

ulm NeuUlm
Der Wirtschaftsstandort



World-Class Vehicle Construction



Creating values

by innovation

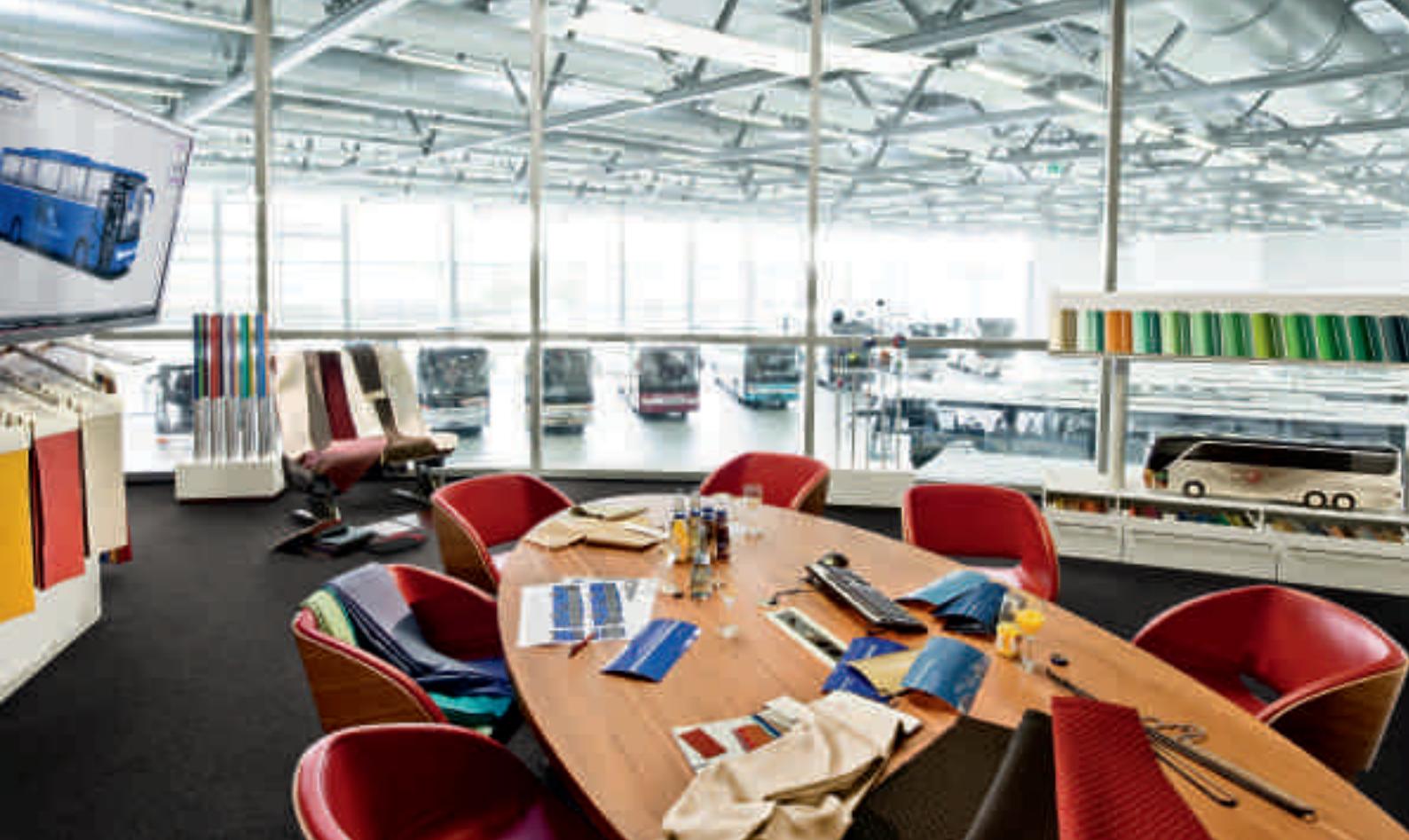
With technology from Ulm to Rome and into outer space

It has been a reality for a long time already that vehicle technology from Ulm not only gets you comfortably to Rome, but also takes people up into outer space. Enjoying our winter holidays on well-maintained ski runs has also become a matter of course. However, the technology which renders this possible is for us not a matter of course. It is remarkable how much of this technology comes from our region.

