schwartz
Wilden Industries

Customized Heat Treatment Systems from the global market leader

Dear business partner or prospective customer,

This brochure will tell you more about the schwartz group's achievements on a nostalgic journey through more than 40 years of our corporate history. Numerous technological advances and breakthroughs have been milestones marking our path. Nowadays, we offer you a range of unique products, technologies, and services that we have developed, and continue to develop, for all our customers' benefit.

As a reliable specialist, we will be at your side from the initial inquiry right through to completion of the project.
We also offer after-sales support and services for heat treatment systems.

See for yourself how our products and services can work for you!

Your schwartz group team

Contents

Our success story: **From one-man business to global market leader**

1984

Rolf Schwartz, Head of Design at the Otto Junker GmbH factory at Gevelsberg, sets up his own business when that site closes: schwartz GmbH manufactures and designs heat treatment systems for steel, aluminum and non-ferrous metals.

1995

For the first time, press-hardened steel parts processed with schwartz GmbH heat treatment equipment are built into a vehicle.

1998

The company moves to **Simmerath**, where a two-story office building with adjoining production shop is erected on the Rollesbroich industrial estate.

2002

Alexander Wilden joins the company as commercial director.

2003

schwartz GmbH receives its first contracts from **Volkswagen** for heat treatment equipment for press-hardening lines.

2009

Increasing order volumes require ever more space: the company's **administrative building and production shops** are extended.

2011

In order to improve delivery to a growing customer base in the Asia-Pacific region, a subsidiary trading as **schwartz Heat Treatment Systems Asia** is founded in Kunshan near Shanghai, PR China, to produce heat treatment systems to German standards and provide extensive local customer support from the subsidiary's own service team.

Alexander Wilden becomes the **sole Managing Director** of schwartz GmbH.

2012

schwartz, Inc. is founded as a service operation in Oswego near Chicago, IL (USA), to minimize service times for customers in American markets. Today, it is located in Naperville, IL.

The 100th employee joins schwartz GmbH.

2013

Over 80% of all press-hardened steel parts used in cars worldwide are heated in schwartz heat treatment equipment.

2014

schwartz GmbH commemorates the **30th anniversary of successful business** and Alexander Wilden acquires the **majority of shares in schwartz GmbH**.

As the company's administrative building, enlarged once in 2009, can no longer accommodate the growing workforce, several departments are relocated to a **new office complex** erected nearby.

schwartz GmbH ranks among Germany's **500 fastest-growing companies** according to a survey conducted by FOCUS news magazine in cooperation with the Statista statistics portal.

2015

For its innovative work in heat treatment equipment for press hardening, schwartz GmbH receives the **AC² Innovation Award of the Aachen Region** – the innovative system is capable of producing different, narrowly defined temperature zones in one blank.

2016

schwartz GmbH is officially acknowledged by the University of St. Gallen, Switzerland, as the **global market leader in the field of heat treatment systems for press-hardening** applications.

Production capacity at the **Simmerath headquarters** site is expanded again.

The schwartz group acquires **Hütte GmbH, Düren**.

Alexander Wilden becomes the **schwartz group's sole shareholder**.

Relocation of Hütte GmbH from Düren to Aachen-Schleckheim, which increases Hütte's production space from 2,500 m² to over 14,000 m².

2017

schwartz Heat Treatment Systems Asia opens two more service sites at Chongqing and Guangzhou, China.

2018

schwartz Heat Treatment Systems Asia opens an additional customer service site in Beijing, PR China.

2019

schwartz GmbH expanded its product range with a new business segment in the field of heating systems for the **NF metal industry**

schwartz's position as **global market leader in heat treatment systems for press hardening** applications is again confirmed by the independent World Market Leader Index.

2020

Econova GmbH, a manufacturer of recuperative burners for industrial heating applications, becomes part of the schwartz group.

2023

schwartz Heat Treatment Systems Asia **opens a new plant,** the schwartz Gigafactory, in **Zhangpu Town Kunshan,** PR China.

