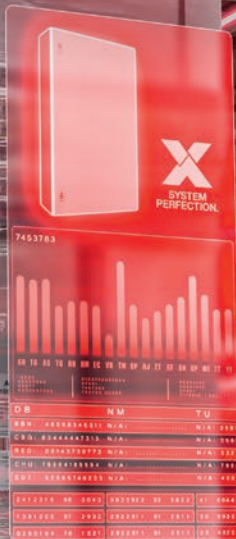


# betop

MAGAZINE OF THE FRIEDHELM LOH GROUP



# FASTER AND BETTER

HOW **EUROPEAN CUSTOMERS**  
ARE TAKING ON THE COMPETITION  
WITH EPLAN AND RITTAL



99.9

PERCENT

planning accuracy is being achieved by the new Rittal factory in Haiger. Systematic automation and digitalisation have made it a model of innovation and won it the accolade "Factory of the Year".

80

PERCENT

is the time saving the Spanish company SIDE has achieved by using Eplan and Rittal solutions in its enclosure machining operations. That's like shrinking roughly a whole working day down to 20 minutes.

# MAKING EUROPE STRONG

## DEAR READERS,

The situation is serious. For many, it's existential. In Europe, the economy is under massive pressure. In Germany, we are seeing full-scale downturns in almost every sector – the automotive industry, the automotive supply sector, mechanical engineering, the pharmaceutical and chemical industry, and the electrical industry. In concrete terms, that means job losses, plant closures and relocations to other countries. Our industrial model was successful for decades, but the cracks are definitely starting to show. Our competitive edge is disappearing – if it hasn't already vanished.

The reasons for this don't just lie in world trade and politics. We also need to take a critical look at the performance of our industry. The German business magazine "Wirtschaftswoche" summed it up – product solutions often arrive too late, are simply too expensive and don't focus sufficiently on practical benefits. High energy costs and the skills shortage are making life even more difficult.

What can we do, though? We need to find new ways of becoming more competitive and a new commitment to performing well. We will need to fight, and that's only possible together. No company will be able to overcome the challenges on its own. We need each other – as partners, customers and innovation drivers. I am certain that joining forces will result in new competitiveness.

Why am I so confident about that? Because Europe has an excellent industrial base, exceptional technological expertise and a great deal of experience with complex value creation processes. The vital thing now is to make industry strong and take responsibility for innovation. The basic principle is as old as industry itself. What really matters has always been boosting customers' business competitiveness. In 2026, automation and digitalisation are no longer optional – they are essential.



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

In the be top cover story, we have some encouraging success stories for you. SIDE and Liquats Vegetals in Spain and Polish company OREX are safeguarding their competitiveness by systematically digitalising and automating their operations and refusing to compromise on the use of high-quality products worldwide. Many other customers in Europe are also opting for technologies from Eplan and Rittal – in mechanical engineering and new energy technologies, as in the case of German start-ups Greenlyte and Voltfang. We, too, are adopting a new mindset, making further investments in Europe as an industrial location and seeing successful results. Our state-of-the-art factory in Haiger has been named "Factory of the Year 2025" for having the most cutting-edge production operations in Europe.

**Happy reading!**  
**Prof. Friedhelm Loh**





The official verdict of the panel judging the "Factory of the Year 2025" award: "The factory has an impressive and exceptionally high level of digitalisation and automation."

## COVER STORY: 24-HOUR FULLY AUTOMATED OPERATION IN THE HEART OF EUROPE

At its Haiger factory, Rittal is showing how consistently digitalised, end-to-end processes can set a benchmark: from 3D twins in engineering right through to delivery – without any manual intervention. The production of up to 9,000 enclosures each day, AI-supported optimisations and 99.9% planning accuracy won Haiger the title "Factory of the Year 2025". This smart factory is completely redefining values such as customer focus, automation and continuity – and demonstrating the cutting-edge, efficient approach European industry is taking to meeting global economic challenges.



**Hans Robert Koch**  
Editor-in-Chief

### 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](mailto:betop@friedhelm-loh-group.com)

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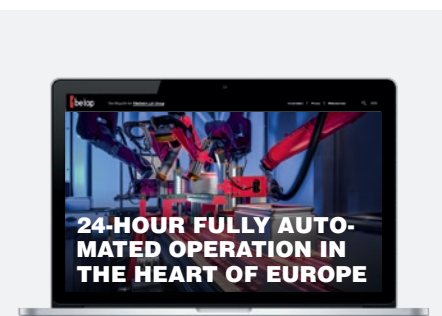
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FACTORY OF THE YEAR 2025

# 24-HOUR FULLY AUTOMATED OPERATION IN THE HEART OF EUROPE



Products need to have more than just impressive technology these days – customers also expect rapid availability, bespoke solutions and global delivery. **Digital end-to-end processes throughout production** make all this possible. Rittal was an early adopter of this approach. The Haiger factory's strong customer focus and high level of automation and digitalisation won it the title **"Factory of the Year 2025"** – the most prestigious award a factory in Europe can receive.

**TEXT: ULRICH SENDLER,  
HANS ROBERT KOCH AND  
STEFFEN MALTZAN**





**“DIGITALISATION MAKES  
ORDER PROCESSING  
TRANSPARENT AND SIMPLE  
FOR CUSTOMERS.”**

JÜRGEN KROMER, Plant Director

Saying customers come first seems to be stating the obvious, but putting this into practice is no trivial matter. In an industrial context, it means ensuring continuous customer-to-customer process chains, highly transparent and super quick ordering and production processes, and maximum product quality and availability. How can all this be achieved? The Rittal factory in Haiger shows what is possible when digitalisation is thought out and implemented consistently. Production operations here are second to none, and being named “Factory of the Year 2025” means Haiger is now also officially an industry role model for best practice.

When putting together the application for this coveted industry award, which is presented by management consulting firm Kearney and German trade magazine “Produktion”, absolutely everything had to be covered. It set out how Rittal is able to map the entire customer-to-customer process at its factory, from entering a customer order in the system to delivering each individual, fully assembled enclosure. And there are quite a number



*Pioneering spirit: Many of the systems in use at the Haiger factory have been developed in-house. The team has leveraged its own expertise to realise its vision of a fully digitalised factory.*

of them, with up to 9,000 compact enclosures being manufactured in Haiger every day – incredibly quickly and highly efficiently.

Dennis Benfer, Head of Production Planning and Digital Processes in Haiger, describes it as follows: “From the moment



a customer has configured the product they need, the order works its way through the factory and to the customer as if it had a life of its own. Processes interlink with each other seamlessly, passing on all the necessary data on a fully automated basis.” In the words of the judging panel: “The factory has an impressive and exceptionally high level of digitalisation and automation.”

**ORDERING AT THE TOUCH OF A BUTTON**

Achieving this meant having to work hard on the process as a whole. Jürgen Kromer, Plant Director in Haiger, knows that these innovations aren’t just helpful in production, though. “Digitalisation also makes order processing entirely transparent and simple for our customers, who come from sectors such as mechanical and plant engineering,” he says.

How exactly does order processing work? Enclosures are designed either in the customer’s system as a digital 3D

twin – primarily based on engineering from Eplan – or online, making direct use of mechanical 3D configuration with RiPanel from Rittal, which also contains all the data needed for production. Planners in the mechanical and plant engineering sectors use this approach to design or configure the specific enclosure they need, whether this is a series product or a variant. If everything is included in the data, complete automation is possible. From parts lists and drawings to NC programs for cut-outs and drilled holes – all documentation is generated from pre-existing data at the touch of a button.

**DIGITAL PRODUCTION FROM START TO FINISH**

Production scheduling at the Rittal factory takes place overnight and is also automated. What’s more, driverless transport systems ensure all the materials – such as sheet steel – required by each of the machines are provided fully automatically at

exactly the right time. Series variants and modifications with additional cut-outs or drilled holes are now no longer built by external partners. Being produced with the same level of automation as series products results in significant benefits and means they can be made much more cost-effective.

How does that work on a technical level? The key is an ingenious combination of standard software and specific enhancements and adaptations. The software for highly digital and automated production of this kind cannot be an off-the-shelf solution. Ultimately, it’s not a specific software solution that makes all the difference, but rather the precise

**WHAT THE JUDGING PANEL SAID:**

“The factory is a prime example of state-of-the-art series production that is digitalised from start to finish and sets new standards for **efficiency and customer focus.**”





**Artificial intelligence** successfully supports quality inspection of welded seams on enclosures at the Haiger plant. Thanks to AI, Rittal has achieved a remarkable improvement in the first-pass rate of 91 per cent.



**“OUR CUSTOMERS CAN RELY ON THE FAST AND PUNCTUAL DELIVERY OF THEIR ENCLOSURES.”**

**UWE SCHARF,**  
Managing Director Sales  
Germany and Europe

and careful way all the processes are linked digitally. It is Rittal know-how that has made this digitalisation of the entire process possible – understanding each individual step, the steps before and after, and what each step needs for everything to run smoothly. “We ourselves created many of the systems that are being used. We didn’t wait for someone to provide the technologies we need for a digitalised factory,” explains Kromer. This expertise is now an integral part of the digital process that is used as standard for each product. In Haiger, all sub-processes – from configuration and ordering through to delivery – are digitally interlinked to create an end-to-end digital twin of the entire process. According to Benfer, this is the very thing that makes all the difference. “Many companies have already digitalised individual subpro-

cesses, but the digital continuity of processes in Haiger is unique,” he emphasises.

#### HIGHLY PRODUCTIVE AI

As for artificial intelligence, it is already being put to productive use in numerous applications in Haiger and is helping with quality control, maintenance, knowledge management and software analysis. However, AI does not provide the solution. It’s the other way round, in fact. It is because Rittal has done its homework in terms of process continuity that AI can now be used for optimisation purposes. That, too, impressed the judging panel. One example referred to was that, by using AI, Rittal has achieved a 91 per cent first-pass yield – a remarkable improvement and one that means time-consuming reworking is now largely a thing of the past.

“Having high-quality data available throughout the entire value chain means we can make targeted use of AI,” says Moritz Heide, Vice President Rittal Digital Operations. “Right from the engineering stage, we use software solutions from our sister company Eplan to help our customers become much faster – and AI will soon have a part to play in this, too. At the factory, our use of AI tools is minimising errors and the number of complaints. Our customers can expect maximum data quality and availability throughout the entire process as standard,” he adds.

#### 99.9 PERCENT PLANNING ACCURACY

The end result is a statistic that sums up the value of the digital factory in Haiger for customers – the award’s inspectors rated planning accuracy at 99.9 per cent. They described witnessing production that was “planned down to the day and supported by AI” so it can deliver such an exceptional result. What’s more, 9,000



*Delighted with the “Factory of the Year” award: Dennis Benfer (left), Head of Work Preparation and Digital Processes, and Moritz Heide, Vice President of Rittal Digital Operations.*

enclosures leave the factory every day, and a four-fold reduction in the throughput time has been achieved.

Customers in Europe get their series enclosure a maximum of 24 hours after placing their order, while for customers worldwide, the maximum turnaround is 48 hours. This was the case even during the pandemic. That’s thanks to a combination of customer focus and process continuity across all suppliers. This reli-

ability and transparency in order processing plays a key role for the competitiveness of customers in Europe, especially in times of huge upheavals. “Mechanical and plant engineering companies are currently facing a great many uncertainties, but one thing they can rely on is the fast and punctual delivery of their enclosures,” says Uwe Scharf, Managing Director Rittal Germany and Sales Europe.

#### EXCELLENT TRACEABILITY

A further success factor in securing the award was the consistent use of QR codes. If necessary, customers can use these codes to precisely match each element of their product to their project. QR codes also increase the level of transparency and digitalisation at the factory. This is another aspect of the “end-to-end customer focus” that was highlighted in the judging panel’s verdict. According to “Produktion” and Kearney: “The strong focus on getting things done, combined with a continuous improvement process, makes

#### WHAT THE JUDGING PANEL SAID:

“The factory has an impressive and exceptionally high level of digitalisation and automation. This results in a **planning accuracy of 99.9 percent** plus **delivery times of 24 hours** in Europe and **48 hours** worldwide.”

**FACTORY OF THE YEAR**

**Find out more in our video:**



the factory a trailblazer for the factory of the future.” Haiger is a totally transparent pioneer. You can see from each processing step and its end-to-end interlinking how Haiger became a factory of the future – with innovative spirit, engineering expertise and systematic use of software – all at a true German family company. □



*Temperamento español: Judit Birosta, CEO of SIDE, at her factory in L'Ametlla del Vallès, where the Spanish company manufactures switchgear and industrial automation solutions for European and global markets.*

**DIGITAL TRANSFORMATION**  
How does a very traditional family business take this big step forward?

SIDE

# “WE ARE HIGHLY COMPETITIVE”

When Judit Birosta steps onto the factory floor, even the enclosures seem to spring to life. What this charismatic Spaniard is achieving at **SIDE** is making people sit up and take notice. The digital transformation arrived here some time ago. As an **industrial automation specialist**, the company combines Mediterranean passion with German precision, bringing a breath of fresh air to plant engineering throughout Europe.

**TEXT: HANS ROBERT KOCH**



**W**hen we arrive in L'Ametlla del Vallès, around 40 kilometres from Barcelona, we are met by the cheerful CEO, who takes us on a tour of her company's switchgear manufacturing department. Judit Birosta clearly knows her staff well. She takes the time to stop, shake hands and say hello, and is happy to have a chat, listen to what they have to say and let them show her things. Her smile is infectious. We quickly realise that SIDE is different, very different – a Spanish family business with a unique spirit.

The company is successful, too. In SIDE's Automation Division, business has been on the up and up in recent years. When Birosta took over from her father, she continued the success story. The company has an impressive history that dates back over 50 years. SIDE started out as a small electronic circuit board manufacturer and electrical installation business. Today, it specialises in automation technology and panel building, meeting the high standards expected of a European engineering office.

SIDE has a workforce of around 120. Its customers come from the food, chemical, pharmaceutical, water treatment and mineral processing industries. The company also carries out global industrial pro-

jects in Europe, America and Asia. The second mainstay of its business is building machinery for thermoplastics (PET). “We are continuously moving forward and have enjoyed huge growth in recent years,” says Birosta proudly. The figures speak for themselves. “Our turnover was 2.5 million euros in 2009, had reached 3.2 million euros by 2014 and exceeded 10 million euros in 2023,” she reveals.

#### START OF A NEW ERA

There's a lot going on at SIDE. The company is once again in the process of adding new working space. An even larger engineering office is being created on the first floor. SIDE took its first step towards digital engineering in 2009. That created the basis for what followed. “This decision marked the start of a new era,” explains Birosta. The transformation was driven by the company's increasing workload and its customers' growing technical requirements. “We needed to ensure traceability and reduce the number of errors, for example,” Birosta continues. It was impossible to develop business any further with the existing approach and processes. There was practically no chance of growth. “We were using manual processes and 2D tools, facing constant bottlenecks and losing time due to highly repetitive tasks,” she recalls.

#### OUTPUT DOUBLED

Birosta tells us the company is now highly competitive and meets international standards. “Thanks to digitalisation, we have doubled our output with the same team, but without compromising on quality,” she emphasises. The company is still under a lot of pressure, though. The biggest challenge at ▶



*Knowing what's going on: CEO Judit Birosta chats with her employee Antonio Martín in the switchgear manufacturing department.*





“Thanks to Eplan and Rittal, we have doubled our output with the same team, but without comprising on quality.”

JUDIT BIROSTA, CEO of SIDE

+ Find out more in our video:



present is maintaining the same high level of quality and precision while also boosting productivity. Birosta knows what needs to be done. “We are focusing on optimising processes, reducing lead times and improving total costs to remain competitive on the European market,” she reveals.

TRUE TECHNOLOGY PARTNERS

SIDE owes its place in the current “Champions League” of plant engineering to the fact that it decided early on to completely rethink the company’s value-creation processes, and to work with Eplan and Rittal to digitalise, automate and standardise these processes. “We analysed the entire workflow – from design through to assembly – and started using Eplan Electric P8 engineering software to prepare circuit diagrams and Eplan Pro Panel to design enclosures in 3D,” explains the company’s Technical Director, Carles Taberné. Working with Rittal and Rittal Automation Systems, further progress was then made with the production system and digital integration.

SIDE now uses the Perforex Milling Terminal MT S for the automated machining of Rittal enclosures, the Secarex cutting centre to cut cable ducts to size, and the Wire Terminal WT C for fully automated wire processing. “We see Eplan and Rittal as true technology partners. They have helped us redefine

On an expansion trajectory: In recent years, SIDE has significantly increased its production capacities in L’Ametlla del Vallès, near Barcelona.



workflows, train our staff and shape the digitalisation process on a sustainable basis thanks to ongoing technical collaboration,” Taberné continues.

MEASURABLE ADDED VALUE

The efficiency gains resulting from this joint effort are considerable. “We have reduced the number of hours spent on engineering by up to 30 percent and the machining time by 80 percent – in other words, from a whole day to around 20 minutes,” reveals a delighted Taberné. As he sees it, the key to this success is the coherence of the solutions. “Eplan and Rittal offer an integrated ecosystem that incorporates engineering, manufacturing and documentation,” he explains. Taberné also tells us that using verified data and no longer needing to do any manual reworking means errors have virtually



disappeared and productivity has improved, without any changes to the team. SIDE is certain it has adopted the right approach throughout. Taberné enjoys thinking back to the very start of the transformation. “The first fully digitalised enclosure we produced was perfect straight off, which confirmed we were on the right track,” he says.

SKILLED WORKERS FOR THE FUTURE

To continue the success story, the company also needs to invest in talent. One of the main challenges is finding trained technical professionals. “That’s why we’re focusing on training them ourselves,” explains Birosta. The company is working closely with vocational training centres and universities. It is also making a considerable investment in training interns. The aim is to ensure the advancement of technical professionals within the company. “Digitalisation is a vital factor, but true success depends on each individual, on their commitment and the way they work,” Birosta continues. It also depends on a good family-like atmosphere, like the one at SIDE. □



“EPLAN AND RITTAL ARE TECHNOLOGY AND KNOWLEDGE PARTNERS.”

Mr. Taberné, what sets SIDE apart in the world of plant engineering?

SIDE is a Spanish engineering company with a broader European mindset. From Barcelona, we can offer the same level of technology as any Central European supplier, but with greater flexibility and a highly competitive price-performance ratio.

How do you safeguard this competitiveness?

Our processes are highly digitalised – from engineering right through to the final check. Thanks to standardised, end-to-end processes, work takes less time and we can also ensure high quality. We manufacture exactly what we’ve designed. That results in precision, speed and traceability.

Does Spain have its own plant engineering requirements?

We apply the same standards as

Germany. We comply with IEC/EN 61439 and IEC/EN 60204-1, and we have CE, UL and CSA certifications. That means we can operate throughout Europe, the USA and Canada. We’re aiming to continue expanding our collaboration with technology partners in Europe.

What role do Eplan and Rittal solutions play in your work?