Super-comfortable buses, bringing us to our destination also over longer distances and special vehicles which transport rocket engines with a weight of 240 tons come from Ulm. Also state-of-the-art commercial vehicle technology and fire fighting equipment belongs to Ulm's innovations, just as is the development of the fuel cell technology as an important component of modern drive technologies.

Nowhere else are visions based so much on traditions as in our economic region. Companies which established the basis for today's technologies were able to consistently extend their lead over many decades to global market leadership.





Also today, Ulm as a location for commercial vehicles with all its appropriate technology sectors is among the first with international importance. Along with the commercial vehicle sector as mentioned, the local industry sets benchmarks in many fields: In the range of fire fighting and rescue technology, in the field of lorries and trailers, for mobile cranes or also for special vehicles used in shipyards and airports.

The local supply industry is of special importance. The competence centre for the development of the fuel cell technology, the research in the field of high-capacity storage media, the manufacturers of highly effective lubricants, hydraulics components, electronics or telematics systems are located here. The region offers a multitude of players, each of them providing an important contribution in the expert region for commercial vehicles.

Cluster Nutzfahrzeuge Schwaben e.V.

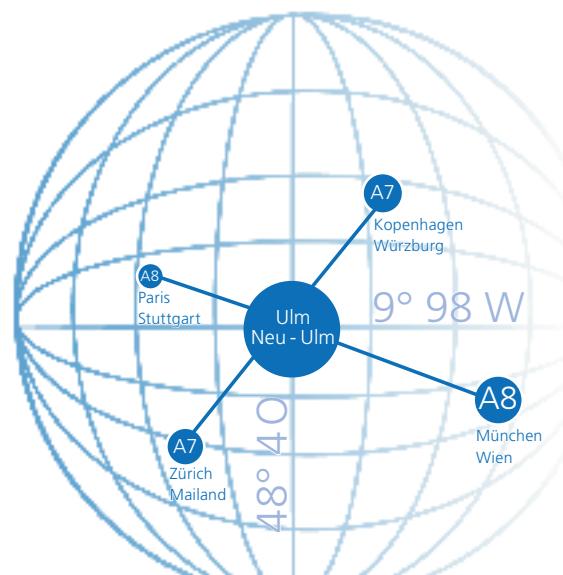
CNS Cluster Nutzfahrzeuge Schwaben e.V. plays an important part.

As a network of the industry, this association promotes the cooperation among the companies.

To formulate goals together, to develop together and to benefit from each other - these are the objectives the Cluster pursues in cooperation with its members. The detailed preparation of individual projects in working groups up until organisation and realisation of supportive measures are among the tasks that Cluster Nutzfahrzeuge Schwaben e.V. contributes in cooperation with the university and the local colleges to support and safeguard the innovative strength and thus the jobs in the region for commercial vehicles.



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Know-how in development and production

Competence in vehicle construction:
This is particularly observed in the innovation region of Ulm in the sector of commercial vehicles, buses and mobile cranes. Leading companies are important factors in the entire European market. The suppliers include global market leaders for their individual sector.

Series production of **Setra motor coaches and scheduled overland buses** as well as final assembly of **Mercedes-Benz buses** takes place on the Neu-Ulm area of **EvoBus GmbH**. Due to the high technical standards, Setra sets the benchmark for modern bus construction in Europe with the motor coach generation **TopClass 400**. The current product range of the premium brand manufactured in Neu-Ulm includes a total of ten types in the range of motor coaches, completed by the entirely new developed double-deck coach S 431 DT, which offers unparalleled opportunities for safety and economic efficiency.

The sectors of development, testing and design of EvoBus are also located in the region.

Mayser is the leading manufacturer of **tactile sensors** in Europe. Mayser offers high-quality and economical safety systems such as squeeze protection and squeeze recognition systems, electric finger protection profiles, step switches for entry aides and wireless transponder-based signal transmission.

Kiesling Fahrzeugbau GmbH has specialised in the manufacture of **refrigeration units** for trucks. The latest innovation from Kiesling is the **first recyclable refrigeration unit** which saves the environment a lot of hazardous waste, because according to TÜV expertise, 85 % of the materials used can be **recycled** and 95 % can be **reused**.

