Insight

CUSTOMER MAGAZINE

17/2025

Masters of concrete

THE PRODUCTION OF SOPHISTICATED CONCRETE FORMWORK FROM WOOD OFTEN RESEMBLES SOME KIND OF ARTISTRY

Review Expert Meeting 4.0
Transformation Towards Additive Manufacturing

Presentation of our new official website
Relaunch of the joint Reichenbacher Hamuel website

Discover freedom
The desire to travel is as old as mankind

HAMUEL REICHENBACHER
Members of the SCHERDELGroup

Foreword by Mike Beier.

The fascinating world of marketing

Dear customers, business partners and colleagues

Following the merger of our three companies to form the Reichenbacher Hamuel Group, the work and tasks involved in public relations have grown yet again. As Head of Marketing and Communications, I have the privilege of coordinating a variety of contents and creative projects – from trade fairs, graphic design, our website and social media to writing copy and photo and film production. It is this diversity that makes the job incredibly rewarding.

In this capacity, supported by external freelancers, it is crucial to prioritise wisely, as lasting corporate communication is a process that takes time and requires the cooperation of many colleagues.

For many years, Insight has been providing its readers with impressions of this exciting work. In the seventeenth issue, we take you on a journey back in time to our successful expert meeting in autumn 2024, where the future of additive manufacturing came to life. You can also look forward to an exclusive preview of our appearance at the world's largest wood trade fair, LIGNA, in Hanover in May 2025, as well as to the new website of our group of companies, which has now also gone online.

Never leave well-trodden paths – this is why we again present to you two fascinating reports in this issue: immerse yourself in the world of motorhome manufacturing and discover the secrets behind the production of impressive precast concrete parts.

I hope you will enjoy reading this issue,

Mike Beier
Head of Marketing + Communication
Reichenbacher Hamuel GmbH

Imprint

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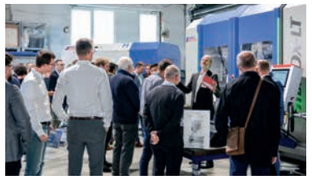
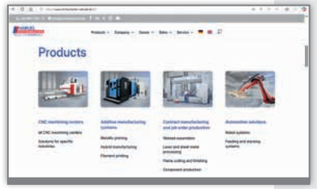




Review Expert Meeting 4.0

Transformation Towards Additive Manufacturing.

These days, hardly anyone doubts that additive manufacturing will have a lasting impact on the production landscape of the future. Reichenbacher welcomed 62 curious visitors on site and 39 guests online on October 10, 2024. All of them were eagerly awaiting the experts‘ informative presentations and the impressive machine demonstrations on the special AM systems.

Presenter Andreas Leopold Schadt hosted the event for the fourth time with bravura and a touch of humour and first gave the floor to Managing Director Andreas Leutheußer, who was delighted with the large number of guests. In his speech, he looked back at the company‘s history in additive manufacturing (AM), which began over a decade ago with a hybrid system for turbine blades and was honoured with the EMO Award at that time. He also emphasised that Reichenbacher Hamuel, together with its partners, is striving to continuously develop both subtractive and additive processes, in order to further enhance the industrial standards of these efficient and environmentally friendly manufacturing processes.

Dr Stefan Schulze from the LEHVOSS Group, a leading supplier of materials for 3D printing, dedicated his presentation to 3D printing with plastics. He underlined that the choice of the right material for each component is of crucial importance. Customers‘ requirements for FGF materials are manifold: they should be print-friendly and – depending on the component – also have specific properties, such as thermal and electrical conductivity, mechanical strength and chemical and abrasion resistance. He showed how LEHVOSS relies on comprehensive tests as part of material qualification, in which the optimum layering duration, the warpage index, adhesive strength and temperature as well as humidity conditions are analysed, among other things. His presentation was rounded off with exciting case studies on a seat base for cars, an oil funnel mould and a concrete mould for the construction industry.

