

# SECO / SPACE

SECO/WARWICK'S NEWSLETTER

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DEVELOPMENT

RIGHT WAY

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ECOLOGICAL INNOVATIONS

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We Share Our Experience And Knowledge With You

# The 5,000th Solution from SECO/WARWICK

The 5,000th technological solution has just rolled off [SECO/WARWICK's](#) production line, confirming the Group's ongoing growth and global standing as one of the leading names in metal heat treatment.

This symbolic moment is the result of decades of innovation, investment and global expansion. The five-thousandth SECO/WARWICK device is a unique, powerful line of [atmospheric electric furnaces](#) designed for bright annealing of high-alloy tubes. The partner – Alleima, a global manufacturer of high value-added products in advanced stainless steels and special alloys – has previously ordered vacuum and retort devices from SECO/WARWICK. The current order will be used in the production of components for nuclear solutions.

## The Power of Numbers

Today, SECO/WARWICK is a global organization, comprised of seven companies across three continents, employing over 900 people, of whom as many as 60 percent are engineers. The company supplies its technologies to customers in 70 countries worldwide, supporting strategic industries – from [aerospace](#), energy, and automotive, to nuclear and medical sectors, and now, with its five-thousandth solution, boasts an impressive track record of achievements.



## SECO/WARWICK – Guinness World Record Product Contenders

SECO/WARWICK remains one of the few manufacturers worldwide combining expertise in five core heat treatment technologies: [vacuum heat treatment](#), [atmosphere heat treatment](#), [heat exchanger brazing](#), [aluminum treatment](#), and [vacuum metallurgy](#).

At the end of June, the value of the order backlog stood at PLN 679.1 million, PLN 44 million higher than in the first half of 2024. The largest share of the backlog is held by the VME segment (about 50%), while the VAC and ALU segments account for around 18% each.

Over the years, SECO/WARWICK has delivered devices that could often be contenders for the Guinness World Records. These include a 32-metre-long (104 ft) vacuum chamber used in the nuclear industry, matching the length of the world's longest bus; [a furnace for the ITER thermonuclear reactor coils](#), able to hold a load weighing 120 metric tons – as much as 30 Indian elephants; and a record breaking graphite purification furnace reaching 2,400°C (4352°F) and 100 bar, making it one of the most advanced devices of its kind globally. These are just some of the extreme solutions in SECO/WARWICK's portfolio.

## Broadening Horizons – Not Only Production at SECO/WARWICK

In recent years, the Group has significantly expanded its production capacities. RETECH, SECO/WARWICK's US company, doubled its plant size in New York State in 2023. In India, near Pune, a new 4,000 m<sup>2</sup> assembly hall was built, capable of producing four continuous brazing lines or over 20 vacuum devices simultaneously. In China, the plant produces 20 CAB lines and up to 10 vacuum furnaces annually.

Currently, the Group's largest market is the United States, accounting for over 40% of total sales. Europe is second with around 32%, while Asia generates approximately 18%. All other markets together represent about 10% of sales.

SECO/WARWICK consistently demonstrates its ability to set global standards. From its 100-year-old American roots, SECO/WARWICK has grown into a global leader in modern industrial technologies, holding over 70 patents and trademarks.

The 5,000th solution, a true jubilee moment, is not only a symbol of success but also a harbinger of further innovations and investments that will shape the future of heat treatment and metallurgy worldwide.



SŁAWOMIR  
WOŹNIAK  
CEO  
SECO/WARWICK Group

*"SECO/WARWICK Group solutions are manufactured in five production plants with a total area of nearly 50,000 m<sup>2</sup> (538,195 sq ft) – in Poland, the USA, China and India. That's an area equivalent to seven full-size soccer fields. In Asia and North America, production spaces have reached an impressive combined area of 13,500 m<sup>2</sup> in India and China, 23,350 m<sup>2</sup> in America, and 12,000 m<sup>2</sup> in Europe. Our brand's five-thousandth solution is a source of pride, a commitment, and proof of continuous development and growth, today measured by the number of solutions produced."*

## A Reason to Celebrate



KATARZYNA SAWKA  
VP of Marketing  
SECO/WARWICK Group

*"Such a round and significant number of implemented solutions is not only a reason for pride but also for celebration. We are pleased to be able to mark this important event together with our Partner, whose solution is currently on our production floor. It's no accident – the chosen technology is unique, impressive, and perfectly highlights the importance of this moment. Partnership is one of our key values, so we couldn't imagine not sharing this joy with the Client. That's why inviting Sweden's Alleima Group to our plant was a natural choice."*

