

# HICON<sup>®</sup>

**EBNER** Group Journal for Progress in Industrial Furnace Technology

GET OFF TO A  
GOOD START WITH  
TECHNOLOGY FROM  
**EBNER.**





# EBNER

Ladies and Gentlemen,  
Esteemed readers  
of the **HICON®** Journal,  
Dear friends and colleagues.

Despite the COVID-19 pandemic, which has now lasted well over a year, and the challenges associated with it, **EBNER** is viewing the future with optimism. Thanks to innovative, customer-oriented digitalization projects, customer projects throughout the world can be carried out and successfully completed, even during times when the ability to travel is limited. The concept of **EBNER** Remote Services has already been successfully implemented at several customers across the globe, bringing competitive advantages to both sides and showing that, at **EBNER**, a solution can be found to anything. More on this subject can be found in the article starting on page 12.

Over the past few weeks and months, our R&D Department has also been working hard on new innovations and product improvements to help provide our customers with new technological highlights. Under the motto from *vision to reality*, we have constantly kept our goal of being “the most innovative and competitive full solution provider in thermal processing” in mind and we can again report on a wide variety of interesting new developments in this issue.



The coronavirus pandemic and the increased reliance on digital forms of communication and the exchange of information through virtual channels has also required trade fairs and events to be reconsidered. The uncertain situation surrounding the coronavirus has also lead us to place every more reliance on the **EBNER** Academy, which we introduced at length in the last issue of **HICON®**. Through the Academy, we offer online webinars and training sessions tailored to specific target groups or covering specific themes. To learn more, visit [academy.ebnergroupp.cc](http://academy.ebnergroupp.cc).

Finally, I would like to mention that the website of **EBNER** Industrieofenbau has been redesigned and its content updated. You will find that visiting [www.ebner.cc](http://www.ebner.cc) is rewarding!

I hope that you enjoy this issue of the Journal, and wish you every success in these challenging times.

Yours, Robert Ebner  
CEO

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**IMPRINT:** **HICON®** Journal: The **EBNER** Customer Journal, Volume 32, Issue 1, May 2021 / Copyright: **EBNER** Industrieofenbau GmbH, Ebner-Platz 1, 4060 Leonding, Austria / Tel.: (+43) 732 68 68-0 / Fax: (+43) 732 68 68-1000 / Email: [hiconjournal@ebner.cc](mailto:hiconjournal@ebner.cc) / Reproduction, in full or in part, is authorized only with the express written permission of **EBNER** Industrieofenbau GmbH. **Photography:** **EBNER** Industrieofenbau GmbH. **Layout:** **EBNER**. [www.ebner.cc](http://www.ebner.cc) / **Translation:** Steve Rossa, Chen Lin / **Editing:** Viktoria Sengleitner / Published twice yearly







# Flexible and innovative.

Pre-aging furnaces for installation downstream of floaters furnace facilities for aluminum strip.



**GÜNTER MASCHER**  
EBNER technical article

The manufacture of automotive sheet out of hardenable 6xxx series aluminum requires a particularly complex sequence of heat treatments. To fulfill this requirement, **EBNER** has developed a special type of furnace.

It has been shown that employing an additional heat treatment step (**EBNER** pre-heater) immediately after quenching from solution annealing temperature (**EBNER** floaters furnace) can lead to the formation of significantly larger and more stable zones, or nuclei, in the microstructure. The condition that is achieved is designated T4\*.

This provides an optimal start to the hardening process, and can be quickly ended during reheating in a later process step.

In practice, this approach is employed in automotive applications where formed sheet parts undergo cathodic dip coating, followed by curing. As relatively short times and low temperatures are used during cur-

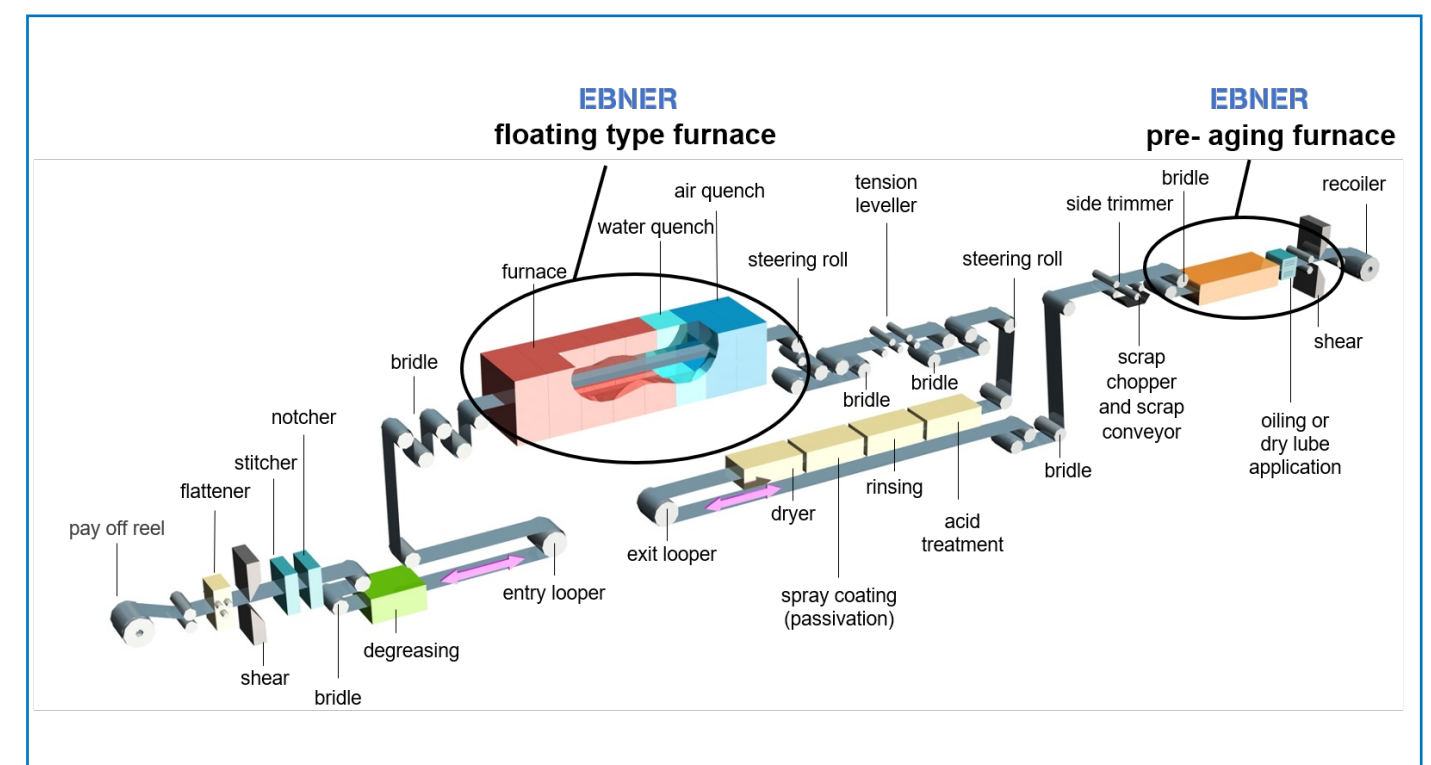
ing, the material quickly hardens to the desired final hardness (T6). This effect is also referred to as the *paint bake response*. This eliminates the need for a separate and additional heat treatment step, as would otherwise be necessary.

