

Manufacture The Difference.

High performance industrial solutions



ECM
TECHNOLOGIES



ECM
GREENTECH



SEMCO
TECHNOLOGIES



ANNEALSYS

CARBON
PHOTOVOLTAICS MADE IN FRANCE



**INDUSTRIE
OFEN
SERVICE**

THE ECM GROUP

Family Capital



+750 Employees



Made in France



+180M€ turnover



+85% Export



- A key player in the market of capital goods for materials processing and transformation.
- **World leader** in low-pressure carburizing applications : heat treatment of mechanical parts
- Our Mission: Design and manufacture **low-carbon** high-tech solutions to improve the performance of industry and support its **ecological transition**.
- Our **hub of expertise** in thermal, gas and atmospheres management led the ECM Group to be involved in major national & European projects (36% shareholder in Carbon for the solar gigafactory & partnership with Genvia : production of green hydrogen).

PRODUCTS & ENTITIES



Subsidiaries : ECM USA / ECM CHINA / ECM ASEAN / ECM INDIA / ECM GMBH / ECM KAZAHKSTAN / ECM MIDDLE EAST

WORLDWIDE PRESENCE



The ECM Group, international leader in high-performance industrial solutions, is an independent family-owned group with a worldwide presence in over 30 countries.



ECM GROUP FACILITIES



2 Manufacturing Areas – 26.000sqm

Grenoble

- 4 plants
 - 1 plant for R&D and graphite technologies - 11.200sqm
 - 2 boilermaking factories - 5.800sqm
 - 1 workshop dedicated to special projects & renewable energies in Pont de Claix - 4,900sqm

Montpellier

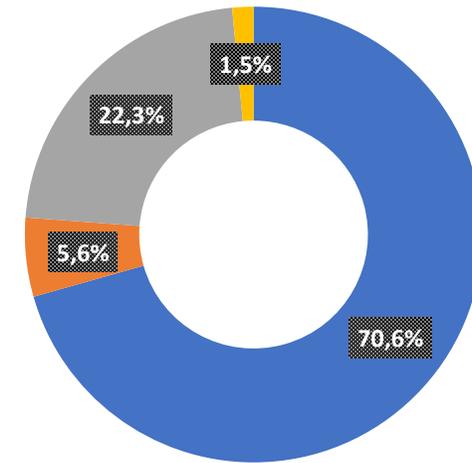
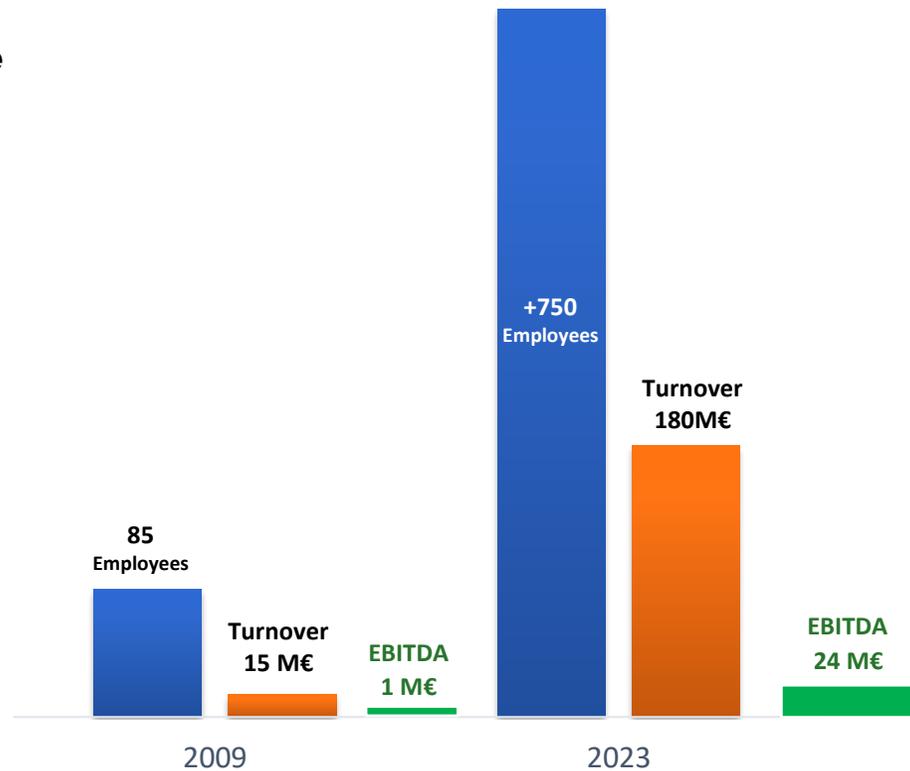
- 4 plants
 - 1 plant of 2.400sqm with 2 clean rooms 900sqm
 - 1 plant dedicated to robotics - 500sqm
 - 1 plant for RTP / SEMI manufacturing – 700sqm
 - 1 plant for vacuum furnaces 500sqm



