

betop

MAGAZINE OF THE FRIEDHELM LOH GROUP

Focus on customers

**THE
FUTURE IS**

**AI
DRIVEN!**

*Interview with Prof.
Niko Mohr*

“OUR PATH TO GROWTH”

**THREE U.S. CUSTOMERS TELL US ABOUT THEIR
BREAKTHROUGH WITH EPLAN AND RITTAL**

We provide an insight into their success stories and reveal how they are using data-driven industrial automation to leave the competition behind.

40

percent – the increase in speed achieved by the U.S. systems integrator and switchgear manufacturer R&D Specialties thanks to solutions from Rittal and Eplan.

700

switchgear systems a year are currently produced by Usemco – a leading manufacturer of pumping stations in the USA – thanks to solutions from Rittal and Eplan. This compares to just 180 a year in 2015.

ENABLING GROWTH



Prof. Friedhelm Loh
Owner and CEO of the Friedhelm Loh Group

DEAR READERS,

There's a palpable sense of tension everywhere. The German economy is in an alarming state. In particular, our customers in the automotive industry and the mechanical and plant engineering sector are under a lot of pressure and suffering from slumping sales and declining volumes. We are, too.

Although some of these issues have been caused by geopolitical developments, others are of Germany's own doing. For instance, our political framework conditions change constantly. Bureaucracy is rife. Many things are now impossible to calculate. What's more, the skills shortage and growing pressure on prices are making matters even worse. There's no improvement in sight, and uncertainty still prevails. While other countries – especially the USA – are growing, Germany still has to reckon with stagnation.

What happens next? Which technologies will secure success and support growth? For decades, Germany's unwavering innovative strength helped it stand out as a business location and made it a global success story. Is that still the case today? Absolutely not. We need to regain this position – after all, Germany and Europe are still very strong in terms of industrial experience, expertise and technology. The question will be: Are we able to turn new technologies such as IoT and AI in industry into a concrete benefit?

As will become clear to you in this issue of *be top*, we have the necessary technological basis for this and are driving the relevant topics – from software, data-driven automation solutions and high-quality hardware products through to AI readiness. You can read about successful solutions for panel building and switchgear manufacturing, as well as for energy distribution systems, data centres and AI applications. Right around the world, we are the acknowledged technology driver for solutions that make our customers more attractive and more competitive.

Find out in the *be top* cover story how prestigious U.S. plant and equipment manufacturers are using Eplan and Rittal solutions to benefit from measurable advantages, make a breakthrough, leave the competition behind and get on the path to growth. These are exciting success stories – and yours can be one, too!

**Happy reading! Kind regards,
Prof. Friedhelm Loh**



In the Rittal Application Center in Houston, Texas, plant engineers can try out the latest automation technology such as the Perforex laser centre LC from Rittal.

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COVER STORY: “IT’S A GAMECHANGER!”

A wave of automation is currently rolling through U.S. industry, creating huge business potential for machine and equipment manufacturers. We provide an insight into three companies that are using Eplan and Rittal solutions and currently writing success stories on the North-American continent. R&D Specialties in Texas and two companies based in Wisconsin – Usemco and Engineering Specialists – are successfully on the path to growth thanks to rigorous transformation.



Dr Carola Hilbrand
Director Corporate
and Brand Commu-
nications Friedhelm
Loh Group

WHAT DO YOU THINK OF BE TOP?

What are we doing well and what could we make even better? Your opinion is important to us and we'd love to hear your ideas. Maybe you'd even like to see a fascinating article from your company featured in be top. The editorial team is looking forward to your feedback!

Write to us at:
betop@friedhelm-loh-group.com

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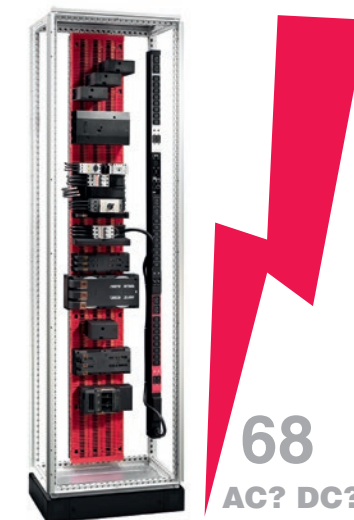
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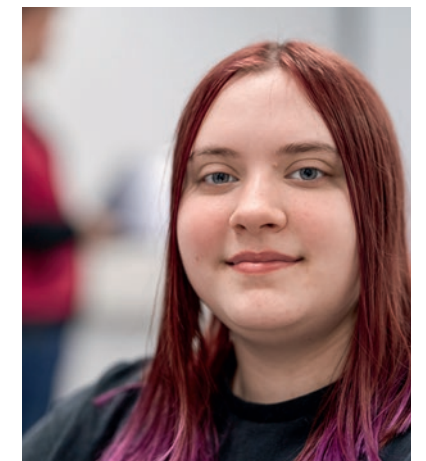
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NEWS COMPANIES

With its 12 plants and more than 95 subsidiaries, the **Friedhelm Loh Group** is a global success story. Employing a total workforce of over 12,000, the FLG companies work with their customers and partners to shape the future together. You can read our latest news here.

Partnership

Siemens and Eplan drive engineering forward

Following an agreement signed by Cedrik Neike and Prof. Friedhelm Loh at SPS in Nuremberg on 12 November 2024, Siemens and Eplan are now working even more closely together. This will involve both companies substantially increasing the interoperability of their portfolios. The automated interaction between the Teamcenter® X software and TIA Selection Tool from Siemens and Eplan Electric P8 and Eplan Pro Panel means engineering information is direct-



Prof. Friedhelm Loh, owner and CEO of the Friedhelm Loh Group, and Cedrik Neike, member of the Managing Board of Siemens AG and CEO of Digital Industries, seal the partnership agreement at SPS.

ly available in Eplan – and vice versa. This ensures a much more efficient tool chain in machine and line engineering. Through this collaboration, both Siemens and Eplan are further pursuing their strategy of involving partners. The Siemens Xcelerator open digital business platform

creates a powerful partner ecosystem for accelerating the digital and sustainable transformation of industry on a collaborative basis. Eplan customers benefit from the more intensive collaboration within the context of the Eplan Partner Network.

Eplan and Siemens at Hannover Messe

Showcasing AI

Eplan and Siemens are presenting a showcase at Hannover Messe – the Siemens Industrial Copilot is to make changes to a PLC project in the TIA Portal. It can do this independently thanks to Siemens integration elements. However, the changes also need to be updated in the Eplan project, because a PLC card (article num-

ber) has changed. Instead of a notification being sent to the Eplan project engineer with the request that they carry out the update, the Siemens Industrial Copilot performs the task directly and updates the Eplan project. The AI solution therefore helps reduce errors and improves the quality of the documentation.



Award

Rittal recognised as one of Germany's Top 100 innovators

Rittal has once again enjoyed success in the independent "Top 100" innovation competition, and has been named a Top 100 company in 2025 in recognition of its sustainable and pioneering work. This means the biggest company in the Friedhelm Loh Group has been recognised as one of the most innovative SMEs in Germany four years in a row and five times overall.



Rittal and Eplan

Althaus is the first partner in Switzerland

W. Althaus AG, which is based in the Swiss region of Oberrhein, is the first "Rittal + Eplan Application Center partner" in Switzerland and, as such, an industry multiplier for data-driven industrial automation. The panel building and switchgear manufacturer has been involved in developing solutions from Rittal Automation Systems for many years, so it is not particularly surprising that Althaus has also consistently shaped its own switch cabinet construction in line with its "Leading in Automation" slogan. "As the first Rittal + Eplan Application Center partner in

Switzerland, we will bring even more of our know-how to the industry. What's more, we'll expand our collaboration of many years' standing for the benefit of our customers. We are delighted by this level of trust," says Marco Schneider, CEO of Althaus AG. "Althaus is an ideal partner for our partner network. The company was quick to realise just how much end-to-end data can help drive automation when its quality is established right at the engineering stage," adds Dr Marco Litto, Senior Vice President Strategy & Corporate Program at Eplan.



From left to right: Jochen Trautmann, Managing Director of Rittal Automation Systems, Walter Althaus, owner of W. Althaus AG, Prof. Friedhelm Loh, owner and CEO of the Friedhelm Loh Group, Marco Schneider, CEO of W. Althaus AG, Manfred Sac, Managing Director of Eplan Software AG, Stefan Güntner, Managing Director of Rittal Switzerland.

Rittal in Australia and Brazil

14 Rittal Application Centers worldwide

Following the opening of two new Rittal Application Centers – in São Paulo, Brazil, and in Sydney, Australia – customers of Eplan and Rittal now have a total of 14 such centres available to them. Customers can visit the RACs to experience the value creation solutions offered by Eplan, Rittal and Rittal Automation Systems in a genuine workshop environment – with solutions ranging from consistent data to customised automation concepts. At the opening ceremonies, there was a particular focus on automation solutions such as the Perforex LC machining centre and the Wire Terminal WT C.



Thomas Wenger, VP Sales Lead CER at PTC (left), and Dr Marco Litto, Senior VP Strategy & Corporate Program at Eplan, signed the agreement at SPS.

Eplan Partner Network

PTC is a technology partner

PTC is now a new technology partner in the Eplan Partner Network. The interface between PTC Windchill and the Eplan Platform is being further developed through close collaboration. The existing connector is used to manage datasets from Eplan in the Windchill PLM system and merge them into one product file. There is a clearly defined aim – enabling users to benefit from consistency between electrical engineering and PLM.

Automation in the USA

“IT’S A GAME-CHANGER!”

Three U.S. plant and equipment manufacturers provide insight into their success stories, revealing how their partnerships with **Eplan** and **Rittal** helped them make a breakthrough, leave the competition in their wake and get on the path to growth. One of these three game-changers is Brad Howell, owner of R&D Specialties in Odessa, Texas.



The economic outlook in the USA is positive. Major investment programmes such as the Infrastructure Investment and Jobs Act (IIJA) are currently driving the economy forward. At the same time, the significant skills shortage is leading to a veritable wave of automation. This is creating wide-ranging business opportunities for machine and equipment manufacturers. We want to know exactly how the demand for automation is manifesting itself in panel building and switchgear manufacturing, and what challenges our customers are facing. We therefore asked three U.S. companies operating in different sectors in Texas and Wisconsin – R&D Specialties, Usemco and Engineering Specialists – about automation requirements and solutions, and the benefits of working with Eplan and Rittal.

TEXT: HANS-ROBERT KOCH

R&D Specialties, Houston

SUDDEN GROWTH!

In record time – less than a year, in fact – **R&D Specialties** underwent a complete technological transformation using solutions from **Eplan** and **Rittal**. The U.S. systems integrator and panel builder based in Odessa, Texas, can finally get its business on a growth trajectory. The inspiration came from the **Rittal Application Center** in Houston.



At the Rittal Application Center in Houston, customers can see the future of panel building and switchgear manufacturing for themselves and try out applications.



Brad Howell (left), Managing Director of R&D Specialties, talking to Brian Jung, Business Development Manager at Rittal USA, at the Rittal Application Center in Houston, Texas.

40%

FASTER AT R&D SPECIALTIES THANKS TO SOLUTIONS FROM EPLAN AND RITTAL.

It was the Rittal Application Center in Houston where we met Brad Howell at the beginning of December – surrounded by equipment boasting the latest automation technology. The friendly Texan made a good first impression with his broad shoulders, confident stance and firm handshake. The owner of R&D Specialties knows what he wants – and what he’s talking about, especially in his specialist field of panel building. Since 2011, Howell and his some 70-strong workforce have been in big demand with oil and gas industry cus-

tomers in the Permian Basin – one of the world’s largest oil reserves – and beyond. Together with his sister, he took over the company that his father had founded back in 1983.

THE GAME-CHANGER

We are catching up with Howell back in the very place where he first stood two years ago, looking for suitable automation solutions that would help his company grow. At the Rittal Application Center, he received personal, one-on-one support and advice at every step of

the way, from planning to production. By seeing for himself how Eplan engineering software and Rittal automation solutions synergise to boost efficiency, he was inspired to act and, within just one year, the same benefits were realised for his own company. “Switching to Rittal and Eplan technology was a real game-changer,” says Howell. “The automation technology and software are enabling us to grow at last – even with the same number of staff,” he explains. This would previously have been inconceivable, as the company had reached the

limits of its capacity. How can you be more productive with the same workforce? It’s hopeless! Why not simply take on some extra skilled staff? No chance! “The first-rate plant engineering skills that are needed aren’t taught at schools or colleges, and trained specialists are nowhere to be found,” says Howell.

SAVING OF 40 PERCENT

“Automation is the quickest and simplest route to growth. After all, it means we don’t need to take on additional staff,” he continues. Since last year, ▶

R&D SPECIALTIES

Odessa, Texas, USA

Since it was founded in 1983, the **systems integrator and panel builder** has been supplying UL-certified panels to **oil and gas industry** customers in the Permian Basin – one of the largest oil reserves on Earth – and beyond. Its product portfolio includes e-houses, MCC housings, rack integration solutions, battery backup systems, variable frequency drives, junction boxes and panels, including PLC panels.



“WE CAN NOW
EXPAND AND
GROW – WITHOUT
TAKING ON
ADDITIONAL
STAFF.”

BRAD HOWELL, OWNER OF
R&D SPECIALTIES

DRAMATIC IMPROVEMENT IN EFFICIENCY

Mr. Howell, what was your initial reaction the first time you visited the Rittal Application Center in Houston?

To be honest, my team and I were concerned when we saw the ultramodern Rittal automation solutions. We wondered how something like that could be integrated into our existing, ageing production setup, and also how we would manage to work with it. But the professional advice we received here gave us the answers we were looking for, showing us how Eplan software and Rittal automation solutions work together. We headed home feeling satisfied and realised this was the approach we needed to take.

Why did you invest in Eplan software and Rittal automation systems?

We were looking to expand and grow, but we couldn't find suitable staff for our panel building operations. Automation is the only way for us to move forward. Eplan software and the two automation solutions from Rittal – the Perforex MT S and the Wire Terminal WT – are speeding up our processes, making them around 40 percent faster. Efficiency has improved dramatically, so the decision was very much a success and also easy to realize.

How have your customers reacted to this big investment?

When our customers get their first look at the automation solutions, they're impressed. They see how the equipment operates and how much more efficient everything is. They've mentioned on more than one occasion how much better our panels look. □

Howell has been completely transforming his plant engineering operations. Two Rittal automation solutions are in operation – a Perforex MT S for drilling and milling, and the Wire Terminal WT for fully automatic wire processing. The Eplan Electric P8, Eplan Pro Panel and Eplan Data Portal software tools ensure an unprecedented level of engineering efficiency and quality. “It now takes just eight employees to do the work that previously required 14 members of staff. That amounts to a time saving of around 40 percent,” reveals Howell.

MAKING ALL THE DIFFERENCE

Not all that long ago, everything looked very different. R&D Specialties only took

the decision to use Eplan software and Rittal automation solutions a year ago. The Texan company had previously tried a milling and drilling machine from a different manufacturer. “But the software didn't work,” says Howell, stating one of the reasons for the lack of success. There was another reason for moving away from this manufacturer, though. “When we received the software program, there were fewer than 20,000 device data sets in the library,” Howell continues. That made switching to Eplan a logical decision for him. Thanks to an Eplan parts consultation and the Eplan Data Portal, he now has some two million high-quality component data sets from numerous leading equipment manufac-

turers at his disposal, directly from the Eplan Cloud. “I would never go back on my decision to use Eplan and Rittal,” admits Howell. R&D Specialties continues to receive partner support from Eplan and Rittal to this day. □

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to go to
the video:



“THIS IS WHERE
WE DEMONSTRATE
HOW PLANT
ENGINEERING
COMPANIES CAN
PROGRESS
QUICKLY.”

BRIAN JUNG,
BUSINESS DEVELOPMENT
MANAGER AT RITTAL USA

Rittal Application Centers

WHERE OPPORTUNITIES ARE DISCOVERED

Data-driven industrial automation – sounds good, but how does it actually work in practice? Our answer? Simply give it a try – at the **Rittal Application Center** in Houston or one of the other thirteen centres worldwide.

During their visit, panel builders and switchgear manufacturers receive personalised consultation at every step on how they can leap into the world of digitalisation and automation. The centres offer them practical answers on how to prepare for their business' future while addressing technical challenges. In a real-life workshop environment, Eplan and Rittal work together with them on their specific projects to test new workflow efficiency and realise the benefits of software and automation technology firsthand – all before they make an investment.

+ Find out
more:



The Perforex LC laser centre is ideal for the automated mechanical modification of stainless steel and sheet steel enclosures.



The start of a drilling and milling process using the Perforex from Rittal.



Visitors can watch the automated machining of enclosures and panels.

Usemco

IN POLE POSITION

Usemco has taken a **giant leap forward** and boosted its competitiveness big time in recent years. Based in Tomah, in the U.S. state of Wisconsin, this leading manufacturer of pump stations is now one of the big players in its sector. This is thanks to the systematic **transformation of its plant and equipment manufacturing operations via the consultative guidance and solutions from Eplan and Rittal Automation Systems**, including the switch from manual production to automation, and from 2D to 3D engineering.



Sean Rezin, Executive Vice President of Usemco, at his factory in Tomah, in the U.S. state of Wisconsin



700

PANELS ARE NOW MANUFACTURED BY USEMCO EVERY YEAR. BACK IN 2015, IT WAS JUST 180.

Around ten years ago, Sean Rezin was despairingly googling “CNC milling machines for panel building” and “switchgear manufacturing”. “I thought there had to be CNC milling machines out there and, consequently, a way of automating enclosure machining,” recalls the young Executive Vice President of Usemco. In-house investigations relating to the production process revealed significant weak points. “It was frustrating having to fabricate panels manually and laboriously drill holes in enclosures by hand. We were giving our staff work they actually didn’t want to do at all,” he openly admits. “We wanted to be competitive, but our panel building and switchgear manufacturing business was on its knees,” he continues. When searching online, Rezin came across an article about the Perforex drilling and milling machine. He

immediately got in touch with the author, Van Miller, who is currently a value chain consultant at Rittal and Eplan in the USA. This set everything in motion.

