Measurement Laboratory (Venue E5)

A joint application for funding between ACTS and VWSA/DAAD Chair led to the acquisition of an Optical coordinate measuring system and surface scanner to the value of R823 900.

This mobile technology is designed to define the exact 3D position of markers and visible features and offers time effective on-site measurement for:

- Quality control of large objects,
- Verification of jigs and fixtures and
- Static deformation analysis

The measuring system is used to predefine the reference markers on large or complex objects to support high accuracy digitizing using a digital scanner. It measures the coordinates for any feature of interest, especially for automotive bodies and parts and allows for:

- CAD comparison,
- Verification of shape and position tolerances and
- Verification of specifications from drawings, files or tables.

The 3D coordinates of the measuring points can precisely be measured in the software, graphically visualized and compared to the CAD data. The results may be exported into standard formats or directly loaded into compatible software.

A deformation module allows for the capturing of multiple load situations from an object. From the displacement of the markers and the features, the movement and the deformation of the corresponding object is defined.

The system has been commissioned in a laboratory in the Department of Mechanical Engineering, and the first introductory training has been completed. The equipment has also been used at VWSA for specific projects.