KEY FIGURES

+85%
Export

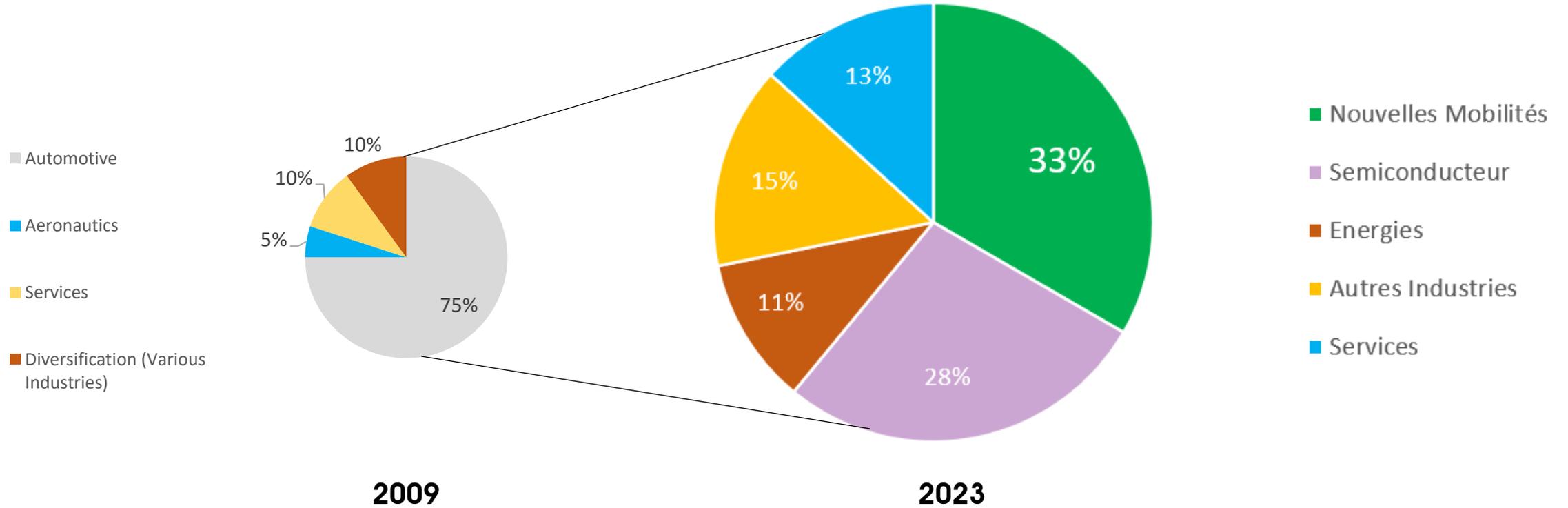
Made in France



- Famille Pelissier & Proches
- Institutions - BPI France
- Investisseurs financiers dont Garibaldi Participations (10,1%)
- Management



STRONG DIVERSIFICATION



Energies: ENR, Hydrogen, Batteries, Heat exchangers, Nuclear
Other Industries : Aerospace, Tooling, Medical, Defense, Electronics



ECM, AN EQUIPEMENT SUPPLIER TO SUPPORT FRANCE 2030

☒ Photovoltaic energy for future Gigafactories

- Silicon ingot growth equipment
 - CrystalMax process developed in collaboration with CEA and Photowatt to produce photovoltaic panels in France with the best carbon footprint in the world
 - CZ pullers for monocrystalline ingots
- TOPCON cell manufacturing equipment (diffusion and wafer deposition)

☒ Hydrogen production : GENVIA high-temperature electrolysis

- Conditioning benches electrochemical cell stacks,
- Hotbox for maintaining the temperature of the hydrogen production device

☒ Silicon carbide growth systems for semiconductors

☒ Equipment supplier to the largest electric vehicle manufacturers





Our Values &
Commitments.

REDUCING THE CARBON FOOTPRINT OF HEAT TREATMENT OPERATIONS

The ECM Group is playing an active role in **industry's ecological transition** by supplying practical solutions to reduce the carbon footprint and energy consumption of its customers' facilities.

**Reduces carbon footprint
by up to 85%**



Electric furnaces



Reduces energy consumption up to 40%



Shorter treatment cycles



Non-carbonated process atmosphere

CARBON NEUTRALITY TARGET

As a player committed to transform the industry, we constantly **innovate** to respond to social and environmental challenges by reducing the **carbon footprint** of our solutions and playing an active part in the **local industrial economy**.