A BOLD MOVE

The idea of using a Perforex to machine enclosures was initially met with scepticism by the Usemco workforce. “They thought automation was just something for mass production, not for custom projects and definitely not for batch sizes of one,” explains Rezin. However, following a thorough shopfloor assessment and ROI plan, purchasing the Perforex in 2018 proved to be an initial milestone in the further development of engineering operations. Even though the drilling and milling layouts still had to be entered directly into the Perforex software, the efficiency benefits were immediately obvious.

A COMPLETE OVERVIEW

“Thanks to the Perforex, this side of our business became more successful every year – but that suddenly stopped. To become competitive, we had to invest further in the process as a whole,” says Rezin. That meant making the move into automated wire processing. “One prerequisite for this, however, was switching from 2D to 3D engineering, along with an end-to-end engineering process based on Eplan software solutions such as Eplan Electric P8 and Pro Panel,” he continues. That involved completely transforming the engineering and production process. Up to that point, this process had been inefficient due to the numerous manual steps involved. Enclosure layouts were still being created manually, laboriously scanned in and sent to customers in PDF format. This was the normal approach used by the rather



Usemco uses the Rittal Wire Terminal WT C for fully automated wire processing.

A BOOST TO BUSINESS!

Mr. Rezin, U.S. industry is booming. What challenges do you face as a plant and equipment manufacturer?

The market really is booming, especially the water management sector. Business is skyrocketing thanks to the government’s Infrastructure Investment and Jobs Act. The flipside, though, is the skills shortage. That’s no secret in the USA. Usemco operates in a rural region, so we have to compete with other companies for well-trained people.

What specific steps are you taking to find skilled workers?

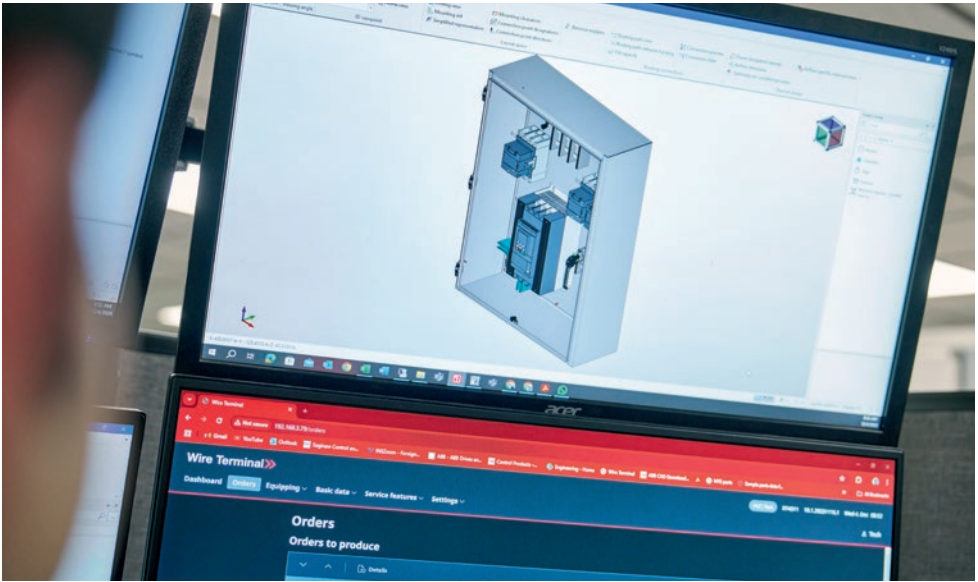
We normally find engineers. If we also want to take on people who are less well qualified, we need to make our production processes much simpler – our wiring, for instance. Rittal automation technology helps us achieve that. Without it, these people would have no chance of wiring enclosures. It’s difficult finding mid-level staff with two years’ training.

How has your competitiveness changed in recent years?

Our company has been completely transformed over the past five to ten years. We used to work with 2D wiring schematics and scanned-in CAD drawings. Now, absolutely everything is digitalised. We’ve boosted our competitiveness big time and doubled our share of business. □



Thanks to the Rittal Wire Terminal WT C (right) and 3D engineering with Eplan software, Usemco can cater to customer requirements on the fly.



conservative water management sector, and by many Usemco staff who had been with the company for over 40 years.

YOUNG BLOOD MAKES ALL THE DIFFERENCE

However, the switchover called for software expertise. “We wanted to start using Eplan and the Wire Terminal, but we didn’t have any engineers who could do that,” recalls Rezin. He had just two electrical engineering design staff back then, and they couldn’t learn how to use the new software alongside their day-to-day project work, never mind roll it out. “That meant I had to look outside the company to find suitable engineers. It wasn’t easy and we had to be creative,” says Rezin. He finally found what he was looking for at the University of Wisconsin and was able to recruit a few young engineers.

He really struck it lucky with Nikesh Chawla, who was just 24 and brand new to Eplan but gained an in-depth understanding of the software and, after instructive guidance from Eplan, had the necessary know-how to transform the entire process – from design and planning through to production. “Nikesh and

his team integrated Eplan into production operations, which resulted in huge efficiency gains,” enthuses Rezin. The cumbersome creation of layouts on the machine has become a thing of the past. All production tasks now come directly from the engineering section, including both enclosure machining and automated wire processing.

FROM 180 TO 700

Partnering with Eplan and Rittal changed the entire process – from engineering all the way through to production. “In 2015, we manufactured around 180 enclosures. Now, thanks to the Wire Terminal, we’re producing up to 700 a year,” says a delighted Rezin. The company’s sales team and customers are also benefiting. “Our sales staff now sell in a different way. It has improved the entire product portfolio,” Rezin continues. Instead of scanning in drawings, they now simply send a download link. The 3D models show customers exactly what the solution looks like. “That makes our market position much stronger, because many companies in our sector don’t use 3D engineering,” reveals Rezin. □

“INVESTING IN EPLAN AND RITTAL HAS IMPROVED OUR COMPETITIVENESS, EFFICIENCY AND QUALITY.”

SEAN REZIN, EXECUTIVE VICE PRESIDENT OF USEMCO



A stroke of luck for Usemco – at the age of just 24, Nikesh Chawla established 3D engineering together with his team and successfully integrated Eplan software into production operations.



Sean Rezin is making a real success of Usemco. The company manufactures prefabricated, enclosed pump stations for municipal water management.

ABOUT USEMCO
Tomah, Wisconsin, USA

Founded in 1963 and headquartered in Tomah, in the U.S. state of Wisconsin, Usemco is an industry leader in engineering and manufacturing custom pump stations, water boosters, control systems, modular buildings and steel fabrication solutions. All its pumping stations are pre-assembled, factory-tested solutions that simply require electrical and piping connections.

+ Scan here to go to the video:



Engineering Specialists

ONLY BETTER IS GOOD ENOUGH

Doing things better – much better – is what motivates **Engineering Specialists**. The systems integrator based in Brookfield, Wisconsin is thorough in everything they do. Its vision is to establish a holistic production system for the company’s own panel building operations. After witnessing the growing Pinnacle Automation Community of **Eplan** and **Rittal**, they had a means to achieve this via engineering software and automation technology to enhance productivity, quality and working conditions.



The flexibility of Rittal enclosures makes them very popular in production departments. The rear panel, side panels and roof are all easy to remove.



An initial peek inside the production building, which covers an area of around 100.000 ft², already suggests that a lot of things here are different from what you would normally expect to see at an industrial production plant. It is bright, clean and quiet – ideal working conditions for the 140 or so employees. Something else quickly becomes clear, too. Besides providing plenty of space for many, many enclosures, the company also has very big ideas and is looking a long way into the future. As demonstrated by its use of the latest, data-driven automation systems, Engineering Specialists is run by innovators and visionar-

ies who are determined to get the most out of their panel building operations right now – and are always thinking ahead.

“I’m very much a visionary and see opportunities for doing things far better. When it comes to our customers’ automation processes, for example, we are helping to improve efficiency,” says John Miller, Vice President of Engineering Specialists. “When I took a look at our own panel building operations some years ago, however, I realised we weren’t doing a good job ourselves,” he adds. This realisation set the transformation in motion. ▶

ENGINEERING SPECIALISTS

Brookfield, Wisconsin, USA

The systems integrator for industrial automation and controls in Brookfield, Wisconsin, supplies solutions for virtually all sectors. The company currently has around 140 staff and has successfully completed over 20,000 projects since it was founded 50 years ago. The portfolio ranges from consulting on engineering solutions to panel building and turnkey automation systems.

1 DAY

IS ALL IT NOW TAKES ENGINEERING SPECIALISTS TO BUILD TEN ENCLOSURES – NOT TWO WEEKS AS IT DID BEFORE.

John Miller, Vice President of Engineering Specialists

PRECISION AND SPEED COMBINED

Although the first CNC system for machining large enclosures put an end to laborious and noisy manual processing using jigsaws, requirements further increased. When the company moved into its new production building three years ago and the number of customers grew rapidly, this suddenly created capacity problems. “We were machining enclosures on multiple sides and handling higher volumes, and we just couldn’t keep up. Our lead time was simply too long,” reveals Miller. To resolve the bottleneck, the company received a shop-floor assessment from Rittal, who helped them implement a Rittal Perforex Laser Centre LC. With Rittal’s ongoing guidance and the new solution, it was now possible to machine enclosures quickly and from five sides in a single operation. This was particularly beneficial in the case of stainless steel enclosures, which the compa-

ny supplies to numerous customers in the food and beverages sector in Wisconsin. “The LC is much faster than a vertical CNC machine, and we don’t have all those residues and burrs to remove afterwards,” says Miller. What’s more, lots of projects require very precise, square cut-outs in the enclosures to insert small connectors. A task that previously involved manual drilling followed by laborious filing is now completed by the laser with maximum speed and precision. “The laser can machine an entire enclosure – from several sides – in just ten minutes,” he continues.

CONSISTENT WIRING

Miller then realised he had a further problem – the wiring process. “I asked myself how we could make it consistent. We build a control panel for one particular OEM every month, but no two employees wire in the same way. I wanted to achieve

a professional result,” he explains. Miller was also looking to reduce the huge amount of wiring waste and speed things up by using pre-assembled and labelled wires. A consultation and ROI plan at the Rittal Application Center in Houston helped him choose the Rittal Wire Terminal WT C, a wire processing machine that has now been in operation at Engineering Specialists since 2024.

SWITCH TO EPLAN

Following an engineering assessment with Eplan about Engineering Specialists’ goals, a new approach to software was needed. According to Miller, automatic wire processing called for a hard switch to Eplan at the engineering stage. Younger engineers at the company and a growing number of customers were, he says, already recognising the benefits of Eplan over AutoCAD, which has been in use for over 40 years.

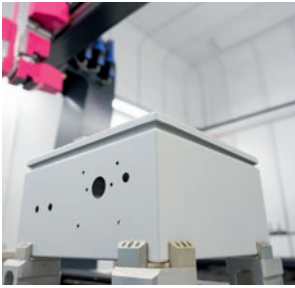
“We can see the engineering efficiency achieved with Eplan – thanks to the Data Portal, for instance, but also the use of Eplan in the machine control system,” emphasises Miller. “We’re starting more and more projects with Eplan, and we want to use the software throughout the organisation,” he adds. Miller describes his ultimate goal as follows: “Using the Eplan Platform to combine all the automation solutions in a first-rate, holistic production system that will maximise process efficiency.”

In the future, Engineering Specialists also intends to use Eplan Smart Wiring and integrate it into the workflow. “The software helps staff get the app-based wiring process exactly right. Moving forward, that means we won’t necessarily need to have specialist staff who can read wiring plans working in panel building operations,” says a delighted Miller. □



Left: Engineering Specialists has been using the Rittal Wire Terminal WT C since 2024.

Below: Enclosures are modified with speed and precision thanks to laser technology.



THE NECESSARY SWITCH

Mr. Miller, where would your company be today if you hadn’t invested in automation?

If we hadn’t invested in Eplan software and Rittal automation technology, we wouldn’t have been able to remain competitive. Producing higher volumes would have been totally impossible for us. Given that our company is growing and we want to be an industry leader, we couldn’t leave things as they were.

Which aspects of this development do your customers particularly appreciate?

It’s great having the opportunity to do things better! Some of our customers are especially impressed by our machine setup. They can also see how the quality of our solutions has improved and how our standards have progressed in terms of consistency. We’re faster, too. It no longer takes us two weeks to build ten enclosures. We can now do it in a single day. That’s a game-changer.

Why have you switched to Eplan and Rittal solutions?

I’m convinced it’s the way forward. Rockwell and Siemens are also moving in that direction. They, too, are using Eplan software, the Eplan Data Portal and Rittal automation technology. That’s where the industry is headed, with Eplan and Rittal leading the way. □

“IT’S GREAT HAVING THE OPPORTUNITY TO DO THINGS BETTER WITH EPLAN AND RITTAL!”

JOHN MILLER, VICE PRESIDENT OF ENGINEERING SPECIALISTS



The Rittal Perforex laser centre LC – ideal for the automated mechanical modification of standard enclosures made of stainless steel, sheet steel and powder-coated metals.

+ Scan here to go to the video:



“THE FUTURE IS **AI-** **DRIVEN** – EVEN IN PLANT ENGINEERING”

Current geopolitical changes are driving industry further into crisis mode in many different countries. It's a very different story in the USA, where industry is booming – is this an opportunity for Germany and Europe? And what's the position regarding new growth prospects through technologies such as AI, specifically in plant engineering? In this interview, we discuss trends and prospects with **Prof. Niko Mohr**, who is a **Friedhelm Loh Group** board member and **CEO of Rittal International and Rittal Software Systems**.

INTERVIEWER: HANS ROBERT KOCH

Prof. Mohr, industry in the USA is on a growth trajectory. What opportunities does this offer for companies in Germany and Europe?

We're seeing a really positive mood in the USA as far as the coming months and possibly the next year or two are concerned – especially within industry. Huge investments in infrastructure there are leading to higher levels of panel building and switchgear manufacturing, for example. That's giving rise to increased demand in plant engineering – and that demand now needs to be met quickly. We're also seeing major investments in IT, in terms of data centres and AI readiness. This is very positive news for IT infrastructure suppliers such as Rittal. Current developments are therefore giving rise to extra demand, both for plant engineering and for us as a supplier.

The situation for industry in Germany and Europe is very different. What are the consequences of current U.S. politics here?

What we are currently experiencing is the end of globalisation. The geopolitical situation means that companies in Germany and Europe can no longer manufacture products for the global market to the same extent. The “America first” policy means bigger trade barriers and is putting the focus on domestic demand. We're also experiencing a similar situation in China, which inevitably poses challenges for Europe and especially for Germany. We've built up a whole structure here that used to produce goods for the global market, but that can now really only be used for Germany and Europe.

Is there no global demand for products from Europe?

Over the past 50 years, Europe has enjoyed an incredible success story, and we have also followed the traditional industrial growth curve. However, this curve has now passed its peak. In addition, we're experiencing a growing trend towards commoditisation. Products that could previously ▶

“DEVELOPMENTS
AT EPLAN AND
RITTAL ARE
ONE EXAMPLE
OF WHAT
INDUSTRIAL AI
CAN LOOK LIKE
IN REAL LIFE.”

PROF. NIKO MOHR,
FRIEDHELM LOH GROUP
BOARD MEMBER AND CEO OF
RITTAL INTERNATIONAL AND
RITTAL SOFTWARE SYSTEMS

command higher prices due to special expertise are becoming increasingly ubiquitous and no longer stand out, particularly from goods produced in Asia or America. In many cases, it is no longer possible to achieve a significant price premium. This puts companies under cost pressure and they are no longer experiencing the type of demand they enjoyed in years gone by.

In your view, where does the future potential for growth lie?

I believe the new growth curve can only come from deep tech leadership and software expertise in industry. What we're talking about here is cloud technology, AI and new forms of computer and chip technology. In Europe, we're not particularly advanced in any of these areas – it's the Asians and Americans who are out in front. The area in which Germany and Europe can still gain ground is the one that involves combining the skills and expertise of the "old" industrial curve with those of the "new" industrial curve. What I'm referring to here is industrial AI in manufacturing, healthcare, the pharmaceutical sector, and so on. Whenever very specific domain knowledge is called for, we can gain ground with our expertise.

When you say "can gain ground", what exactly do you mean?

The problem is that you have one country working on DeepSeek and another working on Stargate – and meanwhile, the EU is working on regulations. This means there are certain things we simply can't do. Industry is very worried about this. If the AI Act isn't

changed, this will inevitably result in these developments taking place outside Germany and Europe. AI must be regulated – there's no doubt about that. The question is, though, at what point in the product development process must regulation be sought, and what form should this regulation take? It's never a good idea to regulate for all eventualities in advance, because that means developments never really get off the ground.

You mentioned deep tech leadership. How far on are Eplan and Rittal in terms of AI developments?

We are one of the few companies that is already achieving success in industrial AI. Developments at Eplan and Rittal are one example of what industrial AI can look like in real life. We call this "AI-driven industrial automation" – in other words, the AI-driven development of automation solutions that extend all the way through to the AI-generated digital twin via the Eplan Data Portal. We're leading the way in this – and not only because none of our competitors can match our style yet. Above all, our AI-driven industrial automation offers our customers a huge number of benefits – from much faster speed when designing their systems through to huge increases in their productivity.

What does the technical solution look like? Where exactly do you use AI?