An especially interesting factor in this process is that the processed PU foams are used for the production of new foams!

With their innovative cantilever technology, **Liebherr-Werk Ehingen GmbH** defines the globally applicable standard for **mobile cranes**.

The vehicle and crane technology which is based on data bus technology and the world's latest crane computer system LICCON, offers utmost functionality in use. The leading manufacturer of mobile cranes builds **mobile all-terrain cranes, lattice tower cranes with mobile and crawler chassis, mobile construction cranes and special cranes for rescue operations**.

KÖGEL Fahrzeugwerke GmbH is among the leading manufacturers of **commercial vehicle bodywork, trailers and semi-trailers**. The product range covers all types and designs of vehicles for transport in general cargo, for dry bulk transport, for temperature-managed transport, for the building sector and for combined traffic.

Ingenics AG is an innovative, expanding **consulting firm** with business activities in

the field of **plant and production planning, logistics scheduling, efficiency increase for production as well as efficiency increase for office applications**. Ingenics assists its customers throughout the entire project from the conception to practical realisation of the plans.

Kämmerer Group is a specialist vendor for trend-setting development services with the focus on vehicle construction. The range of cross-technology services includes **design and development, simulation and calculation, electric and electronic systems** as well as assisting services for development such as e.g. component responsibility or project management.

Iveco AG has an outstanding position within the Iveco global players (23 plants worldwide). On the one hand as state-of-the-art production plant of Stralis (heavy road construction series) and on the other hand as a centre of excellence for the **development of all vehicles from 7.5 tons**.

In this high-tech segment, Iveco enjoys global market leadership due to their experience and know-how. Their affiliate company IVECO Magirus AG develops and produces vehicles for fire protection engineering.

While **Euro Telematik AG** offers **mobile IT systems** for the optimisation of transport and logistics processes as well as for navigation on the road and in the air, the Ulm company **Temic SDS** is a global leader in the development of **language dialogue**



systems. They allow for voice control of electronic devices such as e.g. telephone or navigation devices inside a vehicle.

The development of **high-tech engine oils**, of other **lubricants**, products for vehicle maintenance and care as well as **additives** are the focus of **LIQUI MOLY**, providing the full range of car-related products and chemicals.

The long-term technical expertise of **KAMAG Transporttechnik** combined with well-founded competency in the sector provides **individual transport solutions for special fields of use**. These are for example vibration-free transporters for the glass industry or flexible tool transporters for the automotive industry.

Hermann Bantleon GmbH develops and produces **individual oil and grease specialty goods** for use in all climatic regions for renowned manufacturers of commercial and special vehicles as well as their component suppliers.

Bosch Rexroth is located in the Ulm region with their scope of Mobile Hydraulics technology. The product range includes all relevant components, modules and systems to drive mobile engines in the technology sector for construction, forestry, communities, conveying and agriculture.

The product range covers **high-pressure hydraulic pumps and motors, valve and gear technology and electronics** with all sensors and transmitters.

„Quality and Safety“ is the motto of **AL-KO**. They supply the vehicle industry with all **different components**. The products are characterized by **practice-oriented development, quality-conscious production and a quality assurance system**.

AL-KO has gained an excellent reputation in industry and for the end customer.

The most important product manufactured at the Neu-Ulm gasket manufacturer **VICTOR REINZ Europe** is the **cylinder head gasket**, which in the future (and already today at REINZ) is equipped with temperature sensors. Also the **valve and shielding systems** manufactured on Europe's latest machinery park meet even most extreme requirements for automobiles and lorries. Gaskets from high-tech materials of its own production however are used for turbo chargers and for exhaust gas systems.

As a specialist for innovative, customised **cable systems**, the **LEONI** Special Vehicles business unit is located in Ulm, which is known as a supplier for renowned special vehicle manufacturers.

