Issue 01|2024

be top

MAGAZINE OF THE FRIEDHELM LOH GROUP

MOVING FORWARD SIDE BY SIDE

THE ADDED VALUE OF GOOD RELATIONSHIPS

We want to explore the potential that true partnerships with customers can bring and understand what really counts in these relationships – especially now, in times of crisis and growing expectations.

THE BLINK OF AN EYE COUNTS

0.1

SECONDS

is all it takes for us to intuitively decide whether or not we like somebody. The very first instant is therefore key in any kind of relationship.

AI

has no intuition – and yet a quick scan of the human eye is sufficient for artificial intelligence to identify a variety of diseases, for example.

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

DEAR READERS,

The most important moments in our lives almost always involve relationships, encounters and personal experiences with people. A firm handshake, a considerate gesture – and that point when we look each other in the eye. These are the moments that have a lasting impact on us, the ones that really count.

We all need reliable relationships and partnerships, including in day-to-day business. After all, the economic and technological challenges of the present and future are too complex for us to handle on our own. The current crisis is showing us how vital it is to embrace reliable partnerships. Trust is a priceless asset, now more than ever – especially in times of crisis, when the going gets tough.

In this new issue of be top, we therefore explore the question of what really counts for customers right now and what kinds of potential customer relationships offer. You will find some fascinating answers in our cover story interview with our customer Alexander Bürkle, the first Rittal + Eplan Application Center Partner.

Further real-life examples in the magazine highlight the great scope of our shared opportunities – worldwide. You can find out how Coca-Cola Europacific Partners is achieving energy savings of up to 90 percent in its enclosure climate control, how a data centre operator in China is using Rittal IT racks to rapidly supply computing power, how Beckhoff is becoming a mass producer in switchgear manufacturing, how EHA is digitalising the documentation supplied with its PV systems for the REWE Group, and how Schenck Process is taking its digital order management to a whole new level.

Take a moment to think about ideas we can best implement together, as partners.

Happy reading!
Prof. Friedhelm Loh

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Our interview with Ulrich Engenhardt (left) and Thomas Basler focuses on collaborating as equal partners and the importance of values in business relationships.

COVER STORY: THE POTENTIAL OF CUSTOMER RELATIONSHIPS

Good business relationships are important but can also involve a great deal of effort. Customers are now making ever greater demands on their suppliers. In times of crisis and growing expectations, however, good relationships can also create new opportunities. Our interview with Thomas Basler, Managing Director of Alexander Bürkle panel solutions, and Ulrich Engenhardt, Chief Business Units Officer at Rittal, focuses on the potential that customer relationships can offer and what counts more than ever right now when it comes to building true partnerships.

Dr Carola Hilbrand
Director
Corporate & Brand Communications
Friedhelm Loh Group

WHAT DO YOU THINK OF BE TOP?

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

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

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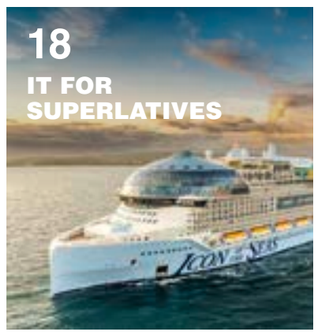

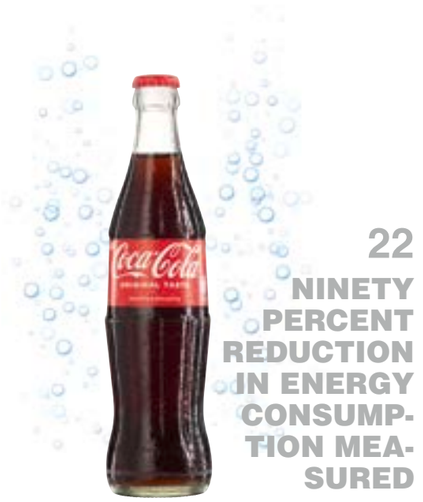

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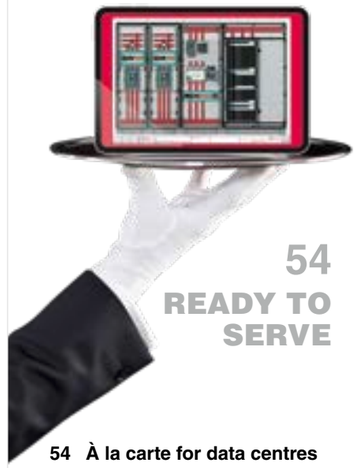

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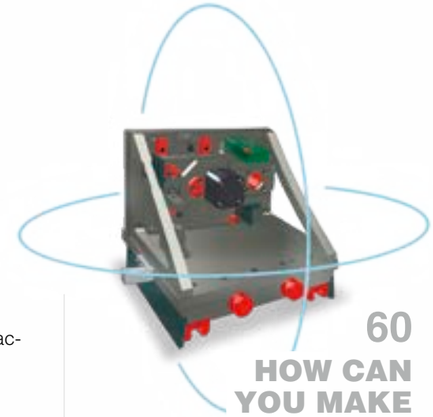

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HOW CAN YOU MAKE THINGS FASTER AND SIMPLER?