Dr Kawalla-Nam opened the series of lectures by pointing out that for him, transformation is a continuous process of change. He emphasised that the strength of SMEs lies in the combination of existing know-how and new technologies in order to generate innovations. His comparison between conventional and additive manufacturing quickly highlighted the benefits of AM, such as flexibility and increased efficiency. The range of applications is almost unlimited – be it in formwork, tool and mould making or in many other branches of industry. Finally, he presented the various printing systems from Reichenbacher, which were also shown live: the powder bed process on the AMS 400, hybrid production with the HybriDX-LT and the FDM printer M1000.

Dr Karsten Heuser from Siemens Digital Industries addressed the growing maturity of additive manufacturing as a key technology in production. He emphasised that the market is highly dynamic, regardless of technology and region, and that sales have tripled over the last six years. While they amounted to some EUR 15 billion in 2023, he forecast sales of around EUR 40 billion by 2030. Alongside traditional industries, such as automotive, mechanical engineering and aerospace, he considers the sales markets in the energy and medical sectors to be particularly promising in the future. The positive aspects are obvious: CO_2 emissions are reduced by up to 90 %, components weigh up to 90% less and production times are reduced by up to 71 %. As a vivid example, he cited the flow-optimised water drains in ICE trains, which can not only be 75 % lighter thanks to metal 3D printing, but can also be produced faster and more cost-effectively.

Holger Stichel from KOBRA Formen GmbH then took a closer look at the challenges involved in producing high-quality steel moulds for the concrete block industry. He reported that his first point of contact with AM was the question of whether this could be a reasonable alternative to CNC production in his company. There were enough incentives for change: less waste, reduced energy consumption, increased productivity per employee and zero stock levels thanks to just-in-time spare parts. Moreover, the return of old moulds for recycling and the in-house generation of energy opened up completely new perspectives. In his presentation, Stichel clearly outlined how 3D printing works with tool steel (1.7131) in the 0 µm to 1,000 µm range, and showed the impressive results of his corporate circular economy, which is based on the in-house production of AM steel from 60 % waste material. Beneficial for both – the environment and efficiency.

The event concluded with **Manuel Tosché from MULTEC GmbH,** who presented the high-performance industrial printer M1000 and explained its potential in industrial large-format 3D printing. He demonstrated in a striking way that 3D printing can not only save material and labour costs through quick tool changes and a wide range of nozzle variations, but also impresses with short printing times and the avoidance of interruptions. On-demand production, shortened supply chains and fast response times complete the picture. Tosché also explained in a graphic cost-benefit analysis that net printing time is not to be equalized with gross printing time. A live demonstration on the industrial printer, on which large components can also be produced from the high-performance plastics PEEK and Ultem, gave visitors the chance to see the wide range of possible applications for themselves - very convincing for 3D printing enthusiasts.

Preview LIGNA

Exhibitor at LIGNA:
Hall 27, Stand H40

LIGNA

GO HYBRID!
....CNC reinvented

We are convinced that a mix of materials will define the future of the engineered wood sector and therefore – as one of the leading German machine manufacturers – want to set new standards with our innovative development work in hybrid production.

26 - 30 May 2025 | Hanover

LINKING PEOPLE, DRIVING INNOVATION.

50 Years of LIGNA | 1975 - 2025

In view of the dynamic requirements and developments in the wood industry, we are reconsidering and agree: additive manufacturing will permanently change the production landscape. Dr Alexander Kawalla-Nam, Head of AM Technology, emphasises that the transformation is already in full swing and that 3D printing will become indispensable in traditional wood processing, too.

Hybrid manufacturing processes are revolutionising the production of complex building elements for stairs, doors, furniture, balconies and walls, and future designs will differ from today‘s - both in terms of their construction, i.e. the design concept, and the choice of materials. 3D printing not only permits the precise reproduction of rounded or complex contours, such as multi-curved contours, but also the efficient integration of cavities and support structures. Moreover, the milling process opens up completely new dimensions in surface design: whether smooth, roughened or individually textured – creativity is virtually unlimited.