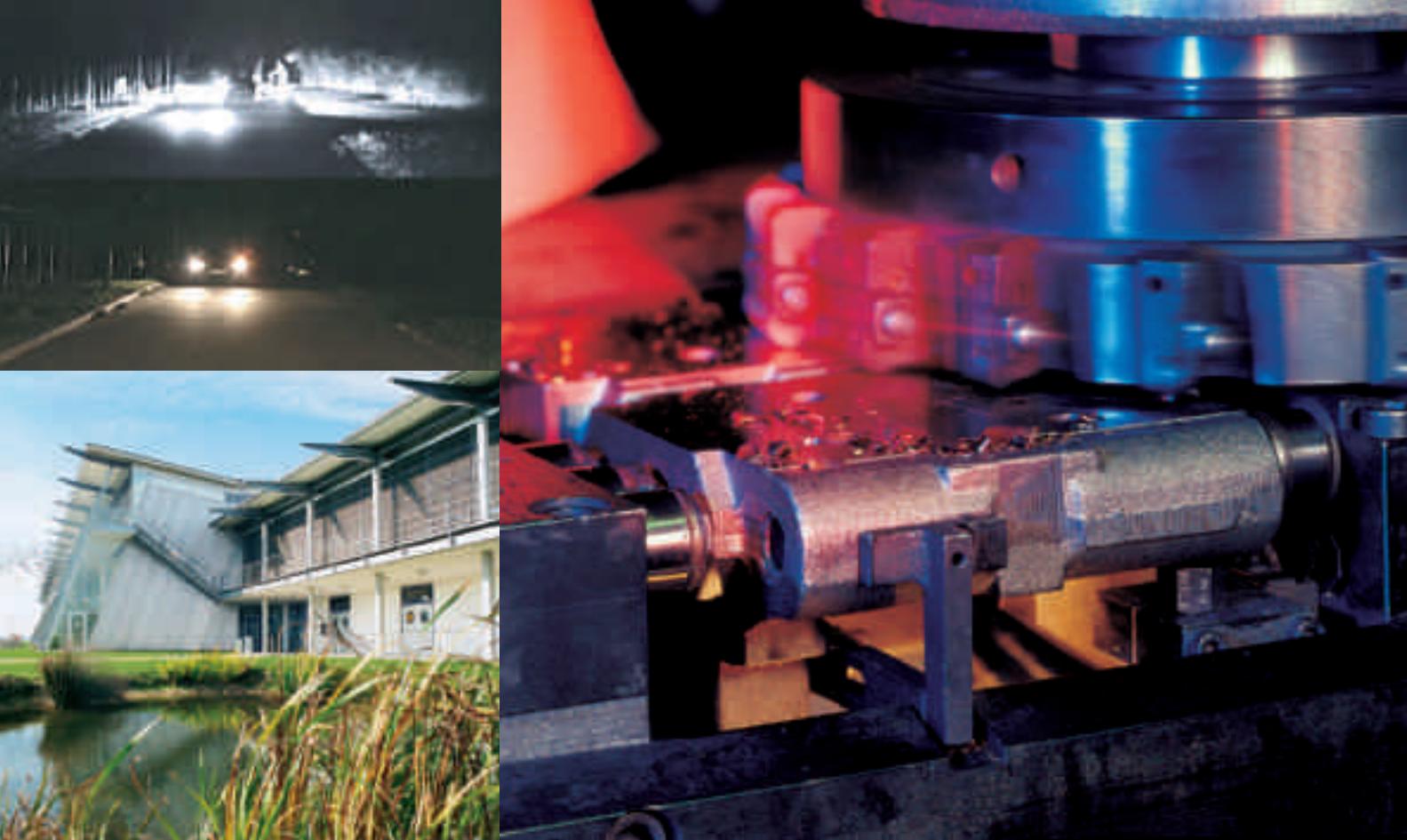
Georg Gross GmbH + Co in Ulm produces all kinds of **superstructures**. However, the focus is on **vehicles for the beverage industry**, which are used by many renowned breweries, mineral water companies and beverage logistic companies. The **cranked mega semi-trailer with double-deck loading for beverage logistics** for example is a technically elaborate vehicle.

F. X. MEILLER GmbH & Co. KG completes **tilt bridges and assembles deposit tippers and roll-off/roll-on containers**. MEILLER makes a step towards the future with the new remote control i.s.a.r. control. Instead of the customary valve control, the driver now uses his signal-yellow remote control.