The key element here is the Eplan Data Portal, which we are now optimising with AI to create added value. We're working in collaboration with various companies here, including Microsoft. In the future, you might be able to say to the Eplan Data Portal: "Con-



PROF. NIKO MOHR, FRIEDHELM LOH GROUP BOARD MEMBER AND CEO OF RITTAL INTERNATIONAL AND RITTAL SOFTWARE SYSTEMS

Prof. Niko Mohr, who has over 20 years of experience in the strategy, organisation and IT/technology environment of top management consultancies, takes a look at the transformation of industry. The USA was one of his areas of action. For instance, he has been a guest lecturer in international business strategy at the University of Georgia. He is currently an honorary professor at the University of Regensburg, where he teaches strategic transformation management.

figure the ideal electrical engineering solution for me, that satisfies the following three, four or five criteria..." – and the system will then do everything else for you. Once it has finished, it will provide a recommendation, such as for the layout of a mounting plate with the relevant equipment and components. That will also include optimum use of the entire surface area and an optimised solution for manufacturing. It goes without saying that this is a huge step forwards for our customers! In the future, software engineers won't configure – they'll simply give prompts. At Hannover Messe, we'll be showcasing this use case – and others, too.

So, with AI, there are still opportunities for German industry. What's the situation as regards cloud business?

Appropriate IT infrastructure with rack solutions is urgently needed for cloud business – and, of course, that's something we supply. However, when it comes to production sites, requirements have changed. For example, our customers in the USA expect our production operations to take place in the USA, too. To comply with the new government's rules, we are currently moving our entire rack production to the USA and expanding it there significantly, too.

These are extremely difficult times for companies. Where do the strengths of family businesses come to the fore in these particular circumstances?

One key strength is financial stability. At times of uncertainty, when order levels are perhaps lower than expected, a financially strong family business such as the Friedhelm Loh Group can balance out the odd lean period. A second strength is the ability family businesses have to take an entrepreneurial approach – they can make decisions quickly and respond to developments like these by making swift adjustments. In other companies, that often takes much longer. A third strength is the closeness between the entrepreneur and the employees, and the diligence that you see in that relationship.

What mindset do you need to be able to look forward with optimism?

Family businesses have a very long-term mindset. They think about future generations – it's not a case of setting out to maximise profit in the short term, but instead aiming to keep the company on the market for the long term. This mindset is especially important during uncertain times. Where some companies might react by hastily shutting down divisions, a family entrepreneur looks at things differently and says: "I have a responsibility here." Family businesses always seek out new growth paths – and look to see where investments should be made. This is what I find so interesting about working in a family business such as the Friedhelm Loh Group. □

"IN THE FUTURE, SOFTWARE ENGINEERS WON'T CONFIGURE – THEY'LL SIMPLY GIVE PROMPTS. AT HANNOVER MESSE, WE'LL BE SHOWCASING RELEVANT USE CASES."

PROF. NIKO MOHR

One question:

GLOBAL FREE TRADE – WHAT’S BECOMING OF IT, BERTRAM KAWLATH?

A GUEST ARTICLE BY BERTRAM KAWLATH, PRESIDENT
OF THE GERMAN ENGINEERING FEDERATION (VDMA)

**GLOBAL
ECONOMIC
TURMOIL**
*What deals
benefit all
of us?*

Since time immemorial, people have traded with each other – and across all borders. As the volume of trade in goods and services has grown, so too have levels of prosperity around the globe. Without the global exchange of knowledge, technological progress would have been limited – or even impossible in many cases.

This makes the position we find ourselves in today all the more sobering. More countries globally are now ruled by autocrats than by democratically elected governments. More and more trade barriers are being erected. The COVID pandemic and the wars in Ukraine and the Middle East have made us painfully aware of how quickly global supply chains can break down. And the Oval Office is again occupied by a man who is particularly fond of the word “tariffs” and who regards trade as a “deal” in which there must be winners – the USA – and losers, including the EU.

So, is the idea of global free trade on the way out? No, fortunately not. Global trade in goods and services is actually continuing to grow. It increased by just under 3 percent last year, so is growing just as strongly as global gross domestic product. Growth of 3 percent is also projected for 2025. According to the Chief Economist of the World Trade Organization (WTO), approximately 75 percent of this global trade operates under WTO rules. Despite the increasingly protectionist rhetoric we hear from many heads of state, there still largely appears to be a pragmatic understanding that countries need international trade flows to keep their own economies going.

However, two factors have changed fundamentally. Firstly, all attempts to draw up multilateral agreements have been more or less abandoned. Even the EU-Mercosur agreement is still up in the air, despite an agreement in principle having been reached years ago. Many governments are turning to bilateral agreements and seeking to ensure that these benefit their own country as much as possible. Although agreements of this kind are better than no trade agreements at all, they increase both complexity and the associated costs.

Secondly, more and more countries are trying to put up protectionist walls. They are subsidising their own industries and introducing local content requirements that force foreign investors to establish a presence in the country. While there is hope that some large markets, such as India, will now open up more and become more integrated into global trade, the overall effect is that life is being made increasingly difficult for exporters. This is a less-than-encouraging development for German industrial SMEs in particular.

Ultimately, in the coming years, it is largely the relations between the USA and China that will de-

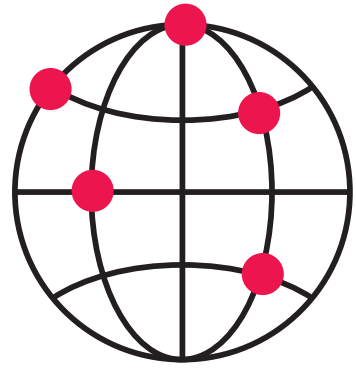


Bertram Kawlath, Executive Director of Schubert & Salzer GmbH, was elected President of the German Engineering Association (VDMA) in 2024.

termine global trade. According to WTO figures, the bilateral trade flows between these countries only represent around 3 percent of global trade, but the indirect effects will be many times greater if they both impose tariffs and export bans on each other and put their partners under pressure. Global trade under these conditions would result in constant uncertainty and decimate growth.

Global trade will not grind to a halt – but it could become even less “free”. It is therefore all the more important that the EU pulls together and strengthens the single market, instead of increasingly picking over every detail of it. To remain a strong player on the international trading scene, the EU must ensure it stands as a solid economic bloc. If, instead, the EU reverts to the age of national egotism, we will increasingly find ourselves ground down by the attempts of the major economic players to exert their power and the belligerent ambitions of various autocrats. The EU faces an enormous challenge – to stand up to all protectionists with all its might.

Without the momentum of free trade, we will only be able to maintain and bolster our prosperity if we innovate faster, take responsibility and simplify processes. It is not only politicians who need to take action – we all do. □



WORLDWIDE

From manufacturing biogas plants to university laboratories – solutions developed by the **Friedhelm Loh Group** are used in all manner of environments where a reliable energy supply, weather resistance or a high-availability IT infrastructure is essential.



The BioCrusher – the all-in-one processing system developed by BioG.



AUSTRIA

FULL STEAM AHEAD FOR BIOGAS PRODUCTION



Ever since 2008, Austrian company BioG has been specialising in conveying technology and automation for biogas plants, which convert residues and waste, such as straw and cattle dung, into biomethane. In its production operations, BioG attaches a lot of importance to a high proportion of in-house manufacturing – and that includes enclosure manufacturing, too. To tackle the skills shortage, BioG uses automation solutions such as the **Perforex**

from **Rittal Automation Systems** at its Utzenaich site. The Perforex centre takes care of the machining of housings and panels, such as enclosure doors, at BioG. Thanks to this solution, the company has drastically reduced its production throughput times and improved its delivery reliability, too. What's more, it has raised the quality of its enclosure manufacturing to a whole new level – clean cuts and uniform edges are now standard features that BioG would no longer want to do without. The data comes directly from **Eplan Pro Panel**.



SOUTH KOREA

CIS Co., Ltd. in South Korea uses Eplan software for its design processes.

MORE POWER FOR BATTERIES

CIS Co., Ltd is a South Korean company that specializes in the most critical process of rechargeable battery production and is a global leader in the electrode processing market. The company puts its trust in **Rittal enclosure, power distribution and climate control technology** for its machinery.

Dust and high temperatures are common phenomena in battery production facilities. Moreover, this company's machines are used all over the world, so international certifications are a must. Delivering the machinery on time poses another challenge, too. This is why CIS Co., Ltd relies on standardised, automated design processes – and why it uses **Eplan software** to standardise and automate them. **Rittal enclosures** are used for the machines, because they boast high protection categories

and are suitable for use even in challenging environments. When it comes to protecting electronic components,

CIS Co., Ltd uses **Rittal cooling units**, because these maintain a constant temperature inside the enclosure.



To ensure its machines can be delivered on time, CIS Co., Ltd puts its trust in standard components from Rittal.

RISING TO NEW HEIGHTS WITH EPLAN



Canada-based lift specialist Produits Fraco Ltée has completely transformed its engineering and now relies on **Eplan solutions** such as **Eplan Smart Wiring** software for designing its enclosures. Fraco is an international company that installs lifts and access platforms for construction sites all over the world. Previously, although the company planned its enclosures itself, it outsourced the machining processes to external panel building and switch-gear manufacturers.

By optimising design aspects with **Eplan**, Fraco realised it could achieve better results – and, with the appropriate modifications, could actually supply its enclosures faster than it was currently doing via the existing arrangement with external service suppliers. Working in close cooperation with the technical team from Eplan Canada, Fraco devised a concept to establish how best to use the platform. Within just three months, Fraco successfully converted a pilot project into an in-house enclosure production routine.



IT PROTECTION FOR ENERGY COMPANIES

The Croatian national energy company Hrvatska Elektroprivreda (HEP Group) is building a data centre that is fully equipped with **Rittal** components and is designed to protect all the company's business processes in the future. Located inside a **Rittal security room**, this data centre needs to operate with high availability and energy efficiency. The **CMC III system** from **Rittal** monitors all the parameters in the data centre, and a DET-AC fire alarm and extinguisher system has also been installed. **Rittal DX Liquid Cooling Packages** – each with an output of 20 kW – provide energy-efficient cooling. The energy company also opted to install **power distribution units** for comprehensive energy measurements.

RITTAL IN RESEARCH ENVIRONMENTS

The University of California San Diego (UCSD) has already produced numerous Nobel laureates and, with its installation of a 3D printer, is continuing to attach great importance to innovative research methods. For example, a bioprinting process is used to produce liver tissue that is designed to minimise tissue rejection. Before the printer could get started on its important task, however, there were one or two hurdles to overcome in the project.

Together, South Coast Controls (SCC) and **Rittal** developed a bespoke solution for the printer. Integrating the 3D printer posed a number of challenges for SCC, especially when it came to the power supply – the campus did not have the necessary electrical infrastructure to provide the energy required for the printer. SCC extended a **Rittal enclosure** so that it could accommodate three three-phase transformers.



PROTECTED AGAINST WIND AND WEATHER

Pezag AG – a panel building and switchgear manufacturing company based in Bischofszell in Switzerland – developed a weather-resistant slaughterhouse waste supply system for a company located in the Swiss municipality of Salmsach. Pure fat is extracted from this waste for use in the animal feed industry. Located on the wall of the building, it needs to withstand sun, wind and rain. Rittal Switzerland suggested the new **CS Toptec outdoor enclosure**, which is now also bayable. **RiTherm** software was used to design the thermal concept for heating and cooling.





In partnership with Künz and ABB, ETJ is currently building 18 new stacking cranes in the container port of Antwerp.

CONSIDERING A WIRE PROCESSING TERMINAL?

Why the investment will pay off.



ETJ installs all the main electrical components in containers before moving them to the building site – this keeps on-site installation times short.



Elektrotechnik Janssen

SETTING THE PACE FOR STACKING CRANES

When it comes to fully automated container stacking cranes for port terminals all over the world, **Elektrotechnik Janssen (ETJ)** almost always has a part to play. That puts a great deal of pressure on this manufacturer of controls and switchgear, which has a lot of work to do, but too few people to do it. Operations Manager Christian Diekmann realised that the solution lay in **automated wire processing**. He drove the project forward, with support from **Rittal** – and this led to the company's biggest ever investment.

TEXT: ALEXANDRA LACHNER

For Elektrotechnik Janssen, 2021 was actually a good year. That was when the next expansion stage in a major project was due to start at Container Terminal Burchardkai in the Port of Hamburg. The work centres on control systems for twelve new stacking cranes, complete with connections to the handling systems on both the water side and the land side. What's more, ETJ was also handling major switchgear projects for local industry simultaneously. It's the kind of situation every company dreams of – provided they have enough staff to cope with the projects.

As in many places, however, the skills shortage is also posing a problem in Nordenham in Lower Saxony. As Christian Diekmann, who joined ETJ in 2014 and has been the company's Operations Manager since 2021, explains: "During this phase, we realised we were experiencing a significant bottleneck and had to take suitable countermeasures in order to remain successful on the market. It

soon became clear that manual wire processing was the most time-consuming process."

CAMPAIGN OF PERSUASION

Diekmann therefore started looking for a solution and came across the Wire Terminal WT C from Rittal – a fully automated wire processing machine. ETJ had already been working with Eplan engineering software for over 20 years, and Diekmann was immediately impressed by the overall concept that lay behind the WT C. "The automated wire processing machine offered everything we needed. What's more, Rittal and Eplan cover all interfaces with this solution, so we don't need to use any kind of converters in between – it's all really well thought out," he explains.

Despite all the benefits, however, this solution would also require ETJ's biggest ever investment to date, so Diekmann set about persuading both the management and his team. "A change on this ▶



“The investment has definitely paid off and is helping us forge ahead into a successful future.”

CHRISTIAN DIEKMANN,
OPERATIONS MANAGER AT
ELEKTROTECHNIK JANSSEN

scale has profound implications for processes, so it's vital we all pull together," he says. Videos were shown, samples were assessed and arguments were put forward. "We explained to our long-serving employees that wiring would still be a job, but that they would be relieved of the time-consuming task of processing the wires. For example, they would no longer have to fit the plastic sleeves for labelling purposes – a job that nobody enjoys doing," he explains.

VALUABLE INSIGHTS

Eventually, the decision was made and, in 2023, ETJ was one of the first customers to receive the new WT C10 from Rittal. Once it had been installed by a Rittal service technician, everyone involved in the pilot project was called upon to redesign processes and resolve technical issues. "We kept battling on and, for a few months, everybody had to accept that overtime was a must. We learnt so much along the way, though – and now,

nobody would want to go back to the way we did things before," Diekmann says.

In particular, this development process also revealed exactly where things had been less than optimum in the past. For instance, it became clear that maintaining a variety of data models had resulted in substantial efficiency losses. As a prerequisite for successful automation, a standard data model was therefore developed. This can now be used for all projects and is increasing efficiency. Clear workflows between design and production were also established. As a result, collaboration is better than ever and the team has grown closer together.

FASTER – AND TOP QUALITY, TOO

In next to no time, the benefits of fully automated wire processing became clearly apparent in day-to-day operations in Nordenham. "Depending on the project, wire processing takes 30 to 70 percent less time than it did before," Diekmann explains. What's more, the amount of paper

in circulation has been vastly reduced – in the past, everything always had to be printed out for manual wire processing.

Quality – a unique selling point at ETJ – also took another leap forward. This largely comes down to the contact hazard protection that is achieved when, thanks to the WT C, the spring terminal technology can also be configured with wire-end ferrules and there are no longer any protruding strands in this area. "The combination of high quality and fast implementation is a major success driver for our company. At this level, the only way of achieving that is with digitalisation and automation," says Diekmann.

BOOKS FULL UP TO 2028

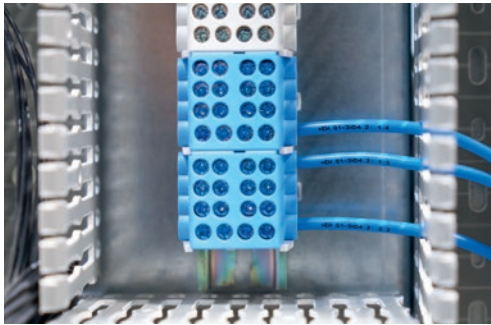
In 2002, ETJ started building the system technology in Hamburg-Altenwerder for the world's first fully automatic stacking cranes. Now, the company is implementing Europe's biggest interconnected stacking crane construction project in Rotterdam. This consists of 62 stacking

cranes and one rail-mounted gantry crane for loading trains. As usual, ETJ is implementing the project in partnership with ABB Cranes (Sweden) and Künz (Austria). "Between 2013 and 2017, we installed 54 stacking cranes and two rail-mounted gantry cranes for the Maasvlakte II terminal. Thanks to our new processes, this next phase up to 2028 will see us dispatch system containers for two cranes every two to three weeks – each container fitted out with VX25 bayable enclosure systems from Rittal," Diekmann explains.

Things are going well at ETJ in other respects, too. The company is already keeping an eye open for projects during which business partners can rely on expert support based on a long-standing partnership. The division specialising in industrial products for local companies is set to increase its use of the WT C further, shifting the focus to larger batches. Diekmann is very satisfied. "The investment has definitely paid off and is helping us forge ahead into a successful future." □

UP TO
70%
– THE TIME ETJ
HAS SAVED BY
USING THE RITTAL
WT C FOR WIRE
PROCESSING.

The order books are full: At its plant in Nordenham, Lower Saxony, ETJ and its workforce of just under 60 is building the control systems for stacking cranes in ports.



Automated wire processing is increasing speed and efficiency at Elektrotechnik Janssen.



Having worked with Eplan software for over 20 years, ETJ has long since paved the way for efficient plant engineering.



Scan here to
go to the video:



**SMART
MOUNTING:**

*Making manufac-
turing faster and
more efficient.*

Zahnen Technik

SMART PRODUCTION, CLEAN WATER

Assembling, fitting, wiring – water engineering experts **Zahnen Technik** have **fundamentally optimised and accelerated their enclosure manufacture** with support from Rittal and Eplan. Smart production not only saves time, but also boosts quality and helps mitigate the skills shortage.