The innovative ECO HybriDX-LT hybrid system sets new standards by combining large-format 3D printing with a milling system for post-processing in a single system.

At the trade fair, we will be presenting two extraordinary machine conceptions. The OPUS-5P, which, for reasons of its compact design, is a real space saver and allows user-friendly loading and operation thanks to its free access. This system is the ideal combination of process stability and outstanding machining performance, featuring a console table 5 metres in length and a progressive nesting function. Exclusively for LIGNA, this trade fair machine will be equipped with 20 PINs with automatic suction cup positioning.

The ECO HybriDX-LT combines large-format 3D printing with an integrated milling system for post-processing in a single system. Thanks to the continuous build-up printing process, large-volume and extremely robust components can be produced efficiently. 5-axis machining is carried out either after or during printing to ensure maximum precision and optimum surface quality. At the trade fair, we will be demonstrating this using as example the production of a seat shell made of composite material, which is combined with wood to create an extraordinary piece of seating furniture. An intelligent mix of materials and the far-reaching flexibility of this innovative hybrid system will revolutionise the manufacturing processes of the future.

In March 2025, we presented the ECO HybriDX-LT at JEC World in Paris, where it was received with great interest by the expert visitors. The event gave us the opportunity to hold in-depth discussions with experts from various fields and to introduce our innovative hybrid machine as a trendsetting approach for future production methods The positive response from international visitors not only confirmed the high relevance of the topic of additive manufacturing, but also revealed a strong interest in investments in this promising sector.

Masters of concrete

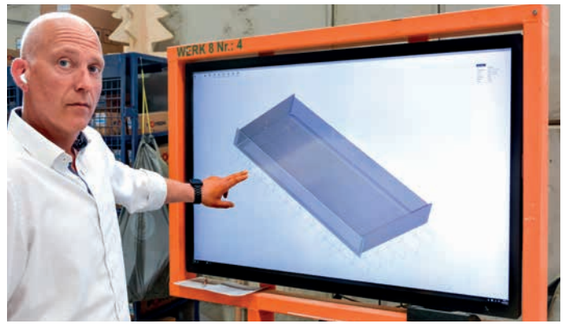
The production of sophisticated concrete formwork from wood often resembles some kind of artistry.

The company has been supplying precast concrete parts to construction projects throughout Germany since 1951 (Karstadt in Stuttgart).

What was once considered impossible or difficult, such as designing futuristic curves on large balconies, has become routine now thanks to modern CNC technology. Sometimes it only takes a few days from concept to realisation, before, for example, a tailor-made concrete staircase is ready for delivery.

In formwork construction, skills and expertise are crucial for success. At Weber Betonwerk GmbH in Ippesheim, Production Manager Björn Lang heads a team of 45 employees, who produce complex building formwork to bring architects‘ creative ideas to life. The expertise begins with choosing the suitable formwork material, which must be able to cope with the requirements of flow concrete and be processed exactly. The precision of the CNC technology used is of great importance here in order to achieve the optimum shape, dimensional accuracy and surface quality of a concrete component. Weber is very well known for their ability to manufacture special components with complex geometries that can weigh up to 20 tons and cannot be produced using conventional manufacturing methods.

The company has been supplying precast concrete parts to industrial, commercial and residential construction projects throughout Germany since 1951. In nine halls on the 165,000 m² site, the specialists produce per year around 6,000 balconies, 8,000 staircases, 2,000 special parts and 300,000 m² of solid walls in various shapes and thicknesses. In a specifically designed hall, around 300,000 m² of ceiling elements and 100,000 m² of double walls are produced during the same period. All precast elements are unique and the great variety of prefabricated balconies, which are available in various shapes with rectangular, rounded or trapezoidal floor plans and with monolithically shaped balustrades, should be pointed out in particular.



