



ZEISS ATOS LRX

The specialist for 3D scans of large-volume parts



Seeing beyond



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The Specialist

for 3D scans of
large-volume parts

ZEISS ATOS LRX is specialized on the fast, full-field shape measurement and digitization of particularly large parts and tools. Featuring a newly developed, powerful light source and a very large measuring area, the 3D scanner delivers precise, full-field data with a high detail resolution in a very short time and, for the first time, for areas of up to 4 square meters. The sensor captures up to 2×12 million coordinate points with a single measurement.

As all ATOS sensors, ZEISS ATOS LRX also provides the perfect triplet composed of design, technology and performance. The system with ATOS DNA offers a high level of precision, speed and ease of use in industrial environments. ZEISS ATOS LRX comes with the software ZEISS INSPECT Optical 3D guiding users through the complete workflow from data acquisition to inspection and reporting.



Robust sensor design

ZEISS ATOS LRX was specifically developed for industry use and delivers fully traceable results even in harsh environments. The optical and electronic sensor systems are dust- and splashproof. The industry housing facilitates the step from the measuring room into the production area.

A man with a beard and curly hair is looking intently at a large industrial machine. The machine is illuminated with a strong blue light, creating a high-tech atmosphere. The man is wearing a dark shirt and has a ring on his finger. The machine has various components, including a camera or sensor unit, and is mounted on a complex frame.

ATOS Technology

ATOS sensors are fully tailored to the metrological requirements of industrial users. Precise optoelectronics deliver accurate and traceable measuring results. Using structured blue light, the fringe projection systems enable contactless measurements.

Triple Scan Principle

The Triple Scan Principle ensures precise, comprehensive measuring data, even for complex geometries and non-cooperative surfaces, and enables creating highly accurate and detailed 3D models.

Blue Light Technology

The narrow-band blue light of the projection unit allows for precise measurements regardless of ambient lighting conditions – even in case of dark and shiny part surfaces.

ATOS Performance

Thanks to the computing power of the graphics card, ATOS sensors deliver measuring results at high speed. Combined with a strong light source and the built-in camera technology, ATOS sensors thus attain a new level of performance.

High Performance

in many industries

ZEISS ATOS LRX supports application fields for which neither laser scanners nor laser radar systems are currently suited: the fast digitization of very large surfaces with metrological requirements. The full-field 3D scans with ZEISS ATOS LRX enable a comprehensive process and quality control that visualizes errors and defects on parts and tools. Thus, ZEISS ATOS LRX helps you to take corrective measures and optimize processes at an early stage.



Aerospace

In aircraft construction, ZEISS ATOS LRX can be used for the contactless acquisition of structured parts such as fuselages, ribs, rears and wings. The 3D scanner digitizes the outer skin, for instance, to inspect rivets or the flushness between panels and to quickly detect surface defects. This leads to reduced service and maintenance times.