TEXT: GERALD SCHEFFELS



Eplan Pro Panel is used to create the enclosure's digital twin, which then provides the basis for manufacturing with Smart Mounting.

Everyone has the right to clean water!" Benedikt Ney, CTO of Zahnen Technik, personally stands by this principle. In practical terms, this means that water facilities and wastewater plants must be available everywhere in the world. Zahnen Technik, which is based in Arzfeld in the Eifel region of Germany, builds, optimises and modernises these types of facilities and plants. Before the company's switchgear is delivered to the customer and put into operation on site, Zahnen fully assembles and connects the systems directly on its own premises and carries out extensive tests. This is a complex undertaking, given that one project of this kind can involve anything from 50 to 190 enclosure panels, plus small enclosures.

SMART MOUNTING

One of the biggest challenges is the skills shortage – and this is where the new software tool Eplan Smart Mounting comes in. The solution ensures that enclosures can be completed by less experienced staff, too, by guiding them step by step through the configuration of the enclosure with rails, ducts and other components. A screen at the workstation displays a 3D visualisation of the precise position for each component. All the worker has to do is position it in the enclosure as shown and acknowledge the process. This also reduces the overall throughput time. "Once we've rolled out

Smart Mounting right across the board, we expect to reduce our assembly time by 30 percent," says Ney.

In Arzfeld, the company has already been working with Eplan Smart Wiring – the tool for wiring enclosures – since 2023. It also recently invested in a Rittal Wire Terminal for automated cable processing. Before the company was able to harness the benefits of this automation, there was a fair bit of preliminary work that had to be done. "We're now working with all-pole and defined connections and have updated the wiring schematics and 3D macros accordingly so we can route wires using Eplan Pro Panel," Ney reports. Only then is the data transferred to Eplan Smart Wiring and the fully automated wire processing machine. ▶



**"We expect to reduce our
assembly time by 30% with
Smart Mounting."**

BENEDIKT NEY, CTO OF ZAHNEN TECHNIK



Workers simply need to look at Eplan Smart Mounting to get all the information they need to install components in the enclosure.

CORRECT RESULTS –
WITH NO IFS OR BUTS

The digital twin in Eplan Pro Panel supplies the corresponding information from engineering, such as dimensions, positioning details, drilled hole patterns and methods of fastening components in place. Workers can also add comments about components in Eplan Smart Mounting directly and feed these back to the engineering team.



UP TO 75 PERCENT FASTER

What are the benefits of smart enclosure manufacture on a day-to-day basis? According to Udo Lindemans, who is in charge of the e-workshop at Zahnen, one key factor is time. “We’ve already cut the time we need to wire an enclosure by around 50 percent. Once everything has settled down and projects are planned accordingly, we expect that saving to rise to as much as 75 percent.” Of course, as Lindemans reports, wire processing is faster, too. “The Rittal Wire Terminal produces a complete set of cables for an enclosure in one hour. That offers potential for growth.”

He mentions another advantage, too, which relates to the skills shortage. “At the same time as we started using the Rittal Wire Terminal, we also took on a new employee who doesn’t have specialist training. He now wires enclosures perfectly with Smart Wiring.” The same applies to assembly and specifically to the fitting out of top hat rails. According

to Lindemans, a semi-skilled colleague is making an excellent job of this, too. “You don’t need any specialist knowledge for mechanical construction – this solution really works!” he enthuses.

ADDITIONAL BENEFIT –
IMAGE ENHANCEMENT

Time and training are one thing, but quality and the company image are at least as important. As Ney explains, the solutions from Rittal and Eplan impress on this score, too. “All wires are labelled and fitted with end ferrules. This increases their service life and makes troubleshooting easier if it’s needed. The wiring looks really good and helps us show that we work in an innovative way.” He firmly believes that this enhances the company’s image with customers and is also a plus point when it comes to recruitment. “New employees expect a digital workplace with end-to-end processes that support them in their work – and that’s exactly what we offer.”

A PAPERLESS FUTURE

In the assembly department at Zahnen Technik, printouts of wiring schematics are conspicuous by their absence. Instead of paper, there’s a PC with a touchscreen at every workstation. Ney explains: “Even before we introduced Smart Wiring, our manufacturing operations were paperless, and we used eView for wiring. We now use eView for testing and commissioning and for co-ordination work when making changes and modifications.”

Another advantage of paperless manufacturing with Smart Wiring and eView is that multiple people can work on the same project. What’s more, the synchronisation between engineering and manufacturing is highly structured, thanks to redlining and greenlining features. “We can import changes quickly or document outstanding issues. We often use this for projects that are routed and wired with Smart Wiring,” Lindemans reports.

Zahnen technicians also work with the electronic documentation when commissioning systems on site, since they can access it from anywhere via eView, which is hosted in the Eplan Cloud. What’s more, along the entire process chain, the enclosure’s digital twin – which also covers assembly and wiring – offers greater transparency and improved monitoring.

WITH STANDARDISATION –
AND RITTAL

As far as the enclosures themselves are concerned, Zahnen also relies on standardisation – and on Rittal. As Ney explains: “We use the VX25 series, complete with the range of accessories and climate control, which we calculate with RiTherm. We do a lot of our work with standardised, pre-assembled components. This saves us time and speeds up our manufacturing processes – and it offers quality benefits, too. This is the right path – and we’re going to stick to it.” □

75%

POTENTIAL TIME
SAVINGS FOR
ZAHNEN WHEN
WIRING AN
ENCLOSURE.

When it comes to wiring enclosures, there is huge potential for increasing efficiency. Zahnen is already more than 50% faster – and that figure is still rising.



Based on the digital twin, the Wire Terminal produces a complete set of cables for an enclosure in one hour.

Rittal ePocket at Huhtamaki

BE SURE WHAT'S INSIDE

Any transformation offers an opportunity to do things better – including at **Huhtamaki Foodservice**, which makes packaging for McDonald's and Nestlé. The company is switching production at its German site from plastic thermoforming to pulp moulding. It is also rethinking system documentation, using **Rittal ePocket** to create transparency – and also to save paper.

TEXT: RALF STECK

**DATA
ALWAYS
UP TO DATE:**
*How system
documentation
works now.*



At its plant in Alf, Huhtamaki is turning to sustainable materials to produce coffee cup lids.



“Thanks to Rittal ePocket, we always know what’s installed in our enclosures.”

OLIVER STARK,
HUHTAMAKI

BENEFITS OF RITTAL EPOCKET

- Quick and reliable provision of equipment and machine documentation in digital format
- Fast change management thanks to the integrated Eplan eView workflow
- Savings on printing costs when preparing documents
- Reduced carbon footprint
- Data is always up to date for all staff involved in the project
- Thanks to transparent change tracking and automatic notifications, changes cannot be lost



Put a lid on it, but please make sure it's a sustainable one! Such requests are an indication that demand for environmentally optimised packaging solutions in the food sector is higher than ever. Based in Alf on the River Moselle, Huhtamaki is transforming its production to cater to this demand. Although the company still predominantly uses plastic thermoforming to manufacture its food and beverage packaging, the plan is to gradually replace all the old systems with paper processing machines that use the pulp moulding process.

Seven of these new machines have already been installed. Benedikt Wahsweiler, who is in charge of automation technology, controller programming and system design, and his colleague Oliver Stark, who is head of the automation department, are responsible for ensuring the installation and commissioning of the machines goes smoothly.

FROM PAPER TO DIGITAL

Based on experience gained from the changeover of the older machines, the

production specialists knew that some or all of the controller and enclosure drawings and documents for certain systems were missing, and that the documentation for others was incomplete or out of date. Any documents that did exist were in paper format only. “The first step was to scan in all surviving documentation and store it on a network drive. New documents arrived already digitalised, and we also created some documents from scratch in digital format,” recalls Stark. “We did a lot of the development engineering and documentation work ourselves, especially for the peripheral equipment,” adds Wahsweiler.

Huhtamaki uses Eplan Electric P8 to develop electrical and electronic assemblies and controllers. The specialists therefore started by familiarising themselves with the eView tool. This Eplan schematic viewer can be used anywhere to consult project data via a browser and add comments using a redlining function. These workflows are also integrated into ePocket, a tool that Eplan and Rittal use to create a digital version of the tradition-

al wiring plan pocket. Instead of having to keep hefty folders full of documentation either in or on the enclosure, a QR code on the enclosure provides direct access to a cloud-based storage system, where all kinds of digital data can be kept.

ACCESS VIA A QR CODE

Rittal ePocket enables service and maintenance staff to access wiring plans using their smartphone or tablet while they are actually working on the system, for example. They can also call up this same information on their office computer, making it easy for them to prepare for, or follow up on, repairs and maintenance work. This ensures faults can be located and rectified quickly.

“We were already familiar with eView from our electrical design engineering work, and we used it to view Eplan drawings both in the development department and on site at the actual machines. When ePocket was unveiled, we gave it a try out of sheer curiosity,” recalls Stark, adding that it soon became clear that the digital wiring plan pocket offers concrete



Automatic versioning of ePocket documents means it is always clear which data is up to date.

benefits for day-to-day work. “We always know what’s inside the enclosure,” he emphasises.

AN ENTIRE STORAGE POOL

Wahsweiler reveals that staff at Huhtamaki had even previously experimented with a similar mechanism. Links were converted into QR codes that were then placed on the enclosure. “However, these codes always just provided a link to a single file in the network, whereas ePocket offers access to an entire storage pool, which can contain lots of data, and also enables rapid change management,” he explains.

ALWAYS TRANSPARENT

As Wahsweiler sees it, the wirin plan pocket has a whole host of advantages. “Automatic versioning of ePocket documents means it is clear which data is up to date, but the previous versions are still available,” he continues, also pointing out that the change history means it is always completely transparent who made which changes. “What’s more, the granting of

authorisations makes it possible to define exactly who is actually allowed to make changes,” adds Wahsweiler, explaining that it is possible to search explicitly for specific documents and even new staff can quickly get the hang of things, because cross-references mean the data can be structured. “What I particularly like is that you can simply click on interruption points,” he says, speaking from practical experience. “If wiring runs across several drawing pages, you can follow it with a simple click rather than having to seek out the right page. That saves time and helps prevent errors,” he emphasises.

“We want to continue rolling out ePocket at our plant and will be using it from the outset for all new machines. Rittal and Eplan are making it easy for us to switch over to digital service and maintenance documentation,” says Stark.

Another plus for both Stark and Wahsweiler is that their efforts to increasingly avoid masses of paper mean they are making a further contribution – to enhanced sustainability at Huhtamaki. □



“Automatic versioning of ePocket documents means it is clear which data is up to date.”

BENEDIKT WAHSWEILER,
HUHTAMAKI

**AUTO-
MATION AND
DIGITALISATION –**
*only for big enclosure
manufacturers?*

Hade Automation

ENCLOSURES IN HIGH-WAGE COUNTRIES

How can smaller plant engineering companies remain competitive in countries with high wages? **Hade Automation** is a good example. This company, which is based in the south-west of Germany and has 24 skilled employees, plans and builds switchgear for the building technology sector. It has found the key to greater competitiveness – end-to-end electrical planning based on **Eplan**, complete with automated data transfer to the production department.

TEXT: GERALD SCHEFFELS AND BIRGIT HAGELSCHUER

Czech Republic or Poland? In Germany's neighbouring states, there are many panel building and switchgear manufacturing companies performing at a high level. In some respects, manufacturing at these companies takes place under much more favourable conditions – lower wages, substantially lower energy costs and less red tape...

So when a building automation business is looking for a company to plan and produce its enclosures, why would it opt for Hade Automation, which is based in the southern German town of Orsingen? It's a fair question, especially since Hade Automation's customers are often large companies that don't shy away from cross-border supply chains.

Markus Klopfer, one of the two Managing Directors, provides the answer. "It's

true that, with 24 employees, we're a relatively small enclosure manufacturer, and we also operate in a high-wage country – but our staff are skilled and we work with a high level of automation," he explains. Maik Reichle, the other Managing Director, adds: "Providing processes work consistently and we have the data we need, we can build switchgear in Germany in an automated and competitive way. We are working for several global players who have clear ideas about their enclosures."

MANUFACTURING WITH PLANNING DATA

How does this work in practice? At Hade Automation, project work starts directly on a planning platform – with Eplan, to be precise. Klopfer explains: "Ideally, ►



Thanks to a well-thought-out process and a high level of automation in engineering and enclosure manufacture, Hade Automation is in a strong position.



“Automation and end-to-end processes are really speeding things up, even with a batch size of one.”

MARKUS KLOPFER,
MANAGING DIRECTOR
HADE AUTOMATION

we use the 3D data from Eplan to draw up a quote. We enter the parts list into our system and can then perform very precise calculations.”

From the company's perspective, this thorough planning right from the outset also delivers significant competitive advantages, because production is incorporated, too. For instance, the company invested in an automated CNC machining centre. “We were quick off the mark in this respect, but also had a real pain point at the time – lots of versions of ready-made enclosures in stock, but seemingly never the right one for any given customer. Machining on site really boosted our productivity.”

The second generation of machinery is now in use – a Perforex system from Rittal Automation Systems for machining enclosures and panels. “With the Perforex system, our end-to-end planning and production are even more efficient – and we benefit from the interplay with Eplan, too. We’ve drastically reduced our stock levels, and yet can now supply our customers so much faster than before. The enclosures are machined automatically

and each customer can choose where the cooling unit is to be positioned, for example,” Klopfer explains.

While Hade Automation handles its end-to-end enclosure planning and production in house, the wires are processed by an external service provider – also on the basis of Eplan data.

ENERGY AS A NEW LINE OF BUSINESS

The company's recipe for success also includes being open to new lines of work and business. Around two years ago, for example, Hade Automation tapped into a new sector. “We have always planned and built control equipment for the energy generation sector – such as for photovoltaic systems – and for increasingly powerful currents. Major energy suppliers in our region who are looking for partners in switchgear manufacturing have come to us. They like working with small companies that respond quickly to customer requests – and they make it a deliberate policy to do so. We can really shine in that regard,” says Klopfer.



VX25 enclosures from Rittal are standard at Hade Automation.



EVERYTHING FITS TOGETHER

Hade Automation has been using only Rittal enclosures since 2006 – and in high numbers. Ordered materials arrive by truck once or twice a week. Everything fits together – from the punched section to the accessories. There is also an unbroken link from the software through to mechanical production – all data for machining the enclosure is generated from Eplan.

“We deliver a comprehensive Eplan data model of every switchgear system. The data is always up to date, so designing maintenance, modernisation and conversion tasks is easier and more effective, too.”

MARKUS KLOPFER, MANAGING DIRECTOR OF HADE AUTOMATION



Hade Automation uses various Eplan tools to plan both enclosure layouts and building technology. The digital twin is at the heart of everything.

From Hade Automation's perspective, the obvious thing to do was also to incorporate the additional processes into Eplan and create a direct link between planning and production. The “Copper” module is available in the Eplan portfolio for this purpose. This makes it possible to plan and visualise copper busbars in 3D – and process the data in the Perforex, for which the company has purchased a busbar module. “We simply insert the module into the machines and can then fully process our Rittal busbars, so that NH slimline fuse-switch disconnectors can be fixed in place, for example. This can call for a good 50 drilled holes per copper bar. We send the precise data directly to the machining centre,” says Klopfer.

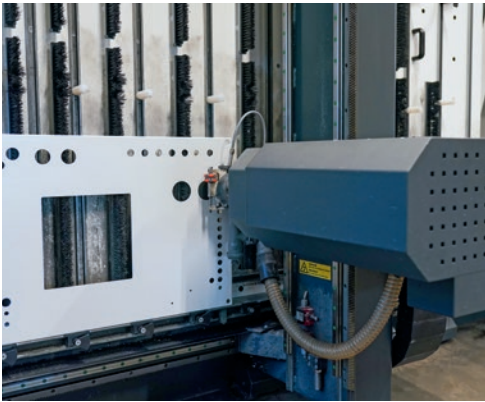
SCALED AUTOMATION

With this high level of automation, Hade Automation is disproving the commonly held belief that processes of this kind are more suitable for big enclosure manufacturers. “Automation and end-to-end use

of data on one central platform are delivering clear optimisation effects for our company, even for a batch size of one. This is already being reflected in the speed of our production. We can now wire two enclosures in the same time that it used to take us to wire one,” the managing director explains.

Current prospects also include cross-disciplinary 3D planning of the building technology as a BIM model. “That’s coming – and we’re ready for it. We’re planning everything digitally in BIM for a pharmaceutical production plant in the Munich area. The 3D model of the enclosures is being integrated into the model in such a way that you can virtually open the door and look inside it,” explains Klopfer.

All in all, the company feels fully prepared for the future – and, according to Klopfer, one aspect of that future has already been identified. “It’s all about the energy transition – we’re getting lots of enquiries about modernising energy technology switchgear,” he says. □



A Perforex BC from Rittal is used to machine enclosures and busbars on the basis of Eplan data.

Directly on the banks of the River Inn – the premises of BORA Vertriebs GmbH & Co. KG.

BORA, the innovative manufacturer of premium integrated kitchen appliances, needed a new data centre. It was looking for a sustainable, resource-friendly solution that naturally also combined excellent reliability and security with high availability and was expandable – all aesthetically incorporated into the Austrian company's Niederndorf site. How did BORA square this circle? **By turning to Rittal and its partners!**

TEXT: DAVID SCHAHINIAN



“Redundancy and high availability are vital for us, because BORA prioritises its customers’ interests and can’t afford any outages.”

CHRISTIAN DEWINA,
IT SYSTEMS
ADMINISTRATOR
AT BORA



Everything in colourful order – a peek inside one of the Rittal VX IT server racks at BORA.