PEOPLE

Check out the digital version of be top:
https://betop.friedhelm-loh-group.com

CORPORATE NEWS

With its 12 plants and more than 95 subsidiaries, the **Friedhelm Loh Group** is a global success story. Our more than 12,000 employees work with our customers to shape the future together. You can read our latest news here.

Prof. Friedhelm Loh celebrates 50 years of service

50 years of entrepreneurial passion

Over the past 50 years, **Prof. Friedhelm Loh** has turned Rittal and the Friedhelm Loh Group into a globally successful innovation leader. At a ceremony to mark this milestone, close associates and management staff honoured his energy, passion and achievements. Besides Friedhelm Loh's wife Debora and his brother Joachim, who recounted how the company started out, long-standing supporters were also present.

STAYING FOCUSED ON THE CUSTOMER

Norbert Müller, former Managing Director of Rittal, praised Prof. Loh for his "tireless energy, driven by passion and a sense of responsibility." Ralph Lindackers, a Friedhelm Loh Group board member, presented Prof. Loh with a certificate from the Chamber of Commerce and Industry to mark his 50 years of service. Markus Asch, CEO of Rittal International and Rittal Software Systems, emphasised how Prof. Loh has shaped the business and its DNA over a period of half a century. He praised him for personifying unconditional customer focus and for always being quick to identify emerging trends, while never losing sight of the people working at the company.

Family, friends and close associates succeeded in surprising Prof. Friedhelm Loh and his wife Debora.

Award for Rittal

Top innovator once again

Rittal, the largest company in the Friedhelm Loh Group, has been named one of the 100 most innovative medium-sized companies in Germany for the third time in a row. In an independent scientific selection process based on over 100 criteria in five different categories, Rittal was recognised for being particularly innovative and prepared for the future. It is the fourth time in total that the enclosure and system specialist has received this accolade. Science correspondent Ranga Yogeshwar will be presenting the top innovators with their awards at the ninth German SME Summit in Weimar on 28 June.

Stahlo

Sheet metal service now in Gera

Stahlo, a Friedhelm Loh Group company, has established itself as a pioneer for steel with a reduced carbon footprint. The independent steel service centre is now gearing its organisation towards offering the growing market for this steel an enhanced portfolio of services. Last year, the sheet metal business previously based in Nordhausen was integrated into the more modern site in Gera and also expanded.

Lars Platzhoff – committed to "strengthening Germany as a business location"

ZVEI Global Affairs

Strengthening the economy

Lars Platzhoff, Executive Vice President BU Cooling at Rittal, was appointed the new Chairman of the ZVEI Global Affairs committee in November. This working group deals with issues such as energy supply, automation and digitalisation, and also how to handle international conflicts and trade barriers. Platzhoff's many years of experience in leading positions at companies in the electrical and digital industries stand him in good stead for this voluntary commitment with the ZVEI.

Accolade

Rittal is the "Best of German Industry"

Rittal achieved a top position in the global "German Standards – Best of German Industry" competition. The ZEIT publishing group awarded this accolade to 52 medium-sized industrial companies, also recognising entrepreneurship and its importance to Germany's economy and society in a reference work. The intention is to highlight the companies' relevance for Germany as a business location and show that rural regions in particular are often home to some of the most innovative global players that create and safeguard jobs.

Ulrich Engenhardt, Chief Business Unit Officer at Rittal, and Markus Asch, CEO Rittal International and Rittal Software Systems, with the "Best of German Industry" award.

New website

We love plastic – but it has to be sustainable

From air springs to heat pumps, the LKH team's expertise in sub-assembly manufacturing and thermoplastic injection moulding helps customers and their projects forge ahead – technologically, ecologically and efficiently. The plastic experts' combined material and process know-how now has a redesigned home on the web: **www.lkh-kunststoff.de.**

Rittal India

More cooling in Bangalore

Rittal has opened a new Integration Centre for cooling units and liquid cooling solutions in Bangalore, India. In the future, it is envisaged that the ultra-modern building will boost overall production capacity while also making it possible to respond more flexibly to the ever-growing demand for all kinds of climate control solutions. At the opening ceremony, Lars Platzhoff, Executive Vice President BU Cooling at Rittal, emphasised the centre's importance to the company: "This is already the third special plant outside Germany for our cutting-edge climate control products – a real milestone!"

Lars Platzhoff (centre) at the opening, together with Mathew Jacob (right), Vice President of Sales and Marketing at Rittal in India.

A first in the USA – the seventh Rittal Application Center opened its doors in December in Houston, Texas.