Latest innovation - ECO Furnace
Reduces emissions by up to 85%

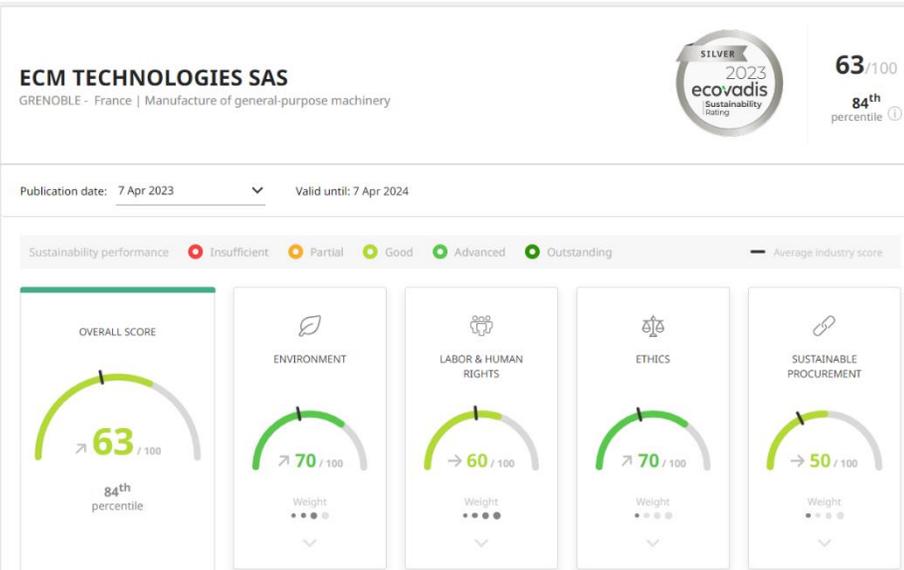


OUR ACTIONS



This SAQ 5.0: 46 Rue Jean Vaujany
 Industry average: 28.00 - Manufacture of machinery and equipment n.e.c.
 Country average: France
 Headcount average: 100-249

C **77**
 Minimum Scope Rating Sustainability Score





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Think Outside the Cube.

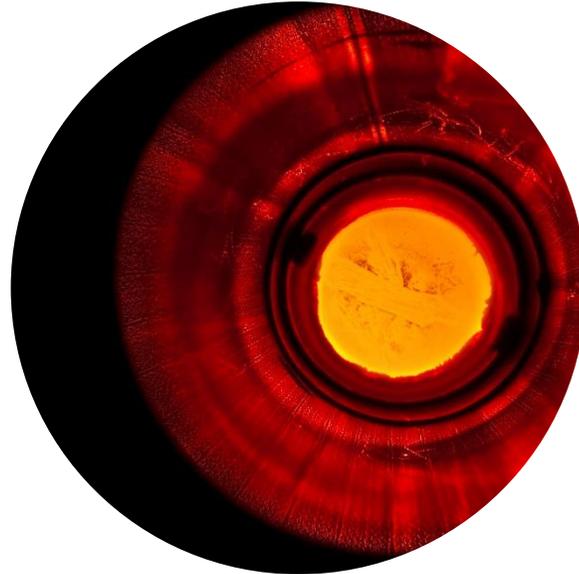
Heat Treatment Solutions



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Equipment for vacuum heat treatment and materials processing



Division dedicated to special projects and nuclear applications



Robotics Division



HEAT TREATMENT EQUIPMENTS

Heat treatment systems for medium and large-scale production

World leader in low-pressure carburizing

The Infracarb process has been patented for over 30 years

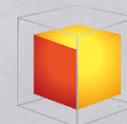
“Vacuum” technology has been developing in many industries :

- **E- Mobility** : supplier to the biggest manufacturers
- Tooling
- Mining applications
- Marine
- Aerospace
- Opening up to other processes and applications (nitriding, brazing and sintering)

Equipment for vacuum heat treatment and materials processing

Unit dedicated to special projects and nuclear applications

Division Robotics



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SPECIAL PROJECTS

ECM Technologies designs, manufactures and installs heat treatment solutions for advanced processes in complex environments, especially in the nuclear industry.

ECM is also involved in collaborative partnerships in the decommissioning and fuel cycle projects.

Drawing on its know-how, this division positions itself on highly demanding technological and innovative projects, proposing new solutions to integrate new sectors: SiC, biomaterials, permanent magnets.

Equipment for vacuum heat
treatment and materials processing

Unit dedicated to special
projects and nuclear
applications

Division
Robotics



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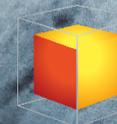
ECM ROBOTICS

- Robotics division at the service of the group
- Complete offer for a robotized heat treatment system
- Development of grippers
- Technology adapted to all industries: automotive, post 3D printing processing, photovoltaics, semiconductors, aeronautics, etc
- Expertise focused on new applications thanks to strong investment in research and innovation :
 - Welding robot (TIG)
 - Complete solution for assembling and welding battery packs

Equipment for vacuum heat treatment and materials processing

Unit dedicated to special projects and nuclear applications

Robotics Division



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Your Project, One step ahead.

Renewable Energies & High Tech Applications



Equipment dedicated to renewable energies and energy storage (lithium & hydrogen)



