Quality starts with Q.
ATOS Q.

ZEISS

Seeing beyond

The versatile ATOS compact class

Precise optoelectronics, robust sensor design and powerful software: ATOS Q meets high metrological demands. With its compact design and a weight of only four kilos, the powerful 3D scanner is ideal for mobile use and for complex measuring and inspection tasks where space is limited. ATOS Q quickly captures detailed information on product quality and thus provides the data basis for targeted analyses. In addition, ATOS Q impresses users with its ease of use.

ATOS accelerates production processes

ATOS 3D scanners provide full-field 3D scans that enable comprehensive process and quality control by making errors and defects on parts and tools visible. This allows corrections to be initiated at an early stage and processes to be optimized.

Worldwide, ATOS 3D scanners ensure the dimensional quality of primarily sheet metal, cast and plastic products from the automotive, consumer goods and aerospace industries. The systems are used to accelerate the time-to-market and maintenance of products, to ensure quality in ongoing production and thus to minimize costs.

Shop floor metrology

Thanks to their high speed and precision, ATOS systems are now replacing tactile coordinate measuring machines in all industries. The 3D scanners are installed in measuring rooms, but are ideal for use in production environments thanks to their dust- and splashproof optics and electronics. The built-in fiber optic cables and the perfectly tuned software guarantee fast and interference-free data transmission.

ATOS Q

Created for a wide range of tasks

ATOS Q is used in various industries for the measurement of small to medium-sized parts. The ATOS Q sensor is delivered with the powerful GOM Inspect Pro software that covers the complete workflow from data acquisition to inspection and reporting in one package. First, the ATOS Q sensor and software provide accurate, high-resolution scans of the measuring objects at high speed. Based on these scans, the software then generates a geometric digital twin of the real part, which serves as the basis for inspection, analysis, mesh editing, adaptive manufacturing, simulation and reverse engineering.

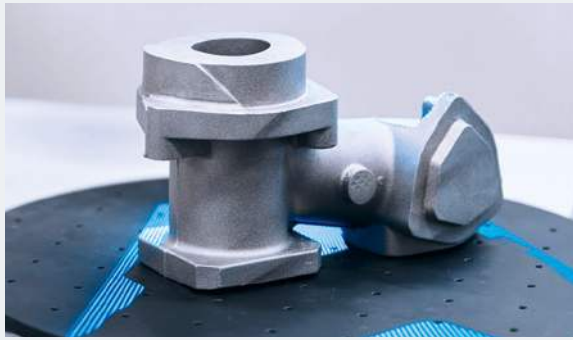
With six available precision lenses, the system covers measuring areas of different sizes: 50, 100, 170, 270, 350, 500. Changing from the smallest to the largest measuring volume is easy thanks to the fixed camera position.

Additive manufacturing

Speed up product development and launch with high-resolution polygon meshes (STL files) for 3D printing, milling, additive manufacturing and dimensional inspection

Casting and forging

Shorter measurement and inspection times in sand casting, die casting and investment casting as well as in the forging industry

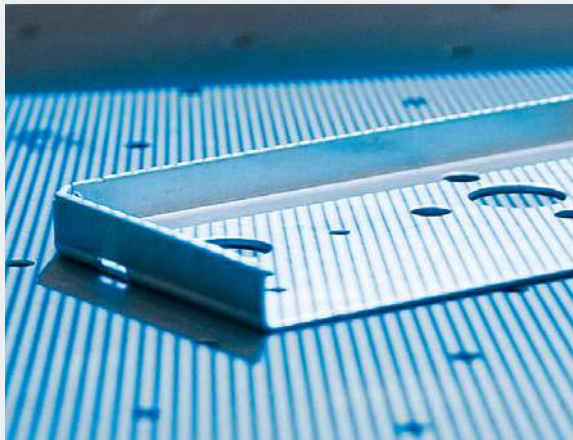


Plastics

Optimization in all phases of injection molding, blow molding and thermoforming

Metal forming

Efficient quality control from toolmaking and testing, first article inspection and serial inspection to assembly



Versatile all-rounder

The compact ATOS Q scanner solves complex measuring and inspection tasks in a manual, semi-automated or automated mode in combination with GOM ScanCobot or ATOS ScanBox 4105. Each of these modes is process-safe and convenient, as the software guides the user through the entire workflow.