Plant manager Björn Lang: All components are shown on large screens in the workshop.

For custom-made components, visualisation in a 3D model plays a decisive role in programming the manufacturing processes, which are then converted into CNC control commands. The planning department, consisting of 40 technicians and engineers, implements the production and installation plans as well as the detail and work drawings using advanced CAD/CAM software.

The 5-axis system with nesting function can process formwork panel material measuring up to 6,000 x 2,500 mm.

On the loading side, apart from the lifting table for the panels, the X-Y cantilever catches the eye, on which a laser marking unit is installed, with which the entire panel surface can be marked. “This laser marking allows us to mill parts for several orders at the same time and thus to minimise panel waste, as we can also nest small parts from a panel, even if they belong to a different job,” Björn Lang explains.

Two almost identical VISION-III-TT CNC systems from Reichenbacher run in two shifts of ten hours, each.

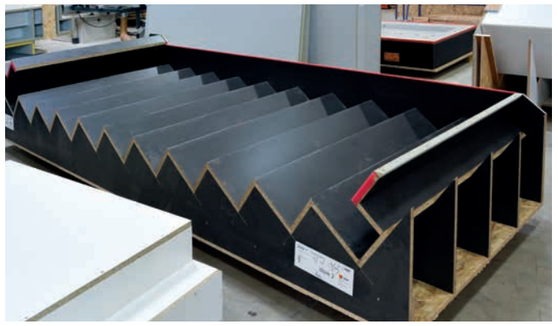
This data is then transferred to the two identical CNC 5-axis systems with grooved HPL table surfaces and nesting function, which have been in use for over three years and guarantee the first-class surface quality of the precast concrete parts. When Area Sales Manager Florian Mauch was approached in 2021, the cornerstones had been clearly defined: The machines had to be powerful, able to handle the ever-increasing panel dimensions and to ensure a seamless connection to the existing CAD design system, as well as to offer the option of marking the panels to facilitate part assembly. “At Weber, the entire process was to be simplified, made faster and more economical,” Florian Mauch explains. A VISION-III-TT with automatic plate changer for 30 tools can process panels up to 6,000 x 2,500 mm in five axes, regardless of the formwork panel material used, such as MDF, OSB, poplar or birch plywood, Betoplan or Magnoplan.

He uses an example to further illustrate his team‘s expertise: “The construction of an unusual balcony begins with a basic structure made of ribs, followed by the calculation of the bending radius. A 22 mm thick wooden panel is then cut to 0.5 mm so that we can bend it around every curve. We mill wooden parts to three digits behind the decimal point. In formwork construction, precision is crucial for concreting; everything has to fit 100 percent, as no cladding is possible with exposed or textured concrete.”

The use of the almost identical systems, which run in two shifts of ten hours each, has significantly increased performance. While in the past you had to schedule 2-3 days to produce the formwork for a large balcony, nowadays it only takes around four hours.

From left to right: Head of Production Technology Maurice Wernien, Plant Manager Björn Lang, Production Manager Thomas Dressel.

“The machines, on which around 98% of the components are manufactured, make us extremely flexible, precise and fast. Actually, even too fast. We could produce a lot more, but we have to be able to process it in the concreting process afterwards,” adds Maurice Wernien, who is responsible for technical controlling. He adds: “A standard staircase with a 1.10 m wide flight and 14 steps can theoretically be ordered in the morning and delivered the next day. We use self-compacting concrete for this, which cures so quickly that the components could actually be delivered after just 10-12 hours.



Staircase formwork: Standard staircases can theoretically be ordered in the morning and be delivered the very next day.