Just under 20 years ago, Willi Bruckbauer, founder and CEO of BORA, called time on conventional extractor hoods. His vision was to create a living space that meets people's needs and makes them happy – every day. Besides meeting the highest technological standards, the revolutionary cooktop extractor system he developed also adds aesthetic appeal to any kitchen. A lot has happened since then. BORA has expanded its product portfolio and – thanks to its BORA X BO professional steam oven for homes, its refrigeration and freezing systems, and its range of dedicated accessories – has established itself worldwide as a multi-award-

winning manufacturer of high-quality integrated kitchen appliances. Over the years, the company's workforce has increased to over 800. This growth inevitably took the original data centre to its capacity limits. The company could foresee that the existing IT infrastructure wouldn't be able to cope with the growing demand and future expansion. When planning a new building at its Niederndorf site in Austria, more space was therefore also envisaged for IT. One major challenge was making the right decision to ensure a future-proof power supply for the new data centre. Even the building's architect- ▶

SUSTAINABLY COOL

ture reflects two basic principles of the company. BORA has a policy of no longer using fossil fuels whenever they can be avoided. All its buildings have been switched to renewable energies, and even the electricity for the heat pumps comes from the company's on-site photovoltaic system. "We try to get a lot of what we need from nature," explains IT Systems Administrator Christian Dewina. At the same time, however, a high-performance, stable power supply is a must for the data centre. "Redundancy and high availability are vital for us, because BORA prioritises its customers' interests and can't afford any outages," Dewina continues. The company was therefore looking for a partner that understood the importance of these requirements and could translate them into practical, high-performance solutions when building the new data centre.



Antonio Giffuni, System Consultant from the Rittal IT field sales team (left) and Christian Dewina in the new BORA data centre.

USING WASTE HEAT AND HARNESSING NATURE FOR COOLING

BORA opted for Rittal. Cold water cooling technology was the obvious choice for cooling. After all, the River Inn flows right past the company premises and the site already had a well, which was integrated into the data centre's cooling circuit. "Using well water for cooling reduces the amount of electricity we need to operate a chiller by up to 70 percent," emphasises Sebastian Sautter, CEO and founder of Sautter ZT, which was responsible for planning the new building's energy system. In the data centre, Liquid Cooling Packages (LCPs) from Rittal ensure the heat that builds up in the racks is reliably dissipated and the servers are supplied with sufficient cold air. Rittal also installed a chiller on the roof of the building for emergency cooling. This can supply the data centre with cooling power on an autonomous basis.

Combining the two cooling techniques was a challenge. As the most efficient option, well water should be used for cooling whenever possible, but it must also be ensured that the chiller springs into action as quickly as possible if the temperature does ever rise excessively. The "sweet spot" (i.e. the ideal combination) was ascertained on the basis of previous experience and practical tests.

The cooling circuit has a further purpose at BORA – almost 100 percent of the waste heat generated is used for the building's heating system.



Rittal installed a chiller on the roof, ready to provide emergency cooling.

"Even during cold winters, we can cover 20 to 40 percent of our heat requirements in this way," reveals Dewina. The water is ultimately returned to the well, and the whole cycle starts again.

To ensure maximum availability, the server room and technology room were kept separate. "The technology room, which is the smaller of the two rooms, accommodates the uninterruptible power supply and the extinguisher system, amongst other things. The larger server room houses six racks, which is currently sufficient for the site, because we are pursuing a cloud-first strategy," explains Dewina. Maintenance schedules, alarm installations and many other measures ensure the data centre fully meets the tier 2 standard. In collaboration with Rittal, outage scenarios were also simulated to test whether the fine-sounding plans actually stood up to harsh real-life conditions. "That was a very useful exercise. For one thing, it confirmed the concept worked and, for another, it showed us where certain details still needed to be optimised," continues Dewina.

WON OVER FOR GOOD REASONS

A project of this kind doesn't simply come about all on its own. Holger Jarrath from Jarrath.com, which specialises in information and communication technology, forged the initial link between BORA and Rittal. He has long enjoyed a good working relationship with both businesses. "IT is the beating heart of a company," emphasises Jarrath. If it stops working, he says, the plant does, too, so good planning and foresight are essential. "We invited BORA to our production department in Herborn, where we presented our proposal and the necessary components," explains Antonio Giffuni, a member of the Rittal field sales team. This even extended to power and cable management, which also plays a key role for the customer. "Although that involved a lot of



Above: A reliable, secure, efficient and space-saving solution – the Rittal VX IT server racks offer BORA state-of-the-art possibilities.

Left: BORA has switched all its buildings to renewable energies.

detailed work, it was important, because it meant we could configure the IT racks in line with the customer's specific requirements," Giffuni adds. The coherent overall concept, from climate control to power supply, and the excellent collaboration with Rittal ultimately won BORA over. After all, besides all the technical components, IT is also – and will always be – a matter of trust, given that sensitive data is involved. "BORA manufactures high-quality integrated kitchen appliances. The company knows what quality is all about and also recognised the quality we offer," sums up Giffuni. □

Scan here to go to the video:

**GETTING
CAD ON
TRACK –
LITERALLY!**

Special requirements met!

Cideon, SBF and LUNUX

CAD IN – LIGHTS ON

From railway engine headlights to complete systems for towns and cities – in Leipzig, **SBF** and its subsidiary **LUNUX** produce very special lighting solutions. In doing so, they consistently use automation and Autodesk solutions implemented with help from **Cideon** – including a customised BIM environment.

TEXT: RALF STECK, BIRGIT HAGELSCHUER

When you hear of a company with a name as venerable as “Sächsische Bronzewarefabrik” (*Saxon bronze ware factory*), state-of-the-art LED lighting technology products might not be the first thing to come to mind. But over the course of its history, which stretches back for more than 150 years, SBF has repeatedly reinvented itself and succeeded in keeping pace with – or even outpacing – technology. This was the case in 2014, for example, when Stefan Büttner joined SBF.

NEW – BUT A SEAMLESS TRANSITION

“At that time, a new development environment was just being rolled out, which consisted of the Autodesk Inventor CAD system and Autodesk Vault for the associated product data management,” recalls Büttner, who is now Head of Design Engineering and CAD at SBF. As part of the rollout, analysis was also conducted to establish whether the functions of the existing customised programming by SBF could be covered by newly developed, near-standardised and fully standardised Cideon tools. To simplify future updates, Cideon Vault Toolbox was also introduced.

Finally, in 2020, SBF placed an order with Cideon to completely modernise its development environment.

“Cideon built the new environment on a test server provided by our IT department. The new software ran quickly, and once the final glitches had been ironed out, the new environment was rolled out on every workstation,” Büttner explains. The entire system switchover was completed in a single weekend – come Monday morning, employees were able to seamlessly continue work on their new workstations. Any remaining questions were answered in an update training session that Cideon ran. “It all went without a single hitch,” Büttner recalls.

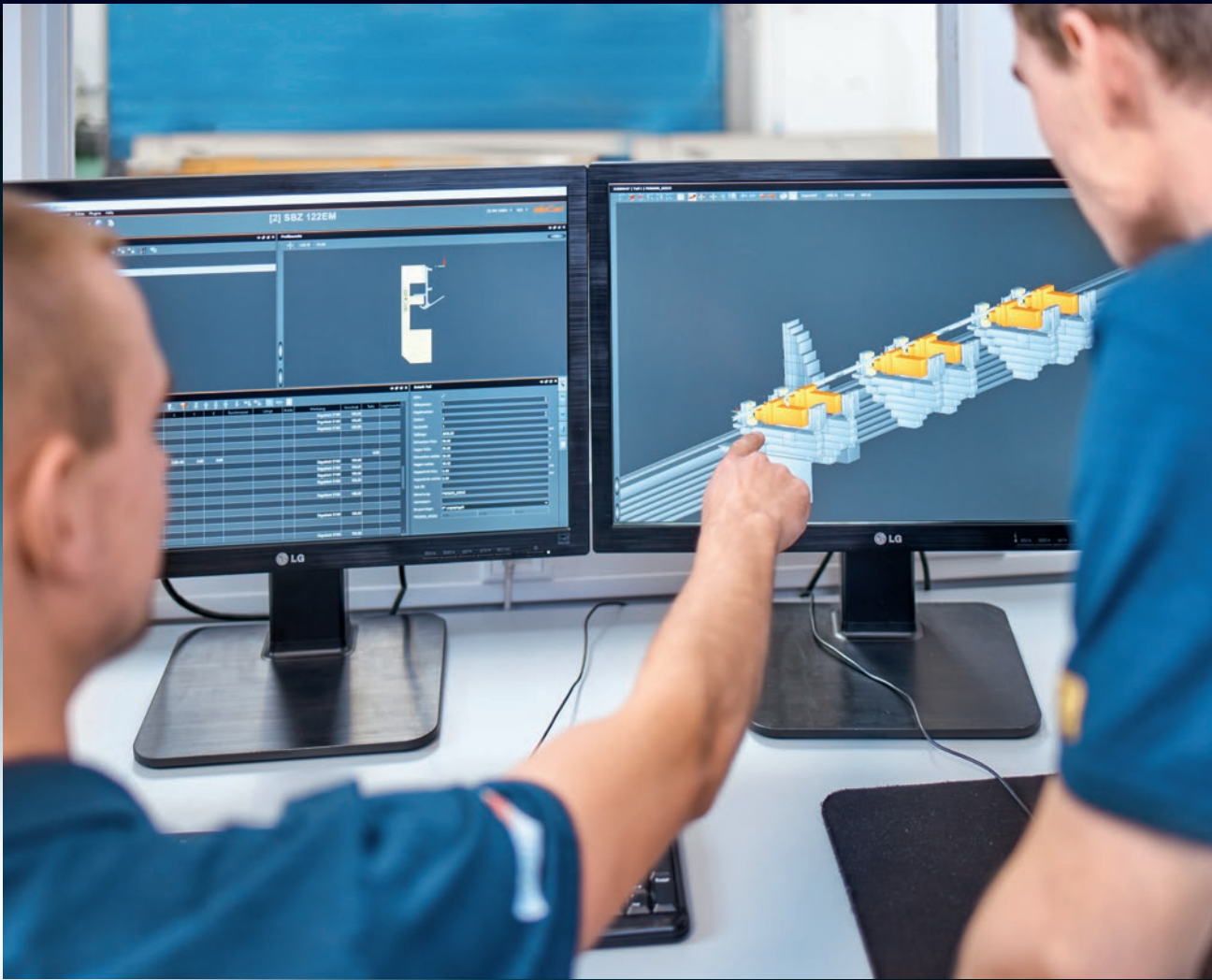
CUSTOMER DATA CONSIDERED, TOO

Inventor 2021 gave the design engineers access to new features that have turned out to be very useful in their day-to-day work. For example, they can now input the STEP data that is often supplied by customers and use it as a basis for further design work. Inventor now also enables design engineers to separate out individual models from STEP assemblies and import them into their own models, which simplifies subsequent work on ▶

AUTOMATION IN TRAINS

There are lots of specific rules that apply to rail transport – for example, certain parameters need to be assigned in CAD models. At SBF, one of the special modules assigns the parameters to the components automatically. The modules programmed by Cideon also take care of the correct labelling of drawings and the FSF-compliant formatting of parts lists.





In addition to using the Inventor Professional CAD system, the design engineers at SBF utilise the Inventor Studio rendering add-in to create customer presentations.

customer geometries. Further optimisations have also been made to product data management in Autodesk Vault.

In addition to using the Inventor Professional CAD system, the design engineers at SBF utilise the Inventor Studio rendering add-in to create customer presentations. Inventor Nastran is also used for FEM simulation when the strength of components needs to be analysed. There is also a special feature to product data management in Vault – the CAD models and the neutral formats derived from them are used consistently throughout the production planning, work preparation, procurement and sales stages.

BIM-COMPLIANT DATA

In parallel with the CAD/PDM update at SBF, Cideon rolled out a Building Infor-

mation Modelling (BIM) environment at LUNUX Lighting GmbH, which is a subsidiary of SBF. LUNUX develops and produces professional LED exterior and interior lights for towns and cities, private developers, industry, shops, offices, logistics and railway transport. Nowadays, customers such as Deutsche Bahn particularly need BIM-compliant data – in other words, data that can be used directly in digital building models.

This data contains far more than just a 3D CAD model – it also includes lots of additional information, from costs and operating technology features through to function descriptions that are relevant to operations. For instance, the data for a railway platform light can include both the light beam data and the electrical connected load values. These values can then be used in the digital building

SBF AND LUNUX

Sächsische Bronzwarenfabrik (SBF) was established in Leipzig in 1862. After the First World War, the company switched its focus to lighting for ships. In 1968, SBF started specialising in lighting systems for railway vehicles. Today, around 130 employees at SBF and its subsidiary LUNUX develop and manufacture cutting-edge LED technology lighting systems for a very wide range of customers and applications.



“CAD models can now be used consistently throughout the production planning, work preparation, procurement and sales stages.”

STEFAN BÜTTNER,
HEAD OF DESIGN ENGINEERING
AND CAD AT SBF

model for planning purposes. Autodesk offers a range of solutions for BIM, including Revit software, which is now more or less regarded as a standard in digital building planning.

DETAILS AND DATA SIZES

Kay Rethmeier, Principal Consultant at Cideon, describes the BIM4 Customer workshop at LUNUX: “Everybody was really interested in the topic, and we achieved some important results. First, the models are prepared in Inventor. During this process, it’s important to reduce the CAD data, because a BIM file contains multiple CAD models with different levels of detail that are used according to the planning stage in question.” As Rethmeier also explains, the amount of data in detailed models should always

be kept to a minimum: “To ensure the complete model stays manageable, the component models must be kept as small as possible, too.”

This requirement proved challenging. Lamp heads, for example, are designed as cast parts, and their CAD models are relatively large. At the workshop, LUNUX and Cideon came up with solutions to address this issue and created the relevant IFC files that architects, engineers and BIM managers will be able to use when planning railway stations for example. Büttner is full of praise for the collaboration. “At SBF and LUNUX alike, we’re absolutely delighted with Cideon. The updates were completed without a hitch, and both the collaboration with our IT department and the BIM rollout itself couldn’t have gone more smoothly.” □



The CAD models are used from production planning right through to sales.



BIM-compliant data serves as the basis for developing LED lighting for interior and exterior applications.





**PLANNING
COMPLEX
BUILDING
PROJECTS**

*What part does
automation
play?*

Building automation

FAST AND PRECISE PLANNING

The experts at **EliteBuildingArchiTec** look a long way ahead. The Berlin-based building automation specialists work closely with **Eplan** – always with a view to maintaining and further extending their leading position when it comes to automating building planning. In this interview, CEO **Christian Hofer** explains the key to success.

INTERVIEW: GERALD SCHEFFELS AND BIRGIT HAGELSCHUER

Mr. Hofer, your company has made a name for itself as a specialist for large and challenging building automation projects. You handle these projects with a manageable amount of manpower. How do you achieve that?

From the very outset, our goal for the future was to automate planning operations to a far greater extent than our competitors. That means we have a high information density to draw on, right from the start of the project. In simplified terms, the process in Eplan is as follows: Instead of drawing, we select and link functions. This involves entering a number of parameters and quickly produces a data model, on a largely automated basis, from which we can extract the necessary documentation.

How do you achieve such a high level of automation?

It's only possible if the right preliminary work has been done, because the functions and the associated links are then already stored in the system.

How did you come to use Eplan for your building automation planning?

We adopted a future-focused mindset – and Eplan helped us with that. Eplan is a great solution provider. As well as being happy to discuss things with us and listen to our wishes, it has the stated goal of expanding its presence in building automation. That was the starting point for a close working relationship that has enabled us to plan with the kind of speed and precision we now demonstrate on a daily basis.

Are those the two key advantages – speed and precision?

Speed is very important, simply because of the projects' complexity. These are challenging building projects such as large industrial plants, hospitals and special applications – hydrogen parks, for instance. What's more, there are far more brownfield projects than greenfield ones, which makes planning even more complex. Precision is equally important, though, because that's what ensures planning certainty. All the functions and modules we use are tested. Nothing is simply copied and adopted as is. Instead, we add our required functions to the Eplan software ourselves.

Does that all happen automatically?

No, and nor is that our aim. We can't automate the final 10 to 20 percent of planning work, and we don't want to. It has to be done by a person, and this precision work forms part of our company's expertise.

Can you give an example of how Eplan is being used on an end-to-end basis?

We use Eplan software to export the planning data we have compiled directly into the systems integrators' controllers. We plan these program components and functions in their entirety in Eplan in ad-

vance, and they are taken over by the controller and logic elements. This example of digital continuity from hardware to software makes work easier. It also increases planning certainty and functional reliability for customers.

There is currently much discussion about digital twins in building planning. Are you benefiting from this as an Eplan user?

Definitely, although this concept has been on our radar for some time now. We have created digital twins and can also draw on planning experience based on the BACnet Standard. Highly effective mapping is possible using Eplan – a capability that extends beyond the development phase. The digital twin lives on for the entire duration of the project. That fits in perfectly with our basic principle – we plan in order to operate, not in order to build. □



“Highly effective mapping of the digital twin is possible using Eplan, meaning it lives on for the entire duration of the project.”

CHRISTIAN HOFER, CEO OF
ELITE BUILDING ARCHITEC

**GREATER
STRENGTH IN
PARTNERSHIP**

*Especially when
it comes to
sustainability.*

LKH and Poly-clip System

WHEN SUSTAINABILITY IS ON A REEL

There are companies out there that, despite being global leaders in their industries, often aren't that well-known. **Poly-clip System** is one of these hidden champions. The packaging specialist is in the top league – not only in terms of innovations, but also when it comes to sustainability. For its plastics technology, the company puts its trust in **LKH** as its most important development partner and producer.

TEXT: MEINOLF DROEGE

Many people are familiar with the protective packaging often used on sausages – a clip made of aluminium at either end keeps out contaminants and gives the sausage a reliable and long shelf life. Once the sausage has been used up, the tiny amount of waste – the sleeve and clips – disappears with the rest of the household rubbish. This system is now standard for many products – not just for sausages, as it was originally designed for, but also for butter packaging and ready meals, and even for applications in the chemical industry.