As **EBNER** has been successfully manufacturing floaters furnaces for solution annealing for decades, the need for improved temperature uniformity at the pre-heater when strip speeds were changed was recognized.

As the pre-aging furnace is linked “in line” with the strip handling gear of the floaters furnace facility, different strip speeds necessarily result. Matching the pre-heat furnace to the mechanical equipment of the strip handling system is unavoidable.

The pre-heat furnace design that had been previously bought-in rapidly reached its technical limits, so **EBNER** - as the most innovative and competitive full solution provider in thermal processing - revised and improved the furnace and added it to its product range.

Schematic representation of a floaters furnace facility







EBNER floaters furnace facility in China

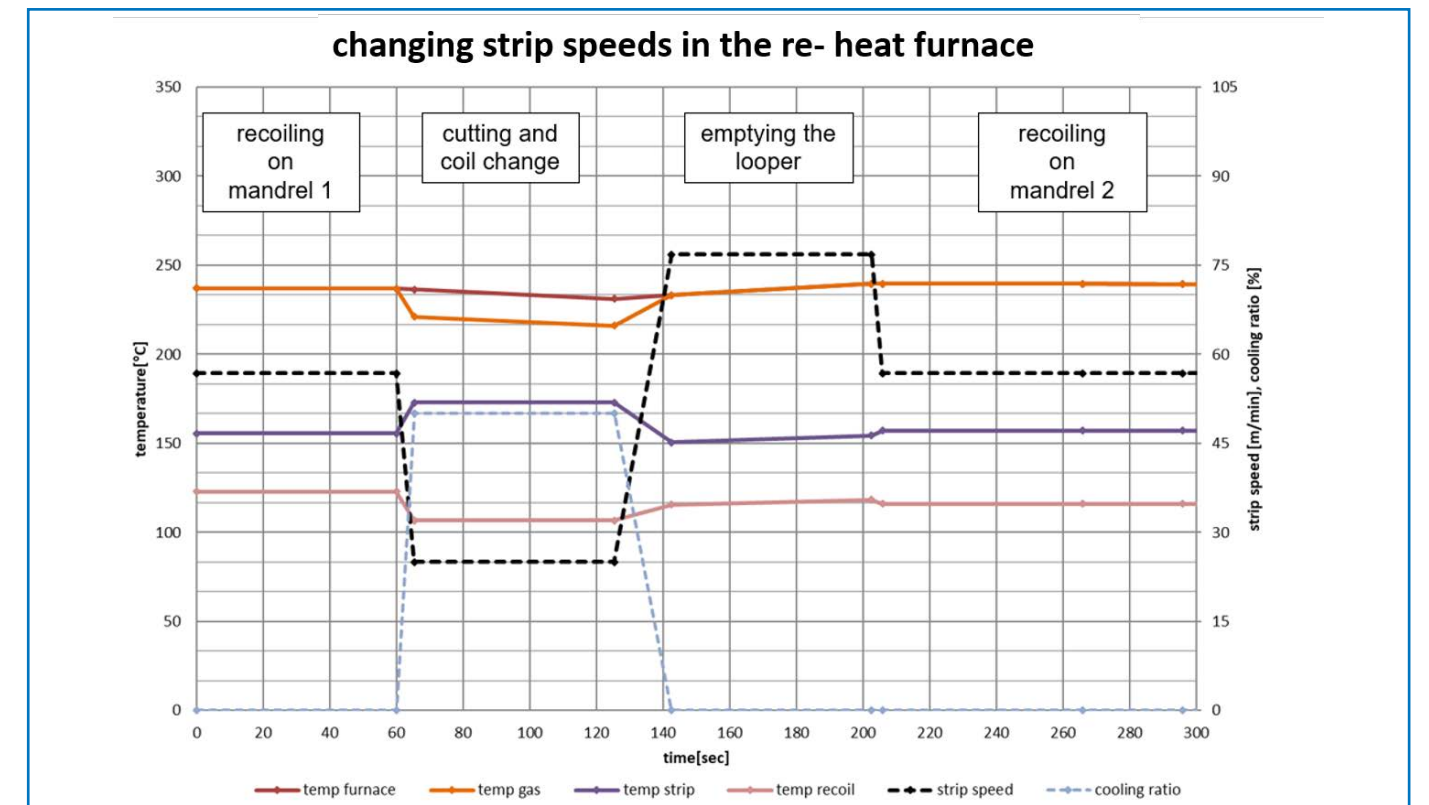
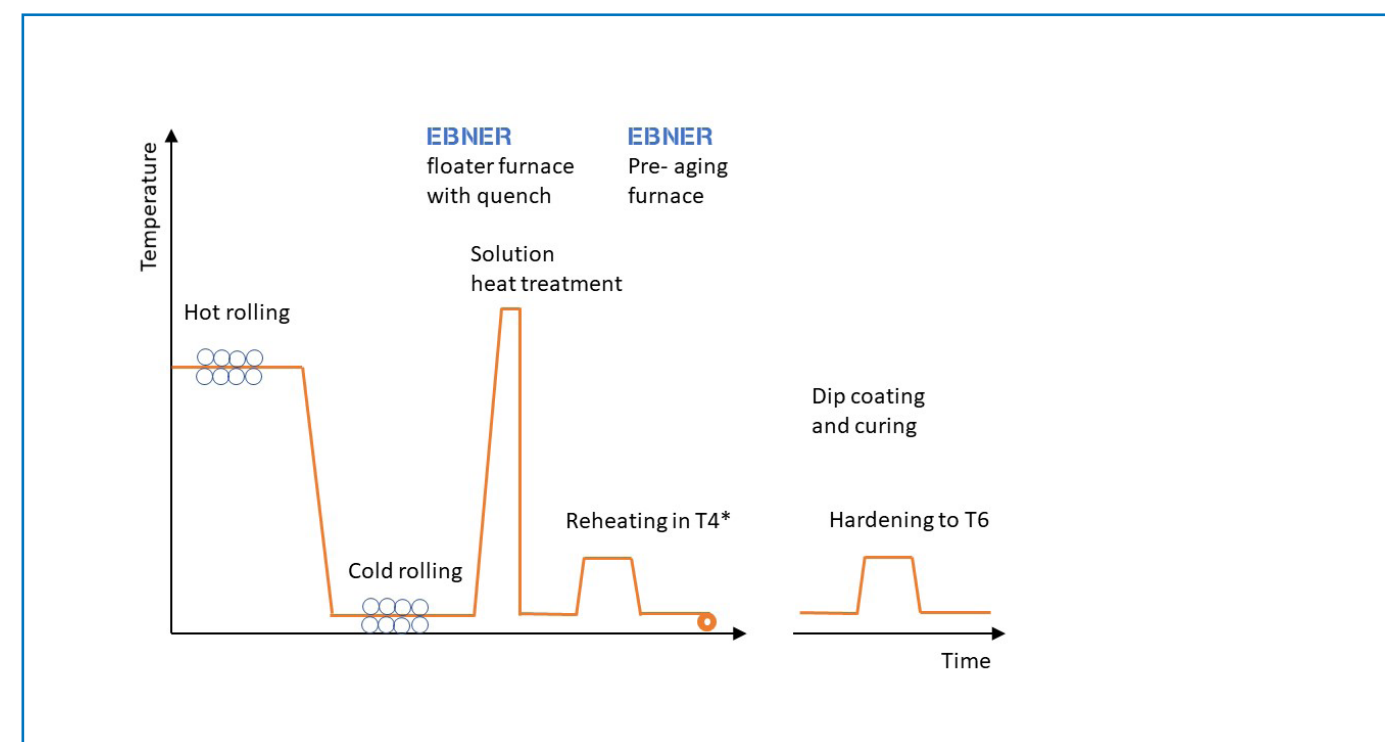
Simulations, practical tests in our in-house R&D department, the application of the accumulated know-how gathered from our floaters furnaces and calculation modules resulted in a furnace optimized to meet the requirements. Just as at a floaters facility, the strip is transported contact-free through the furnace by the proven EBNER nozzle box system.