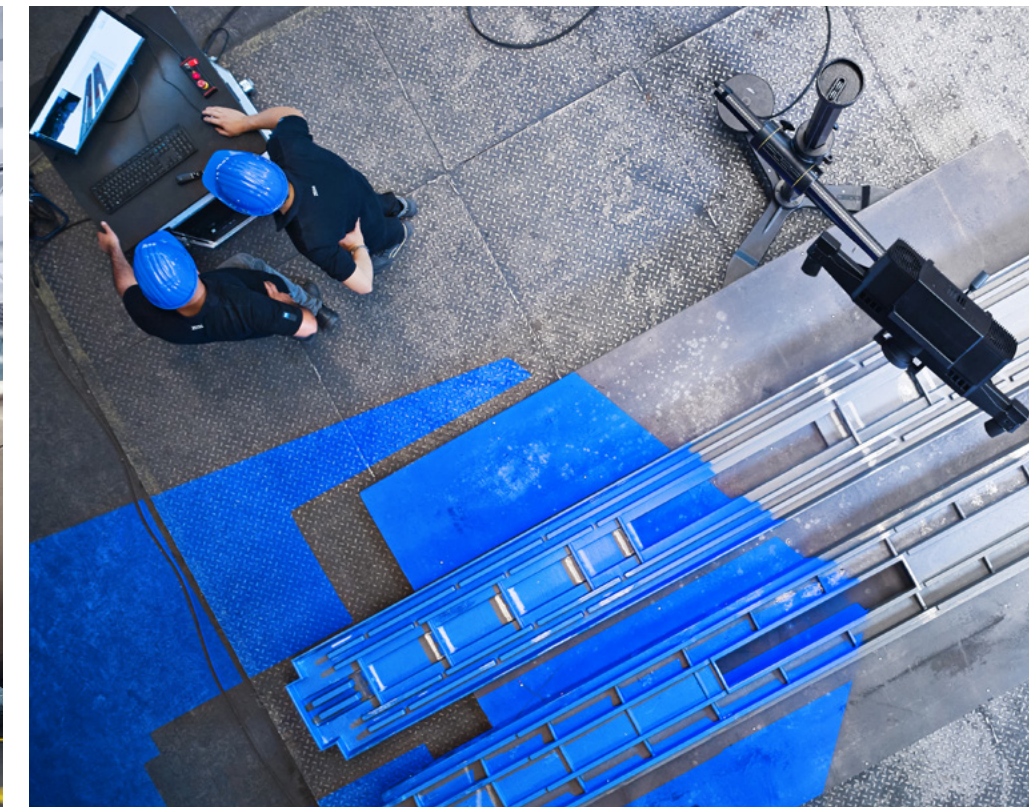


Shipbuilding

In the marine industry, ZEISS ATOS LRX is an efficient tool for inspecting both large designs and the quality of parts. The powerful 3D scanner digitizes the entire surface of ship propellers, for instance, but also provides important information to ensure safety and efficiency for maintenance and repair works.

Automotive

ZEISS ATOS LRX delivers an outstanding performance in the fields of vehicle design, prototype development and production of parts and components. With its large measuring area, the 3D scanner generates a nominal-actual comparison within a short time to meet the requirements to aesthetics and functionality. Moreover, ZEISS ATOS LRX enables the quick scanning of crashed vehicles.

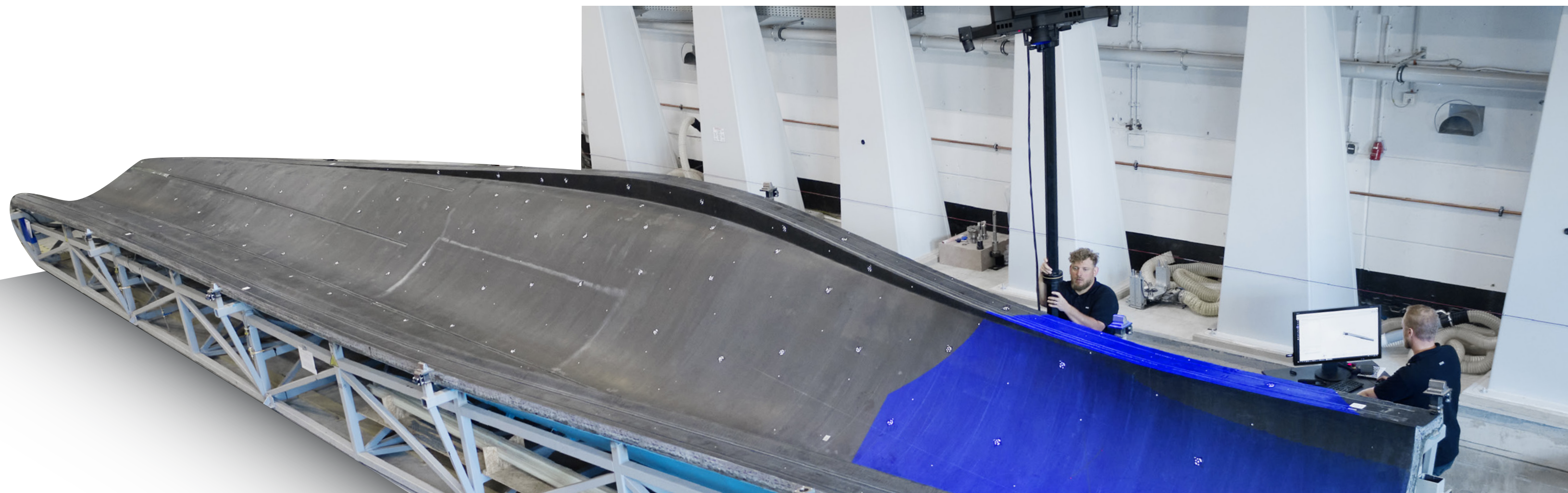


Toolmaking and mechanical engineering

ZEISS ATOS LRX optimizes the construction of particularly large tools and mechanical-engineering components. The 3D scanner quickly and efficiently digitizes models, mold halves and cast blanks for forming tools or mega casting applications, for instance. In the field of mechanical engineering, the 3D scanner speeds up the quality control of welded components, among others.