Manual

With a weight of only four kilos and its compact design, ATOS Q can be easily moved. The 3D scanner can be used on a tripod in the measuring room but also mobile in production.

Semi-automated

Combined with a tripod or alternatively a desk stand and the GOM ROT 350 rotation table or a Motorization Kit, ATOS Q can be used in semi-automated operation.

Automated

With automatic high-precision measurements, GOM ScanCobot accelerates the development of small and medium-sized parts. High-throughput series quality control is made possible by integrating ATOS Q into ATOS ScanBox 4105 – the powerful duo for more efficiency.


gom
Mate 200iD

ATOS technology

The ATOS sensors are fully tailored to the metrological requirements of industrial users and provide absolute, accurate and traceable measuring data even under harsh conditions. The 3D scanners operate with structured blue light for contactless measurement.

Triple Scan Principle

The Triple Scan Principle ensures precise and complete measuring data, even with complex geometries and uncooperative surfaces. The sensor's two high-resolution cameras and projection unit deliver different views of an object in each individual measurement. To accomplish this, the projection unit projects a fine fringe pattern onto the part surface, which is captured by the two cameras operating on the stereo camera principle and used by the software to generate the digital geometric twin.

The stereo camera setup gives the system a built-in, sensor-controlled process reliability monitoring feature during measurement. The software gives the user continuous feedback on the calibration status, the transformation accuracy of the individual measurements, changes in the environment and part movements.

High measuring speed

With each scan, ATOS sensors deliver full-field 3D coordinates within seconds. Each individual measurement consists of up to 12 million independent measuring points. This is made possible by the low noise level of the Blue Light Equalizer. This increases the brightness of the light source by a factor of 1.5, allowing for short exposure times.

The excellent detail reproduction of the measuring data makes ATOS Q suitable for measuring very small parts.

Technical data

ATOS Q is available with two different camera resolutions: 12 M and 8 M, which means the 3D scanner capture up to 2 × 12 million or 2 × 8 million coordinate points during scanning. The accuracy, resolution and the measuring area can be freely defined.

8
MEGAPIXELS

12
MEGAPIXELS

	ATOS Q 8M	ATOS Q 12M
Light source	LED	LED
Points per scan	8 million	12 million
Measuring area [mm²]	50 × 35 – 500 × 370	50 × 35 – 500 × 370
Point distance [mm]	0.02 – 0.15	0.01 – 0.12
Working distance [mm]	490	490
Weight	approx. 4 kg	approx. 4 kg
Dimensions	approx. 340 mm × 240 mm × 83 mm	approx. 340 mm × 240 mm × 83 mm
Cable length	10 m fiber optic cable	10 m fiber optic cable
Operating system	Windows 10	Windows 10
Measuring volumes	50, 100, 170, 270, 350, 500	50, 100, 170, 270, 350, 500

Automated 3D metrology

With ATOS Q the optical 3D measuring systems ATOS ScanBox and GOM ScanCobot ensure efficient quality control in the development and production process of small and medium-sized parts.

User-friendly inspection software and easy robot programming in the virtual measuring room (VMR)

As the central control and measurement planning software, the VMR reproduces the entire measuring procedure: measurement planning, digitizing and inspection. The CAD data set for the part being inspected is imported into the GOM software together with the corresponding measurement plan. The software automatically computes the necessary sensor positions and robot paths. If no CAD data is available, the software uses the part's geometry to generate evenly spaced measurement positions. This is followed by the measurement, inspection and analysis – fully automated. The user does not require any special robotics skills.

