Issue 02|2026

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MAGAZINE OF THE FRIEDHELM LOH GROUP



IN CHINA FOR CHINA

HOW RITTAL AND EPLAN ARE INVESTING IN THE FUTURE IN THE WORLD'S MOST DYNAMIC MARKET.

STRONG LOCAL PARTNER

48

By promising delivery of standard products within 48 hours, Rittal ensures both rapid availability and a strong customer focus in China's economic hubs.

40

percent — the reduction in through-put times achieved by Eaton at its Changzhou plant thanks to Eplan.





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

DEAR READERS,

China is not waiting for anyone. The Chinese market is one of the most dynamic in the world, and it generates very fierce competition. “China Speed” is more than a catchphrase. It describes a reality — one where business decisions are made in next to no time and innovations reach the market at breakneck speed.

Companies that want to succeed in China need to act equally fast. What’s more, they have to be close to their customers and willing to invest locally. Through Rittal and Eplan, we’ve had a presence in China for 25 years now. Two years ago, we invested in a new production line for the VX25 enclosure — our biggest ever international investment to date. And we’re continuing to invest further in product development, manufacturing, logistics, and service. Our customers’ trust in us has grown over the years — and justifying this trust is both an obligation we take seriously and a driving force behind what we do.

We are committed to giving our customers in China the very best support, with solutions that extend far beyond the products themselves and reflect our system expertise in software, hardware, and automation. Our solutions also boast a high level of local value creation and reliability. Our 48-hour delivery promise for standard products is part of this. We ensure excellent availability and customer focus in China’s economic hubs.

As our cover story shows, we are pursuing this path systematically — by making direct investments, putting effective structures in place, and following through on our resolve to be a strong partner for our customers.

Covering a wide range of innovations, applications, and customers, the other articles in this issue also illustrate my ongoing conviction that progress is achieved when people are proactive, take responsibility, and turn good ideas into ideal solutions.

Happy reading!

Prof. Dr. Friedhelm Loh







AUDI COUNTS ON RITTAL

In the highest tier of motorsport, Audi is aiming for the top. The development team based in Neuburg, Bavaria, needs huge amounts of computing power to design, simulate, and test its Formula 1 hybrid power unit — and Rittal is providing the ideal system for the IT infrastructure. Following on from the first data center in 2025, work on the second one is due to start in 2027. The all-in-one solution comprises an IT security room, VX IT racks, cooling technology, an uninterruptible power supply, and fire protection. The support Rittal is providing for Audi's Formula 1 project is all about creating performance digitally. That special Formula 1 atmosphere can currently be found in Central Hesse, too. An Audi R26 show car — the first F1 vehicle to bear the four-ring logo — is stopping off in the region for a while. Following a pit stop at the Rittal plant where the VX IT racks are produced, it's spending a month on display at "Nationales Auto-museum The Loh Collection".



The Rittal headquarters in Shanghai with the new 10,000 m², two-story production hall (at the back in the photo) — built to offer Chinese customers an even better level of service.

COVER STORY: RITTAL AND EPLAN IN CHINA

The Chinese market is highly dynamic and fiercely competitive. We show how Rittal and Eplan are meeting this challenge in the country itself — with a high vertical range of manufacture, ongoing investment in production and logistics, and the famous "China Speed" demanded by Chinese customers. A 48-hour delivery promise demonstrates the customer focus and dependability that are considered so important in China. These efforts have resulted in a high level of trust being built up over the years — trust in a partner that is in China for China.



Cornelia Müller
Vice President
Brand & Corporate
Communications

WHAT DO YOU THINK OF BE TOP?

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

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

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https://betop.friedhelm-loh-group.com

NEWS
COMPANIES

With its 12 plants and more than 94 subsidiaries, the **Friedhelm Loh Group** is a global success story. Employing a total workforce of 12,900, the FLG companies work with their customers and partners to shape the future together. Read our latest news here.

Purdue University

Technology labs for US university

Purdue University in the USA celebrated the official opening of the new Eplan Electrical Engineering Technology Projects Lab and the Rittal Automation Systems Lab on September 15. These two labs have been created as part of the strategic partnership set up by Purdue Polytechnic, Rittal, and Eplan to provide students with practical training in smart manufacturing and engineering. Equipped with the very latest engineering and automation technologies, these labs give students the opportunity to acquire hands-on experience of wiring, cable processing, and data-based process and plant technology. The aim of the partnership is to prepare future engineers for the demands of the industrial transformation.



From left to right: Dr. Rami Ghannam (Professor & Department Head, School of Engineering Technology), Dr. Daniel Castro (Dean, Purdue Polytechnic), Udayan Senapati (CEO, Rittal North America), and Sebastian Seitz (CEO, Eplan)



Rittal in the USA and UK

Millions for rack production

Rittal, one of the biggest manufacturers of rack systems, made global deliveries of 180,000 IT racks to hyperscalers alone in 2025. Now, Rittal is responding to growing OEM demand by investing some 100 million euros to expand the production capacity at its plants in Plymouth in the UK and in Urbana in the US state of Ohio (pictured above). At both these sites, the investments are being used to increase fabrication capacity for equipment such as punch/laser machines, automatic bending presses, bending centers, and welding cells. Moreover, Rittal is further expanding its paintshops, assembly lines, and shipping departments to keep pace with hyperscalers' growing needs in terms of order volumes, flexibility, stock levels, and availability for delivery — both now and in the future. Hyperscalers are investing huge sums of money to expand their data centers. Rack systems, such as those based on the OCP or ORW standard, form the backbone of these centers.



From left to right: Dorothee Bär (Federal Minister for Research, Technology, and Space), Dr. Helmut Kreiser (GSI Helmholtzzentrum), Philipp Müller (Rittal), Dr. Thomas Weber (etalytics), and Daniel Hager (ZVEI)

Rittal, GSI, and etalytics

Electrifying Ideas Award

The ZVEI Electrifying Ideas Award 2026 has been presented to Rittal, the GSI Helmholtzzentrum für Schwerionenforschung, and etalytics in recognition of their joint project. This project centers around a Rittal direct liquid cooling system that absorbs the heat directly at the high-performance chips and makes more than a megawatt of computing power possible in the tightest of spaces. Through this development, the partners are turning cooling technology into a key technology for sovereign AI infrastructures — and transforming a specialist solution into a practical series concept for the data centers of the future.



Stahlo

New leadership

Andreas Beil took up his role as the new Managing Director of Stahlo Stahlservice GmbH & Co. KG on September 15. With over 25 years of experience in the steel and service business under his belt, he is the ideal person to ensure the ongoing successful development of Stahlo in collaboration with colleagues, customers, and partners. Face-to-face conversations are one of his priorities. “I’m looking forward to getting to know the people at Stahlo and understanding what’s important to them. I want to work with them to build on existing achievements and help shape the future of Stahlo,” he explains.

Rittal Automation Systems

Responsibility for the future

Axel Dransfeld is taking over the management of Rittal Automation Systems. This experienced manager and engineer brings to the table over 25 years of leadership experience in corporate groups and international midsized companies. His particular areas of expertise include managing and transforming complex organizations. He is also the Managing Director of plastics specialist LKH, one of the Friedhelm Loh Group companies.





Eplan in Brazil

Innovation hub in South America

Eplan has acquired its long-standing sales partner Eplan Brasil and integrated the 50 or so employees in São Paulo and Joinville into the company. Founded in 1997, Eplan Brasil is now one of the key Eplan contact points in the region. The aim is to develop the site as a future innovation hub for South America and to enable further growth in Brazil, Chile, Peru, and Colombia. Close collaboration with Rittal, which also carries out production operations in São Paulo, is creating further potential.



Always close to both people and machinery: Prof. Dr. Friedhelm Loh in the factory in Haiger.

Celebrating milestones

"I LOVE **THE FUTURE!"**

Prof. Dr. Friedhelm Loh has now turned 80, while Rittal is 65 years old. That's good reason to take a look back — but without lingering for too long. After all, this particular family business owner continues to take a keen interest in everything that lies ahead — his focus is on new ideas, technological developments, and the people who work with him to shape the future.

TEXT: DANIEL GIEBEL

Prof. Dr. Friedhelm Loh is totally relaxed about turning 80. "I've always regarded getting older as a big privilege," he says. As he explains, you naturally think more about mortality at the age of 80 than you do when you're 30, but he doesn't dwell on these thoughts. That's not surprising for someone who says their key trait is curiosity.

Loh is constantly learning new things and enjoys working, especially with other people. He'd much rather look forward than back — a mindset that is neatly encapsulated by his oft-quoted phrase, "I love the future".

80

eventful years celebrated by Friedhelm Loh.

65

years of Rittal — the nucleus of FLG.

"When I look back at my life, my overwhelming emotion is gratitude."

PROF. DR. FRIEDHELM LOH,
Owner and CEO

RECOGNIZING OPPORTUNITIES

This is one of his key messages at a time when there is a lot of talk about change, uncertainty, and crises. Loh does not ignore problems. But his advice to people who are worried about the future is to examine the problem in detail first — and then turn their attention to what's possible. "There are solutions everywhere," he emphasizes. His lifelong experience has taught him that things happen when people think and act in a solution-oriented way.

He also believes that the world has rarely offered as many opportunities as it does today. New technologies, new ideas, and new pathways — in Loh's view, it is challenges that open up opportunities and keep you young at heart.

ACHIEVING MORE BY PULLING TOGETHER

His future-oriented mindset has shaped the development of his companies. When he joined the Rittal management team in 1974, the company had a workforce of around 200. Now, in the 65th year of the Rittal brand, the Friedhelm Loh Group has nearly 13,000 employees. By combining hardware, software, and automation, Rittal has become a global market leader.

When you ask Loh if he's proud of this, his answer is unequivocal. He has little time for pride — he'd far rather talk about gratitude. As he sees it, success is never down to him alone. As a business owner, he has to make decisions, including difficult ones. But it's joint efforts that deliver results.

COMMITMENT TO PEOPLE

Friedhelm Loh has close ties with the region of Central Hesse. It's where his roots are and where his family built up the Friedhelm Loh Group. That's why he also considers the Group's commitment to the local area to be part of its corporate responsibility.

One example is the Rittal Foundation, which has been supporting educational, social, cultural, scientific, and environmental projects since 2011. The education of young people is a cause that is particularly close to his heart. The aim of initiatives such as SchulePlus and StudiumPlus is to provide career guidance by combining theory and practice.

REMAINING CURIOUS

"Nationales Automuseum The Loh Collection" in Ewersbach clearly demonstrates his passion for technology and offers the public the chance to view his collection of cars. The museum is also an official university campus, where teaching and research are combined. This is entirely fitting for an entrepreneur who sees the past as an opportunity for learning lessons — and who, at the age of 80, has no intention of resting on his laurels.

So, what drives him? Well, curiosity for one thing — and also the pleasure he gets from working with others. Then, there's his wish not simply to observe changes, but to take them and make something of them. In other words, it's his enthusiasm for the future. □



The management team gave Prof. Dr. Loh a gift for his birthday — a Ferrari F40 model that had been built by apprentices.



在中国为中国

RITTAL AND EPLAN

IN CHINA FOR CHINA



The Chinese market is fiercely competitive — and for international companies, it is one of the toughest proving grounds. Those that succeed here safeguard their global competitiveness. For Germany's midsized companies, the classic "Made in Germany" seal of quality is no longer enough. Radical localization is required. German companies must operate locally in the same way as Chinese companies to keep pace with "China Speed" and lower-cost competitors. Specializing in the combination of software, hardware, and automation continues to make a decisive difference. In this cover story, we offer insight into how Rittal and Eplan are making major investments in China — in manufacturing, product development, solutions, service, and logistics.

TEXT: HANS ROBERT KOCH AND SARAH BENSCHEIDT





INTERVIEW

"CHINA SPEED IS OUR **STANDARD!**"

China is developing innovations and technologies at unprecedented speed. This places greater demands on industrial and digital infrastructure — whether in the context of smart factories or AI data centers. We discuss this with Andy Luo, CEO Greater China Rittal.

Mr. Luo, you have been CEO Greater China Rittal since June. What appeals to you about this role?
Over the past 20 years, I have experienced the development of Chinese industry firsthand at GE, Schneider Electric, and Socomec. In China, Rittal is very well known as a leading provider of infrastructure solutions and is regarded as a reliable, strong partner. There is good reason for that. Since the early 2000s, Rittal has continuously invested in China to expand production, logistics, and customer service, as well as innovation — whether in enclosure systems, power distribution, or climate control technology. What inspires me is this long-term commitment to technology and innovation, especially in combination with the Eplan engineering platform and solutions from Rittal Automation Systems.

Chinese industry is growing rapidly. Where do you see market opportunities?
China is advancing at breathtaking speed. Smart manufacturing, AI, semiconductors, new energy, and humanoid robots — these trends are creating enormous market opportunities. At the same time, though, they are also placing higher demands on industrial and digital infrastructure. Everything from smart factories to AI data centers needs infrastructure that is more reliable, more efficient, and more sustainable. That is exactly where the Rittal strengths lie.

How are customer needs changing? Can you give us an example?
One example is the development of AI, which calls for power supply and cooling systems with much higher capacity, as well as high-availability infrastructure. Today, Rittal is involved in building leading AI data centers in Europe and the USA and supports major data center and AI projects in China. Many people talk about chips. We talk about the infrastructure that makes those chips productive in the first place and enables AI at scale. At the same time, expectations for overall system reliability and energy efficiency are continuing to increase.

How specifically do you support customers with their growth strategies?
Our greatest strength lies in our ability to provide integrated software and hardware solutions that support the entire industrial value-creation process. Customers no longer buy just a single product. They invest in solutions that will support their companies for the



31,500
square meters
Total factory and logistics space

2,200
square meters
New production space
for VX25 manufacturing



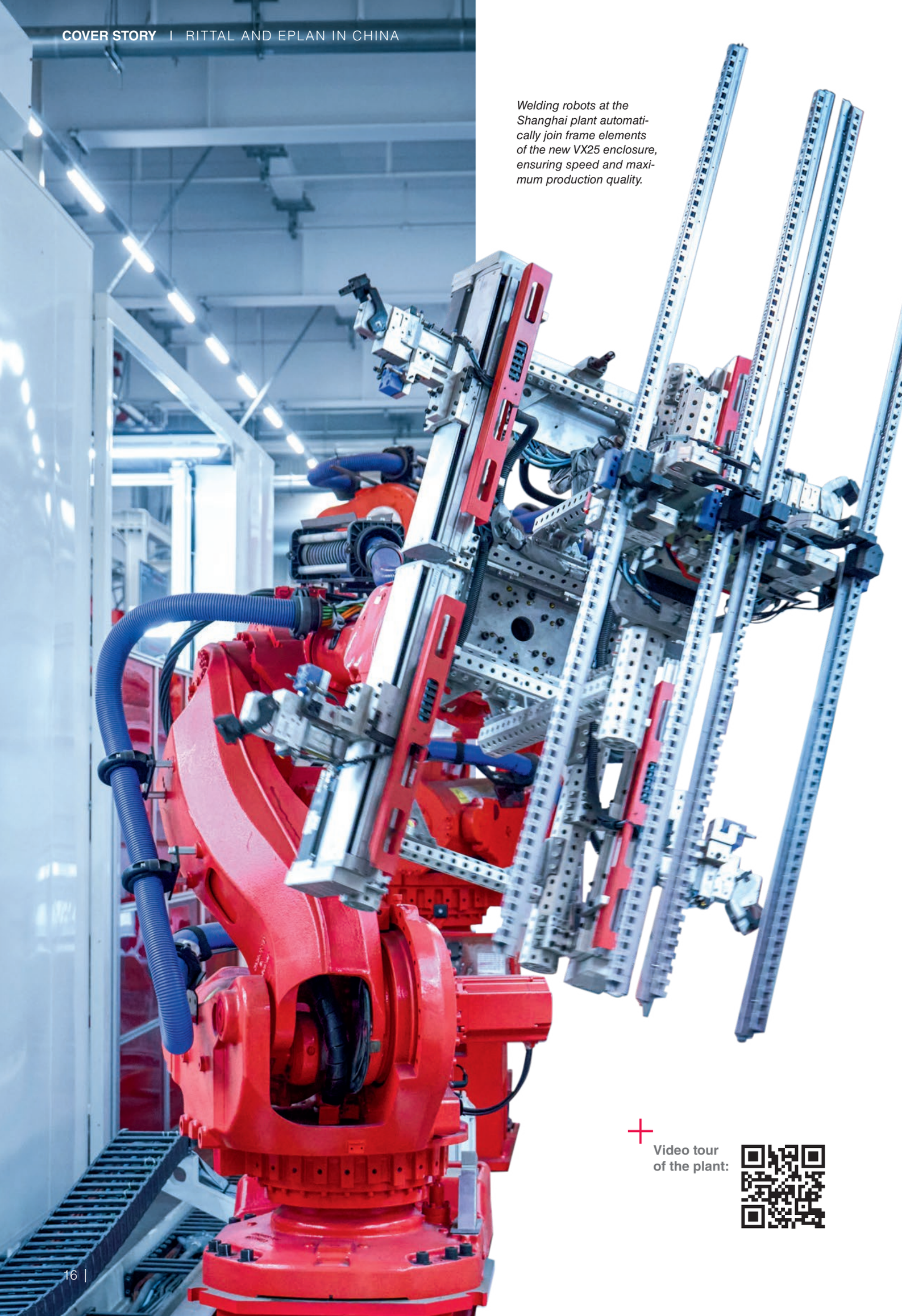
VX25 — the global standard for enclosure technology — has been produced at the Rittal plant in Shanghai for two years now.

next ten years and beyond. They place greater emphasis on system reliability, operational safety, efficiency, and long-term scalability. Together with Eplan, we can bridge the gap between digital planning and physical implementation. Working with Rittal Automation Systems, we are automating our manufacturing processes.

But what do you say to customers who point to lower-cost Chinese products?
For more than 60 years, Rittal has focused on developing housing and enclosure systems. This long-term commitment to innovation has made it possible to build a system platform that is not only leading in terms of technology, but is also globally standardized and has international approvals, as well as — perhaps most importantly — a global production, logistics, and service network. In China, we offer a 48-hour delivery service for standard products. These are capabilities that truly set Rittal apart.

The Chinese market has reached a new stage of development. What impact does that have on your local business?
We will continue to invest in the Chinese market by strengthening our local production capacities, further improving supply chain responsiveness, and increasing delivery speed. Our new VX25 production operation is a great example of this approach. This year, we are also expanding our production capabilities with a new stainless steel manufacturing line. Our goal is to combine the global expertise offered by Rittal with China's innovation and application scenarios.