Energy

As a specialist for large areas, ZEISS ATOS LRX inspects the shapes and dimensions of parts of or entire rotor blades and compares them with a CAD model or a master data set. The 3D data visualize wear and tear at the effective areas of the rotor blades and help to optimize production and to detect wear at an early stage.





Technical Information

Next-generation laser light source

ZEISS ATOS LRX features an innovative, ultra-bright laser light source that enables measurements under normal ambient lighting conditions.

Laser light compressor

In ZEISS ATOS LRX, a built-in laser light compressor focuses multiple laser elements to one very bright light source. This way, the entire measuring area of 2000×1600 mm² is evenly illuminated at a short exposure time.

Maximum safety

Despite the laser light, ZEISS ATOS LRX provides maximum safety with regard to manual use: A radar sensor monitors the safety distance between the laser light source and the user and reduces the luminous intensity, if required. For this reason, ZEISS ATOS LRX was allocated to the non-critical laser safety class 2 and can thus be operated without further protective measures.

Interactive operation

For enhanced user comfort and the use of interactive functions, ZEISS ATOS LRX reduces the luminous intensity of the projector. This way, touch probe measurements, live tracking and back projections can be performed without any protective equipment.

Light source	Laser
Laser class	2
Measuring area [mm ²]	2000 × 1600
Working distance [mm]	1810
Points per scan	12 million
Dimensions [mm]	approx. 950 × 320 × 200
Weight	17 kg

ATOS 5 Product Family

The strength of the ATOS 5 systems lies in the combination of innovative hardware and intelligent software.

All models deliver precise high-speed scans with a high detail resolution.



ATOS 5 for Airfoil

Precise scanning of smallest details

Light source: LED



ATOS 5

High-speed 3D scanning system

Light source: LED



ATOS 5X

Automated scanning of large measuring areas

Light source: Laser



ZEISS ATOS LRX

3D scanning of large volumes

Light source: Laser



All-in-One Software **ZEISS INSPECT**

Scanning, inspecting and reporting with a single source: ZEISS ATOS LRX is controlled via ZEISS INSPECT Optical 3D. The software allows for importing CAD data, creating polygon meshes from point clouds and performing 3D inspections and evaluations. The software is a part of the ZEISS Quality Suite.

HyperScale – Recalibration without losing time

The new HyperScale software feature allows for a particularly quick recalibration on site. It only takes a single measurement of a DAkkS-certified length standard to complete the calibration.

All-in-One Software

ZEISS INSPECT

Parametric concept

The software saves each inspection step, thereby making measurement plans traceable, repeatable, and editable. This allows for carrying out trend analyses, statistical process control (SPC) and deformation analyses in one single software. In addition, it also facilitates performing serial inspections in a project and determining statistical analysis values.

Numerous CAD formats

Native CAD formats, such as CATIA, NX, SOLIDWORKS and Pro/E, can be imported into the software at any time.

Teaching by doing

Thanks to continuous caching, it is possible to apply the desired inspection steps to subsequent parts without any programming effort.

Digital assembly

The digital assembly allows for aligning parts to one another and analyzing their accuracy of fit, regardless of where the parts were manufactured.

