

Low-noise, high-performance propellers

WHEN A FEW TENTHS OF A MILLIMETRE
MAKE ALL THE DIFFERENCE IN SAFETY

Continuity with the future in mind

Andreas Leutheuser is now the company's sole leader

70 years of change. A history full of innovations. How Reichenbacher has become a driving force behind the technology for the manufacturing of the future

On the road to success with advanced CNC technology The specialist in timber construction

**HAMUEL
REICHENBACHER**
Members of the SCHERDELGroup



Foreword by Andreas Leutheußer.

New structures in the management team

Dear customers, business partners and colleagues,

This current issue is something special in more ways than one. To begin with, this is already the 20th issue of our customer magazine Insight. Furthermore, it marks the start of a new chapter: after the well-deserved retirement of Thomas Czwielong, to whom we extend our heartfelt thanks for his great commitment, we continue to look ahead. In doing so, I am relying on continuity, fresh impetus and a strong leadership team with which we can jointly shape the future of our company.

There is one topic that is particularly on my mind at the moment: the rapid development of artificial intelligence. Nearly every day we see new progress. Many developments present fascinating opportunities, but some also raise new questions – particularly where machines are becoming increasingly intelligent and interconnected. For us as a machine manufacturer, these changes have long since become a reality. Cyber security, safe systems and smart automation will have a lasting impact on our industry. In my interview, I will explain why we deal with these changes with respect and confidence.

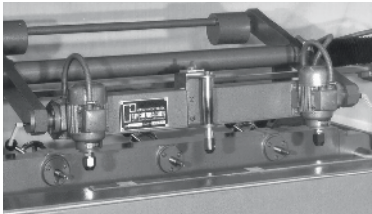
Beyond that, you can look forward to a great variety of topics in this issue. For our cover story, we visited MT-Propeller, where custom-designed CNC solutions have been essential in the manufacture of low-noise, high-performance propellers for more than 25 years. Terhalle shows why, in modern timber construction, it is not just the machinery but, above all, an understanding of the entire manufacturing process that makes the difference.

We also present our new sales colleague, Fehmi Aslan, and take you on a journey through more than 70 years of our company’s history.

I hope you will find this an interesting read and gain many fascinating insights.

Yours sincerely,
Andreas Leutheußer

Managing Director
Reichenbacher Hamuel GmbH



Reichenbacher Hamuel GmbH

4-5 Continuity with the future in mind

Andreas Leutheußer is now the company’s sole leader.

Cover Topic: MT-Propeller Entwicklung GmbH

6-9 Low-noise, high-performance propellers

When a few tenths of a millimetre make all the difference in safety.

Reichenbacher Hamuel GmbH

10-13 70 years of change. A history full of innovations.

How Reichenbacher has become a driving force behind the technology for the manufacturing of the future.

Group of companies Terhalle

14-17 On the road to success with advanced CNC technology

The specialist in timber construction.

Reichenbacher Hamuel GmbH

18-19 Listen. Understand. Develop solutions.

Fehmi Aslan joins the international sales team.

Imprint

Publisher:
Reichenbacher Hamuel GmbH
Rosenauer Straße 32
D-96487 Dörfles-Esbach
Phone: + 49 9561 599-0
E-Mail: info@reichenbacher.de
Web: www.reichenbacher.de

Responsible for the contents:
Mike Beier
Head of Marketing + Communication
Reichenbacher Hamuel GmbH
Phone: + 49 9561 599-184
E-Mail: mike.beier@reichenbacher.de

Edited by:
C. WEGNER presse & public relations
Christina Wegner
Prader Straße 12/1
D-89233 Neu-Ulm
Phone: +49 731 25099273
E-Mail: info@wegner-pr.com

Layout:
me Grafik-Design
Moritz Eisentraut
Rennleinsweg 29
D-96215 Lichtenfels
Phone: +49 9571 6398
E-Mail: info@moritz-eisentraut.de

Print:
Schneider Printmedien GmbH
Reußenberg 22b
D-96279 Weidhausen near Coburg
Phone: +49 9562 98533
E-Mail: info@schneiderprintmedien.de

Copyright:
The contents must not be copied or published without the prior consent of the publisher. Reichenbacher Hamuel GmbH, Dörfles-Esbach, in Sept. 2026.