To provide precise and consistent material properties,

it is necessary for the pre-aging furnace to be able to react quickly to changing facility parameters. The ability of an EBNER pre-aging furnace to react quickly and flexibly minimizes scrap length when changes are made in the line speed.

Due to its powerful heating system and cooler, an EBNER pre-aging furnace is ideally suited for rapid reactions to process changes. Our VISUALFURNACES

Schematic representation of process steps



The chart shows the relationship between temperatures during changing line speeds

process control system, acting in concert with the facility control system, calculates both the strip temperature required at the outlet of the pre-aging furnace and the required process parameters (such as recirculation, heating, and cooling performance of the furnace) for different strip speeds (e.g. catching-up, processing, cutting, etc.). Optical strip temperature measuring devices monitor the calculated setpoints and correct them as

needed. Five such EBNER furnaces are already in operation, and orders have been placed for two more. These direct gas-fired furnaces are modular in design, divided into zones along their length. They may thus be easily expanded to suit any desired maximum facility throughput. Two widths of furnace are available for installation in existing facilities.

EBNER pre-heater at a floaters furnace facility in China





# Economical and technologically advanced solution.

A technologically important HICON/H<sub>2</sub>® heat treatment section makes all the difference in a vertical bright annealing line located in India.



SASCHA EPPENSTEINER

EBNER news  
from India

The key technology in the vertical bright annealing line is the HICON/H<sub>2</sub>® heat treatment section from EBNER. This section is paired with strip handling equipment, a strip cleaning section and a strip drive system from JSHL.

The heart of the vertical bright annealing line at Jindal Stainless Hisar Limited (JSHL), the heat treatment section, is tailor-made to provide required production capacity with the desired strip dimensions and product mix.

The facility is designed to produce various grades of stainless steel precision strip: AISI 200 series (CrMn - low Ni austenitic grades), AISI 300 series (CrNi - austenitic grades) and AISI 400 series (ferritic and martensitic grades). The facility design data provides for a spectrum of strip dimensions and throughputs, such as:

- » Strip width: 300 to 670 mm
- » Strip thickness: 0.075 to 1.0 mm
- » Throughput: approx. 1500 to 4300 kg/h

The thinner strips in the range place even more requirements on precise tension control when the strip is under the influence of temperature in the furnace section. EBNER's integrated light-weight dancer roll, mounted on an adjustable swing frame, is located downstream