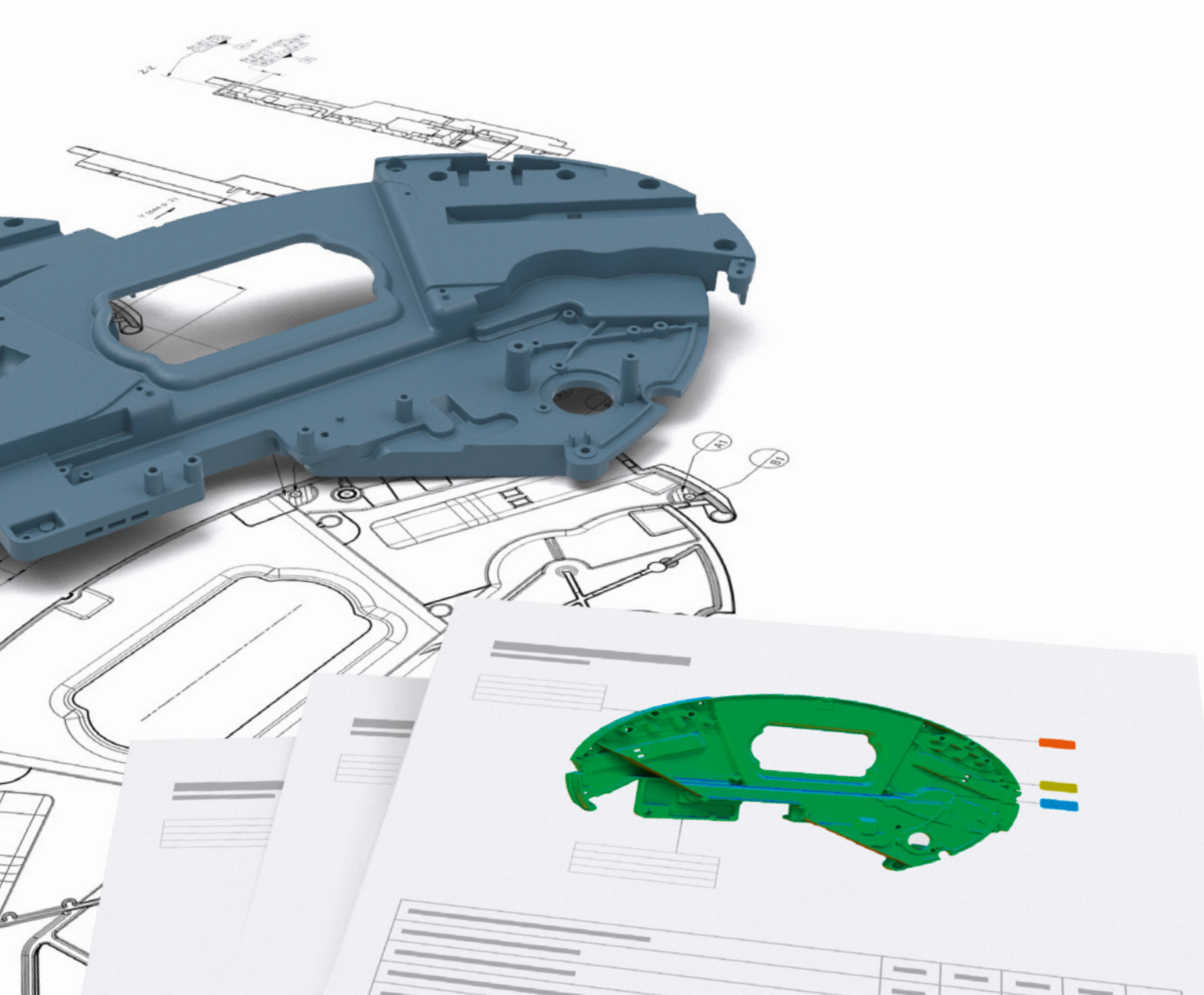