Rittal USA

Houston opens an Application Center

Rittal Application Centers (RACs) have proved their credentials as competence centres for end-to-end panel building and switchgear solutions. These are the places where existing and new customers can work with experts from Eplan, Rittal and Rittal Automation Systems to develop their projects, get to know new technologies and try them out on the spot – all in the spirit of "Join. Apply. Grow." A total of seven new RACs opened around the world in 2023, most recently in December, in the U.S. city of Houston. This year, further RACs are scheduled to open in countries including Australia, Brazil, Japan, Mexico and the UK.

Rittal in Asia

48-hour delivery now available in China

The manufacturing industry in China is currently experiencing a historic new start. The focus is on modernisation. A key driving force for further development is the use of smart production technologies. Customers are also showing a growing appreciation of intelligent logistics services. In the third largest country on the planet, these services are becoming an increasingly important factor when it comes to boosting companies' competitiveness and better meeting the needs of their customers.

In China, too, Rittal is well aware of its customers' high demands relating to logistics services. To better satisfy these requirements and become more competitive on the market, Rittal China is now offering its customers a 48-hour delivery promise.

400-KILOMETRE RADIUS

This delivery promise – which applies within a defined sales area of four hundred kilometres around the centrally located Rittal distribution centres in China's economic hubs of Shanghai, Tianjin, Huizhou, Changchun and Chengdu – guarantees that Rittal standard products will be delivered to customers within 48 hours of order confirmation (based on working days). Thanks to these shorter delivery times, Rittal China is enabling its customers to secure additional business opportunities.

In China, Rittal offers a wide range of products and services that are geared specifically to the needs of the country's manufacturing industry.

To honour its delivery promise, the company has carried out a comprehensive upgrade of its logistics system. This involved rolling out a new logistics management system, optimising transport networks, and improving the efficiency of product storage and distribution. Standardised operating processes, cost control and digital management also ensure enhanced services for customers.

FOCUS ON THE CUSTOMER

Thanks to transparent, traceable and intelligently managed supply chains, Rittal is not just boosting the efficiency and accuracy of logistics processes, but is also helping its customers to improve their own logistics and supply chain management. The 48-hour delivery promise of Rittal China impressively demonstrates the innovative strength of the global Rittal service concept with its systematic focus on the customer.

Cover story

WHAT COUNTS FOR CUSTOMERS RIGHT NOW

It always takes two to make a relationship work. What is easy and enjoyable to start with can, over time, take a lot of effort, especially in the case of business relationships. Customers are making ever greater demands on their suppliers. Expectations are growing, in particular when the going gets tough in a crisis. However, relationships also offer opportunities. To discover the true potential of customer relationships and find out what counts more than ever right now, we spoke with **Thomas Basler** (right), Managing Director of Alexander Bürkle panel solutions, and **Ulrich Engenhardt**, Chief Business Units Officer at Rittal.

TEXT: HANS-ROBERT KOCH

Let's talk about customers. What kind of customers are you interested in and what makes a good customer?
Thomas Basler: A good customer sees us not just as a supplier, but as an equal partner, and is interested in a long-term relationship. We are especially interested in customers who tell us they have an idea and require a service that extends from designing and planning all the way through to the finished product – and aren't just looking to get a single enclosure manufactured. As a plant engineering company, it's important for us to cover the entire electrical engineering value chain and get the most out of it.

Is that more wishful thinking than reality?
Thomas Basler: Our customers in the mechanical and plant engineering and building technology sectors do often still give us plans in PDF format, with a structure that isn't quite right and components that don't fit. That means we can't implement our digital-twin-based automation process in our own plant engineering systems in the way we would actually like to. In my experience, lots of companies have yet to make much progress with automation. Many of them have a long way to go before they'll be able to work out the routing, labelling and end preparation of wires from a digital twin.

Focusing on the customer has always been a determining factor in market success. However, the idea that "the customer is always right" no longer applies. What has replaced this?
Ulrich Engenhardt: Interestingly, the Rittal company principles don't say the customer is always right, but that we view our customers as partners. We operate in a highly dynamic and highly complex environment, so partnership is the right approach. Nowadays, no-one on their own can still keep a complete track of all the market and sector requirements while also maintaining an overview of all the technical possibilities. We have one perspective and our partner has another. Only if we combine the two will we succeed in achieving long-term market success – for both companies.

"NOWADAYS, NO-ONE ON THEIR OWN CAN KEEP TRACK OF ALL THE MARKET REQUIREMENTS WHILE ALSO MAINTAINING AN OVERVIEW OF ALL THE TECHNOLOGICAL POSSIBILITIES."

ULRICH ENGENHARDT, CHIEF BUSINESS UNITS OFFICER AT RITTAL

VALUE CHAIN

In panel building and switchgear manufacturing, product quality has long since stopped being the sole point of focus. It's about the process. It has to be simpler, more efficient and, most importantly, faster. This can be achieved by ingeniously combining hardware and software through digitalisation and automation. Eplan and Rittal can help companies right from the start by providing value chain consulting, engineering knowledge, system expertise and automation know-how.