Poly-clip System, which has two sites in the German region of Hesse – Hattersheim and Gedern – is a global leader in this packaging technology. The family business develops and manufactures packaging machines for a whole host of products, as well as packaging sleeves and clips – and it has plenty of ideas for making packaging more efficient, too. Its market-leading position and 90 percent export rate speak volumes about the company's excellent performance and innovative capabilities. Over the past 15 years in particular, there has been a stronger focus on the sustainability of products and production. CEO Dr. Alexander Giehl explains how he is aiming to strengthen the company further still by steering a clear course in a competitive market – and the role LKH plays in this.

Dr. Giehl, what is it that makes Poly-clip System a hidden champion?

We are a family business with roots that stretch back 100 years. In a list of SMEs with the strongest growth, we are currently ranked 19th out of the 8,000 ►



“Sustainability is one of our key priorities – we continuously optimise our carbon footprint and develop resource-friendly solutions.”

DR. ALEXANDER GIEHL,
CEO OF POLY-CLIP SYSTEM



A strong development partnership (from left to right): Dr Alexander Giehl, CEO of Poly-clip System, Heinz Jüngling, Plant Director of Poly-clip System Consumables, Steffen Diehlmann, Head of Sales at LKH, and Axel Dransfeld, Managing Director of LKH

companies assessed. What's more, "Handelsblatt" has named us a Top 100 innovator. We are continuously growing worldwide – and that growth will continue, because cost pressures and waste legislation mean our packaging technology is appealing to more and more users.

Why is your clip-pak® packaging solution – a tubular bag that is closed with a clip at both ends – attracting so much interest on the market?

This solution keeps packaging material to a minimum and yet provides bacteria-proof protection for foods. What's more, it shapes and packages the product in one step. There's no air in the packaging and we can produce whatever size is needed. Users only need one material and one machine. With conventional tray packaging solutions, such as for minced meat, you need films and foamed materials, as well as gas flushing, dispensing and packaging equipment. Another benefit of our clip-pak® solution is that the logistics are so much cheaper. The packaging is rolled up tightly, so it takes up very little space during transportation and storage, and it only expands when it's filled. These are some of the reasons why our technology is not only economical, but very sustainable, too. Compared to trays, the carbon footprint of our solution is around 80 percent smaller – and we're continuously shrinking that further still, thanks to new developments.

Can the same be said of your spool technology?

Our spools of clips are a very good example. The clips for the packaging machines are delivered to customers on these spools. The spools are then mounted onto the machines and the clips are fed into the machines from there. They're actually a disposable product, with around 2.5 million of them produced each year. However, they're also an excellent example of how innovation can lead to sustainability. Our partner LKH has been producing these spools since 2007. That was also when the material used to make them was switched from virgin material to 100 percent recycled material – resulting in savings of 1,400 metric tons of new plastic each year. A return system has also been set up – once their spools are empty, customers can return them, and LKH arranges for them to be recycled. In 2009, LKH suggested developing a more economical, more energy-efficient stack mould – an idea that they then turned into reality. Since then, repeated reviews have been carried out to see whether and how this product can be further improved. We're talking big numbers, too – more than 35 million spools have now been produced.

What other development steps have been taken since then?

Earlier versions of the spools contained aluminium components. However, these have been replaced



The spools are mounted onto the clip machine and the clips are fed into the machine from there.

100%

RECYCLED MATERIAL SAVES 1,400 METRIC TONS OF NEW PLASTIC EACH YEAR.

by a mono-material solution that simplifies production and logistics. LKH and Poly-clip System also worked together to develop an ingenious honeycomb structure instead of the solid design – and a switch was made to a hot-runner mould, too. This reduces the amount of material used by 30 percent, while nevertheless making the spools very robust. Together with LKH, we are currently focusing once more on materials, with a view to making further progress in relation to sustainability.

What are the defining features of your successful collaboration with LKH?

LKH isn't your typical contractor. They're very proactive about regularly proposing new ideas along the entire process chain – in other words, in relation to choice of materials, toolmaking, production and logistics. The teams from Poly-clip System and LKH get together at least once a year to share ideas. The long-standing collaboration is extremely straightforward, constructive and based on a high level of trust. It's a lot of fun, too – and that's also why LKH is our sole supplier. We're not just a good match in technical terms – we have very similar philosophies, too. We think in the longer term, use the very latest technologies and, even when focusing on the details, never lose sight of what we want the overall solution to look like in the end. □

Stahlo Stahlservice

THE BEST OF BOTH WORLDS

Within a maximum of 48 hours, standard stock formats must be with the customer ready for direct further processing. That's now the norm in **steel processing**. Driven by digital information systems and automated processes, this development means steel processing companies always need dependable suppliers with dedicated staff who ensure not only maximum speed, but also flexibility and top quality – suppliers just like **Stahlo in Gera with its enhanced sheet metal service**.

TEXT: MARKUS HUNEKE



THERE'S NO SUCH THING AS CAN'T!
Stahlo produces what customers need.

“The tighter the timeframe, the more challenging it is to coordinate product quality, logistics and communication perfectly. That’s exactly what Stahlo Blechservice achieves.”

STAHL.SALES MANAGER JENNIFER KREY, RESPONSIBLE FOR THE SHEET METAL SERVICE IN GERA

Stahlo has opened a new high-bay warehouse in Gera.



“We now stock widely used customer formats that are easy to order as required – without long procurement and production times.”

JENNIFER KREY, SALES MANAGER AT STAHL0 BLECHSERVICE

Jennifer Krey has set herself the task of working with her team to meet the high customer requirements in steel processing. The sales manager is from Thuringia, the home state of Stahlo. Her main customers include machine and furniture manufacturing SMEs, firms in the construction industry and companies that process steel in other ways. What these businesses have in common is their need for customised sheet steel. The thin sheet blanks in thicknesses ranging from 0.45 to 3 mm and in all kinds of steel grades are used as preliminary products for items such as metal fittings, electronics enclosures and other precision parts, but also as blanks for larger components such as machine panels and in construction applications, too.

COMMITTED TO CUSTOMER PROXIMITY

What initially sounds simple is actually quite challenging. “Delivery speeds have become much faster in recent years, amongst other things because more and more processes are being controlled digitally. Customers are also increasingly asking for changes, altering deadlines and making short-notice requests,” reveals Krey.

The sales manager certainly knows her customers. She was previously the contact point for customers at Blech-Service Nordhausen, which was acquired by Stahlo in 2018 and relocated in its en-

tirety to Stahlo in Gera in 2023. Krey is also an expert on the relevant materials and the technical machining processes. “I must see the material myself. When I pass through the warehouse and see the sheet metal and equipment, I somehow feel at home,” she says.

Blech-Service Nordhausen had the typical virtues of an SME – a high level of expertise in its own processes, fast and direct communication with customers, rapid decision-making and a willingness to operate any necessary extra shift. This meant it was able to meet specific customer requirements, often with ideas that could improve processes further still – something that customers repaid with long-term loyalty.

IDEAL COMBINATION

The sheet metal service is the perfect complement for Stahlo. On the one hand, you have Stahlo Stahl-service, with its international setup and comprehensive portfolio of high-strength to ultra-high-strength flat steel grades, operating in areas such as automotive contract business. On the other hand you have the sheet metal service from Stahlo, which predominantly handles short production runs and urgent orders. Despite essentially having the same starting product – thin sheet blanks – this means there are minimal overlaps in the customer sectors served.

HARDWARE BOOSTER

While Stahlo Stahlservice was able to expand its portfolio by acquiring Blech-Service Nordhausen, the former Blech-Service team now has access to the efficiency and established structures of a company belonging to the Friedhelm Loh Group.

Stahlo Stahlservice is one of the largest independent steel service centres in Germany. Its international network of suppliers makes the company a reliable steel service partner for industrial customers and a pioneer in green steel. The new plant in Gera – built as recently as 2019 – integrates state-of-the-art logistics and production capacities for coil processing, as well as fully digitalised processes.

This also works to the benefit of customers purchasing blanks. Thanks to its new high-bay warehouse and an ultra-modern laser unit, Stahlo is now equipped for all widely used separation technologies. With its sheet metal service the company thus meets the full range of customer requirements – from simple cutting work and custom prototypes to series production. Stahlo is also setting new standards when it comes to delivery capability – thanks to a new formats warehouse stocking around 1,800 metric tons of ready-made standard blanks.

SIGHTS SET ON GROWTH

“We’ve now succeeded in combining the best of both worlds,” says Krey, who still regularly visits customers, chats with purchasing managers and uses this personal contact to gather information and know-how. “To put it simply, this specific knowledge



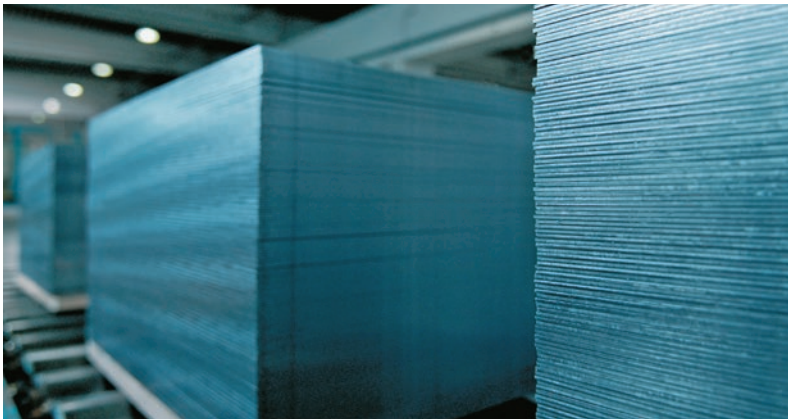
“Flexibility in production is vital for us. That makes it all the more important to have partners who can meet requirements at short notice. We found just such a partner some time ago in the shape of Stahlo.”

NICOLE GRAFFUNDER, THERMOFIN PURCHASING DEPARTMENT

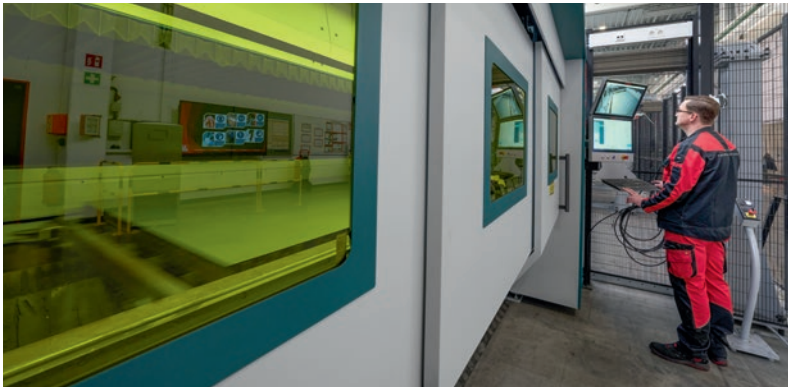
about what’s going on with customers is vital to keep our service at the high level they’ve grown accustomed to,” she insists.

Take the example of thermofin. A manufacturer of refrigeration technology, it was a customer of Blech-Service Nordhausen and now appreciates the high standards of sheet metal service of Stahlo. Headquartered in Heindorfersgrund, in the state of Saxony, and located around 50 kilometres north of Gera, thermofin was founded in 2002. It supplies customers worldwide with refrigeration systems and is highly successful. Thanks to rising demand, thermofin looks set to grow. Amongst other things, a new building for in-house sheet metal production and powder coating is to be constructed at the company’s German headquarters.

Krey and her team also have their sights set on growth. “With our sheet metal service, we have succeeded in retaining our old customers. We’re now intending to further develop the market for our own purposes,” she says, looking to the future. The first steps have already been taken. A number of sheet metal customers have also purchased coils with parallel longitudinal slitting – a typical Stahlo Stahl-service product – through Stahlo. □



Easy to order from stock – thin sheet blanks in thicknesses ranging from 0.45 to 3 mm and in all kinds of steel grades.



The new laser cutting unit cuts any required shape from sheet metal, in any batch size.



The high-bay warehouse offers 800 rack bays, from which the metal sheets are automatically collected and transported to the laser cutting unit.

NEWS INNOVATIONS

Hardware and software – only intelligently combining these two worlds gives industrial and IT companies a real edge on the market. Read on to find out more about the latest products from **Eplan**, **Rittal** and **Rittal Automation Systems**.



Rittal CT M and CT H

New cutting centres

With its new cutting centres – Cutting Terminals CT M and CT H – Rittal Automation Systems is offering not one, but two attractive entry-level machines to support detailed preliminary work, such as cutting wiring ducts and mounting rails to length. Components are fed in and cut to length manually, while the length end stop for the components is set automatically. The end stop is controlled via engineering data. A QR code printer ensures that each cut part is identifiable and correctly positioned in the enclosure.

Rittal PT S4

Busbar machining for small quantities

The new Punching Terminal PT S4 from Rittal Automation Systems is now making it easy for smaller switchgear manufacturers to get started in automated busbar machining. It is an attractive option, even for companies that machine only relatively small quantities of copper each year. Despite its compact design, this new machine offers three interchangeable tools, plus another tool for cutting busbars to length, as well as a connection to the RiPanel Processing Center for digitalised order management. Another benefit for users is the end-to-end coordinated interaction of Eplan engineering tools throughout the entire value chain in plant engineering.



Rittal ePocket

New functions

Rittal is making its customers' wishes come true – when a machine or system is completed, customer documentation can now be sent to the end user. As a result, ePocket can now be used more effectively for interdisciplinary collabora-

tion by all teams, even during the construction process. Throughout the operating phase, panel builders, mechanical engineers and end users can design the digital wiring plan pocket as they wish, either separately or together.



Eplan Platform 2026

Keeping track of all your options

Article data is crucial in engineering. When it is described fully and comprehensively, project planning workflows can be accelerated enormously, boosting the quality and efficiency of the entire process. In the upcoming 2026 version, the Eplan Platform offers a description that goes into much more depth than before, as well as new potential applications for article data.

One highlight is direct access to the Eplan Data Portal, where more than two million predefined components and a

similar number of freely configurable components are available for use via drag and drop controls. In addition, over 400 new article properties ensure parts can be managed in even more detail – locally and in the cloud. This excellent data depth ensures that all information relevant to professional electrical design is available. Another new feature is the standard ERP interface that facilitates a straightforward connection to the customer's enterprise resource planning

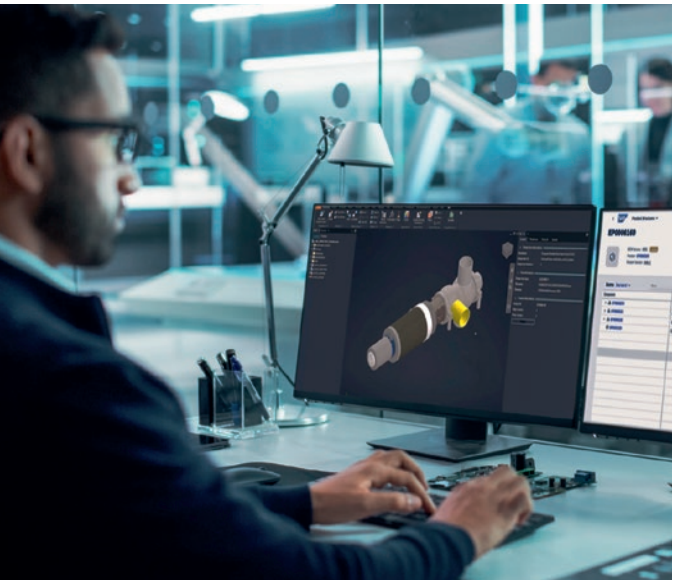
systems. Accessories management has also been optimised. Parts can now be preconfigured on a customised basis and are added to the project automatically with the main article – a function that ensures no important components are overlooked. What's more, Eplan Pro Panel now offers the option of saving up to ten customisable and configurable 3D views of an enclosure, making enclosure planning more efficient than ever. This ensures a better overview and faster project handling.



Cideon

Cideon interface for SAP PLM

Cideon has developed CAD interfaces that seamlessly integrate PLM processes into the SAP cloud. The new solutions enable both a flexible transition to the cloud and straightforward integration of CAD and PDM data. The advantage of this is that design engineers can continue to work in their familiar environment, but also benefit from a secure and reliable cloud connection. This ensures consistent data and avoids redundant information.