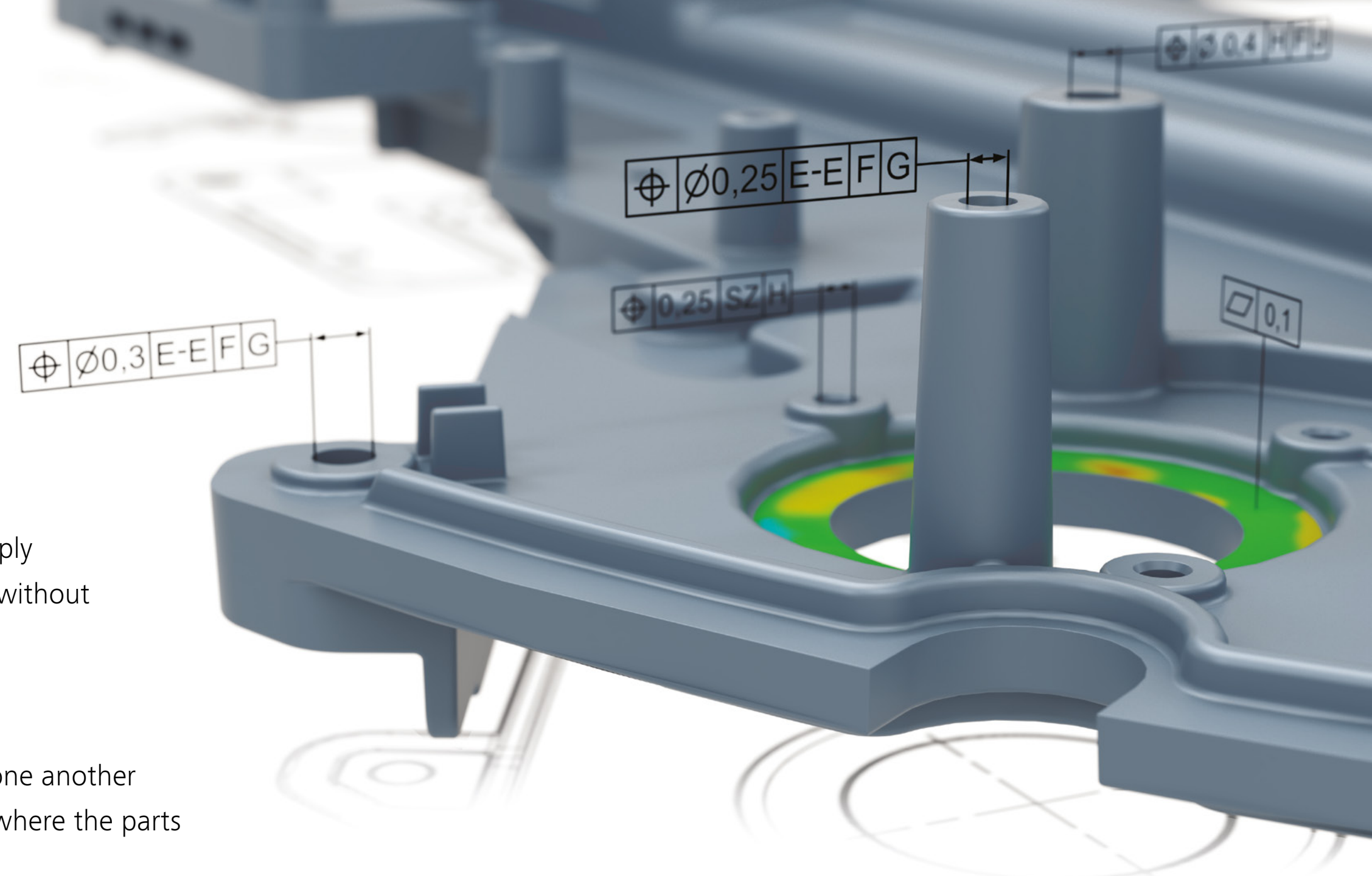
Customization