SURESHRAM  
VARADARAJAN MAIER

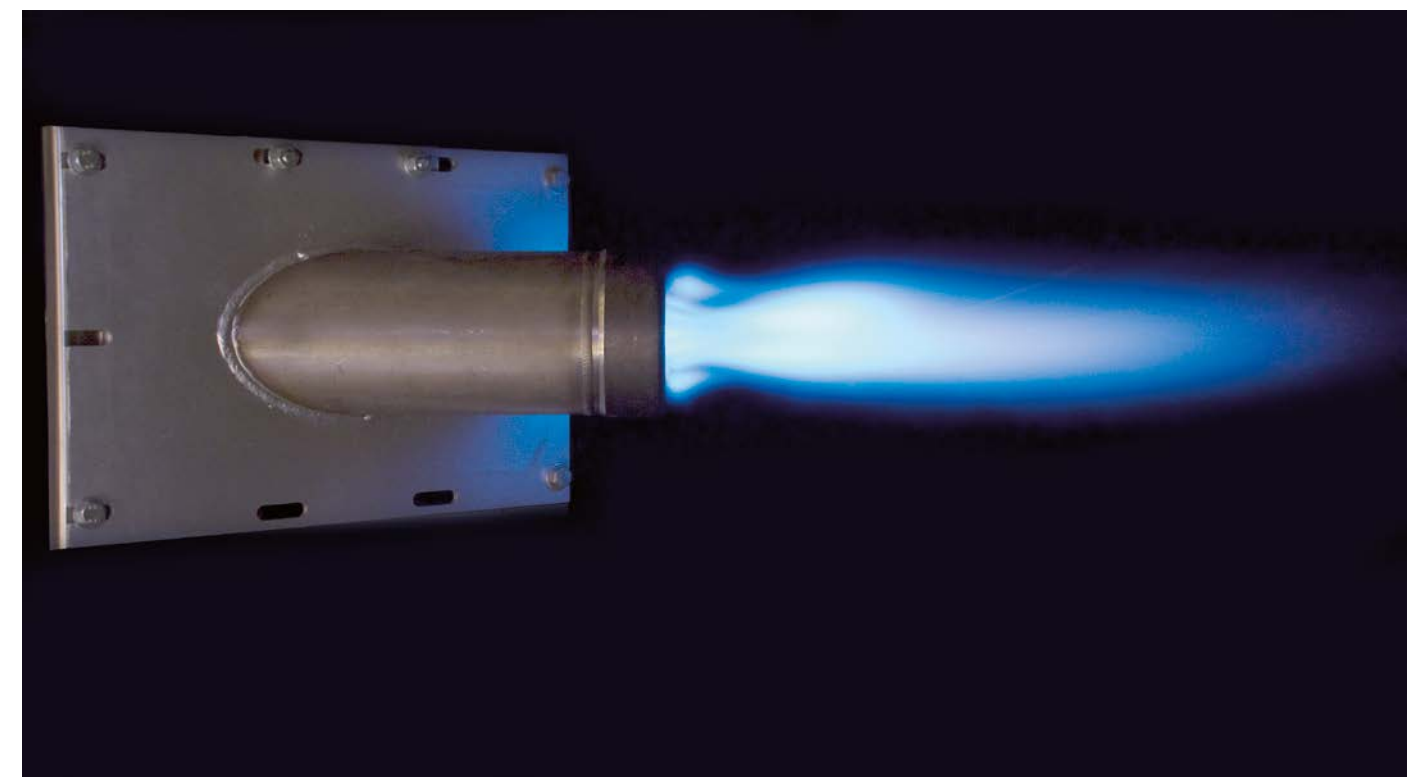
EBNER news  
from India

from the inlet seal rolls and serves to precisely adjust the strip tension. Furthermore, the strip tension in the furnace section is controlled only by the dancer roll. This arrangement ensures the lowest strip tensions for the strip being annealed, ensuring the best strip shape.

The flow pattern of process atmosphere is designed to improve the strip shape, and is achieved through the adjustable dampers located in the HICON/H<sub>2</sub>® cooling section. The process atmosphere is cooled using a tube nest type of heat exchanger, integrated in a VVF water-cooled motor unit.

The furnace section is powered with an EBNER-designed ECOBURN burner system with automatic burner controls, equipped with a central recuperator to preheat the incoming combustion air. This enhances the combustion efficiency, reducing the fuel gas consumption and leading to correspondingly low NOx emissions. EBNER's metal-cased burner design, with two stage high-velocity combustion and an air-cooled burner tip, provides the longest life cycle for individual burners and low maintenance. EBNER's all metal encapsulated, completely ppm-tight furnace design helps to achieve the lowest possible dewpoint in the workload space. The cracked ammonia process atmosphere (75 % H<sub>2</sub>, rest N<sub>2</sub>) used at JSHL reduces operational running and consumption costs on the one hand,

ECOBURN burner





while on the other hand the muffle design delivers seven times the REDOX potential (REDuction potential for OXidation) compared to brick-type furnaces. This helps to attain the highest quality surface for annealed strip, free of oxidation. Indirectly, this also helps save downstream process steps such as passivation of the strip surface.

The issue of boron dust when annealing austenitic stainless steel strip is tackled through a special design feature, dedicated process atmosphere flow in the direction opposite to the direction of strip transport. That is, clean process atmosphere flows from the cooler section toward furnace section, where there is a higher affinity for boron dust formation in the furnace zones exposed to higher temperatures. This process atmosphere is drawn out at the furnace inlet and fed through a special boron dust absorber system, before being recycled again. This system ensures reduced boron dust contamination in the cooling section and extends maintenance intervals, while the high rate at which process atmosphere is recycled leads to lower consumptions.

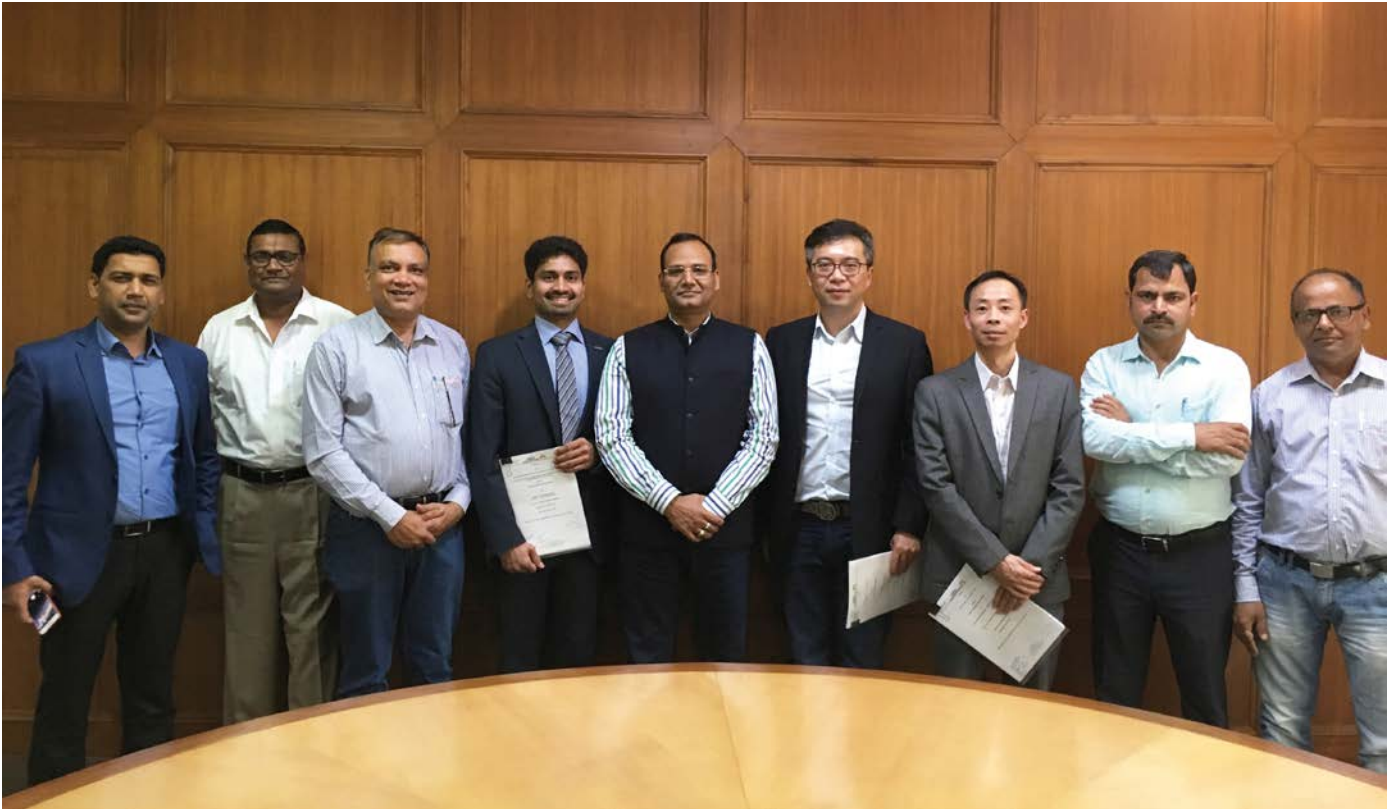
The inlet seal rolls are driven at the same speed as the strip undergoing processing, preventing any damage to the strip surface and sealing off any oxygen in the ambient air from entering the workload space. The rubber-coated sealing pinch rolls are extremely low-maintenance.