We used to work with sequential processes that depended on people. Thanks to Eplan and Rittal solutions, everything is now integrated, with a uniform and consistent flow of information. That improves our efficiency and precision, meaning our customers benefit from more reliable products, better documentation and prompt deliveries. As we see it, Eplan and Rittal are more than just suppliers – they’re technology and knowledge partners.



## OREX ROTOMOULDING

# RACK & ROLL IN THE CAROUSEL

Over the course of just 30 years, **OREX ROTOMOULDING**, which started out as a small business, has become a market leader in Poland and a global player – its history is a moving one in every sense of the word. Here, everything revolves around high-performance rotomoulding machines, the customer – and the right partners.

TEXT: HANS ROBERT KOCH

**T**he enormous, old brick building on its own makes you wonder what's inside. The OREX ROTOMOULDING headquarters and production site in Chybie in southern Poland is where past and future, industry and innovation, and pragmatism and pioneering spirit all come together. The company has big ideas, and develops and manufactures products with great attention to detail. Extending over 10,000 m<sup>2</sup>, the workshops that were once used for sugar production are now a high-tech site for building rotomoulding machines.

## FOCUS ON THE CUSTOMER

It is in one of these workshops that we find Przemyslaw Orlik, the Managing Director of the company, fresh from a meeting with a customer. Talking to him, it soon becomes clear that everything really does revolve around the customer at this company. "Our strength lies in our intensive dialogue with our customers. Over the past 30 years, we've got to know



High tech concealed behind old brick walls: Over 70 highly qualified specialists work on the rotomoulding machines in the workshops extending across an area of more than 10,000 m<sup>2</sup> at the company headquarters in Chybie.



### PRECISION AND EFFICIENCY

How Rittal solutions are inspiring a global player in the mechanical engineering sector.

hundreds of owners of rotomoulding companies, machine operators and rotomoulding specialists – and we've learnt from the challenges they face," Orlik explains. He tells us that what it really comes down to is trust and reliability. "Our customers can be confident that our production processes always meet the very highest standards in the industry. The machine builder attaches the greatest of importance to precise machining and outstanding products."

We can see that for ourselves. In front of us is an impressive carousel-type rotomoulding machine – one of the dozen or so high-performance systems that the company builds each year. Some can be as big as a house, and they are shipped to over 15 countries, including as far afield as Asia and Australia. The value-creation process is extensive – from plan-



**"World-class products solve all problems in terms of production times and quality."**

PRZEMYSŁAW ORLIK,  
OREX ROTOMOULDING

ning the machines and control systems through construction and assembly to testing, startup and training. The target group includes manufacturers of plastic products such as water and fuel tanks, agricultural machinery components, garden furniture, rubbish bins and medical device housings.

## HIGH TECH IN ROTATION

The three main types of machine are called CAROUSEL, SHUTTLE and ROCK & ROLL. After all, movement and high rotational speeds are pivotal in rotomoulding, which is one of the most versatile and efficient techniques used in the plastics processing industry. It involves powdered plastic raw material being placed in customised moulds, which are rotated around two axes in an oven chamber heated to temperatures ▶





“International services and certifications are crucial to us.”

ŚLAWOMIR KOCUR, OREX ROTOMOULDING (right)



of up to 320 °C. Once they have cooled, the finished products – uniform, seamless and durable parts with a consistent wall thickness – are removed from the moulds.

**GOING TO THE ENDS OF THE EARTH**

Customers have very exacting requirements for these machines. Besides precise machining, they expect reliable, energy-efficient and user-friendly operation as well as the option to integrate the machine into state-of-the-art digital systems. As Sławomir Kocur, who is in charge of procurement and logistics at OREX ROTOMOULDING, explains: “Our machines and systems also need to operate under very difficult conditions.”

The challenges involved can be very varied. “Control cabinets and cooling units need to be able to withstand the very high temperatures required for some applications.” And that, Kocur tells us,

is why the machine builder opted for Rittal solutions – with the global service provided by Rittal also factoring into that decision. In the case of four machines that were recently shipped to Australia, the company had to have new settings implemented on the cooling units on site. The Rittal climate control service team took care of this.

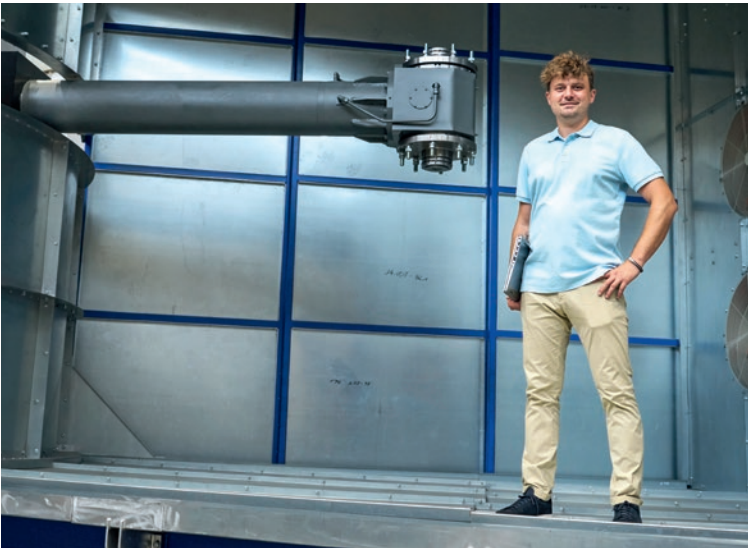
“International services and certifications are crucial to us,” emphasises Kocur. Reliable, flexible system technology is equally important when building these complex machines. That’s why Rittal products are used in these systems, including VX enclosure systems and AX compact enclosures, power distribution technology, operating housings and system accessories such as LED lights. “The fact no major machining work has to be done on the enclosures benefits us,” adds Kocur.

**UNIFORM STANDARDS**

To meet the requirements of a rapidly changing industry and the growing expectations of potential business partners, development work is constantly ongoing. OREX ROTOMOULDING is currently working on remote maintenance solutions for the machines in order that rapid assistance can be provided without any need to send out a technician. Other key focus areas include intuitive user interfaces, sustainable solutions and a modular machine design that will make extensions and modifications easier. Orlik reveals that development projects with Eplan and Rittal are also underway. He explains the goal of these projects: “Together, we are creating new standards for system integration, automation and digital design – and making our machines and services even better.” □



Find out more in our video:



High-tech carousel-type rotomoulding machine: OREX ROTOMOULDING machines (big image above) are used to make tanks (image on right) and other large-scale plastic products. Enclosure technology from Rittal (opposite page) plays a significant role behind the scenes.



**Interview**

“THE ADVANTAGE IS THE COMBINATION OF SOLUTIONS”

**Mr. Orlik, as a rotomoulding machine manufacturer, how does OREX ROTOMOULDING hold its own against the competition these days?**

Our big advantage is that we produce machines to order, using the very latest technologies on the market. Our machines boast high precision, energy efficiency and potential for complete automation. We attach great importance to innovation, ergonomics and user-friendly operation. We always listen very carefully to our customers’ requirements, because we want to produce machines that meet their expectations in the best possible way.

**What are currently the biggest challenges that you face?**

We’re facing several challenges, but the biggest one is the rising cost of energy and materials, which has an impact on the entire production process. Nevertheless, we are continuing to invest in development, automation and new technologies. We’re careful to maintain the very highest standards by ensuring we only offer our customers branded products and tried-and-tested technologies. World-class products solve all problems in terms of production times and quality. That’s why we opt for brands such as Rittal, Siemens and Weishaupt.

**How do Eplan and Rittal support your value-creation processes?**

With Eplan and Rittal, we can reduce our planning and production times, boost our quality, enhance the reliability and safety of our enclosures and improve our customer service. The combination of solutions gives us a genuine competitive edge.



Rittal HD enclosures at Liquats Vegetals

# NATURALLY CLEAN PRODUCTION



**Soya milk, almond milk, oat milk** – it's not just coffee drinkers who are increasingly opting for plant-based alternatives. One of the leading manufacturers of these plant-based drinks is the Spanish company **Liquats Vegetals** in Viladrau, Catalunya. To meet high EHEDG hygiene standards and make production sustainable, the beverage manufacturer uses **HD enclosures and ePocket from Rittal**.

TEXT: PATRICIA SPÄTH

**H**ardly any other vehicles pass us on the final stretch of our journey to Liquats Vegetals. With trees everywhere you look, the surrounding forest in the Montseny region appears to be well worth exploring. However, we have an appointment with Tasio Corachan, Process and Continuous Improvement Manager at Liquats Vegetals. His mission is to continuously improve production processes, without losing sight of sustainability. The beverage manufacturer is keen to minimise its environmental impact in terms of emissions, waste and resource consumption. Rooftop photovoltaic



*Benefits of Rittal Hygienic Design stainless steel enclosures include smooth surfaces, an all-round external joint-free silicone seal and a sloping roof with a pitch of 30 degrees.*

installations supply the electricity for production operations. The company also ensures the products themselves are entirely environmentally friendly. The packaging for the plant-based milk drinks has a sustainable design and is made from a combination of recycled materials and renewable raw materials. "Besides sustainability, we also focus on the health of our customers. It would be catastrophic if our products were to be contaminated. When selecting the components we use in the production process, we therefore pay very close attention to their quality," says Corachan.

**A CLEAN BUSINESS**  
Besides ensuring uninterrupted production processes by protecting sensitive control technology, for example, equipment and components, such as enclosures, must also meet the highest hygiene standards. "When developing production methods, we follow the quality standards of the European Hygienic Engineering & Design Group (EHEDG). We decided some years ago that the components used in production – such as enclosures and cooling units – must meet EHEDG standards, and that's why we use Rittal products,"

Corachan explains. Consequently, the production equipment at Liquats includes a large number of Rittal HD stainless steel enclosures and housings that have been developed specifically for the food and beverage industry and ensure short cleaning cycles. Rounded edges and the absence of any gaps or "dead spaces" minimise the accumulation of dust and dirt – and therefore the risk of contamination. The sloping roof with a pitch of 30 degrees ensures the cleaning agents that are used run off quickly without leaving any residues. Depending on their design, the enclosures have ▶

**HYGIENE AND SUSTAINABILITY**  
Equipment and components from Rittal meet the highest standards.

*From the conveyor belt out into the world – the plant-based milk drinks from Liquats Vegetals are sold in over 45 countries.*





Liquats Vegetals also uses Rittal cooling units.



The own-label product “YOSOY” was launched in 2024.



protection categories of up to IP 69, meaning they keep out dust and liquids. What’s more, all external parts are made entirely of stainless steel and FDA-compliant silicone which makes them highly resistant to chemicals, cleaning agents and disinfectants. Thanks to the roof projection with its drip edge, substances such as water are guided away from the enclosures safely and the upper area of the door seal is protected. Internal hinges make for a very easy-to-clean design, with an all-round external joint-free silicone door seal that is resistant to cleaning agents. The blue colour of the HD seal means any residues on it are immediately visible.

**HYGIENIC AND SUSTAINABLE**

“The sustainability of industrial equipment

is also a priority for Liquats,” emphasises Corachan. “We need to be able to rely on the quality of the components in our production equipment over a period of many years. We can’t just replace the enclosures housing our control technology after a few years. For one thing, it would interrupt our production processes. For another, it would go completely against our sustainability strategy. That’s why we use enclosure solutions from Rittal. Even after many years, they’re still in tip-top condition,” he adds.

**EFFICIENT AND FAIL-SAFE COOLING**

“We’re obviously aware that all our production equipment needs to withstand being sprayed with water during cleaning,” continues Corachan. “We al-

**ABOUT LIQUATS VEGETALS**

Based in Viladrau, in the Montseny region of Spain, the company has been producing plant-based drinks since back in 1991. Liquats Vegetals is the market leader in Spain and delivers products to over 45 countries in Europe, making it one of the largest manufacturers in this sector.

so get the cooling units we need from Rittal and make energy savings in the process,” he reveals. Boasting unique hybrid technology, cooling units from the Blue e+ series achieve energy savings of around 75 percent compared

with conventional solutions. The cooling units are monitored via the Rittal IoT interface, which continuously communicates all their operating and status data. Malfunctions are detected early on, and the risk of downtime is minimised.

**MAINTAINING AN OVERVIEW**

What drives Corachan in his day-to-day work is thinking about where production processes can be made even better. Eplan and Rittal helped with the latest improvement. Thanks to Rittal ePocket, the engineers at Liquats Vegetals now have a standardised data storage. The digital enclosure pocket ensures the latest versions of all machine and equipment documentation are always available whenever they are needed. “Ever since we introduced ePocket, our electricians

“We use HD enclosures from Rittal – they still work perfectly even after years of service.”

TASIO CORACHAN, Liquats Vegetals

+ Find out more in our video:

41 billion US dollars is the expected value of the global market for plant-based milk by 2034 according to a report published by Global Market Insights in 2025. In 2024, this value was already 21.1 billion US dollars.

have been able to record changes in the enclosure digitally, and we then approve these in Eplan. That means our industrial equipment is always up to date, and we’ve also waved goodbye to the hefty folders with circuit diagrams from our production department,” Corachan reveals.

He lets his gaze wander over the production equipment and is happy with what he sees. TetraPak packaging is rolling off the production line. Lorries are already waiting to take the drinks to the nearest supermarket. “When I went on holiday to Bali not so long ago, I even saw our products in the supermarket there,” says the young project manager with a smile. He already has a new idea for improving the production processes. □



# NEWS

## COMPANIES

With its 13 plants and more than 95 subsidiaries, the **Friedhelm Loh Group** is a global success story. Employing a total workforce of over 12,600, the FLG companies work with their customers and partners to shape the future together. Read our latest news here.



Dr Friedhelm Loh and Giampiero Friso, President ABB Electrification signing the contract at Light + Building in Frankfurt am Main.

Solutions for electrical infrastructure

## Technology partnership With ABB

**Preparing electrical infrastructure** for future challenges with greater safety and speed – that is the goal of the new technology partnership between ABB and Rittal, which was concluded on 10 March 2026 at Light & Building in Frankfurt. Both companies want to work together to develop innovations for the European and international

market that will significantly speed up the development and expansion of electrical infrastructure. The basis for joint developments is formed by RiLineX as the new standard platform for busbar systems, Ri4Power as a modular system for power distribution, market-leading switchgear and efficient uninterruptible power supplies.



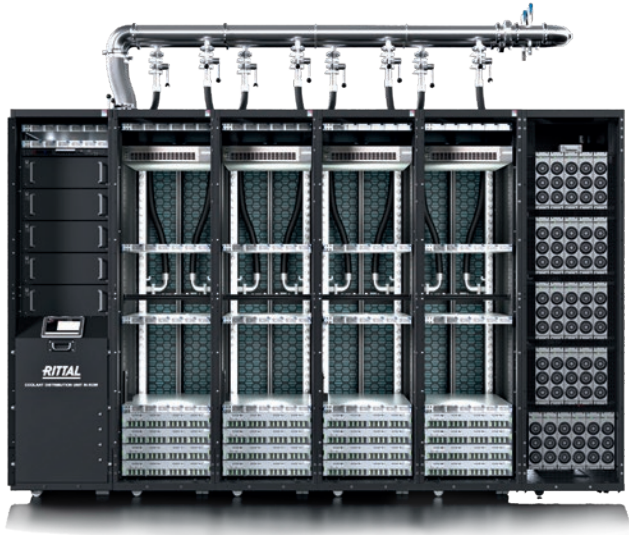
Sustainability

## Green gold

**Not only has Rittal successfully completed** the EcoVadis rating process – it has been awarded the gold medal for sustainability, putting it in the top 5 per cent of companies worldwide. The rating is based on international sustainability standards – from the ten principles of the UN Global Compact and the conventions of the International Labour Organization (ILO) to the Global Reporting Initiative (GRI) and ISO 26000. It is proof of internationally consistent sustainability management and supply chain transparency. EcoVadis rates companies in four key areas – Environment, Labor & Human Rights, Ethics, and Sustainable Procurement.

IT infrastructure

## Strategic partnership with Siemens



**Siemens and Rittal** have entered into a strategic partnership to jointly develop future-proof, sustainable solutions for efficient power distribution in applications such as data centres in the IEC market. The aim of the resulting standardised infrastructure is to speed up the construction of high-performance data centres, minimise the time-to-compute, and rise to the challenge of rapidly increasing power densities for AI applications. One of the first joint solutions will be a “sidecar” application that is accommodated directly in the white space of a data centre, where the server racks and data storage systems are located. Combining the power electronics in a dedicated power rack that supplies the server racks, this type of power supply represents a breakthrough for future AI applications (see page 62/63).



Award winner

## Rittal amongst top 100 innovators for the fifth time

**In 2026**, Rittal GmbH & Co KG is again one of Germany's most innovative SMEs. This is the fifth time in a row that the Friedhelm Loh Group company has received the prestigious “Top 100” award. With this achievement, Rittal is making its mark and demonstrating that continuous innovation helps customers stay competitive.



Haluk Menderes, Managing Director of Eplan, and Terry Jonen, CEO of CADENAS, at the SPS trade fair in Nuremberg, where the two companies entered into a technology partnership.

Eplan Partner Network

## CADENAS now an Eplan technology partner

**The deal was signed and sealed** in person at the SPS trade fair in Nuremberg. CADENAS is now a member of the Eplan Partner Network. Terry Jonen, CEO of CADENAS, and Haluk Menderes, Managing Director of Eplan, signed the agreement for the brand new technology partnership on 26 November 2025. The defined goal of the collaboration is to extend the provision of technical equipment data in the Eplan Data Portal by creating an interface between this portal and the CADENAS 3dfindit platform.



Honour for Prof. Friedhelm Loh

# THE FUTURE IS NOT DOWN TO CHANCE

In recognition of a lifetime of entrepreneurial achievement, the Handelsblatt newspaper has inducted **Prof. Friedhelm Loh** into its “Hall of Fame of Family Businesses”. Besides business success, this accolade also pays tribute to a mindset characterised by courage, responsibility and the aspiration to actively help shape the future.

TEXT: SARAH BENSCHIEDT



Prof. Friedhelm Loh (left) with Arndt G. Kirchhoff, President of the North Rhine-Westphalia Federation of Business Associations, who gave the congratulatory speech.



Prof. Friedhelm Loh (right) with Kay-Sölve Richter, a presenter from the German TV channel ZDF, who hosted the event.

co-initiator of dual work/study programmes such as StudiumPlus and SchulePlus, he believes in the dovetailing of theory and practice. Nationales Automuseum – The Loh Collection, which opened back in 2023, is a place of education as well as an expression of his passion for technology.

## A SUPPORTIVE ATTITUDE

Rather than a sense of pride, Prof. Loh's acceptance speech reflected his gratitude – for what his employees have achieved, for the trust people have placed in him and for the support he has received along the way. “My family gave me a company. My task is to serve people and society,” he said. This conviction shapes his sense of commitment – from educational foundations and corporate values to his voluntary roles, including his position as honorary President of the ZVEI.