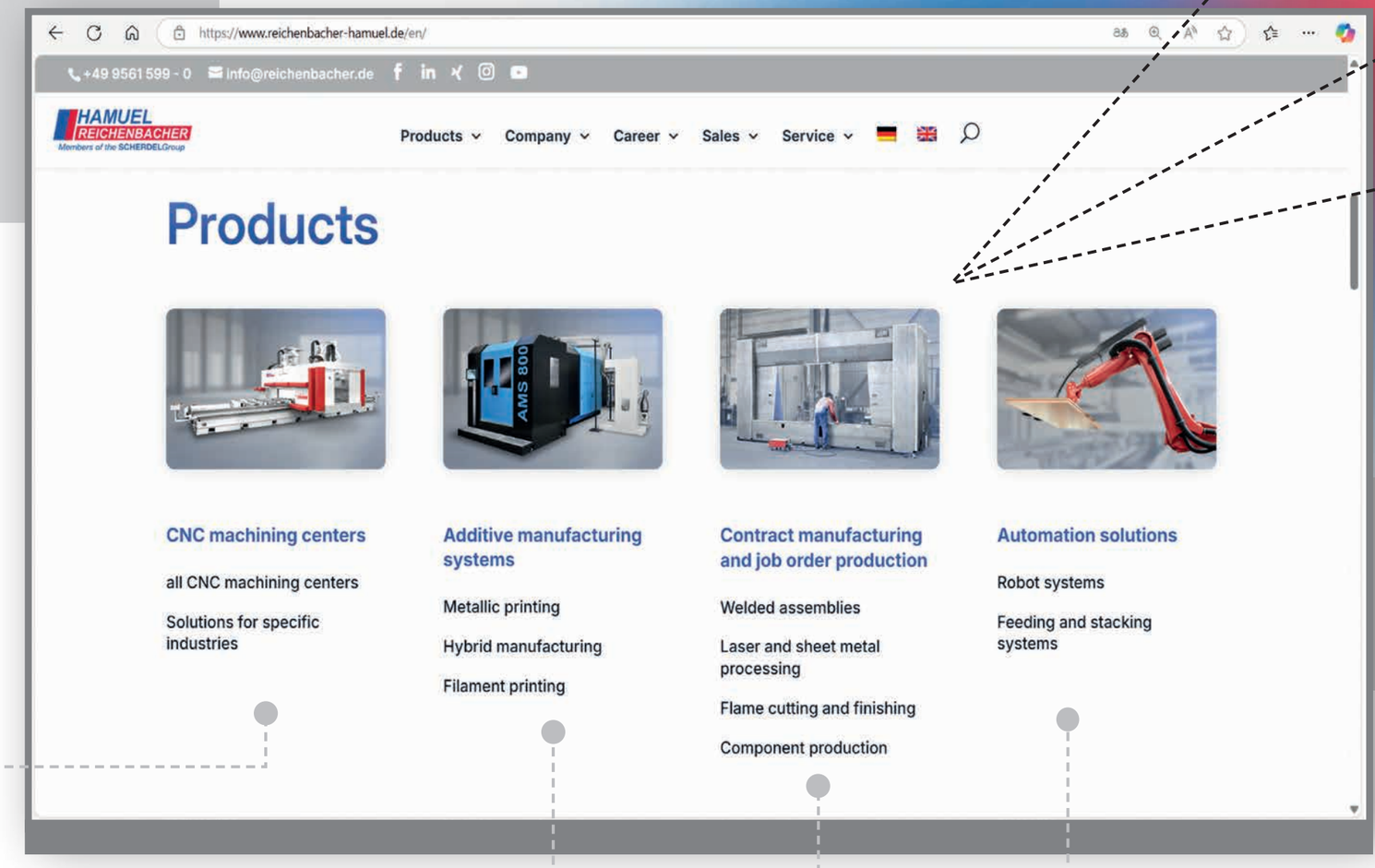
Weber focuses on sustainability and regionality by reusing formwork and employing renewable energies. Depending on the size of the construction project, formwork is sometimes used up to 20 times by always starting with the longest version and then successively adapting it to produce as many different components as possible.