Advantages for the entire workflow

High measurement speed:
With ATOS ScanBox, measurement and inspection time is reduced by more than half compared to tactile coordinate measuring machines.

Easy to implement: ATOS ScanBox 4105 and GOM ScanCobot require only a standard socket and stand firmly and securely on a small surface, even without floor anchoring.

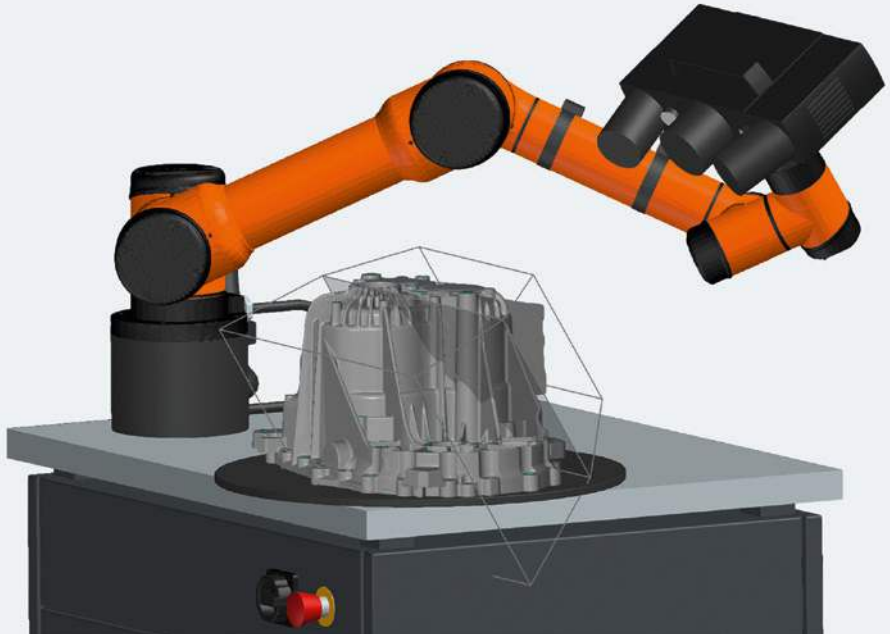
Mobile use: ATOS ScanBox 4105 and GOM ScanCobot can be moved easily and quickly to the next point of use thanks to rollers.

