximately 5,000 Schaeffler employees are constantly focused on new solutions development. Year by year, the fruits of their labor result in the development of some 1,000 new products.

## Creative Technology for Automobiles

Precision that Moves You



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## Creative Technology for Automobiles

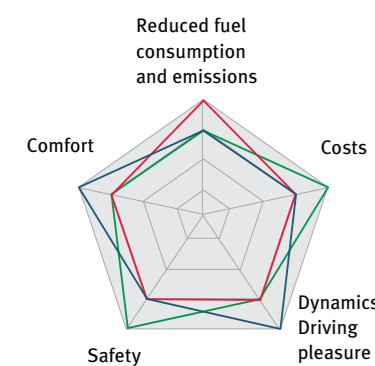
Higher fuel economy and lower emissions... increased safety and comfort... greater driving pleasure. Today's automobiles must satisfy a wide array of demands while reconciling seemingly contradictory trends. We fully understand tomorrow's automotive engineering challenges.

Together with our customers, we are hard at work developing tomorrow's solutions - today. With its INA, FAG and LuK brands, Schaeffler develops and manufactures precision components and systems for engines, transmissions, and chassis applications. 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.



Engine Systems Engine Applications/ Chain and Belt Drives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transmission Systems Transmission Applications, Clutch and Transmission Systems, CVTs, Torque Converters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chassis Systems / Accessory Devices Chassis Applications/ Applications for Accessory Devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
eMobility Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

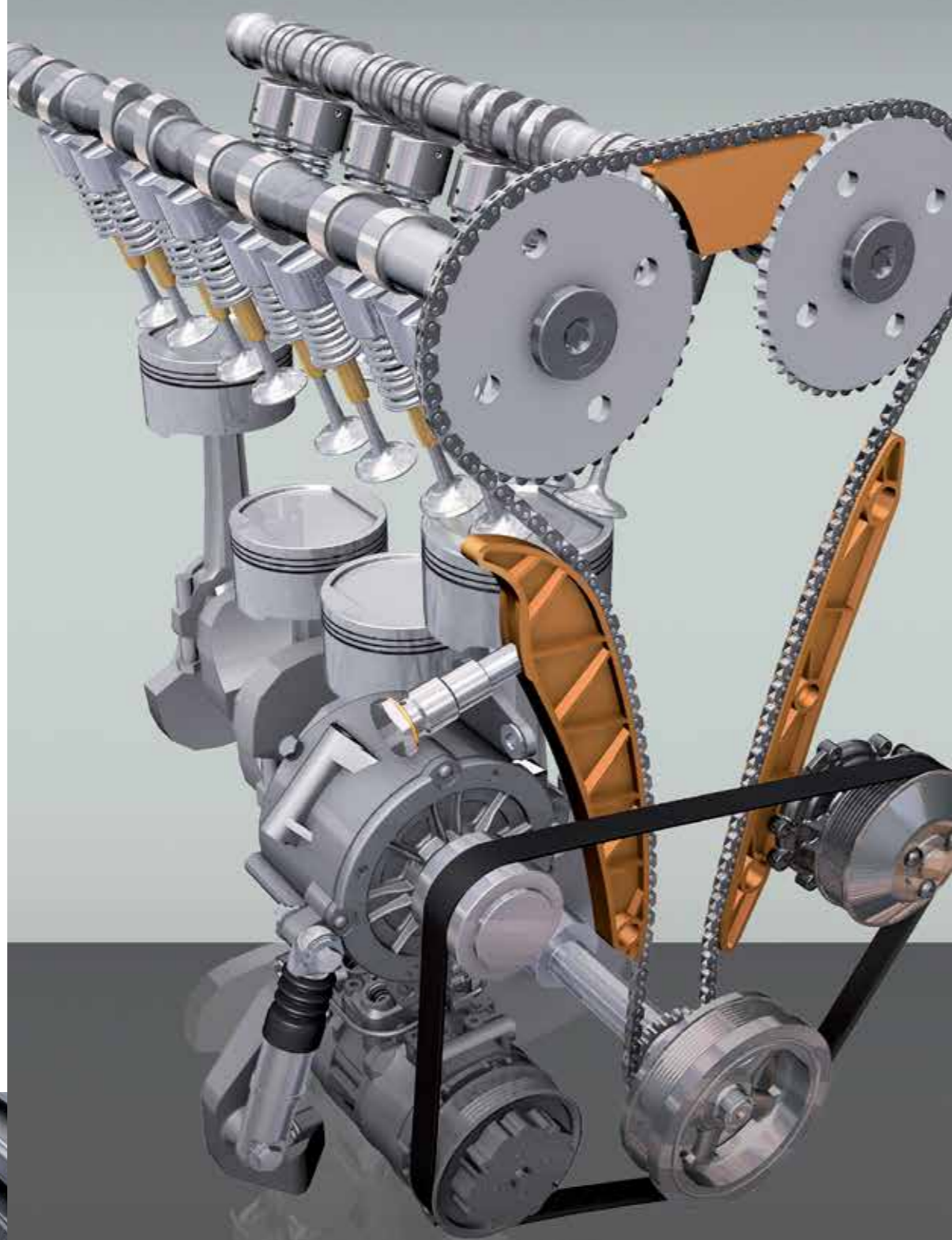


Schaeffler supplies sophisticated solutions – technically and commercially – for the most varied requirements of the automotive industry.