Weber Betonwerk supplies balconies for residential buildings, stairs, special parts, element ceilings or solid walls in various shapes and thicknesses.

Presentation of our new official website

Relaunch of the joint Reichenbacher Hamuel website.

Welcome to our new company website – your digital gateway to innovative solutions in mechanical engineering, where precision meets progress and we are reshaping the future.



www.reichenbacher-hamuel.de/en

Don‘t miss the chance to get new impulses and perspectives – your next idea could be just one click away.

ENGINEERING WITH FORESIGHT

To us, foresight means perpetual reconsideration to find new ways of developing groundbreaking and progressive systems for our customers. The Reichenbacher Hamuel Group combines the accumulated expertise of three companies, each possessing unique strengths in mechanical engineering and contract manufacturing, respectively. We make targeted use of these synergies to sustainably promote our innovative strength and present you with solutions that set standards, both today and tomorrow.

CNC machining centres
CNC technology at its best

For over 70 years, we have been known for a customer-oriented approach that sets us apart from our competitors. We have specialised in developing and manufacturing customised machining centres for wood, aluminium, plastics and composites as well as high-precision CNC systems (HSC) for steel, cast materials, titanium and Inconel. They are the result of our passion and expertise in mechanical engineering technology.

Together with our innovative additive manufacturing systems, expert contract manufacturing and job order production as well as advanced automation solutions, we offer an impressive overall portfolio that will revolutionise your production processes.

Additive manufacturing systems
A new era has begun

Additive manufacturing has been the talk of the town for many years, and the topic will continue to gain momentum because the potential applications for 3D components are virtually unlimited. We too rely on this pioneering technology: with our expertise in mechanical engineering and in cooperation with renowned partners from the 3D industry, we have successfully positioned ourselves at the forefront of the development and construction of innovative AM and hybrid systems in recent years.

Contract manufacturing and job order production
Excellent quality

Our customised solutions in premium quality that exceed your expectations: Whether it’s complex welded assemblies, precision component manufacturing, state-of-the-art laser and sheet metal processing or flame cutting and finishing – our experts enjoy an outstanding reputation even in the most demanding industries.

Automation solutions
Smooth processes

Use our innovative automation solutions to increase the efficiency and productivity of your production processes. They minimise sources of error and optimise the material flow – which not only means smooth processes but also noticeable cost reductions for your company.

Discover freedom

The desire to travel is as old as mankind.

Above all young people, who want to be flexible and independent, intensify the trend towards vacationing in their own motorhome. The variety of choices leaves little to be desired. For almost six decades now, Hobby-Wohnwagenwerk has been passionately dedicated to building just such vehicles.

Around 1,200 employees manufacture numerous different models of caravans and motorhomes on the 270,000 square metre factory premises in Fockbek in the Rendsburg-Eckernförde district, within sight of the Kiel Canal. Of late, up to 17,000 vehicles were produced each season, around 60 % of which were for German customers, with the remainder going to other European countries.

Numerous different types of caravans and motorhomes are manufactured on various production lines.

‘Built for life’ is the company motto, and with groundbreaking innovations the company is setting standards for mobile travelling, both in terms of equipment and Smart Connect. An app that you can use to control the battery status, the fuel level and many other things conveniently from your smartphone. State-of-the-art machine technology is applied to guarantee exceptional quality. On the one hand, this ensures perfect processing and, on the other, it lives up to the company‘s ecological responsibility, as new systems play a not insignificant role when it comes to sustainability and energy efficiency.