AVAILABILITY

The shortage of raw materials remains a challenge. Rittal is taking systematic measures across all its sites to maintain its delivery reliability. Standard products are available within 24/48 hours in Germany/Europe.

Crisis situations also have an impact on customer relationships. How are things for our customers?
Ulrich Engenhardt: When I talk to customers, I get the impression they are very optimistic and very much looking for opportunities. The all-electric society – moving away from petrol, oil and gas towards electricity – is generating a great deal of momentum. At the same time, however, the current economic conditions – in Central Europe and also in parts of China – are definitely creating a lot of uncertainty, because it still isn't clear how well the various sectors will fare. Then there's the skills shortage, regulatory requirements relating to things such as coolants, and the emergence of protectionism. The whole situation has become very opaque for many companies. Volatility, uncertainty, complexity and ambiguity – VUCA for short – persist. Upheavals are shorter in duration but more intense, both in the global economy and closer to home. Whereas we used to operate in a relatively stable environment, a lot can now happen in a very short space of time.

Thomas Basler: Our customers and we ourselves now need to demonstrate a greater degree of flexibility. The supply chain crisis affected the availability of components, for example. Along with the skills shortage, the problem of delivery reliability remains one of the very biggest challenges, as demonstrated by the latest incident in the Suez Canal. The fact that ships are taking two weeks longer to reach their destination means specific components are once again in short supply. The problem is definitely back. Although things aren't as dramatic on the whole, the situation is certainly very difficult for certain components. However, our commercial operations at Alexander Bürkle have enabled us to compensate effectively. Our very broad-based set-up meant we maintained our delivery capability for a very long time during the crisis.

Is it true to say that relationships, too, are put to the test when the going gets tough?
Ulrich Engenhardt: In times of crisis, we see whether people keep their word. The fact that Rittal proved its delivery reliability, even at the peak of the supply crisis, built a huge amount of trust. People realised we really care about our customers. We have nowhere near recouped our huge financial outlay, nor did we want to pass this on to our customers. Generally speaking, two things happen during a crisis – customers grow cautious and make decisions on a more short-term basis, and they also ask themselves how they can improve. During a crisis, their thoughts repeatedly turn to efficiency and they are more open to potential answers, too. A crisis thus also represents a huge opportunity for companies. At such times, it's not about what an enclosure costs, but about how to better manage the value creation process.

Thomas Basler: I would say the crisis forged a stronger bond between us and our customers. We communicated a lot more and were in touch on an almost daily basis: "Take note, there's a new delivery date. What can we do? What can we use instead?" That meant we also got to see a completely different side to ▸

"IN OUR EYES, A GOOD CUSTOMER IS ONE THAT SEES US NOT JUST AS A SUPPLIER, BUT ALSO AS AN EQUAL PARTNER."

THOMAS BASLER, MANAGING DIRECTOR OF ALEXANDER BÜRKLE PANEL SOLUTIONS

“IT’S A CASE OF GIVING CUSTOMERS SOME ROOM FOR MANOEUVRE WHEN SHOWING THEM WHAT SOLUTIONS ARE AVAILABLE.”

ULRICH ENGENHARDT

our customers. Of course, there was also some friction if deliveries failed to arrive on time, the enclosure wasn’t fitted out fully and proper testing was impossible. There were faults from time to time, too. We then sought to speak with the relevant customer in person, inviting them to drop by so we could put our heads together and discuss the issue. That was our way of dealing with the problems. What started out as a complaint very often had a positive outcome.

Do customer requirements differ between the markets in Europe, Asia and the USA?
Ulrich Engenhardt: You don’t have this customer and that market. I don’t think you can make a generalised distinction between markets and regions. Even in Asia and supposedly small markets such as Vietnam, there are companies in the food and beverage sector, for example, such as Unilever and Nestlé that have global standards. Our worldwide value proposition is exactly what these companies are looking for. However, there are other customers in countries such as India with its hourly wage of just 2.50 dollars that have a different value chain to Europe. Our task in this case is to find specific, customer-centric solutions there, too.

PRODUCTS

Rather than just supplying components, Rittal combines them to create a system. “Rittal – The System.” represents a global standard for industry and IT consisting of housing and enclosure systems, power distribution and climate control technology, and IT systems. The benefit of this is that it provides one standard for all applications – quick, easy and worldwide.

What exactly do you mean when you talk about customer-centric solutions?
Ulrich Engenhardt: As I see it, such solutions involve taking a very open approach to issues and also treating customers with a certain amount of humility. Not saying we already know what the customer needs, but really listening and then asking in the form of a nuanced value proposition what the next step for them might be. Not everyone can immediately achieve maximum production efficiency for every machine. You then need to listen very carefully, but also identify the next step that could improve efficiency. So it’s a case of giving customers some room for manoeuvre when showing them what solutions are available. Many of them are now very grateful for this partnership-based approach, because no-one has all the answers.