Continuity with the future in mind

Andreas Leutheußer is now the company’s sole leader.

Thomas Czwielong’s retirement marks the beginning of a new chapter for the Reichenbacher Hamuel group of companies. As its Technical Director, he had shaped the company’s development over many decades with great dedication and a high degree of professional expertise. Our sincere thanks go to him for his many years of commitment. Since June 2026, the exclusive responsibility for the operational business has been held by Andreas Leutheußer. We talked to him about the impetus he hopes to provide in the future and why continuity plays a central role for him in this regard.

When tradition meets the future.

Continuity requires a strong team and the courage to embrace new methods. This image has been generated entirely by AI. The different characters symbolise the diverse strengths within the leadership team – from vision to strategy. For us, AI is not a substitute for human beings, but a tool for the future.



■ CONTINUITY

Preservation of the tried and tested – reallocation of responsibilities.
After more than two decades of joint management, the organisational structure has changed – but not the company’s fundamental orientation. Since 2004, Thomas Czwielong and Andreas Leutheußer had together been in charge at Reichenbacher Hamuel. Although their areas of responsibility were formally separate, they always prepared and took key decisions together.

“Although an important player is missing, the rules of the game remain fundamentally unchanged.”

Our customers will continue to benefit from this continuity in the future. After all, this long-standing, close collaboration had ensured that technical and strategic issues have been addressed jointly for many years now. For customers, therefore, this change means one thing above all else: reliability. Well-established structures are preserved, while at the same time the company’s management consistently evolves.

■ TEAM LEADERSHIP

Decisions are made in teams these days.
The biggest change concerns the internal organisation: responsibility is now more widely shared among several people. A small management group comprising the heads of the company’s key business divisions helps shape the company’s strategic orientation and jointly makes cross-divisional decisions.

“No one can single-handedly make up for Thomas Czwielong’s decades of experience. That is why we now deliberately make technical and strategic decisions as a management team.”

All members of the management team have many years of experience within the company and have gained an in-depth understanding of both the markets and the technologies from their day-to-day work. Regular consultations ensure that knowledge is pooled, different perspectives are taken into account and decisions are made on a cross-divisional basis. For Andreas Leutheußer, this team structure is a vital element in ensuring both, stability and innovative strength.

■ OUR FUTURE

New challenges arise as the projects grow.
The sector of specialised machine-building is developing at a rapid pace. Projects are becoming more extensive, more international and technologically more demanding. Reichenbacher Hamuel continues to see itself as a partner for customised solutions – wherever standard machines reach their limits. At the same time, project management, system integration and the coordination of complex handling technology and software solutions are becoming increasingly important.

A major project currently in progress in France illustrates this trend. It is the largest single contract in the company’s history and exemplifies the transformation of the industry. At the same time, it reflects the increasing internationalisation of the business, which presents new opportunities for the group of companies. Apart from technological progress, as of late automation, digitalisation and new European requirements for machine and IT safety are getting more and more important. As a result of NIS2 and the EU’s

Cyber Resilience Act (CRA), security requirements, update strategies and vulnerability management are becoming integral parts of product development.

Markets are changing at a breathtaking rate today. Thus, it is all the more important for us to remain flexible and adapt quickly to new requirements, so that we can continue to offer innovative and future-proof solutions to our customers.

“We keep in tune with the times. For our customers, this approach means one thing above all else: predictability for decades to come.”

Long-term service concepts, the availability of spare parts and project support based on close cooperation ensure the trust and security required for making investment decisions in the special-purpose machinery sector. Continuity and innovative strength are by no means a contradiction – together, they form the foundation for Reichenbacher Hamuel’s future.

Low-noise, high-performance propellers

When a few tenths of a millimetre make all the difference in safety.



A single-engine Piper turboprop with a 7-blade propeller.



When looking at an airplane propeller, you usually see only the finished component. Nevertheless, the manufacturing process involved is a highly complex one, where precision is not a matter of quality but of flight safety. Enormous centrifugal forces act on each individual blade, when a propeller rotates at several thousand revolutions per minute. Even deviations of just a few tenths of a millimetre will affect aerodynamics, vibration behaviour and noise levels – and, ultimately, type certification.