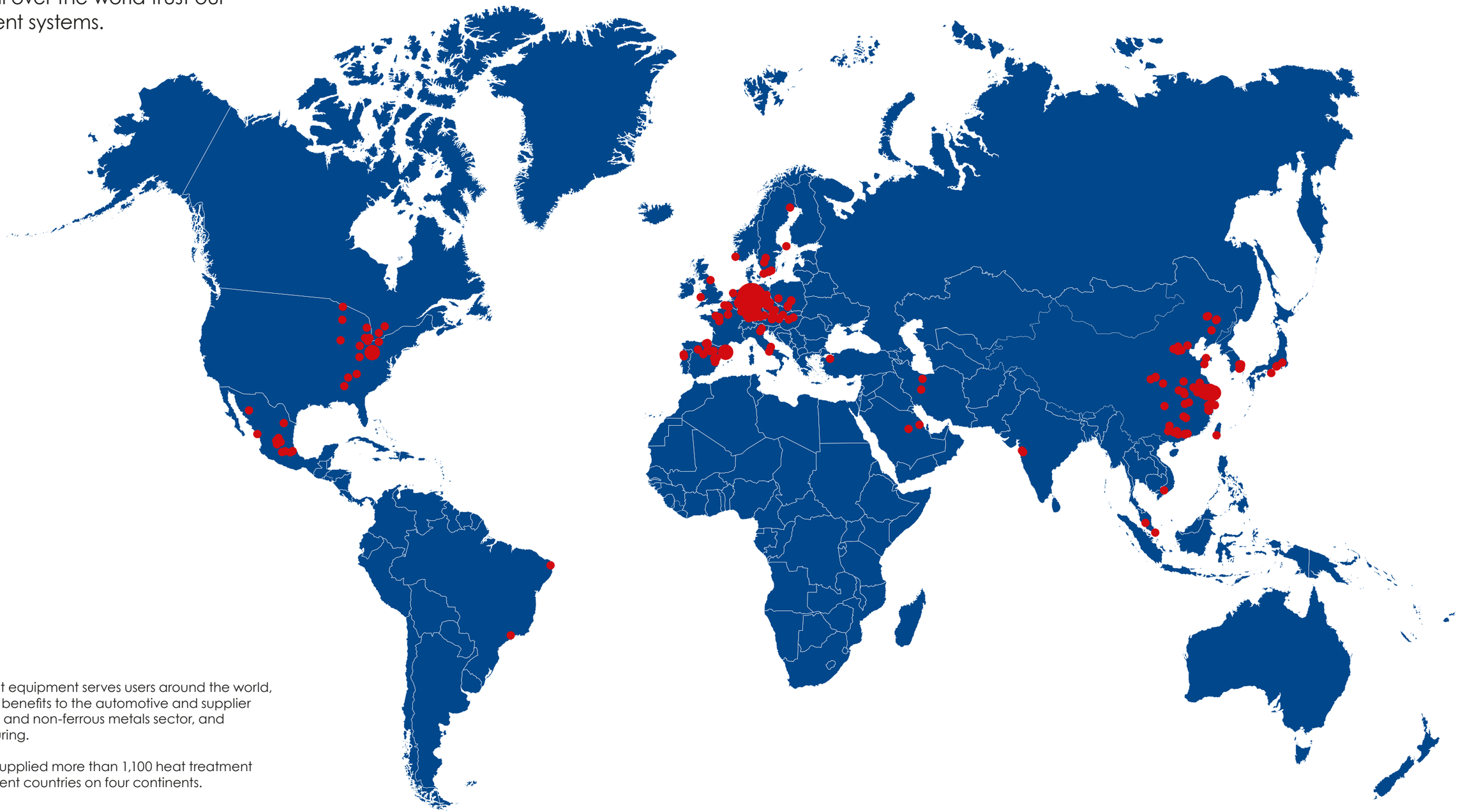
2024

Opening of the **service location in Singapore schwartz Service Center** Singapore Pte. Ltd.

schwartz celebrates its **40th business anniversary.**

The schwartz group – a global success

Customers all over the world trust our heat treatment systems.