What are the mistakes to be avoided in customer relationships?
Thomas Basler: The most important thing is not to ask too much of customers. When we started the Eplan Data Standard (EDS) with Eplan, we wanted to sell the data to our customers, but some of them really didn’t want that. It was too much for them. We can’t tell electrical design engineers they need to start by recreating their entire database from scratch. That’s not on. It was a lesson we had to learn.

DATA PORTAL

The Eplan Data Portal gives design engineers direct online access to high-quality product catalogues from an ever-growing selection of well-known component manufacturers. It currently holds over 1,660,000 data sets for components from 482 manufacturers. This has the benefit of reducing project planning work while also improving planning quality.

And what do you now do better?
Thomas Basler: We show them how things work – in practice – here at our new Alexander Bürkle panel solutions plant in Malterdingen. When customers pay us a visit, we go through the entire value creation process with them step by step. We start with engineering using Eplan and then move on to production. Customers see how we take data from a digital twin and then use it with automation technology from Rittal to cut cable ducts to size, machine mounting plates and housings, process wires and then install these wires in the Rittal enclosure with the help of Eplan Smart Wiring software. When customers see this in practice at first hand, they say they want to work in exactly the same way.

And what is the right solution for customers?
Ulrich Engenhardt: Our customers always decide that for themselves. We can offer them software, hardware, accessories, etc., but they ultimately determine ▸

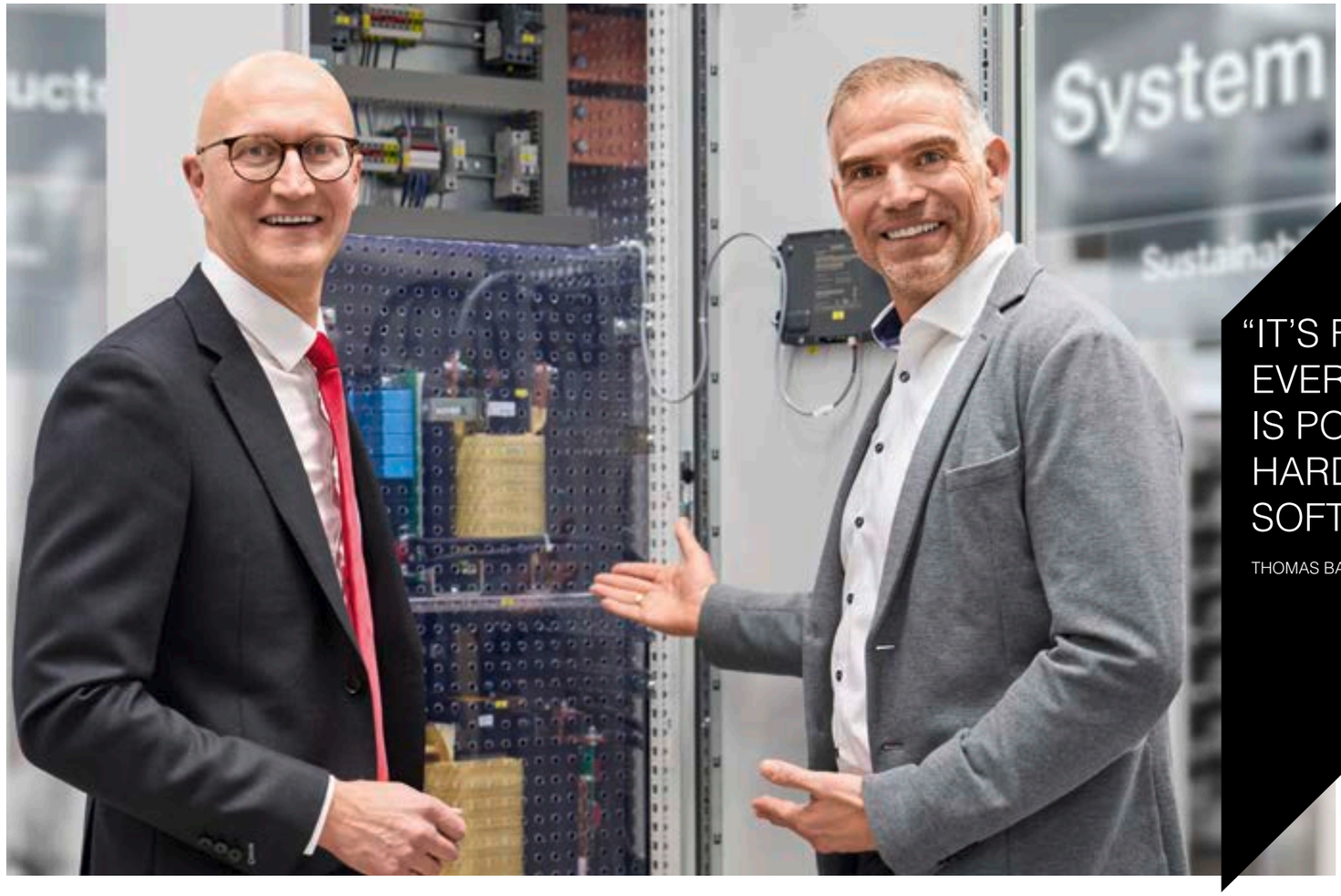
what fits in with their particular application. The combination of software and accessories could be just what some customers are looking for, whereas the priority for others could be 24/48-hour availability or using our globally standardised system to obtain a full range of panel building options. Customers specify what they need from their own perspective and, by working with us, they also gain an outside perspective. We know the sector and everything that is possible.