The MT-Propeller Entwicklung GmbH in Straubing-Wallmühle, Lower Bavaria, manufactures precisely these types of high-performance propellers. The company develops and produces propeller systems for aeroplanes, airships, wind tunnels and a wide range of specialist applications. More than 34,500 propeller systems, comprising around 125,000 propeller blades, are currently in service worldwide and have collectively clocked up over 200 million flight hours.

What makes these propellers special is the material itself. Instead of metal, the specialists are using so-called natural composites – a combination of laminated wooden structures, epoxy systems, as well as glass and carbon fibres. What may sound unusual at first, offers significant advantages: the material combines low weight with high vibration damping. This improves operating smoothness and efficiency, reduces noise and protects adjacent components

For more than 25 years, we have been supporting this development process with tailor-made CNC solutions. When MT-Propeller was looking for a partner for the next generation of systems in the early 2000s, they wanted more than just a standard machine. The existing programmes and processes were to be adopted and, at the same time, to be transferred to a modern production environment – a challenging project requiring close collaboration.



The Solent Flyer hovercraft ferry at Southsea.

Today, the production facilities comprise eight CNC machining centres specifically designed for propeller manufacturing. All the machines have been purpose-built for the specific requirements of propeller manufacturing – from customised user interfaces to compact solutions for specialised machining tasks, such as drilling centres. While initially the focus was mainly on manufacturing two- and three-bladed propellers, today complex five-, seven- or even eleven-bladed systems predominate. The objectives always remain the same: higher efficiency, lower noise emissions and the lowest possible weight.

The manufacturing process itself has been advanced just as consistently. State-of-the-art scanning technology and digital inspection processes ensure that every single propeller blade is thoroughly measured. Only components that stay within the tightest tolerances are approved for further use. This comprehensive quality control is a fundamental requirement for certification by international aviation authorities.

Due to its natural fibre structure, wood is a demanding material to work with, and unlike metal, it also reacts to moisture and temperature. Even the slightest change can affect dimensional accuracy or component properties. For this reason, material storage, climate control and laminating processes are continuously monitored and documented. Even before the spruce wood is processed, every single piece undergoes a computerised tomography scan to detect any material defects or resin inclusions at an early stage. This is because even the smallest irregularities can later affect the appearance, function or safety, when the component is subjected to thermal stress or high centrifugal forces.



The spruce wood is inspected using computerised tomography.



*From the left:
Florian Mauch (RH),
Frank Grum and
Alois Kermer
(MT-Propeller)*



Different profile thicknesses, variable blade angles and complex twists create highly dynamic three-dimensional free-form surfaces.



Around 70 per cent of the grinding processes, which require precision to within a tenth of a millimetre, are still carried out manually.



The ECO-LT system optimises precision, process stability and reproducibility.

For reasons of their complex geometry, modern propeller blades are among the most challenging workpieces in wood and composite machining. Different profile thicknesses, variable blade angles and the significant twisting of the blades create complex three-dimensional free-form surfaces. The challenge involved in machining the laminated raw blocks is not so much in particularly complex tooling strategies as in the precise handling of wood as a natural material. After all, in the end, reproducible tolerances of just two to three tenths of a millimetre determine the quality of the finished propeller blade.

Regardless of the most modern CNC technology, part of the manufacturing process is still carried out by hand in the traditional way. To this day, around 70 per cent of grinding work is still performed manually. The employees must be able to accurately assess how much material can still be removed whilst ensuring that the aerodynamic properties and the precise structure of the fibreglass, carbon and protective layers are maintained. Particularly when it comes to safety-critical components, quality is achieved only through the combination of precision engineering and expert craftsmanship.

In collaboration with MT-Propeller, many of the systems were precisely matched to the respective manufacturing processes and have been modernised time and again over the years. The fact that some of the very first machines are still producing reliably today demonstrates the importance of durable mechanical components and future-proof retrofit concepts in industrial manufacturing. At first, very few people could have imagined that wood would one day contribute to some of the most efficient propeller systems in aviation. The story of MT-Propeller is a striking example of how innovation does not always depend on new materials. Sometimes it comes down to systematically exploring the properties of a natural material to their full potential – and to working together to develop the manufacturing technology required to do so.

70 years of change. A history full of innovations.

How Reichenbacher has become a driving force behind the technology for the manufacturing of the future.

