

ZEROS

**With
better
Safety.**

ACCREDITED
TESTING
LABORATORY



DEAR READERS,

With this edition, I would like to give you a snapshot of our company's current performance.

I, Roger Sebastian am leading Zeros GmbH since 2002. We have achieved a lot since then.

Safety is one among the important values that we offer to our customers. With the opening of new operational facilities, we are constantly adapting to the changing market situation and commit to the "Industry 4.0" with our customers. In addition to the versatile application of all conventional testing procedures, our independent test laboratory is known for the innovative development of unconventional testing scenarios.

Our philosophy: quick response times, testing appointments at short-notice and a wide spectrum of testing and consulting services, which provide you with clear facts about the condition and quality of your products.

I thank you for using this opportunity and look forward to meeting you personally.

**Your Roger Sebastian
Proprietor and Director Zeros GmbH**

zeros-berlin.de



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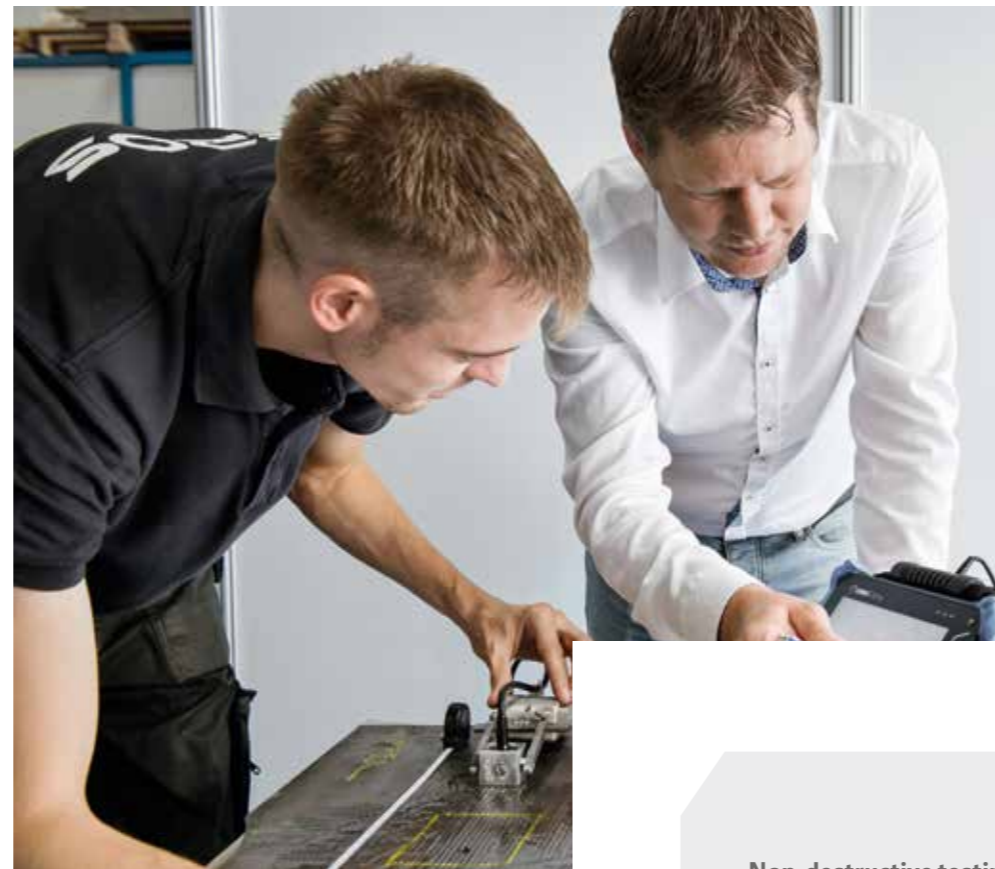
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COMPETENCIES AND APPLICATIONS

Accreditation and certification



DIN EN ISO/IEC 17025

General requirements for the competency of testing and calibration laboratories

DIN EN ISO 9001

Quality management systems - Requirements

DIN EN ISO 14001

Environment management systems - Requirements with instruction for application

DIN EN 9100

Quality management systems - Requirements for Organizations aerospace, space travel and defence

BS OHSAS 18001

Occupational safety management systems - Claims

SCC-POLICY

Safety certificate for contractors "Management for safety, health and environment protection (SGU)"

RESEARCH AND DEVELOPMENT

In collaboration with: universities, institutes, industries, trade associations, technical committees