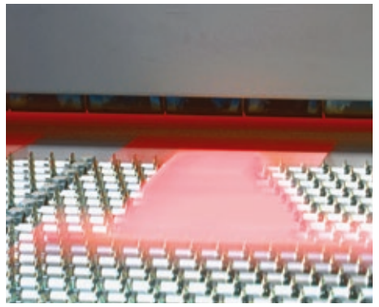
Our heat treatment equipment serves users around the world, delivering multiple benefits to the automotive and supplier industries, the steel and non-ferrous metals sector, and aircraft manufacturing.

To date, we have supplied more than 1,100 heat treatment systems to 30 different countries on four continents.

Customized heat treatment systems for press hardening

As the global market leader in heat treatment systems for press-hardening production, we mainly supply automotive manufacturers (OEMs), their suppliers (tier 1 and tier 2) and the steel industry. All equipment leaving our factories is custom-designed and built to match our global customers' production needs.

Hundreds of installations in a 40-year success story



In 40 years, we have designed, built, integrated and commissioned hundreds of heat treatment systems for press-hardening processes all over the world.

We are the global market leader in heat treatment equipment for press-hardening applications.

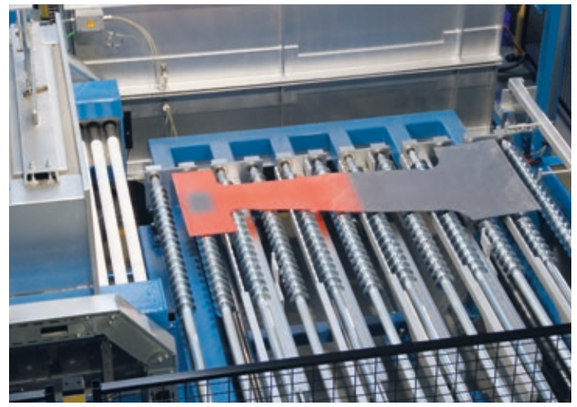
Building on this vast experience and backed by on-going product improvements, we offer innovative and customized heat treatment solutions to meet your specific press-hardening production requirements.

Satisfied customers and the resulting brisk demand have gained us the **global market leadership in heat treatment systems for press hardening**.

Our portfolio includes equipment characterized by:

- diverse designs, e.g., vertical or horizontal twin-type or single line
- heat treatment of coated and uncoated blanks
- operation in normal atmosphere, dried air, or protective gas
- gas or electric heating, or a combination of both
- integrated thermal printer

The thermal printer for lightweight bodywork components



In lightweighting today's car bodies, hard and soft areas are the key.

The thermal printing technology, first launched and established on the market by our company, allows two or more different temperature zones to be realized in the same blank. The distinct regions are subjected to a selectively focused heat treatment, i.e. application of locally modified time-temperature curves.

This means that besides the hard martensitic areas obtained by conventional press hardening, soft zones can be produced as well. In this manner, multiple zones with different strength and elongation behaviors can be created in a single component. Moreover, the defined transition areas between these zones are adjustable in width to satisfy individual requirements.

During subsequent pressing of the blanks, distinct hardness levels are thus imparted to the specified areas. This technology gives our customers in the automotive manufacturing and supplier industries numerous new options in the production of safety-relevant body parts. Conventional press dies can continue to be used for the forming of blanks treated in the thermal printer.

The use of our thermal printer system enables substantially lighter car bodies to be built, making **vehicles more fuel efficient and eco-friendly**.

Whatever part geometry or temper zone layout you need, **we can build you a custom-designed thermal printer** to perfectly match your schwartz heat treatment system.

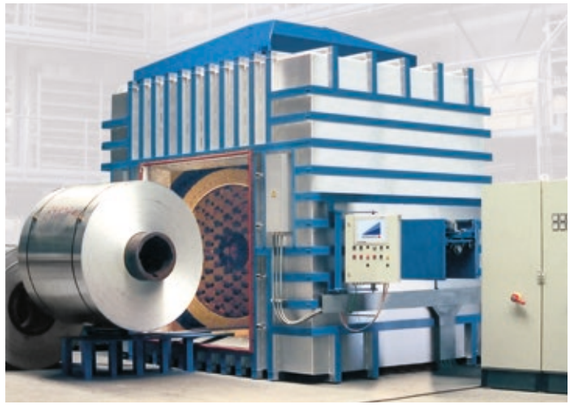
Our heat treatment systems are suitable for all aluminum parts in the automotive, aircraft manufacturing, and building construction industries.

