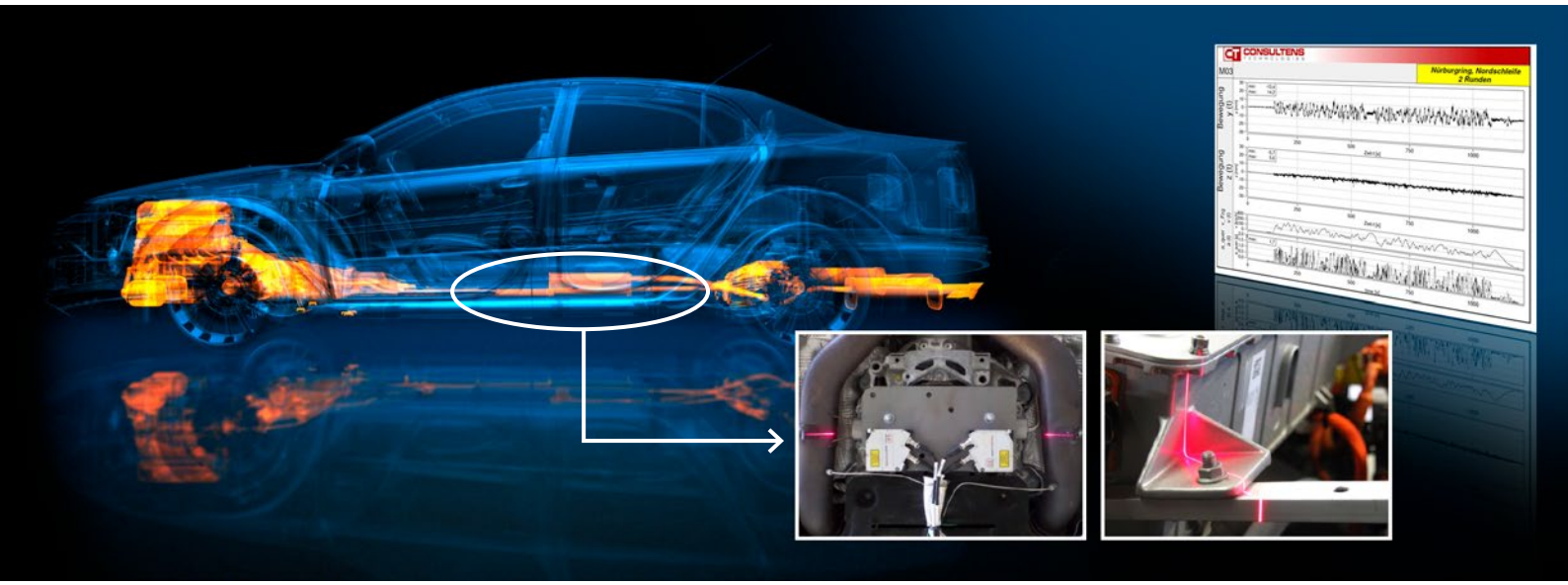
A369

Laser scanner
scanCONTROL



Measurement of component movements in road tests

Road tests are important parts of the process for testing as well as for assessing and optimizing vehicles. In order for these to be evaluated afterwards, several sensors often have to record data during the experiment.

Consultens Technologies offers the appropriate technology with "conSens Quattro M" and relies on sensors from Micro-Epsilon. During the road test, powerful laser profile scanners and miniaturized laser sensors record low-frequency vibrations and the movement of components within an assembly space. They test, for example, how assemblies move while driving or how the envelope curve of an exhaust system or cardan shaft is represented.

The sensors are installed directly in and under the vehicle and aligned to prominent points. While driving, they record data at a high measuring rate. All sensors work 100% in sync and transfer the measurement data to an external computer in the vehicle, where it is saved. The downstream operation, analysis and evaluation of the data is carried out with a monitor and keyboard from the driver's seat.

This system solution offers considerable advantages over the camera systems that are frequently used: there is no need for filming permits on prototype test tracks, additional lighting due to inconsistent lighting conditions, or the often tedious evaluation and limited recording time due to the high volume of measurement data.

Requirements for the measurement system
- Measurement on prominent elements
- Synchronized data recording with approx. 1 kHz
- Precise repeatable measurements even under difficult conditions
- Compact design
- Robust against environmental influences

Ambient conditions
- Measurement while driving with vibrations, dust, moisture
- Fluctuating temperatures, e.g. due to the development of heat in the exhaust system
- Changing light conditions

System design
- 2x scanCONTROL 2510-50
- 4x scanCONTROL 2510-100
- 1x optoNCDT 1320-50

Advantages
- Compact design for smooth integration
- Robust sensors for precise measurements even with environmental influences
- High frequency, stable data quality, intelligent and fast parameterization