

**TRIALS**

**ANALYZES**

**PRECISION**

**INDIVIDUAL  
APPROACH**

**TIONS**

**TESTS**

# **RESEARCH AND DEVELOPMENT CENTER**

Services that sets you apart from the competition



## WE DEFINE TECHNOLOGIES

The SECO/WARWICK Research and Development Center conducts its own unique research, full metallographic tests, develops new and existing technology, and together with product departments, creates modern solutions for the heat treatment of metals and metallurgy.

R&D seeks new solutions, analyzes design and technological issues, optimizes processes, and implements the latest scientific and technical achievements. These services enable our department to efficiently fulfill individual orders and ensure that each process will meet the requirements of the client and the market before production.

Customer needs define new development pathways – our research and development projects, laboratories, and global scientific staff work on solutions that most effectively support our partners. We select or create new technologies, conduct computer simulations and tests, and deliver a product tailored to customer needs.



## COLLABORATIONS

- / University of Zielona Gora
- / Poznan University of Technology
- / Lodz University of Technology
- / Rzeszow University of Technology
- / Wroclaw University of Science and Technology
- / Technische Universität Bergakademie Freiberg



## SERVICES PROVIDED

- / calculations
- / research
- / tests
- / analyses
- / consultations



## SCOPE OF SERVICES

**SECO/TECH** – tests, trials, and commercial heat treatment processes. All activities are carried out on SECO/WARWICK equipment.

**SECO/LAB** – unique research and full metallographic tests for external entities, institutions, universities, and commercial clients.

**SECO/CAE** – a wide range of engineering calculation services, e.g., thermal simulation, fluid mechanics, and material and structural strength.

**CAB/R&D** – trials and tests of prototypes of a wide range of heat exchangers for all applications and industries.

**SECO/MELT** – advanced casting in EQ, DS, and S.C. technology. These processes are tests, trials, and commercial processes.

**RETECH/R&D** – pilot production, material development, process technology, melting and casting services, all performed at our facility.



## 5 REASONS TO USE R&D SERVICES

### / Innovation and competitive advantage

Our research and development activities lead to the creation of unique, patented solutions that provide a competitive edge.

### / Versatility and comprehensiveness

We offer full metallographic tests, develop received or purchased technologies, and create unique solutions. Our services include research, calculations, and comprehensive analyses for external entities, institutions, universities, and commercial clients.