And what are the key needs of Chinese customers?
Definitely speed. China is one of the most dynamic and innovative markets in the world. Innovation cycles are very rapid and customer expectations are constantly changing. That means we must continuously adapt to "China Speed" and respond faster than ever before. Anyone who does not win the race in China will not win globally either. □



Welding robots at the Shanghai plant automatically join frame elements of the new VX25 enclosure, ensuring speed and maximum production quality.

Video tour of the plant:



VX25 MANUFACTURING

A STANDARD AT WORLD-CLASS LEVEL

Without in-house manufacturing, innovation, and speed, it is not possible to be successful in China. Radical localization is required. To channel even more "China Speed", Rittal has invested heavily in expanding its production in Shanghai — and in the VX25 global standard.

They roll almost silently. Around 30 pairs of rollers lined up one after another rotate continuously in sync. A flat, perforated strip of sheet steel moves almost invisibly between them. Unwound from a large coil, it passes step by step through the rollers. Each pair of rollers bends the sheet almost imperceptibly a little further. After roughly 30 meters, the roll-forming system produces a complex steel component — the frame profile of the VX25 enclosure. Welding robots then join the profiles to create a finished enclosure frame. A three-stage surface treatment process with painting provides maximum corrosion protection. After assembly and packaging, the VX25 reaches Chinese machine and plant builders within 48 hours — and is then deployed in industrial and IT environments at companies such as Volkswagen, Mercedes-Benz, BYD, Huawei, and many others.

SPEED AND DEEP LOCALIZATION

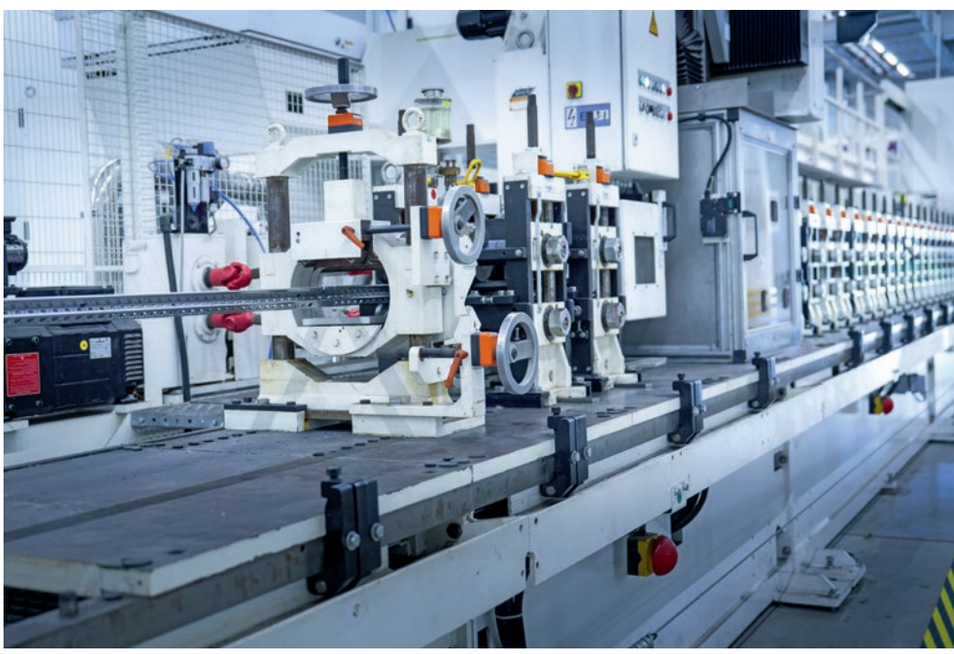
The new production line at the Rittal plant in Shanghai is impressive. It stands for speed — something already evident when the new hall was built two years ago. The existing factory and logistics space was expanded by adding another 10,000 m² of production space spread over two floors. The team is proud of the record construction time. After just eleven months, the first VX25 rolled off the line. "In Germany, people would probably still be discussing the groundbreaking ceremony with the authorities," says Michael Galler, COO Rittal Asia, with a wink.

The German manager has worked for Rittal China for 16 years and has experienced and shaped the plant's dynamic development firsthand. "Today, we have a very high localization rate in China — we do almost everything at one site," says Galler. Most small enclosures, large enclosures, and cooling units are produced locally. Only 20 percent are imported. "Manufacturing standard products in China is extremely important for us so we can keep pace with the high speed of the market and of our customers," explains the former Audi and Seat employee. "Without in-house manufacturing, without innovation, and without speed, you cannot be successful in China," he continues. ▸



"WE HAVE ACHIEVED A VERY HIGH LOCALIZATION RATE IN CHINA."

MICHAEL GALLER,
COO Rittal Asia



The roll-forming system turns sheet steel strips into VX25 frame profiles in seconds.



At the Shanghai plant, Rittal produces cooling units developed specifically for the Chinese market.



"MADE BY RITTAL"

And there is more to come. A new production line for stainless steel enclosures is scheduled to go into operation at the end of the year to serve market requirements even better. "Our customers receive the same products from China that they are used to from Germany or anywhere else in the world. So there are no products 'Made in China' — only 'Made by Rittal' and benefiting from the same certifications and the same product, service, and logistics quality that customers know worldwide," Galler explains.

EXCELLENCE WITH FLEXIBILITY

But how does Rittal manage the complexity involved in producing such an extensive product range? Unlike many other plants that primarily focus on large-scale series production, the Shanghai plant is designed to balance efficiency and flexibility. "Here, we can quickly adapt to different customer requirements, cover a broad product range, and process both standard and customer-specific orders — while still ensuring reliable 48-hour delivery performance," says Michael Tan, Vice President from the Plant Operations team. Operational excellence is driven by a highly integrated production system that combines lean manufacturing, standardized processes, and data-driven management. This creates efficient material flows, optimized production planning, and consistently high productivity across the entire value chain. "We also have a world-class quality management system with robust process controls aligned with the Rittal global standards," says the manager.



"WE CAN RESPOND QUICKLY TO DIFFERENT CUSTOMER REQUIREMENTS."

MICHAEL TAN,
Vice President
Plant Operations,
Rittal China

SYSTEM IS THE ADVANTAGE

The intense competitive pressure in China remains extremely challenging. "The customer and competitor structure here is completely fragmented," says Galler. "In Germany, there may be five or ten competitors — in China, we have hundreds, perhaps even thousands of small competitors," he continues. The COO expects the market to consolidate in the future. Even so, the intense cost pressure will remain. "Our strength is technological leadership, which goes far beyond the individual enclosure," Galler emphasizes. Rittal customers have access to the largest system portfolio in the world — racks, enclosures, power distribution and cooling technology, and more than 5,000 accessories. "Engineering solutions from Eplan and machines from Rittal Automation Systems, which bring even more



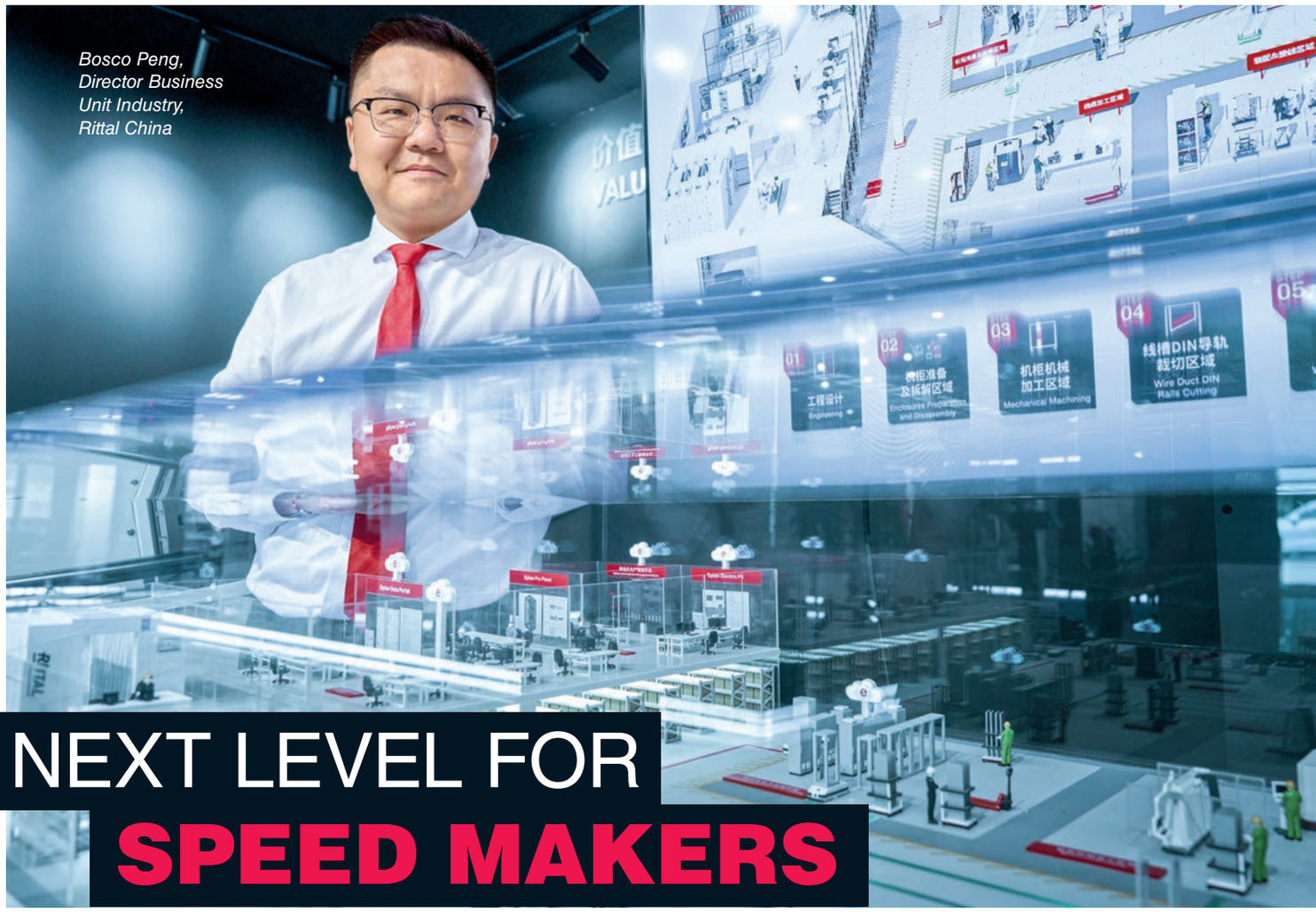
On assembly lines, VX25 frame systems are built into complete large enclosure systems with door, side, and rear panels as well as mounting plates and punched sections with mounting flange.

speed to machine and plant building, are another advantage. No one else has that. It makes us unbeatable in the market," insists Galler. This integrated solutions expertise is especially valuable when Chinese companies need rapid growth momentum and are looking for solutions that can make their value-creation processes even more efficient.

RELIABILITY COUNTS

In China, a country roughly the size of Europe, another success factor is also coming to the forefront — the operational ability to deliver. Delivery reliability is often more important than a lower price. In Chinese business, reliability, trust, and planning certainty play a central role alongside quality and speed. Customers expect promised deadlines to be met. Galler puts it this way: "For our customers, trust is the foundation of business success. Do what you say and say what you do is the basic principle that applies now more than ever." □





Bosco Peng, Director Business Unit Industry, Rittal China

NEXT LEVEL FOR SPEED MAKERS

Competitive pressure is high in China, and price often determines the outcome. That makes one development observed by Bosco Peng, Director Business Unit Industry at Rittal China, all the more remarkable.

According to Peng, more and more companies now think in terms of end-to-end processes rather than individual products. In the past, Rittal sold individual machines. "Today, we talk with customers about their entire value chain," he says. That is the result of years of development work. When Rittal Automation Systems began systematically developing the Chinese market around eight years ago, many customers first had to understand the value offered by automated wire processing or enclosure machining. Today, the discussion has shifted, Peng continues. The focus is no longer only on the machine, but on how engineering, data, and manufacturing interact seamlessly in the value-creation process of panel builders and switchgear manufacturers.

WHAT CREATES ADDED VALUE

This is exactly where the solutions from Eplan, Rittal, and Rittal Automation Systems come in. They connect the digital twin from engineering with modular enclosure systems and automated manufacturing processes. For Peng, this approach is based on three stages — standardization, automation, and digitalization. Only the interaction of all three creates genuine added value.



What is particularly interesting is that this approach is gaining importance precisely in China's price-sensitive market. Successful companies are increasingly taking a holistic view of investments. "They assess not only acquisition costs, but also productivity, process reliability, and long-term competitiveness," he explains.

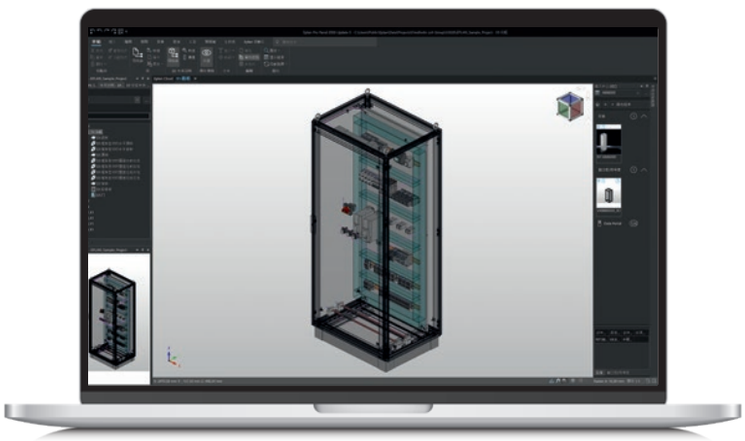
Chinese manufacturers face the challenge of meeting international standards while also becoming faster. The combination of solutions helps them standardize processes, reduce errors, and use data consistently end to end.

For Peng, the biggest opportunity is therefore clear. It does not lie in selling individual products. It lies in making the entire value chain smarter. Because even in China, price alone does not ultimately determine the outcome.

“CHINA SPEED NEEDS END-TO-END PROCESSES!”

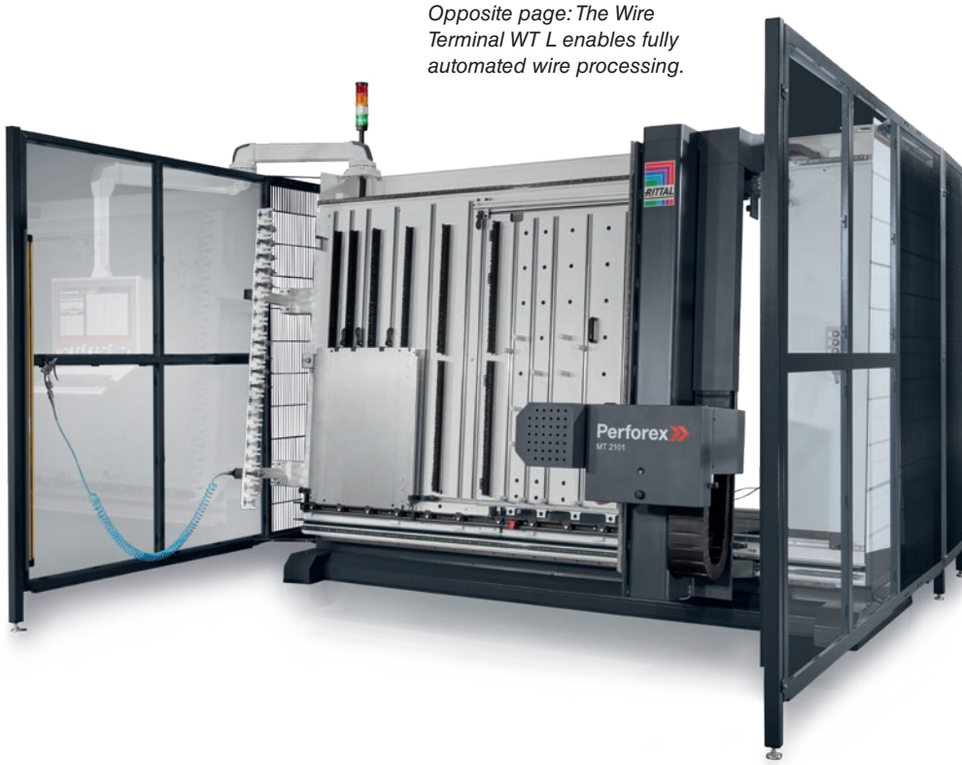
BILL QIN,
Managing Director,
Eplan China





Digital twin: Eplan Pro Panel reduces engineering effort, prevents manufacturing errors, and accelerates production.

Below: The Perforex Milling Terminal MT S is a high-performance drilling and milling center ideally suited for machining compact and large enclosure systems. Opposite page: The Wire Terminal WT L enables fully automated wire processing.



STANDARDIZED DATA IS A MUST

Bill Qin, Managing Director of Eplan China, also believes the Chinese market is undergoing a radical transformation. “Rather than still asking themselves whether they need to digitalize, many companies are now trying to work out how quickly they can make their data usable on an end-to-end basis,” he comments. In his view, the need for standardized engineering data is growing. At the same time, more and more companies have to meet international standards and network development sites on a cross-border basis. Eplan is helping them to standardize engineering processes and create a digital twin for systems.

As Qin sees it, competitive advantages are generated when information flows seamlessly throughout the entire process. “High-quality engineering data then becomes a key resource for industrial value creation,” he explains. □

INTERVIEW

BETWEEN MEGACITIES AND BOTTLENECKS





Supply chains are under pressure — even in China, one of the world's most dynamic and largest economic regions. How can Rittal meet the high expectations of its Chinese customers? We ask Justin Yao, who is responsible for supply chain management at Rittal in China and at 13 Asian subsidiaries.

Mr. Yao, when do Chinese customers actually notice whether a supply chain really works?
Whenever things get difficult. In China, markets are highly dynamic, project cycles are short, and expectations as regards delivery times are high. Customers judge us by whether we keep to our commitments. That is exactly when the true performance of a supply chain becomes visible.

China was long considered the workshop of the world. How has this role changed?
Today, China is far more than a manufacturing location. The country has become a center of innovation, digitalization, and excellence. From an Asian perspective, China has a highly developed industrial ecosystem, strong suppliers, and enormous execution power. China no longer just produces for the world — it is shaping the future of modern supply chains.



The five Rittal distribution centers in China provide a total of 25,000 m² of warehouse space.

At the same time, global economic relationships are changing. What impact does that have?
Complexity has increased significantly. In the past, cost was often the main focus. Today, supply security, risk management, transparency, and regional responsiveness are also essential. Customers want to know where products come from, how stable supply chains are, and how companies address potential risks. For supply chain leaders, that means evaluating scenarios, preparing alternatives, and thinking much further ahead than just a few years ago. Risk prevention is now just as important as increasing efficiency.