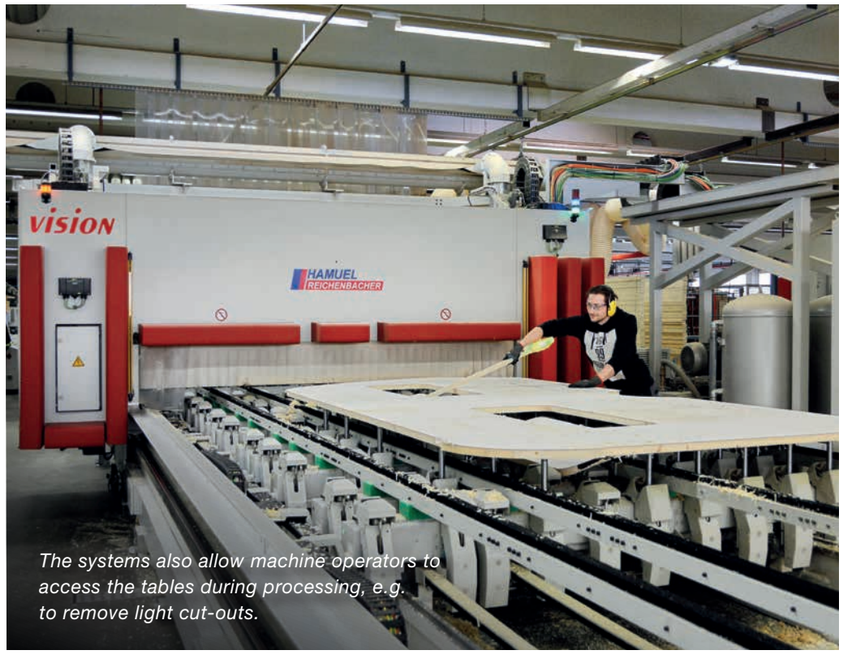
Line production of the outer bodies on three adjacent systems of the VISION-III-TT-L series.

Just over five years ago, Machine and Plant Coordinator Torsten Starkowski felt a little uneasy when he inspected the 30-year-old NC machines in the finishing department. The CNC mechanic with a soft spot for machines went in search of a replacement and found what he was looking for. In Hubertus Hünker, Area Sales Manager at Reichenbacher, he met an inspiring counterpart. Armed with a yardstick, the two of them measured the floor space in the hall during the initial discussions, as space requirements were one of the biggest challenges in line production.

Working areas of 8,000 mm x 2,500 mm (L x W) made the CNC systems of the VISION series perfect for the various component sizes, while their installation was a precision job. Here, the safety concept with the bumper solution revealed decisive advantages. Thanks to this design, three VISION-III-TT-L systems, each with an automatic beam table, could be set up next to each other, allowing the machine operators to access the tables even during processing. This is important for quality checks, but also for the manual removal of light cut-outs.

The tables featuring automatic suction cup positioning and individually controllable PINs are a technical highlight, as PINs that are no longer needed are automatically switched off and retracted. Thus, additional set-up and preparation times are a thing of the past. In this way, a wide variety of workpiece geometries of floor and roof parts as well as side walls, plus material combinations of wood, aluminium, polystyrene, PU strips and 1-component adhesive joints, can always be clamped with the optimum number of vacuum cups.

From left to right: Machine Operator Ricardo Tiersch, Hubertus Hünker (RH), Machine and Plant Coordinator Torsten Starkowski.



The systems also allow machine operators to access the tables during processing, e.g. to remove light cut-outs.

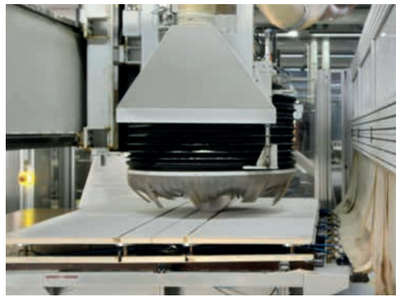
The ECO-2625-B in portal design with fixed bridge portal and two smooth HPL tables. When the tables are coupled, a working area of 5,300 mm x 2,500 mm is created.