Non-destructive testing

Radiographic testing (RT) - mobile and stationary

- X-ray tube up to 300 KV
- Isotope Iridium 192/ Selenium 75

Penetration testing (PT)

- Contrast procedures
- fluorescent testing (FPI)
- Electrostatic testing

Magnetic particle testing (MT)

- Manual contrast procedures
- Partly automated testing
- Coil and yoke testing

Visual testing (VT)

- Direct testing
- Endoscopy indirect testing
- Thermography

Ultrasonic testing (UT)

- manual and automated conventional testing
- Phased Array
- TOFD partly or fully automated

Eddy current testing (ET)

- Hand probing
- encircling coils
- rotation testing

Destructive testing

Mechanical technology

Testing

- Stationary and mobile hardness testing (HT) Leeb Brinell / Vickers / Rockwell
- Tensile strength testing according to ISO 6892 Procedures A and B
- Tensile strength testing in thickness direction according to DIN EN 10164 (Z-Quality)
- Impact testing according to ISO 148 through RT up to - 60°C
- Bending and welding tests

Spectrum analyses

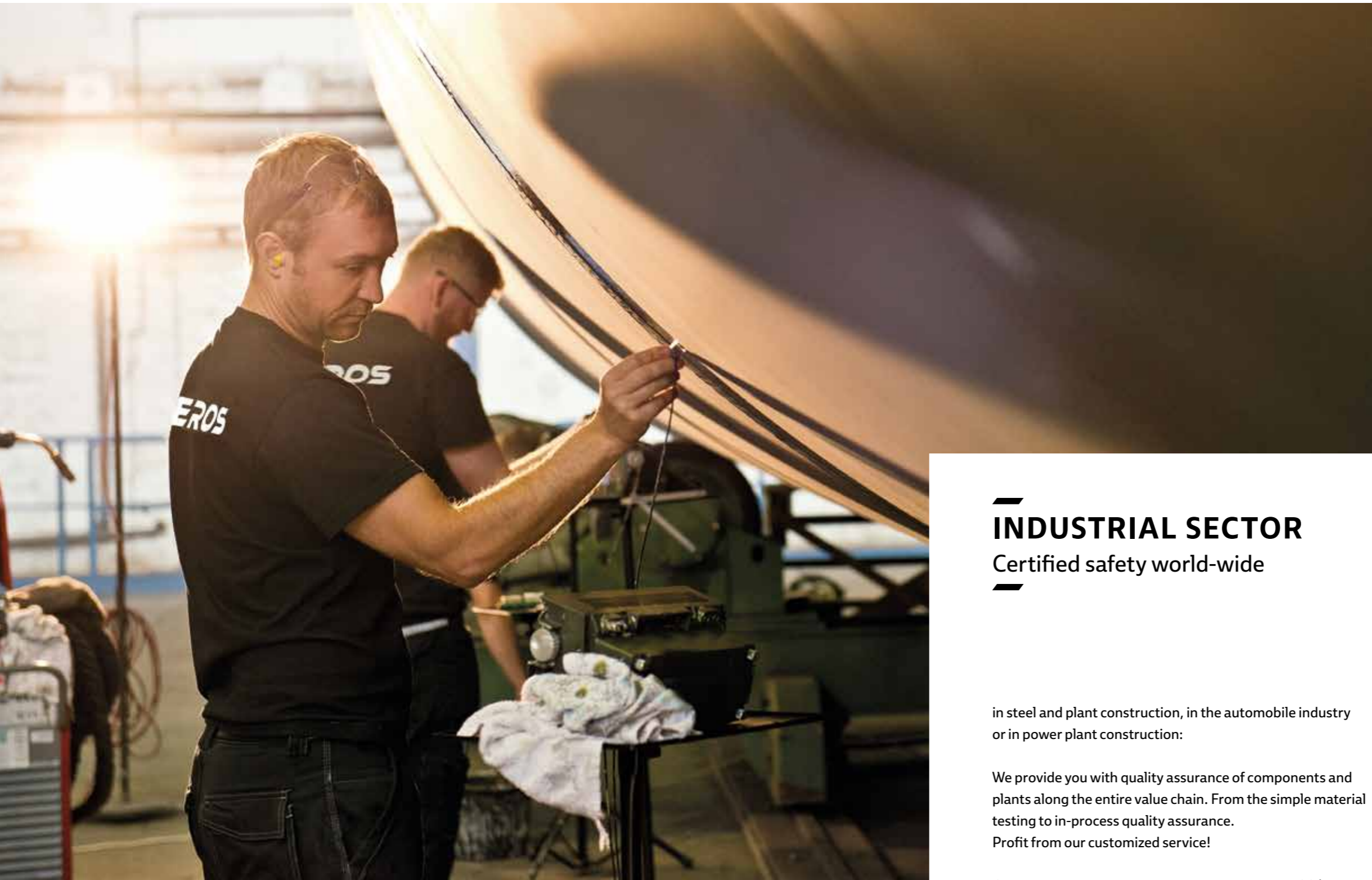
- Chemical analyses on Fe, Al and Cu basis
- Gas volumetric examination S and C
- Scanning electron microscopy