The new enclosure for China: The VX25 is manufactured at the Shanghai plant on state-of-the-art production lines, and shipped from there, too.



How does this work in practice?
Only with balance. The past few years have shown that the lowest costs are not always the best solution. We need sufficient inventory, but not excess inventory. We need speed, but also stability. We need standards, while remaining flexible enough to meet regional requirements. The goal is consistently high performance under constantly changing conditions.

Where do you currently see the greatest risks in global supply chains?
The greatest challenge is uncertainty. Markets are changing faster than ever before, while supply networks are becoming increasingly complex. That is why transparency, fast decision-making, and responsiveness are becoming decisive competitive advantages. Success is no longer measured by cost alone, but by how well companies can deal with uncertainty.

Was there a situation that put the Rittal supply chain under particular pressure?
Definitely the COVID pandemic. In Asia, countries were affected by restrictions, logistics problems, and demand fluctuations at different times. The most important lesson was that resilience does not come from inventory alone. It comes from collaboration. Close coordination among suppliers, planners, plants, customers, and logistics and sales teams helped us maintain our delivery capability even under extremely difficult conditions.

How do you ensure short delivery times in China, the world's third-largest country?
We offer our customers a 48-hour delivery promise for standard products. It applies in defined sales territories within a 400-kilometer radius of the centrally located Rittal distribution centers in the economic hubs of Shanghai, Tianjin, Huizhou, Changchun, and Chengdu. A new logistics management system, optimized transportation networks, improved product storage and distribution, and standardized operating procedures give our customers faster response capabilities. □

Guangzhou MINO

FROM HURDLES TO **NEW HEIGHTS**

Winning new contracts is no longer the number one challenge for **MINO,** which ranks among the world's top five robot automation system specialists. The Chinese company's global business operations involve negotiating greater hurdles — from complying with legal requirements and international standards to providing localized customer services.

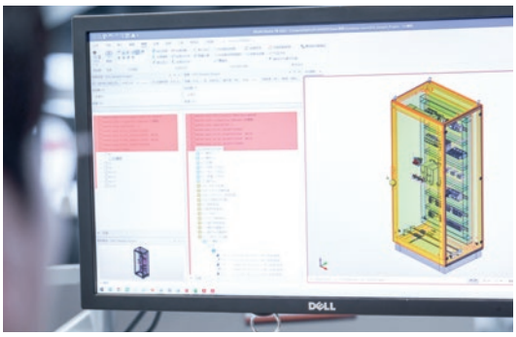
Unscheduled production line stoppages in the automotive industry are totally unacceptable. To prevent them from happening, MINO robot automation systems must meet the highest technical standards. This becomes particularly challenging when projects are being carried out in other countries, with different regional safety standards and certification requirements creating uncertainty for customers. "For example, regions such as Europe, North America, the Middle East, and Southeast Asia have very different electrical regulations and safety requirements for enclosures, and it's the same story with energy efficiency standards," explains Ming Lei, Managing Director of Guangzhou MINO.



Rittal VX25 enclosure systems and operating systems are in use in the test center at the MINO headquarters in Guangzhou.

“The software, hardware, and global service of Eplan and Rittal are helping us boost our competitiveness.”

MING LEI, Managing Director of Guangzhou MINO





MINO uses solutions from Eplan and Rittal Automation Systems.

THE CUSTOMER SERVICE EXPERIENCE

That’s not all, though. For a company doing business in over 20 foreign countries, international customer service is a further hurdle. “Most component manufacturers just supply hardware and offer no technical support outside of their own country,” Lei points out.

When talking about Eplan software and the Rittal standardized hardware portfolio with UL and IEC certification, Lei seems totally relaxed. “They overcome the challenges of adapting to standards and reduce the risk of subsequent reworking,” he says. Thanks to the global Rittal service network, MINO also benefits from system commissioning, maintenance, spare parts supply, and synchronized technical support geared to local requirements. “This network supports efficient, high-quality, and value-adding project execution and enhances our international customers’ service experience,” sums up Lei. □



“MORE THAN MERE EFFICIENCY METRICS”

Mr. Lei, your company is currently enjoying explosive growth. What are the standout features of MINO?
We’re one of the world’s leading suppliers of robot automation systems and have been recognized as a National Champion in Manufacturing in China. We offer turnkey smart manufacturing services that cover everything from planning and design through to system assembly, installation, and commissioning. Our core areas of business also include industrial data services, Manufacturing-as-a-Service — in other words, digital, technical, and operational services throughout the entire life cycle — and standardized, smart products.

Which Eplan and Rittal solutions are making the biggest contribution to your success?
The best example is the workflow for the automated creation of circuit diagrams, which is based on Eplan eBuild and is delivering the most quantifiable results. Together with Eplan and Rittal, we have compiled a standardized library with standard components and engineering templates. Circuit diagrams that previously took us several days or even weeks to prepare are now ready in a matter of minutes. Automating the process has also greatly reduced the number of errors and the amount of reworking.

What is the key added value provided by Eplan and Rittal?
The key added value goes beyond isolated efficiency metrics. Thanks to Rittal and Eplan, we can create a reproducible, scalable digital engineering ecosystem that can be optimized on an ongoing basis. Their solutions have also made our installation and commissioning work noticeably more efficient, helping us to increase the efficiency, stability, and predictability of our project execution — and to boost our global competitiveness.

Find out more in our video:



Shanghai SK Automation Technology

MOVING FORWARD with a sensitive touch

The new energy market is moving at an extremely fast pace. How do companies manage to stay out in front? **Shanghai SK Automation Technology** does so through technical innovation, standardization, and one special capability — identifying developments early on.

Everything moves quickly at SK. Breathtakingly quickly. The company, which has around 3,000 employees, is not even 20 years old — but it is already a global provider for the development and manufacturing of production solutions for the new energy vehicle industry. In 2021, SK was recognized as a national "Little Giant" for its technological expertise, innovative strength, and specialization. Through its stake in Fujian Dongheng, the Chinese company has established a dual business model that combines smart manufacturing systems with components for new energy batteries.

"Our solutions are used by leading automakers and battery companies in China and around the world, including BMW, VW, Audi, CATL, SAIC Motor, and FAW," says Wang Yinglin, General Manager at SK. As early as 2018, SK delivered a complete PHEV battery pack production line to Škoda in the Czech Republic.

WHAT STANDARDIZATION ACHIEVES

Wang knows the industry and the extreme pressure it faces. In her view, today's projects are characterized by rapid development cycles, tight delivery schedules, and high cost-control requirements. "Standardization and modularization are important approaches for us to reduce time and cost pressure," she emphasizes.



Earthquakes place high demands on enclosures. Pictured here is an earthquake kit for upgrading VX25 enclosure systems.

At SK, solutions such as standardized and modular enclosure systems from Rittal can largely replace conventional, custom-made solutions. "Platform-based designs allow us to reduce recurring work, simplify component selection, and increase the reuse rate," the General Manager explains. This helps shorten installation, assembly, and commissioning times, minimize quality fluctuations, and reduce the risk of rework.

One of the biggest challenges SK faces in global projects is that certifications and technical standards differ significantly from country to country. "That is why the question of whether a supplier has international certifications and global service capabilities is a crucial one for us," says Wang. □



“Suppliers must have international certifications and global service capabilities.”

WANG YINGLIN,
General Manager
at SK Automation



VX25 enclosure systems and Blue e+ cooling units are installed in the systems engineering department at SK Automation in Shanghai.

“WE ARE NEVER SATISFIED WITH THE STATUS QUO.”

Ms. Wang, how do you manage to remain competitive in the new energy industry?
This industry is developing extremely quickly. Customer requirements, technology, and market conditions are constantly changing. We respond highly sensitively to these changes. We must always think ahead rather than focusing only on the present. We maintain a strong awareness of potential crises at all times. And we are never satisfied with the status quo. Instead, we proactively anticipate future changes and make preparations early on.

How will the conditions in the industry change?
Future competition will no longer be determined by who can produce at the lowest cost. What will matter is who can use resources more efficiently, respond more quickly to market changes, continuously drive innovation, and create long-term value for customers.

What do you value when working with partners?
We place great value on joint development work with outstanding international partners. We need not only high-quality products, but also partners with global service expertise and the ability to respond quickly to customer requirements. For us, Rittal is more than a supplier. We see ourselves as long-term partners who work together to drive innovation and create added value for customers.

Find out more in the video:



Eaton

BECOMING A **GLOBAL LIGHT-HOUSE** IN JUST FIVE YEARS

How can you transform an enclosure manufacturing facility from a troubled factory into an internationally acclaimed flagship project in just five years? **Eaton** in Changzhou provides the answer. The Chinese facility builds around 60,000 enclosures per year — with the right strategy and using the Eplan Platform.

Find out more in the video:

TEXT: GERALD SCHEFFELS



“The Eplan Platform has helped us reduce lead times by nearly 40 percent.”

ANDY LEE, Operations Director Power Distribution Systems Asia Pacific, Eaton



PEOPLE STILL PLAY THE KEY ROLE

Mr. Lee, why did your management team start the transformation of enclosure manufacturing with the data platform rather than with new machines and equipment?
Because we firmly believe that, in assembly-intensive processes with batch sizes down to one, the primary goal should be end-to-end digitalization rather than automation.

What role does AI play in this context?
We use AI in numerous enclosure design processes, but in a very controlled way and primarily to compare reality with the design data. In our view, AI alone doesn't solve any problems.

What role do people play?
They still play the key role. In terms of engineer-to-order business, people create the greatest added value. Our task is to free them up to focus on creative, value-adding work. And we've achieved that. Production at the plant has risen by 200 percent and lead times have been reduced by nearly 40 percent, without increasing the number of employees.

The initial situation back in 2015 was not a good one. The Eaton plant in Changzhou, which manufactures enclosures for the energy sector, was regarded internally as a "troubled factory". The site was operating at a loss, and its performance lagged behind the average for plants in the global Eaton network in terms of productivity, safety, and quality.

How could things be turned around? When small-scale measures failed to deliver any significant improvement, the management team decided in 2020 to restructure production operations. "A market analysis revealed that standardization is a strength of our competitors. However, the trend is toward ETO — engineer to order — so toward custom-built enclosures. And that's exactly what we're manufacturing now, with a fully digitalized design and production process," explains Andy Lee, Operations Director Power Distribution Systems Asia Pacific at Eaton. The Eplan Platform was chosen by Eaton as the basis for this solution. The goal is end-to-end digitalization.

EPLAN PLATFORM BOOSTS PERFORMANCE

"In the space of five years, we've increased the Changzhou plant's revenue by more than 200 percent and reduced lead times by nearly 40 percent — without taking on more staff," Lee continues. What's more, this was achieved despite far more complex "batch-size-one" manufacturing.

Such a big jump in revenue is only possible through a whole range of interlinked measures. At the very beginning of the process chain, Eaton digitalized the quote preparation process. "We start directly on the Eplan Platform and leverage standardized engineering data, reusable design modules and historical project information to support quotation engineering and proposal generation," reveals Lee. This has shortened the time it takes the plant to prepare quotes, reduced the engineers' workload, and also increased the quote acceptance rate.

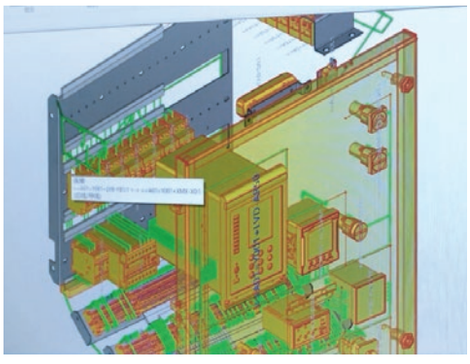
DIGITAL TWIN AT THE HEART OF IT ALL

When a quote results in an order, there is now already a CAD data set in place that can be systematically used as a basis and continuously enriched in line with the digital twin concept. "We also use the design data for downstream systems such as ERP and MES. When the design data generated on the Eplan Platform is automatically fed into the machines cutting busbars to the correct length or assembling cables, for instance, this creates measurable added value and speeds up the production process," Lee emphasizes.

FINAL INSPECTION BY ROBOTS

At the end of the process chain, Eaton has introduced another real highlight. During the final inspection of the finished enclosures, a humanoid robot equipped with a 3D camera checks approximately 30,000 connections per day — once again based on Eplan data. This has the advantage of reducing the inspection time by 90 percent.

As these examples show, Eaton has adopted the right strategy to transform enclosure manufacturing in Changzhou based on the Eplan Platform. Independent international experts agree. In 2024, the plant was selected to join the World Economic Forum's Global Lighthouse Network as a smart factory. □



A CAD data set serves as a basis and is continuously enriched in the form of a digital twin.

NEWS
INNOVATIONS

Hardware and software — the right combination gives industrial and IT companies a head start on the global market. Read on to find out more about the latest products and innovations from **Eplan** and **Rittal**.



AX compact enclosure

From protected area to lifting aid

Rittal has systematically continued developing its well-established AX compact enclosure. Four new solutions will assist users with planning, integration, and operation, while also helping to make processes safer and more efficient. Innovations include an additional interior door, the AX IT Nano Data Center, a three-part AX wall-mounted enclosure, and a lifting aid for mounting plates.

1 Protected area for maintenance work
An additional interior door is now available for sheet steel, stainless steel, and plastic AX compact enclosures. By separating the operating and equipment levels, it creates an additional protected area when the enclosure door is opened — for safe maintenance and operating processes.



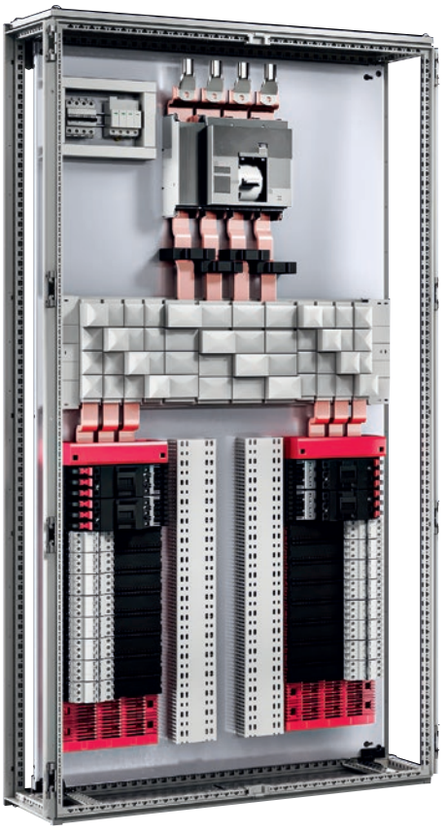
2 Reliability for edge applications
Companies can use the new AX IT Nano Data Center to integrate their IT infrastructure directly into the production environment. This compact solution makes it possible to process large volumes of data on site and is perfect for applications that depend on minimal latency.

3 Straightforward installation
The design of the new three-part AX wall-mounted enclosure ensures convenient access from both sides, which simplifies installation and maintenance work. This enclosure is particularly suitable for applications where installation space is limited.

4 Lifting aid for mounting plates
A new lifting aid makes it easier to insert mounting plates in AX enclosures. This tool helps fitters position the mounting plate and reduces the physical effort involved.

RiLineX remote power panel

Power for the digital revolution



Standardized, reliable solutions are a must when it comes to expanding high-performance data centers quickly. The Rittal remote power panel based on RiLineX enables compact, modular, and scalable power distribution. It distributes power from a central source to multiple outlets and can be adapted flexibly in line with growing requirements. Integrated monitoring of current, voltage, and energy consumption creates transparency and helps ensure proactive power management. What's more, circuit-breakers and fuses boost safety and reduce potential sources of error. The solution can also be incorporated into power supply systems with inbuilt redundancy.

Eplan PCN

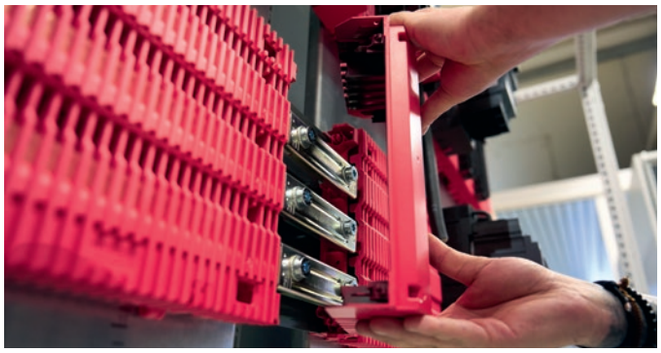
Always the right article

At SPS 2026, Eplan and Phoenix Contact are teaming up to showcase a new product change notification (PCN) solution. This solution turns the Eplan engineering platform into a digital ecosystem that connects component and switchgear manufacturers, mechanical and plant engineering companies, distributors, and operators. If a manufacturer modifies or discontinues a component or, for example, issues a security-relevant update, this information can now be transmitted in a structured way and processed in the Eplan Data Portal. Designers receive a notification and can see which projects or existing equipment the relevant article is being used in. Besides the software functions on offer, another key consideration is whether data can be used across different companies and processes.

Cideon

SAP and CAD integrated

Cideon has joined forces with SAP to develop new CAD integration solutions for the SAP S/4HANA Public Cloud. Now included in the SAP price list, the new Cideon interfaces represent the next generation for Eplan/CAD connection and will increasingly enter active use from 2027/2028. A maintenance horizon extending to around 2050 enables companies to plan their platform strategy on a long-term basis.



Rittal RiLineX

"Panel Product of the Year 2026"

The new RiLineX busbar system has been named "Panel Product of the Year 2026" by the British specialist magazine Panel Building & System Integration (PBSI). This accolade is awarded to technologies that make a particular contribution to cutting-edge switchgear manufacturing. One impressive feature of RiLineX is its standardized 60 mm busbar platform, which makes the planning, construction, and expansion of power distribution systems far simpler. The solution supports industrial, energy supply, and switchgear manufacturing applications and reduces the time required for planning and installation.

Hyperscalers

In the engine room of the AI REVOLUTION

International **hyperscalers** are investing massive sums, and AI is driving a globally growing market for IT infrastructure with new architecture. The key technologies aren't just coming from the USA or Asia, though — European companies such as **Rittal** are also helping to drive progress.

TEXT: STEFFEN MALTZAN

Millions of people use AI tools such as ChatGPT, Claude, and Copilot, and yet industrial AI is only just getting started. Companies are now working flat out to build the necessary physical infrastructure — AI data centers.