SAUER BIBUS develops innovative solutions for components and complete **hydraulics systems**, not only for stationary industry applications, but also for mobile use. Synergy effects from both sectors support this way.

InMach is a competent **development and system partner for sophisticated IT and engineering projects**. The company was established as a spin-off of a research institute and commands of a strong development team of interdisciplinary experts from informatics, electronics, vehicle technology and a mathematics professor.

KÄSSBOHRER GELÄNDEFahrzeug AG produces and globally sells **vehicles for piste preparation and beach clean-up** under the brand names PistenBully, Formatic and BeachTech. The company is clearly the global market leader in piste preparation and beach clean-up.



Science creates a profile

The companies in the vehicle sector in the Ulm/Neu-Ulm innovation region benefit from being in close proximity to the universities and research institutes in Ulm as a science location.

Ground-breaking innovations were initiated here: in a manner of speaking, the „cradle“ of the fuel cell was located in Ulm.

The world's first vehicle with fuel cell technology started in the Daimler research centre in Ulm in May 1994.

Today, mainly projects for stationary fuel cell applications are researched and realised in Ulm in the [Centre for Solar Energy and Hydrogen Research \(ZSW\)](#).

Research into new energy storage options and energy storage concepts for future alternative vehicle drives is another focal point of research at the Ulm University, already having taken a leading position for years. Thanks to the cooperation with the newly established Helmholtz Institute of Battery Research in Ulm and the Centre for Solar Energy and Hydrogen Research (ZSW), which still is in the stage of extension to become the

leading battery test centre, a unique field of competency and research in Germany in the field of new energy storage concepts for future electric and hybrid vehicles is being established in Ulm with the participation of the Ulm University.

The [Daimler Research Centre](#) in the science town of Ulm is involved on a cross-company and use-oriented basis in research tasks for drive technology, vehicle concepts, material and production technology, transport technology and telematics, information and communication technology, electronics, mechatronics as well as control technology.

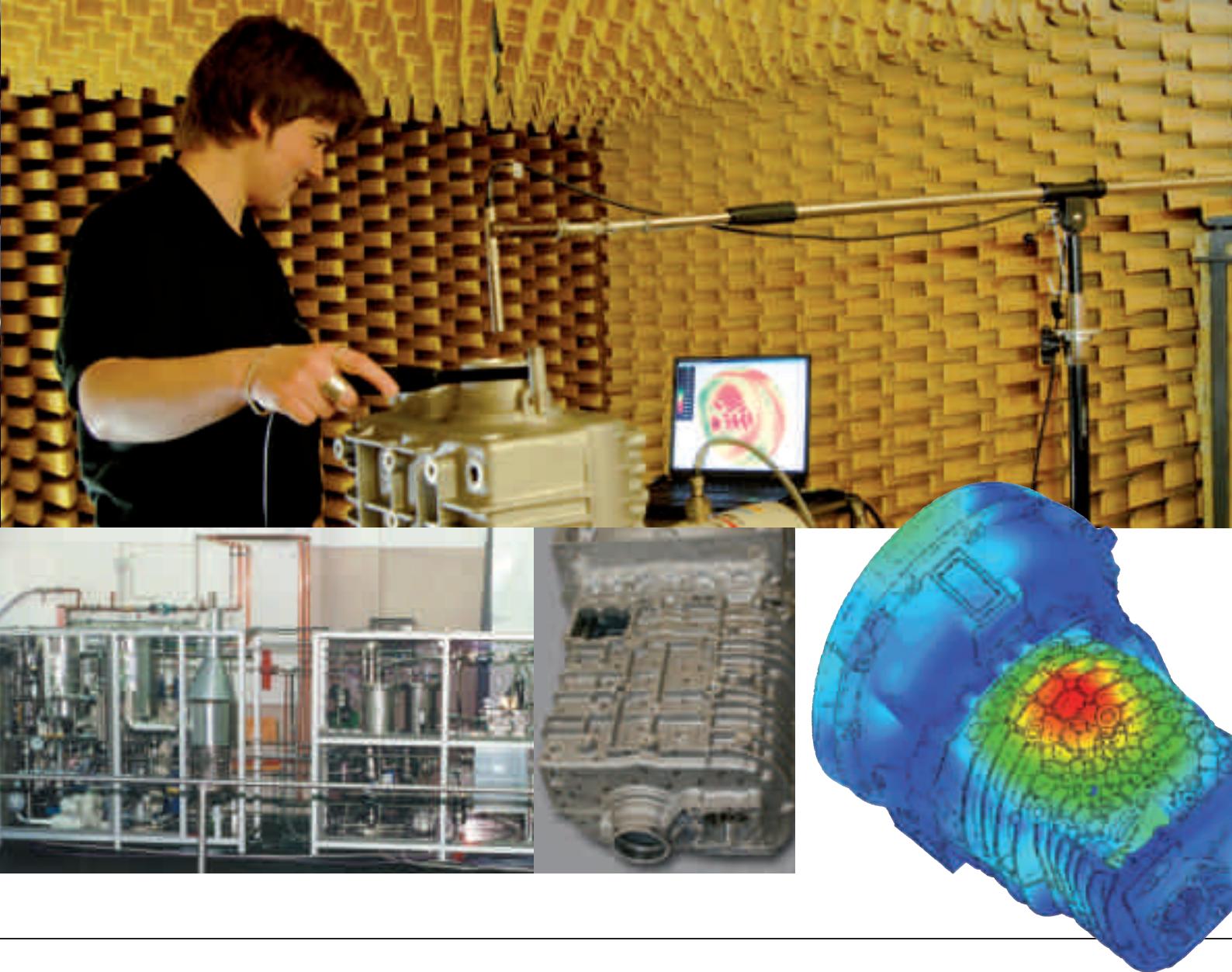
An example is „The version of accident-free driving“. The accident-preventing emergency brake system for example is of special relevance for the sector of commercial vehicles, which is established in the region.