All in all, the entire facility was designed with a sharp focus on keeping maintenance as low as possible. This results in the highest time in operation, highest effective production time and the lowest overall consumption at the facility - resulting in a cutting-edge Total Cost of Ownership.

JSHL, with over 50 years of delivering excellence in stainless steel, already operates an **EBNER** vertical bright annealing line. In addition to the existing **EBNER** facility, installed in 2007, and the new upcoming facility, JSHL plans to increase their share of the market for precision products in fields like automotive products, electronics and telecommunications, health and hygiene, consumer durables, petrochemical industry, etc. Further increase in their export market share with Europe and the USA will also be supported by the new **EBNER** facility, which is currently being installed and is expected to start production by the 3rd quarter of this year (2021).

JSHL and **EBNER**'s long-standing relationship has been further continued, as has their strong bond of trust, cooperation and support. With over 66 vertical bright annealing furnaces currently in operation around the world, **EBNER** is looking forward to strengthening the technology available in the near future at Jindal Stainless' plant in Jajpur with a new, wider vertical bright annealing line.

Contract signing at Jindal Stainless Hisar Limited







EBNER commissioning engineer with HDS equipment in India

# Remote Commissioning.

**EBNER** integrates service and digitalization, opening a new dimension in customer contact.



**ERICH STELZHAMMER**

EBNER news  
Digitalization

The continuing global covid-19 pandemic and the current travel restrictions that have resulted from it pose significant challenges, both to filling sales orders and to providing on-site services to customers.

With “there is no such thing as impossible” as a guiding

principle, it was quickly clear to **EBNER** that alternative solutions for commissioning the facilities being installed throughout the world would have to be found. In order to be able to hand over new facilities to our customers under these exceptional circumstances and allow production to start on schedule, a modern approach to access - in particular, digital access - is required.

**EBNER**'s local presence, with employees based in Europe, China, the USA and India, put the company in a position to meet this goal and successfully complete customer projects. It requires close cooperation between local commissioning specialists and the automation technology experts working from our headquarters in Linz, Austria.

## IN-HOUSE

From the very start of the commissioning process, facilities are connected to the Internet and linked to the **EBNER** headquarters. This poses a significant IT security challenge, so every facility is equipped with its own firewall. Data exchange takes place over an appropriately-configured VPN link. To provide the required framework in-house at **EBNER**, dedicated “remote commissioning offices” were created and equipped with appropriate IT equipment such as multiple monitors, laptop docking stations and hands-free communication devices. These allow efficient communication with our contacts at the job site.

## ON-SITE

Using **HDS - HICON**® Digital Services equipment specially assembled for this purpose, the commissioning team on-site at the customer's works can communicate “hands-free” with their colleagues in Austria. It also allows the specialists at our headquarters to provide documents “on the fly” to the on-site commissioning engineer, supporting and guiding commissioning work. The detailed knowledge of our engineers can be communicated to the on-site commissioning team in real time, and the need to search for required information is reduced.

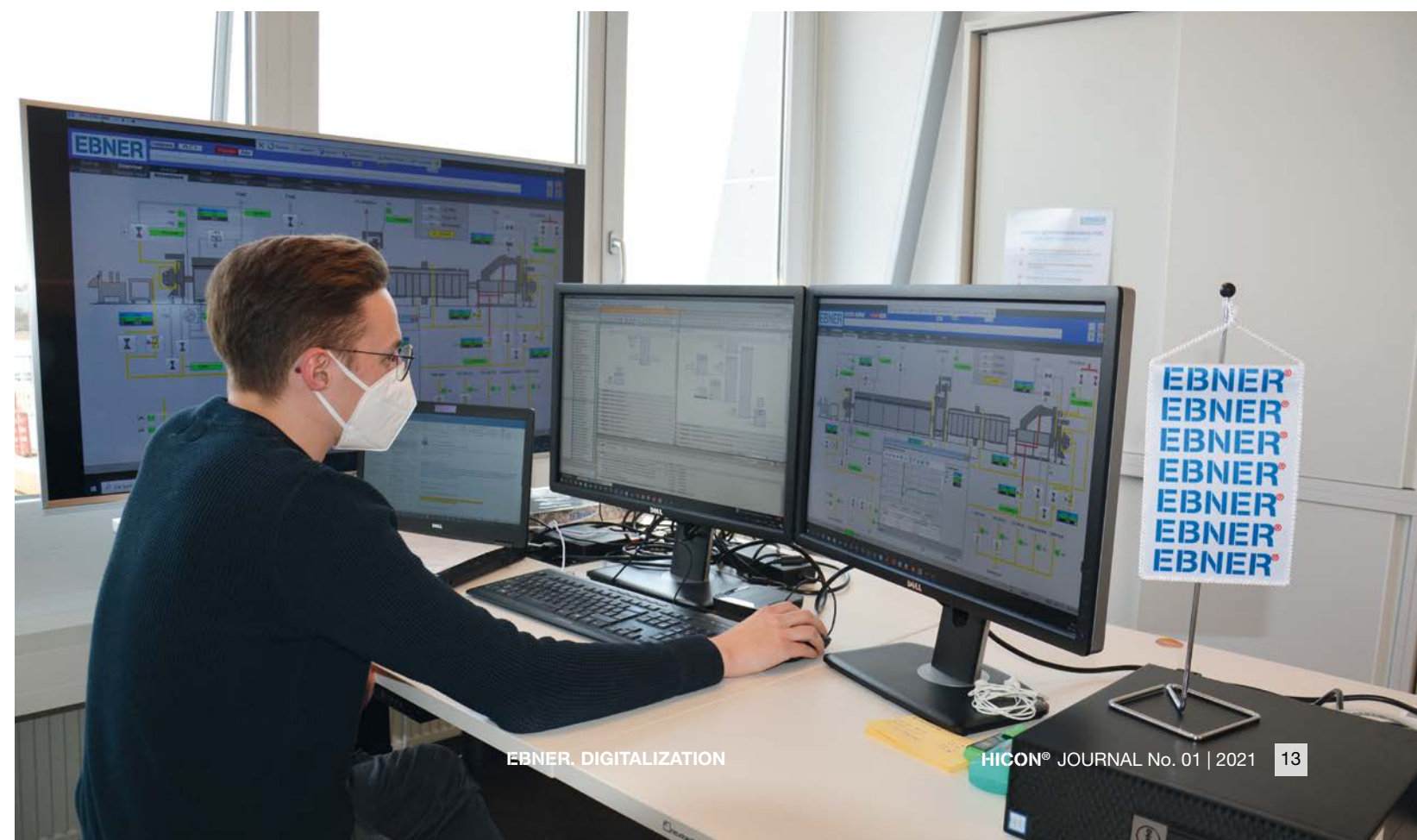
To ensure that the data required for the collaboration between employees on-site and at our headquarters is exchanged without a hitch, it is essential to have an engineering PC installed and available at the facility. This allows the current status of software projects to be visible to all involved, and all adaptations can be centrally managed.