Hyperscalers are locked in a race involving massive investments. Some 725 billion US dollars has been invested this year, which is roughly equivalent to the GDP of Belgium. It's not just a question of who will provide the best-performing infrastructure at the right time, though. The concepts for technological implementation are also in competition. The best possible balance between computing power and energy consumption needs to be found.

725 billion

US dollars is set to be invested in IT infrastructure by hyperscalers alone in 2026.

RIGHT TO THE LIMITS

It won't just be software and chips that determine the next level of artificial intelligence in data centers. It's all about the physics, with the focus on steel, copper, water, and electricity. Thousands of processors called GPUs need to work together in the most confined of spaces. If they're just a few meters too far apart, even minimal attenuation of copper cables will slow things down noticeably. "The GPUs are a data center's most valuable asset and need to be used to their full extent. Even the tiniest delays quickly add up. That's why each new generation of chips is generating a higher output in an increasingly small space," explains Philipp Guth, CTO of Rittal. This progress is pushing things to the limits of what is physically possible.

Take heat, for example. Air is an appropriate cooling medium for up to around 30 kilowatts per server rack. At over 100 kilowatts per rack, however, even today's AI systems are operating well beyond this level, and there is already talk of outputs exceeding one megawatt. That requires direct water cooling for the chips.

It's all change for the electricity supply, too. AC solutions are well-established, but losses are a bigger consideration when power densities are extremely high. Interest in DC solutions is therefore growing — initially in the rack and later on all the way to the grid connection.

What does that mean for the infrastructure? Standardized racks are still the backbone of data centers. Rittal is one of the big manufacturers, having supplied 180,000 racks to hyperscalers worldwide in 2025 alone. Demand is growing so fast that the family business is investing just under 100 million euros in expanding production in the USA and Europe.

Standardization needs to be taken a step further for AI data centers, though. "When it comes to computing power, electricity, and cooling, a high level of mechanical integration is required in



"The system-based approach for cooling, rack, and power reduces losses and makes scalability and service easier, so AI-capable infrastructure can be up and running faster."

PHILIPP GUTH, CTO of Rittal

100 million

euros is being invested by Rittal to expand its IT infrastructure production in the USA and Europe.



Direct water cooling, server racks, and power supply for an output of over one megawatt in a standardized module for AI infrastructure.

the most confined of spaces. The degree of standardization also needs to be such that the modules can be used in large numbers both quickly and cost-effectively," says Guth.

EQUIVALENT TO 20,000 LAPTOPS

New possibilities are emerging through the Open Compute Project (OCP), for example. In this project, top international players are working on the infrastructure of the future. Rittal has taken rack standardization to the next level and has now developed a complete OCP-compatible solution that incorporates rack, direct water cooling, and power supply. Barely larger than a side panel, the module can supply an output of one megawatt, which is equivalent to around 20,000 laptops. The 800-volt DC technology is familiar from e-mobility applications, and the result is a basic supply unit for scalable data centers.

EUROPEAN SOVEREIGNTY

In Europe, AI infrastructure of this kind is more than just a question of technology. Data sovereignty, energy efficiency, and the smallest possible carbon footprint, complete with heat recovery, are becoming key factors for the siting of data centers. There are good reasons for using local vertical integration to become more independent. Although it's currently US software platforms that often dictate AI-related discussions, much of the necessary physical infrastructure is being produced using technology from Europe. In this context, Germany's Federal Minister of Research Dorothee Bär presented the ZVEI's Electrifying Ideas Award to Rittal, GSI Helmholtzzentrum, and etalytics in May.

AI FACTORY WITH RITTAL SOLUTIONS

Their joint project has already reached the practical implementation stage. Over 8,000 high-output GPUs will soon be up and running at the new IT4LIA AI factory in the supercomputing hub of Bologna. This factory is part of the European initiative for sovereign AI infrastructure. It uses direct liquid chip cooling made in Europe — developed by Rittal and manufactured at the Rittal plant in Italy. □



Engineering and AI

PROMPT KNOWLEDGE

The design engineers of tomorrow will no longer have to click through umpteen menus. They'll simply ask questions, get answers, and achieve results faster. Thanks to the **Eplan Platform 2027** and the new Eplan Copilot, this vision is now a lot closer.

TEXT: BIRGIT HAGELSCHUER

Anyone developing machinery and equipment nowadays has to negotiate a world of growing complexity. Requirements are rising, projects are becoming more customized, and data volumes are getting bigger — and yet results still need to be achieved quickly, precisely, and cost-effectively. This is exactly where the Eplan Platform 2027 comes in — with the integrated Eplan Copilot, it's opening up new horizons for the electrical engineering of tomorrow.



The new Eplan Platform 2027 was unveiled at Eplan Next26.

EPLAN COPILOT NOW BUILT IN

The change that is perhaps most exciting isn't a single function — it's a new way of managing knowledge. Instead of working through menus, documentation, and help systems, users are able to interact with the software using natural language. Eplan Copilot answers questions, explains contexts, and supports users in their tasks, one step at a time. It is therefore becoming a reliable, knowledgeable partner for day-to-day engineering.

As a solution provider, Eplan is pursuing a clear aim — to reduce complexity. Eplan Copilot combines engineering know-how, software functions, and specific applications to provide intelligent dialog. It supports decision-making, offers guidance, and makes knowledge available exactly where it is needed. The approach Eplan is taking to its new AI assistant is far from conventional. Eplan Copilot



“We want to give users the best possible support in using and mastering our software for their tasks.”

SEBASTIAN SEITZ,
CEO of Eplan



uses a structured, verified knowledge base. Right from the outset, the key focus has been on reliability, security, and industrial usability. Aspects such as cloud integration, knowledge management, and incorporation into existing systems and partner solutions are embedded in a sophisticated architecture.

MORE FREEDOM FOR THE ESSENTIALS

The 2027 version of the Eplan Platform has undergone systematic further development and has been available since September. New automation functions take on many routine tasks in areas ranging from preplanning and electrical project planning to enclosure layout design. Symbols are arranged intelligently, flow charts are updated automatically when macros are replaced, and recurrent work steps are simplified.

At the same time, the software ensures that even complex projects remain manageable. This approach is particularly impressive when generating projects — while this process was previously only possible in 2D, it now takes place in 3D and is automated. There are other new features, too, such as the convenient parts comparison function that shows alternatives at a glance.

Find out more about the new Eplan Platform 2027 here:

RELIABILITY AS A PRINCIPLE

Eplan Copilot takes this concept a stage further. For example, it offers a parts reference lookup feature — on request, it can establish which projects specific components have already been used in and navigate directly to the relevant project pages. In this way, information is turned into specific possible actions. □

Digitalization

KEEP COOL WITH AI

AI is a highly topical issue, but what specific added value does it bring to everyday industrial environments? The new management report by **Cideon** pushes the discussion in the direction of industrial reality and makes some recommendations for action. In this interview, Managing Director Rolf Lisse explains why companies are currently well advised to "keep a cool head".

INTERVIEW: DR. BERNHARD D. VALNION (D1G1TAL AGENDA)

Mr. Lisse, what prompted Cideon to publish its management report?
At the moment, all discussions seem to center around the "AI-driven" concept. Currently, however, many statements tend to be the result of rule-based analytical approaches rather than AI systems that are actually learning. So, as we see it, there's a crucial question — what specific added value does AI bring to everyday industrial environments? The purpose of the management report is to get our target group thinking about this issue in more detail.

At Cideon, core business activities include developing and rolling out data management systems for engineering. Will you also be offering AI solutions yourselves?
It has become clear to us that it's primarily companies such as Microsoft, SAP, and Amazon that have the necessary power to develop AI. We have no such aspirations, but we're obviously watching very closely to see what useful applications are developed in the industrial environment.

Take manual inspection, comparison, and coordination processes, for example, which are often based on lists or Excel data — these are exactly the areas where we can envisage possible practical uses for assistance functions. That can be rule-based or AI-driven. Our focus is therefore on intelligently using and linking engineering data relating to all aspects of the CAD modeling process.



[...] Competitive advantage does not come from adopting the next technology. It comes from creating consistency across processes, data, and accountability.

Excerpt from the Cideon management report

You can download the management report here:

So what's the difference between AI and automation?
When we talk about "design automation", we mean using specific attributes to shape 3D models. 3D properties are linked together by applying certain rules. We do that with Cideon Conify, our product configuration solution. We consider this to be a conventional automation approach — it's not yet an AI application in the true sense. With Conify, another aspect is that our PDM approach to the components generated in this way ensures certain parts can be reused. That offers specific added value in terms of efficiency and standardization in engineering.

How does this concept fit into the image of the digital twin?
Of course, we're already familiar with the digital twin from the worlds of mechanical engineering and electrical design. What's more, we have the option of using our PDM system to manage the automation digital twin to a certain extent, though not with the current firmware versions of the individual automation components. Nor does this management extend to the digital twin that's generated in production. Instead, our focus is much more on consistent management of engineering data across various domains of development — and thus on an important foundation for future data-driven services in the context of digital business models.

What support does Cideon offer for data spaces, such as those in the concept being pursued by the Manufacturing-X initiative?
Issues relating to data spaces and standardization are, by their very nature, complex. Even so, we believe they need to be addressed. In the future, standardized data spaces will play an important role, especially in relation to issues such as cybersecurity, traceability, and digital services. That's why we're also working hard to establish how information from the Asset Administration Shell (AAS) can be linked with existing PDM and engineering data and used in processes in the future. Eplan is currently using its Product Change Notification solution to drive progress accordingly from an electrical design perspective. □



"Companies should target areas where AI can generate tangible added value and deliver quick wins."

ROLF LISSE,
Managing Director of Cideon

Wire processing

SMALL — BUT WOW!

Is automated wire processing still the preserve of large switchgear manufacturing companies? Not necessarily. A more compact system — the **Rittal Wire Terminal WT L** — is now available on the market, which means automating this step will quickly pay off for smaller-scale operations, too.



Automation in panel building and switchgear manufacturing is not an end in itself. Its appeal lies in its capacity to shorten throughput times, make processes more stable, and lighten the load on skilled workers. “Up till now, though, small and midsize businesses often came up against a barrier. The technology was available, but on too big a scale, and investing in it meant blowing the budget,” explains Thorsten Eberz, Head of Product Management at Rittal Automation Systems.

THE ENTRY-LEVEL MODEL

The Rittal Wire Terminal WT L overcomes this challenge. It cuts wires to length, and labels and crimps them — but has a footprint of just two square meters. Thanks to the reduced 12-wire infeed and a central output system, it’s a less complex machine, but it still boasts key technologies such as servo-powered crimping and RFID-supported wire infeed. The result is a level of process quality that operators of larger systems have enjoyed for a long time now.

NOTICEABLE IMPACT

On a day-to-day basis, the key benefit is speed — the Rittal Wire Terminal WT L is far faster than manual wire processing. This is a crucial factor, especially against the backdrop of scarce resources. “Companies large and small are being affected by the skills shortage and need to optimize processes, so we’re discussing that very issue with customers of all sizes,” Eberz continues.

HANDY DIMENSIONS

Measuring 2 m wide and 1 m deep, the Rittal Wire Terminal WT L is available in two variants. The WT L5 is designed for processing smaller wire cross-sections, while the WT L10 can handle cross-sections of up to 6 mm^2. The focus on flexibility is also very much in evidence when it comes to further processing. Preassembled wires can be delivered in the usual way or transferred directly to downstream systems. When combined with the Wire Handling System, the WT L can supply wires to several workstations automatically.

END-TO-END DATA

Just like the larger system, the WT L acts on engineering data that is taken directly from Eplan, so the digital twin is used consistently through to the production stage. In conjunction with the RiPanel Processing Center and software solutions such as Eplan Smart Production, this results in an end-to-end flow of data that reduces interfaces, prevents errors, lays the foundations for further automation steps, and paves the way for future scaling. □



TECHNICAL DETAILS:
RITTAL WIRE TERMINAL WT L

1

SIX VARIANTS

The Rittal WT L (footprint: W 2,170 mm, H 1,670 mm, D 1,080 mm) is available in six variants. Depending on the design, it processes wire cross-sections of 0.5 to 2.5 mm² — and of up to 6 mm² as an option.

2

THREE WIRE SYSTEMS

Three output systems are available for the preassembled wires — the wire rail system, the wire chain bundler, and the Rittal Wire Handling System.

3

STRIPPING AND CRIMPING

Wires can be fully or partially stripped and then crimped, so processing can be adapted to suit different requirements.

4

SWITCHING WIRES

The wire routing system combines a wire infeed block and RFID technology. Stored information supports the wire switching process and reduces the manual work involved in changeovers.



“Thanks to the compact WT L, small plant engineering companies now also have the option of automatic wire processing.”

THORSTEN EBERZ,
Head of Product Management,
Rittal Automation Systems

150

enclosures or more need to be manufactured annually for the WT L to pay for itself within just 2.5 years.



The fully automated WT L wire processing machine can produce up to 12 different wires with no manual intervention.

Find out more in the video:

EXPERT KNOW-HOW
Making digital infrastructure fit for outdoor use.

Outdoor systems

JUST THE TICKET FOR POWERFUL TECHNOLOGY

Digitalization is currently one of the top priorities for the German railroad system, and the use of digital technology calls for robust trackside infrastructure. Outdoor solutions from **Rittal** are playing a key role, protecting the IT equipment against vandalism and the weather.

TEXT: RALF STECK

German railroads are going digital — and the amount of associated trackside technology is growing as a result. Nowadays, analog systems are increasingly being replaced by digital interlocking, communication, control, and safety technology — and this trend is growing. These systems all need state-of-the-art protective enclosures that can do more than their conventional counterparts.

THREE CHALLENGES

The high demands involved are due to three main factors, the first of which is the outdoor location. Equipment often stands right next to the tracks, out in the open all year round. Heat, cold, wind, and precipitation have a direct impact on materials and technology, so what's needed is reliable corrosion protection, often combined with a climate control solution that can respond flexibly at all times to protect the sensitive electronics.

The second factor relates to mechanical forces. Trains whizzing past equipment at various speeds create pressure, suction, and impact forces — some of which can be enormous. This situation is even more critical in winter. When snowplow trains throw snow to the side with considerable force, for instance, enclosures can suddenly be subjected to loads of up to several hundred kilograms.

The third factor is protection against unauthorized access by vandals, cable thieves, or people intent on sabotaging the infrastructure. Clear specifications apply in this context, too. The minimum official resistance class for trackside infrastructure is RC2, while RC4 may apply to larger units. The aim is not to make access to the equipment absolutely impossible — instead, it's about buying time so a response can be mounted.

TWO APPROACHES

In light of these circumstances, Rittal offers two solutions. Its Toptec enclosures are designed for outdoor use, and the version developed specifically for railroad use is made entirely from stainless steel.



"We meet railroad specifications and are therefore also a qualified partner for suppliers in this sector."

JENS FISCHBACH,
Director Global Key Account Management, Rittal

The double-walled design and modular expansion options ensure a robust structure and flexibility. Featuring a prefabricated base and standardized cable infeeds, this enclosure is also designed for integration into existing infrastructure.

The RailwayCube from Rittal offers a solution on an even bigger scale. As a container solution, it provides plenty of room for installing all kinds of technology. A range of standard sizes makes planning easier, while the structure and insulation are designed for long-term use in railroad environments. In terms of protection against intrusion, the RailwayCube meets the requirements of higher classes with ease, so it's ideal for particularly critical applications.

DIGITAL DOCUMENTATION

Another detail shows how a change on a small scale has been made — documentation is now no longer filed in a folder in the enclosure, but is instead available on a completely digital basis via the Rittal ePocket. Service engineers can use QR codes to access plans, instructions, and device data directly. This saves time and prevents problems caused by incomplete documentation or damaged data.

EXPANSION UNDER TIME PRESSURE

Over the coming years, railroads are going to be one big building site. Important routes are being refurbished in coordinated programs and finally switched over to digital technology. If this railroad refurbishment is to take place without any delays, there is one key requirement — availability. Components not only require a robust, standard-compliant design — they also need to be available in large numbers at the right time. This will dictate how quickly projects can be carried out. The aim of solutions such as Toptec and the RailwayCube is to provide this ideal combination of technology, compliance with standards, and availability for delivery. □



With its Toptec enclosures (left) and walk-in RailwayCube, Rittal provides ideal protection for technology!

THE CHALLENGES

Weather

Wind, rain, heat, and cold make good corrosion protection and flexible climate control a must.

Forces

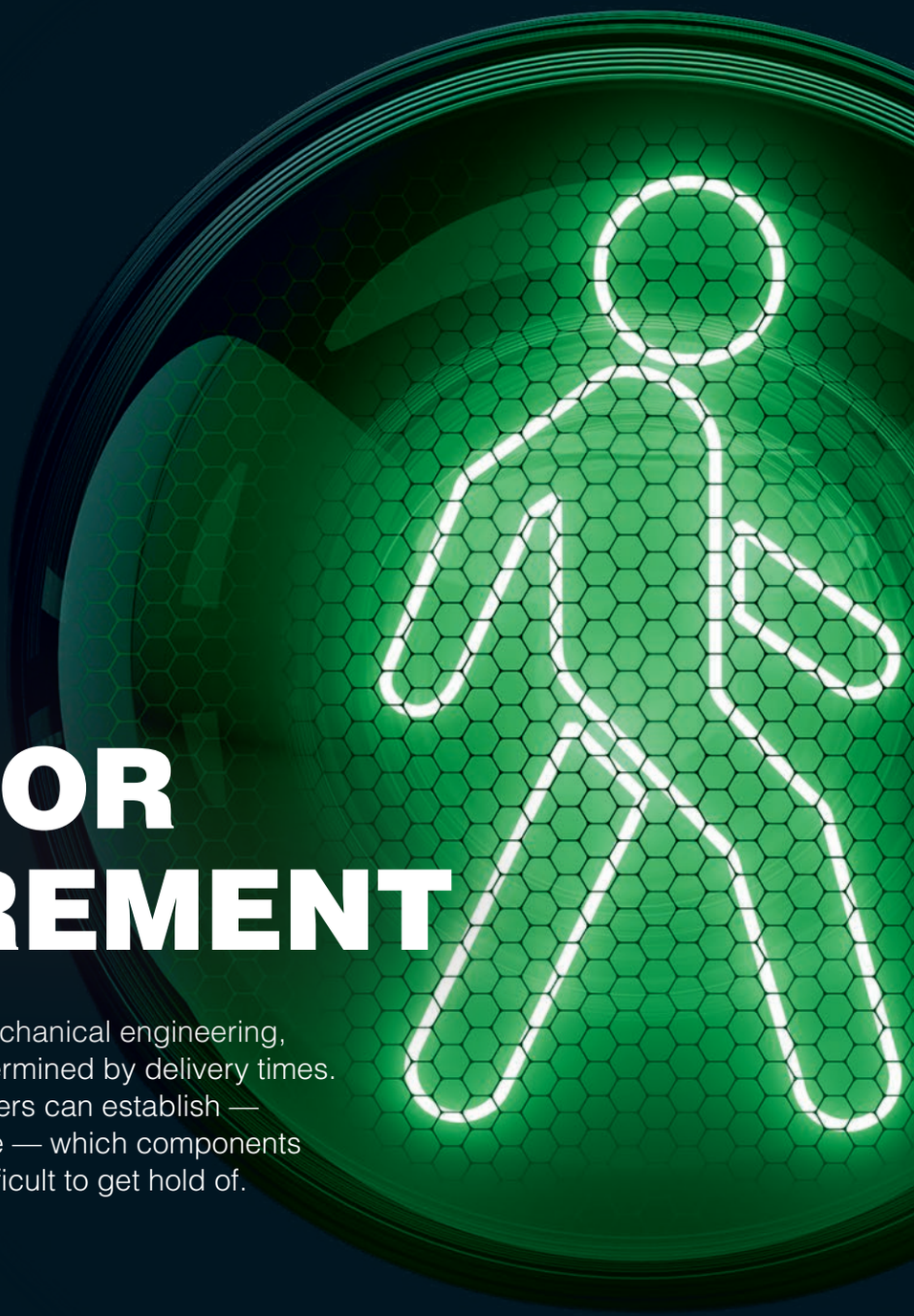
Trains passing by at high speed generate pressure, suction, and impact forces — some of which can be extreme.