Once, progress in mechanical engineering meant, above all, more precise mechanics and more powerful drives. Today, intelligent system solutions are created through the interaction of mechanical engineering, software, automation, materials expertise and process know-how. The journey through more than 70 years of our company's history impressively reflects this transformation and shows how Reichenbacher Hamuel has actively helped shape technological developments during this period.



**Pioneering spirit
since 1954**



**Driving tomorrow's
technology**

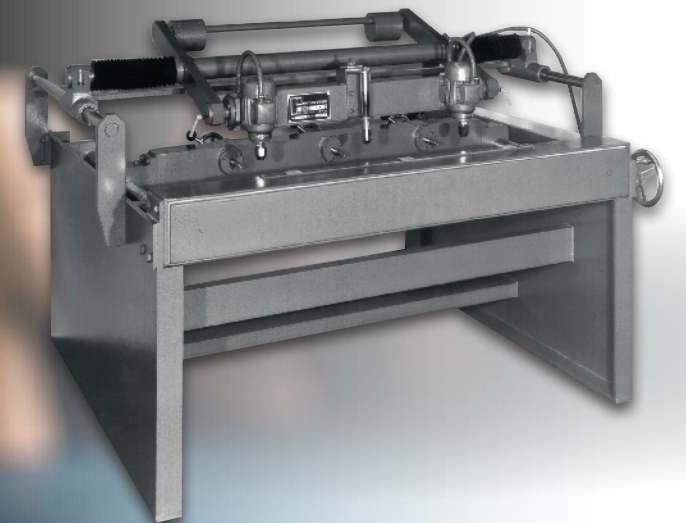


**Shaping the
future together**

It all started with copying machines for sculptors

1954

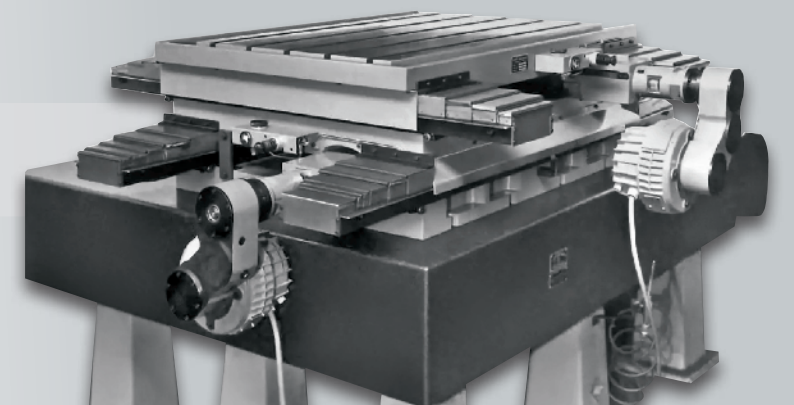
By founding the company, Dipl.-Ing. Hermann Reichenbacher laid the groundwork for a development that exceeds traditional mechanical engineering by far. The first copying machines combined craftsmanship with reproducible precision – a milestone on the path to modern manufacturing.



When machines learnt to think

1968

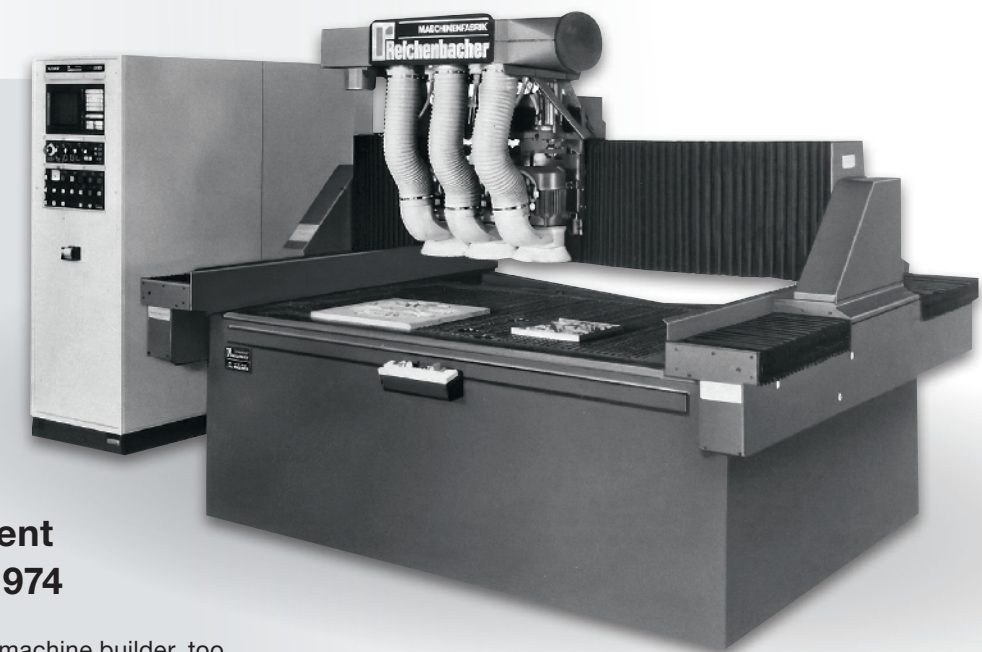
Hamuel's NC-controlled coordinate table caused quite a stir at the machine tool exhibition in Hanover.