[VISIT GALLERY](#)

# Perspectives for the Commercial HT Market

The commercial heat treatment market is entering a decade of dynamic growth. According to the latest report, the global value of heat treatment services is expected to rise from USD 3.17 billion in 2025 to USD 7.04 billion in 2035, representing an average annual growth rate of 8.3 percent. The SECO/WARWICK Group plays a substantial role in this area.



Commercial heat treatment plants are among SECO/WARWICK Group's key partners. Some have been working with the company for decades, and the solutions delivered support both large commercial heat treatment facilities with extensive machine parks, and smaller local plants or companies just starting their heat treatment operations. **Among these clients are heat treatment plants that continuously expand their equipment park with SECO/WARWICK-branded devices.** Service plants are frequently equipped with SECO/WARWICK technology processes, among them, tools and die, gearbox components, pipe, heat exchangers, jet engine parts, gas turbine components, as well as fuel lines, levers, gears, transmissions and battery coolers.

SECO/WARWICK has been cooperating with heat treatment plants worldwide for years, implementing solutions that allow flexible adaptation of processes to market requirements. A good example is the [cooperation with HART-TECH](#), which began in 2010 with the purchase of a retort furnace for nitriding. Over time, the machine park was supplemented with CaseMaster Evolution multi-chamber vacuum lines, enabling low-pressure carburizing (LPC) with oil or gas quenching. Thanks to these systems, HART-TECH could offer the tooling industry processes that minimize component distortion, and further investments in Vector vacuum furnaces with gas quenching provided the company with even greater versatility. SECO/WARWICK technologies enabled the heat treatment plant to expand its operations and build process advantages, while the new generation of [CaseMaster Evolution furnaces](#) increased production efficiency and organizational flexibility.

## European Heat Treatment Plants with SECO/WARWICK

Another case study is the cooperation with the [Aalberts Surface Technologies group](#). In the Polish plant of this corporation, a three-chamber CaseMaster Evolution furnace was implemented in 2020. The device performs low-pressure carburizing and hardening in cycles lasting about three hours, achieving an annual capacity of five thousand tons. Operating in more than two thousand cycles per year, the furnace demonstrated almost 100% quality and high reliability, with a very favorable economic and ecological balance. Energy and process media consumption remains at a minimum, and the process does not generate carbon dioxide emissions. **The Aalberts example shows that investing in modern SECO/WARWICK technologies not only increases efficiency but also supports sustainable production.**

In 2025, the [Bodycote](#) plant in Siechnice invested in a new CaseMaster Evolution vacuum furnace—a two-chamber vacuum furnace with an oil cooling system and advanced [FineCarb](#) technology for vacuum carburizing. Thanks to this investment, the plant expanded its service range to include modern vacuum carburizing processes previously technologically unavailable, ensuring process cleanliness, increased quality, efficiency and better process management, as well as greater environmental benefits and reduced operating costs, an important aspect amid rising energy prices.

Bodycote Siechnice has been using SECO/WARWICK solutions for years, and the **new vacuum furnace is already the 12th SECO/WARWICK device in the plant**, although the first from the vacuum furnace range.

## Commercial Heat Treatment Plants – A Growing Business

According to the Future Market Insights report on the commercial heat treatment market, in 2025 the market value was estimated at about USD 3.17 billion as a reference point for further growth. Forecasts indicate that by 2035, the market value will rise to about USD 7.04 billion. The average annual growth rate (CAGR) for this period (2025–2035) is around 8.3%, demonstrating strong and stable market development dynamics. One of the main growth drivers is the increasing demand for high-strength and corrosion-resistant alloys, used in the aerospace, automotive and industrial sectors. In aerospace, these alloys are used to produce components such as landing gears, engines and structural elements of aircraft, due to the need for an advantageous strength-to-weight ratio, thermal stability, and material fatigue resistance. In the automotive industry, especially in the context of electric vehicles (EVs), these alloys support projects aimed at reducing vehicle weight, including drive system and power transmission components, aligning with manufacturers' efforts to reduce emissions and increase energy efficiency. Additionally, nickel alloys and stainless steel are used in industries such as shipbuilding, power and energy.