Protection against unauthorized access

The systems need to comply with resistance class RC2 or RC4 to safeguard against theft and sabotage.

Find out more:





Engineering and procurement

GREEN LIGHT FOR PROCUREMENT

In switchgear manufacturing and mechanical engineering, the success of a project is often determined by delivery times. With **Eplan Smart Sourcing,** engineers can establish — during the design engineering phase — which components are available and which might be difficult to get hold of.

TEXT: BIRGIT HAGELSCHUER

Many companies are familiar with the problem — the design engineering process has been completed and the bill of materials has been approved, but then critical components turn out to be unavailable or have long lead times. Modifications take time, create extra coordination work, and cause delays to projects.

The new Eplan Smart Sourcing software makes the entire process much more streamlined by creating direct links between the electrical design procedure and manufacturers' and distributors' systems. This means that, even during the planning stage, design engineers can access information about component availability and applicable delivery times.

A SPEEDY REACTION

An integrated traffic light system shows engineers which products can be procured at short notice and which may potentially be affected by bottlenecks. Critical components can therefore be swapped at an early stage, even before the procurement team gets to work.

This also has an impact on parts lists — qualified bills of materials only include components that are available or can be delivered with short lead times. This means there's no need to look for alternatives at a later stage, so the purchasing and procurement teams can place orders faster, with fewer rounds of coordination.

DIRECT LINKS

Manufacturers and distributors also benefit from these closer links. By gaining early insight into actual requirements, they can anticipate demand and plan stock levels more effectively. The first partners

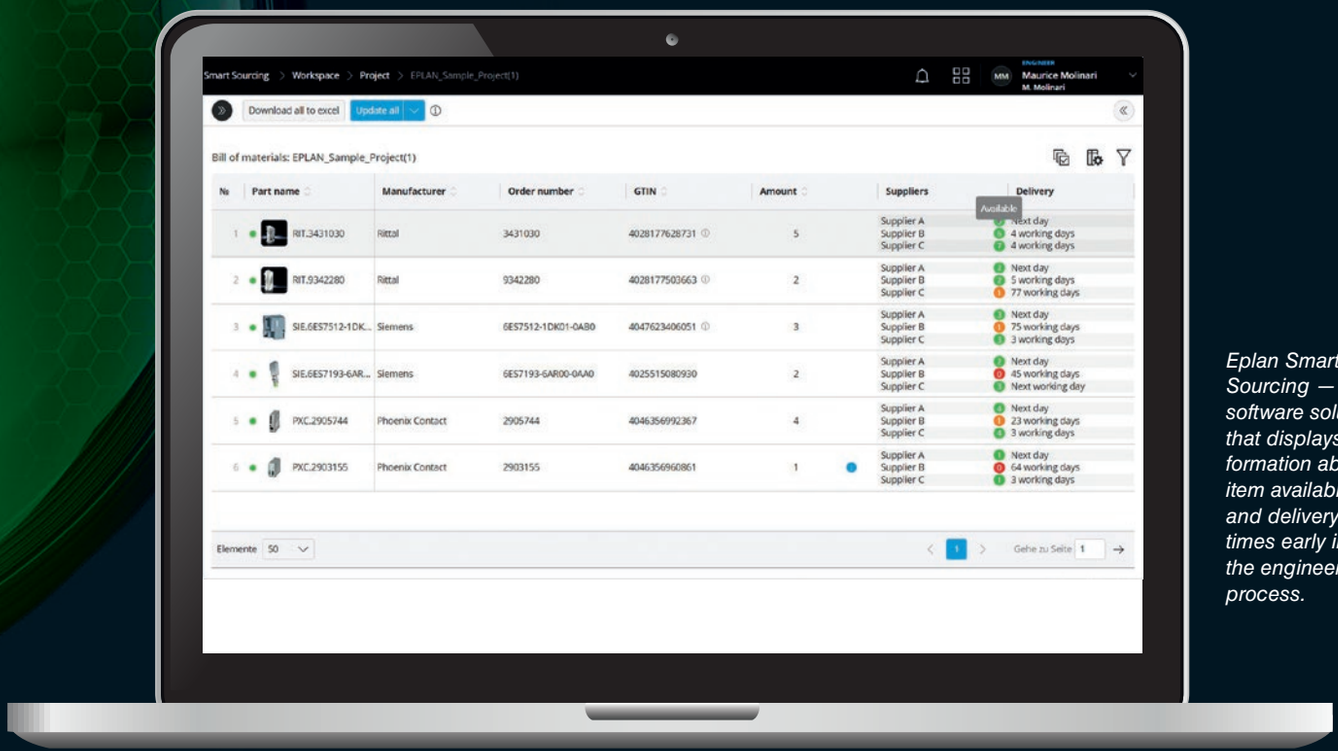


“Our aim is to reduce complexity, speed up implementation, and boost productivity in the everyday industrial environment.”

DR. OLIVER VOGLER,
Chief Purchasing & Marketing Officer, Rexel Germany

BENEFITS FOR SUPPLIERS AND USERS

- Access to availability information during the engineering process
- Delivery times indicated by a traffic light system
- Qualified bills of materials at the touch of a button
- Direct transmission to distributors’ shops
- Faster coordination between design engineering and procurement



Eplan Smart Sourcing — a software solution that displays information about item availability and delivery times early in the engineering process.

include companies such as Rittal, Weidmüller, Alexander Bürkle, DigiKey, Rexel Germany, Adalbert Zajadacz, and Emil Löffelhardt.

Bills of materials or details of individual products can also be sent directly to affiliated online shops. This means closer links between engineering, procurement, and distribution — and not just digitally.

END-TO-END PROCESSES

The real benefit lies in an end-to-end digital workflow rather than in an individual function. Information about availability for delivery can be accessed precisely where it is needed in the project, i.e. directly at the design engineering stage.

Particularly in times of volatile supply chains and highly dynamic projects, this approach helps make mechanical and plant engineering processes more robust and efficient. □



“Eplan helps engineering and procurement teams work together more cost-efficiently.”

SASCHA LIESE,
Smart Industries Managing Director, Alexander Bürkle

Find out more in our video:

WORLDWIDE

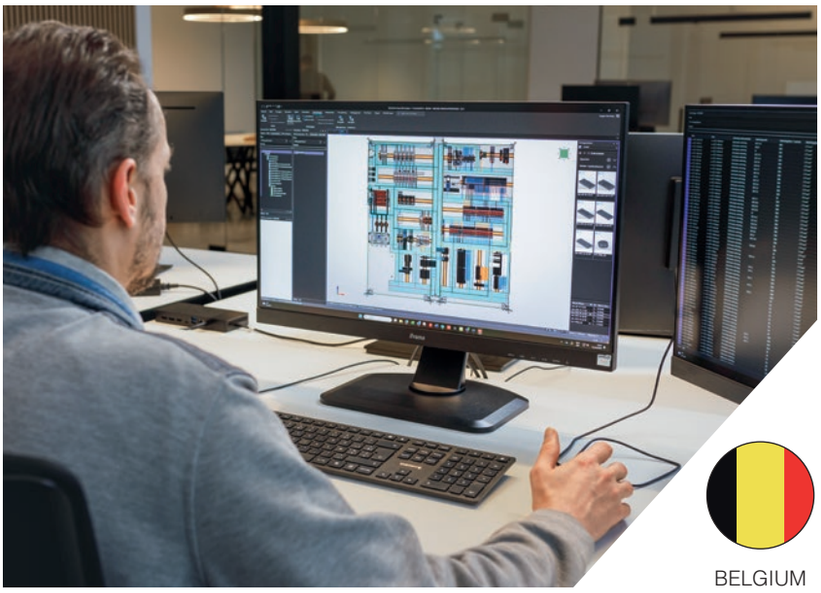
From science and energy supply to material handling equipment — Friedhelm Loh Group solutions can be found wherever robust enclosures, reliable IT infrastructure, and efficient engineering processes are called for.

SUITABLE FOR OUTDOOR USE



APS Applied Power Systems AG, which supplies charging infrastructure for the e-mobility sector, wanted to implement high-power charging at up to 360 kW, with a compact, robust solution suitable for outdoor use. Using the CS Toptec outdoor enclosure from Rittal, APS created a scalable all-in-one concept with an output of 2 x 180 kW when the two charging points are operated simultaneously and up to 240 kW continuous power when just one is in operation. The double-walled design and system fit-out offer reliable protection for outdoor use, as well as excellent integration flexibility.

SWITZERLAND



BELGIUM

WIRING AT SPEED

Belgian panel builder (and system integrator) **Ghysel** wanted to achieve the seemingly impossible — to speed up the complex, error-prone process of manual wire processing while boosting quality at the same time. And it succeeded! Ghysel boosted the efficiency of its processes significantly by opting for the Wire Terminal — the automated wire processing solution from Rittal Automation Systems — and seamless data integration from Eplan. The result is appreciable time savings in production, fewer errors, and better process reliability and competitiveness overall.



USA

SHORTER BUILD TIMES

Masaba, a US manufacturer of material handling equipment, is using solutions from Eplan and Rittal Automation Systems to tackle two challenges simultaneously — expanding its switchgear manufacturing facilities and addressing the acute shortage of skilled staff at its South Dakota site. In addition to Eplan software, a Perforex MT, a Secarex, and a Wire Terminal C10 from Rittal are now all in use at the site. The result is much faster processes and shorter build times.

SUPPORTING RESEARCH

Rittal was honored to be awarded a significant contract from the prestigious **Lund University** in southern Sweden. The university hosts the MAX IV Laboratory, which operates one of the most cutting-edge synchrotron radiation facilities in the world in order to research the properties of materials and matter. The lab's research findings are used in various sectors, including the pharmaceutical industry. Rittal supplied an extensive range of IT solutions for the project, including IT racks, cooling and monitoring systems, power distribution, and UPS systems. A key reason why Rittal won the contract was its bespoke solution that meets the very highest quality and operational reliability requirements.



SWEDEN



INDIA

TOP-NOTCH EFFICIENCY

Faced with growing project complexity and ever greater requirements relating to global supply chains, **Armstrong Dematic**, which specializes in intralogistics and warehouse automation, needed to modernize its electrical design and engineering workflows. By adopting Eplan, the company digitalized its engineering processes and laid the foundations for greater efficiency, quality, and innovation.

Switchgear manufacturing

YOUNG AND VIDAL





THINKING IN TERMS OF DATA

Switchgear manufacturing with the basic goal of technology leadership.



Javier Vidal in his factory in Náquera, near Valencia, the third-biggest city in Spain.

From four to around a hundred employees in a mere twelve years — that, in a nutshell, sums up the success story of **VIDAL Automatización y Control**. Having made a good name for itself in the Spanish refrigeration technology sector, this switchgear manufacturing company is now keen to expand further. This gave us good reason to interview **CEO Javier Vidal** at his headquarters in Náquera, near Valencia.

INTERVIEW: HANS ROBERT KOCH

Mr. Vidal, your company is exceptionally dynamic. What are the key defining features of VIDAL?

At VIDAL, we're not just a team — we're a family. What makes us stand out is our team's determination to show what we're capable of, as well as our resolve to pursue new avenues and achieve more than we ever imagined. We strive for improvement, quality, commitment, and customer service excellence — that's in our DNA. Our motto is "solutions and services", so we work to help and support our customers. That means incorporating the very latest technologies into our products — always with a view to meeting future requirements. All these things distinguish us from other companies.



You set up your company in 2014. How did that come about?
I decided to start up a new company twelve years ago, when I was still working for another firm. At that time, products unfortunately couldn't be made in the way customers wanted, so I resolved to supply the quality demanded by the market myself. We started by doing the electrical design work for switchgear in 3D, which meant we could show our customers right from the outset what their future products would look like.

Looking back now, what are you particularly proud of?
Well, we've built up a benchmark company from scratch, and we're proud of that. The key milestones were rolling out an ERP system in the early stages and gradually procuring machines that helped us improve our production methods. But it's our pursuit of technological development that makes the biggest impact.



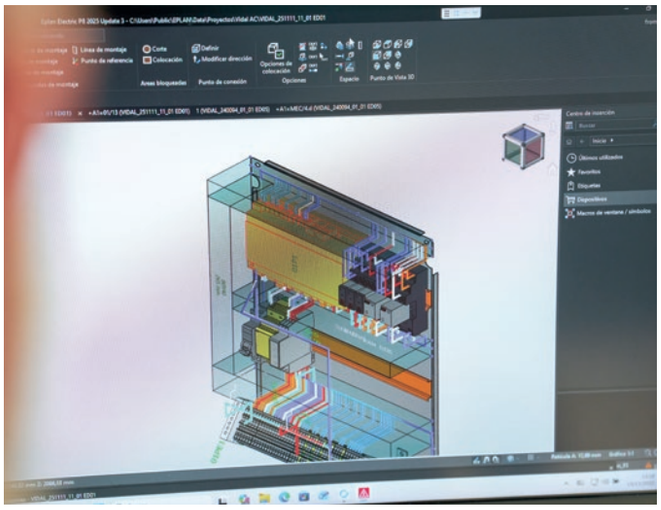
"To be a leader, we must always stay on the cutting edge of technology."

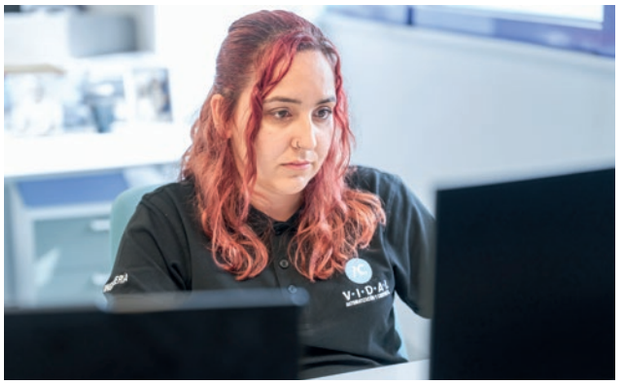
JAVIER VIDAL,
CEO of Vidal

The high level of digitalization on your production floor really stands out. Is that part of your vision?
We're always looking for new solutions — that's what VIDAL is all about. To be honest, we've never had to think about digitalizing things, because we were digitalized right from the outset. Unlike other companies, our aim was never just to manufacture switchgear — in addition, we always wanted to continue developing our processes to achieve different, better results. ▸









VIDAL uses Eplan Pro Panel software to plan its switchgear. Once the digital twin has been created, the enclosure machining data can be adopted directly by the Rittal Perforex drilling and milling center (see above).

In terms of technology, where are you currently at — and where are things headed?
To plan enclosures in 3D, we use Eplan Pro Panel as an engineering tool. We're already working with machine technology from Rittal Automation Systems, such as the Perforex BC drilling and milling center, the Secarex cutting center, and the Wire Terminal WT fully automated wire processing machine. We've built a factory structure that supports optimum production workflows — and we've also developed ViBrain, our own traceability software. Besides using new solutions, tools, and machinery in the future, we're also going to automate processes for everything from warehousing to labeling components and assembly. Our aim is to enhance quality and further increase our production capacity.

What's your main day-to-day focus when it comes to your production operations?
The biggest challenge we face is integrating customer requirements into our production system to ensure that products are delivered exactly as wanted and on time. Our customers are looking for increasing levels of customization, but standardizing processes for custom-made products is no easy task. To meet requirements, we need to ensure our technology is always state of the art. And to be a technology leader, we need to surround ourselves with leading solutions.

How did your collaboration with Rittal and Eplan come about?
In the past — long before I set up VIDAL — I'd already worked with Rittal and Eplan. I'd always had a good relationship with the entire team, so I knew right from the start that I wanted to continue working with these two companies. Without our technological advances and without solutions from Eplan and Rittal — not to mention their advice and support throughout the whole transformation process — we'd just be one company among many and wouldn't have the market share we do today. We've been able to improve the efficiency of our value creation process by between 30 and 40 percent.

What else do you need for a successful future?
We need to continue along the same path and constantly adapt to new circumstances — especially given the deluge of European laws and regulations that are having a detrimental effect on our ability to compete at a global level. We're currently in the midst of an expansion phase, which involves tapping into international markets and setting up new international production facilities, such as our new factory in Mexico that we opened just this year. □





The Rittal Wire Terminal WT plays a key role in production, enabling the experienced VIDAL team to produce up to 36 different wires with cross-sections ranging from 0.5 mm² to 2.5 mm², in a process that is cost-effective, efficient, and fully automated.

Up to 40%

higher efficiency in the VIDAL value creation process — together with enhanced product quality and fewer errors.



A productive, long-standing partnership. From left to right: Javier Vidal (Vidal), José López (Eplan), David Cascan (Rittal), and José Miguel Belda (Vidal)

Scan here to find out more about VIDAL:

WHEN BUILDING DATA CENTERS, knowledge of future cooling requirements is a must.

Working together to develop a liquid cooling solution at Netmountains: Felix Kremelić, IT Projects Lead at Rittal (left) with Ergin Sarac, Data Center Specialist at Georg Fischer.

Direct Liquid Cooling for colocation data centers

TAKING THE HEAT OFF AI



"Our vision was to build a data center fit for the future."