Whether you need to process forgings, castings or metal sheets, we will design and build the perfect system for you.

Customized heat treatment systems for aluminum

High-efficiency heat treatment equipment for aluminum

Since our company's foundation in 1984, we have built and commissioned more than 200 heat treatment systems for aluminum, custom-designed to satisfy individual requirements. All these systems feature adjusted highly efficient atmosphere recirculation technology as well as product-specific nozzle systems to ensure fast, effective and uniform heating.



Our heat treatment systems come with highly efficient atmosphere recirculation technology.

We hold patents on diverse heating systems and their applications.

Apart from applications in the aircraft industry, the share of aluminum parts is also of great importance in automotive engineering due to the need for light-weighting in connection with reducing CO_2 emissions.

Heat treatment in our equipment complies with current requirements for these components, e.g., SAE Aerospace Material Specifications (SAE AMS 2750) and the CQI-9 Heat Treat System Assessment.

When introducing and implementing the temperature uniformity survey (TUS) and measuring system accuracy tests (SAT), our customers benefit from the many years of experience and ongoing training of our personnel.

So whatever your needs in the fields of homogenizing, annealing, solution heat treatment or artificial aging of aluminum, **we will design exactly the right equipment for you!**

In addition to our heat treatment systems for press hardening and for heat treating aluminum, we also supply systems for heat treating copper strips and coils as well as copper alloys in the nonferrous metals sector.

Customized heat treatment systems for

copper and copper alloys

Heat treatment equipment for copper and copper alloys

In addition to our heat treatment systems for press hardening and for heat treating aluminum, we also supply systems for heat treating copper strips and coils as well as copper alloys in the nonferrous metals sector. Products are heated to the desired temperature by convection. Depending on customer requirements, various hot-air or protective atmosphere flow management systems are implemented to ensure fast and uniform heating.

Our product line-up includes diverse design concepts such as continuous conveyor furnaces, chamber furnaces and roller heath furnaces.

The schwartz product portfolio includes a newly developed chamber furnace with adjustable and rotating nozzle arrays for heat treating non-ferrous metal.

In this furnace, coils of copper and copper alloy strip can be heated and cooled quickly and uniformly without causing mechanical damage to any part of the surface. The maximum temperature difference reached is 10K.

The patented nozzle walls prevent hotspots and any rolling oil escaping from the coils can evaporate unhindered.

The heat treatment and cooling processes take place in an atmosphere comprising a mix of nitrogen and hydrogen. Despite using a low proportion of hydrogen (maximum 5 percent), dwell times are achieved which in other furnace systems are possible only with a much higher hydrogen concentration. This helps reduce operating costs. The furnace can be designed as a single-coil or multiple-coil system.

For individual and sophisticated heat treatment of single coils, a single-coil chamber furnace is an excellent addition to existing multiple-coil annealing capacities. Production gains flexibility and operation with low loading of multiple-coil systems can be avoided.

A safety concept for the furnace atmosphere and a simulation program for calculating the heat treatment, holding and cooling process are integrated into the system controls. The furnace with charging system is installed directly on the shop floor without the need for any complex foundation work.

With regard to continuous copper strip furnaces, a new type of floatation nozzle system for thin strips has been developed, which offers excellent strip stabilization. Techniques for guiding foils have been combined with techniques for achieving high nozzle forces, so that the overall system retains the important progressive force increase characteristic.

Know-how and unsurpassed quality – from initial advice to starting up a finished system

We provide expert advice and address your individual production needs in planning your new system. Our sales team will be glad to visit you personally to discuss all details.

Relying on their profound expertise, we keep on refining our proven technologies. Our numerous patents are clear evidence of our innovativeness.

All systems are fully assembled at our production sites in Simmerath, Aachen and Kunshan. In implementing our high quality standards, we always use a fixed team of specialized personnel, as we do in commissioning the equipment's electrical and automation functions.