Alexander Bürkle has been a Rittal + Eplan Application Center Partner since 2023. What makes this partnership so appealing?

Thomas Basler: The added value created by the combination of hardware and software. It really is fun seeing everything that is possible in terms of applications. With Eplan and Rittal, we can automate our processes and make them much simpler. Rittal has the actual system. There's nothing quite like it that enables us to mechanically map out even complex structures. With the modular system, everything fits together perfectly. And with the Eplan eBuild software, we can automate the generation of wiring plans, which reduces the engineering time by up to 60 percent. We're currently using the Eplan Engineering Center (EEC) to create a meter box configurator. Pro Panel enables us to derive the data for production from the engineering stage. The secret to our success is that we push the Eplan solutions to the very limits of what is feasible, get the most out of the software and then create the transition to production, where we get the best out of the solution with the help of the Rittal system. □

SERVICE

Sustainability and energy efficiency are amongst the greatest challenges we face. That makes it all the more important for companies to continuously modernise and maintain their production equipment to keep it in optimum condition. The qualified service engineers in the Rittal Service team help with this.



"IT'S FUN SEEING EVERYTHING THAT IS POSSIBLE WITH HARDWARE AND SOFTWARE."

THOMAS BASLER

CUSTOMER RELATIONSHIPS
WHAT MATTERS TO YOU?

While carrying out research for this article, we asked a number of companies what they currently see as being particularly important when it comes to customer relationships. We'd now like to ask you the same question. Tell us what you think matters right now when working with customers, ideally by sending an e-mail to: **betop@friedhelm-loh-group.com**

"The most important thing in customer relationships is continuously offering your customers added value. Just maintaining the status quo doesn't cut it. Given the rapid pace of global innovation, current offerings need to be constantly improved and new ones developed. That requires us to work closely with customers to understand their challenges."

BRENDEN FRITZ,
PRESIDENT AUTOMATED DRIVE SYSTEMS, USA

"As a company that is highly committed to sustainability, we also believe in long-term commitments in our customer relationships, with a high level of mutual trust. Establishing and cultivating this trust calls for transparency, honesty and consistency in our actions."

DR FIETE DUBBERKE, MANAGING DIRECTOR OF WESTFALENWIND IT GMBH & CO. KG

AROUND THE WORLD

On the water, on land and in the air – Friedhelm Loh Group solutions are in use wherever having a reliable IT infrastructure, a secure energy supply or weather-resistant enclosures is a must.

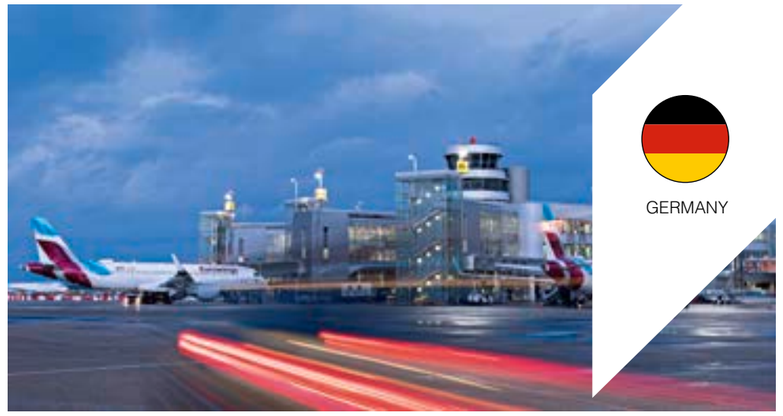
FINLAND

IT FOR SUPERLATIVES

January saw the launch of what is currently the world's largest cruise ship. The **Icon Of The Seas** from U.S. shipping company **Royal Caribbean** has every superlative you could imagine. It offers holidaymakers the largest water park on the seas, with a choice of seven pools and the opportunity to take a dip in the biggest ever swimming pool on board a cruise ship. To ensure the nearly 8,000 passengers don't miss out on digital offerings on their tablets, smartphones, etc. while they make use of all the ship's attractions, two data centres and around 40 IT distribution bases have been installed on board. These facilities are home to numerous **IT racks** and water-based server cooling systems **(LCP) from Rittal**. "Reliable IT that works perfectly is incredibly important, especially for the passengers and their travel experience. After all, everything runs on this infrastructure – from Wi-Fi to the booking systems, which must operate without any glitches at all times," says Karsten Wehlauer, Key Account Manager Maritime at Rittal. **Meyer Turku** in Finland took care of the project management and construction work for this giant cruise ship. The company's global collaboration with Rittal and experience from successful IT projects in Germany proved beneficial. "This is currently the biggest project Rittal has on the water," emphasises Wehlauer, who helped his Rittal colleagues in Finland set up the IT infrastructure on board the Icon Of The Seas.