STEPHAN REUGELS,
Co-founder and CEO,
Netmountains

Using water to keep AI up and running, the new **Netmountains** data center in the German town of Velbert has created a blueprint for next-generation digital infrastructure in the space of just six-months. Working with **Rittal** and **Georg Fischer** — a leading supplier of flow solutions based in the Swiss town of Schaffhausen — the colocation provider Netmountains has created a data center for the future, complete with innovative cooling architecture that means high AI power densities are now possible.

TEXT: ULRIKE PETER



When planning a data center these days, companies already need to consider future requirements. Artificial intelligence, high-performance computing (HPC), and other data-intensive applications are driving up power densities to a whole different level, which calls for more and more computing power in ever smaller spaces. All of this also means higher thermal loads. Air cooling was previously able to cope with the amount of heat being generated but is now increasingly reaching its physical limits.

The IT service provider Netmountains also found itself facing this challenge. When building a new co-location data center at its headquarters in Velbert, the company therefore factored the requirements of future AI applications into the design right from the outset.

WHEN AIR REACHES ITS LIMITS

Instead of updating established concepts, the team in charge of the project opted for a fundamental change of perspective that involved viewing cooling as an integral part of the overall IT infrastructure rather than a separate process.

After all, a new mindset is vital. AI infrastructure solutions are now being designed for dozens of kilowatts per rack, with even higher values expected in the future. And the more powerful processors become, the more difficult it is to use air alone to reliably remove the heat generated.

Direct liquid cooling (DLC) is therefore based around the cooling medium of water, which is conveyed via special cooling circuits directly to the processors to absorb the heat exactly where it occurs. The amount of thermal energy water is ▸



“Together, we’ve developed an end-to-end cooling circuit — from building cooling all the way into the racks.”

ERGIN SARAC, Data Center Specialist, Georg Fischer

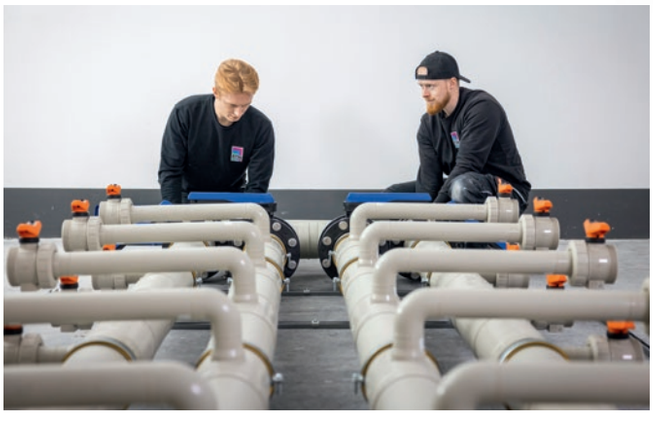
able to transport is many times higher than the amount air can absorb. This makes much higher power densities possible and also boosts the entire data center’s energy efficiency.

By designing the new data center for cooling outputs of up to 66 kilowatts per rack, Netmountains has created the conditions for demanding AI and HPC applications and got ahead of the curve in a market where requirements are currently changing fast.

COOLING AS PART OF THE OVERALL SYSTEM

The project’s defining features extend beyond liquid cooling, though. The holistic approach is also crucial. Working with Georg Fischer, Rittal developed a fully integrated cooling infrastructure that covers all parts of the cooling circuit — from building cooling through to the server racks.

“Our task was to incorporate all elements of the cooling system in one reliable, integrated solution,” explains Felix Kremelić, IT Projects Lead at Rittal. “By combining our IT infrastructure and cooling expertise with Georg Fischer’s flow solutions based on polymer rather than metal, we were able to create a scalable high-performance system that meets current requirements and is also fit for future workloads,” he adds.



Polymer instead of metal — Georg Fischer has equipped the data center with pipework technology fit for the future.

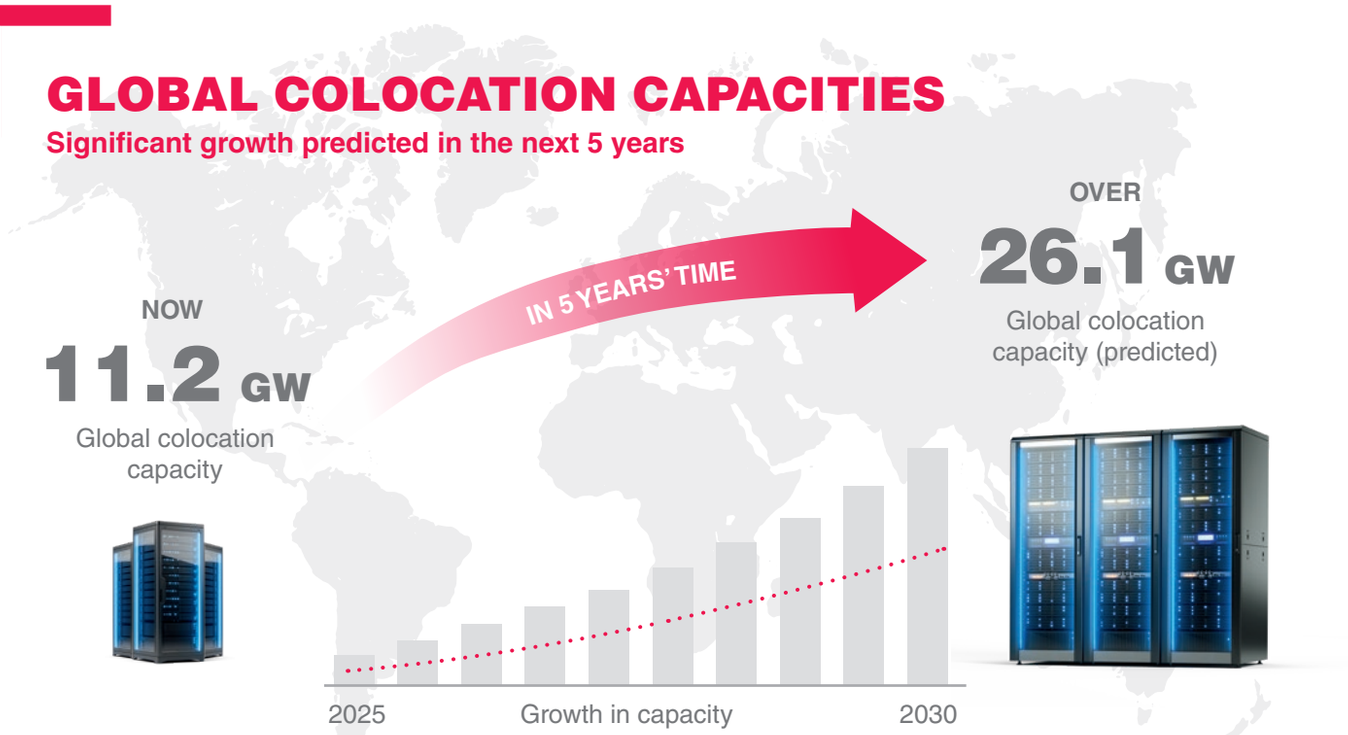


Rittal was responsible for integrating the entire cooling system, and its newly developed cooling distribution unit (CDU) acts as the key interface between building cooling and IT cooling. This compact unit generates a cooling output of over one megawatt to supply numerous high-performance racks with an appropriate level of cooling. Its modular design means it can be incorporated flexibly into a variety of data center environments.

Georg Fischer provided the entire polymer-based infrastructure for the pipework and the technical cooling networks, including the pipe systems for building cooling and distribution within the data center, all the way into the IT racks. The Swiss company also took charge of all the engineering, prefabrication, and quality assurance work for the components.

GLOBAL COLOCATION CAPACITIES

Significant growth predicted in the next 5 years



Source: Structure Research, Global Center Market Outlook 2025

WHAT IS COLOCATION? Colocation is when an organization operates its own IT systems in an external data center. Among other things, colocation providers offer the necessary space, a power supply, cooling, a network connection, and physical security. Global colocation capacity is expected to rise significantly in the coming years.

The result is an end-to-end cooling infrastructure that connects all the various levels and can be expanded. New capacities can be added in stages without changing the basic architecture. That's a key advantage for a colocation provider such as Netmountains, as the infrastructure can grow in line with customers' requirements.

KEY ROLE FOR PLASTICS

The growing popularity of liquid cooling also means more attention is being paid to the materials involved. Although metal is traditionally used in many applications, companies are increasingly turning to engineering plastics for cutting-edge cooling concepts.

There are many different reasons for this. Polymer-based pipe systems are corrosion-free solutions and don't release any particles into the cooling medium. Besides ensuring the cooling circuit remains free of contamination, this also means less rinsing and maintenance work is required. There are practical benefits during installation and operation, too. Plastics are much lighter than comparable metal solutions, offer excellent resistance to chemicals, and exhibit low thermal conductivity, which minimizes the risk of unwanted condensation. What's more, welded joints permanently rule out any system leaks. "Together, we've developed an end-to-end cooling circuit — from building cooling all the way into the racks. That reduces the number of interfaces, simplifies installation, and creates the basis for stable long-term operation," says Ergin Sarac, Data Center Specialist at Georg Fischer.

BLUEPRINT FOR THE NEXT GENERATION

The new data center in Velbert gives Netmountains a basis for future growth and new business models for AI infrastructure. The project also demonstrates how the sector is changing. The previous focus on optimizing individual components is now shifting toward the interaction of all the various systems.

A new benchmark has been set — cooling, energy supply, and IT infrastructure must be viewed and planned as one overall system. "The colocation data centers being built today need to be designed for the use of AI. Together with Georg Fischer and Netmountains, and in the space of just six months, we have demonstrated a cost-effective and scalable approach to creating an infrastructure of this kind with all the necessary elements," says Uwe Scharf, Managing Director Sales Germany & Europe at Rittal. □

Find out more in our video:





ANYTHING BUT TRIVIAL
Switchgear for data centers is much more challenging.

Switchgear manufacturing

“DIGITAL THROUGH AND THROUGH”

Together with Olaf Beykirch, Tobias Funke launched the start-up **TOBOL** 25 years ago, working out of his parents’ basement. The erstwhile two-man enterprise is now a model company, a sought-after systems integrator for prestigious data center operators, and a Rittal and Eplan Application Center Partner. Read on to find out what drives this instrumentation and control engineering specialist, and what makes it competitive.

TEXT: HANS ROBERT KOCH

In the town of Leinefelde-Worbis, there’s no longer any trace of this company’s humble beginnings. A gleaming new factory boasting state-of-the-art manufacturing facilities was built there two years ago. The huge LED panel on the outside of the building immediately points to TOBOL’s innovative, dynamic approach. Everything inside the building is also smart and, above all, sophisticated. Functional and design-related aspects have been thought through in detail, from the meeting rooms and the reception area with its cafeteria to the engineering workstations — with a direct view into the production hall, which boasts cutting-edge automation technology.

A TRUE MILESTONE

This is where we meet Tobias Funke, a founder and Managing Director of TOBOL. He gives us some insight into the company, which now has around 100 employees. “The new building was a true milestone for us. The fact that everything had become



Tobias Funke, a founder and Managing Director of TOBOL, in the factory in Leinefelde-Worbis, with a view into the state-of-the-art production hall.

too small enabled us to start with a clean slate and reinvent the company on a greenfield site," he tells us with pride. As a qualified electrical engineer, Funke's professional background is in conventional building automation — and that was the starting point for the company back in 1997. Just two years later, however, TOBOL started specializing in data center construction. "It all came about largely by chance and then increasingly evolved in that direction," Funke says.

Today, the company's customers include prestigious data center operators, hyperscalers, and cloud providers, as well as companies in Germany and elsewhere in Europe with critical infrastructure. With over 25 years of experience in instrumentation and control engineering technology, this systems integrator ensures everything in data centers and buildings is automatically controlled, regulated, and cooled, and that energy use is monitored. "Our services range from planning, manufacturing, and programming to plant engineering, commissioning, maintenance, and support that extends beyond the life cycle," continues Funke. All processes in the factory boast end-to-end digitalization and maximum automation to ensure bespoke systems can be manufactured as one-off products on an industrial, competitive basis. TOBOL also has customer service and maintenance sites in Berlin and Frankfurt. "We can meet our customers' specific requirements and offer the best technical solution," Funke comments.

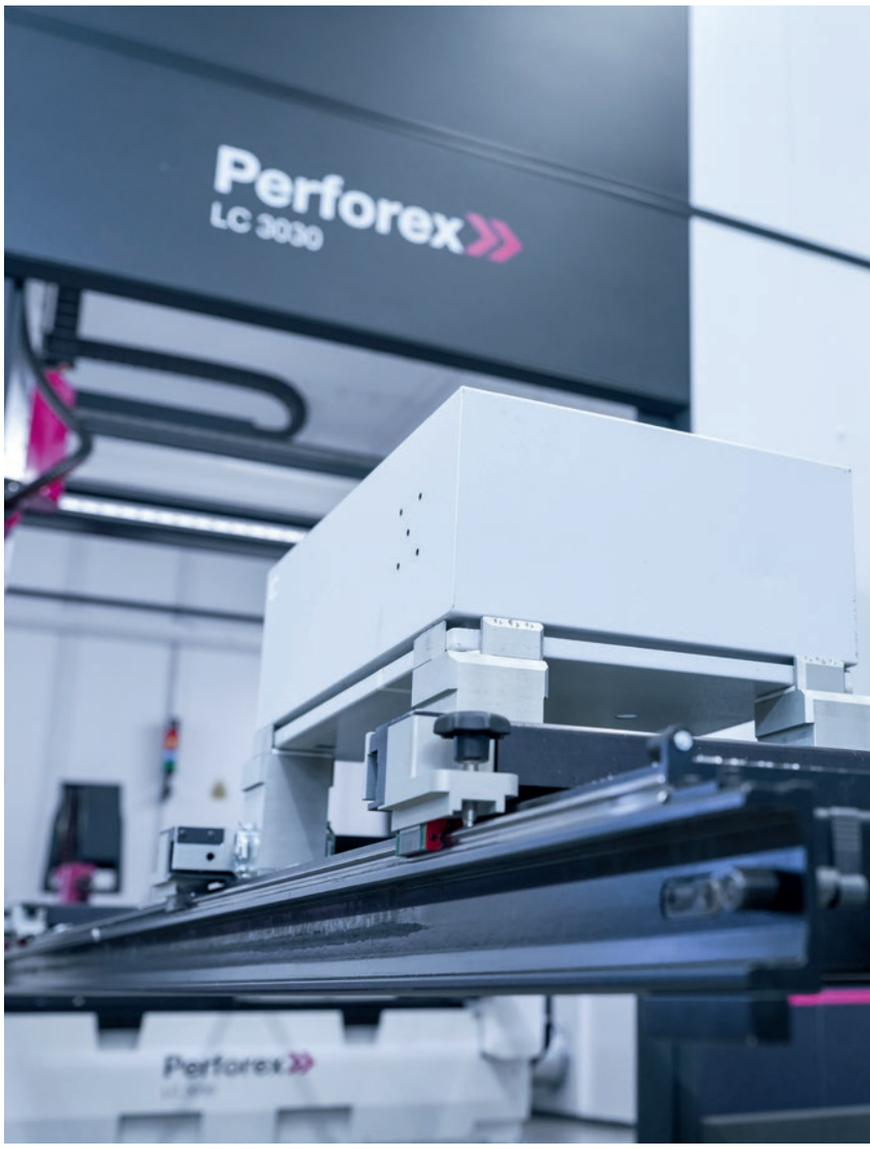
DIFFERENT RULES OF PLAY

That may sound easy — but it's not. When it comes to data centers, requirements are anything but trivial. Funke believes they're even more challenging than in traditional industry. In IT, everything develops at breakneck speed and in very different cycles compared to industry. "Energy consumption in data centers is going through the roof right now, so ▸



“With Rittal and Eplan, we can develop the best products at high speed.”

TOBIAS FUNKE, a founder and Managing Director of TOBOL



new approaches to power distribution will be called for in the future,” he explains. What’s more, given the huge increases in the thermal loads being generated in data centers, which can be higher by a factor of around ten, the need to reduce operating costs is becoming more and more urgent. Compared to industry, system availability in this sector is also in a different league. “The rules of play are different here. In data centers, things must never grind to a halt, even if individual components fail. Redundancy concepts with appropriate control technology are vital. Cooling equipment always has to be kept running, and systems need to meet the very highest standards of reliability,” Funke explains.

TOBOL has already built a large number of switchgear solutions for 6 to 20 megawatt data centers, and 100 megawatt data center projects are now also on the table. The very rapid development in IT business is also putting project managers under increasing pressure. A huge amount of technology needs to be installed and started up within very short timeframes. “The biggest challenges we face are PLC programming and commissioning on the site. The growing volumes of data, i.e. mass data, need to be processed in their entirety — and in next to no time. This is only possible if we have switchgear that’s working properly and equipped for this purpose,” Funke insists.

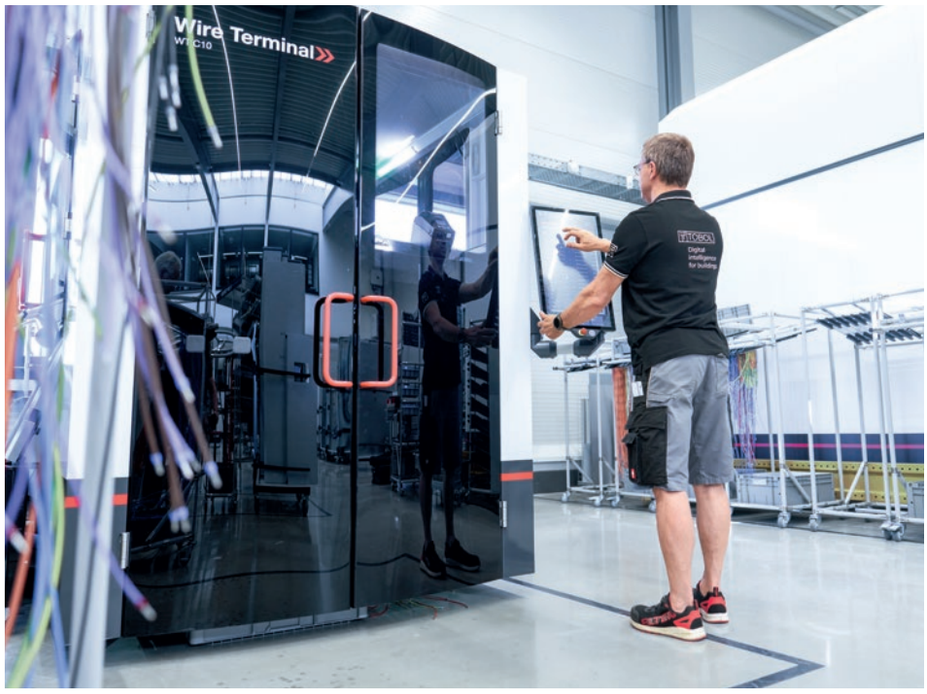


TOBOL engineers use software solutions such as Eplan Preplanning, Eplan Electric P8, and Eplan Pro Panel.