Upon completion and prior to delivery, each system is subjected to a function test. We thus ensure that all components work perfectly and you obtain a fully functional, high-quality installation.
If required, you can conduct pre-shipment acceptance testing together with our specialists to reassure yourself of your system's full functionality.

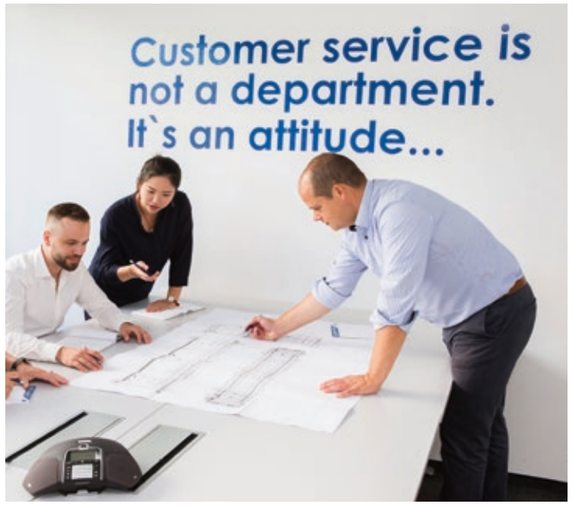
Upon acceptance, we will disassemble your system, as far as necessary, and ship it safely to your production site using specialist carriers. On arrival, our experienced staff will be at hand to help integrate the new equipment into your production system and commission it on site.

Our experienced and trained engineers and technicians assume the planning and development of a system optimally designed for your application.

Competent service for your schwartz heat treatment system

Our lifecycle-based approach is intended to ensure that your schwartz heat treatment system will deliver unvarying performance at all times. You can rely on us as a competent partner from the date the system is installed in your production line to the end of its service life.

To keep your system up and running, we also offer custom support geared to your needs. Our highly trained after-sales service staff will develop a made-to-measure, plant-specific maintenance concept tailored to your manufacturing cycles.

