## Certified processes. First-class quality.

High quality is a hallmark of ZOLLERN products. In addition to stringent quality assurance of the individual products, ZOLLERN's management system is also certified according to the international standards ISO 9001 and IATF 16949. ISO 14001 and ISO 50001certified environmental and energy management systems are also a living part of our daily practice.

- At ZOLLERN, error prevention has priority over error correction. The aim is to achieve a zero error rate, meaning that customer requirements are fully satisfied.
- ZOLLERN's operations are accompanied by continuous improvements to our processes, our organisational structure and ultimately our products and services. In addition to ongoing improvements in the relevant areas, the employee suggestion scheme also makes a major contribution in this respect.
- Employee orientation, training and development and optimal working conditions are important elements of ZOLLERN's corporate policy. In this way, we aim to achieve excellence both today and in the future in national and international markets, whilst at the same time conserving resources and protecting the environment.











### Quality assurance and material testing

ZOLLERN uses a wide range of methods and instruments to ensure product quality. Material tests are certified according to DIN EN 10204 and conducted throughout the entire manufacturing process.

#### Testing of mechanical and technological properties

- Tensile testing machines
- Hardness testers for all standards
- Fully automatic low-load hardness testers
- Notched-bar impact testing

#### Metallographic testing

- Laboratory for sample preparation, e.g. hot mounting and specimen preparation
- Various macroscopes and microscopes allow precise material analysis

#### **Determination of chemical composition**

- Spectral analysis
- Chemical analysis

#### Geometry and surface roughness tests

- Measuring machines optical, tactile and digital
- Roughness measuring devices

#### Linearity and torsion tests

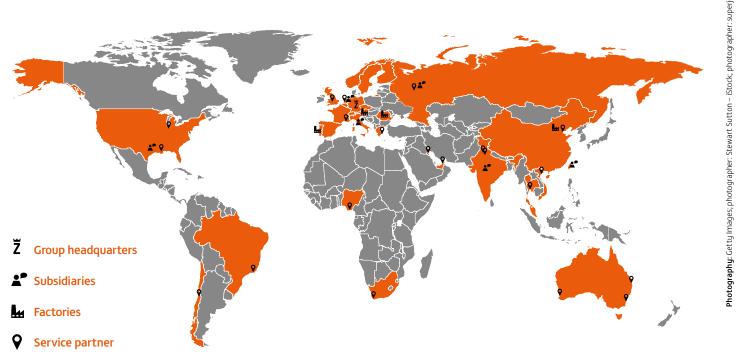
• Measuring tables, measuring bridges of various lengths and angle measuring devices

#### Refinement of heat treatments, determination of tempering temperatures

Laboratory furnaces

#### Non-destructive test procedures

- Crack detection tests based on the eddy current and magnetic powder principles
- Ultrasonic tests
- · Positive material identification





# **ZOLLERN**

#### **ZOLLERN GmbH & Co. KG**

Hitzkofer Strasse 1 72517 Sigmaringendorf-Laucherthal Germanu T +49 7571 70-0 F +49 7571 70-602 info@zollern.com www.zollern.com







**The ZOLLERN Group**ZOLLERN is one of the pioneers
in the metal industry. At several locations in Europe, North America and Asia, 2,000 employees develop, produce and service a wide range of high-quality metal products. ZOLLERN supplies sophisticated solutions for a wide range of applications with its business areas of drive technology, investment casting, sand casting and forging as well as

### Sophisticated components for industrial gas turbines, steam turbines and aeroderivatives



#### ZOLLERN – Investment Casting

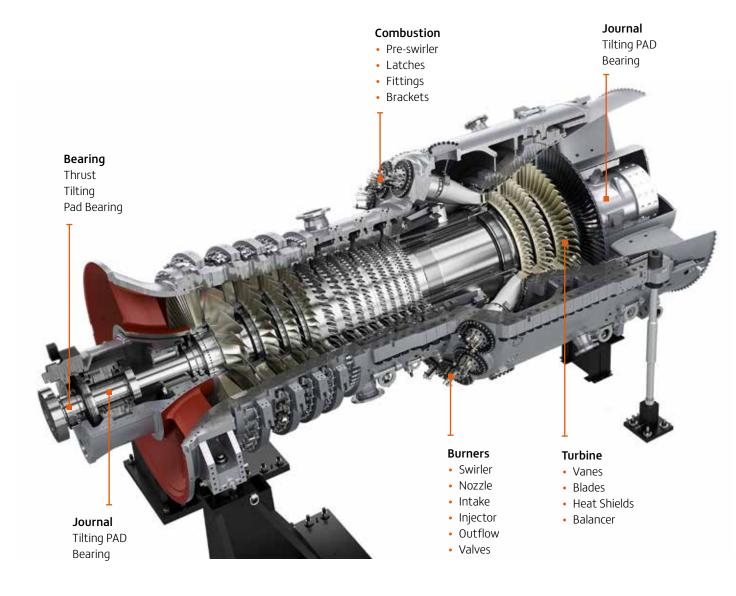
produces extremely hard-wearing precision investment casting products with almost limitless design possibilities in Laucherthal, Germany, as well as at other company sites in Soest, Slovenia, Romania and Portugal. ZOLLERN products include high-performance turbine blades for gas turbines, for example. Our in-house manufacturing capacity ranges from the master melt through to ready-to-install investment casting parts including all finishing. The experienced specialists at ZOLLERN cast virtually all standardised alloys. We are also able to produce non-standardised special alloys to customer specifications.



#### **ZOLLERN** – Sandcasting and Forging

was founded in 1708. This is the oldest business unit within the ZOLLERN group. At our factory in Laucherthal, Germany, we manufacture components in copper, copper alloy and high and low alloy steel using sand casting, ceramic casting and centrifugal casting. Our components are characterised by quality materials, precision processing and outstanding surface properties; they are cast from a selection of over 500 alloys and are used in the energy generation industry amongst others.

### **Industrial Gas Turbines**



#### Product Samples IGT GT 8000H



#### Product Samples div.











### Aero-derivatives/Engines