Simulations and tests of the facility, carried out in advance, are significant elements in a successful remote commissioning. They eliminate complex troubleshooting procedures even before commissioning starts, which is why the concept of virtual commissioning is being emphasized ever more strongly at **EBNER**'s headquarters. Depending on the site at which the facility is being installed, one challenge to efficient cooperation between the on-site team and the team at **EBNER** Linz can be created by a significant time difference. This is counteracted by shifting working hours, so that windows of available time have the largest possible overlap.

With this innovative approach, we have not just ensured the on-schedule completion of projects. With total travel times reduced, we have also been able to provide our customers with solutions that are optimized in terms of cost and so made a contribution to both of our abilities to compete.

Currently, **EBNER** is successfully carrying out remote commissioning projects for customers in China, the USA and India.

EBNER engineer providing remote support from Leonding, Austria







EBNER **HOTFORM** two-level batch furnace

# From vision to reality.

## The evolution of EBNER **HOTFORM** furnaces.



ANDREAS STEINMASSL

EBNER technical article

Over the past few years, vehicles have been equipped with an ever-increasing number of safety functions and component features. To counteract increasing vehicle weights without sacrificing either safety or comfort, lightweighting is playing an increasingly important role in the mobility sector.

In addition to these factors, the rise in the number of electric vehicles has meant that many new and complex components requiring lightweight designs have come into use.

To fully exploit the strength of ultra-light aluminum

components with complex geometries, precise hot forming processes are required. To this end, EBNER has developed two different furnace solutions to pre-heat and solution heat treat aluminum blanks prior to the forming process.

### EBNER **HOTFORM** TWO-LEVEL BATCH FURNACE

The EBNER **HOTFORM** two-level batch furnace is a flexible solution for production series that are limited in size, such as those around 100,000 workpieces per year. Over and above this, it is eminently suited for prototypes, practical trials, type testing/certification and

the testing of characteristics during material development.

An EBNER **HOTFORM** two-level batch furnace meets or exceeds every requirement placed on modern heat treatment facilities. The air is heated by an electric heating system, with laminar flow distributing the heat among the layers of blanks. A decisive role in preventing the ingress of cold air is played by the special door sealing system, particularly when charging and discharging the individual levels.

### EBNER **HOTFORM** ROLLER-HEARTH FURNACE

For the EBNER **HOTFORM** roller-hearth furnace, the strengths of two existing types of EBNER furnaces were combined and refined: the heating and convection systems of an EBNER floater furnace, the world's leading floater design, and the durable and precise transport and centering system of an EBNER roller-hearth furnace for press hardening steel. The design was developed by the EBNER R&D and engineering teams, and tested extensively in the EBNER in-house laboratory.

For high-throughput facilities with more than 500,000 pressing cycles/year, an EBNER **HOTFORM** roller-hearth furnace is the right choice. With the proven EBNER centering system at the furnace exit, either "1-out", "2-out" or "4-out" travel modes are possible. Depending on the product mix, this can allow up to 1,000,000 blanks per year to be preheated.

An EBNER **HOTFORM** roller-hearth furnace employs a powerful heating system, combined with a powerful air recirculation system that forces heated air into EBNER's special array of slot-type nozzles. This com-

bination leads to the highest possible heat transfer coefficients, and thus the best possible temperature uniformity and the shortest possible heating-up times. The required length of the furnace facility (number of furnace zones) is based on production goals (pressing cycles per year). Certain complex high strength alloys require a pre-cooling step before the forming process. To ensure the highest amount of processing flexibility at an EBNER roller-hearth furnace, the last furnace zone can be equipped with an air cooling system. This makes it possible to carry out very complex heating practices that include a controlled cooling stage.

### EBNER **HOTFORM** AGING FURNACE

The next innovation in furnace design is already in the final stages of development. The EBNER development team is working on the design of an automated aging furnace that can keep up with the high production volume of a hot forming line for automotive applications. Based on proven EBNER key components, high-throughput aging furnaces for hot-formed aluminum parts will be available soon.

EBNER has worked continuously on hot forming solutions, seeking to make a significant contribution to our customers' abilities to produce competitive lightweight aluminum parts for the automotive industry. EBNER's long-term focus on R&D has ensured that EBNER hot forming furnaces are in a position to meet or exceed the current requirements of the automotive industry, and we have placed an additional focus on continual improvement and upgrades to allow us to be able to keep step with the component technologies of the future.