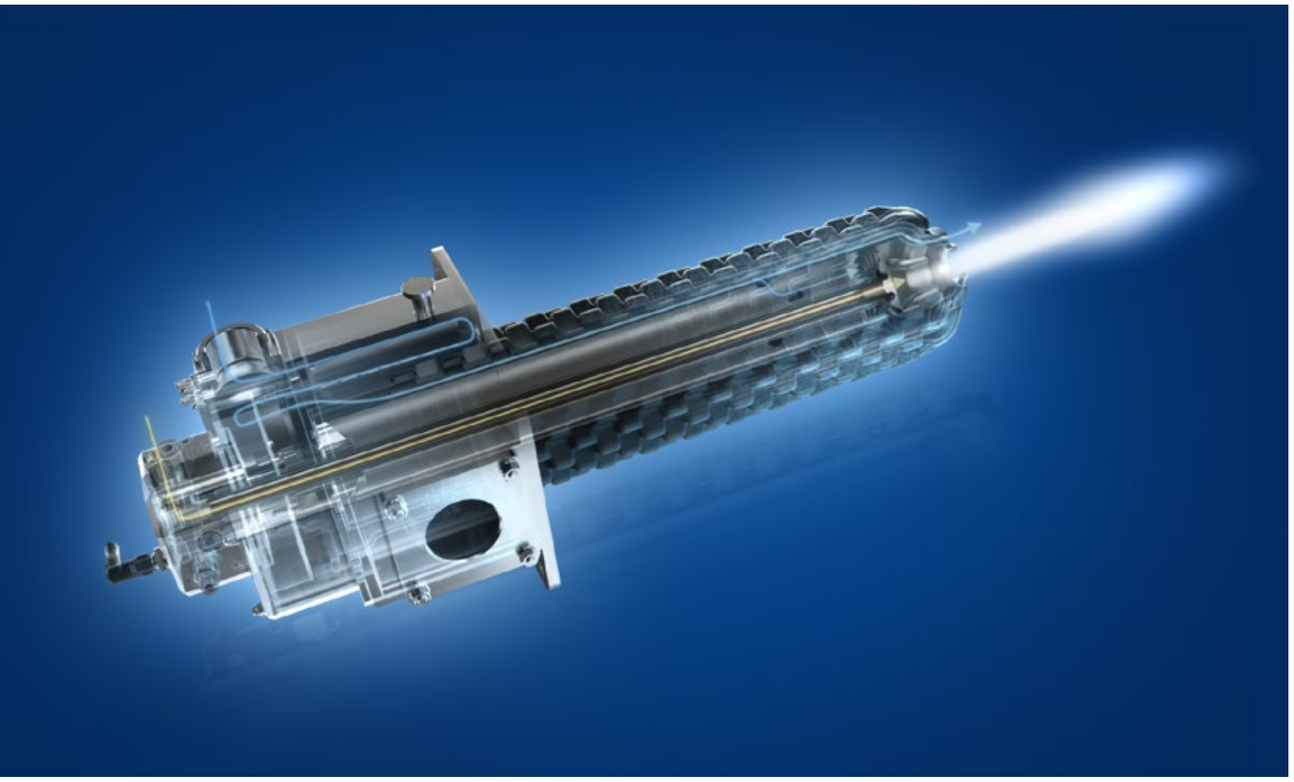


Based on the experience gathered from over 1,100 heat treatment systems built to date, we set high service standards and keep on improving them – so you enjoy the best possible service for your heat treatment system.

On request, we can also provide production support or train your operators at your site or periodically at custom training programs conducted at our premises.

You can rely on us as a competent partner from the date the system is installed in your production line to the end of its service life.

Econova – gas-powered burner systems for your heat treatment equipment



Econova – approaching perfection

Founded in 2017, Econova has set itself the goal of revolutionizing the market for recuperative burners. To rekindle the spirit of innovation in an industry in which proven technologies have dominated the market for many years, nothing less is the mission set out almost 10 years ago. With state-of-the-art combustion processes, modular designs and long service lives thanks to simple maintenance and repair strategies, Econova's focus lies on taking sustainability in the energy-intensive industry to a new level.

The newly developed, highly flexible burner generation, the e-Nova burner, is equipped for operation with green hydrogen.

Efficiency – for our customers and our environment

Thanks to state-of-the-art combustion processes and the patented Mach1 technology, we can achieve efficiency increases of up to 20 % compared to our competitors - while at the same time reducing critical environmentally harmful exhaust gases such as NOX and CO. Save valuable resources and costs while making an important contribution to protecting our environment with burner systems from Econova!