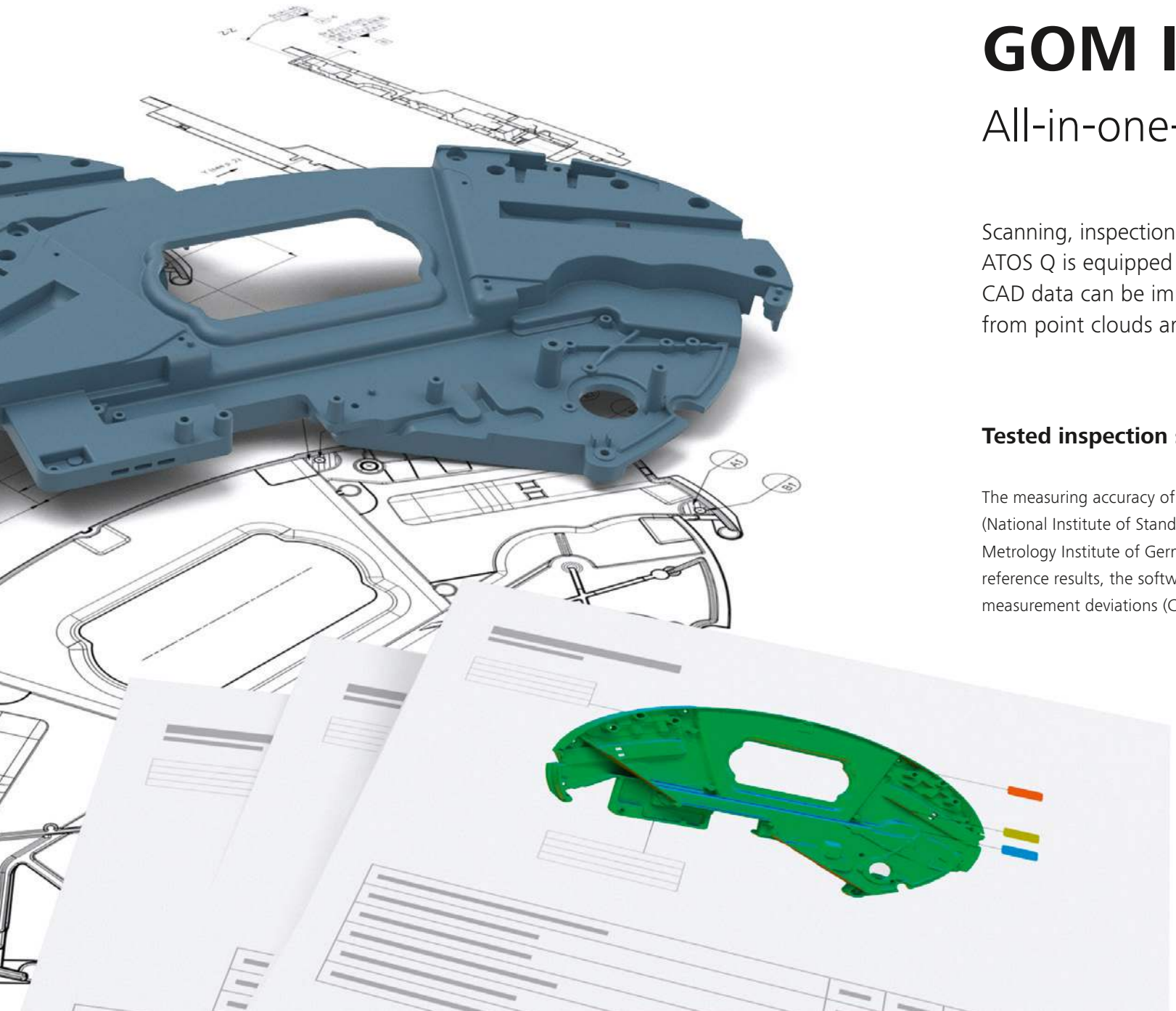
Process reliable and runtime-optimized: Smart Teach functionality in the virtual measuring room simplifies the process of robot programming. Measurement positions are updated automatically, if the CAD or individual elements change.

Burn-in process: The created measuring program is integrated through an automated process. For this, the robot moves to the measurement positions and determines individual measurement parameters on the real part.

Serial measurement: The finished measurement programs can be used for additional component testing. Changes to the CAD data sets and inspection plan can be updated with the click of the mouse thanks to the software's parameter-based design.

Reporting with one click: Once inspection is complete, the results can be compiled into a custom report with photos, tables, diagrams, text and graphics.





GOM Inspect Pro

All-in-one-software

Scanning, inspection and reporting from a single source: ATOS Q is equipped with GOM Inspect Pro software. CAD data can be imported, polygon meshes created from point clouds and 3D inspections can be performed.

Tested inspection software

The measuring accuracy of GOM software has been tested by NIST (National Institute of Standards and Technology) and PTB (National Metrology Institute of Germany). By comparing obtained results with reference results, the software achieves the category of lowest measurement deviations (Class 1).

Parametric inspection
The parameter-based design of the software allows every step of a process to be traced, repeated and edited. Trend analyses, statistical process control (SPC) and deformation analyses can be performed with one piece of software. Even the full-field analysis of multiple identical parts in one project and statistical analytical values can be determined with ease.