### / Collaboration with science

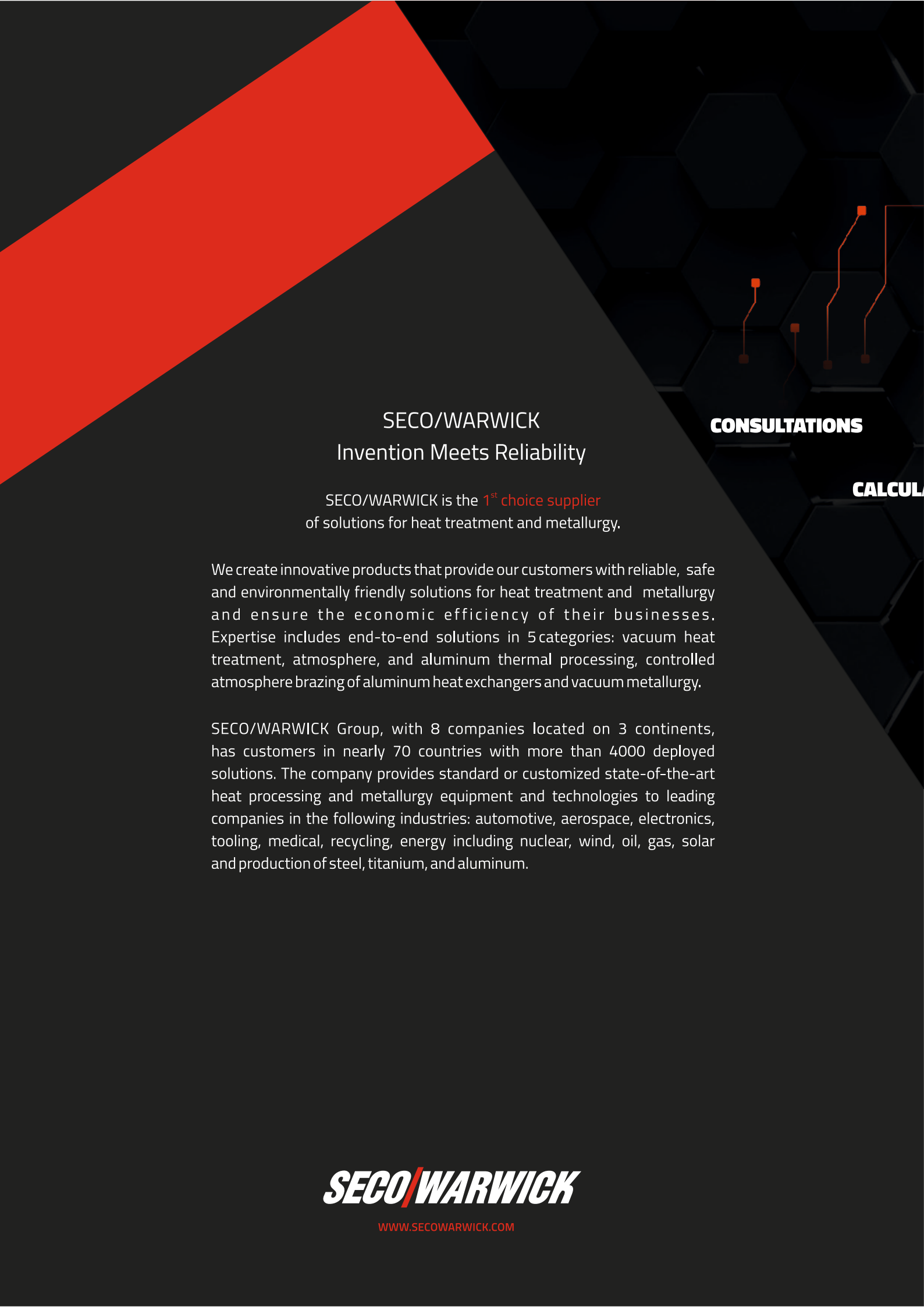
Close cooperation with universities and research units allows for continuous improvement of technologies and research methods. Thanks to this, our clients have access to the latest scientific and technological achievements.

### / A variety of services

We offer aluminum brazing in a protective atmosphere (CAB), aluminum brazing in a vacuum (VAB), vacuum carburizing (LPC), vacuum nitriding (LPN), and many other heat treatment processes.

### / Experience and expertise

Our experts share their knowledge of technological solutions, allowing for the full utilization of the potential of our research and development services.



## SECO/WARWICK Invention Meets Reliability

SECO/WARWICK is the 1<sup>st</sup> choice supplier  
of solutions for heat treatment and metallurgy.

We create innovative products that provide our customers with reliable, safe and environmentally friendly solutions for heat treatment and metallurgy and ensure the economic efficiency of their businesses. Expertise includes end-to-end solutions in 5 categories: vacuum heat treatment, atmosphere, and aluminum thermal processing, controlled atmosphere brazing of aluminum heat exchangers and vacuum metallurgy.

SECO/WARWICK Group, with 8 companies located on 3 continents, has customers in nearly 70 countries with more than 4000 deployed solutions. The company provides standard or customized state-of-the-art heat processing and metallurgy equipment and technologies to leading companies in the following industries: automotive, aerospace, electronics, tooling, medical, recycling, energy including nuclear, wind, oil, gas, solar and production of steel, titanium, and aluminum.

**CONSULTATIONS**

**CALCULATIONS**

**SECO/WARWICK**

[WWW.SECOWARWICK.COM](http://WWW.SECOWARWICK.COM)