From a machine builder to a partner for solutions

1972

Mechanics remain the foundation – but it is the control system that opens up new dimensions. Workflows become programmable, precision becomes reproducible, and individual work steps are transformed into carefully planned manufacturing processes. A landmark on the road to modern CNC technology.



**The Reichenbacher
RANC-AM product line went
into serial production in 1974**

Serial production changed the role of the machine builder, too. The demand increased, not just for powerful machines, but also for solutions covering entire manufacturing processes – reliable, cost-effective and customised.

New dimensions in machining

1985

Reichenbacher set a new benchmark in spatial machining by introducing the first cardanic working head for 5-axis milling units.

5-axis technology permits the machining of workpieces from almost any angle. It opens up unprecedented possibilities for complex geometries, new materials and demanding applications.



Process changes by automation

2000

Reichenbacher Hamuel expanded its portfolio to include automation solutions and integrated industrial robots into CNC machining cells.

Automation means far more than just the use of robots. It transforms entire manufacturing processes: material flows become more efficient, processes more reliable and production steps seamlessly linked together. The responsibility of human workers shifts from operating individual machines to controlling complex manufacturing systems.

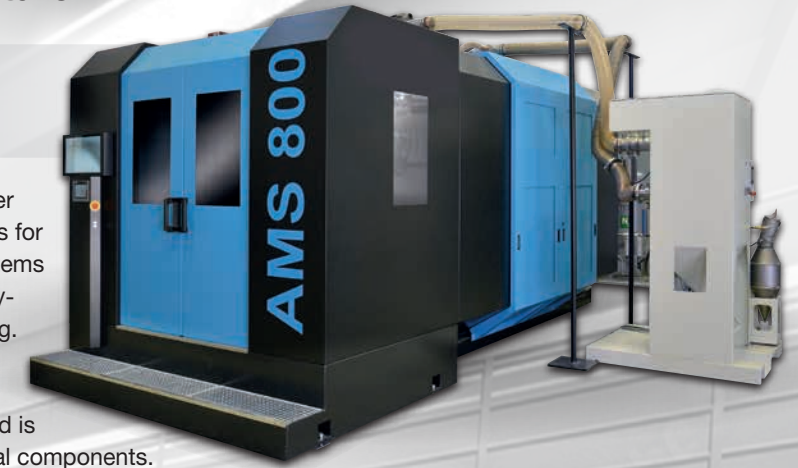
Experience paves the way for the future

2021

By entering the field of additive manufacturing, Reichenbacher Hamuel has expanded its portfolio to include new possibilities for industrial production. This has led to the development of systems for various additive manufacturing processes, as well as of hybrid systems that combine additive and subtractive machining.

The AMS 800 has been developed for the powder bed process and subsequent processing by laser melting (LM) and is particularly suitable for the manufacture of large-volume metal components.

This brings us full circle: for decades, the focus had been on precision machining. Additive manufacturing adds new possibilities – and thus another building block for the future of industrial machine building.



Hybrid manufacturing – Shaping the progress

Technologies have changed – but our mission remains the same: to continually push the boundaries of what is possible and to play an active role in shaping the future of mechanical engineering.