Technological advances, such as the use of powder metallurgy, additive manufacturing and advanced heat treatments allow precise control of alloy microstructure. This enables the customization of material mechanical properties according to the requirements of specific applications.

Among end-user industries, automotive has the largest share of commercial heat treatment plant customers (40%), followed by aerospace (35%). The aerospace sector is developing the fastest (about 7% annually), thanks to advances in aircraft construction and growing air transportation. The region expected to generate the largest share in the future is Asia-Pacific, driven by the rapid development of the automotive and aerospace industries in China and India.

Commercial heat treatment plants face the daily challenge of working with a wide range of materials, processes and technologies. This is one of the most experienced groups in terms of vacuum heat treatment.

Today, the needs of heat treatment operators, based on experience, are operational efficiency, high quality processing, low production costs and the elimination of production downtime. Equipment such as the [CaseMaster Evolution-T](#) vacuum furnace or the [single-chamber Vector](#) vacuum furnace fits these requirements perfectly.

# Global System chooses a SECO/WARWICK furnace for fire tests

**SECO/WARWICK** will supply a fire testing furnace to a manufacturer of fire protection systems. The contract covers the delivery of a vertical **fire test furnace**, including a flue gas purification system, a complete set of equipment, installation, commissioning and staff training.



Global System specializes in the production of fire-resistant doors, shutters and smoke curtains. The device will be used to carry out fire resistance tests for building products in accordance with the standard temperature curve. Its major advantage is the ability to test solutions intended for both industrial and private use, which will enable the Partner to significantly increase competitiveness and productivity.



**MARIUSZ RASZEWSKI**

Deputy Director of  
Aluminum Process and CAB  
Furnaces Team

*"The device may, in the future, support certification processes which the Partner is considering as their next development step. Laboratory furnaces for fire resistance testing in various configurations re intended for testing the fire resistance of suspended ceilings, vision panels, walls, columns and other structural elements. These tests are crucial for delivering safe construction solutions to the market;"*

*"Safety and property protection are priorities in every facility. Global System provides fire protection solutions for various types of buildings – from residential and public utility structures to production halls and warehouses. The purchase of a modern fire testing furnace is another step in the development of our company. The device will allow us to conduct advanced product development research, including analysis of resistance to high temperatures and the impact of various fire conditions. Thanks to this, Global System will be able to further improve its products, increasing their safety and durability;"*

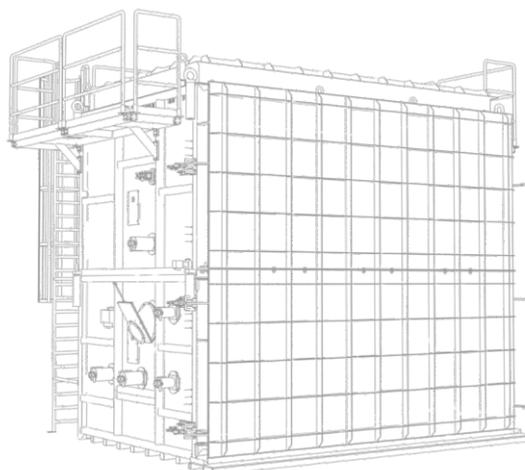
- emphasizes Łukasz Jeleński, Technical Director of Global System sp. z o.o.

He continued, *"The furnace from SECO/WARWICK will allow us to test the properties of our products, and in the future, to apply for their certification. This is a big step in the company's development. Additionally, having our own research facilities will enable us to carry out fire tests much faster and shorten the time to market for new solutions;"*

## Understanding the Number of fires in Poland

According to the State Fire Service, the highest number of fires in recent years was recorded in 2022 (93,453 incidents), which was an increase of more than 44% compared to 2021 (64,730). In the public utility buildings segment, the number of fires remained around 1,200–1,300 cases per year. Encouragingly, there has been a clear downward trend in fires in residential buildings from 2021 (20,633) to 2024 (16,656). The level for production and warehouse buildings has been relatively stable. In both cases, the number of fires did not exceed 1,500 per year. This shows just how important it is to raise public awareness of the crucial role fire protection systems play in buildings. Their implementation can contribute to improving our safety.