Besides recognising his achievements, Prof. Loh's induction into the “Hall of Fame” also sends out a message. It emphasises the role family businesses play when it comes to Germany's power to innovate, stability and future viability as an industrial location. It also demonstrates that the future starts with courage and responsibility – and with entrepreneurship for the common good. □

Applause filled the room at The Charles Hotel in Munich, where close to 200 guests had gathered. They rose to their feet when Prof. Friedhelm Loh's name was announced, in a show of respect for a lifetime of achievement that has shaped industrial developments in Germany and around the world.

His induction into the “Hall of Fame of Family Businesses” at this evening event in January 2026 honours an entrepreneur who sees the future as a mission. Someone who takes responsibility – for technology, for people and for Germany as an industrial location.

“You can wait for the future, or you can shape it” is the kind of thing people often say, but the man being honoured has shown that actions speak louder than words. Arndt G. Kirchhoff, who gave the congratulatory speech, put it in a nutshell, saying that to shape the future, you need courage, determination and the ability to get people on board – qualities that Prof. Loh has in spades.

## FROM HESSE TO THE GLOBAL STAGE

When he took over the business at the age of 28, Rittal had around 200 employees. Today, the global Friedhelm Loh Group includes Rittal, a world market leader for enclosure systems, automation and IT infrastructure, and Eplan, a leading software provider for engineering.

This success story is based on strategic decisions, investments in technology and a clear commitment to industrial value creation in Germany. Loh was quick to place digitalisation, software and end-to-end data on the agenda – and he helped make them the industry standard. “Nothing is possible without courage,”

said Prof. Loh in his acceptance speech. He was referring to people having the courage to take risks that go beyond their field of expertise and try new things – an approach he has followed for five whole decades.

## INDUSTRY AND PEOPLE

The Rittal factory in Haiger is clear proof of this mindset. Recently named “Factory of the Year 2025”, it is synonymous with highly automated production, digital continuity and industrial excellence. Representing an investment of 300 million euros, it marks a big step forward in technology – and a commitment to the people in the region.

After all, as Prof. Loh sees it, shaping the future does not stop at the factory gates. Education and the fostering of young talent are close to his heart. As



“Pioneers of Business” was the motto of the ceremony organised by Handelsblatt, KPMG and the Foundation for Family Businesses, which was held at The Charles Hotel in Munich.



World-class industry and a top university

# FROM **CAMPUS** TO THE **SHOPFLOOR**

**Plant engineering in the USA** is on the brink of a massive automation push. The renowned **Purdue University** is working with industrial partners in Germany to train the skilled workers who are urgently needed for this. Software from **Eplan**, together with hardware and automation solutions from **Rittal**, are being used to prepare budding electrical engineers for their future tasks.

TEXT: ULRICH SENDLER

**R**eshoring is the new buzzword. “The US government is going all out to bring manufacturing back to America. That calls for engineers, and it is these engineers who will shape the future,” says Michael Jeschke, Vice President North & South America at Eplan. “However, the shortage of skilled electrical engineers is even worse in the USA than elsewhere,” he reveals. To boost productivity, industrial companies need to reinvent themselves and undergo a technological transformation. In other words, they must digitalise and automate their value creation processes. That is only possible with skilled workers, though. What’s more, the working methods normally used by skilled staff in the USA still offer plenty of scope for automation. As Jeschke knows, for example, most switchgear is still designed with the help of 2D CAD drawings rather than using the data-driven approach that is already standard at many industrial companies across the globe.

## BIG PRESSURE

There is huge demand for talented young recruits in the USA. By 2030, the Boston Consulting Group (BCG) estimates that companies will be on the lookout for around 400,000 engineers – every year! The most urgent demand will be for electrical engineers (BCG study, December 2023). Whereas the US labour market



**“The US industry needs automation. This calls for a new generation of well-trained electrical engineers who will drive the transition.”**

**MICHAEL JESCHKE,**  
Eplan USA

is set to grow by 3 percent between now and 2034, the US Bureau of Labor Statistics (BLS) is expecting to see more than double this increase for electrical engineers, namely 7 percent (BLS, 12 November 2025). State investments in recent years due to the 2021 Infrastructure Investment and Jobs Act (IIJA) are one reason for this. Besides the transport network, sectors such as water management have also seen a resulting surge in demand.

## TOP UNIVERSITY – POTENTIAL RECOGNISED

Purdue Polytechnic has acted accordingly. Ever since it was founded, this institute has set its sights on providing students



*Thanks to the practical education and training it offers in STEM subjects, Purdue University acts as a true role model for many other universities.*

## STRONG PARTNERS

How we are successfully tackling the skills shortage in industry.

with practical training so they can start helping the industry to move forward as soon as they graduate. The goal of the partnership with Eplan and Rittal is to ensure these future electrical engineers can harness the power of data-driven automation for this purpose. The initial collaboration period is five years.

Regarded as one of the USA’s top universities when it comes to educating and training the technical elite, Purdue was founded in 1869 in Lafayette, in the state of Indiana. The research-oriented Interdisciplinary Science Rankings 2026 for public institutions, which was compiled by the British magazine “Times Higher Education”, ranks Purdue tenth in the world and third in the USA. ►





Learning under realistic conditions that reflect the future of industry – as part of the collaboration, students at the Purdue University campus will in future have access to a working Wire Terminal WT from Rittal.



Jeff Kilburn, Vice President Business Solutions at Eplan in the USA, is himself a Purdue graduate. Back in the day, he experienced the paradigm shift from drawing to computer-aided design (CAD) first-hand. Now, he is proud to be playing a part in the next big step – towards data-driven electrical engineering.

AT THE CUTTING EDGE

“That’s what drives the people at Purdue,” says Kilburn. “They always want to be at the cutting edge of technological development. They know that’s exactly what Eplan offers, and that’s why they’re keen to join forces,” he adds. After all, Eplan practises logic-based rather than drawing-based engineering. For example, data from the circuit diagram can be used to generate parts lists and serves as a basis for the 3D layout in Eplan Pro Panel. This creates a complete digital twin of the relevant enclosure. Machines from Rittal Automation Systems can automate the process of adding the necessary cut-outs and drilled holes, and wire processing can also be automated. This same end-to-end process is now taught at Purdue.



“By incorporating world-class solutions from Rittal and Eplan into our curriculum, we are moving well beyond teaching theory.”

DR DANIEL CASTRO,  
Dean of Purdue Polytechnic

The official signing of the partnership agreement between Purdue, Eplan and Rittal took place at the Rockwell Automation Fair on 20 November 2025. Rockwell Automation, the US market leader when it comes to automation, welcomes some 11,000 customers and its comprehensive dealer network to this annual event. Eplan and Rittal had their own booth at the fair, which was also attended by around 100 students from Purdue. This reflects the close partnership that Purdue has also maintained with Rockwell Automation for decades. Just like Rockwell, Eplan and Rittal now also each have a representative on the Dean’s Advisory Council.

THE GOAL – CHANGE AGENTS

Purdue is expecting a great deal from the partnership. During their training, it wants students to do more than just get to grips with the technologies that make smart manufacturing possible. “They should learn by doing – and study for what they’ll be doing in the future,” says the Dean of Purdue Polytechnic, Dr Daniel Castro. “We align our approach closely with Germany’s engineering programmes at institutions such as universities of applied sciences, and not just by organising collaborations and internships with industrial companies. The future skilled workers who are being trained in this way are exactly the ones who are urgently needed.

By incorporating world-class solutions from Rittal and Eplan into our curriculum, we are moving well beyond teaching theory. As a result, students acquire the skills and knowledge they need to lead the way,” he emphasises.

Lecturer Grant P. Richards has the following to add: “The aim of our programmes is to train change agents who will help the industry successfully leverage the latest technologies from day one after they graduate. At trade shows and industry events in recent years, we have seen that the ability of Eplan to combine data from different systems into one standardised model that can then be processed on an automated basis using machines from Rittal Automation Systems is a prime example of leveraging technology in this way.”

The number of electrical engineering students at Purdue Polytechnic is set to grow very rapidly, from the current level of a few hundred to more than one thousand. In this context, Purdue is also looking to make use of its involvement with the Ivy Tech Community College of Indiana, a public institution spread across 40 locations that each year gives over 100,000 students access to technology expertise. Purdue is keen to pass on knowledge that will enable these students to make a difference from their very first day in the industry – true to the polytechnic’s “Industry Ready, Day One” motto. □

At the signing (front row, from left): Sebastian Seitz, CEO of Eplan, Dr Daniel Castro, Dean of Purdue Polytechnic, and Jochen Trautmann, CEO of Rittal Automation Systems



PURDUE UNIVERSITY

Purdue University is more than just the globally renowned “Cradle of Astronauts” (nearly 20 NASA astronauts studied there, starting with Neil Armstrong). The Purdue Polytechnic Institute is also regarded as a trailblazer for education and training in the STEM (science, technology, engineering and mathematics) disciplines. Mention STEM – especially in Ohio, Michigan or Indiana – and the university based in West Lafayette immediately springs to mind.

THE PARTNERSHIP WITH RITTAL AND EPLAN

- Purdue Polytechnic is becoming a strategic research partner in the Rittal and Eplan Partner Network
- An Eplan Electrical Engineering Technology Projects Lab is opening in Purdue Polytechnic’s Dudley Hall
- A Rittal Automation Systems Lab is being set up
- Purdue Polytechnic is getting a significant number of Eplan software licences, initially for Eplan Electric P8 and Eplan Pro Panel
- A Wire Terminal WT from Rittal will help students learn all about fully automated wire processing
- Wire Handling System WHS for automatic wire transport to working positions in a different room



**AN  
ECONOMIC  
AND SOCIAL  
CRISIS**

How does our  
mindset need  
to change?

One question:

# HOW CAN WE TURN THINGS AROUND IN INDUSTRY, MR. JETTER?

**A GUEST ARTICLE BY**  
MARTIN JETTER, CHAIRMAN  
OF THE BOARD OF DIRECTORS  
OF THE SCION ASSOCIATION AND  
MEMBER OF THE FRIEDHELM LOH  
GROUP FOUNDATION COUNCIL

**W**elcome to the new normal! We don't yet know exactly what that is, but the developments we are currently seeing in the German, European and global economy are causing us to feel "angst". This famous German term has been adopted by Americans, Brits and people of many other nationalities. All kinds of things are making us anxious – our sluggish economy here in Germany, the fear of becoming less competitive, the dynamic developments in Asia, the ruthless assertion of geopolitical and economic interests, social division,

"social" media and, in fact, almost everything. Something that is particularly unsettling is the idea that this "angst" could be our new normal.

## THE RETURN OF PROTECTIONISM

We look back longingly to the early 2000s and are convinced everything was better in those days. And then there's also the US tariff policy. In simplistic terms, you could describe this as a resurgence in the protectionism of years gone by, which we thought was dead and buried. For over 30 years,

“

we lived in a world of increasing economic and political networking. Bringing new prosperity to even the poorest nations, globalisation tackled hunger and illiteracy – more than all the development programmes of past decades put together. And now we have tariffs, threats and unilateralism!

That's a challenge for us, but is now the time for us Europeans to stick our heads in the sand? Must we accept that our infrastructure is suffering, our industry is being damaged and our economic strength is dwindling? The clear answer is no! The solution is much more obvious than we think. We ourselves are the solution – you and I, and the masses.

## DANGEROUS COMPLACENCY

How, you ask. Bear with me. During the financial crisis, the central banks opened their coffers to prevent a global economic crisis. That was the right thing to do, but it also had consequences. The economy had been booming for years – especially in Europe, including Germany. We got used to that and believed everything would continue in the same vein. The normal cyclical downturns largely failed to materialise. An entire generation had no experience of a real crisis. Skilled workers grew scarce, and we were often overly quick in yielding to socio-political demands. All that led to a sense of complacency that shifted our priorities. Hard-won past successes and achievements were increasingly taken for granted and expected to continue in the future.

Then came coronavirus. We were worried and saw governments spending large sums to safeguard jobs and prop up faltering companies. The undeniable advantages of working from home became a synonym for self-optimisation – until companies summoned their staff back to the office. Concepts such as achievement and personal responsibility were frowned upon. Regulation mania and bureaucracy gained the upper hand. And now? Many people are looking on "sheepishly" and realising things can't go on like this. They are calling on



*Martin Jetter was in charge of the some 140,000 employees in IBM's Global Services division and was a member of the IBM Corporation board. Before joining the SCION Association in 2025, he was Chairman of the Supervisory Board of Deutsche Börse AG.*

politicians to do something about it and hoping they don't have to do anything themselves. It would be better if as many people as possible took responsibility, and if innovative approaches could be found in both politics and business.

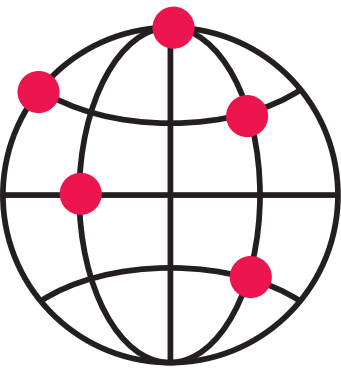
Solutions are possible – if we are all prepared to stop unquestioningly accepting bureaucracy, to start valuing achievement again, to welcome new ideas, to go back to working harder, to question cherished comforts and to make room for common sense.

## A DIFFERENT MENTALITY – THE GAME-CHANGER

Whether we succeed in making things better is a question of mindset. Germany still has everything it takes to work its way back up – good education and training, universities, a dynamic SME sector, legal certainty and much more besides. A strong, united Europe is still the right way to go, perhaps more than ever right now. It's worth resetting the compass and doing everything we can to put things right again. If as many people as possible pull together, we can make things happen quickly. It's time to move out of our comfort zone before it becomes permanently uncomfortable. We should articulate that wherever possible. Only a different mindset – a term that Germans have, in turn, taken from English – will create the conditions for change. □

”





# WORLDWIDE

**Solutions from the Friedhelm Loh Group are used in fast food restaurants, on the rail network and even in the service of British royalty.** After all, the requirements of such applications include fail-safe IT and weather-resistant, robust enclosures.



## IT FOR BIG MACS AND THE LIKE

Once you've entered your order at the McDonald's self-service kiosk, you expect your Big Mac, cappuccino or apple pie to be ready fast. In Austria, the fast food chain is using IT infrastructure from Rittal to make this possible on a technical level. Each restaurant is now getting a VX IT rack from Rittal that is geared to the specific needs of the location. No fewer than 68 restaurants have already been equipped with racks. The main differences relate to climate control. If the room itself has air conditioning, open models are used. If the rack requires direct cooling, on the other hand, it has a closed design and includes a fan. The racks are only delivered once they have been fully assembled at Rittal.



AUSTRIA

## 3D PRECISION

MTA has significantly optimised its mechanical and electrical engineering development process thanks to Eplan Harness proD. This software solution makes it possible to create precise 3D models of cable harnesses and incorporates both mechanical and electrotechnical designs. As a result, lead times are around 25 percent shorter, changes on each machine take half the time and design errors are detected at an early stage. What's more, automated parts and order lists result in less administrative work.



NETHERLANDS

## ON TRACK FOR THE LONG HAUL

Using future-proof technologies, S-Transport has made a name for itself in South Korea's rail industry. Rittal has supplied CS Toptec outdoor enclosures and Blue e+ cooling units for a "Hot Box Detector" – a key component for rail safety. The South Korean railway authority's project covers 40 sets, which are being installed in Daegu and Gyeongbuk in the period from 2024 to 2026. Thanks to its stainless steel frame and double-walled aluminium panel design, the CS Toptec enclosure offers protection against extreme weather conditions and ensures a long service life. The Blue e+ outdoor cooling units also help ensure uninterrupted system operation all year round by keeping internal temperatures stable, even during extreme weather conditions.



SOUTH KOREA



UNITED KINGDOM

## RILINEX DOWN UNDER

The Australian company GPS Electrical Services has used the new RiLineX power distribution platform for a project with a power rating of 250 A. The challenge lay in ensuring the power from several motor starters was distributed reliably and effectively. The process of configuring and planning the new RiLineX platform and installing it in the enclosure was completed in no time at all.



AUSTRALIA

## ON HIS MAJESTY'S SERVICE

Today's power grids must incorporate a whole range of renewable energies and be available at all times. The Royal Mint in the United Kingdom also needs to meet this challenge. The power supply at its site in Wales is based on a 2 MW solar system, two wind turbines, a combined heat and power unit and a battery energy storage system. HiT Power supplied four 100 kW inverters for the battery system, which was installed in Rittal enclosures. Cooling was one of the biggest challenges. Thanks to the flexible design of the enclosures, however, it was possible to improve the airflow effectively and meet the cooling requirements.





Looking back on a successful collaboration (left to right): Magnus Berzl, Managing Director of KlöMö, Nina Grabowski from Eplan and Alexander Krapf from Rittal.



Once the 3D enclosure layout is ready in Eplan Pro Panel, the production data is input directly into the machines.

KLÖMÖ

# AUTOMATIC BENEFITS FOR EVERY ENCLOSURE

End-to-end automation and digitalisation is every equipment manufacturer's dream, but how can it be achieved? **KlöMö Energie- und Automatisierungstechnik** is taking an unconventional approach – with successful results! Its partners along the way are **Eplan, Rittal** and **Rittal Automation Systems**.

TEXT: GERALD SCHEFFELS

A single glance at the first process steps in the production department at KlöMö in Regensburg, Germany, is all it takes to see that this company works in a structured way and invests wisely. Three new systems are now handling the automated sheet metal working of enclosures as well as the punching and bending of copper bars. What you can't see is the flow of data in these systems. From start to finish, machining is based on the digital twin. The entire production process is automated. The only remaining tasks relate to digitalisation at the planning stage.

**ONE STEP AT A TIME**  
Why did Magnus Berzl, Managing Director



**"We started with our machining operations because of the instant benefits."**

MAGNUS BERZL, KLÖMÖ

of KlöMö for over two years now, decide to do things in this order? Why not begin with electrical planning, for instance, and use that as a starting point for optimising the design processes? His reply is as follows: "It's something we gave a great deal of thought to. As a highly efficient but relatively small company, we need to take one step at a time. Despite the heavy investment involved, we started with our machining operations because of the instant cost, time and quality benefits for each individual enclosure." KlöMö opted to invest in three new machines from Rittal Automation Systems. "We use Rittal enclosures and are utilising Eplan to plan and design a growing number of projects. Data ▶



integration is then easiest with the automation solutions offered by Rittal Automation Systems,” explains Berzl.

ENERGY AND AUTOMATION

At Klömö, traditional automation in process engineering is in the company’s DNA, as is power distribution. For systems above 1,600 A, it plans and manufactures prototype-tested series solutions based on Eaton components. A look at Klömö’s history explains why. “We were originally part of Klöckner-Moeller and the Moeller Group, which was subsequently taken over by Eaton. We retain close links with this company as an Eaton Premium Partner. There are only two such partners in Germany and just under twenty world-wide,” reveals Berzl.