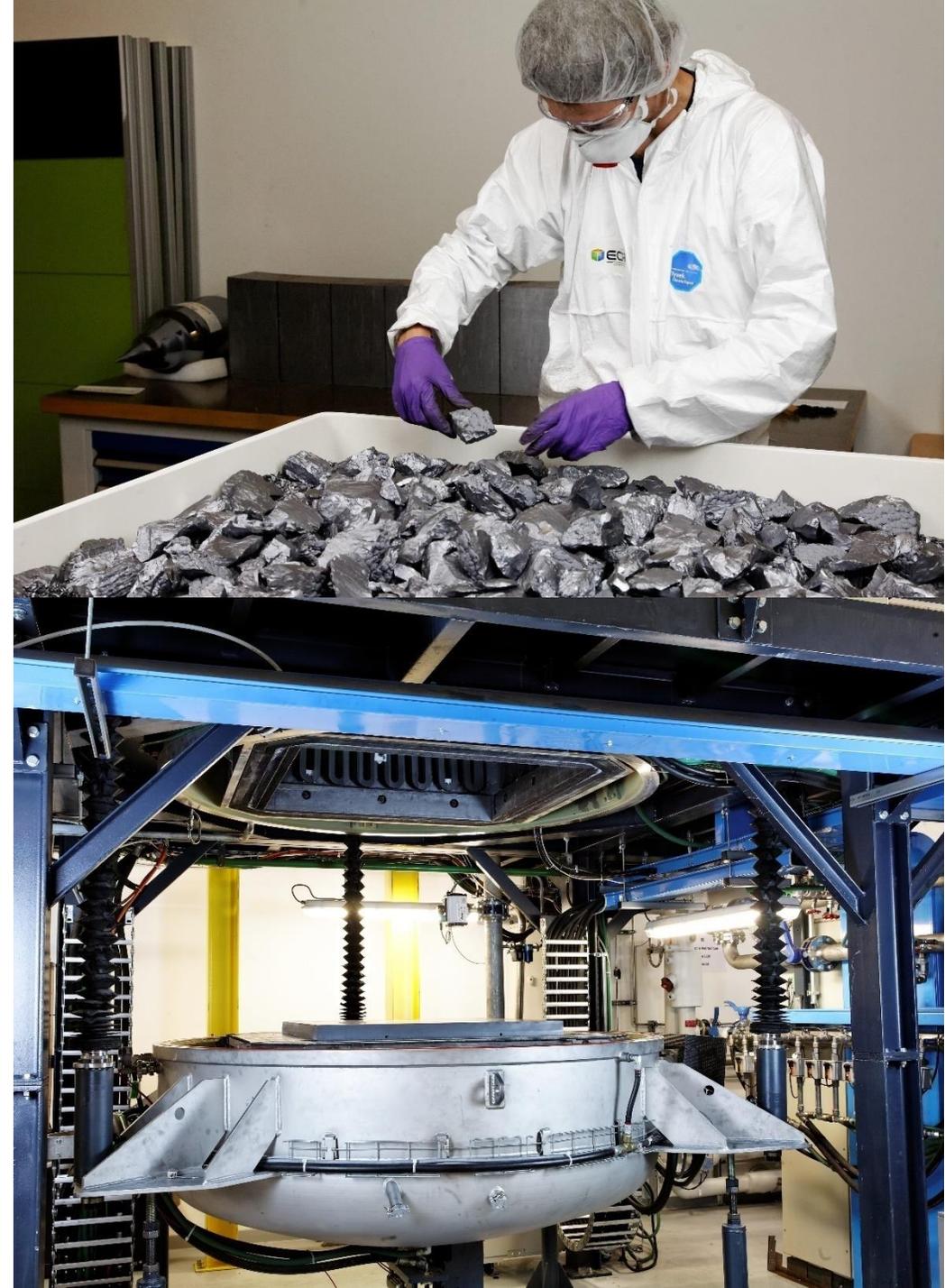
Equipment for the Semiconductor (Equipment for wafer processing and SiC growth)



Crystal growth equipment and vacuum furnaces for high tech applications

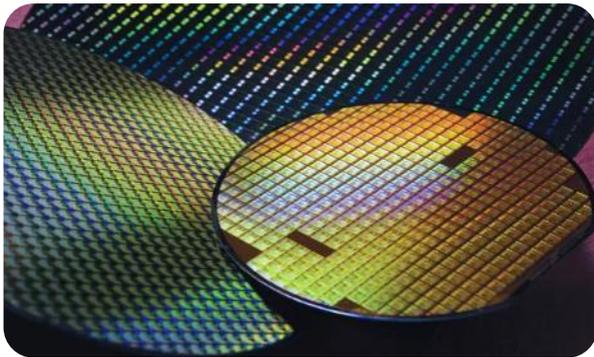
PV TURNKEY LINES - ENERGY STORAGE

- Mastering the entire value chain to produce solar panels: from ingot growth to the manufacturing of TOPCon cells.
- Turnkey lines for energy storage and vehicle electrification: Supply of a complete Lithium battery pack assembly line for the electrification of TukTuk urban vehicles in India.
- Hydrogen work - Fuel cells
- ECM Greentech involved in Carbon projects (35% shareholding and supply of equipment) / Partnership with Genvia.



SEMICONDUCTOR PROCESS EQUIPMENT

- Range of tube & horizontal furnaces for semiconductor applications
- Processing of silicon cells and wafers used in a wide range of sectors: vehicles, household electronics, communications, industrial equipment, etc.
- SiC (Silicon Carbide) growth furnaces



CRYSTAL GROWTH

- World-renowned expertise in crystal growth equipment
- Cutting-edge technologies for optical, defense and R&D applications
- Currently in the workshop: furnace to produce the world's largest sapphire

Cyberstar



VACUUM FURNACES

A range of very high-temperature vacuum furnaces (up to 2500°C) for advanced applications and critical processes :

- Electronics
- Defense
- Aerospace
- Medical
- 3D post additive manufacturing treatment





Supporting Critical Processes.