EBNER **HOTFORM** roller-hearth furnace



Small-scale R&D test facility





# Hands-free casting.

**Gautschi molds show excellent performance and guaranteed 100 % hands-free casting at ALVANCE Aluminium Duffel.**



**TOM JUMELET**

Gautschi news  
from Belgium



Gautschi has been a supplier of casting machines for both billets and slabs for many years, making several types of mold available on the market. During the last 10 years, however, it became clear that safety during casting – real, 100 % hands-free casting, meaning that no one is ever near liquid metal at any time during the casting process – was a must.

In response to this recognition, Gautschi started design work on a mold that would provide not only 100 % hands-free casting but also a significant improvement in metal yield. Design goals included less butt curl, for

both safety and metal yield improvement, and the prevention of any butt swell.

The new Gautschi slab mold was developed by an international team comprised of casting experts from German and Belgian casthouses, along with experienced Gautschi design engineers. Their joint experience, as well as present and expected future market demands, formed the basis of the mold design.

This mold was tested intensively at a casthouse in Stockach, Germany.

As part of its effort to improve safety during casting, Belgium's ALVANCE Aluminium Duffel BV was searching for a guaranteed 100 % hands-free casting process, one that would require no manual interventions anywhere near liquid metal even as it offered at least the same or even improved pit recovery.

After witnessing some of Gautschi's mold casts at Stockach, ALVANCE agreed to perform an extended test with the Gautschi mold at one of their casting stations. These tests were to cover all ALVANCE 3xxx, 5xxx and 6xxx alloys. The casting station that was selected already had an automatic level control system in place. For every ALVANCE alloy, a successful test meant no butt swell, no cracks, no bleedouts, a low, defined butt curl and absolutely no human interventions during casting.

After the first set of trials, the results were very promising. Some minor adjustments were made, and the second set of trials showed better results than the performance guarantees set at the start – meaning excellent pit recovery, no butt swell and, above all, absolutely 100 % hands-free casting had been achieved.

Based on these results, another ALVANCE Duffel casting station has been fully equipped with Gautschi molds. All molds passed the commissioning test for 5xxx and 6xxx alloys without metal spills or bleedouts. No butt swell, butt curls between 30 and 80 mm and – most importantly – all casts are 100 % hands-free, with no operators near the equipment during the casting process.



Mold table with new Gautschi molds and starter blocks

In the meantime, Gautschi has supplied molds and casting facilities to other customers as well. To prove its commitment to be the premium supplier to the aluminum casthouse market, Gautschi, together with its sister company in the **EBNER** group, HPI, has built an integrated pilot caster in Ranshofen, Austria.

A complete casting facility, capable of casting full size slabs, will be available starting in April, 2021 for customer demonstrations, customer trials and making further improvements to our molds and casting systems.

[www.alvancealuminiumgroup.com](http://www.alvancealuminiumgroup.com)

Casting launder with metal flow control and liquid metal level measurement





# Digital transformation.

At EBNER, digitalization is more than just a buzzword.



PETER GOSCH

EBNER technical article  
Digitalization

At EBNER, the digitalization of business processes already began several years ago. This has allowed us to supply even more efficient and powerful facilities to our customers.

EBNER is aware of both its ecological and economic responsibilities, and has set itself a clear goal: to ensure that EBNER heat treatment facilities have the lowest possible environmental impact and consume the lowest possible amount of resources during operation.

All of our digitalization efforts are aimed at helping us meet our strategic goal of ecological and economic responsibility. Digital transformation is playing an important role in this effort, and will have a significant impact on the future of the company.

Our new digital backbone will be formed by the new VISUALFURNACES 8 process control system (PCS), which is currently under development. All digital services will be supplied with process data by VISUALFURNACES 8, which when combined with mathematical and physical models (*Model Predictive Control* and *Properties Predictive Control*) will enable us to ensure optimal production management and increased yields in the future.

Our effort to optimize production management not only ensures the success of the EBNER effort to optimize TCO (Total Cost of Ownership), but also has a significant effect on optimizing the utilization of required resources. This reduces both energy consumption and emissions.

One of the digital services that will be offered by EBNER in the future will be the use of a digital twin during commissioning. This will allow commissioning times to be optimized, and process sequences can be simulated. In the future, digital twins will also be used to train the operating personnel of our customers. They will make

it possible to carry out realistic training before actual commissioning.

In the field of customer services, our goal is to provide all of our customers in the next few years with a predictive maintenance portfolio and an SLA (Service Level Agreement) tailored to it over the next few years.

In the near future, communication will take place through our new EBNER customer portal: our customers will be able to access all facility information, relevant process data, service tickets, training opportunities, information about new developments and current sales campaigns centrally, through the EBNER Customer Portal.

Here too, the goal is to allow our customers to access all relevant information as easily as possible, making communication and service workflows as efficient as they can be and saving as many resources as possible.

During our digital transformation, we strive to employ latest technologies. They allow us to optimally employ the expertise and experience of our employees throughout the world: as personal as needed, as digital as possible. This conserves the resources of both our customers and the environment.

We would like to refer our readers to the last issue of the HICON® Journal, issue 02/2020. In that issue we introduced our digitalization strategy, our E³ (EBNER Energy Efficiency) modules in particular. We also provided an overview of both EBNER facilities 4.0 and CATCH, the digital “dating” platform for plant engineering.

At EBNER, digitalization and ecology go hand in hand. Digital transformation is not a buzzword for us: it is both a reality we experience in our daily lives and a clear strategic goal.



# HPI technology for the Emirates.

An automated production line for aluminum from HPI & FFT.



**RAINER EDTMEIER**

**HPI** news  
from the Emirates

**EGA - Al Taweelah invests in an automated production line for aluminum ingots from HPI & FFT.**

## THE HPI - FFT PARTNERSHIP

With many years of experience and a comprehensive product portfolio, HPI High Performance Industrietechnik GmbH and FFT Produktionssysteme GmbH & Co. KG can offer individually-tailored, customer-specific solutions to the aluminum industry that are of the highest quality. Close cooperation between the two companies make complete production lines possible, with turn-key installation and the lowest possible amount of interface and coordination work for customers. Turn-key installation is a central aspect of this approach. We take into account all boundary conditions like quality and delivery date requirements, and accept overall responsibility: we manage the project until the equipment is handed over. Our goal, as general contractor for all phases of the process, is to work closely together with the customer and so develop the optimal solution. The integration of our know-how into the engineering and implementation of the project means that we can assure you a trouble-free start of production.