Klömö is now committed to becoming even more successful and has a clear plan that includes winning new customers and building on its existing strengths. “We plan and build highly complex systems for discerning international mechanical and plant engineering companies. We rely on the know-how of our dedicated staff and on cutting-edge processes – that’s our recipe for success,” continues Berzl.

DIGITALISATION OF PLANNING

The approach to increasing the degree of automation and digitalisation further still focuses on greater use of the Eplan platform for electrical design work. “We’re developing an Eplan-based Klömö



Magnus Berzl: “A true leap in precision and quality.”

standard for enclosure planning,” explains Berzl, who goes on to reveal the ultimate goal: “We’ll use Eplan Electric P8 to create our circuit diagrams – we’re already doing so in some cases. The data will then undergo further processing in Eplan Pro Panel as a three-dimensional enclosure design. Specific Eaton systems are already being designed using Eplan and we’ll be doing more of this in the future, benefiting from digital continuity and the Eplan Data Portal.”

END-TO-END DATA FLOW

Once the 3D enclosure layout is ready in Eplan Pro Panel, the production data is input directly into the machines. The new systems use the Rittal enclosures’ well-maintained datasets when machining sheet metal and copper, which makes these systems even more efficient.

What stage of the transformation process has Klömö now reached? “For one thing, we’ve switched our Eplan licences to the new subscription model to cut costs and improve our flexibility. This also gives us free services and tools that we can try out, such as ePocket and eView. During the gradual switchover, we are receiving excellent support from Eplan itself, but are also working with an external consultant – primarily because it’s always good to have an outside perspective,” says Berzl.

Klömö is also using the Eplan platform for a growing number of projects, but it will be a while yet before the company reaches its target of 80 to 90 percent. Eaton is involved, too, as more and more Eaton components are being added to the Eplan Data Portal. From Klömö’s perspective, that makes planning a whole lot easier.

“In 2026, we’re taking further major steps towards end-to-end data use and automation – in collaboration with Eplan, Rittal and Rittal Automation Systems.”

MAGNUS BERZL, Klömö



Thanks to increasing digital continuity with Eplan and digitally connected machines – including the Perforex Milling Terminal from Rittal (above) – Klömö staff can now work more effectively and efficiently.



STAFF FULLY ON BOARD

The transformation process has now been underway for a good year and a half. How satisfied is Berzl with progress to date? “A process of this kind is no trivial matter in terms of the time and investment involved, but we’ve reached our milestones on schedule and can see the efficiency benefits,” he replies, adding that this also applies to the company’s staff: “The switchover is a challenge, but everyone is committed and can see the benefits of detailed planning with Eplan.”

A number of efficiency gains resulting from the new automation solutions are already apparent in the production department. According to Berzl, though, it’s not just about time and money. “The level of precision and the quality of machining are already much better for enclosures and copper parts alike,” he points out. Berzl regards this as a true leap in quality. “The high demands we place on ourselves and our products are thus met – and that also wins over our customers,” he emphasises.

AIMING FOR FURTHER PROGRESS

Making further progress on the customer front is another part of Klömö’s strategy. As Berzl explains: “We have a broad-based portfolio, cover two different areas of activity with our automation and power distribution solutions, and work for large and highly discerning customers. In 2026, we’ll be taking further major steps towards end-to-end data use and fully comprehensive automation – in collaboration with Eplan, Rittal and Rittal Automation Systems.” □





#### ABOUT VOLTfang GMBH

Voltfang, which was founded by David Oudsandji, Afshin Doostdar and Roman Alberti in Aachen in 2020, produces stationary battery storage systems based on electric car batteries. The company has over 100 employees and is expanding its capacity – to one gigawatt hour per year.

*Side access:  
The Rittal Toptec  
enclosures offer  
ideal conditions  
for the Voltfang  
design engineers.*

product without the right infrastructure. The Rittal outdoor enclosures are perfect for our needs and mean we can offer our storage solutions in the form of standardised, modular systems.”

#### FROM A FESTIVAL TO THE ENERGY TRANSITION

Nowadays, Voltfang helps with the energy transition by supplying system-relevant solutions, but it all started with a simple matter of thirst. The eureka moment occurred at a festival, when the battery failed in the camper van shared by friends Afshin Doostdar (see the interview on p. 42), David Oudsandji and Roman Alberti – the three future founders of Voltfang. “The three of them managed to get the fridge going again with the help of a solar panel on the roof and an old Tesla battery,” Spoo explains. “That gave them the idea of developing storage solutions based on used batteries.” The three friends officially founded the start-up in 2020 and called it “Voltfang”, which means “volt catcher” in German. The original improvised storage system – which, incidentally, still works – now hangs in the cellar belonging to the parents of one of the three founders as a memorial to the start of it all.

#### FROM MODULE TO SYSTEM

At Voltfang, the battery modules – used, outmoded or superfluous units supplied by partners in the automotive ►

#### Voltfang

# A SECOND LEASE OF LIFE – IN ENERGY STORAGE

Using a battery storage system to help cap load peaks and charge electric cars with electricity generated on site is a prime example of how **systemic energy storage solutions can work on a day-to-day basis**. This particular full-service solution is in use at disposal company **AWA** and was created by **Voltfang**, a start-up based in the German city of Aachen, which uses batteries from the e-mobility sector for its systems. What about the outdoor enclosure for the solution? Well, that comes from **Rittal**.

TEXT: HANS ROBERT KOCH AND DANIEL GIEBEL

**W**hen it came to installing the first battery storage system at the AWA depot on the eastern outskirts of Aachen, it all took longer than planned. However, it wasn't the technology at fault – it was the groundworks. “The enclosure was so sturdy and so precisely manufactured that we first had to rework the plot to ensure we could install the enclosure completely on the level,” recalls Dominique Grümmer, a technician at AWA Entsorgung GmbH. Not that she considered this a problem. On the contrary – she was impressed. “Given the amount of power it holds, we can't have things jiggling around.”

Now installed, the system is rock-steady and performs reliably. It smooths out load peaks and stores the energy generated by AWA's own PV elements on the roofs round about. In the future, it will also support the overnight charging of the fleet of electric vehicles. This innova-

tive energy storage solution has been designed by Voltfang – and its outdoor enclosure comes from Rittal.

#### SOLUTIONS, NOT COMPONENTS

Voltfang takes second-life battery modules from the e-mobility sector and, after thoroughly inspecting and reconditioning them, reuses them. The technology is just part of what Voltfang offers, however. “We don't simply supply storage systems. Instead, we offer solutions that address our customers' specific energy problems,” explains Sebastian Spoo, who is Head of Supply Chain Management at Voltfang. “Whether it's load peaks, PV integration or network optimisation, we don't just build battery boxes – we offer complete system solutions.”

The enclosure is a crucial element of these solutions. Felix Nolte, Head of Product Development at Voltfang, sums it up neatly: “You can't build a scalable



industry – are tested for suitability in a multi-stage process. Only then are the modules equipped with Voltfang’s own battery management software and series connected to form strings. The finished units are installed in enclosures that have been preconfigured in line with the customer’s wishes – complete with cabling, inverters and climate control.

In this respect, the developers enjoy a simple but crucial benefit – availability. “When we need a Rittal enclosure, it’s delivered by the next day at the latest,” Spoo explains. The accessories are modular, too, which saves time and cuts down on coordination work.

**OUTDOOR USE ALWAYS FACTORED IN**

The partnership with Rittal can be traced back to the early days of the start-up. Carsten Wessel, who is an energy expert at Rittal, has been providing support from the outset. “The great thing was that Voltfang already had a working indoor solution. Together, we used this to develop an outdoor version relatively quickly. It took just three months to make the platform suitable for outdoor use.”

The end result is standardised storage solutions that can be scaled on a modular basis. The Toptec enclosures with climate control can be adapted to suit different requirements – from a single system for agricultural use to multi-string solutions for industry or energy ports. “The Rittal enclosures offer us all the flexibility we need to deal with



Installed on its own foundations at AWA, the Voltfang storage system does its job with absolute reliability.

everything from high ambient temperatures to enhanced safety requirements,” Nolte explains.

**STORING ENERGY WHERE IT IS PRODUCED**

Voltfang has long since been handling large-scale projects all over Germany and further afield, too. These include storage systems for Jet filling stations to relieve pressure on their rapid charging infrastructure, as well as systems at Stuttgart Airport and for customers in the energy trading sector. Following production in Aachen, the modules are delivered preassembled and installed on the customer’s premises by in-house teams or certified sales partners.

The target group is very diverse. “We have customers in the metalworking industry, farmers with extensive PV areas, as well as companies with fluctuating consumption or that need to expand their

network,” says Spoo. As he explains, demand for outdoor solutions is particularly high. “Inside space is always limited and expensive for companies, so 80 to 90 percent of our storage systems are set up outdoors.”

**A SMART FIRE-PROTECTION SOLUTION**

The trend for outdoor solutions offers an additional benefit, too. “Especially in the case of key accounts, customers, building insurance companies, municipal authorities and fire brigades all have stringent requirements,” Spoo says. In many cases, there was a lack of suitable fire protection compartments, adequate ventilation or secure access for the new work areas to be created. “We initially came up against obstacles relatively frequently, because customers were unable to meet structural requirements in indoor areas without a lot of extra organisational or financial outlay.”

The logical solution was to install storage systems outdoors, the requisite safe distance away from buildings. “This means we can implement projects that wouldn’t be possible indoors due to regulatory requirements.”

**ROBUST, EFFICIENT AND READY FOR USE**

When it comes to outdoor use, a weatherproof solution isn’t all that matters, though – operational safety is vital, too. “A fully equipped enclosure with a storage capacity of 180 kilowatt hours weighs almost two metric tons, so it’s vital that everything is just right – from structural factors and effective sealing to climate control,” Nolte explains. Voltfang traditionally opts for enclosures from the Rittal Toptec range.

“The Rittal outdoor enclosures are perfect for our needs and mean we can offer our storage solutions in the form of standardised, modular systems.”

FELIX NOLTE, Voltfang

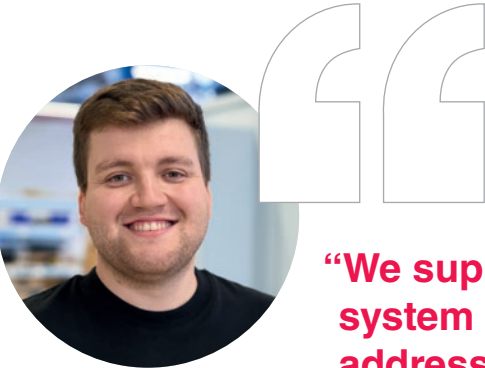


These stainless steel enclosures boast the IP 55 degree of protection and can even be adapted to suit adverse environmental and weather conditions. The energy-efficient cooling systems can be replaced, which makes maintenance and upgrades easier. Rather than merely supplying hardware, Rittal provides a genuine energy transition platform that Voltfang can use to take things to the next level.

**CONCEPT WITH A PROMISING FUTURE**

Back at the AWA site in North Rhine-Westphalia, a second storage system is already being planned. Energy Manager Oliver Bode is delighted. “This makes us almost energy self-sufficient – and that wouldn’t be possible without the storage system.” Rümmer is equally positive. “It’s obvious that the system is really well thought out. It’s no longer a prototype – it’s a genuine product for daily use.”

What started out some years ago as a fun challenge at a festival has long since become a highly promising solution. And, with the correct hardware in place, the system is delivering a precise performance. □



“We supply complete system solutions that address our customers’ specific problems.”

SEBASTIAN SPOO, Voltfang

**Toptec**

These Rittal enclosures provide reliable protection for electronics in extreme industrial environments or harsh weather conditions. Featuring a high protection category, integrated climate control and flexible equipment, they are ideal for challenging automation tasks.



Interview

# “BATTERY STORAGE SYSTEMS ARE THE KEY TO THE ENERGY TRANSITION”

**Afshin Doostdar**, CTO and co-founder of Voltfang, tells us about goals, challenges and solutions relating to power and storage systems.

**Mr. Doostdar, in the context of the energy transition, what exactly does Voltfang offer?**

At Voltfang, we bring flexibility to the market by building sustainable energy storage systems for industry and commerce, as well as large-scale storage applications. We believe that battery storage systems are a key element of the energy transition. To make solar and wind power permanently and constantly available, we need huge numbers of storage systems in the grid – and Voltfang aims to provide a solution to this.

**What are the biggest challenges you face when developing your systems?**

There are two key challenges involved in developing the enclosures. The first is our customers' specific requirements – whether the enclosure is to be installed indoors or outdoors, for example. The second relates to the technical requirements for the various battery modules. These need to be taken into account with a certain flexibility in terms of dimensioning, thermal technology and integration.

**What role does climate control technology play in all this?**

A pivotal one. During operation, the battery modules generate waste heat, which needs to be dissipated efficiently throughout the entire life cycle. This has an impact on both the cooling system and the entire thermal design of the systems. We are specifically working to

safeguard the service life and efficiency of our systems.

**How has Rittal supported you in developing your outdoor enclosures?**

Rittal has provided us with active support for the thermal design, climate-control technology and AC connections. This has helped us develop a robust, efficient design that meets the high requirements in the field. The Toptec enclosures offer durability, corrosion protection and quality, so they're the perfect choice for us.

**What aspects of your partnership with Rittal are particularly important to you?**

Right from the start, we were looking for a high-quality partner for Voltfang, with a view to a really long-term collaboration. As a start-up, which is now developing into a scale-up, we need a partner who understands us and can provide us with support – especially technical support – over the next five to ten years. In Rittal, we have found the perfect match.

**Voltfang sees itself as a European company. How important is a local partner?**

One of our major aims is to help shape the energy transition both from and for Germany and Europe. It's therefore crucially important to us that Rittal develops and manufactures its products here – and is capable of working with us to create a resilient, stable energy system for the future. □



Find out more in our video:





RWE

# LICENCE COSTS UNDER CONTROL!

## SOFTWARE CONSOLIDATED

A new approach to licensing that ensures maximum flexibility, cost-efficiency and transparency.

RWE has made use of a **Autodesk licensing change** to strategically modernise its own software landscape. **In collaboration with Cideon**, it has created a transparent, flexible and cost-efficient licence management system.

TEXT: RAMONA DAUB

**W**hen the Autodesk licensing model changed at the beginning of 2023, it meant one thing more than anything else for many companies – uncertainty. RWE, however, quickly turned this challenge into a strategic project. With support from Cideon, it succeeded in consolidating its licence landscape and establishing a new approach that ensures maximum transparency, flexibility and cost-efficiency – across all international companies.

The initial situation made life anything but easy. RWE had a decentralised structures that had grown organically, with all kinds of different licence periods, products and fees. A group-wide user survey was carried out as the basis for the project. “We needed to find out who was using which software, how often and if they planned to keep on using it,” explains Ralf Meinert, an external licence manager at RWE.

## STRUCTURE CREATES SCOPE

The first step was to combine all Autodesk licences in one central contract with a standardised licence period that enables centralised licence management and will remain scalable in the future. One element of this was rolling out the Autodesk Premium Plan so that usage data could be evaluated on an anonymised basis and made transparent for the first time.

This served as a basis for systematic differentiation, with frequent users getting permanent licences and occasional users being switched to the Flex Token model. Over 100 staff are now on this pay-per-use model. Permanent licences that have been freed up have been redistributed to frequent users. “The bottom line is that we have been able to install Autodesk software for many more staff, while being significantly more cost-efficient,” says Meinert.

## LONG-TERM VIABILITY

Cideon recognised that, besides needing to work effectively at the present time, the solution must also remain viable over the long term. The Cideon team was therefore involved in both technical implementation and strategic licensing decisions. RWE made a forward-looking investment in additional subscriptions, benefiting from favourable terms and with an eye to future requirements. The result is a scalable, future-proof licensing landscape.

Cideon ensured close, solution-focused communication throughout the entire project – from the needs assessment and the Autodesk Premium Plan rollout all the way through to data-protection-compliant evaluation. The cooperation between various departments also played a key role in the success of the project as a whole. □



**“Cideon helped us to understand the new world of licence structures and licence rights and to use it to our advantage.”**

**RALF MEINERT**, External Licence Manager at RWE



Greenlyte

# PIONEERING SPIRIT – BASED ON A SYSTEM

The start-up **Greenlyte Carbon Technologies** is driving forward the energy transition with its innovative **Power-to-X pilot plants**. And the **RiLineX** multifunctional power distribution system from **Rittal** is a core element. It's a project that's sending out a clear signal.

TEXT: DANIEL GIEBEL



*The plant in Duisburg can remove 40 metric tons of CO<sub>2</sub> from the air each year – and convert it into five metric tons of synthetic natural gas.*

**G**reenlyte Carbon Technologies, a start-up based in the German city of Essen, is pursuing an ambitious mission – capturing atmospheric CO<sub>2</sub> and converting it into synthetic fuels such as e-methanol, e-diesel and SNG, using sun, wind and water power to do so. The electrical infrastructure inside its containers is composed of Rittal technology such as RiLineX, Blue e+ and VX25. Working in collaboration with switchgear manufacturer Peter Pohl, Greenlyte has recently inaugurated a pilot plant in Duisburg – the world's first modular system that demonstrates the complete process from CO<sub>2</sub> absorption through to methanation.

## MODULARITY IS KEY

"We specifically wanted to use a power distribution system that offers us maximum flexibility," explains Andre Paravidino, who is in charge of electrical engineering and automation at Greenlyte. "RiLineX enables us to use components from a whole range of manufacturers, which is a real bonus in times of supply chain instability." Another benefit of the platform he appreciates is being able to make changes quickly: "Our process engineers are constantly com-

ing up with new ideas – and with RiLineX, we can extend or reconfigure things whenever we like."

Jan Haase, Lead Supply Chain, adds: "This plant is our technology demonstrator. The next step is bigger plants, so we need partners who can work with us to scale things up. The system technology needs to operate reliably in the future, too."

## QUALITY AND SPEED

The switchgear is manufactured by experienced specialist Peter Pohl in the nearby town of Mettmann. It is the first time Hans-Peter Pohl, Head of Business Development, has worked with a start-up, and the



## FUTURE TECHNOLOGIES

How Rittal products are driving forward the implementation of new ideas.

