

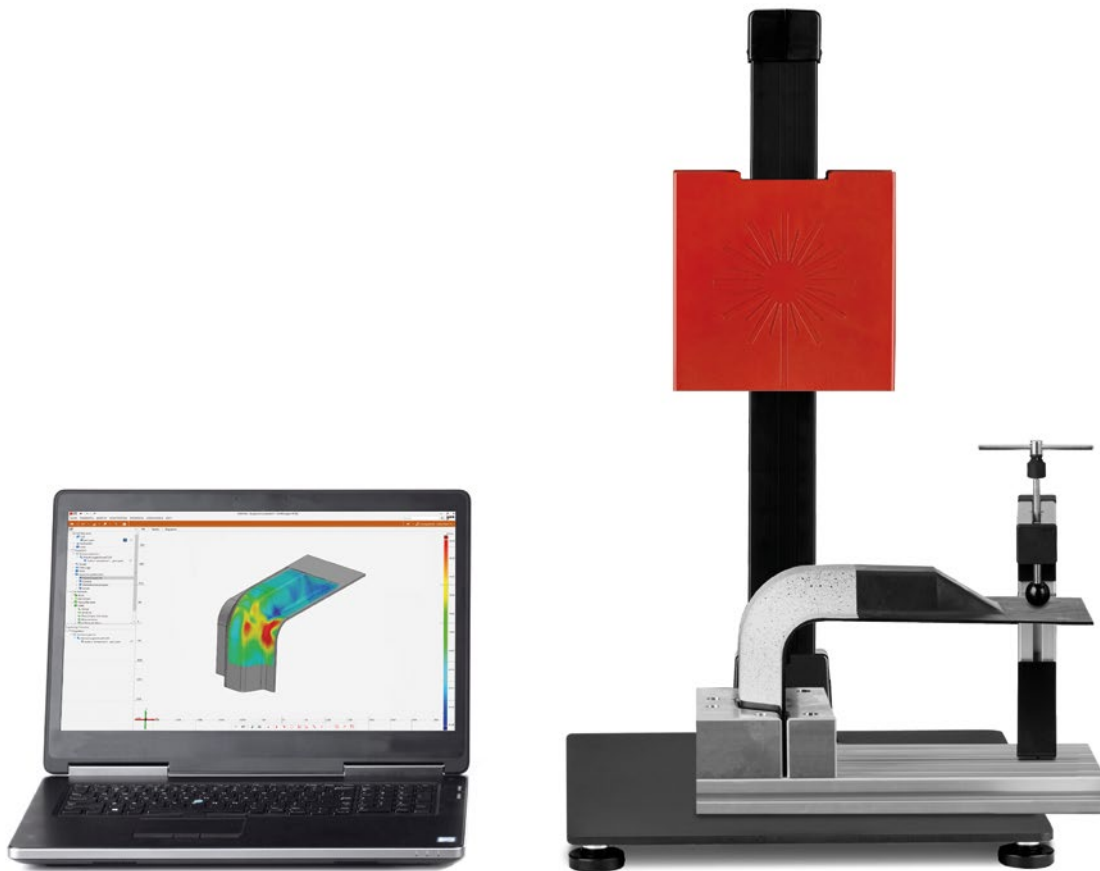
# ARAMIS for Education

Materials and Components Testing Package for Teaching and Training

- Industrial hardware and software
- Lab experiments and lecture material
- Video tutorials as learning aid

# Materials and Components Testing

Deformation Analysis, Crash Test and 6DoF Evaluation



Materials research and component testing play an important role in the development of products. In this connection, optical metrology has been established as industrial standard.

ARAMIS generates information on the properties of the used materials and the behavior of the resulting products under load. These results are the basis for product stability, geometry layout and reliable numeric simulations and validations.

- Analysis of 3D component behavior  
Determination of result quantities regardless of the material, size and geometry
- Measurement of real part geometries
- Analysis of transformations
- Static and dynamic tests  
Strength analyses, vibration analyses, endurance tests and crash tests

## ARAMIS for Education

“ARAMIS for Education” is a complete package for theoretical and practical teaching at schools, higher education institutions and universities. The educational package from GOM includes industrial hardware and software for 3D testing applications as well as ready-to-use lab experiments and lecture material with detailed background information. Moreover, GOM provides an efficient digital image correlation software for students, practical training for trainers and professional support provided by experienced engineers.

**Industrial hardware** – The ATOS Core sensor including a desktop stand, image processing computer and the GOM Snap software has been proven in industry and is used for typical ARAMIS applications in the field of testing.

**Digital image correlation software** – GOM Correlate is a digital image correlation software for optical measurements of 3D coordinates, 3D motion and deformation analyses as well as for the creation of measuring reports.