Reichenbacher Hamuel is staying true to this philosophy with the HybriDX-LT. This innovative system combines industrial 3D printing with precision 5-axis machining in a single system, thereby making it possible to manufacture large-volume components, prototypes, and both small and large series economically. New possibilities for a flexible, efficient and future-oriented production process are thus created.

Preserving the proven – Paving the way for innovation

2026

In its transition to a new phase of leadership, the group of companies continues to prioritise continuity, reliability and the further development of tried-and-tested structures. At the same time, the groundwork is being laid for the future, in particular through a focus on digitalisation, automation and major international projects.

A strong partner for innovative and secure long-term customer solutions

LEADERSHIP TRANSITION



PROVEN STRUCTURES



RELIABILITY



STABILITY



MODERNISATION

FOCUS ON THE FUTURE



DIGITALISATION



AUTOMATION



MAJOR INTERNATIONAL
PROJECTS

On the road to success with advanced CNC technology

The specialist in timber construction.



Using timber-frame construction, a 2,500 m² formwork façade has been built at the LWL Clinic in Lengerich.



Anyone can nest flat panels. Things get exciting when processes go beyond the ordinary: when a wide variety of materials – whether they can be picked up by suction or not – are handled fully automatically by a CNC system, from storage right through to stacking. This is exactly where the benefits of sophisticated systems become apparent.

The Terhalle Group in Ahaus, North Rhine-Westphalia, is an excellent example of this. In timber construction, all panels pass through the modern VISION-III-U processing line there – even if they are merely being labelled and trimmed. This takes about 45 seconds. A complete processing cycle, including picking and loading, consumes an average of two minutes, and up to five minutes depending on the size of the panels. The decisive factor here is not just the speed, but the organisational efficiency behind it. The parts are delivered in such a way that they can immediately be treated further in the downstream process – in the correct order, without the need for any additional manual sorting. Tasks that would otherwise require two or three staff members are carried out automatically in the background here.

A key factor is the material provision concept. In around 80 per cent of the cases, three to four components are obtained from a single plate. This is made possible by a clear focus on smaller formats up to a maximum of 3,500 x 1,250 mm, as well as by a sophisticated buffer system for plate sorting. This makes handling easier, reduces the risk of breakages and, at the same time, allows greater flexibility in purchasing. This is an important factor for divisional manager Carsten Looks, as the majority of materials are procured on a task-specific basis.



There are 21 workstations available for the production of timber-framed walls, including the fitting of all windows.