**"This plant is our technology demonstrator. The next step is bigger projects, so we need partners who can work with us to scale things up."**

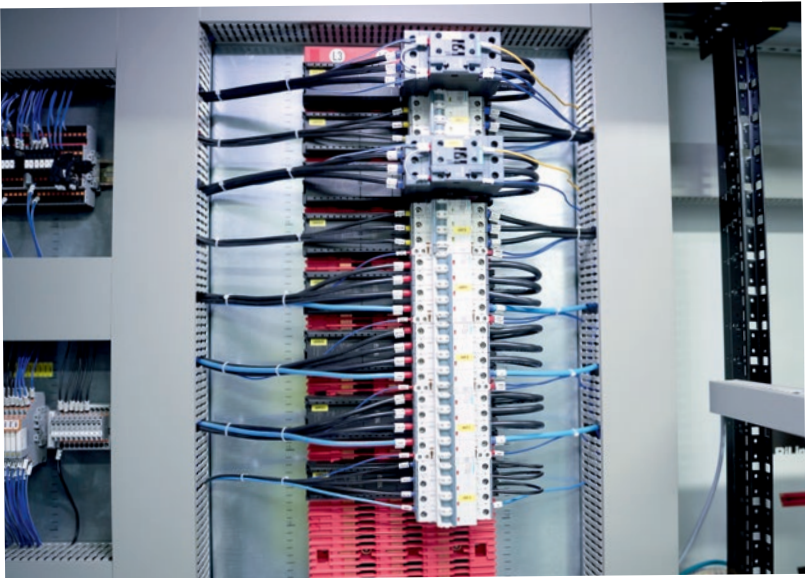
JAN HAASE, Greenlyte

project has been a major success. "The factory acceptance test didn't reveal a single problem," he says with delight. Close coordination with Greenlyte and Rittal made this possible. "The Rittal consultant presented RiLineX to us, brought along sample parts and explained everything precisely – just how it should be! You only really get to know a new system when you test it in a project."

Pohl particularly appreciates the everyday benefits of the platform: "RiLineX is fully insulated, which saves us a lot of work in our safety appraisal. What's more, the modular design means we can work really efficiently, too." ▶



Converting air into synthetic gas: The plant in Duisburg makes this possible. Below: Inside is the RiLineX power platform – a compact, effective and safe solution.



Above: Andre Paravidino in the heart of the plant – here, too, Greenlyte depends on Rittal technology in the form of cooling units, fans, heaters and lighting. Left: Greenlyte in a jar – captured CO<sub>2</sub> in granulate form.

EVERY DETAIL THOUGHT THROUGH

Alongside seven other enclosures for control and distribution purposes, one enclosure in the container has been specially reserved for RiLineX. The tasks performed by the plants range from distributing energy to controlling numerous assemblies, which are cooled by three highly energy-efficient Blue e+ cooling units, supplemented by fans, heaters and lights – also supplied by Rittal.

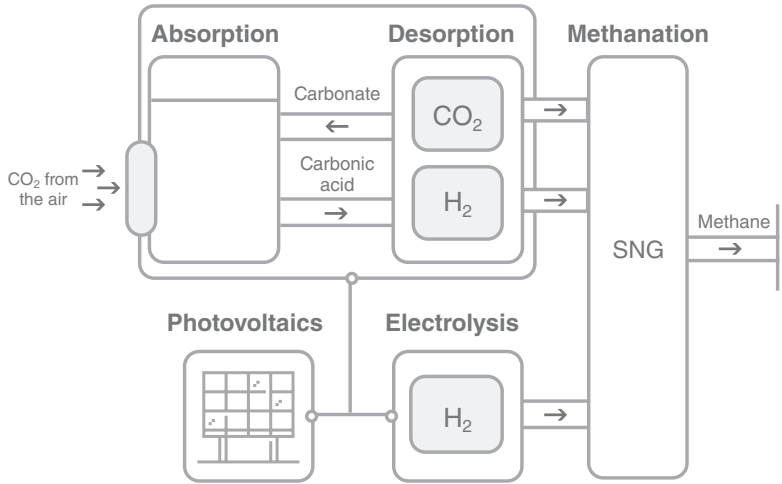
The Greenlyte planners also benefit from digital tools. “We use the Rittal RiPower configurator for busbars and RiPanel for selecting the enclosure. We therefore know exactly what we need – and that nothing will be missing when we get to the assembly stage,” says Paravidino.

ENGINEERING MADE IN GERMANY

In Haase’s view, the fact it was possible to complete such an ambitious high-tech project in Germany within a mere nine months – six for planning and three for implementation – sends out a clear signal. “It shows we can do this here – quickly, innovatively and to a high standard of quality.” Needless to say, direct communication with the partners also

HOW THE PLANT WORKS

The diagram below shows how a combination of direct air capture and green hydrogen is used to convert atmospheric CO<sub>2</sub> into synthetic natural gas – a scalable and renewable source of energy.



“We have shown that it’s possible to work quickly, without compromising on quality. That’s the spirit we need for the transformation.”

ANDRE PARAVIDINO, Greenlyte

plays a part in this. “We’ve known Rittal for decades. If things get a bit tight, we know we can depend on rapid solutions. That reliability is crucial,” emphasises Pohl.

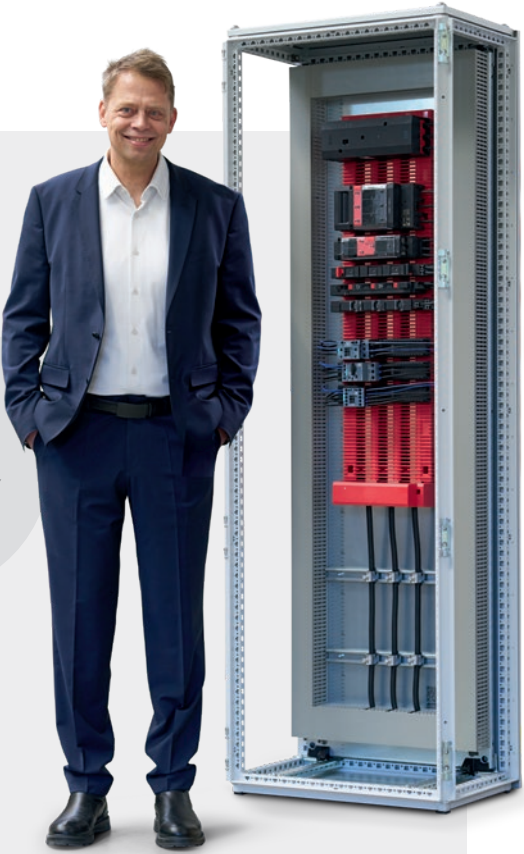
THE ENERGY TRANSITION NEEDS PARTNERSHIPS

The way ahead for Greenlyte is clear. Following on from the SNG project in Duisburg, plants are to be built for the production of e-methanol in collaboration with Evonik and for sustainable aviation fuel (SAF) at Düsseldorf Airport, with an agreement in place for Eurowings to purchase the fuel. “Scalability and system stability are key to these projects,” says Haase. “That’s why it’s so important we work with partners who, just like us, are constantly moving forward.”

Paravidino sums it up neatly: “With this project, we have shown that it’s possible to work quickly, without compromising on quality. That’s exactly the spirit we need for the transformation.” □

HANS-PETER POHL  
from switchgear  
manufacturer  
Peter Pohl Elektrotechnik

“RITTAL CARES AND REALLY ENGAGES WITH US – AND THAT CREATES TRUST!”



Mr. Pohl, for over three decades, you have been successfully assembling and fitting out enclosures for the electronics industry. What is working with Rittal like?

For us, it’s crucial that we can speak to somebody who really understands the practicalities involved. Our Rittal consultant is a perfect example. He not only brings new systems such as RiLineX along, but also explains them, supplies sample parts and really engages with us. That benefits both us and our customers. Put simply, it creates trust.

How important is the ability to communicate directly with the manufacturer?

Extremely important! Of course, we’ve also worked with other enclosure manufacturers before, but they’re often less involved in the project. With Rittal, it’s different. If there’s any kind of issue, we know Rittal will take care of it – and that’s what makes the company such a vital partner for us.

What are your personal takeaways from the successful project with Greenlyte Carbon Technologies?

First and foremost, it was really enjoyable! That was our first project with a start-up – and it was great. When you get young people with fresh ideas who want to make a difference, their enthusiasm is catching! After over 30 years in the business, it does us good to strike out in new directions with people like that – and it’s exciting to be closely involved when innovative technologies prove themselves in practice.



Viega

**ALL THE  
ESSENTIALS**MDC – the new  
standard for reliable,  
tailored solutions.

# “No UNNECESSARY FRILLS ...

In need of a new data centre, but short on both space and time, **Viega** in Attendorn found a quick and practical solution. Two **Rittal Micro Data Centers** provided this leading supplier of installation technology for sanitary facilities and heating systems with the necessary redundancy, while also ensuring all new safety and security standards were met.

TEXT: DAVID SCHAHINIAN

... the  
**MDCs**  
have  
everything  
we need.”

**LEON WURM,**  
Network Administrator, Viega



**G**lobal market leaders need world-class IT infrastructure. “Before we got the Rittal Micro Data Center, some parts of our IT infrastructure, which had grown organically, lacked redundancy,” reports Leon Wurm, Network Administrator at Viega. What’s more, the available space offered no scope for the structural changes that would have been necessary, for example, to extend the expanding company’s IT systems and implement up-to-date fire safety measures.

The IT specialists and the facility management team were looking for a quick and practical solution. They wanted to split the IT infrastructure between two locations in different fire compartments in the building and provide urgently needed redundancy without taking up too much space. There wasn’t time to build a new data centre with a separate security room.

**MICRO DATA CENTER FOR  
MAXIMUM PERFORMANCE**

The company ultimately opted for two Rittal Micro Data Centers (MDCs), each with four bayed enclosures, on different floors of the building – with sufficient capacity to map all production-related applications and also ensure the necessary redundancy. The clock was ticking for Rittal. The solution needed to be ready as soon as humanly possible, without compromising on security or fire safety.

Fortunately, MDCs meet the relevant requirements as standard. The rack technology’s level of protection against dust, dirt, smoke, fire, impacts, etc. means no further physical protective measures are necessary. For safety reasons, Viega nonetheless installed the MDCs in separate rooms rather than in the actual production area. “That was a request and a requirement from our IT team – amongst other things, to ensure access could be controlled,” Wurm explains.

The MDCs’ fire safety monitoring was incorporated directly into Viega’s in-house monitoring system. If an alarm is triggered, nobody even needs to call the fire service, because the integrated gas extinguisher system automatically reduces the amount of oxygen in the air enough to suppress any spark. Once the gas extinguisher has done its job, the doors can simply be opened again. This is preferable to sprinkler systems, which can quickly damage the sensitive electronics.

Further key factors in Viega’s decision included its appreciation of how quickly but conscientiously Rittal works, the MDCs’ high-quality workmanship, and integrated services such as power supply and water cooling. “By 2035 at the latest, we want Viega to have completely carbon-zero production operations, so there was no question of us using a potentially environmentally harmful refrigerant,” says Wurm.



*Patrik Debus, a member of the Rittal field sales team, talking to Leon Wurm next to the Micro Data Center.*

**GUARANTEED  
FUTURE-PROOFING**

Meeting the requirements perfectly wasn’t the only impressive thing about the solution. “The MDC will ensure we remain incredibly flexible in the future,” Wurm emphasises. After all, the system can be extended at any time. What started at the headquarters in Attendorn is now well on the way to becoming the new standard at the company. Viega has already ordered two further Rittal MDCs for the company’s Grossheringen site in Thuringia, its largest production site anywhere in the world. Another site, which is currently being built in Kirkel, in the Saarland region, is also set to be equipped with this system. “Many data centres from other manufacturers often require large investments and come with numerous features we don’t need. MDCs, on the other hand, are both streamlined and reliable. They have everything we need, with no unnecessary frills,” Wurm concludes. □



Hahn Automation Group

# ROUTING WITH CENTIMETRE ACCURACY

When preparing and laying power and signal cables for specialised plant systems that incorporate automation technology, approximations simply won't do. **Hahn Automation Group** takes a systematic and innovative approach to this work. It was one of the first test users of a new cabling tool included in the **Eplan Platform**.

TEXT: GERALD SCHEFFELS AND BIRGIT HAGELSCHUER

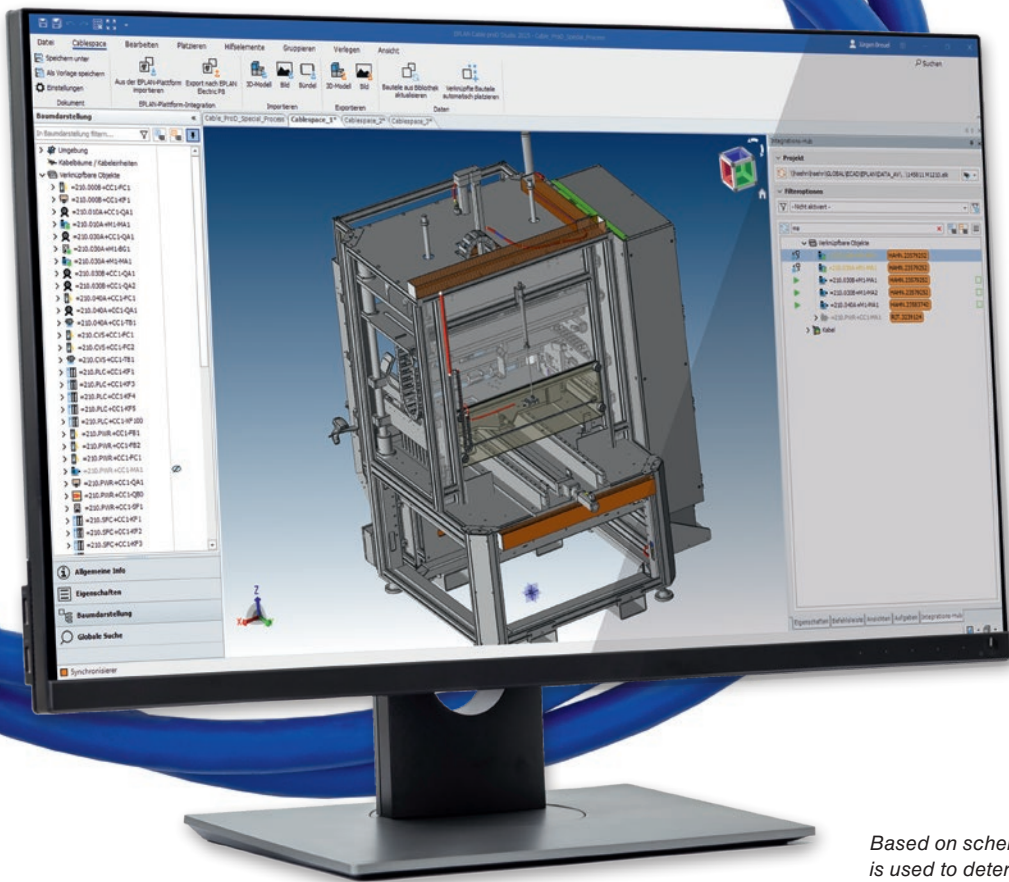
## PRECISION PLANNING

Innovative,  
made-to-measure  
machine cabling

**S**hould the servo cable be 14 or 14.50 metres long, and should it be laid above or below the conveyor belt drive? There is no need for assembly staff at Hahn Automation GmbH in Rheinböllen to ask themselves these kinds of questions. A glance at the installation route shown in the clear, standardised Eplan drawing on their tablet is sufficient.

This approach is commonplace in enclosure production, but Hahn Automation also uses it outside the enclosure – to be precise, between enclosure and machine when laying cables for its complex and highly automated systems. Built for applications such as the assembly of automotive seating and instrument panels, each plant system is a complete one-off. Workers have a great deal of freedom when assembling such unique systems. The management team at Hahn Automation is aiming to limit such freedom where it has the potential to result in errors and additional costs. ►





### END-TO-END ENGINEERING

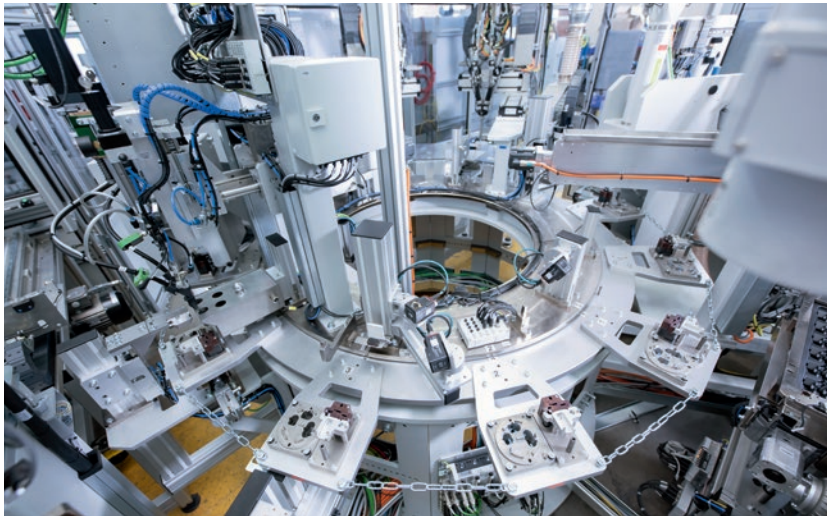
Electrical design engineers have been using Eplan for around 15 years, regardless of the plant system's size or the target industry. As Dirk Scherer, Manager Electrical Engineering, explains: "We create the schematics using Eplan Electric P8 and send the bills of materials and I/O lists it generates to the procurement and manufacturing departments." The company's electrical engineers have also been using Eplan Pro Panel for their design engineering work for a good two years now. "This doesn't just speed up the production of enclosures – it also increases their quality, thanks to the 3D visualisation alone," Scherer adds.

*Based on schematics and MCAD data, Eplan Cable proD is used to determine the required cable lengths and the routing for installation. The exact lengths are then fed back into the Eplan project.*

This is something that has occasionally happened when laying cables. As Dirk Scherer, Manager Electrical Engineering, explains: "We lay a large number of cables for each plant system, including expensive servo cables. If the lengths of these cables have only been approximated, either surplus cable goes to waste or a cable is sometimes too short. On top of that, the installation routes can be random and may not end up being optimal. We wanted to standardise things, including the appearance, and make the process more efficient."