## Fire Test Furnace



## SECO/WARWICK – a fire testing specialist

The technology of fire testing furnaces is gaining popularity among building material manufacturers, as evidenced by SECO/WARWICK's supply of a similar device to the French building materials giant KNAUF SAS. Several years ago, SECO/WARWICK also supplied ALUPROF with a fire resistance test furnace. The SECO/WARWICK system allows the Partner to test new products, such as windows, doors, and façade systems before they are introduced to the market.

SECO/WARWICK furnaces enable advanced testing at temperatures reaching up to 1,200°C, in accordance with current fire resistance standards, which are applicable in both commercial building and maritime construction.

# Alleima - a leading manufacturer of steel components chooses SECO/WARWICK solutions

The [SECO/WARWICK](#) Group will supply a tube annealing furnace for Alleima - a global manufacturer of high value-added products in advanced stainless steels and special alloys. This is the third line of this type to operate in the company. The partner previously ordered vacuum and retort furnaces from SECO/WARWICK. The current order will be used to produce components for nuclear applications.

## The tube annealing system

The [electric atmospheric furnace](#) technological line is intended for bright annealing of high-alloy tubes in accordance with the customer's requirements. Heat treatment in the furnace takes place in a protective atmosphere gas environment and high temperatures. It is worth noting that the success of this project was significantly influenced by the close cooperation between the SECO/WARWICK team and the Partner, as well as by the Partner's contribution to the development of the implemented solution, based on the experience gained from operating previously delivered equipment.



**PIOTR SKARBIŃSKI**  
Vice President of the Aluminum & CAB  
Business Segments  
at the SECO/WARWICK Group.

*"The furnace was created specifically for this partner's needs. It will allow them to increase production capacity in the Scandinavian market. This is important as the demand for high-alloy components in this market has increased. It is an unusual construction, verified through analysis and simulations, and implemented in reality. It offers very good technological results after the annealing process,"*

*"SECO/WARWICK is a pioneer in modern metal heat treatment technologies used in various industries, including the [energy sector](#). The technical solutions applied in this technological line will achieve the highest strength and structural parameters of the treated elements and ensure the versatility and repeatability of production for different lengths of details. The essence of the project is that we are delivering a custom-made device for the third time, which the client is very satisfied with, and which meets their technical and technological expectations."*

*- said Mariusz Raszewski, Deputy Director of the AP and ATM Sales Department at SECO/WARWICK.*

## SECO/WARWICK's involvement in the furnace construction

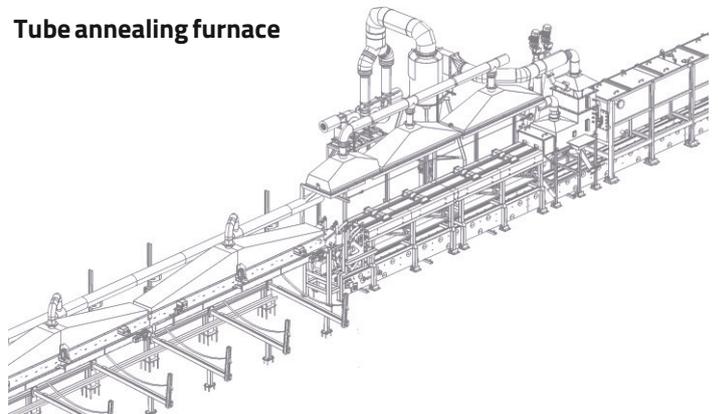
According to expert forecasts, in the next 20 years, Sweden's demand for electricity will double due to the electrification of industry and transport, in order to reduce greenhouse gas emissions. In winter, during periods of high energy demand, the Swedes are forced to import electricity.

Sweden has 6 nuclear reactors, which account for 30% of energy production. The country's government recently announced the need to build at least 10 conventional nuclear reactors by 2045. Additionally, new regulations will be introduced to enable the construction of small modular nuclear reactor (SMR) technology.

*"Our partnership with SECO/WARWICK has lasted for many years. We are delighted that we could celebrate it in a special way, as our impressively large tube annealing line (over 140 meters long – 460 ft) happens to be the 5,000th SECO/WARWICK device. We feel that together we are creating not only a remarkable history, but also the future as this solution will help us spread our wings,"*

*- said Magnus Mellberg, Production Unit Manager at Alleima.*

## Tube annealing furnace



# SECO/WARWICK India secures a new contract - Shital Vacuum Treat invests in a third vacuum furnace

Shital Vacuum Treat, one of India's leading metal heat treatment service providers, has ordered their third vacuum furnace from [SECO/WARWICK](#). This time, the company has opted for a standard, high-pressure quench [vacuum furnace](#), manufactured locally under the "Made in India" program.

