



With an Eye for Details
Creating the Drive of the Future

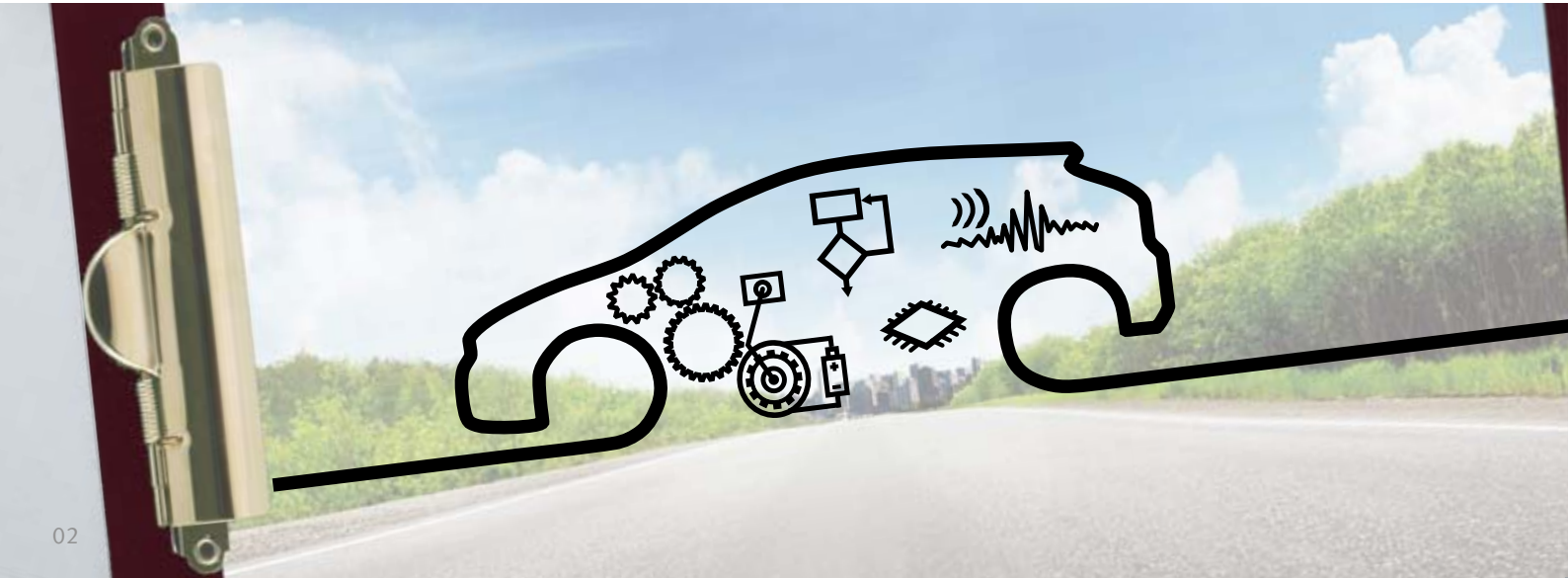
SCHAEFFLER
ENGINEERING

AUTOMOTIVE Engineering

FMEA, XiL, OBD or FFT — Automotive development is diverse. The focus here is always on complex mechatronic systems, the development of which we have been working on for more than 30 years. As an established partner of the automotive industry, we ensure the perfect interaction of all components and accompany customers from the initial concept to series production, from the system requirements analysis to the system validation.

The processes in all our development departments fulfil the CMMI Level 3 requirements at system level in order to meet our customers' high demands in quality and efficiency. We incorporate our expertise and our experience in the areas of electronic, software, powertrain, vehicle acoustic development and system integration into projects globally.

Discover the diversity of Schaeffler Engineering and create the drive of the future with us.





Whether it be for a winter test in the polar circle or project support, we are there, wherever our customers need us. From our head office in Werdohl and our facility in Aachen / Herzogenrath, our engineers travel around the world. We also have contacts available for our customers in North and South America as well as in China at our two foreign branches.

Out into the **WORLD**



Our drive is the perfect interplay of all components. This is what everything has revolved around since the establishment of our company in 1979. As an established mechatronics specialist with system competence, we move across all development levels — from the system and subsystem to the component. Our projects are as diverse as our expertise in the areas of electronics, software, powertrain, vehicle acoustics and system integration.

Mechatronic **SYSTEM COMPETENCE**





clear **CIRCUIT DIAGRAM**

From the circuit diagram and the individual module to the production-ready control unit — from our own experience as a small series supplier for engine and transmission control units and developers of our own prototyping control units, we know what electronics development is all about. With our range of services, we accompany customers on request from the first step, the project definition, to the subsequent series production support incl. product support. Or we take on individual project tasks, e.g. layout configuration, cooling concepts or production and provision of manufacture documents.