#### BETA TEST OF CABLE PROD

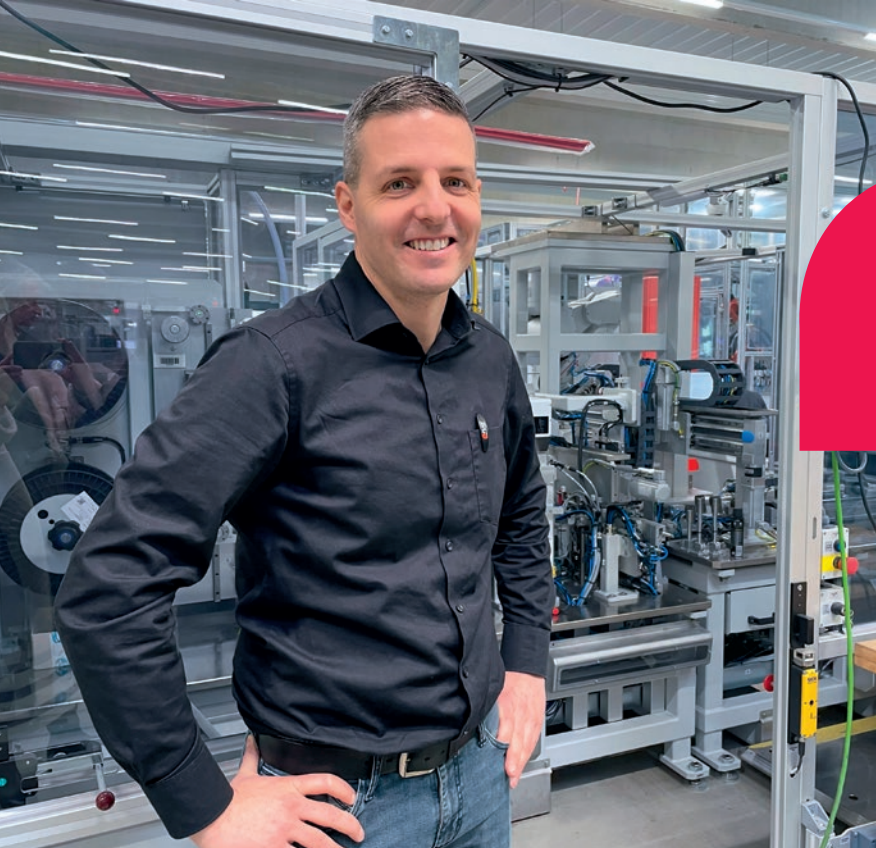
The fact that Eplan was planning to launch a new tool – Cable proD – for this very task was highly convenient. This CAD tool can lay cables virtually in the field and – based on schematics and MCAD data – automatically determine both the required cable length and the installation routing. The exact lengths are then fed back into the Eplan project. Hahn Automation Group agreed with Eplan that it would test Cable proD using the specific example of a plant system for the automated production of automotive



*Efficient handling is the cornerstone of automated processes.*

**100**  
percent accurate  
calculation of cable  
lengths

components with a cycle time of 41 seconds. The system has 18 workstations that need to be supplied with power and signals. What's more, since some of the steps are complex – cold shrinking with liquid nitrogen, for example – around 300 sensor cables, 50 power cables and 11 servo cables had to be laid.



**"We can now determine cable lengths accurately and reliably, without having to take measurements first and then make corrections."**

**DIRK SCHERER**, Manager Electrical Engineering at Hahn Automation Group

### RITTAL – PREFERRED PARTNER

Rittal is a preferred partner of Hahn Automation for the hardware aspect of enclosure production. Machined modules from the VX and AX series are supplied by Elmatec, a partner of Rittal, and are used in the clearly structured assembly line work. When it comes to climate control, Blue e+ cooling units from Rittal ensure maximum energy efficiency. Even though requirements are modest (around 150 enclosures per year), in-house production is to be maintained – for flexibility reasons as much as anything else. In the challenging specialist mechanical engineering sector, keeping design and production close together is an advantage – as are cables that are laid perfectly and in a standardised way, both on and in machinery.

#### RIGHT FIRST TIME

Hahn Automation Group was completely won over by the results of the test. "The cables are bundled and routed through cable ducts in 3D. The system reliably determines the cable lengths, so you don't have to take measurements first or make corrections afterwards. In addition, staff can work quickly and without making any mistakes, because the routing paths are displayed in the viewer," Scherer continues. Another advantage is that the expensive servo cables can now be produced without any wastage, saving both money and copper while also lowering CO<sub>2</sub> emissions.

#### SERVICE IMPROVEMENTS

Following the successful test, it has been decided that Hahn Automation Group will

roll out Eplan Cable proD in Rheinböllen first and then at other sites. This makes sense for the long term as well, as automated cable routing is a good fit for the future of plant system manufacturing and enclosure production. "We're certain we won't still be drawing schematics in the future – we'll be configuring them instead," emphasises Scherer.

Hahn Automation has already done a lot of work in preparation for this, including a macro project, a basic project and a device database that is based on the Eplan Data Portal and kept meticulously up to date. Scherer describes the result as follows: "We can already compile our power requirements and climate control needs automatically. Consequently, we are even more efficient and can focus more on innovative design work." □



# NEWS INNOVATIONS

**Hardware and software:** Only by intelligently combining these two worlds can industrial and IT companies gain a real edge on the global market. Read on to find out more about the latest products from **Eplan**, **Rittal** and **Rittal Automation Systems**.

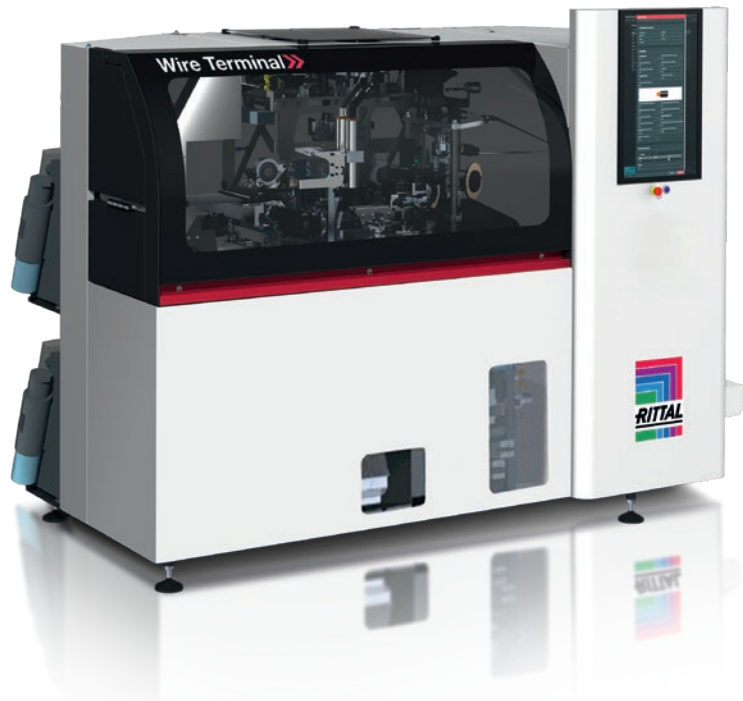


Available from May to coincide with Eplan Next

## Eplan Smart Sourcing

When planning the electrics for new projects, users often resort to tried-and-tested solutions. Components, assemblies or even entire projects are reused. What if the planned articles are no longer available, though? In the future, Eplan Smart Sourcing will provide users with a complete overview of article availability and delivery times. It will do so by linking the systems of manufac-

turers and distributors, such as online shops that offer direct access to logistics information. On request, Eplan users will be shown tables based on a traffic-light system that indicate availability, current stock levels and delivery times for their suppliers' articles. Eplan Smart Sourcing is making its debut at Eplan Next, where the software will be unveiled to trade visitors.



Rittal Wire Terminal WT L10

## A helpful little brother

There aren't many businesses that are too small to boost their efficiency with automation – provided the solutions fit. With the arrival of a "little brother" for the well-known Wire Terminal WT C, Rittal Automation Systems is now cutting the cost of investing in fully automated wire processing. The new Wire Terminal WT L is based on the same technology platform and is a profitable option from as few as 150 or so enclosures a year, without comprising on quality or process reliability.

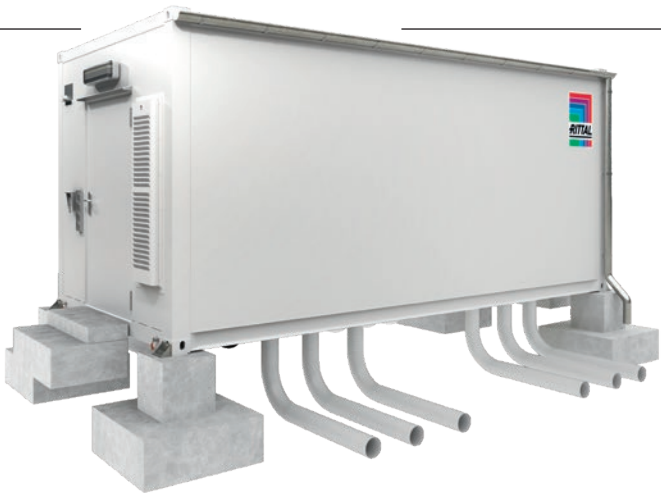
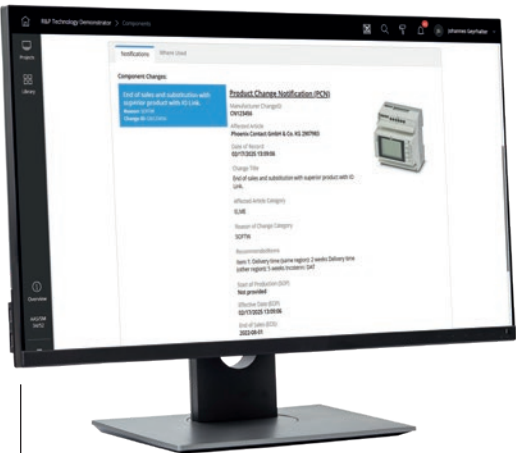
The new product line processes in the variant WT L5 cross-sections of 0.5–2.5 mm<sup>2</sup> in the WT L5 option. It also processes up to 6 mm in the WT L10

option. Despite a compact footprint of around 2 m<sup>2</sup>, it incorporates all the relevant technologies – from familiarly precise wire entry with RFID-supported, 12-wire infeed through to the servomotor-based crimping module. The wire output options are specifically geared towards the requirements of smaller production operations. The new machine can carry out steps up to 11 times faster than the equivalent manual operations. This means even smaller businesses can achieve much shorter throughput times, cut their processing costs and significantly ease the strain on skilled staff, who are in short supply.

### Product Change Notification (PCN)

## Always up to date

At Eplan Next in Munich, Eplan will be previewing a system for Product Change Notifications (PCNs). Based on the Asset Administration Shell – AAS for short – component manufacturers can use the Eplan Platform to provide their customers with targeted notifications about successor products or, for example, about important firmware updates. This gives system integrators and machine and enclosure manufacturers vital update information that is relevant to them. Almost in real time, they can act quickly to take the corresponding changes into account in their engineering process. This improves collaboration within the ecosystem.



Rittal RailwayCube container

## A turnkey solution!

The Rittal RailwayCube is an ingenious turnkey solution for critical rail infrastructure – it is robust, reliable and ready for immediate use. Whether it contains a power supply, signalling technology or control systems, the Rittal RailwayCube's IP 55 protection category, integrated lightning protection and forced entry resistance up to RC4 mean it offers the ultimate in safety and security, even under extreme conditions. The cube meets all relevant railway standards and current security requirements such as KRITIS and NIS2 in Germany. Integrated battery degassing, powerful climate control up to 50 kW and railway-standard lighting round off the system, which is ideal for rail operators, infrastructure companies and OEMs.

### RiLineX fuse holders

## On the safe side in the USA

The USA is an important export market for European plant engineering companies. Rittal has now added new fuse holders to its already comprehensive UL-compliant busbar system platform RiLineX. The fuse holders have been developed specifically for the US market and are UL-certified. They feature tool-free installation, contact hazard protection and design-based de-energisation in the open position. The new components are available in two performance classes – Class CC up to 30 A and Class J up to 100 A. It is now even easier for RiLineX users who make products for the US market to benefit from the advantages of this platform. The new system can be installed up to 75 per cent faster than conventional busbars.





Eplan Platform 2026

# “THE ADDED VALUE IS SIGNIFICANT”



In industry, a lack of speed is a fundamental problem in the face of global competition. A lot of potential can be unlocked by **speeding up engineering processes**. Eplan has therefore redesigned its product portfolio so customers can benefit from a much simpler, more powerful solution – but at no extra cost. **Thomas Weichsel, Vice President Software Portfolio at Eplan**, explains how the Eplan Platform 2026 is helping electrical engineers forge ahead.

TEXT: BIRGIT HAGELSCHUER



**“With the Eplan Platform 2026, we have tailored everything to our customers’ typical workflows.”**

**THOMAS WEICHSEL,**  
Vice President Software  
Portfolio, Eplan

**Mr. Weichsel, what does the new Eplan Platform offer?**

In developing the new Eplan Platform, our number one aim was simplification. Our existing portfolio had grown over the course of 20 years and consisted of lots and lots of small elements – with hundreds of articles and countless ways of combining them. This led to complex decision-making processes and, in some cases, our customers ended up with incomplete solutions.

**What changes have you made and how do they benefit customers?**

With the Eplan Platform 2026, we have tailored everything to our target groups’ use cases and workflows, which has greatly increased transparency regarding the possible combinations within our portfolio. Every product now incorporates all the relevant functions and, in the case of our new industry packages, all the necessary templates, analyses and data that users need to execute their specific tasks perfectly. Customers therefore get fully inclusive packages at no additional cost. This reduces the time to first value and makes the platform much simpler and more transparent for users. As confirmed by feedback from customers who have already tried it out, the added value is really significant.

**What role does AI play and how is it changing electrical engineering?**

As far as we’re concerned, AI is a strategic technology, not a short-lived trend.

We’re not merely following this development – we’re shaping it! Our goal is long-term, forward-looking solutions that bring clear benefits to engineering. That’s why one of the things we’re focusing on is ensuring our customers can access support round the clock. With the Eplan Cloud and the Eplan Platform’s hybrid products, we are bringing the concrete benefits of AI to the customer.

**Can you tell us about possible areas of application for AI in Eplan?**

As an example, AI-based data interpreters help make existing project data, such as legacy data or data from other systems, usable for customers, both now and in the future. AI is a supporting technology – it carries out routine tasks and reduces the daily workload, but is no substitute for an engineer’s expertise.

**To what extent does cloud technology strengthen collaboration within the engineering process?**

The cloud is a key element of modern-day engineering. It facilitates the secure, global exchange of project data and the enhancement of information – for instance, via our Collaboration Apps such as the Project Viewer, which are already being utilised by thousands of users within companies. Article data is another important aspect.

**Isn’t article data a bit like a customer’s “treasure trove”?**

Yes, that’s right – and a huge amount of time is invested in creating this data, maintaining it and making it usable for engineering purposes or for other processes such as procurement, production and servicing/maintenance. The centralised management of data in the cloud is useful in this context, too. Customers can use centralised article management in the Eplan Cloud to make this data available on a company-wide basis or across different sites. We also offer services that help ensure this data is always kept up to date. □





Interview

# DIRECT CURRENT – DIRECT BENEFITS!”

A growing number of **data centres** are turning to **DC power** – a trend that is also being driven by the high power demands of AI applications.

**Zafer Cankurtaran**, Product Manager Direct Current Technology at **Rittal**, explains why **DC systems in sidecars** are becoming the **new standard** – for the present day and the future.

TEXT: DANIEL GIEBEL

## Mr. Cankurtaran, why is the global market for data centres so dynamic?

Demand for computing power is rocketing. AI applications are sending it soaring. Instead of the 11 kW needed by standard applications, AI racks at present require up to 140 kW and this will soon be 300 to 600 kW. Up to 1 MW per rack is even conceivable. Power requirements of this magnitude expose the weaknesses of AC technology, with every conversion step from AC to DC resulting in losses. What's more, the low voltage on the AC side leads to high currents and therefore to a big additional demand for copper cables, power packs and other components. All this takes up space and is both inefficient and expensive.

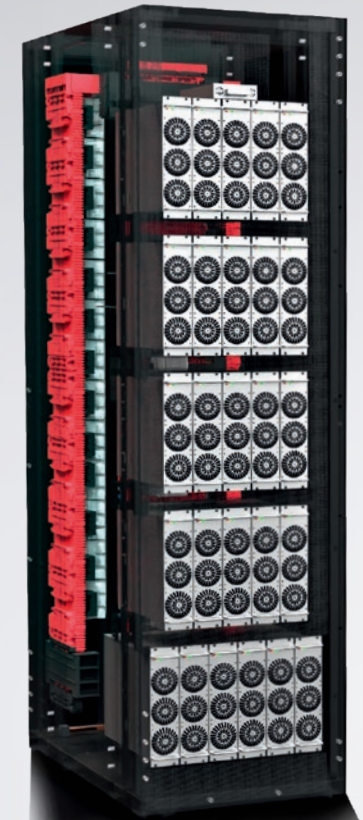
## Do operators have specific approaches for converting their data centres to DC?

Operators are increasingly looking to transfer their power electronics to what we call "sidecars". These sidecars supply a direct current of  $\pm 400$  VDC, for example, directly to the server racks. This higher voltage reduces the currents, meaning much less copper is used.

*Zafer Cankurtaran –  
a true DC specialist  
in the Energy & Power  
Solutions business unit  
at Rittal.*



**THE SIDECAR** is where Rittal houses the energy supply – totally separate from the server rack. Using the red RiLineX busbar system platform from Rittal, the sidecar distributes the DC flow to the equipment.



Since they eliminate a large number of conversion components, the sidecars also save space, cut costs and improve both efficiency and reliability.

## Is the switch already taking place?

It is indeed. NTT and other telecom data centres are operating at 400 VDC, for example. Important momentum is coming from the Open Compute Project (OCP). Its "Diablo 400" project – supported by Microsoft, Meta, Google and Rittal – has established a globally standardised DC infrastructure with a sidecar. A dedicated project group has been created within the OCP to focus on the DC infrastructure throughout the entire data centre. Standardisation of this kind paves the way for more widespread application.

## Are all the necessary components available?

All the relevant elements are already available on the market. The exception is  $\pm 400$  VDC native servers, but solutions are soon expected for these as well.

## How is Rittal helping data centre operators switch from AC to DC?

Rittal is already known to most hyperscalers and large colocators as a supplier of IT infrastructure. At the same time, there is growing recognition of the benefits that come with using direct current in data centres, which is why lots of operators now want to make the switch quickly. Rittal has set its sights on helping with this switchover by providing energy and power solutions, racks and cooling solutions, together with the relevant services.

**“The use of direct current can save a huge amount of energy and material. Rittal is an established partner in this field.”**

**ZAFER CANKURTARAN**, Rittal

## What is the actual extent of the efficiency gains?

Besides the improvement in PUE – power usage effectiveness – the main benefit relates to resources, with two cables instead of four, 50 percent less copper and fewer components. This saves both money and space as well as creating a more fail-safe system.

## What's next after the $\pm 400$ VDC sidecars?

The next step is a complete  $\pm 400$  VDC supply from grid to rack. That's technically possible but, realistically speaking, it's primarily an option for new-builds. Existing data centres will use sidecars for the time being – a pragmatic transitional step. We are driving the transformation as part of the Open Direct Current Alliance (ODCA) and together with the OCP.

## When are you expecting to see $\pm 400$ VDC in data centres?

The first projects are set to be implemented in two to three years' time. From 2030 onwards,  $\pm 400$  VDC supply will become the new standard. It's the key to the data centre architecture of the future. □



# EXPERT KNOW-HOW

## CLIMATE CONTROL

### NEW RULES OF PLAY FOR REFRIGERANTS

In 2027, new rules covering the use of refrigerants in climate control equipment come into force in the EU – with implications for the mechanical and plant engineering sector. To future-proof themselves, companies need to rethink their approach now. Rittal is showing how to switch successfully to modern refrigerants – with no need for complex system changes.