OUTDOOR ENCLOSURES FOR EMERGENCY POWER

At **Düsseldorf Airport,** up to 50 fixed emergency standby systems ensure the power is back on again in just a few seconds in the event of an outage. The installation of **outdoor enclosures** with Rittal technology for connecting mobile emergency generators ensures these systems operate reliably, even during maintenance work. "Previously, we often had to drag power cables over long distances to reach the low-voltage main distribution board," explains Benedikt Sauer, who is responsible for the high-voltage technology at Düsseldorf Airport. **Henkelhausen** was the company commissioned to develop the concept, design and configuration of the new enclosures from the **Rittal CS TopTec series.** The enclosures were installed at the key runway stations and are "ready for take-off" whatever the weather.



GERMANY

SPAIN

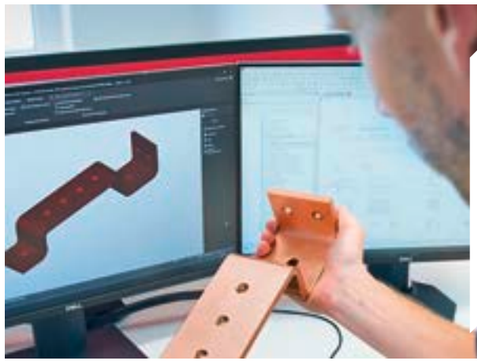
DATA CENTRE READY IN JUST SIX MONTHS

The **Institut Cartogràfic i Geològic de Catalunya (ICGC)** specialises in cartography, geodesy, geophysics and geology. It commissioned the strategic Rittal partner **Abast** to build a new data centre for the secure processing and storage of sensitive data. The biggest challenge was that the new data centre had to be built next to the old one, in a confined space in a listed building, and with the IT infrastructure still running. The key criteria included security, availability and energy efficiency. The new data centre was completed in just six months. A **Rittal Basic Protection room** accommodating **22 IT racks** ensures maximum physical security. These racks were arranged in a cold aisle. The data centre climate is controlled by **12 Rittal LCP DX precision climate control units,** while Rittal **RiZone** takes care of monitoring.

RACKS FOR TIER 3

Rittal has completed not one but two major IT projects in China. The **Yueke Data Centre** in Ezhou City, which is run by the Yueke Data Company, uses Rittal solutions such as **IT racks.** Hot aisle containment ensures the high energy efficiency of these racks. A further project that Rittal China carried out with the distributor **Tingfeng** is a data centre project for a Chinese automotive company. Before deciding to fit out their data centre with **Rittal IT racks**, the people in charge were able to study a demo rack and were suitably impressed by the quality of the Rittal solutions.

CHINA



AUSTRIA

BENDING MADE SIMPLE

Pichlerwerke in Austria uses **Eplan** as well as punching and bending machines from **Rittal Automation Systems** to manufacture copper busbars for enclosures in a semi-automated process. The partners have developed a common data interface for a seamless connection between software and machine.

The electrical engineering company has been using Eplan software in its electrical design engineering for a number of years now. The **Eplan Pro Panel Copper** add-on also makes it possible to depict bent copper parts in 3D. What's more, Pichlerwerke uses machines from Rittal Automation Systems to machine the copper busbars. The Eplan data serves as a basis for tasks such as defining the correct dimensions of the punched holes and bends.

Eplan and Rittal Automation Systems have now jointly developed an **interface for seamless data transfer** between the design engineering software and production machinery. Copper busbars that used to be machined manually can now be produced in a semi-automated operation, which streamlines the production process and boosts efficiency.

BULGARIA

NEW POWER FOR A SUBSTATION

During the retrofit of its substation 2, **KCM 2000 Holding JSC**, a group of Bulgarian companies in the mining and metal sector, had to modernise its entire low-voltage main distribution board (LVDB). Eight air-cooled compressors with a total installed output of 2 megawatts were to replace five water-cooled piston compressors with a total installed output of 3 megawatts. **Eltera M**, the system integrator commissioned to carry out the work, used the Rittal **VX Ri4Power** solution for the LVDB.