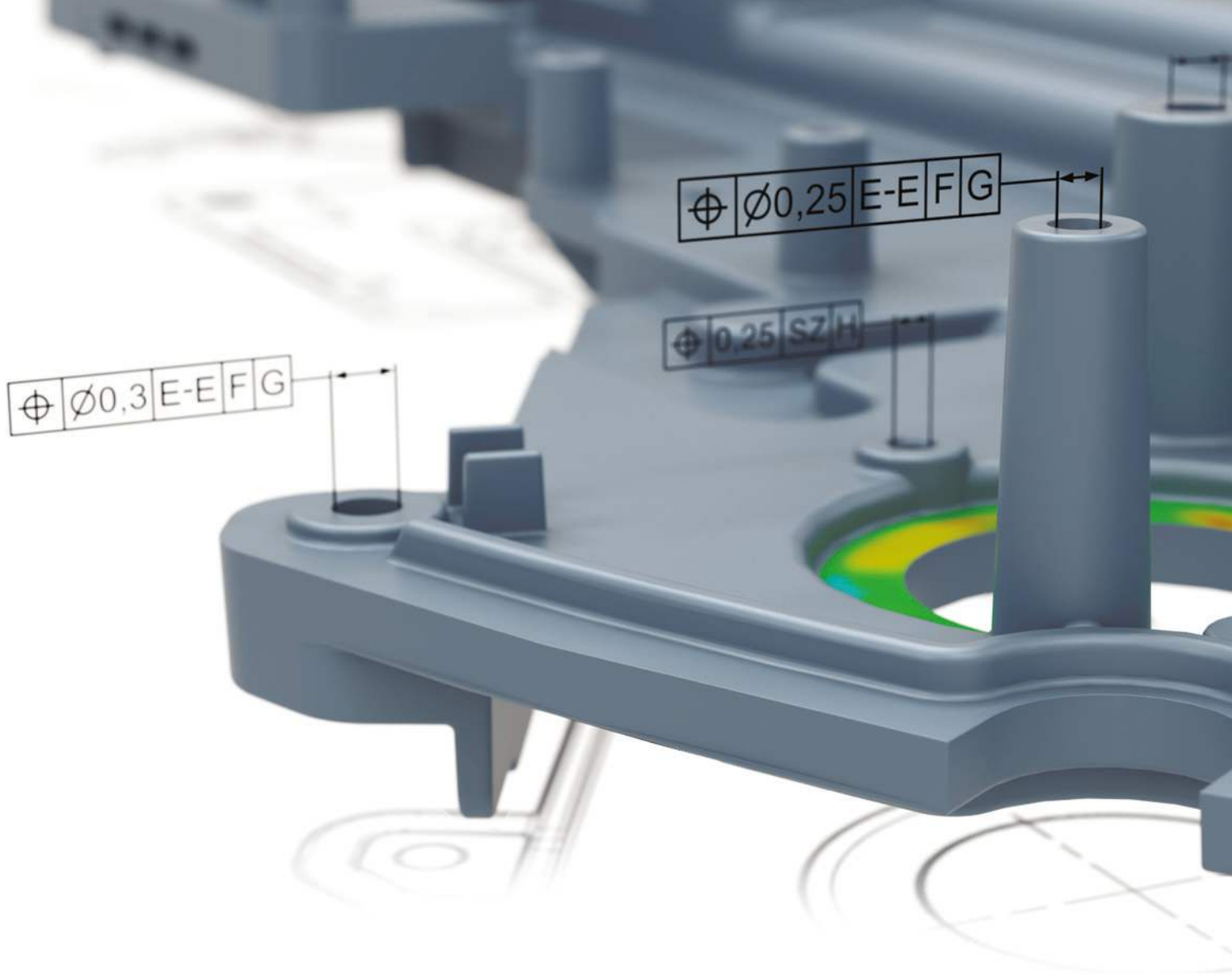
Numerous CAD formats
Time can be saved by importing native CAD formats such as CATIA, NX, SOLIDWORKS and Pro/E into the software.