TEXT: RALF STECK

It is a clear move to boost climate protection – from 1 January 2027, the EU is restricting the use of refrigerants in cooling units and chillers with cooling capacities up to 12 kW. From that date on, only cooling units containing a refrigerant with a global warming potential (GWP) lower than 150 may be placed on the market. From 2032, the use of refrigerants containing F-gases will also be prohibited in these products. From 2027, new chillers with a cooling output above 12 kW must only contain refrigerants that have a GWP below 750. Other regulations around the world, such as in the USA, have specified a GWP of 700 for the refrigerants used in this type of equipment since 2025.

All this poses a challenge for machine and plant manufacturers, who need to make sure the cooling systems they use are fit for the future and comply with legislation – and sooner rather than later.

**THE RIGHT CHOICE**

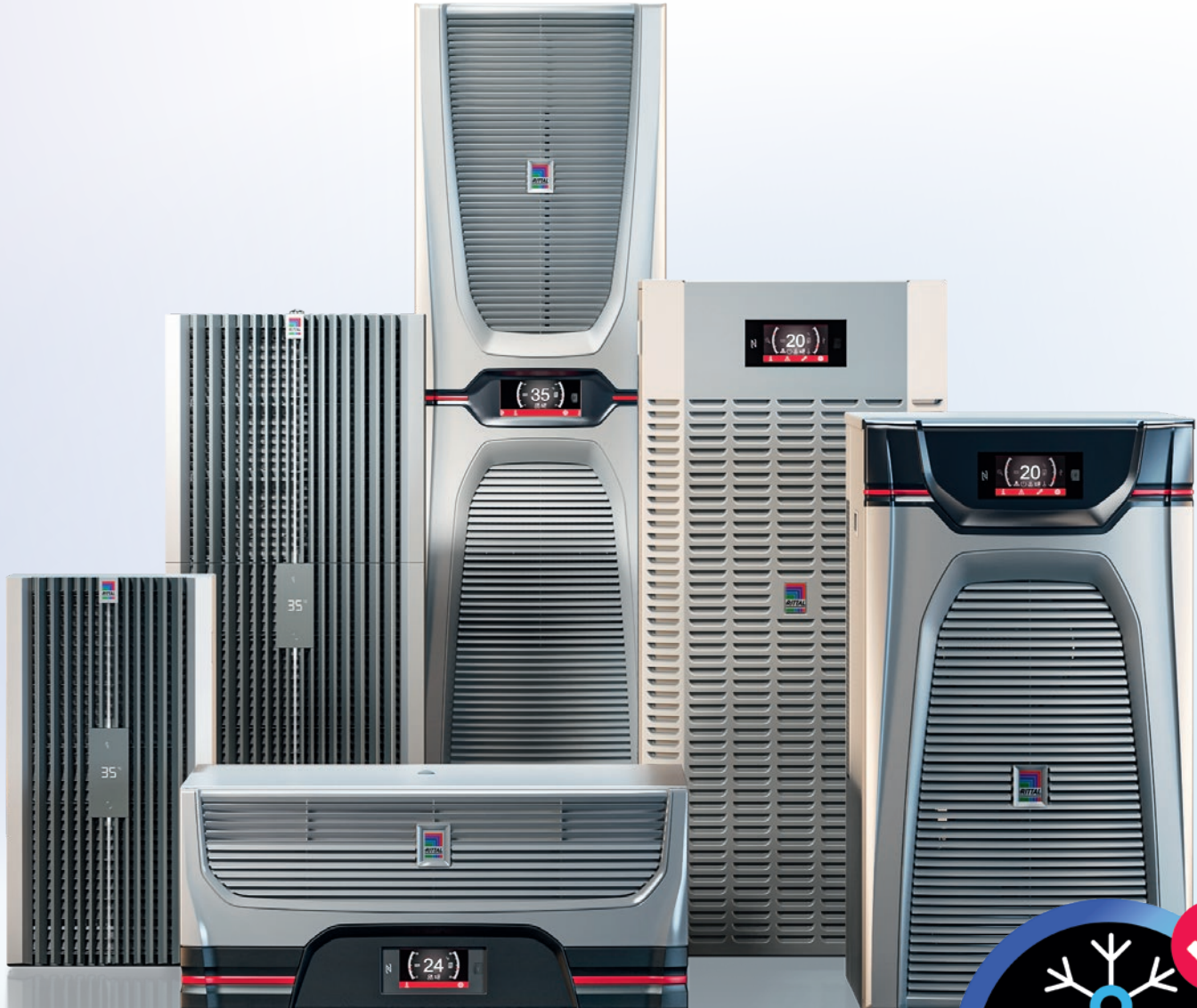
The key issue is choosing an appropriate refrigerant. The lower the GWP, the more environmentally friendly the refrigerant is – but the more challenging from a safety perspective, too. That's because a refrigerant's flammability increases as its GWP drops. Many of the new substances are flammable, so special safety measures are needed.

Rittal responded quickly in 2024, switching all its cooling units and chillers over to the refrigerant R-513A, which has a GWP of 631. Starting in the first quarter of 2026, Rittal is taking the next step – switching its entire Blue e+ cooling unit portfolio to the refrigerant R-1234yf, which has a GWP of just 0.5. The Blue e+ chillers will follow suit in the second quarter. As a result, Rittal climate control units will comply with the regulations right up to 2032. Rittal will also act in good time to offer appropriate solutions that will meet the requirements taking effect in 2032.



**RALF SCHNEIDER,**  
Head of Climate Control  
Solution Sales, Rittal

“Our aim is to make things as simple as possible for our customers. That’s why, when developing our new products, we’ve ensured that the performance data, the dimensions and the cut-outs in the enclosure are virtually identical. This means machine manufacturers can usually switch to units with modern refrigerants without having to make any further changes.”



**ASSESSED AS LOW RISK**

Although the refrigerant R-1234yf is flammable, it only ignites at temperatures above 400 degrees Celsius, so it is categorised as mildly flammable (safety classification A2L). The risk analysis conducted by Rittal for the use of this refrigerant in enclosure cooling units deemed it “low risk”. In the automotive industry, various tests and analyses for using R-1234yf have been performed. The results show the overall risk to be higher than when using R-134a, but they also show no relevant general increase in risk in the event of an accident. In Japan, R-1234yf has been used in enclosure cooling units and other cooling systems for many years now. As Rittal has been supplying units containing R-1234yf to the Japanese market since 2018, it has gathered a lot of experience with this substance. Machine manufacturers can therefore use Rittal cooling units and chillers in enclosures and other applications

for the foreseeable future without having to make any major changes. This means they can sell their equipment worldwide and remain in compliance with the relevant regulations.

Thanks to UL and IEC certifications, the very low volumes of A2L used, and a safety-optimised design, these Rittal units can be used anywhere in the world without any need for additional safety measures.

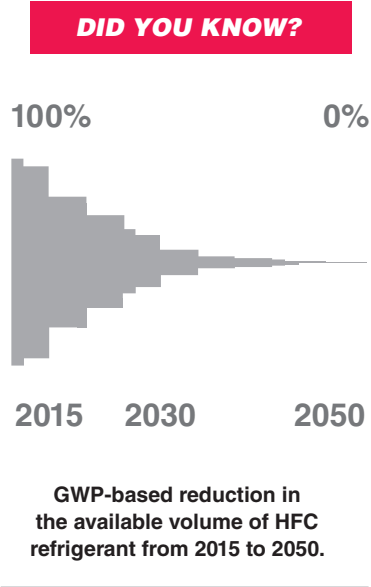
**CREATING PLANNING CERTAINTY**

Rittal offers its customers a complete, future-proof portfolio that covers all applications. The cooling unit and chiller technology delivers a sustainable, energy-efficient and viable solution for the long term – one that extends well beyond mere transitional technology. For special cases in which operators document an unacceptable risk in their application, Blue e units with the refrigerant R-513A (GWP 631) continue to be available. □

<150

From 1 January 2027, cooling units with a cooling output of up to 12 kW must use refrigerants that meet this GWP limit.

REFRIGERANT	GWP
CFCs (general)	> 12,000
R-134a	1,430
R-513A	631
Methane CH <sub>4</sub>	28
Carbon dioxide CO <sub>2</sub>	1
R-1234yf	0.5
Propane	0.02



Find out more at:



## Rittal Wire Handling System

# WIRE PRODUCTION ON DEMAND

Is it possible for preassembled wires to wing their way to the right workstation just in time as if by magic? It is with the new **Rittal Wire Handling System**. **Tim Kramer**, Head of Product Marketing at **Rittal Automation Systems**, explains how this is achieved and just how much time it saves equipment manufacturers.

INTERVIEW: DANIEL GIEBEL



**“The Wire Handling System gets wires to exactly where they are needed on demand.”**

**TIM KRAMER**, Head of Product Marketing at Rittal Automation Systems

### Mr. Kramer, what is the idea behind the Wire Handling System?

Many workshops are already using the Rittal Wire Terminal WT to automate wire processing. In most cases, however, these wires then have to be distributed manually – a time-consuming process with potential for errors. That’s where the new Wire Handling System (WHS) comes in. It uses compressed air to transport the preassembled wires to a number of remote workstations automatically. This is the next logical step in the end-to-end automation of panel building.

### How does wire distribution work in practice?

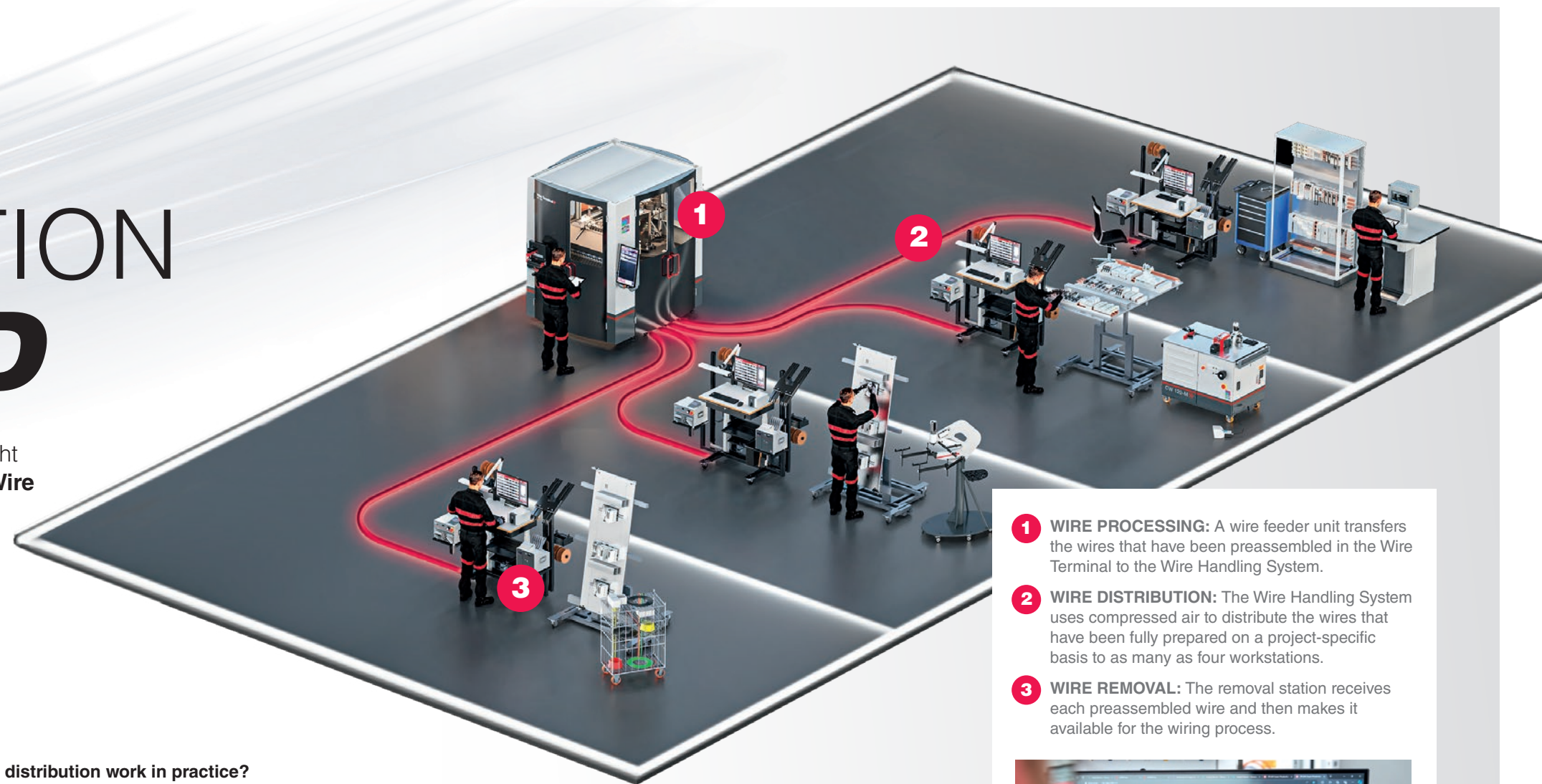
Depending on how the process is planned, wires are produced either on demand or in a predetermined sequence. The special feature of the WHS is that wires can be sent directly to as many as four workstations, over a distance of up to 80 metres. When each wire reaches its destination, it is detected by sensor technology that slows it down and makes it available for further processing – precisely, reliably and exactly when it is needed.

### Where does the information telling the system which wire belongs where come from?

That’s based on digital planning with Eplan. Many of our customers are already using Eplan Pro Panel. The data defined in this software – i.e. a wire’s cross-section, colour, length and target component – is transferred to the Wire Terminal. The result is an intelligent wire list that the Eplan Smart Wiring assistance system utilises to act as a guide for the wiring process. This means the WHS always knows which wire is needed where at a given time.

### Is the process as highly reliable as it sounds?

Absolutely! The big advantage is the end-to-end data chain. Each wire is defined digitally, produced digitally and can be traced digitally. This all but eliminates manual errors, and because the system is directly linked to production, several projects can run in parallel without any data conflicts or bottlenecks. The way the Wire Terminal is programmed means it can prioritise jobs – if a workstation needs a wire right away, for example.



- 1 WIRE PROCESSING:** A wire feeder unit transfers the wires that have been preassembled in the Wire Terminal to the Wire Handling System.
- 2 WIRE DISTRIBUTION:** The Wire Handling System uses compressed air to distribute the wires that have been fully prepared on a project-specific basis to as many as four workstations.
- 3 WIRE REMOVAL:** The removal station receives each preassembled wire and then makes it available for the wiring process.

# 80

metres is the distance that wires can be “blasted” to as many as four workstations.



The Eplan Smart Wiring assistance system visualises the mounting layout, devices, connections and wiring routes and acts as a guide for the wiring process.

### There’s also been a real improvement in terms of wire processing time. Can you tell us about that?

Yes, that’s an important point. With the latest software and technology, our Wire Terminal is now achieving a processing time of just 8 seconds or so per wire. It used to be around 13.8 seconds. Almost doubling the speed in this way is particularly beneficial for series production operations and bigger projects.

### How automated has panel building already become in reality – and how much is still just a vision?

I’d say that with solutions such as the Wire Terminal, the WHS and the Eplan platform, the automation process is in full swing. Many of our customers are

currently undertaking this very transformation, moving away from manual processes towards digitally networked workflows. The WHS is a key element when it comes to plugging the gap between automated production and an efficient shopfloor.

### What does that mean for customers in concrete terms?

Less walking back and forth for staff, less time spent finding things, and fewer errors. Above all, though, a transparent and scalable end-to-end process. The WHS gets the wires exactly where they are needed, without any diversions, and it fits flexibly into the actual production situation on site – from custom wiring through to series production. □





Partnership between Salzgitter AG and Stahlo

# GREEN STEEL – WHAT ARE THE NEXT STEPS?

**Salzgitter is a real hotspot in the steel industry right now.** Its SALCOS® programme has made the Group a global role model for the switch to **green steel**. Despite all the discussions regarding this sector, **Salzgitter AG** is pressing ahead with its strategy and is looking to achieve virtually emission-free production by the mid-2030s. **Stahlo** is ensuring the necessary access to green steel.

TEXT: MARKUS HUNEKE

**A** good quarter of the entire site has been given over to the construction of sustainable production plants – an area equivalent to 210 football pitches. A direct reduction plant, an electric arc furnace and an electrolysis unit for the production of hydrogen are being built simultaneously. Salzgitter AG, Lower Saxony's state government and Germany's federal government are investing around 2.5 billion euros in this project. It is envisaged that CO<sub>2</sub>-reduced steels will be available to customers from 2027 onwards.

Even though the topic of sustainability appears to have slipped out of the spotlight lately, experts largely agree that reducing greenhouse gases is a must. Carbon pricing and regulatory instruments are driving the transformation. The markets are slowly starting to gear themselves up for green steel.

**“We are building trust in the supply chains.”**

OLIVER SONST, CEO of Stahlo

## THINGS ARE LOOKING GOOD FOR GREEN STEEL

Green steel grades are still more expensive than conventional steels at present. In the longer term, though, things are certainly looking good for green steel in market forecasts. Although some of these forecasts are still vague, high growth rates are definitely expected in the coming years. For example, consulting firm Deloitte is predicting a market share of approximately 20 percent for green steel in the EU by 2030, which corresponds to around 12 to 13 million metric tons per year. Key anchor sectors have already taken their first steps. Leading automotive manufacturers such as BMW, Mercedes-

Benz, Volkswagen and Volvo have pronounced themselves in favour of using green steel in their vehicles and have signed relevant contracts and agreements with producers.

## STAHLO – A MARKET ENABLER

However, simply switching primary production is no guarantee of market success. The right partners are needed if green steel grades are to be made accessible to a wide range of customer segments. Like Salzgitter AG, Stahlo has been quick to commit to green steel. “The family-owned Friedhelm Loh Group firmly believes in green steel and the approach Salzgitter AG is taking, and that's why we have got involved with SALCOS®,” says Oliver Sonst, CEO of Stahlo.

The steel service centre has acted quickly to safeguard its ability to supply these steel grades by building up an international green steel network of plants. “We can meet any level of customer demand, whether this relates to physical green steel or use of a carbon accounting method,” he explains. “If customers are looking to get started with green steel right now, we can supply everything from the physical product to emissions information they can use in the context of Scope 3 reporting or CBAM regulations, for instance,” Sonst adds. Besides being a material supplier, Stahlo is therefore also providing information, ensuring planning certainty and building trust.

To make certain it can indeed supply green steel, the steel service centre needs dependable partners. “Salzgitter AG is an ideal partner for us. This company's regional proximity, its clear commitment to the transformation and the imminent availability of CO<sub>2</sub>-reduced steel are all good reasons for our partnership,” emphasises Sonst. □



## 3 QUESTIONS FOR GUNNAR GROEBLER CEO of Salzgitter AG



**“WE ARE ALREADY SEEING CONCRETE DEMAND FOR GREEN STEEL.”**

### Mr. Groebler, what convinced Salzgitter AG to undertake the systematic transformation to green steel?

Both the EU and Germany have set themselves ambitious climate targets. This means it will no longer be economically viable to continue producing grey steel in the medium term, and European steel producers will need to take prompt action to decarbonise their production processes due to the rising costs associated with CO<sub>2</sub>. Our SALCOS® programme is looking at future technology requirements and making us a decarbonisation pioneer.