High Value Components For Critical Processes



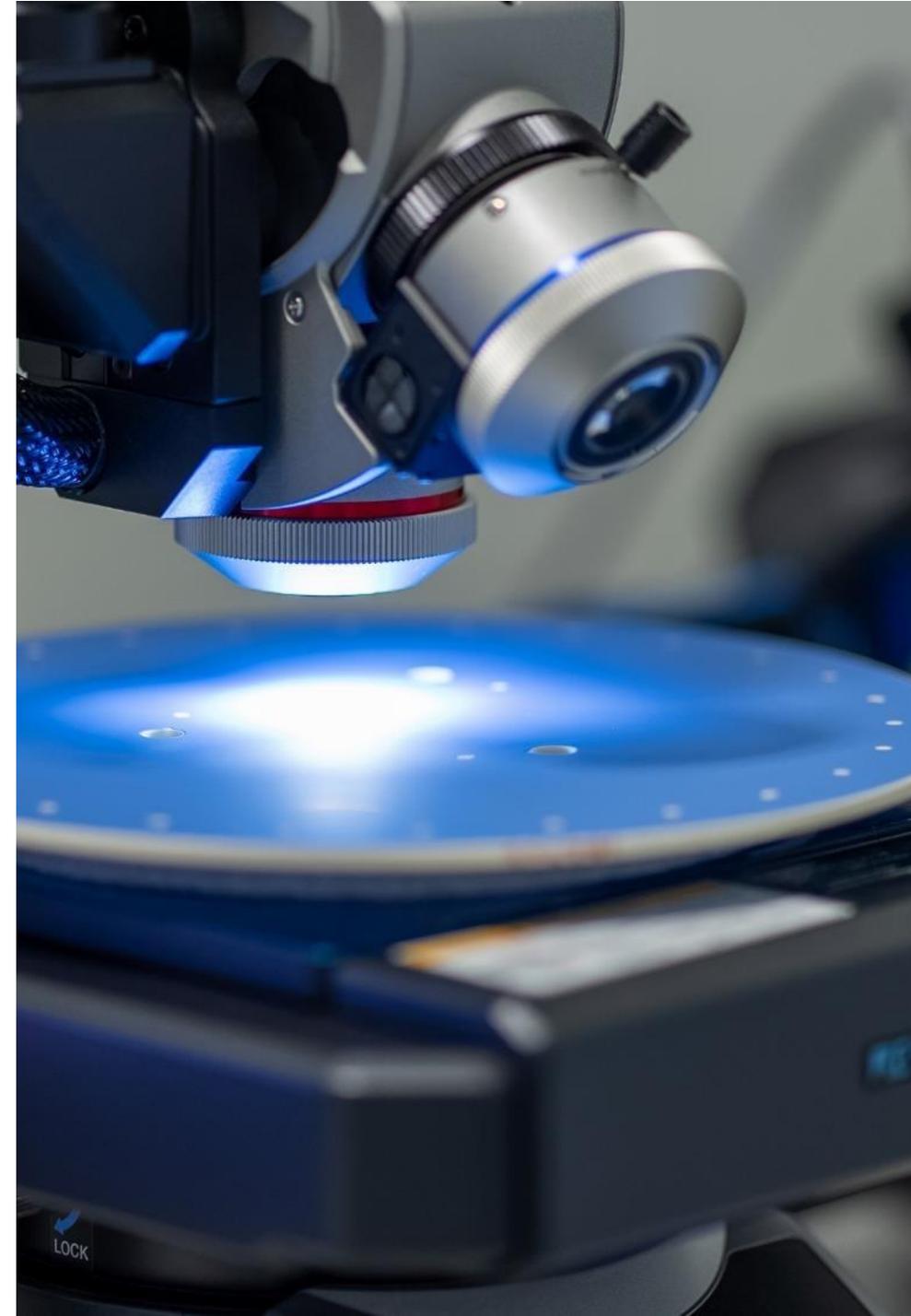
Electrostatic Chucks
E-Chucks (ESC's)



Wide Portfolio of Valves / Gas
Components / Gas Panels

ELECTROSTATIC CHUCKS

- World expert in the design and manufacture of electrostatic chucks – Ceramic component for the handling of wafers or substrates in semiconductor processes