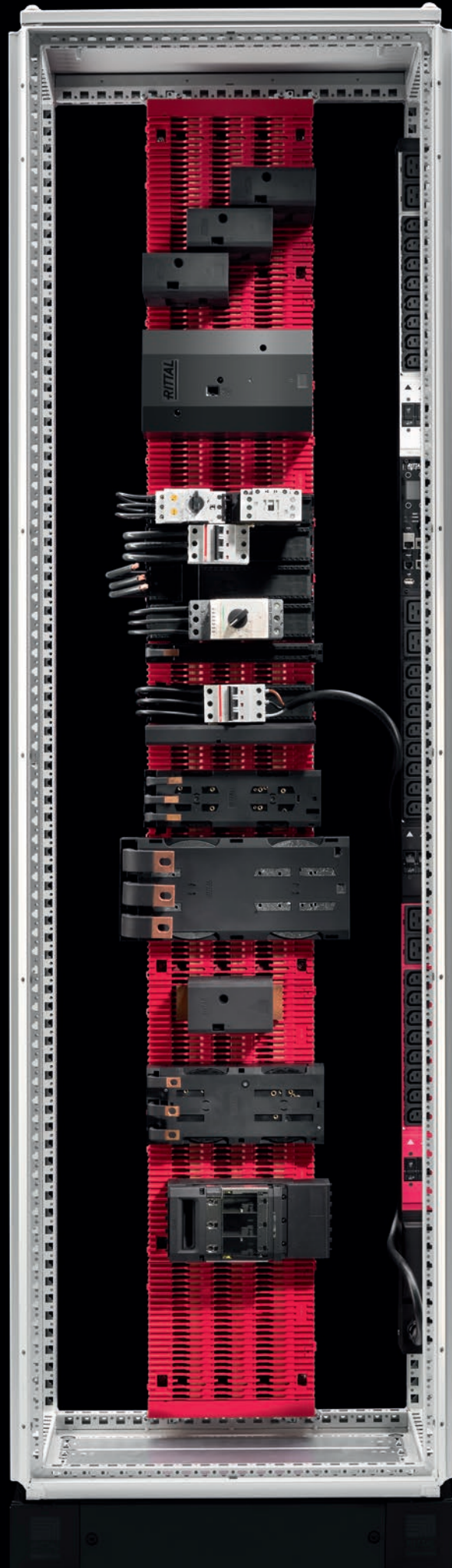


AX IT Nano DC

Robust on the outside, IT on the inside

Nowadays, it's very rare to find a system without sensitive IT. To provide protection for this technology in harsh manufacturing environments or other industrial applications, Rittal has made the interior of the robust AX compact enclosure fit for IT. The new AX IT Nano DC has a 19" mounting frame. IT infrastructure such as servers and switches can be installed vertically to save space, protected in line with high industrial standards such as IP66, and ventilated with a pre-installed fan-and-filter unit. The swing mounting frame ensures ease of access, despite the compact design of the enclosure. The new AX IT Nano DC is suitable for use as a wall-mounted or floor-standing enclosure.





MORE SPEED, MORE INNOVATION?

Yes – with technology partners!

RiLineX ecosystem

AC? DC? FASTER TOGETHER

When it comes to converting energy systems, power distribution and control technology is a key element. Companies that can manufacture and deliver this technology quickly, despite the skills shortage, have an opportunity for growth. To support its customers in this, **Rittal** has initiated a **technology partner ecosystem** with the launch of its **RiLineX power distribution platform**. Among the first partners are **K'ELECTRIC** and **E-T-A**.

TEXT: STEFFEN MALTZAN



Direct current expertise for RiLineX: Raphael Görner (Rittal, left) and Richard Mehl (E-T-A) at the launch of the new platform at SPS in Nuremberg.



Fuse and protection technology for alternating current applications in a compact design (from left to right): Michael Sachs (K'ELECTRIC), Ulrich Engenhardt (Rittal), Kevin Gebelein, Philipp Stöcklein (both K'ELECTRIC) and Raphael Görner (Rittal).

Our customers need more and more speed, combined with a high level of flexibility – and that need is something many different applications have in common,” says Raphael Görner, Executive Vice President of Energy & Power Solutions at Rittal. “We therefore need to look beyond our own development processes. To achieve speed through standardisation and wide-ranging innovations, collaboration between companies is a must,” he continues. That’s why, right from the start, Rittal designed its new platform as an open ecosystem that would enable innovative manufacturers to develop and sell “Ready for RiLineX” components that can be connected directly to the 60 mm busbar system.

AC/DC ROCKING WORLDWIDE WITH PARTNERS
K'ELECTRIC and E-T-A are two partners specialising in different technology. “These manufacturers are established experts in direct current (DC) and alternating current (AC), and we have them on board for our customers now,” Görner explains.

K'ELECTRIC, which is based in the German city of Bayreuth, develops and sells switch-disconnectors, lightning and surge protection, and digital measurement technology, which is primarily used in AC environments. “We’re a smaller supplier – and we make a point of turning that to our advantage. We can work closely with our customers and partners and build their ideas and suggestions into our developments faster – and that applies for Rittal, too,” says Philipp Stöcklein, who is the key account manager for technical building equipment and energy suppliers at K'ELECTRIC. The result is exceptionally compact components for the high packing densities of modern systems – components that can now be installed on the board faster than ever thanks to the new contact design. The partners are expecting the high level of international distribution of

RiLineX to produce a snowball effect. “Thanks to the suggestions from the Eplan Data Portal and the RiPower configuration software, planners and design engineers will be able to discover the benefits of the ingenious K'ELECTRIC components more easily, even if these aren't in circulation on their markets yet,” Görner predicts.

DIRECT CURRENT FOR THE INDUSTRIAL AUTOMATION OF THE FUTURE

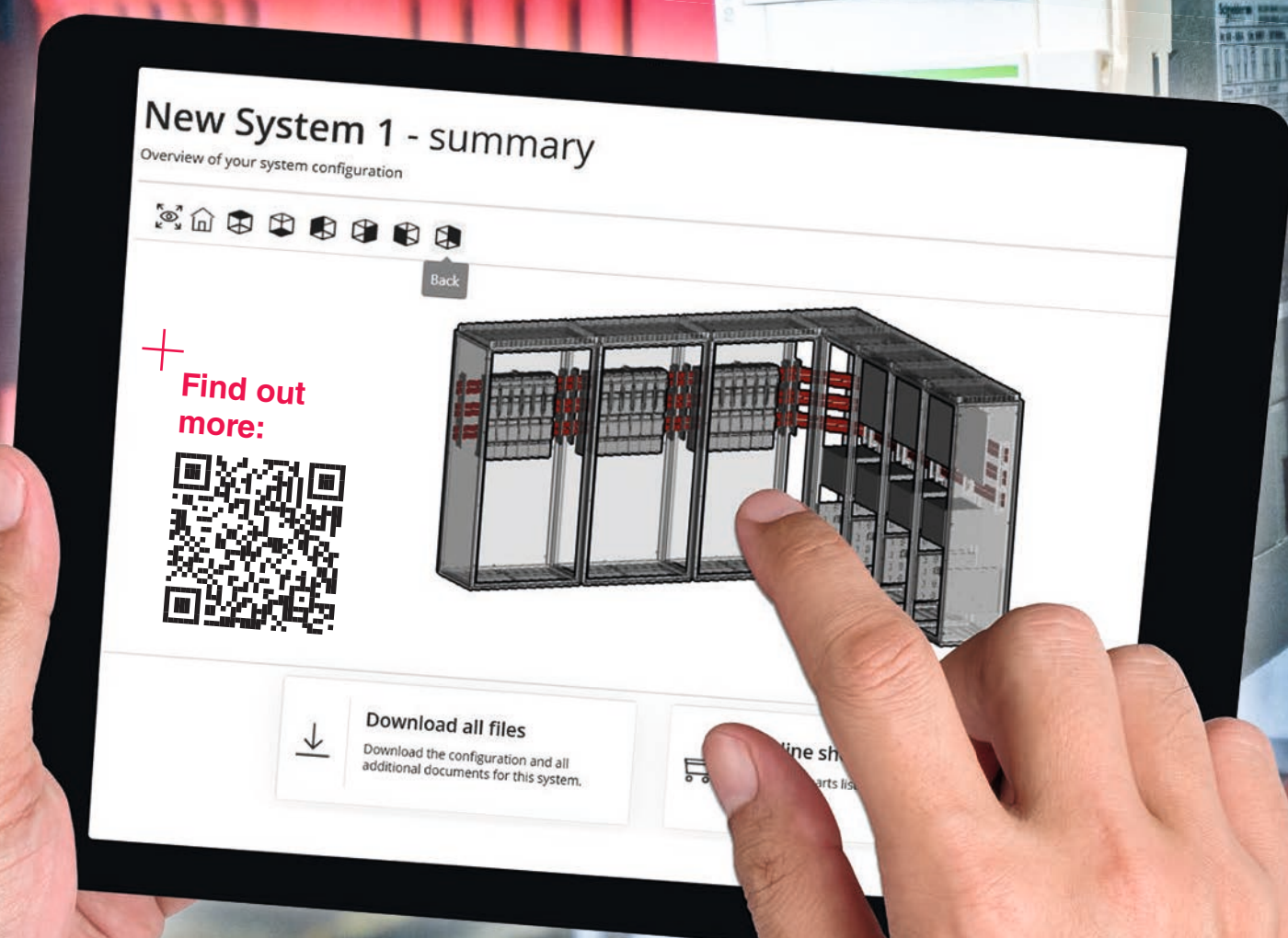
Direct current is not only distributed in battery storage systems and photovoltaic installations. In more and more industrial applications, power reaches the machine via stable direct current networks. This eliminates losses from current conversion, and battery storage systems and photovoltaic installations can be integrated into the energy flow more effectively.

As a global market leader in circuit protection devices and overcurrent protection, E-T-A Elektrotechnische Apparate GmbH – a protection equipment specialist based in Altdorf in Germany – brings many years of experience in direct current to the ecosystem. “In terms of switchgear and components, DC systems have different needs, in relation to arc quenching, for instance,” explains Richard Mehl, Head of Division Communication & Systems at E-T-A. “Always considering direct current and, above all, enabling easy change-overs was important to us, both for the partner network and the electromechanical platform product development,” Görner emphasises. “What’s more, E-T-A also offers customers excellent technological flexibility and, as a result, futureproofing, too. Depending on the application, E-T-A provides protection for expensive equipment in the mechanical engineering sector and process industry – in the form of either conventional electromechanical solutions or smart, selective protection systems.” □

RiPower configurator



DIGITAL POWERHOUSE



Networked ecosystems offer a whole host of benefits in plant engineering. And this is exactly where the new **RiPower configurator from Rittal** comes in. It **speeds up the planning and construction of low-voltage switchgear** and simplifies collaboration on a cloud platform. What's more, a link to products and software from **Rittal and Eplan** provides additional support for planning specialists and plant engineers.

TEXT: HANS-ROBERT KOCH

Customers benefit from faster project handling, planning certainty and cost transparency. Their time is too precious to spend hours reading the manuals needed when planning an enclosure fit-out manually or to create parts lists by hand.

Rittal has resolved this issue by offering a simple digital tool that enables users to plan their system quickly and easily. This tool is the new RiPower configurator – the successor to the Power Engineering tool. Thanks to seamless data consistency with Rittal and Eplan software solutions, users also benefit from maximum planning convenience. This makes it much easier to plan power distribution systems and busbar components.

EASY TO OPERATE

RiPower is easy to operate and user-friendly. With a click of their mouse, users simply select the RiPower configurator from a range of apps such as the Eplan Data Portal, eStock or RiTherm. The planning tool can be used to configure not only Ri4Power energy distribution systems, but also the RiLine and new RiLineX systems.

RiPower generates the interior fit-out of a switchgear system automatically through intelligent system queries. Consequently, this work no longer needs to be performed by a specialist planner – even the system's power output limits are automatically taken into account. Standard-compliant systems ensure people and equipment are kept safe, and making mistakes during planning is simply not possible. Users benefit from automatic documentation and the creation of design verifications to IEC 61439. They can use a customised design verification wizard to create their own design verifications.

CONSISTENTLY TRANSPARENT

Once the configuration is complete, RiPower generates field-specific assembly

instructions to enable fast installation that is standard-compliant at all times. The system can even be pre-assembled in the Rittal Application Center in Gera on request. Besides downloading the relevant documents, users can order components from the Rittal online shop directly at the touch of a button, or get a detailed quote.

RiPower fits into the existing Rittal and Eplan ecosystem seamlessly – data from the configurator, such as parts lists, can be processed further in Eplan P8 or AutoCAD, and machining centres from Rittal Automation Systems can also be connected for machining cop-
per. □

INTERVIEW

WE ARE KEEN TO KNOW WHAT CUSTOMERS THINK OF RIPOWER, SO WE PUT A FEW QUESTIONS TO BERND MÄHNSS, MANAGING PARTNER AT HANSEATIC POWER SOLUTIONS GMBH.



Mr. Mähns, your planning team is already working with RiPower. Can you tell us about their initial experiences?

We've been using the new RiPower configurator to plan our switchgear for a few months now. Our initial experiences have shown that it helps us design our systems with greater speed and ease. There are various reasons for this – for example, the tool is now better integrated into the Eplan software world, and automated processes mean there are far fewer errors.

Which features do you particularly like?

It's easy to put together complete switchgear systems – that saves time

and makes planning a lot easier. As RiPower is available in a cloud environment for the first time, together with Eplan software solutions, we have flexible access to our project data. This means we no longer need to carry out manual updates, but can always work with the latest software version.

Can you estimate how much time RiPower is saving you in the engineering process?

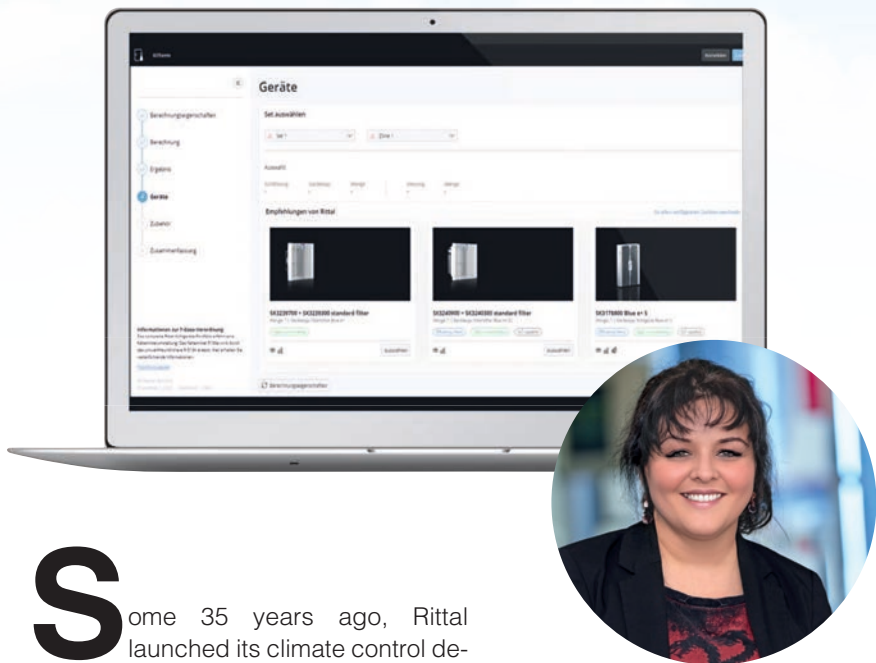
RiPower saves us around four hours of manual work per enclosure. The automatic calculations mean many work steps are no longer needed. That's a massive gain!

New RiTherm software

CLIMATE CONTROL MADE INTUITIVE

You don't need to be a specialist to perform accurate **thermal calculations** for enclosures – not even when standard-compliant proof of energy efficiency or the carbon footprint is called for. That's because **RiTherm, the new design tool from Rittal**, enables users to calculate the necessary **enclosure climate control – and much more besides – in next to no time.**

TEXT: ALEXANDRA LACHNER AND JANNICK BANGARD



Some 35 years ago, Rittal launched its climate control design software Therm onto the market as a free service – the first manufacturer in the world to do so. Today, more than 80,000 customers worldwide use the software to perform over 500,000 calculations each year. “There’s a common saying ‘Never change a running system’, but that’s not the approach we take,” says Verena Schneider, Business Owner for RiTherm in the Cooling Solutions business unit at Rittal. “Energy-efficiency requirements are growing, and there’s a demand for reliable CO₂ figures, so we asked ourselves what our customers will need in the future,” she continues. The

“Major end customers want proof that the most efficient climate control solution has been selected.”

VERENA SCHNEIDER,
PRODUCT MANAGEMENT
CLIMATE CONTROL, RITTAL

result is RiTherm – the completely new design tool that is available on the Rittal website and in the Eplan Cloud. Customers who have been using Therm up until now can transfer their projects and enjoy all the benefits on offer.

CARBON FOOTPRINT AND F-GASES
The software generates a precise design for enclosure climate control. To ensure the solutions will cope with real applications, whatever the circumstances, worst-case scenarios are used as the basis for ambient temperature figures. The energy-efficiency calculator uses project data for the site in question, including finer details such as altitude data and regional temperature profiles.

The project data is used to calculate the most efficient climate control solution for the specific circumstances. RiTherm also generates the carbon footprint of the planned climate control solution, from delivery to operation. “Although it’s not a statutory requirement yet, major end customers want their plant engineers to provide proof that they have selected the most efficient climate control solution,” Schneider explains. Finally, documentation is generated in the form of a standard-compliant heat dissipation certificate in line with the Machinery Directive. With the new F-gas Regulation now in place, RiTherm also helps customers with the tricky issue of choosing a refrigerant – information and details about the global



RiTherm calculates the essential cooling requirements for switchgear. Pictured here is the new enclosure cooling unit from the Blue e+ S series

warming potential (GWP) of the respective cooling solution actively support customers in this decision.

PLENTY MORE BENEFITS, TOO
“Thanks to the intuitive, cutting-edge design of the interface, working with RiTherm is really enjoyable,” says Schneider. Requirements-based calculations for enclosures, special enclosures and now even bayed suites of enclosures can be generated with ease to provide users with a proposal for the necessary cooling solution. Customers are also delighted by RiTherm, as Niklas Papenheim, a project manager at Comati Automation, confirms: “The air throughput calculation is the feature we use most. Once we have that figure, we can choose suitable fans or cooling units quickly and easily.”

RiTherm also includes other functions and services, such as thermal calculations for outdoor enclosures and data transfer between the Eplan software tools. “Heat-loss zones” is another new function. It enables customers to define customised zones within their bayed enclosures that are to be considered as one interconnected area for the purposes of thermal calculation. There is also the option of factoring in cooling output buffers and designating these in the documentation. And these are just some of the features of the new RiTherm design tool – there are many more. □

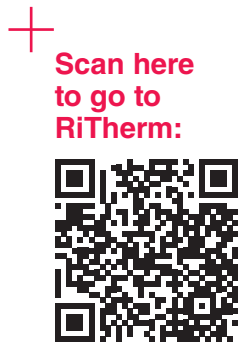


“RiTherm was a tremendous help to us when it came to creating the perfect climate control design for outdoor applications. The software generated precise simulations and recommendations, even for extreme weather conditions. This helped us come up with an ideal solution that ensures the systems always work reliably.”