The new vacuum device will be used for a wide range of processes such as vacuum hardening, tempering, solution treatment, aging, annealing, brazing and high-pressure gas quenching. The furnace will comply with the NADCA (North American Die Casting Association) global standard for the heat treatment of tools and dies and enable Partner to prepare for NADCAP certification.

## Commercial hardening plants as a pillar of Indian industry

Shital Vacuum Treat Pvt Ltd is a recognized brand in the Indian market, not only providing comprehensive heat treatment services but also acting as a technology advisor. The partner serves clients from various sectors: automotive, aerospace, toolmaking and machinery. [Commercial hardening plants](#) like those at Shital Vacuum Treat **play a crucial role in India's rapidly developing economy - enabling access to high-quality processes even for small and medium-sized enterprises.**

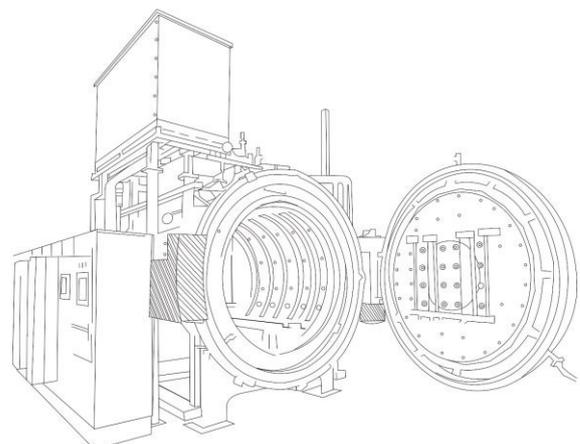
The new furnace is a response to increased demand for services. The partner, who previously invested in SECO/WARWICK furnaces in 2015 and 2021, has again chosen to trust a proven supplier. **For the second time, the equipment ordered will be fully manufactured in India.**



*"SECO/WARWICK is not just a supplier – they are part of our family. Their technology, support and quality of [service](#) are irreplaceable. The new furnace will allow us to increase our production capacity and serve customers better. **Quality and repeatability are paramount for us** – that's why choosing SECO/WARWICK was obvious. The Vector furnace meets our real needs – compact, economical, and technologically advanced. Thanks to high-pressure cooling and the ability to work with different process gases, the furnace fits perfectly with the requirements of a commercial hardening plant that serves clients from various industrial sectors. Its NADCA compliance and readiness for NADCAP certification allows us to provide services to clients from the most demanding industries, such as aerospace and automotive,"*

- commented Mr. Vilas Kolekar, Marketing Director, Shital Vacuum Treat Pvt. Ltd.

## The single chamber vacuum furnace.



ARVIND AGARWAL  
Managing Director  
of SECO/WARWICK India

*"Shital Vacuum Treat is a long-standing partner, promoter and a true ambassador of SECO/WARWICK technology in the Indian market. The fact that they have chosen our solution for the third time demonstrates that they not only trust SECO/WARWICK, they recognize the real value we bring to this business. We are delighted that the **factory opened last year in Pune, just 25 km from the client's headquarters, was able to produce and deliver this furnace under the Made in India program,**"*

## Trust built over the years

Thanks to local production in India, rapid service and technology tailored to the realities of commercial hardening plants, SECO/WARWICK is becoming the first choice for many independent heat treatment service providers. Their furnaces operate across the country — from Pune, through Delhi, to Chennai — providing customers with access to reliable and efficient heat treatment processes.

The single-chamber [Vector vacuum furnace](#) will be equipped with an advanced 15 bar (abs) gas cooling system, enabling rapid and uniform cooling of loads with complex geometries. Its design is based on SECO/WARWICK's proven furnace standard, featuring a **round heating chamber with high temperature uniformity ( $\pm 5^\circ\text{C}$ )**, convection heating up to  $850^\circ\text{C}$ , and an **efficient vacuum system based on Leybold mechanical and Roots pumps.**



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