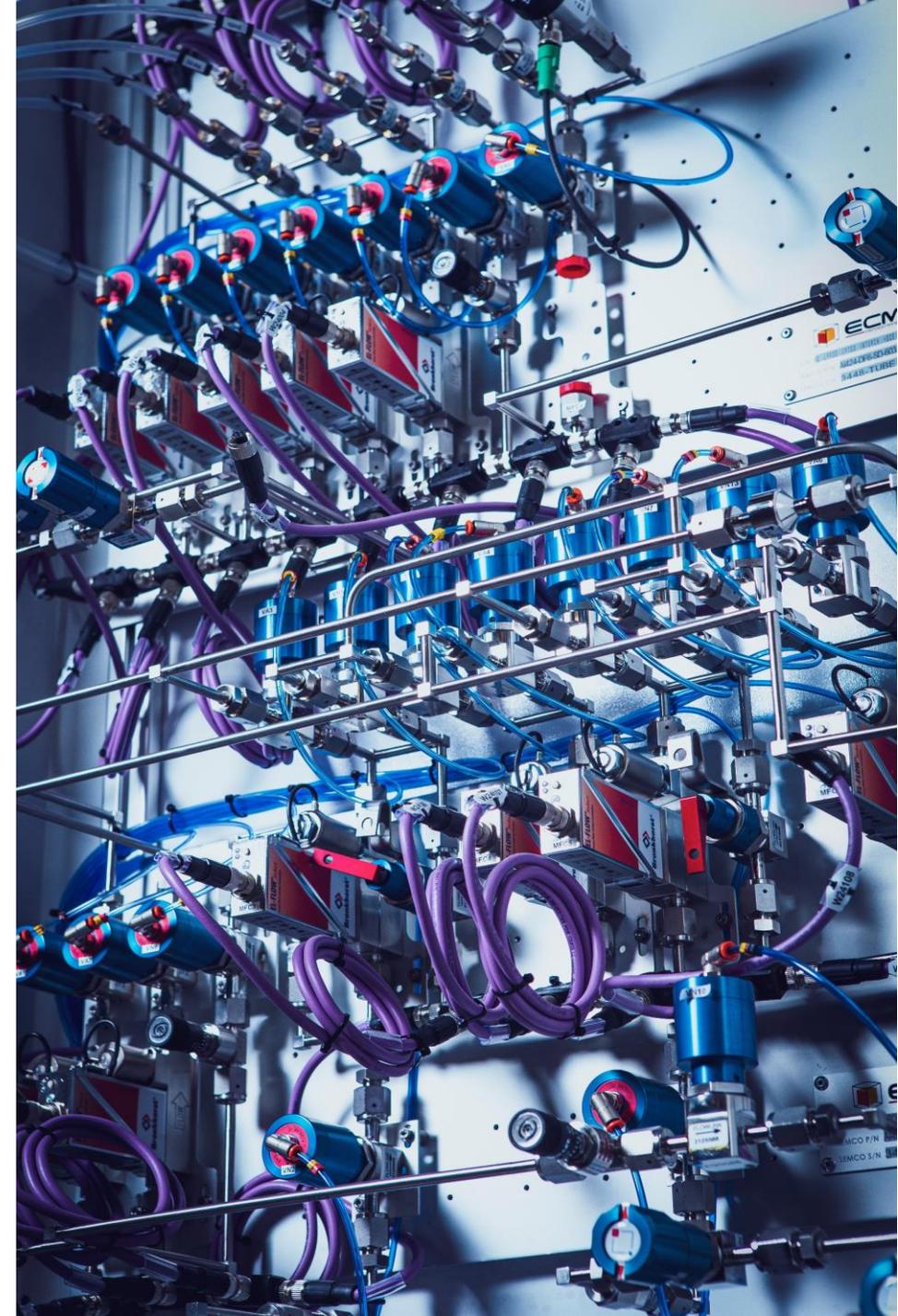


VALVES & GAS COMPONENTS

Over 30 years' experience in the design and manufacture of stainless-steel valves for handling pure and corrosive gases

600sqm clean room for the manufacture of :

- Vannes
- Precision Valves
- Gas Panels
- Evaporators





Rapid Thermal Processes.