Metallography

- Graphite determination according to ISO 945-1
- Particle size analysis
- Sample preparation and structure examination

Welding procedure test according to DIN EN ISO 15614

Damage analysis



INDUSTRIAL SECTOR

Certified safety world-wide



in steel and plant construction, in the automobile industry or in power plant construction:

We provide you with quality assurance of components and plants along the entire value chain. From the simple material testing to in-process quality assurance. Profit from our customized service!

Our testing personnel work according to DIN EN ISO/American regulations (ASME + ASTM-E), and according to customer-specific instructions.

The production of casting, forging and other components is shifting more and more to foreign countries, we provide support with our non-destructive and destructive testing services world-wide.

For this reason, we include, in addition to the deployment of testing and supervisory staff (stage 2 + 3), the supplier qualification and personal training with our offer.

AT A GLANCE

- non-destructive and destructive testing
- commercial employee transfer program and project business
- automated or manual approvals
- Personal training
- Supplier training for technical regulations
- Auditing
- Process controlling
- Incoming goods inspection
- Documentation testing





RAILWAY

Maintenance railway vehicles



There is a railway network of over 33,000 kilometres only in Germany. Every year, billions of travellers trust the railway for a comfortable and safe travel experience.

The freight traffic also profits from the good railway network and the functioning infrastructure, which takes place significantly via the railway. Zeros supports the railway network as a competent partner with a large bandwidth for material testing procedures.

We continuously encounter new challenges in the process: The material in rail traffic must always withstand higher loads. Alloys must be constantly optimized and new materials created. With individually developed unconventional testing scenarios, we keep up with the requirements of our customers.

We are certified according to DIN 27201-7 and have additionally gotten the theoretical and practical application of these norms audited by an independent and recognized body.

As NDT competence office, we support you according to ECM and undertake the tasks of the NDT-testing department, inclusive of the workshop audits and technical training of employees in the scope of the DIN 27201-7.

Furthermore, we deploy supervision and testing personnel in the stages 2 + 3 with modern device techniques for the testing of railway components.

AT A GLANCE

- Magnetic particle testing (MT)
- Ultrasonic testing (UT)
- Visual testing (VT)
- Penetration testing (PT)
- Eddy current testing (ET)





AEROSPACE

Ready to fly



Our head office is at Berlin Brandenburg Airport, making it especially attractive for manufacturers, operators and suppliers of aerospace. The direct connection to the motorway and airport provides a logistical and economic advantage.