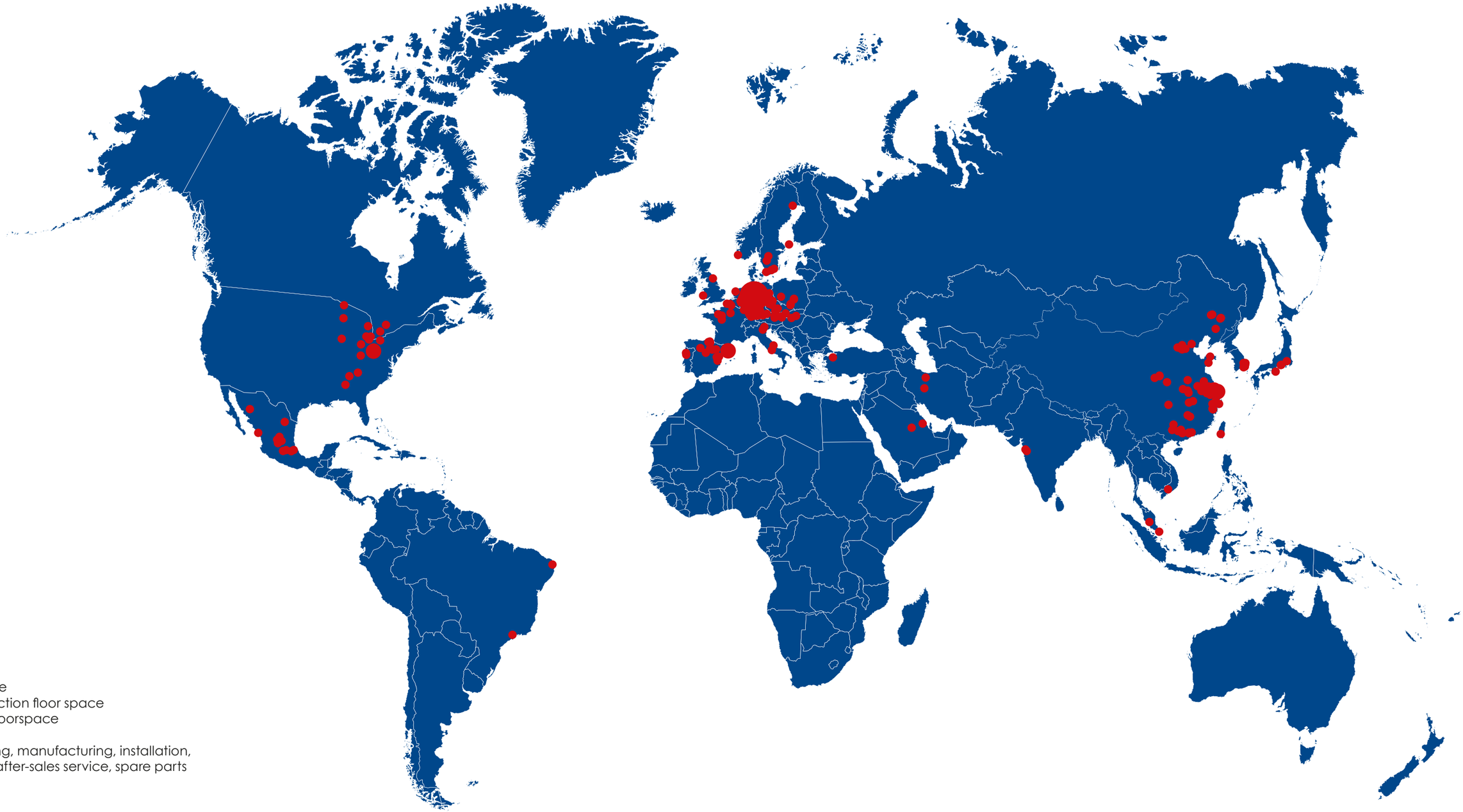
Maintenance – keeping it simple and in your own hands

The revolutionary modular design enables maintenance work to be carried out quickly and without complexity. The unique chamber system of the Econova burner family offers uncomplicated access for all activities, from replacing flame tubes to inspecting and changing ignition electrodes. Our Econova Academy will provide your employees with the skills required to service your own burner systems.

Prepared for the future – step by step

Thanks to the modular design of the burner chambers and combustion train, we will find the right Econova burner for your requirements. Potential future changes to regulatory parameters pose no problem. No matter whether the restrictions on harmful exhaust gases become stricter in the future or the available energy sources change, our burners can be upgraded to meet the new challenges with little effort. This stabilizes production planning in uncertain times and takes care of a CO_2-neutral future.

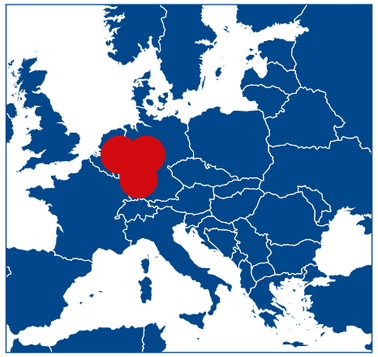
The schwartz group – at your service worldwide



- 10 sites worldwide
- 20,500 m² production floor space
- 2,000 m² office floorspace
- 250+ employees
- Sales, engineering, manufacturing, installation, commissioning, after-sales service, spare parts

schwartz GmbH – Germany

Our competent service team is there to help around the clock.



The schwartz group's headquarters is located at Simmerath in North Rhine-Westphalia, Germany, and close to the Belgian and Dutch borders.

This plant has some 5,300 m² of production space dedicated to manufacturing our heat treatment systems.
More than 140 people are currently employed at Simmerath, including specialized teams of engineers and designers who will develop your system.