STEFAN BRÜHLMANN, CO-OWNER
AND DEPUTY CEO OF PEZAG,
SWITZERLAND

50,000

ENCLOSURES ARE
DESIGNED THERMALLY
EACH MONTH
USING RITHERM
FROM RITTAL.



NEWS

COMMITMENT

Supporting music in Gera, a sports event in Wetzlar or healthcare in India: **Rittal Foundation** and **Debora Foundation** unites people across the world. The mission of both organisations to **inspire confidence, strengthen cohesion and promote the future.**



The free primary health care for children is a co-operation between the Debora Foundation and the Bangalore Baptist Hospital.

Debora Foundation India

For a healthy future

The **Debora Foundation and the Bangalore Baptist Hospital** have the same vision in mind. They both want to give needy children and families in the villages around Bangalore in India a better future. Therefore, they have been cooperating for several months to provide basic medical care for the poorest people. “It goes far beyond a simple partnership,” says Dr. Caroline George, consultant from the Baptist Hospital, when describing the collaboration. “It is a lifeline for hundreds of children in the rural areas of Bangalore,” she says, highlighting the primary objective of the Debora

Foundation India, which has now established 15 education centres in the villages: to combat inequality of opportunity for socially disadvantaged children in India and to provide education. The foundation’s big vision is to build a school, which is to be driven forward this year. In addition, the Debora Foundation also provides emergency aid and offers private tuition or sewing courses for young women who can use this training to earn money and become more independent. The most recent collaboration with the Baptist Hospital in Bangalore focuses on the medical health of children. Dr. Caro-

line George explains “Development and emergency aid programmes such as those run by the Debora Foundation are vital in giving children from disadvantaged backgrounds an opportunity for a better future.” To that end, the tutoring offered at its educational centres not only imparts knowledge, but also teaches self-reliance and independence: “The partnership is making a further important contribution to this vision,” says Dr George. “After all, only healthy children can concentrate on learning rather than pain and illness, and only then can they dream of a better future.”



The school choir and all the other students benefit from the new professional recording studio.

Supporting music

Lessons in a recording studio

A new recording studio at the Rutheneum grammar school in Gera was officially opened **at the beginning of September 2024**. The studio will offer students at the school the opportunity to train in sound engineering. The school’s concert choir, which has developed into one of Germany’s leading youth choirs, also benefits from the new technical possibilities. An 18,000 euro donation from the Rittal Foundation made the new musical playground possible. “We are supporting this project because it gives young people access to cutting-edge technical and educational facilities. Besides encouraging creativity, music also improves their team spirit and grasp of technology,” explains the Director of Rittal foundation, Rainer Reissner as he handed over a symbolic 18,000-euro cheque in person at the opening ceremony held in Gera, Germany.

Support for sporting events

Fun at the Down’s Sports Festival

Last autumn, Rittal was involved in the **world’s largest sporting event** for children, young people and adults with Down’s syndrome in Wetzlar, both as a helper and as the provider of a sporting station. Around 600 people enjoyed a variety of sports and activities. The German Down Sports Festival was supported by 20 members of staff, many of whom were junior members. For the Rittal trainees, the highlight came in the form of a handball goalwall, which the trainees constructed themselves from Rittal enclosures.



A project of FLG apprentices

Bright ideas for “Made in Germany”

Does “**Made in Germany**” actually still carry any weight? What about Germany’s actual position as a business location – especially in a global comparison? These are big questions with far-reaching implications, and there are no easy answers. This is precisely the aim of the traditional Gnadenthal days for apprentices from the entire Friedhelm Loh Group: gathering ideas and inspiration, thinking big, discussing topics of relevance to society as a whole.

“Above all, Gnadenthal should be an opportunity to think outside the box, far

away from the daily work and expertise of the respective training occupation, and to learn something for life,” explains Prof. Friedhelm Loh, Owner and CEO of the Friedhelm Loh Group. When presenting their results to a jury of expert managers, Chiara Gerloff, Patrick Zajda, Sadik Ünal, Sascha Tamia Diehl, Devin Altan and Ekrem Kosmaz took first place. The brilliant idea they came up



with was a company test sheet that forms the basis for the still coveted ‘Made in Germany’ label only to be awarded if a score of 40 points is achieved for requirements such as innovative strength and sustainability.

**RECRUITING
APPRENTICES?**

*“SchulePlus” offers
new, currently
unique oppor-
tunities.*



“SchulePlus” dual work/study project

STUDENT IN THE MORNING

What job would suit me? Many young people worry about this question. The **“SchulePlus” dual work/study project**, which is currently the only one of its kind anywhere in Germany, can help them find answers – and it offers solutions in the face of the skills shortage, too. This project, which is being driven forward by the **Friedhelm Loh Group** and the **Johann-Textor school in Haiger**, is winning over apprentices and students, the Minister of Culture for the Federal State of Hesse, and a national judging panel.

TEXT: SARAH BENSCHIEDT

Noah (18) can still remember exactly how it all came about. Less than a year ago, he was still at school, taking part in the new “Schule-Plus” scheme – and today he is an apprentice at Rittal, the biggest company in the Friedhelm Loh Group, and is himself a mentor in the programme.

But let’s start at the beginning, back when Noah was still at the Johann-Textor school and had chosen an elective subject that involved learning how to use CAD software to create 3D drawings of components. He was then given the opportunity to gain practical experience as a “guest apprentice” in the Friedhelm Loh

... APPRENTICE IN THE AFTERNOON

Group training workshop. “I really enjoyed the work and quickly realised it was right up my street,” he says. Last summer, he was then offered a contract to train as a technical product designer. What’s more, he was also asked if he would be interested in helping students at his former school get a better insight into the content of his apprenticeship.

**CAREERS GUIDANCE –
BUT PRACTICAL**

What do I want to be? Young people like Noah ask themselves this question when they are thinking about leaving school to study or train. In other words, they’re de-

ciding on their future. According to Alexander Schöler – the teacher at the Johann-Textor school who came up with the idea for the “SchulePlus” project – many students are worried about making the wrong decision and anxious about the new and unfamiliar situations that await them in the workplace. Years ago, he found himself increasingly puzzled by the massive drop in the number of apprentices in Central Hesse.

He talked to his students about it and asked questions – and it was those discussions that ultimately gave rise to the “SchulePlus” project. The aim was to develop a model that would enable

young people “to gain practical experience and try out a particular job over a prolonged period of time, so they can find out if it is a good fit for them – but without any pressure to make a decision”. Once students have decided on a company and a job, they can then enter into a year’s contract that they complete while still attending school. “They can switch at any time,” explains Schöler. This model, which was launched in 2021, is the first of its kind anywhere in Germany. It didn’t take long to find collaboration partners in the region. One of the first partners was Rittal and the Friedhelm Loh Group. ▶



Practical learning with “apprentice mentor” Noah Schlemper (18), who himself successfully took part in the “SchulePlus” project less than a year ago.



Noah Schlemper and Chiara Gerloff are apprentice mentors. As part of the “SchulePlus” programme, they give students insight into their training.

“GUEST APPRENTICES” – A NEW MODEL

It was now a case of finding a way to enable the students to gain more practical experience. But how? As an example, students in their early to mid-teens in school years 8 to 10 can learn theory in their elective subject classes at school – such as the CAD course chosen by Noah – and also gain practical experience as “guest apprentices” in a company in the afternoons. In addition, apprentices visit the school to help out with lessons in the elective subject. For instance, Noah and Chiara – who are both doing product design apprenticeships at Rittal – help students who are learning about CAD.

What are the benefits of this? “I get the impression students ask more questions than they do when it’s just the teacher taking the class,” says Noah. On this particular Wednesday morning, he’s attending class 10 b as an “apprentice mentor”, where he’s being bombarded with questions about his choice of occupation. Noah and Chiara attend the class once a week. Similarly, students such as Jonna Müller (15) and Leonie Thomas (16) go to the Friedhelm Loh Group training workshop on a weekly basis. Jonna



“SchulePlus supports young people in their development, takes the fear out of contact with the working world, and gives students certainty and confidence about their future career.”

ALEXANDER SCHÜLER, TEACHER AT THE JOHANN-TEXTOR SCHOOL IN HAIGER WHO CAME UP WITH THE “SCHULEPLUS” IDEA

and Leonie are taking part in the “SchulePlus” programme, too, and now also have Rittal apprenticeships lined up, which will start in the summer.

Product design is both girls’ dream job – which has come as something of a surprise for Leonie at least. She explains that she was originally interested in training to become an optician, but discovered through the “SchulePlus” scheme that product design is something she really enjoys and is right up her street. Jonna also believes that the practical experience has helped her find out where her strengths lie. There’s another benefit of the scheme that she’s appreciated, too. “I’ve already been able to get to know the other apprentices and the trainers at the training workshop, and I’ve felt really comfortable there,” she says.

SITE VISIT BY THE MINISTER OF CULTURE

A delegation including Armin Schwarz, Minister of Culture for the Federal State of Hesse, was impressed by the concept during a site visit. Accompanied by Prof. Friedhelm Loh, owner and CEO of the Friedhelm Loh Group, Alexander Schüler, Tobias Sohn and Head of Training Daniel Wirth, Schwarz was given a guided tour

of the training workshop and the concept was explained to him. The “SchulePlus” project is a matter of great importance to Prof. Friedhelm Loh, who described the link between studying theory at school and gaining practical experience in the workplace as one of its major benefits. In this respect, it is similar to the Studium-Plus dual work/study programme offered by the Central Hesse University of Applied Sciences – a programme that Prof. Loh helped to found. “Getting young people interested in technology is more important than ever, including with regard to Germany’s standing as a business location and the country’s skills shortage,” he comments. And what does Schwarz, the Minister of Culture, think of the programme? His response is enthusiastic. “Not only does the project support a seamless transition from school to the world of work, it also strengthens Hesse as an economic region,” he says.

Noah, meanwhile, is “more than happy” to have opted for an apprenticeship at Rittal and to have the chance to share his knowledge with others. “The whole programme really helped me find out which job suits me, what I enjoy doing, and the direction I want to go in, so now I’d like to help others, too.” □

4 QUESTIONS



FOR TOBIAS SOHN, WHO IS IN CHARGE OF TECHNICAL TRAINING AT RITTAL AND ALSO DRIVES THE “SCHULEPLUS” SCHEME AT RITTAL AND IN THE FRIEDHELM LOH GROUP.

Rittal is a massive supporter of “SchulePlus”: Why is that?

Young people need time, space and coaching to help them find their direction – and that’s exactly what “SchulePlus” offers. The programme also takes the fear out of contact with the working world and helps young people gain a practical understanding of the job at an early stage. It’s therefore a good way for companies to tackle the skills shortage and encourage talented young individuals.

Are companies taking up this opportunity?

Yes, over 100 companies are currently taking part in the project. It gives them the opportunity to spend up to two years getting to know the young people in question and preparing them. This means that when these young people start their apprenticeships, they can contribute their know-how right away. By training young, motivated and talented individuals in the local area and retaining them, we are strengthening the region and improving the image of training.

What do you think the project’s prospects are – including nationally?

I think the prospects are great! We impressed the judging panel of “Schule-Wirtschaft” – a network that encourages schools and businesses to work together – and won the award at both state and national level. We’ve achieved some genuine successes, too. Some 50 young people on the “SchulePlus” programme have already received a training contract – 14 of them at Rittal. There are already over 90 applications for the next academic year. Besides the CAD programme, there are plans to offer electrical technology and metalworking as elective subjects, too. And we’re even working on an “AusbildungPlus” programme.

What’s the idea behind “AusbildungPlus”?

“AusbildungPlus” is an extension of “SchulePlus”. The aim is to remodel training, so all “SchulePlus” participants reap the benefits during their training – in the form of credits, for example. We want training to become an “opportunities market”. Besides tutoring for young people with gaps in their knowledge, the model is to provide targeted preparation for further training as e.g. a master craftsperson, technician or business administrator. Students should even be able to complete a study or dual work/study programme in Hesse with an integrated technical high-school diploma during the training period and gain additional qualifications in the third year with Chamber of Commerce and Industry (IHK) certification – without having to sit the traditional high-school exam. Daniel Wirth, who is in charge of our junior employees, is pursuing this on behalf of the FLG, in coordination with regional companies, the IHK, and the vocational college.



**THE
MUSEUM
AS A PLACE
OF LEARNING**

How do you encourage technical know-how?

Automuseum

THE CLASSROOM WITH WHEELS!

Since it opened, **130,000 people** have come to see for themselves what the German “Stern” magazine called **“Europe’s most spectacular car museum”**. Some have even come to study and learn – because the museum is also a **university campus and a knowledge hub**. **Prof. Wolfgang Henseler**, one of Germany’s leading design experts, is responsible for the “museum as a centre of learning” concept.

TEXT: SARAH BENSCHIEDT

“From the outset, Prof. Loh’s vision for his museum was to use automobiles to get young people interested in technology.”

PROF. WOLFGANG HENSELER, DESIGN EXPERT



Prof. Henseler, who lectures at universities including Pforzheim, has been in charge of the Nationales Automuseum campus since 2024.



Prof. Henseler, what have automobiles got to do with education?

From the outset, the vision of the museum owner, Prof. Friedhelm Loh, was to use automobiles to get young people interested in technology. That led to the museum also becoming a centre of learning. Besides its role as a university campus in collaboration with Nürtingen-Geislingen University (HfWU) the learning opportunities for schools are being expanded, too. The first pilot projects took place last year.

How can automotive design get children and young people interested in technology and technical professions?

Take the example of the pilot project with the Holderberg School in Eschenburg. Schoolchildren were able to learn how to build soapbox cars, draw a car in perspective and make a model out of copper wire and solder. Besides having loads of fun racing their cars at the end of the project (Henseler laughs), the children proved to be very keen and creative participants. No doubt the museum surroundings were also a welcome change from the classroom for many of them.

Will you be further expanding this cooperation with schools?

Our big goal is to incorporate fun, creativity and added educational value into teaching kids about technology and design. Our museum activities for schoolchildren have now been incorporated into

the “Hessischer Bildungsserver” platform, where schools can find out about programme contents and contact the museum directly.

How is the university side of things going?

Options such as the “Certified Expert for Car Design” course have been available for over a year now. It gives students an insight into automotive design that they’d normally only get if they were on the management board of a major automaker.

You teach this course yourself. How exactly do you go about that?

In order to understand how the design process for a vehicle comes together, or how it will evolve in the future, you need to have theoretical know-how that is backed up by practical work. That’s why students are given the unique opportunity to conduct research on selected vehicles in the Loh collection.

Design is just one part of the educational concept, though, isn’t it?

Yes, that’s right. The opportunities and synergies when it comes to research are huge. For example, students can learn how to appraise vehicles based on scientific standards. Work on preparing modules for a Master’s course in engineering sciences has also been completed. A professorship in motor vehicle history is on the cards, too. What’s more, besides the courses for schoolchildren

and students, we’re also intending to offer seminars and information days on these topics for interested adults and senior citizens. □

NEW SPECIAL EXHIBITION ON THE HISTORY OF GRAND PRIX



The only exhibition of its kind in the world, “Grand Prix – Icons of the Premier Class of Motorsport” covers the period from the pioneering days of motorsport to present-day Formula 1, from pre-war racing cars, technology innovators in the early years and single-seater open-wheel cars from the Silberpfeil era all the way through to today’s models. The exhibits include the Grand Prix racing cars of legends such as Rudolf Caracciola, Juan Manuel Fangio, James Hunt, Niki Lauda, Ayrton Senna, Mika Häkkinen, Michael Schumacher and Lewis Hamilton. The exhibition opens on 12 April 2025.



Issue 02 | 2025:

“NO FUTURE IN ENGINEERING WITHOUT AI!”

Generative AI and end-to-end digital processes are fundamentally changing engineering – faster than anyone imagined. **Siemens and Eplan** have joined forces to drive this development. Their goal is to create end-to-end digital processes that take the synergy between electrical design engineering and automation to a whole new level. **Sebastian Seitz, CEO of Eplan and Cideon**, and **Rainer Brehm, CEO of Siemens Factory Automation**, reveal why AI isn't just taking over repetitive tasks, but also actively supporting engineering – and what this means for the sector's future.

Find out more in the next issue of be top!

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Another milestone for the Eplan Data Portal

BREAKING THE 2-MILLION BARRIER



Data isn't just a driving force in project planning. Users of the Eplan Data Portal have access to high-quality product catalogues from an ever-growing selection of well-known component manufacturers. The portal's static article data from around 500 manufacturers has now passed the 2-million mark! Factor in the integrated configurators, and this number increases to well over 4 million. The virtually boundless range of components continues to grow and can be incorporated into projects both quickly and efficiently.

The availability of over 4 million article datasets ensures huge variety for projects. It's not just the quantity of data that is crucial, though – it's the quality, too. “In our case, quantity and quality go hand in hand,” explains Rainer Ackermann, Head of Content Quality Management at Eplan. “To ensure we offer our users maximum added value, we have high standards regarding the quality and

integrity of datasets. That's why we are also continuously working on the Eplan Data Standard, or EDS for short,” he adds. This standard relates to the efforts of manufacturers to provide datasets that are as comprehensive as possible. Examples include enclosure components, 3D representations of articles, drilling pattern dimensions, connection diagrams, commercial data, article numbers and descriptive texts. A large proportion of the article data in the portal – 1.4 million out of more than 2 million components – is already available at Eplan Data Standard level. By improving and safeguarding the quality of datasets, the EDS ensures they can be used efficiently. Rittal has around 7,300 articles in the Eplan Data Portal, around 5,600 of which meet Eplan Data Standard criteria. These include enclosures and associated accessories, Blue e+ climate control units and much more besides. □



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