## BUNDLED COMPETENCIES THAT SERVE THE CUSTOMER

Together with HPI, FFT develops individually-tailored production lines. From the casting furnace all the way up to retrieval of the finished product at the end of the line, without any required interventions by an operator. The result is fully-automated casting lines for aluminum ingots, using state-of-the-art technology. Such ingots are a preferred starting material for casting of products such as engine blocks, and fulfill the stringent requirements of the automotive industry.

As water is a valuable resource in the United Arab Emirates, it was particularly important during this project to optimize the cooling water supply to the molds. With the help of CFD (Computational Fluid Dynamics) simulations, HPI ensured that every casting strand received the same volume of water. This had a positive effect, on not only water consumption but also on the uniformity of production.

Of course, to implement these features, completely new mold technology was required. An additional advantage of these new molds is the low consumption of oil.

The industry 4.0 technology from FFT, such as networked industrial robots and autonomous transport



The new Casthouse Revolution Center in Ranshofen, Austria, where the aluminum technology of the future is being researched

systems that ensure large-scale production and are designed for casthouse conditions, as well as our expertise with the simulation software, are of particular service to our customers.

FFT simulates all the the equipment in a virtual environment. This reduces the time required for commissioning and the go-live phase at the customer's works. With the assistance of virtual models of the machinery, a digital twin is created that allows commissioning in advance - before all of the equipment is even assembled. The assembly of machine data and information from the production line, which can be used to schedule preventative maintenance, increases overall performance: the machinery informs the operator when maintenance should be carried out.

The production line is equipped with a machine vision/image processing system, which carries out all quality control procedures and inspects every ingot while production is running as a part of this process. All manufactured ingots undergo quality control and the machine learns of defects and damage during production, as it automatically sorts out anomalous product. Fault-free products are processed further, and delivered to the customer. All bundling, packing, laser marking and securing of the product is carried out by industrial robots.

Taken together, all of these functionalities raise the technological capabilities of the casting facility to a new level, and pair this rise with a significant increase in production yields.

[www.hpi.at](http://www.hpi.at)  
[www.fft.de](http://www.fft.de)



RAINER EDTMEIER GROUP MEMBER



# Exciting technologies, fascinating developments.

**EBNER** Industrieofenbau revamps its online presence.



**BERND WOLKERSTORFER**

**EBNER** news  
from Austria

For decades, **EBNER** Industrieofenbau has stood for innovative, customer-specific solutions and close contact with international customers.

The important role of digital communication and cooperation with our customers did not start with the arrival of the coronavirus. However, the corona crisis - which has had a significant effect on communications and international collaborations - gave us an incentive to update our online channels of communication and use them even more intensively.

We have increased our online activity on social networks like LinkedIn, Facebook and Instagram, particularly, LinkedIn. We use LinkedIn extensively, as a platform to spread information about our webinars, trade fairs and other customer-related news.

After the new website for the **EBNER** Group went on line at the end of last year, providing a concise and informative overview of the steadily-growing Group, the last few weeks saw a complete overhaul of the **EBNER**

Industrieofenbau website and the site was given a completely fresh look.

Along with a modern and attractive design, the overhaul focused on providing a clear structure and a user-oriented organization of content for both our customers and other interested visitors.

## NEW STRUCTURE

To ease visitor access to our products, we have collected our products in groups tailored to each target audience in the APPLICATIONS menu. Regardless of whether a visitor is from the aluminum, steel, copper base metal or aerospace industries, the categories will allow them to find every **EBNER** heat treatment facility that is suitable for their semi-finished products. This change provides an even more detailed overview of the core competencies and range of services offered by **EBNER** Industrieofenbau.

## NEW CONTENT

Along with the changes made to the appearance and

functionality of the site, a wide range of new content has been added. In the NEWS & PRESS area, visitors are kept up to date on the latest developments at **EBNER**.

## CONTACT

Our global network of agencies ensures that **EBNER** is always close at hand, and our agents can now be found listed in a format that is easier to use than ever before. In the field of CUSTOMER SERVICES, we are available to provide after-sales service, maintenance and rapid spare part supply.

## WORDPRESS

As a part of the website overhaul, a switch was made to WordPress as the CMS. This system is easy to use, offers a wide variety of plug-ins and is infinitely scalable: it makes a significant contribution to the user-friendliness of our interface. The site is maintained in-house at **EBNER**, allowing us to manage content quickly, flexibly and without having to rely on external service providers.

The new website is available in German, English and Chinese. We hope that you enjoy discovering more exciting technologies and fascinating news through the new website of **EBNER** Industrieofenbau! Content will, of course, be regularly updated and we appreciate any feedback you can give us. We welcome suggestions and comments, as well as criticism and praise. To provide feedback, please use our contact form, which can be found at <https://www.ebner.cc/kontakt-de>.

## EBNER HIGH LEVEL TRAINING

Through the **EBNER** ACADEMY website, our customers are kept continuously informed of training opportunities and our online webinars. Over the last few months, during which no trade fairs could be held, many of our customers have made use of this opportunity to confer virtually with our experts and discuss the new technologies developed at **EBNER**.

**EBNER INDUSTRIEOFENBAU**  
[www.ebner.cc](http://www.ebner.cc)

**EBNER GROUP**  
[www.ebnergroupp.cc](http://www.ebnergroupp.cc)

**EBNER ACADEMY**  
[academy.ebnergroupp.cc](http://academy.ebnergroupp.cc)



# NEWS

HICON®  
Journal is  
also available  
by e-mail!

## Trade fairs. Conventions 2021

07.07- 09.07.2021	ALUMINIUM CHINA 2021	Shanghai	CN	booth	1G25, N1
01.09. - 01.09.2021	ALUMINUM USA	Louisville	USA	booth	TBA

We look forward to seeing you there!

Making plans to attend a trade fair has become difficult, due to the covid-19 crisis. It is for this reason that we have created the EBNER ACADEMY. Through live webinars and training sessions, the EBNER ACADEMY can keep you informed of new product developments and keep you up to date on EBNER technologies. Sign up now at: <https://academy.ebnergroupp.com/en/live-webinar>

## EBNER Academy HIGH LEVEL TRAINING

We would also welcome your visit to any of our company locations, where you can gather personal impressions of our technologies and the opportunities they offer.



## EBNER GROUP

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Current information  
about the EBNER  
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EBNER R&D Laboratory, Leonding



Casthouse (R)Evolution Center, Ranshofen



### CUSTOMER SERVICES

- Spare part sales
- On-site support
- Upgrades & Rebuilds