TOTALLY DIGITAL

Nonetheless, when Funke speaks about switchgear manufacturing, he appears relaxed. “We’re in a really, really strong position. We have a completely digital end-to-end value chain. Data from the design stage is transferred directly to the machinery, and production takes place on a 1:1 basis — so we ensure maximum reproducibility, quality, and speed,” he says. The starting point for all value creation processes is the relevant project’s digital twin, which is created by engineers working with software solutions such as Eplan Preplanning, Eplan Electric P8, and Eplan Pro Panel. The manufacturing data for enclosure machining is obtained directly from the digital twin,





The Eplan software is used to control the automation of control cabinet processing (Perforex LC) and wire processing (Wire Terminal WT).

Find out more in the video:

and this data controls the machine technology supplied by Rittal Automation Systems, such as the Perforex BC drilling and milling center, the Perforex LC laser center, and the Secarex cutting center. TOBOL uses the Wire Terminal WT C for fully automatic wire processing. For many years now, the company has been installing its switchgear in Rittal enclosure systems such as VX25, AX, and CS Toptec.

50 PERCENT MORE EFFICIENT

According to Funke, the data processing required for these kinds of processes involved a lot of work to begin with, as the right quality of engineering data also needed to be available. However, all the effort paid off. “We’ve been working with Eplan and Rittal for many years now. Thanks to their solutions, we’re now achieving efficiency gains of 40 to 50 percent,” he says with delight. This means it now takes a maximum of three days to manufacture switchgear sections, for example. In the past, with manual production, this took over a week. □



From left to right: Georg Schmidt-Reindahl (Eplan), Marc Walter and Uwe Scharf (both Rittal), Tobias Funke (TOBOL), and Steffen Schmidt and Philipp Müller (both Rittal)

“WE’RE INDUSTRIALIZING DATA CENTER OPERATIONS!”

Becoming a Rittal and Eplan Application Center Partner is a milestone for TOBOL. The aim of this partnership is to interlink industry and IT expertise more closely for the data center market. “With the market leaders in electrical engineering and enclosure technology on board, we can develop the very best products and supply them to our German and international customers,” says Tobias Funke.



Building automation

A HEAD START ON **PREPLANNING**

Just one year to manufacture 300 enclosures, each one unique, for a highly complex production facility — **Siemens Smart Infrastructure** in Dresden was in no doubt that using conventional methods would make a project of this size all but impossible. The solution was a systematically digitalized process extending from preplanning through to automated enclosure production.

TEXT: GERALD SCHEFFELS AND BIRGIT HAGELSCHUER



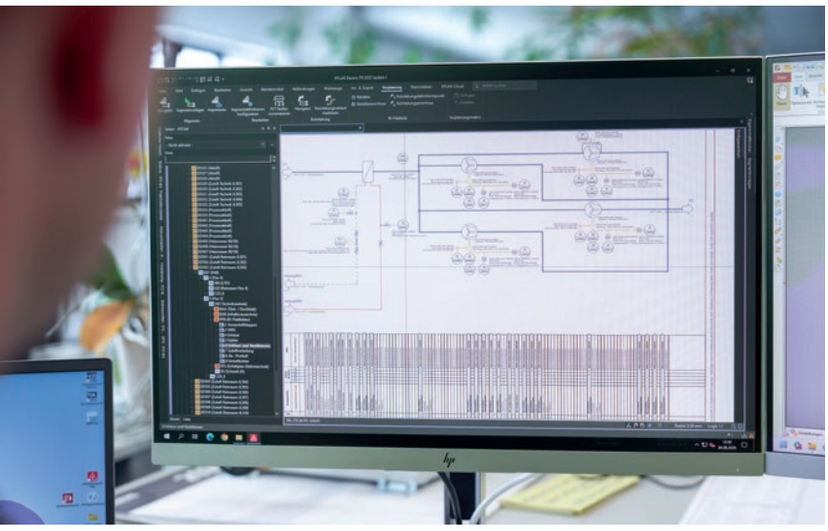


“We’ve got a standardized, up-to-date database for each enclosure, with total data continuity right through to completion.”

RICO GOLLMANN, Lead Engineer, Siemens Smart Infrastructure



Consistent data ensure a smooth-running flow of information from planning to enclosure manufacturing.



Eplan Preplanning creates a centralized data base for large-scale building automation projects.

Even before the project officially started, the team headed by Rico Gollmann, Lead Engineer at Siemens Smart Infrastructure, was looking for ways of significantly speeding up preplanning work for this major building automation project. It opted for Eplan Preplanning, which resulted in the creation of a central database on the basis of data point and function lists for everyone involved in the project. The next step is adding automation schematics, product information, and data point attributes. The Siemens Combination Technology Plant in Chemnitz (WKC) can then prepare the wiring schematics on a partly or fully automated basis.

This has a significant impact, cutting the time needed to produce the wiring schematics and define the main focal points for automation from several days to just a few hours. It also creates the basis for systematically working in parallel.

OVERCOMING COMPLEXITY AND MOVING FASTER

The project’s dimensions are impressive — the planning stage alone involves over 30,000 data points, just under 12,000 field devices, and around 50,000 planning documents. Digital preplanning made it possible to generate cable and wire-pulling ▸







Right: Eplan Pro Panel is being used to plan the enclosures.

“We see lots of potential for making building technology and building automation more efficient. The necessary technology and capabilities are available.”

UWE ZIMMERMANN,
Vice President Design Engineering, Siemens WKC

lists, initiate test processes, and even start programming work while other planning steps were still underway.

Specially developed configurators are providing additional support. By automating standard tasks, they are significantly reducing the amount of manual engineering work. Besides making processes faster, this is also improving process quality and reliability.

ONE ENCLOSURE PER DAY

Once preplanning work is complete, Siemens Smart Infrastructure hands over the data to the Siemens WKC, where the digital process chain continues seamlessly. Uniform standards for components, macros, and labeling ensure wiring plans can be produced on a largely automated basis.

At the Siemens WKC, materials management, scheduling, and production teams all access the same preplanning data. The resulting continuity enables short response times and efficient change management — a key advantage for projects taking place at the same time as construction work.

The use of Rittal enclosures is making a major contribution to speed and continuity. “Rittal provides us with a very flexible service, even in the case of special solutions,” says Uwe Zimmermann, Vice President Design Engineering at the Siemens WKC. Standard enclosures are supplied daily via the logistics center in Gera, within 24 hours. At the Siemens WKC, these are then customized on three Perforex MT machines or a Perforex LT. The machining data comes from Eplan Pro Panel and helps ensure quick, automated production.

MODEL FOR THE FUTURE

The effectiveness of this approach is particularly evident from the fact that it was possible to plan and manufacture a further 30 enclosures within the project timescale, without this disrupting the overall organization. The people involved in the project see that as more than just a successful outcome. It also demonstrates the potential of end-to-end digitalization for building automation — from faster progress, fewer errors, and enhanced flexibility to improved collaboration across companies and sites. □

More on the Eplan offering:

5 QUESTIONS FOR
UWE ZIMMERMANN
VICE PRESIDENT DESIGN ENGINEERING, SIEMENS WKC



WE FIRMLY BELIEVE ONLY DIGITAL CONTINUITY CAN ENSURE THE NECESSARY EFFECTIVENESS.

Mr. Zimmermann, the WKC has a good reputation for planning and building enclosures for the machine tool industry. Why does the kind of work involved in building automation appeal to you?
We are continuously analyzing technical trends and growth potential to ensure balanced production, and we are seeing highly dynamic developments in markets such as infrastructure technology, e-mobility, battery and chip production, data centers, and — as it happens — building automation. We can adapt our machine tool manufacturing and automotive industry experience and put it to good use here.

What are the benefits for building automation companies that get the Siemens WKC to plan their enclosures?
Siemens is already well established in the building technology sector thanks to its Smart Infrastructure Building Technology division. Our customers benefit from obtaining large numbers of enclosures in automotive quality fast, and also from professional change management and high-quality documentation. That helps both planning and implementation teams — and ultimately the building users, too.

You use a dedicated Eplan data model for planning and production. Can you also adapt this digital twin to building automation?
As in other sectors, requirements aren't always identical in industrial production, so we can adapt the data model very quickly to customers' specific needs — and that also applies to building automation. We did the relevant groundwork, such as adapting to specific standards, because we firmly believe only digital continuity ensures the necessary effectiveness. In practice, we're seeing time savings of between 15 and 20 percent for enclosure planning and production.

You handle projects in line with the industry standard Asset Administration Shell. Is that also suitable for building automation?
Yes, it is. In these projects, too, we work with function definitions that can be mapped in the Asset Administration Shell. Each device in the wiring diagram knows what it is and what it needs to do.

There is intense debate in the building technology sector about whether and how building operators continue working with planners' data models. What's your position on that?
In building automation projects, hundreds of devices are interconnected. If you map all that in one BIM model, the building operator will have all the documentation available and can develop this further and modify it. That's a big plus for end users and for the operator, too — and it's exactly what we're working toward, together with the team from Siemens Smart Infrastructure. □

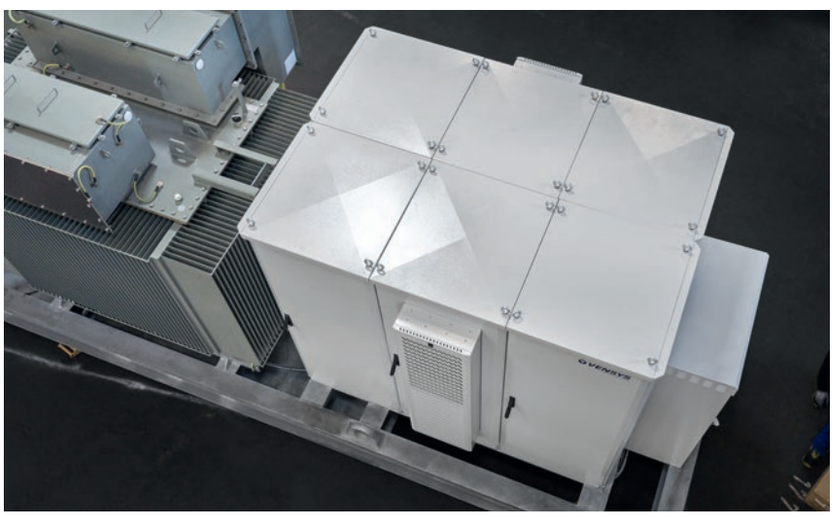
Energy infrastructure

TONS OF SPEED

Vensys Elektrotechnik is supplying preassembled grid connection units for projects in Ukraine. These units link energy storage and photovoltaic (PV) systems to the medium-voltage grid in next to no time. The solution was developed using a practical approach that will be called for wherever energy infrastructure needs to be available faster in the future.

TEXT: DANIEL GIEBEL





It all started with a vision. “We wanted to do things differently and avoid having to build a substation, for instance,” explains Christian Müller, Product Manager at Vensys Elektrotechnik. The resulting solution is now being used, among other things, for energy projects in Ukraine. After all, the growing use of battery storage systems and renewable energies is ramping up demand for generation and storage capacities, and the effort and cost involved in planning,



building, and commissioning the relevant infrastructure needs to be kept to a minimum.

Instead of locating the transformer, distribution systems, and control technology in a building constructed specifically for this purpose, Vensys is therefore increasingly opting for a fully preassembled grid connection unit. This unit — which Vensys calls "VENSKID" — combines a transformer, a low-voltage main distribution board, and an energy management system and sits on its own steel frame.

THE DIRECT ROUTE

The basic idea is as simple as it is effective. Preassembling and testing the solution at the factory means no resources are subsequently required for these tasks on the construction site, where the entire unit is simply positioned on the foundation strip, connected, and taken into operation. It goes without saying that permanent outdoor operation of the technology is a key requirement. Having carried out some market research, Vensys opted for modular outdoor enclosures from Rittal. Their twin-walled structure facilitates temperature management, which is an important factor — especially for applications that need to work reliably in everything from subzero to peak summer temperatures.



"The stronger the growth of storage systems and renewables, the more important solutions based on a series concept will become."

CHRISTIAN MÜLLER,
Product Manager,
Vensys Elektrotechnik

CONCENTRATED POWER

The solution is much more than a conventional power distribution system. It combines low-voltage power from the battery and PV inverters and routes this to a transformer, which increases the voltage to the required medium-voltage level. The scale involved is a key factor. "We're not talking about a few kilowatts here. Outputs are as high as 8 MVA," ▸

72

INVERTERS

The largest configuration of a Vensys grid connection unit can feed the combined output of 36 PV and 36 battery inverters into the medium-voltage grid.

says Müller. Depending on the design, the system processes rated currents of up to 7,300 A. The largest variant can connect a total of 72 inverters — 36 for battery storage systems and 36 for PV systems. This creates a powerful interface between decentralized energy generation and the power grid.

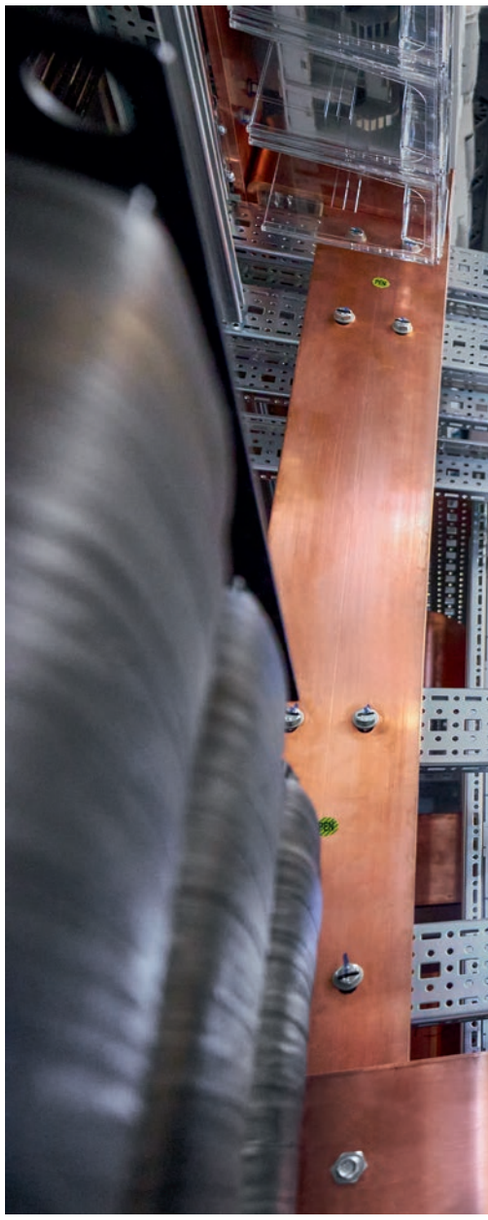
READY TO USE ON SITE

Vensys also has a clear approach when it comes to logistics. The grid connection units are designed so they can be transported on standard trucks. Even though the largest fully configured unit, including transformer, weighs up to 25 metric tons, its dimensions and weight remain within a range that enables comparatively straightforward transportation.

SCALABLE APPROACH

Vensys systematically standardizes its solutions to ensure a cost-efficient concept. The enclosure platforms, frame systems, climate control, and numerous other components are identical across a variety of output classes. The main difference relates to the electrical configurations, meaning that outputs of 3.5 to 8 MVA can be achieved with a largely standardized platform concept.

Vensys sees this standardization as a key advantage. “The stronger the growth of storage systems and renewables, the more important solutions based on a series concept will become,” Müller explains. The projects in Ukraine represent just one of many applications. Companies operating and investing in energy infrastructure in Germany and other European countries are increasingly opting for energy storage solutions. The challenge is always the same — the energy must reliably get to where it is needed, and it must reach this location as quickly as possible. □



To ensure outdoor enclosures keep working in subzero temperatures, they have a twin-walled structure and built-in heaters.



Depending on the design, the system can process rated currents of up to 7,300 A.







A well-established partnership of equals — Christian Müller (right) with Carsten Wessel, a member of the Energy & Power field sales team at Rittal.

VENSYS ELEKTROTECHNIK

Forming part of Vensys AG, which develops and produces wind turbines worldwide, Vensys Elektrotechnik focuses on power electronics. Its portfolio includes preassembled grid connection units for battery and photovoltaic systems, as well as transformer and transmission stations for medium-voltage applications.

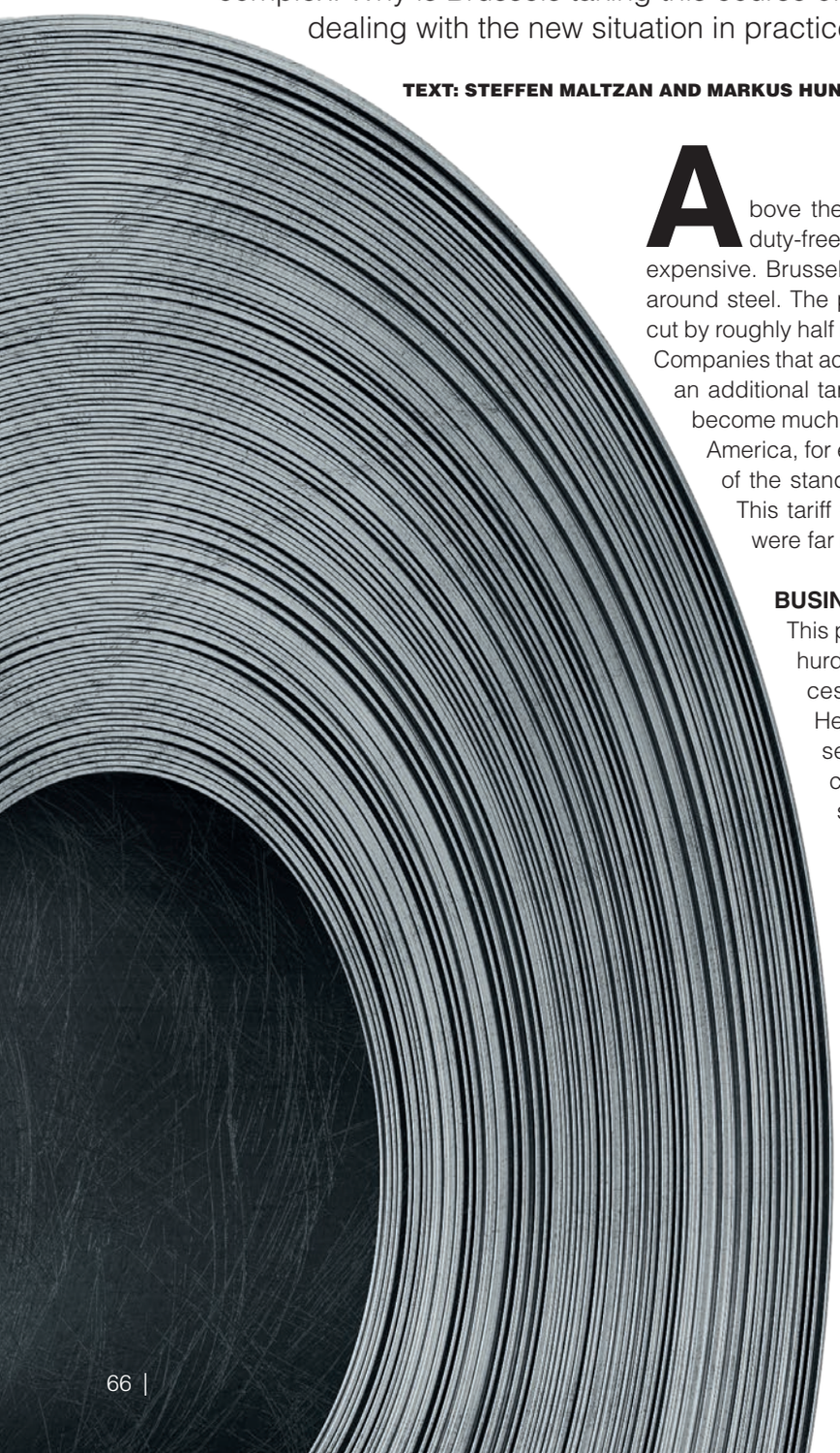
Steel and EU regulations

A PROTECTIVE SHIELD WITH SIDE EFFECTS

EXPERT KNOW-HOW
What import quotas and the CBAM mean for the steel market.