ELECTRONICS DEVELOPMENT BY SCHAEFFLER ENGINEERING

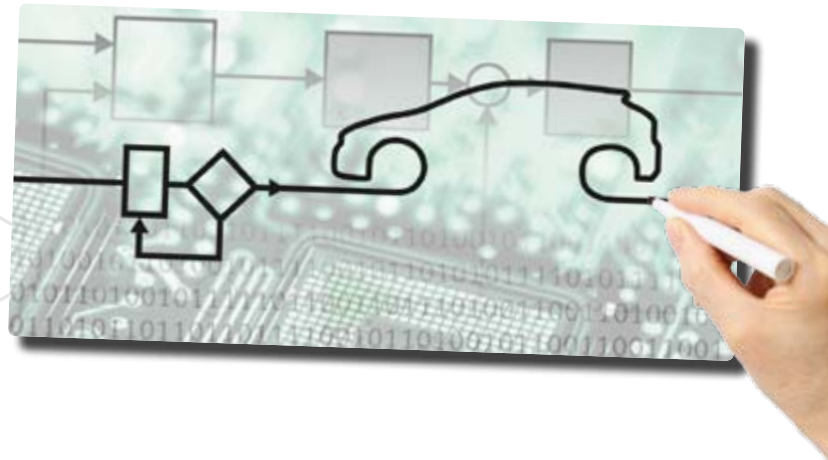


Distributed **FUNCTIONal** Development

Software is one of the innovative driving forces in the automotive sector. The appropriate software component is essential for our customers when optimising the combustion engine (e.g. in the combustion process) or electrifying the powertrain (e.g. hybrid strategy). But software also reduces the development time considerably through model-based functional development or controller-based engine application, among other things.

We offer our customers an extensive range of services: from the software functional development (high-level), e.g. engine control, as well as engine and transmission calibration or application, and emission and consumption, right up to hardware-related software development (low-level). We assure quality and efficient development through established engineering processes and methods — Functional Safety Management as well as a CMMI and ISO 26262-compliant development.

SOFTWARE DEVELOPMENT BY SCHAEFFLER ENGINEERING

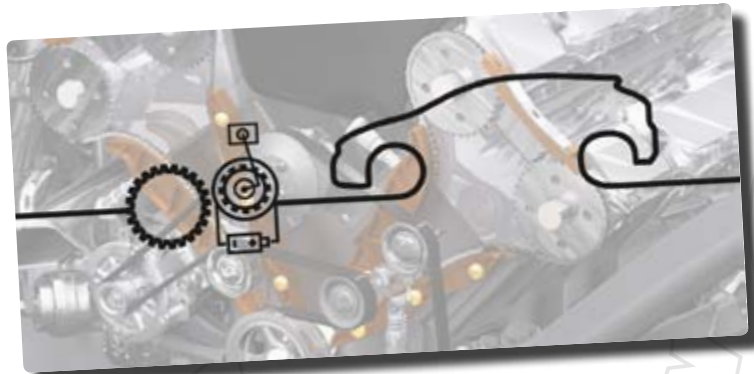


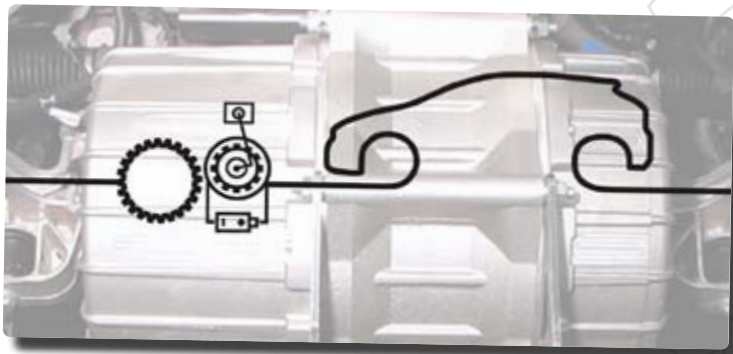
Innovative **POWERTRAIN**

Make something good even better or think completely new thoughts, our customers and us pursue these approaches in the transmission and drive development. Regardless of whether an automated manual transmission or a vehicle with an electrical axle is involved, system understanding matters above all here along with the individual components.

Through the long experience of our engineers and work in interdisciplinary teams, we support projects in the system, component and subsystem development – from Systems Engineering (e.g. development of test vehicles), design and simulation (e.g. of gearbox casings) to vehicle integration (e.g. of electrical drives).