### What makes you confident that a viable market for CO<sub>2</sub>-reduced steel will emerge?

We are already seeing concrete demand for green steel, as shown by volume commitment agreements between our company and many of our customers. For most customers, addressing steel consumption is the simplest way of making substantial CO<sub>2</sub> savings. During a transitional phase,

however, political support will be required to help with the additional costs for the new plants that are already being commissioned and to ensure their competitiveness in the early years. This includes building up green lead markets and an efficient hydrogen infrastructure. Competitive energy prices and effective protection against unfair competition will be just as important.

### What role do partnerships play in the project's economic success and scalability?

It goes without saying that good partners are needed to implement SALCOS®. No company can tackle industrial decarbonisation alone, because this calls for systemic changes – from new infrastructure and technological breakthroughs to modified supply chains. Partnerships such as the one with Stahlo make it possible to pool different areas of expertise in this process and ensure coordinated development of the necessary ecosystems throughout the entire supply chain.





AXEL DRANSFELD, LKH

LKH

# “WE LOVE THE CHALLENGE!”

The economic climate has worsened, with fewer investments and orders and, at the same time, more pressure, bureaucracy and regulations. **Axel Dransfeld**, Managing Director of plastics specialist **LKH**, knows what matters in times such as these and is pursuing a clear strategy.

INTERVIEW: JANNICK BANGARD

**Mr. Dransfeld, Germany's economy isn't alone in being under a great deal of pressure. Are you hoping for better times?**

We shouldn't be telling ourselves things will soon calm down or improve. Some challenges are disappearing, but new ones are appearing, too. As an injection moulding company, we are facing global competition and having to battle harder than ever for orders. Germany's locational disadvantages compared with other countries don't make all this any easier, either. The image of the material we manufacture is another issue. Unfortunately, the terrible way plastic waste is often dealt with also reflects on companies who adopt a responsible and sustainable approach to this material, like we do.

**How are you getting your customers interested in sustainable plastic?**

Our expertise means we are always looking for further potential to improve our customers' products – potential they may not see themselves. If customers come to us with a project, we also automatically provide them with a second, more sustainability-focused quotation alongside the first one. We offer specific pointers to show customers how they can improve their own carbon footprint.

**Does that mean the future of your industry lies in sustainable plastic?**

Plastic in general is exactly the right material for numerous applications. It is indispensable, because it often has better

properties than other materials. As regards sustainable plastics, I'm certain that, in the same way we now use high-quality recycled paper as a matter of course, we will also go on to make plastic from recycled materials or biopolymer even more than at present. These kinds of sustainable alternatives to plastics produced in the conventional way are currently still more expensive, but that will change in the medium term. Customers are increasingly asking us about alternative plastics so they can make their supply chains more sustainable.

**What do companies need right now to survive in these times of crisis?**

Besides being sufficiently robust to

survive in this economic climate, companies also need to be increasingly flexible – with regard to customers, suppliers and also regulations, which keep changing. US tariffs are one current example. As an SME, we can only make the most of our opportunities if we are always ready to change. As far as LKH is concerned, that means we must continue digitalising and automating our production operations, make use of new tools such as AI and, quite simply, have the ambition to keep on optimising things.

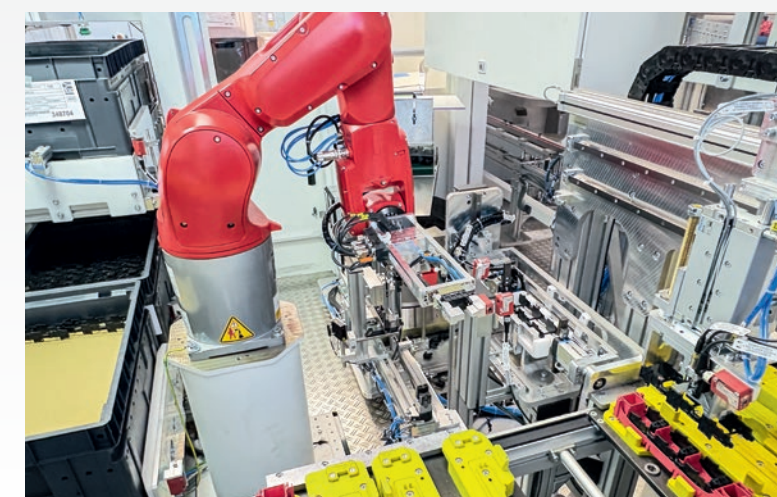
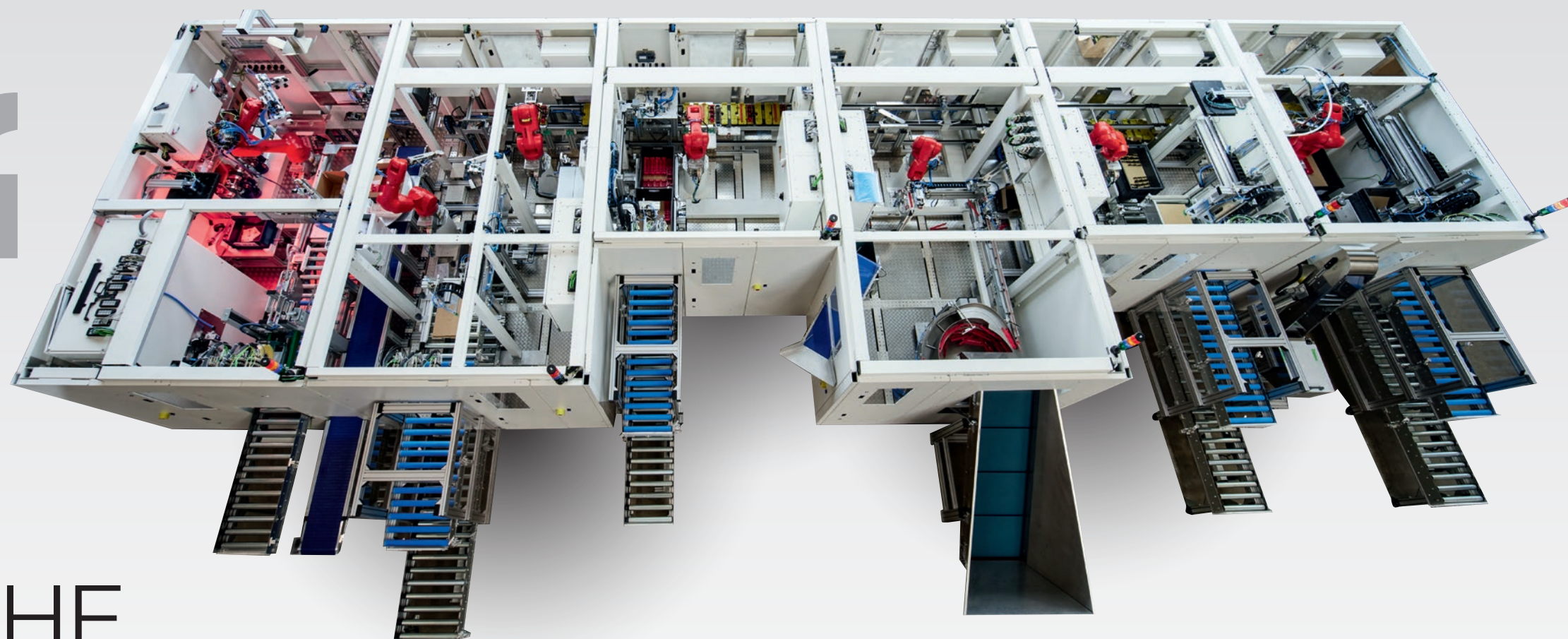
**Does something also need to change in the relationship with customers?**

Well, as I see it, having the right mindset is vital. We always need to put ourselves in our customers' shoes, think about the challenges facing them and consider where we can help. Which parts of the supply chain or value chain can we support? Only if we sit down with customers and enter into dialogue as partners at an early stage in the product development process will the crucial added value our customers need materialise.

**Can you also see opportunities in this climate of crisis?**

We simply love the challenge at LKH! Especially in times when there's a lot of uncertainty and fierce competition, we can prove ourselves as a plastic injection moulding specialist, really show what we can do, and offer our customers professional support throughout their entire product development process – from engineering and production through to logistics. That's what my exceptional team and I are all about. □

*At its Heiligenroth production site, LKH manufactures parts and products for all kinds of applications and customers – from Porsche chassis components to the Rittal power distribution platform RiLineX (bottom photo).*





# NEWS

## COMMITMENT

Whether at the various sites or through the work of the **Rittal Foundation** and the **Debora Foundation**, people from the Friedhelm Loh Group companies offer a helping hand and give the gift of hope. In 2025 alone, the Rittal Foundation distributed over **one million euros of donations**.



Wir helfen Kindern e.V.

## Joint donation with Alexander Bürkle

The **Rittal Foundation** is making a total donation of 50,000 euros to help the “Wir helfen Kindern e.V.” association expand its family accommodation in Tübingen. This accommodation offers families of seriously ill children a temporary home from home close to the hospital – and a bit of support and normality in difficult times. The donation reflects the long-standing partnership between Rittal and Alexander Bürkle, the initiator of the association. The two companies are both family businesses and share common values such as responsibility, solidarity and humanity.

FIRST LEGO League

## Nurturing a passion for technology

The **FIRST LEGO League** is an international competition for children and young people who love tech. Teams get 2.5 minutes at a games table to solve tricky tasks involving an autonomous robot. Teamwork, creativity and technical understanding are all particularly important. During the last competition – the “Unearthed” challenge – almost 20 teams slipped into the role of archaeologist to tackle tasks in the robot game, including developing strategies to uncover delicate artefacts. This year, the Rittal Foundation donated 3,000 euros for the FIRST LEGO League regional competition. What’s more, Rittal had a team of eight on site to provide support throughout the entire day.



Annual donation

## 200,000 euros for national and international aid organisations

In 2025, employees of the Friedhelm Loh Group raised more than 97,000 euros for the traditional annual employee donation. Prof. Friedhelm Loh increased this amount to 200,000 euros, which was then distributed to various charities worldwide, including the Debora Foundation in India, the Bethel Foundation, GAIN and Jumpers Gera. The Rittal Foundation, which is the Friedhelm Loh Group’s charitable foundation, transfers the individual donations to the various countries in a quick and non-bureaucratic way.



Food banks in Hesse

## 70,000 euros for 57 local food banks



The **Hesse regional association of food banks** is delighted to be the recipient of a generous donation from the Rittal Foundation. The three-year collaboration between the foundation and the regional association contributed 40,000 euros. The additional 30,000 euros came from the annual donation that the Friedhelm Loh Group raises amongst its employees each year. This financial commitment is a vital source of support for the 57 local food banks and their 7,000 volunteers. According to the CEO, the food banks in Hesse help around 110,000 people across the region, supplying them with food from surplus supplies and everyday essentials.

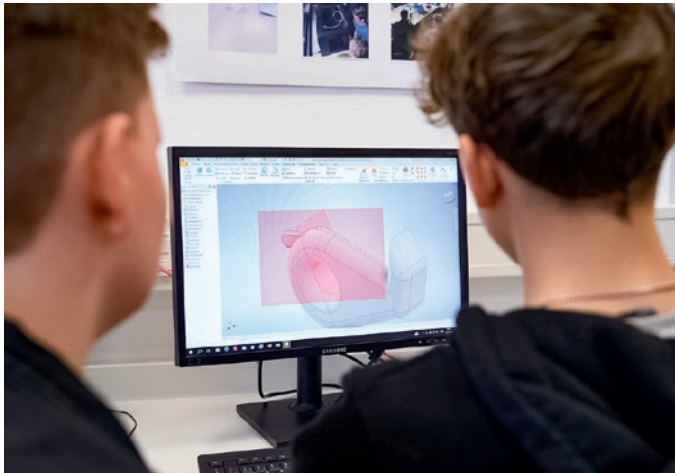
Aid for Ukraine

## Rittal Foundation donates fire engines

The **Rittal Foundation** has acquired three decommissioned fire engines, which it is now donating to Ukraine. The fire engines are being sent to Kiev, where fires are fought and people are rescued every day, due to the dreadful missile attacks that are part of everyday life. “Every day, we see images of the destruction that makes every available fire engine all the more important,” explains Rainer Reissner, Managing Director of the Rittal Foundation.







SchulePlus

# FROM AN IDEA TO A MOVEMENT

SchulePlus is growing from a regional pilot project into a network right across Hesse. Companies, schools and politicians are all pulling together **to make career guidance more practical** and enhance training. So what exactly is happening now?

TEXT: SARAH BENSCHIEDT

The future always starts in the mind. In Alexander Schöler's mind, for example. This teacher at the Johann-Textor school in Haiger is practical and pragmatic, so when he became aware of a problematic situation, he launched a new project – one that is now very much catching on.

Schöler was concerned by the massive drop in the number of apprentices in Central Hesse. In 2024/25, for example, almost 2,900 apprenticeship places were left vacant in Hesse. Schöler spoke to his students, listened to them and did some research. As he now recalls, many were worried – not only about making the wrong decision, but also about the new, unfamiliar situations awaiting them in the workplace. The solution? Careers guidance that is more practical, more accessible and better geared to young people's needs.

And that was how SchulePlus was born. The idea was to combine elective courses at school, such as CAD, with

regular work experience at a company. The result is genuine career guidance and – if both sides are happy – a direct transition into an apprenticeship. It didn't take long to find collaboration partners for the scheme in the region. One of the first was Rittal and the Friedhelm Loh Group. What started out as a single project has long since become an initiative – a movement – to change the education system and plug gaps in (vocational) training.

**FROM TRADES TO THE CARE SECTOR**

Students taking part in the scheme can spend two years gaining practical experience alongside their studies. The SchulePlus network now covers everything from industry and trades to administration and the care sector. A neat feature is the two-way nature of the scheme. Students go into companies, but the companies also effectively go into schools – they appoint apprentice mentors to help teach the elective courses and share their experiences. In the case of Rittal, one of these mentors is Tom Weinert, a year-three mechatronics apprentice who himself took part in



**“We want schools and companies to be able to aim high as they roll out the model.”**

DANIEL WIRTH, Head of Training, Friedhelm Loh Group

SchulePlus and secured his apprenticeship on the strength of it. He now shares his knowledge with others.

Why does the scheme work so well? “Hands-on experience – gained early on and without pressure – reduces doubt and increases the chances of finding a job that's the right fit,” explains Daniel

Signing the declaration of intent to take SchulePlus to the next level (from left): Sebastian Hoffmanns (Lahn-Dill District Trade Association), Andreas Cunz (Lahn-Dill Chamber of Commerce and Industry), Prof. Friedhelm Loh, Umut Sönmez (Secretary of State in the Ministry for Economic Affairs), Armin Schwarz (Minister of Culture), Carsten Braun (Land-Dill District Administrator) and Sascha Drechsel (Federation of Hessian Business Associations).



**THEORY MEETS PRACTICE**  
SchulePlus offers real insights, opening new prospects for picking a career.



Close collaboration: Alexander Schöler (left), who came up with the original idea for SchulePlus, and Tobias Sohn, who is in charge of technical training at the Friedhelm Loh Group.

Wirth, Head of Training at the Friedhelm Loh Group and co-creator of the concept. “If you're doing SchulePlus and realise the job isn't for you during your trial period, you can switch to something else instead of dropping out later. At the same time, companies get motivated young talent who are already familiar with the company, the team and the work.”

In practice, very few students have switched. Nine out of ten participants in the pilot project subsequently started an apprenticeship at the company they had chosen for their SchulePlus programme. “Behind every SchulePlus place, there's a real training place,” Wirth explains.

**FROM PILOT PROJECT TO MODEL SOLUTION**

The pilot project that was launched in Haiger in 2021 and is unique in Hesse soon proved such a success that it is now to be made a fixture across the state. This decision was made official in late 2025 when high-profile businesspeople, politicians and educators – including District Administrator Carsten Braun, Minister of Culture Armin Schwarz and entrepreneur Prof. Friedhelm Loh – signed a declara-

tion of intent. A cross-sectoral group is currently working on scaling up the programme to take it to the next level. A SchulePlus office has been set up at the District Administrator's headquarters and the companies supporting the scheme are soon to establish a SchulePlus association. “As the scheme grows, our responsibility does, too. Besides ensuring uniform quality standards, we want schools and companies to be able to aim high as they roll out a reliable model,” Wirth says.

In the Lahn-Dill district, following completion of the pilot phase, this is already happening successfully, including at the Goldbachschule school in Frohnhausen. Building on the success of the middle school models, the first grammar school – the Johanneum Gymnasium in Herborn – is soon to be integrated into the educational network. SchulePlus will be offered to grammar-school students in year 9 or year 11 to help them work out which direction they want to take. “They'll be able to get a training place even before their final exams, or make firmer plans to start the StudiumPlus dual work/study programme,” explains Wirth. □





Issue 02 | 2026:

# VIVA LA GROWTH!

In the space of just twelve years, the workforce at Spanish panel builder and switchgear manufacturer Vidal AC has grown from four to over a hundred. José Miguel Belda, Head of Purchasing at Vidal AC, is certain that systematic automation has been a key catalyst for this development. Software solutions from Eplan and machines from Rittal Automation Systems have helped significantly optimise processes – from engineering through to production. As a result, customer requirements are met faster, reliably on time and with high quality ensured.

Find out more in the next issue of be top!

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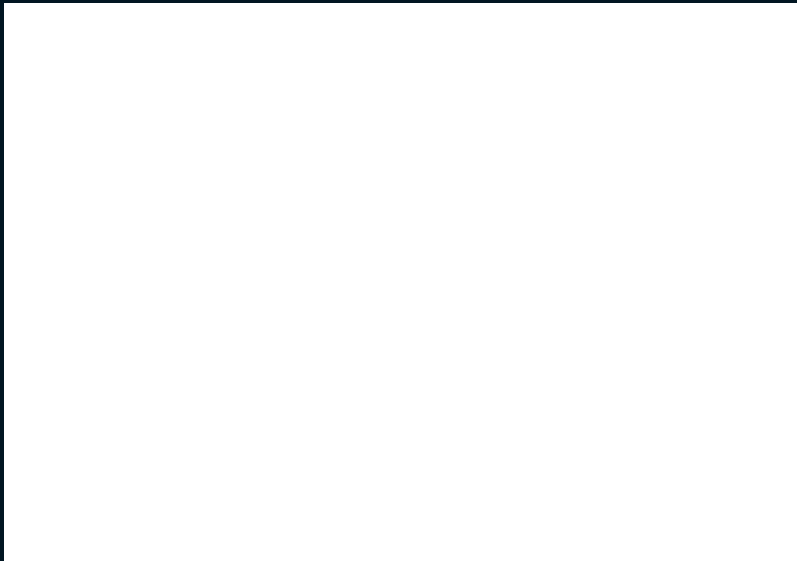
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