RTP Furnaces & Deposition Systems

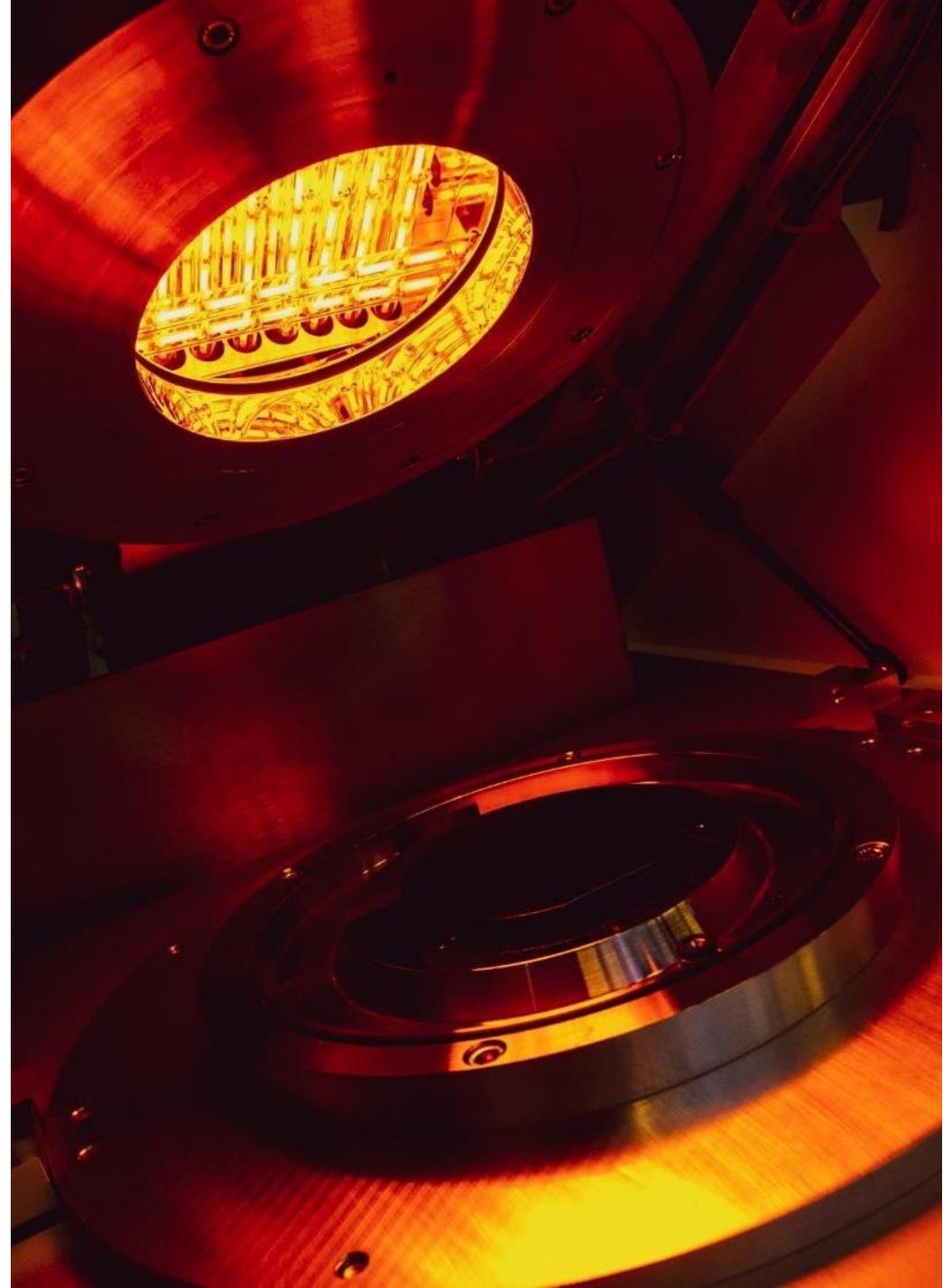
RTP & DEPOSIT SYSTEMS

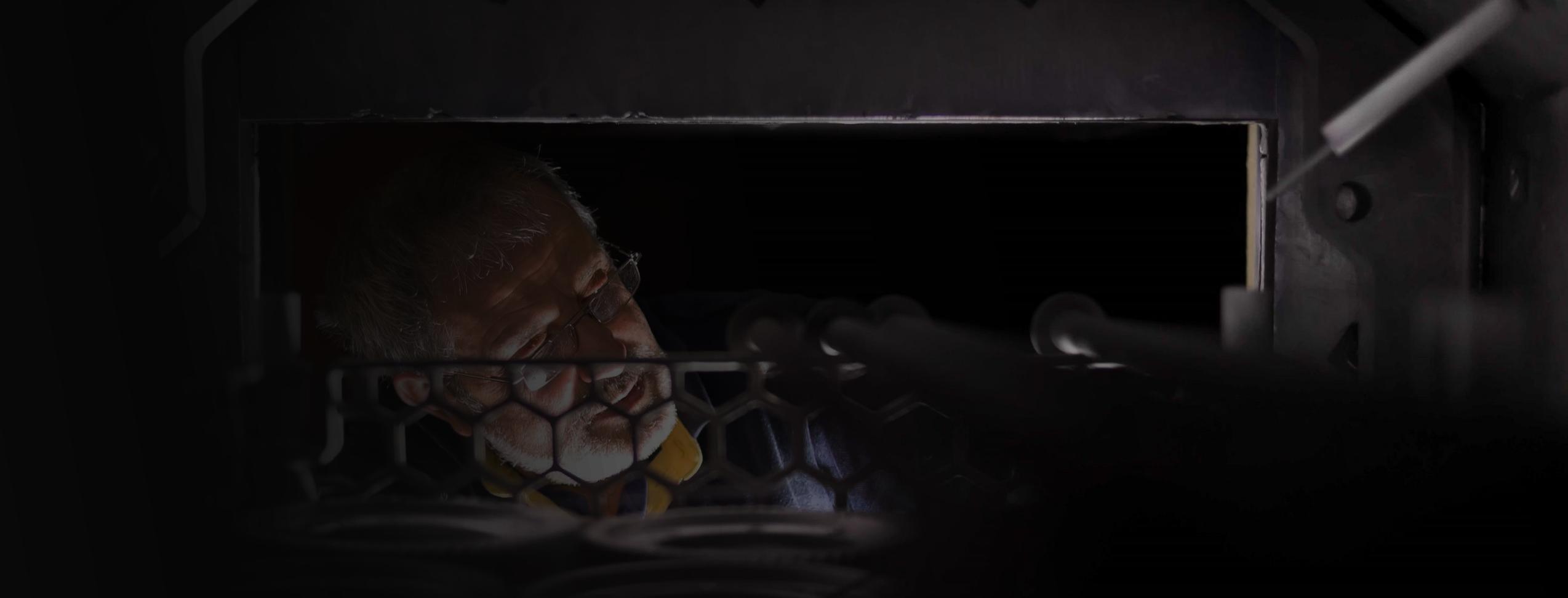
- Heat treatment furnaces and chemical vapor deposition systems
- Renowned in the world of laboratories and production companies in the fields of semiconductors, nanotechnologies, sensors & solar cells