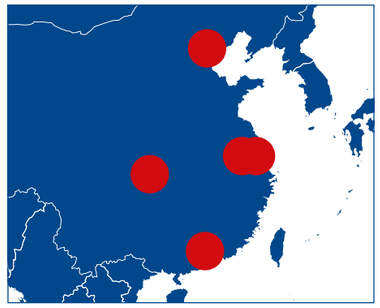
At our second German manufacturing site in Aachen, we have additional production floor space of 7,100 m² for manufacture and preliminary commissioning of our equipment.

Needless to say, we maintain a professional service team you can reach 24 hours a day. Key parts are stocked at our extensive spare parts warehouse.

All schwartz heat treatment systems (except those destined for the Asia-Pacific region) are fully assembled at our two German manufacturing sites in Simmerath and Aachen where they also undergo a function test (Factory Acceptance Test) prior to shipment.

schwartz HTS – China

Our Chinese after-sales service sites enable us to respond swiftly to service and spare parts requests from our customers throughout China.



To be able to serve the Asia-Pacific region even better, we founded our company, schwartz Heat Treatment Systems Asia (Kunshan) Co., Ltd. (or, for short, schwartz HTS), near Shanghai in the PR China in 2011.

In Kunshan, we have around 8,000 m² of production floor space at two production sites enabling us to build and commission our heat treatment systems to German standards in the same quality as at our headquarters site. Here, too, we maintain a service center and spare parts warehouse where key genuine parts are always stocked.

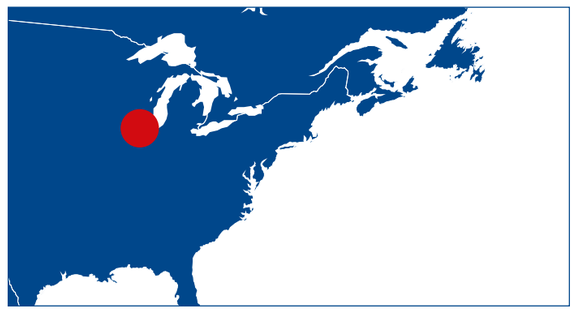
A new plant, the schwartz Gigafactory, was opened in Zhangpu Town Kunshan, PR China in 2023.

In 2017, two additional Chinese service locations were opened in Chongqing and Guangzhou. Another service site was added in Beijing in 2018.

These 4 after-sales service sites enable us to rapidly deliver our services and spare parts throughout China.

schwartz, Inc. – USA

In 2012, we established a presence in the US, which was moved to Naperville, IL, in 2017.

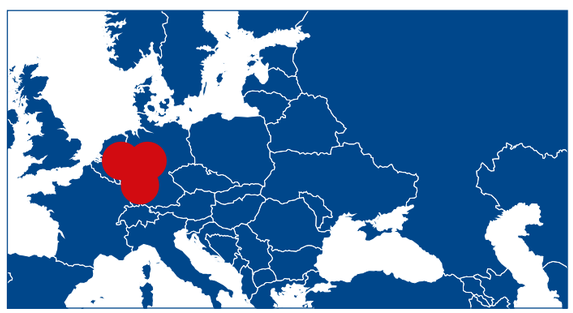


To provide fast service and a comprehensive selection of spare parts to our customer base in the USA, Canada and Mexico, we founded our **US-based service subsidiary schwartz, Inc. in 2012**.

Today, it is located in Naperville near Chicago, IL.

Econova GmbH – Germany

Our highly advanced laboratory enables us to supply you with precise and reliable data.



In Bochum, Germany we develop, test and manufacture recuperative burners for industrial furnaces. Every single one of our customers has individual requirements regarding their combustion systems. Drawing on our **Econova®** program of modular building blocks, we can create economically efficient solutions and, at our customers' request, validate them in our in-house laboratory.

Photos by: schwartz GmbH, Melanie Conrad-Franzen and Fotolia

schwartz group headquarters

schwartz GmbH
Edisonstrasse 5
52152 Simmerath
Germany

Phone +49 2473 94 88-10
Fax +49 2473 94 88-11

info@schwartz-wba.de
www.schwartz-wba.com