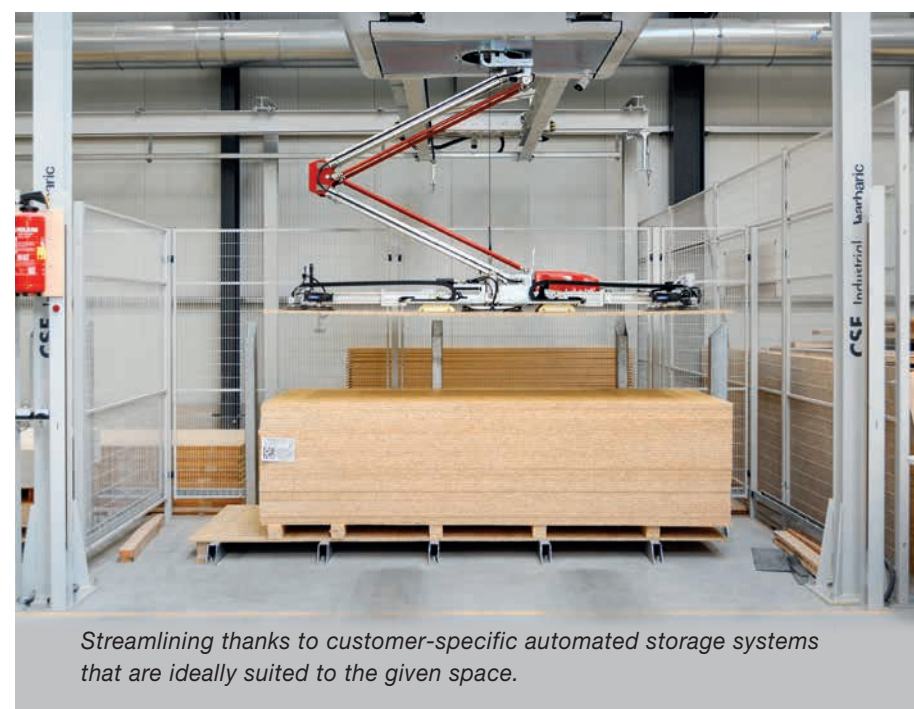
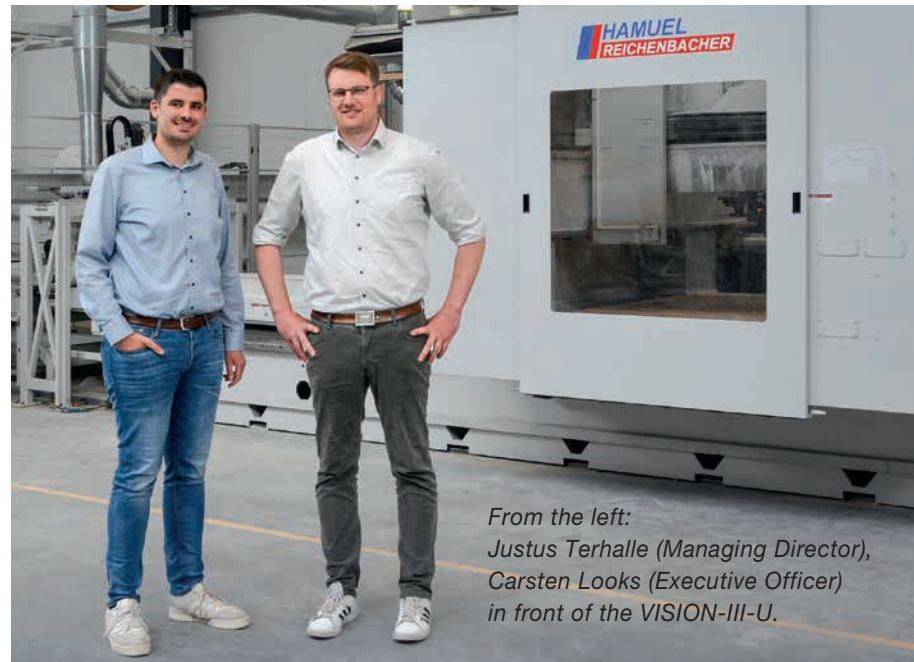
Wall units in timber-frame construction are manufactured with precision and flexibility.



As a medium-sized group of companies with around 620 employees, Terhalle offers a wide range of services – from timber construction through industrial, commercial and system construction to turnkey projects and interior fittings. Their strengths in single-unit production are particularly evident in timber construction – in large residential and administrative buildings, for example – where they offer customised solutions, implemented with a high degree of precision and repeatability. More than 12,700 projects, the vast majority of which have been realised in Germany – among them the “City Office Berlin Mitte”, which opened in 2024 – speak for themselves.

A targeted enhancement of panel processing has taken place against this background. The focus was on how to reconcile efficiency, flexibility and quality – while production volumes are rising and the range of variants is growing. What matters here is not the individual machine, but the harmonised interaction of all elements: machining, handling and data flow must mesh seamlessly.

From a technological perspective, this is evident – among other things – in the combination of different processing units on the VISION-III-U nesting machine. Whereas the 3-axis unit has been designed for high feed rates and efficient cutting, the 5-axis unit is responsible for the precise machining of complex geometries, such as the pre-milling of edges and the execution of transverse and longitudinal cuts. This combination reduces tool changing time and considerably increases overall productivity.



Experience quickly shows that the real key to success is to be found in understanding the process. Each type of material has its own specific requirements, also in terms of dust formation – particularly when, as is the case at Terhalle, you are working with wood-based materials, plaster composite panels or fibre cement panels. Therefore, the installation of a controllable extraction hood was of paramount importance, on the one hand to prevent dust explosions, and on the other to ensure the quality of the dust-sensitive gypsum products. The material properties and the clamping method must be precisely matched. Solutions such as adaptive extraction systems or combined feeding systems using vacuum and mechanical grippers ensure that even porous or diffusion-permeable materials, such as softwood fibre panels, can be handled reliably.