**Ready-to-use lab experiments** – Introduction into materials and components testing based on lab experiments for practical courses, including measuring object.

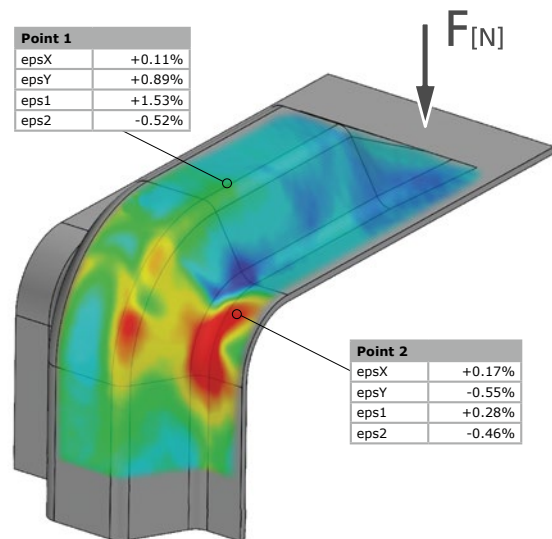
**Detailed tutorials** – Video tutorials help learners understand how to use and test GOM’s hardware and software.

## Lab Experiments and Lecture Material

The “ARAMIS for Education” package contains fully elaborated lab experiments. The ready-to-use modules provide a step-by-step introduction into optical metrology: from preparing the measuring object up to the entire analysis process and the creation of reports. Besides the lab experiments, the package comprises lecture material with background information for an easy integration in existing curricula or for creating new learning modules.

### 3D component testing, point-based measurement

This exercise focuses on component testing. Instead of transducers, reference markers are used to determine the 3D deformation of a component under load. Furthermore, the exercise serves for scrutinizing the understanding of engineering mechanics and for analyzing the behavior of a measured component.



### 3D component testing, surface-based measurement

Strain analyses that are often carried out with strain gauges for endurance tests or for comparing simulation models (FEM) can be practiced in lab experiments in the form of a surface-based component test on 3D surfaces. In this context, a complex plastic component is analyzed under load and critical strain areas are determined.

## Faculties and Disciplines

Users of GOM systems already include international companies from the automotive, aerospace and consumer goods industries and their suppliers all over the globe. To a growing extent, optical metrology and measuring systems from GOM are being integrated in curricula at universities and colleges of higher education. The "ARAMIS for Education" package is used in various faculties and disciplines, including:



- Material sciences / materials testing
- Mechanical engineering / automotive engineering / mechatronics: Practical understanding of engineering mechanics
- FEM / comparison of FEM analyses and validation of simulations

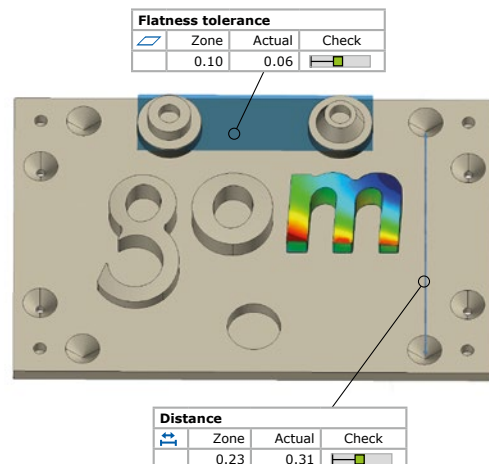
In these specialist fields, ARAMIS has proven to be a reliable and efficient system for materials and components testing.

## ATOS for Education

GOM's "ARAMIS for Education" package can be easily extended for 3D scanning and inspection tasks.

Using the same hardware, all it takes is an additional scanning and inspection software and another training object to enable 3D scanning and inspection tasks in addition to the material and component applications.

The "ATOS for Education" package also includes complete lab experiments and lecture material as well as detailed video tutorials to enhance learning.



## GOM – Precise Industrial 3D Metrology

GOM develops, produces and distributes software, machines and systems for industrial and automated 3D coordinate measuring technology and 3D testing based on latest research results and innovative technologies.

With more than 60 sites and an employee network of more than 1,000 metrology specialists, GOM guarantees professional advice as well as support and service to operators on-site in their local languages. In addition, GOM shares knowledge on processes and measurement technology in training courses, conferences and application-based workshops.

GOM has been developing measuring technology in Braunschweig since 1990. In the respective research and development departments, more than 100 engineers, mathematicians and scientists shape the measuring technology of the present and the future.

Today, more than 17,000 system installations improve product quality and accelerate product development and manufacturing processes for international companies in the automotive, aerospace and consumer goods industries, their suppliers as well as many research institutes and universities.



GOM headquarters in Braunschweig, Germany

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