A command recorder saves all executed operations as a Python script, which can then be either repeatedly applied or adjusted for further measurements.

As part of the ZEISS Quality Suite, the software supports the measuring and inspection process with detailed analysis and reporting functions. The results are compiled in a simple and concise manner.

Free trial version

Experience the numerous benefits of ZEISS INSPECT in the ZEISS Quality Suite for 14 days – free of charge and without any contractual obligation.



ZEISS Industrial Quality Solutions

ZEISS Industrial Quality Solutions is a leading manufacturer of multidimensional metrology solutions. These include coordinate measuring machines, optical and multi-sensor systems, microscopy systems for industrial quality assurance as well as metrology software for the automotive, aircraft, mechanical engineering, plastics and medical technology industries.

Innovative technologies such as 3D X-ray metrology for quality assurance complete the portfolio.

In addition, ZEISS Industrial Quality Solutions offers a broad global spectrum of customer services with ZEISS Quality Excellence Centers close to its customers.



Your Holistic Technology Partner

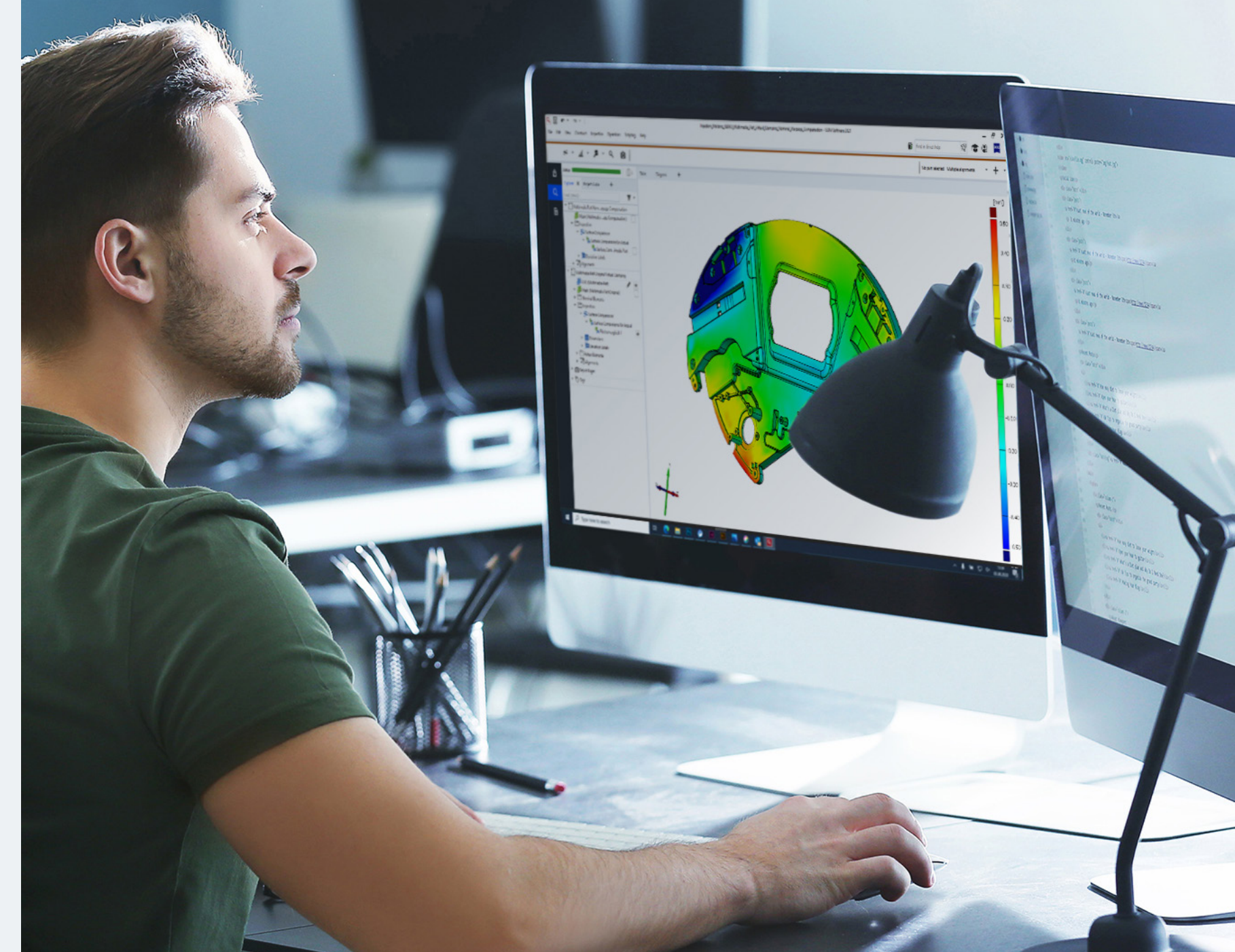
Numerous services and training courses support you in your daily work with 3D measuring technology. Training courses and webinars help you to extend your knowledge about using the software and get to know more application fields for the measuring systems.

The ZEISS Quality Suite supports you with instructions, tutorials and frequently asked questions and answers. Moreover, the user forum offers a platform for mutual exchange and support.

At conferences and application-based workshops, webinars and digital demos, ZEISS directly shares process and measurement technology know-how. In addition, contractual support and services for all measuring solutions are available.

Training

ZEISS training centers offer training and eLearning courses for all levels of expertise. The training courses follow an internationally standardized concept and are implemented by our certified partners in the corresponding national language. In addition to online training courses and scheduled courses in our training centers, customer-specific on-site training courses are also available on request.



Support und Service

ZEISS provides support and services to assist you quickly and reliably if required. These are based on the following three pillars: Remote Assistance, Services and Contract Plans.



Did ZEISS ATOS LRX Get Your Attention?

Contact us for a free demonstration –
on site or online.

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