The new through-feed machines brought fresh impetus to the manufacturing process for the complete outer shells of all model series. Compared to the past, the complete processing of a side panel, including edge processing and all necessary window, door and other cut-outs, such as for exterior sockets, gas and water connections, has become much faster.

After five years, Torsten Starkowski is still impressed by the speed and precision, and he still stands by his decision in favour of the 3-axis and 4-axis units for each machine. For one thing, the space required for a 5-axis unit is much greater due to its turning and swivelling movements – and there was no abundance of space available. On the other hand, these milling units are perfectly adequate for the work processes required and the cuts are faster. And if one spindle fails, the other can take over – guaranteeing process reliability.

A 5-axis system was then integrated into another production line in 2021. There is virtually no downtime with the ECO-2625-B in portal design with a fixed bridge portal and two smooth HPL tables, because one table is always working. Flexibility has also increased, as the tables can be coupled and extended to a working area of 5,300 mm x 2,500 mm, if required. As the front and rear components necessitate angled cuts with the saw blade, the 5-axis unit was the perfect choice. This also provides the designers with greater scope for the future, as vehicles are becoming increasingly complex and the interior fittings more varied.

Torsten Starkowski‘s conclusion is a clear one: “Reichenbacher is very well positioned. You can utter a wish where others have already closed down. We have also improved our uptime with preventive maintenance and by respecting the recommended service intervals. We work with significantly higher feeds and speeds, which means we are faster and the high surface quality is remarkable – not to mention the better handling.”



Cutting of components with a 250 mm saw blade: In the process, two components made according to the same production and construction method are manufactured synchronously to achieve a higher output.

Use of a 125 indexable insert milling cutter for machining the outer contour.

Teamevents 2024

Team building – and the boss up front...

The third year is over: hours filled with laughter, exciting challenges and unforgettable experiences – that were our team building events 2024. We not only had the opportunity to get to know our colleagues better, but also to surpass ourselves as a group. Whether during an exciting outdoor adventure or a comfortable get-together – every moment offered the chance to strengthen our interdepartmental team spirit and make new friends.

Even the weather was on our side in 2024...

- **Visit to the Josias beer garden at the heart of Coburg**
  In ideal weather and a relaxed atmosphere, we ended the working week in a beer garden while enjoying cool drinks and hot food.

- **Bicycle tour with a stop for refreshments**
  Our short cycle tour through the Coburg countryside took us towards Alexandrinenhütte, past the Goldbergsee and back to Coburg, where we rewarded our great sporting spirit with a hearty stop for refreshments.

- **Company run Kurpark Bad Rodach**
  Our team of ten colleagues completed the five-kilometre run with lots of fun and joy in its activities and celebrated its success at the after-run party that followed.

- **Outdoor climbing garden Kloster Banz, Bad Staffelstein**
  Fun was the top priority here, but of course we all wanted to test our limits. Both beginners and experienced climbers were able to let off steam on the five courses (at different heights and levels of difficulty) and everyone showed great enthusiasm.

- **Hike with business cup soccer golf**
  The hike in the “Gottesgarten” towards Vierzehnheiligen took around three hours, and afterwards we loudly supported our teams taking part in the soccer golf business cup.

- **Christmas market at Coburg**
  Finally, we enjoyed a festive pre-Christmas atmosphere and closed the year with mulled wine and other delicacies at the Coburg Christmas market.

GO HYBRID!

....CNC reinvented

With the **HybriDX-LT**, we combine large-format 3D printing with an integrated milling system for post-processing.

Thanks to its compact design, the **OPUS-5P** is a real space saver and provides user-friendly loading and operation thanks to its free access.

Visit us at our stand.
We look forward to seeing you.

26 – 30. May 2025 | Hanover
Hall 27, Stand H40

LIGNA

LINKING PEOPLE, DRIVING INNOVATION.

50 Years of LIGNA | 1975 - 2025

HAMUEL REICHENBACHER
Members of the **SCHERDEL***Group*

CNC-technology at its best

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