**INA** Creative Technology    **FAG** Innovation in Motion    **LUK** Gearing up for Tomorrow



## ENGINE COMPONENTS AND 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.



STANDARD VALVETRAINS



VARIABLE VALVETRAINS



CAMSHAFT PHASING SYSTEMS



CHAIN DRIVES

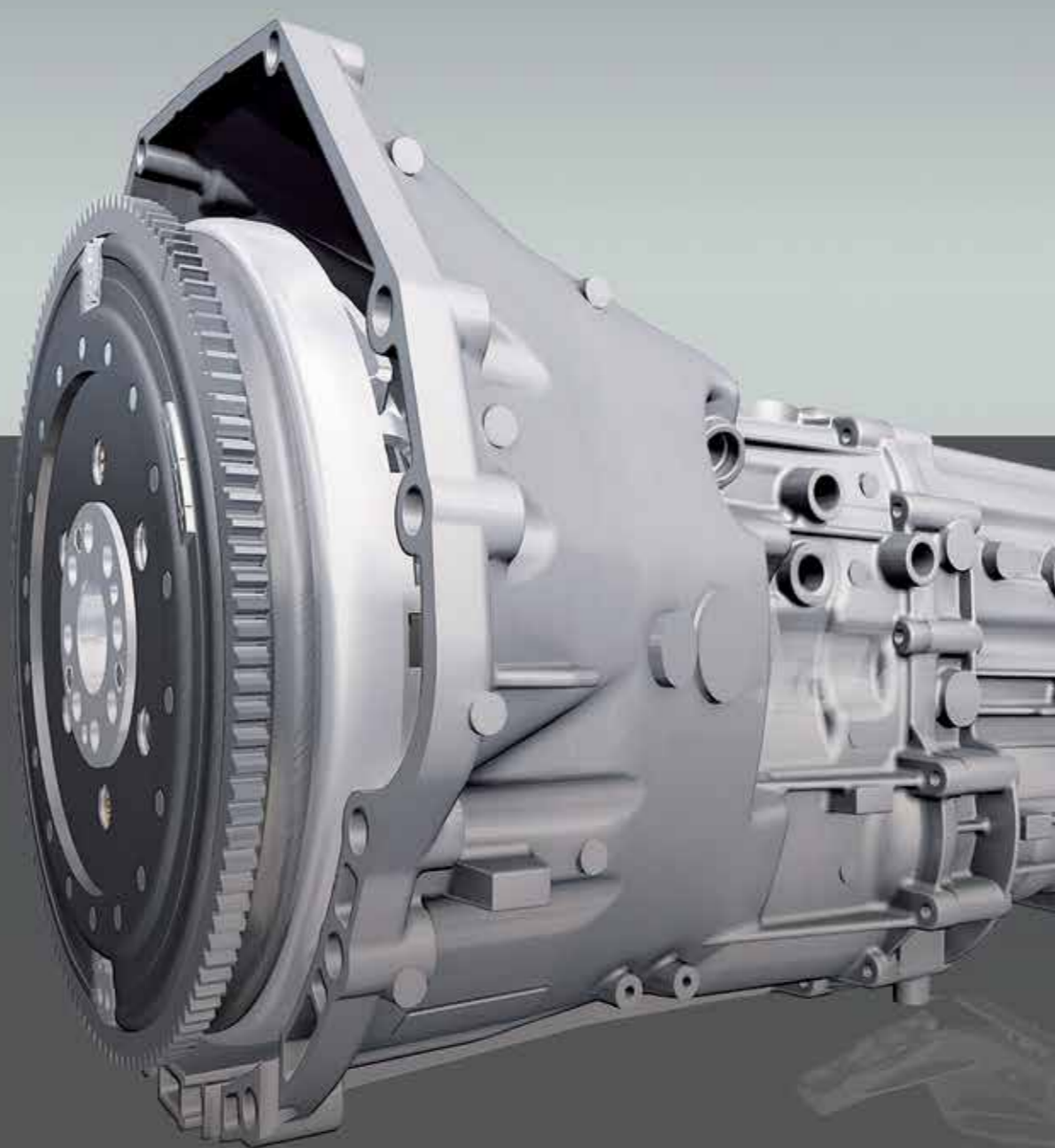


BELT DRIVES



ENGINE SHAFTS SUPPORTED BY ROLLING BEARINGS

## TRANSMISSION COMPONENTS AND SYSTEMS



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.



BEARING SUPPORTS FOR TRANSMISSIONS AND REAR AXLE DRIVES



LIGHTWEIGHT DIFFERENTIALS



CLUTCHES/SHIFT SYSTEMS/ SYNCHRONIZERS



SOLUTIONS FOR DOUBLE-CLUTCH AND AUTOMATED TRANSMISSIONS



SOLUTIONS FOR AUTOMATIC TRANSMISSIONS



TORSIONAL VIBRATION DAMPERS

## CHASSIS AND ACCESSORY COMPONENTS AND SYSTEMS



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.



BEARINGS FOR CHASSIS APPLICATIONS



BEARINGS AND COMPONENTS FOR THE STEERING COLUMN



WHEEL BEARINGS



ELECTROMECHANICAL ACTUATORS



APPLICATIONS FOR COMMERCIAL VEHICLES



BEARINGS FOR ACCESSORY DEVICES AND VEHICLE INTERIORS