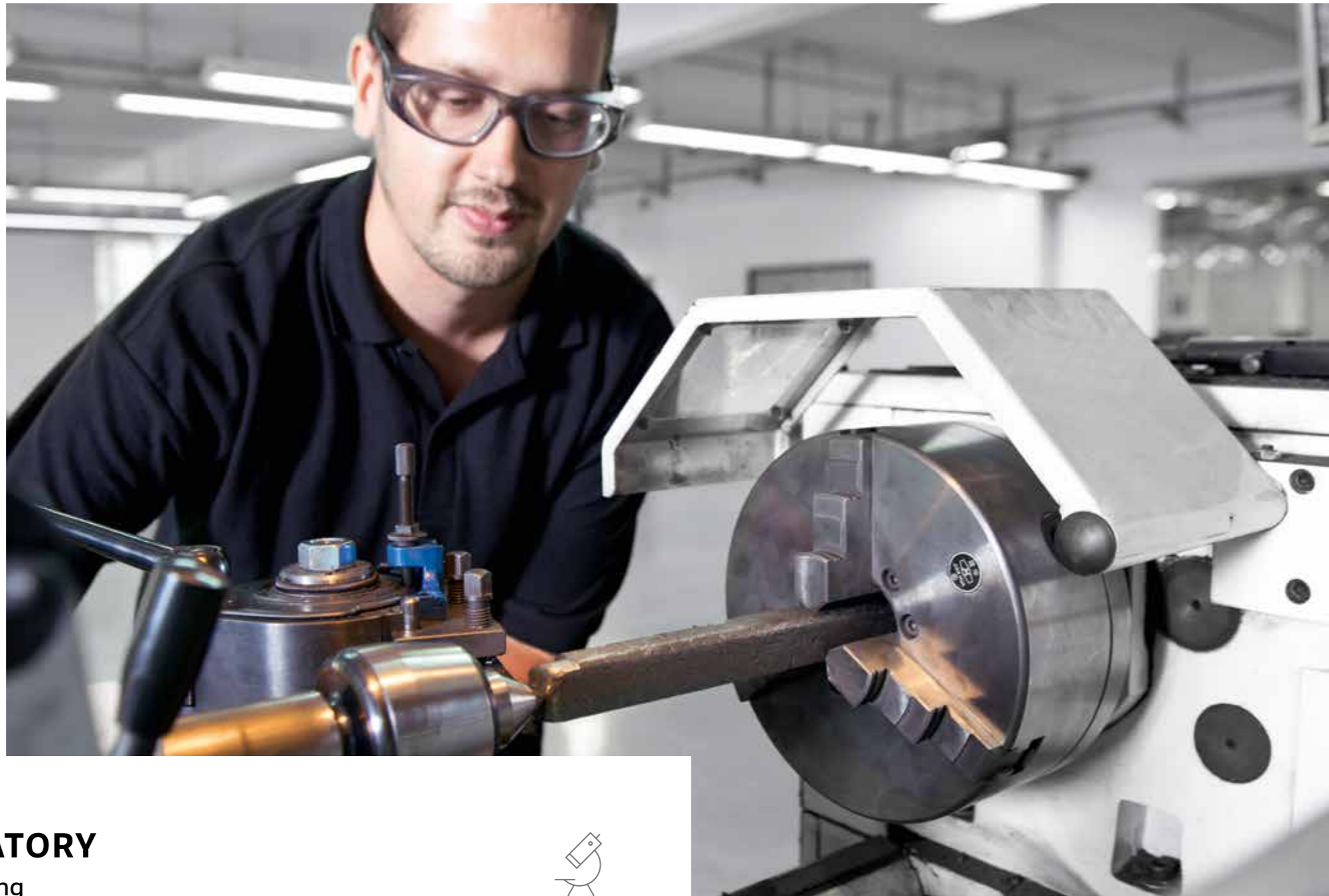
We offer 750 m² of advanced laboratory space for manual and partly automated testing of components. Together with our customers we develop specific testing facilities and invest in sustainable projects. We integrate special surface preparation and subsequent refinements in the process flow.

Our qualified personnel is certified according to DIN EN ISO 4179 and we have a certified quality management system in aerospace according to DIN EN 1900.9100

AT A GLANCE

- Non-destructive testing
- Incoming goods inspection
- Revision testing
- Stationary single and series testing
- Mobile testing (Patrol car)





TESTING LABORATORY

Destructive material testing for the industry of tomorrow



With the operational facilities in Hassloch/Main, Zeros sets new benchmarks for destructive testing of materials. On more than 700m² production area, a laboratory of the next generation was established. Equipped with a mechanical sample production and modern testing technology, the era has found its way into the "Industry 4.0".

With the intelligent controlling of our machines in combination with the technical competency of our employees, the process times and the inspection costs are reduced considerably.

Besides testing mechanical, technological characteristics, chemical analyses and metallographic structure studies, the Zeros GmbH is a competent partner for the introduction of new materials, manufacturing processes or process-related developments.

With our Germany-wide logistics network, we pick up your sample within 24 hours and bring the sampling immediately to you. From sample receipt to each individual production/test step, it is possible to query the processing status via the interface.

AT A GLANCE:

- Expansion test
- Flattening test
- Bending test
- Tensile strength test
- Hardness testing
- Gas volumetric Examination
- Spectrum analysis
- Grain boundary determination
- Coating Thickness Measurement

WE OFFER COOPERATION IN THE LABORATORY:

- Xenon test
- Climate test
- Condensation climate test
- SO₂ - Test



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