Markets

- **Photovoltaics**
 - **Silicon**
 - **MEMS**
 - **Glass**
- **Semiconductor**



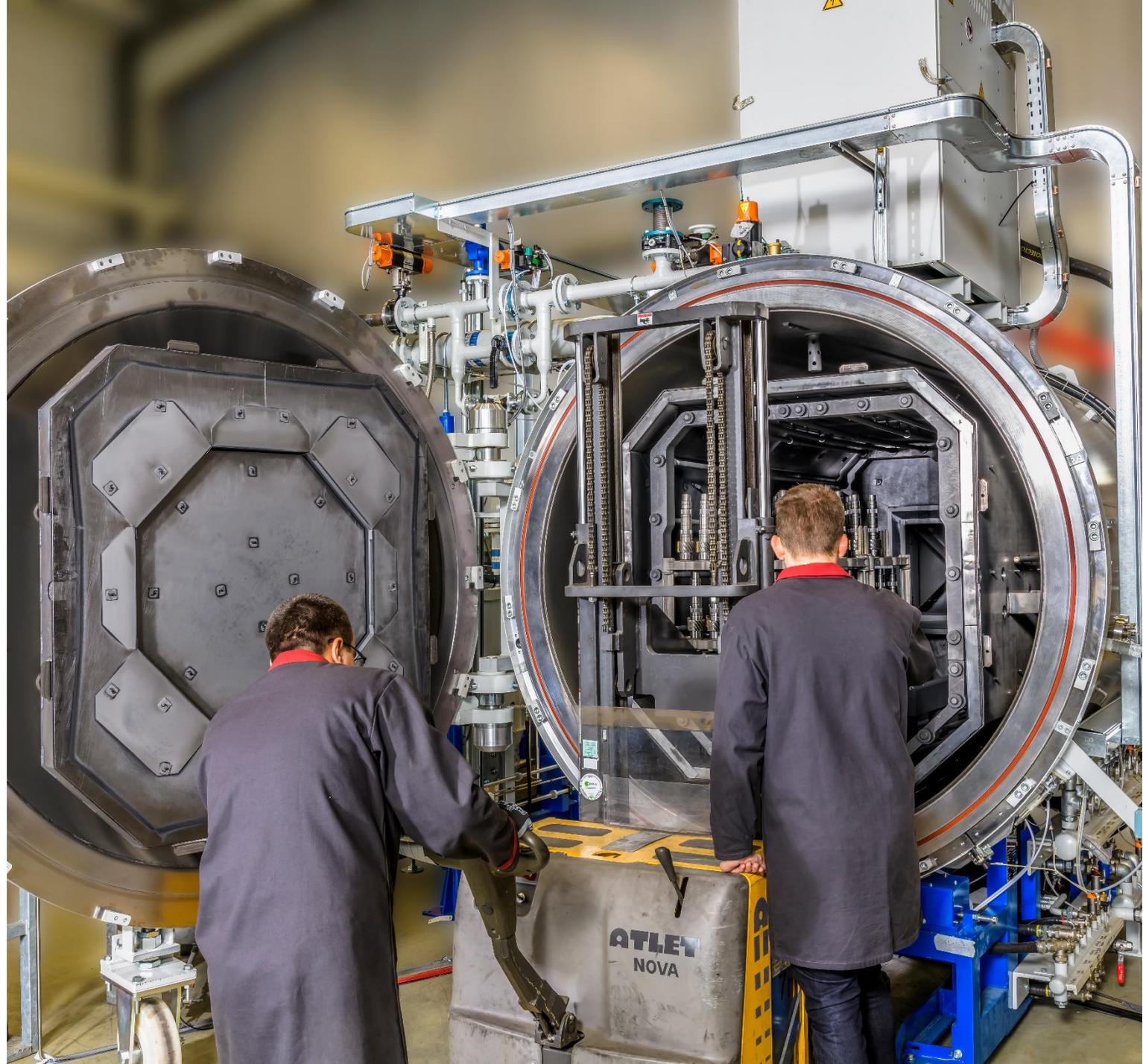


SERVICES

After-sales

AFTER-SALES SERVICES

- Guarantee
- Assistance with operating the facilities (training)
- Monitoring of international standards CQI-9 / AMS 2750 / AM 2769
- Spare parts for all brands
- Replacement of process-critical parts
- Maintenance for all brands: preventive and/or corrective (with or without maintenance contract)
- Retrofits - renovation or updating of installations
- Second-hand furnaces





Manufacture de Différences.

High performance industrial solutions