The machining centre has thus taken on an essential role in increasing performance and efficiency in panel processing: with the current set-up, around 130 square metres are produced per hour – more than twice as much as before. At the same time, material waste has been significantly reduced from an initial figure of around 22 per cent to about 7 per cent. “With this new system we aim at designing future building structures in such a way that they can be taken apart again. We use special milling techniques to create detachable joints,” says Justus Terhalle. “This facilitates the reuse of components and makes dismantling much easier,” adds Carsten Looks.

This brings into focus what really matters in manufacturing: not isolated performance figures, but an integrated process approach. The combination of machining strategy, expertise in materials and automation determines the true added value – and this actually makes the difference.

Listen. Understand. Develop solutions.

Fehmi Aslan joins the international sales team.

Fehmi Aslan brings more than three decades of experience in mechanical engineering and technical sales to the table. Most recently, he worked in the international project business as Vice Manager Sales. Since June 2026, he has been part of the sales team at Reichenbacher Hamuel, taking on responsibility for international markets and sales partners.

Understand technology. Know the markets. Develop solutions.

His journey into mechanical engineering began early on. After a training as a technical draughtsman for mechanical and plant engineering, his enthusiasm for technology, design and practical applications led him straight into technical sales. Alongside his full-time job, he undertook further training to become a state-certified mechanical engineering technician, specialising in development engineering. In doing so, he combined three aspects that continue to define his career to this day: “Understanding technical requirements, developing solutions in collaboration with the customer, and turning these into a specific machine design,” says Fehmi Aslan, describing his motivation.

A project from his previous work illustrates just how far this approach can go. For one client, the task was to find a way round a patent-protected technology without infringing existing rights. In cooperation with the client and patent attorneys, the technology was analysed in detail and a separate solution was developed – which in the end even resulted in a new patent, the exclusive rights to which could be used by the client.

My personal principle:
“Listen and understand what the customer needs. That’s how trust is built, which in turn brings the suitable solution.”

What drives him

For Fehmi Aslan, family, community and commitment are important values. In his spare time, his three children take centre stage, but he also finds his balance by playing for a football team, hiking, cycling or going on cultural trips.

Community work is something he is particularly passionate about, and he has been involved in it for many years. For him, taking on responsibility and getting involved is a matter of course: “That is important, because every bit of help is needed in a community.”

Our focus is on the customer.

Particularly striking about Fehmi Aslan is his understanding of sales. For him, it is not the product that serves as the starting point of a conversation, but the customer and his specific needs. “For me, a good solution starts with listening and understanding.” This is simply part of his every-day life, as projects are becoming more and more complex, demands are growing and clients increasingly expect holistic solutions.

He considers an open and sincere communication, technically qualified advice and clear agreements just as much a part of the process as taking into account the economic parameters of a project. After all, a technically convincing solution must ultimately also be suited to the customer’s production process and economic requirements. “My approach is to work with the client to find a solution that makes sense from a technical point of view and offers genuine added value in the long term.”

“Customer requirements vary just as much as industries and cultures do. It is crucial to adapt to these peculiarities, especially so in international sales.” Marketing partners, too, have to be actively supported and involved in order to build successful long-term relationships.

At Reichenbacher Hamuel, his experience meets with a technological environment that is new to him: composites, timber and aluminium profiles are used in sectors such as the automotive, mechanical engineering, aerospace and rail vehicle industries. “I keep learning new facts every day and discovering new ways to use our machines,” he says. That is precisely what appeals to him most.

New markets. New challenges. New prospects.

Fehmi Aslan has commenced the systematic expansion of his international sales territory. Initially, the focus will be on existing customers and sales partners in the Benelux and Scandinavia. An in-house exhibition at the partner in Sweden took place back in August. He now intends to further develop the markets in a structured manner, organised by country and sector.

At Reichenbacher, he can employ his comprehensive knowledge in a new market environment and at the same time familiarise himself with the latest technologies and applications. He particularly appreciates his job’s versatility, as the spectrum ranges from woodworking – for example, in staircase construction and prefabricated house building – to demanding industrial applications in high-tech sectors.

He sees the growing importance of customer-specific solutions, particularly in combination with new digital options, as an opportunity. After all, in his view the true strength of a customised solution lies where standard solutions reach their limits.



The future of manufacturing starts here.

High-performance
CNC machining centres
for maximum productivity
in wood, plastic,
steel and aluminium –
from heavy-duty machining
to additive manufacturing,
all from a single source.