Teaching by Doing
Thanks to continuous buffering, the desired inspection steps can be transferred to subsequent parts without any programming effort.

Digital Assembly
Digital and virtual assembly allows for control of the alignment of parts to one other and the accuracy of fit, regardless of where the parts were manufactured.

Scripting
A command recorder saves all executed operations as a Python script, which can then be repeatedly applied or varied for other measurements.

GOM Inspect Pro supports the measuring and inspection process with detailed analytical and reporting functions. The results are easily and clearly compiled.



Free Trial Version

Experience the numerous advantages of GOM Inspect Pro – 14 days for free without any contractual obligation.

Start now: **gom.com/goto/nqzd**

GOM Metrology

Your holistic technology partner

GOM Metrology, a company of the ZEISS Group, specializes in industrial 3D coordinate measuring technology, 3D computed tomography and 3D testing. GOM Metrology internationally sets standards in optical 3D metrology. The company helps customers worldwide to increase product quality, optimize processes and thus produce more efficiently.

From product development to production and distribution, GOM Metrology offers machines and systems for manual and automated 3D digitizing, evaluation software, training and professional support from a single source. Today, more than 17,000 system installations accelerate and improve product development and manufacturing processes for international companies in industries such as automotive, aerospace, energy and consumer goods, for their suppliers as well as for many research institutes and universities.

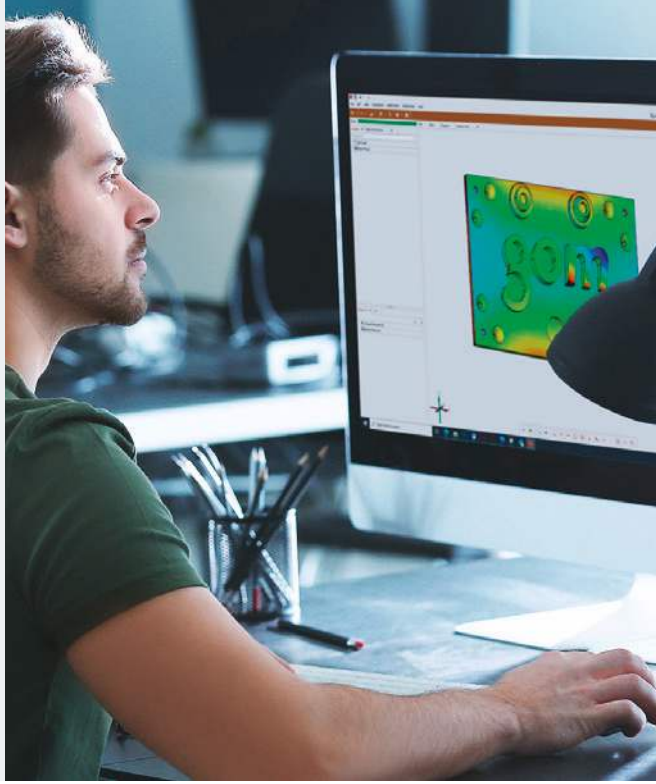
Numerous services and training courses support your daily work when using 3D metrology. In training courses and webinars, you can expand your knowledge on the software and dive into further application fields of the measuring systems.

The online platform myGOM provides instructions, tutorials and frequently asked questions and answers for you. Furthermore, there is an application forum for exchanging ideas and supporting each other.

At conferences and application-based workshops, GOM Metrology directly shares knowledge on processes and measurement technology. Furthermore support and services for 3D measuring systems are offered on a contractual basis.

Training

GOM Metrology training centers offer training and eLearning courses for all knowledge levels. The training concept follows a worldwide standard, which is implemented by our certified partners in the respective national language. In addition to online training and appointments at our training centers, customized on-site training courses are also feasible upon request.



Support and Service

GOM Metrology offers you fast and reliable customer support and services when necessary. They are based on three pillars: Remote Assistance, Services and Contract Plans.

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