Development of junior engineers

As a university of applied sciences, the [Hochschule Ulm](#) is geared to ensure the junior engineers also for the vehicle industry important for the business location of Ulm/Neu-Ulm and to train them for tasks on the international market.

The course offering includes bachelor degrees in vehicle electronics, vehicle technology, engineering and the additional qualification as official vehicle experts. The offering is further developed in close cooperation with local companies such as EvoBus, IVECO, Daimler and Takata, with special emphasis placed on vehicle system technology and energy technology.

The local commercial vehicle manufacturers also participate in the Ulm Model, which is designed as cooperation study course and leads students to a double degree (bachelor degree plus craft certificate).



R&D in terms of vehicle construction

Issues around vehicle technology are continuously integrated in research and development projects of the [Hochschule Ulm](#). The focus is placed on alternative drives, mobile hydraulics, driver assistance systems and noise reduction for gearboxes as well as the optimisation of vehicle behaviour in road traffic. The new Automotive Center, which can be used also for industry projects, has a hydraulics, roller and engine test stand designed for inspections of automobiles and lorries.

As an integrative platform for mechanics, electronics and informatics, it is optimally equipped for systematic developments.

Automotive competence

The [Universität Ulm](#) has combined their research activities in the field of automobile applications in the centre of excellence for automotive electronics and information systems.

The centre, which is housed in the Engineering and Informatics faculty, offers services for research, development, consulting and training for tasks in mobile system environments.

The primary objective of the centre of excellence is to contribute to ensuring sustainable mobility by innovative system architectures, system developments and algorithms. About ten institutes of the university are involved in the centre.

The range of the fields of research includes new drive concepts in the sector of e-mobility, energy management in hybrid and electric vehicles, battery systems, driver assistance systems and the required sensor technology as well as multi-media applications in the vehicle and questions of software engineering.

The research of the institutes normally is done in close cooperation with leading automobile manufacturers as well as suppliers

and in the scope of large joint research projects with state support.

Furthermore, the [Universität Ulm](#) actively participates in different work groups of [Cluster Nutzfahrzeuge Schwaben](#) (CNS) located in Ulm and contributes to these work groups with current knowledge. Mainly companies from the sector of special vehicle construction from the Ulm/Neu-Ulm region participate in the CNS.



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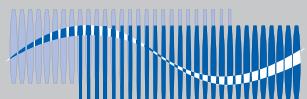
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