Steel is becoming a strategic issue in Europe. Since July, the EU has been protecting its market with **new import caps** and the **Carbon Border Adjustment Mechanism (CBAM)**. For the world of trade and industry, though, this is making procurement more complex. Why is Brussels taking this course of action, and how is the industry dealing with the new situation in practice?

TEXT: STEFFEN MALTZAN AND MARKUS HUNEKE



Above the annual cap of 18.345 million metric tons for duty-free imports of steel products to Europe, things get expensive. Brussels has taken this step to build a protective wall around steel. The previous duty-free steel import quota has been cut by roughly half in the EU regulation effective since July 1, 2026. Companies that act quickly enough can import steel without paying an additional tariff. Once the quota is used up, though, goods become much more expensive. For imports from Asia or South America, for example, a 50 percent tariff is then levied on top of the standard third-country duty or anti-dumping duties. This tariff was previously just 25 percent and the quotas were far more generous.

BUSINESS BECOMING MORE DIFFICULT

This protective shield for the market can also create a hurdle for European steel traders and the steel processing industry. According to Stefan Hoffmann, Head of Global Sourcing & Trading at Stahlo Stahlservice, it has made business much more difficult. The quota for category 4B — metallic coated sheets, which are in great demand in the automotive manufacturing industry — has been cut by around 65 percent, for example. “This more restrictive handling of imports didn’t come as a total surprise, though,” says Hoffmann. He reveals that the sector is being hit hard, but Stahlo was prepared. “For many years now, besides cultivating contacts with manufacturers, we’ve also been building up extensive expertise in foreign trade, port surveying via our partners, customs clearing, importing into the EU, and identifying supply routes that reliably permit large flows of goods using three different modes of transport,” Hoffmann adds. In most cases, this means the required volumes can quickly be secured for customers, or comparable solutions in Europe.

PRESSURE ON THE EU

In principle, Hoffmann understands why the EU Commission has acted as it has and protected the market. Germany's economy is faltering. The consequences of geopolitical restructuring and changing balances of power are particularly visible on the steel market. One reason for the trade policy is the falling demand for steel in Europe, combined with the fact that the EU remains an export target for global trade. How has it come to this? The automotive sector, once the driving force of German industry, is foundering. And the mechanical engineering industry, which was a world champion exporter for decades, is also stagnating. Excess capacities are growing worldwide. The amount of steel now being exported by China is roughly equivalent to the amount being manufactured throughout the EU. This is exerting pressure on prices. The situation is being exacerbated by the erratic tariff policy of the USA, which has largely closed off its own market. As a result, Europe has even fewer export options and, at the same time, is an obvious destination for redirected Asian steel. The EU has responded to this pressure.

CARBON PRICING — A SECOND PROTECTIVE WALL

Alongside the new protection regime for imported volumes that came into effect on July 1, the EU's Carbon Border Adjustment Mechanism (CBAM) has added a second level of regulation. The CBAM applies carbon pricing to imported steel to stop carbon leakage — the relocation of steel production to non-EU countries to benefit from lower climate costs. Consequently, steel trading now involves complex calculations and time-consuming reporting obligations.



"We were quick to focus on mastering the processes associated with the CBAM and the quota system."

STEFAN HOFFMANN, Head of Global Sourcing & Trading, Stahlo Stahlservice

The new regulations have sent existing market mechanisms into a spin. It's also unclear how the CBAM, which came into full effect this year, will affect prices. That's no good for planning certainty.

STAHLO HANDLING IMPORTS

What does all this mean for Stahlo and its customers? "We've kept a close eye on discussions about the regulations. We were quick to focus on mastering the processes associated with the CBAM and the quota system," says Hoffmann. As a CBAM applicant approved by the EU right from the start, Stahlo is officially authorized to import goods into the European Union from non-EU countries. This includes securing procurement channels for steel certified as being clean. "By handling the entire import process for our customers and keeping an eye on everything, we're making business as simple and stable as possible for them," Hoffmann adds reassuringly. □

EU STEEL MARKET UNDER PRESSURE

ADVERSE FACTORS

Excess capacities
Global glut of steel

Falling demand
Industry, construction, automotive

US tariffs
Steel being redirected to the EU market



EU PROTECTIVE MEASURES

CBAM
Protecting investments in zero-carbon production

Duty-free quotas
Reduced for defined countries and products

Additional tariffs
Third-country and anti-dumping duties

Supply chains in the plastics industry

A MEATY PROBLEM

No spools mean no sausages — in the longer term, at least. **LKH** produces plastic spools for metal clips that are absolutely crucial in sausage filling machines. Without these spools, production will grind to a halt, so LKH safeguards its supply chain by prioritizing intelligent material strategies and close relationships with its suppliers — and by drawing on the strength of the Friedhelm Loh Group.

TEXT: ULRIKE PETER

WILL THE MATERIAL STILL BE AVAILABLE TOMORROW?

How LKH is safeguarding its supply chain.



The plastic spools are mounted on the clip machine manufactured by Poly-clip, and the clips are fed into the machine from there.



"As experience over recent years has shown, everything hinges on supplies."

MARKUS SCHMIDT,
Director Global Commodity Management, Rittal

Just a few years ago, companies looking to purchase plastic granulate had one key question in mind — where can we get hold of the material at the best price? Now, what they want to know is whether the material will still be available tomorrow. The pandemic, geopolitical crises, and volatile raw materials markets have completely changed the rules of play. Security of supply is now the top priority — and that starts with the choice of materials and an in-depth understanding of the entire supply chain.

150 RAW MATERIALS ARE TOO MANY

In the past, LKH Kunststoffwerk Heiligenroth tended to go with whichever material the customer specified. This meant LKH sometimes had around 150 different raw materials in use. But that all changed when supply chains were severely disrupted. Now, the material experts work with customers during the tender phase to establish whether there is a material that has already been approved and meets the same technical requirements. Besides reducing the number of material variants, this approach increases the security of supply and means purchase volumes can be consolidated. What's more, sustainability aspects such as the option of recycled granulate can be factored in at this early stage when deciding which material to use.

SECOND-SOURCE STRATEGY

To increase security of supply, LKH has adopted a second-source strategy. On the face of it, that sounds straightforward — if there are two suppliers, that ought to mean guaranteed supplies. In practice, though, it often doesn't work that way. If, for example, both these suppliers buy their glass fibers or flame retardants from the same manufacturer, there's not actually any change in the level of dependency. That's why, nowadays, it's important to look beyond the direct supplier. LKH can draw on the strength of the Friedhelm Loh Group in this context. In tandem with the Rittal procurement team, upstream goods flows are analyzed and potential bottlenecks and critical production locations are identified. If robust procurement strategies are to be put in place, this transparency is a must.



"Expertise in materials is about more than just selecting the correct plastic. We also consider long-term availability, cost-efficiency, and sustainability."

STEFFEN DIEHLMANN,
Head of Sales and Supply Chain Management at LKH

Global procurement of raw materials by Rittal clearly revealed the importance of looking at the value chain in its entirety. At the time when the conflict in the Middle East was escalating, the preliminary materials being used by an aluminum supplier came from Qatar. With virtually no time to spare, a decision had to be made about whether to relocate materials or approve an alternative supplier. "If you know the supply chain inside out, right from its roots, and maintain close relationships with suppliers, you gain valuable time in situations like that," explains Markus Schmidt, Director Global Commodity Management at Rittal.

5 MILLION EUROS INVESTED

A crisis reveals how agile a company is. When raw material markets became volatile, LKH decided within a week to increase its safety stock levels. The team examined each item in turn to establish which materials it would be worth stocking up on. In the case of some materials, LKH built up stock levels that would last for up to six months. This involved renting additional warehousing space and investing over five million euros in raw materials.

The fact that LKH is part of the Friedhelm Loh Group was also key to making this possible. As a center of excellence for plastics, LKH approves materials, consolidates purchasing volumes, and organizes the pooling of plastic granulate within the Group. External customers also reap the benefits of bigger purchasing volumes, well-established relationships with suppliers, and stable supplies. Customers are generally unaware of all this — and that's exactly what resilient supply chains should mean. □



NEWS
COMMITMENT

Whether through a variety of educational initiatives or the global charity 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 all kinds of ways.



Automotive museum

New rooms for researchers and explorers

The Ewersbach visitor experience now goes beyond a museum. "Nationales Automuseum The Loh Collection" is a meeting place for car enthusiasts, a place of learning for students, and — increasingly — a destination for visitors who are staying in the region for a while. That gives Prof. Dr. Loh good reason to invest in building a hotel directly next to the museum. A further development on the integrated university campus was the introduction of an endowed professorship in automotive history in July 2026.

The Nationales Automuseum University Campus is affiliated to the Faculty of Economics and Law at Nürtingen-Geislingen University (HfWU). The lectures and certified courses relating to the automotive and mobility sector take place in unique surroundings — the learning environment for students features a collection of some 160 vehicles from over 130 years of automotive history. The new endowed professorship is further raising the profile of this place of learning. It's opening up more possibilities, such as a master's degree program, dissertation supervision, and academic integration of the museum's own archive.

The campus infrastructure is expanding further as well, with the construction of a 60-bed hotel directly next to the museum. The "Lohtel" is intended for visitors to the museum as well as people attending courses, seminars, and other events. Additional rooms for university work will create further opportunities for research and teaching. Motorhome pitches are available, too, which also makes the location an attractive option for travellers who are new to this corner of Central Hesse.

All this sends out a clear message that the region is a melting pot for education, tourism, and economic development. "I love the future. Facilitating education, helping young people on their way, and investing in the region's future are what drives me," says Prof. Dr. Loh. The endowed professorship and the hotel are opening up new horizons for Dietzhölztal, the Lahn-Dill district, and Central Hesse.

Training

Competence center for apprentices

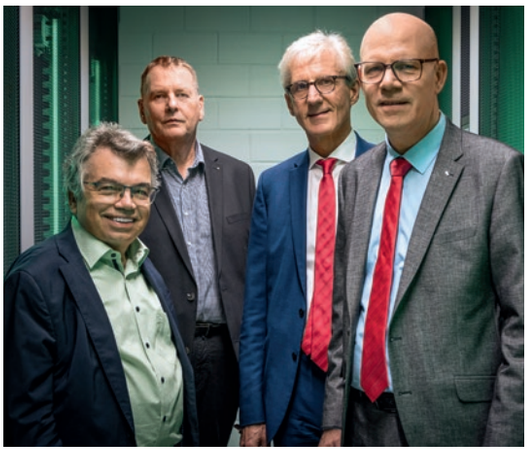
The Friedhelm Loh Group has opened a new competence center for robotics, sensor technology, and AI at its training workshop in Haiger. Apprentices showed the media representatives, members of senior management, and other guests attending the opening ceremony how 3D printing, AI cameras, and robot technology are being used in practical training. “This competence center will serve as a basis for ensuring our apprentices don’t just understand the technologies of the future, but can also actively help shape them,” says Head of Training Daniel Wirth. The aim is to closely interlink IT and production right from the training stage, with robotics, sensor technology, and artificial intelligence being systematically developed to give apprentices a thorough grounding in these future-defining disciplines.



Rittal Foundation

Server room for a university

A donation from the Rittal Foundation is helping the Central Hesse University of Applied Sciences (THM) expand its digital infrastructure. The record donation is funding a new server room with IT enclosure systems, energy-efficient cooling technology, and intelligent power management. This provides the basis for THM to create an energy-efficient IT infrastructure that will meet the growing requirements over the long term. “We see this donation as an investment in the skilled workers of tomorrow and, accordingly, in the future of our region,” emphasizes Rainer Reissner, Managing Director of the Rittal Foundation.



Rittal Foundation

Assistance for vulnerable people

Women and children who have had to flee domestic violence will find a safe haven with Verein Perlenschatz. Thanks to a donation from the Rittal Foundation, this charity can now offer even faster and more efficient assistance. “Perlenschatz is investing 7,520 euros in an insulated container that is to be used as a central storage location for event equipment, donated articles, and information material,” reveals Rainer Reissner, Managing Director of the Rittal Foundation. The donation from the foundation of the Friedhelm Loh Group sends out a clear message that we are there for people who need protection.



SchulePlus enables school students to spend up to two years gaining practical experience of their favored profession.

FINDING THE RIGHT CAREER

SchulePlus brings together young people and companies.

Career guidance and training

SchulePlus

GOING FROM STRENGTH TO STRENGTH

Companies have been feeling the effects of the skills shortage for some time now. Meanwhile, many young people are struggling to get their career off to the right start. That's exactly where the **SchulePlus** model comes in. Now an association, SchulePlus is aiming to revolutionize career guidance in Germany.

TEXT: JANNICK BANGARD

The number of apprentices who fail to finish their training has hit a record high in Germany. Almost one in three contracts are terminated prematurely — no fewer than 159,000 in 2024. That's a blow to both the young person in question and the company that has invested time and resources in a potential future skilled worker. So why not tackle the problem at its root and act earlier to offer young people the chance to discover which profession is the right fit for them?

WHY LEAVE THINGS TO CHANCE?

SchulePlus offers exactly this kind of help. What started out in Central Hesse at the Johann-Textor school in Haiger some years ago has turned into a successful career guidance model. Its special feature is that school students gain practical experience of their favored profession over a lengthy period. For up to two years, they regularly work at a company

and see what everyday working life is like at first hand.

This approach gives young people proper guidance rather than leaving things to chance. They can find out whether a particular profession actually aligns with their interests and strengths. At the same time, companies can gain a much more realistic picture of their potential future trainees. Attributes such as motivation, initiative, and being a team player are demonstrated in an everyday working environment and are no longer merely assessed on the basis of school grades or application documents. What's more, there's an actual training position associated with every SchulePlus place, so participants who impress can move on directly to the next stage.



"There's a lot of potential in combining theory and practical work experience. That's why we're big fans of SchulePlus."

PROF. DR. FRIEDHELM LOH,
Owner and CEO
of the Friedhelm Loh Group

PROFESSIONAL STRUCTURES

The success of the concept speaks for itself. Over 50 schools in Hesse have now signed up to SchulePlus, and other schools interested in participating are waiting in the wings. However, this growth also means increased requirements. Schools need to be advised, companies need to be brought on board, young people and businesses need to be paired up, and consistent quality standards need to be ensured. Stakeholders from the worlds of politics, business, and education have now established the SchulePlus e. V. association to handle all these time-consuming tasks, and to ensure the model's long-term professionalization and continued growth.

STARTING TO BEAR FRUIT

The Friedhelm Loh Group has supported the initiative since its early days. Rittal was one of the first companies to transfer the original idea from the school setting to business practice. And this is bearing fruit, with Rittal already having secured 19 apprentices through SchulePlus in recent years.



Success! *Companies, organizations, institutions, and an advisory board for the state of Hesse established the SchulePlus association on August 26, 2026.*

Contact SchulePlus

Daniel Wirth
Chair of SchulePlus e. V.
E-mail: wirth.d@loh-services.de

According to Prof. Dr. Friedhelm Loh, Owner and CEO of the Friedhelm Loh Group, everything centers around one key idea. "Young people need guidance, prospects, and the opportunity to discover their own strengths. By bringing schools and companies together in this unique way, SchulePlus provides practical experience of the working world. There's a lot of potential in combining theory and practical work experience. That's why we've been big fans of SchulePlus from the outset," he emphasizes. A key supporter of the initiative, his ambitious aim in committing himself to SchulePlus is to revolutionize career guidance in Germany by rolling out this model far beyond the region of Hesse.

The success of SchulePlus provides impressive proof that if schools and the worlds of business and politics take joint responsibility, they can achieve great things. At a time when young people are finding it trickier to choose the right profession, and when both business and society are becoming increasingly dependent on them making the right decision, SchulePlus is providing exactly what's missing — genuine experience. □

NOW ALSO FOR SENIOR CLASSES

The concept is now also being extended to senior high school academic track students with "SchulePlus Oberstufe". Weekly work experience sessions and other practical phases at companies will make it easier for young people in grades 11 through 13 to decide whether a dual vocational training or degree program or a purely academic path is the right choice for them.



Issue 01|2027:

WORTH THEIR WEIGHT

Peter Pohl Elektrotechnik has been manufacturing customized switchgear and control systems for big-name industrial companies worldwide for over 30 years — and has been working with Rittal and Eplan for an equally long time. As company founder Hans-Peter Pohl sees it, good partnerships are worth their weight in gold. Besides high-quality products and reliable deliveries, the main defining features of such partnerships are innovation, helpful advice, and technical know-how. But what specifically makes this collaboration so appealing, and how does a midsize switchgear manufacturer hold its own on the market in the face of cost pressures, the skills shortage, and ever-changing requirements? We conduct an exclusive interview with Hans-Peter Pohl to discuss this and other topics.

Find out more in the next issue of be top!

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