POWERTRAIN DEVELOPMENT BY SCHAEFFLER ENGINEERING





TANGIBLE SYSTEM COMPONENTS

Does the idea keep to its promise? Simulation and virtual tests provide initial answers, but often only the real test with a prototype can provide the final answer. The development of test vehicles is our strength and we have already implemented some xEV concept vehicles together with customers. Our mechatronics specialists ensure that mechanics, electronics and electrics work together perfectly and that there is space for everything.

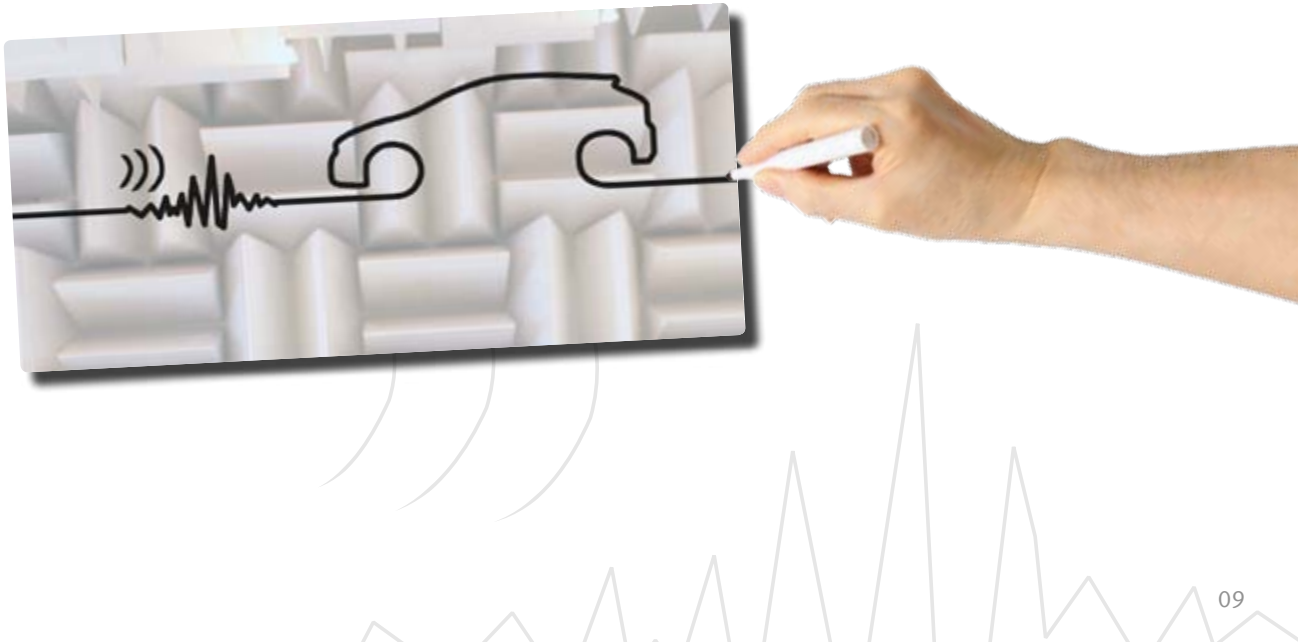
Among other things, we have extra assembly space, several engine test benches and a AWD Chassis Dyno for testing at the head office in Werdohl. With our project experience and system competence, we are able to implement complete structures as well as customer-specific test bench structures, or to support the customer on request, e.g. in the measuring equipment.

SYSTEM INTEGRATION BY SCHAEFFLER ENGINEERING

Optimised background **NOISE**

Sometimes it is worth listening very closely – this is exactly what our acoustic experts do. For this, there is a AWD Chassis Dyno as well as several Anechoic Dyno Cells available. Whether it is rolling noise, the take-off shudder or insulation optimisation, our engineers identify the sound source and characteristics with the corresponding methods. We have been working on the demanding task of “vehicle acoustics” for more than 20 years and have been able to support customers globally in the search for a perfect, undisturbed sound experience.

VEHICLE NVH DEVELOPMENT BY SCHAEFFLER ENGINEERING



Creative **HEADS** for the drive of the future

Since the establishment of our company in 1979, we and our customers from the automotive industry have been pursuing one goal: The perfect interaction of all components in the vehicle. This is why we do not stand still, neither in day-to-day work nor in the qualification of our employees. Become a part of this success story and incorporate your expertise and experience into our projects and products together with us.

We offer school pupils, students, graduates and specialists

- ▶ various entry options from internship to direct entry, this involves the development of their own ideas and planning and implementation of projects right from the beginning.
- ▶ creative space and various tasks in interdisciplinary teams.
- ▶ a demanding work environment for them to further develop themselves professionally and personally.
- ▶ attractive additional and social benefits.

Become a part of Schaeffler Engineering and help us shape the future of automotive development!

ONE STEP FORWARD WITH SCHAEFFLER ENGINEERING





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