One particular challenge was that the cabling had to be identical so that the solution could be connected using the existing lines. Furthermore, it was necessary to achieve higher rated currents in a smaller space. The VX Ri4Power system ensures this thanks to an optimised arrangement of the main busbar. This system is also certified to IEC 61439-1 for the manufacture of safe low-voltage switchgear.

EFFICIENT COOLING UNITS
A cost-saving approach to meeting climate goals

While the bottles rattle by, the Rittal Blue e+ cooling units reliably do their job – despite the significant seasonal temperature fluctuations that can occur in the bottling plant.

REFRESHMENT FOR ENERGY MANAGERS!

With rising electricity prices, ever-hotter summers and ambitious sustainability goals putting energy managers under pressure, they are always looking for ways to boost energy efficiency. The example of **Coca-Cola Europacific Partners** demonstrates the impact a blanket replacement of cooling units throughout Germany can have. We offer some insights into this mammoth project.

TEXT: ALEXANDRA LACHNER AND HANS ROBERT KOCH

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PERCENT REDUCTION IN ELECTRICITY CONSUMPTION MEASURED

The slogan “This is forward” is central to the sustainability agenda of Coca-Cola Europacific Partners (CCEP) – the largest independent bottler of the Coca-Cola Company’s soft drinks. The agenda’s goals are ambitious. By 2030, the beverage producer is looking to achieve a 30 percent reduction in greenhouse gas emissions compared with 2019 – at its Genshagen plant and 13 other sites in Germany. By 2040, it is aiming to achieve climate neutrality. The focus is on packaging and raw materials. “For example, we are continuing to ramp up our business with reusable containers and want our airbag packaging to be made from 100 percent recycled PET. Production accounts for 9 percent of CO_2 emissions, and we are looking for optimisation potential in this area, too,” explains Quality and Food Safety Manager Florian Happe, who was also responsible for energy management at CCEP until 2021.

COMPARATIVE MEASUREMENT OVER A 12-MONTH PERIOD

Certifying the plants as CO_2-neutral step by step involves examining every detail and looking for potential ways to make further energy savings. One impressive strategy identified at the plant in Genshagen, near Berlin, was replacing old cooling units with Blue e+ cooling units from Rittal, which offer significant energy-saving potential thanks to their hybrid technology. The budget was soon approved and the units were replaced. That was not enough to obtain certification, though. “The savings Rittal predicted sounded good, but we had to provide proof in order to obtain ISO 50001 certification,” recalls Mario Drescher, Environmental and Energy Coordinator at CCEP in Genshagen. “I therefore carried out a comparative measurement between an old unit and a new Rittal model over a 12-month period. If I hadn’t taken the measurements myself, I wouldn’t ▸

“We’re constantly looking for potential to make savings and found what we were looking for in the Rittal Blue e+ cooling units.”

FLORIAN HAPPE, QUALITY AND FOOD SAFETY MANAGER, CCEP

Norbert Borchert from the Rittal Aftermarket Field Sales team checking the cooling systems in Lüneburg.

have believed it. The energy requirements were 90 percent lower,” he reveals.

The cooling solutions’ energy efficiency is a big plus for CCEP, but not the only benefit. The beverage producer also requires maximum system availability to ensure on-time deliveries and thus satisfied customers. “Our lines need to keep running, even during increasingly hot summers. Anything that helps reliably prevent downtime is good, and that includes perfect cooling of the enclosures to ensure the technology doesn’t overheat,” continues Drescher.

BLANKET REPLACEMENT – BUT HOW?

Following the successful replacement of the units in Genshagen, CCEP was very interested in working with Rittal to extend the roll-out to its remaining 13 plants. Once a trial at the CCEP plant in Lüneburg had confirmed the extent of the savings, there was nothing standing in the way of the follow-up project. But how do you actually accomplish a blanket switchover of this kind? Norbert Borchert from the Aftermarket Field Sales team at Rittal explains. “In such cases, we analyse the current situation on site. On this basis, we then calculate potential savings and propose tailored solutions geared to the requirements. After all, a 1:1 replacement of units often also means a 1:1 reproduction of errors,” he says. Borchert is well aware that, in many cases, the technology inside the enclosure will have changed since the original cooling units were installed, so the dimensioning will no longer be appropriate. CCEP needed a higher cooling output than before in some places, but requirements were actually lower in some instances.

INNOVATIVE RITTAL BLUE E+ TECHNOLOGY

The globally unique hybrid technology of Blue e+ achieves average energy savings of 75 percent compared with conventional climate control systems. That results in a much smaller carbon footprint and makes an important contribution to achieving climate neutrality. What’s more, a longer service life for installed components, global usability and digital service offerings ensure sustainability at every level. Rittal launched Blue e+ in 2015 and the system has since won numerous awards.

“JUST AS I IMAGINED”

The large-scale project started in 2023, and one plant after the other was equipped with the new cooling solutions. “The preparations by Rittal were excellent. All the plants were analysed in advance to create a basis for implementation,” reports Dieter Lennackers, Asset Care Manager at CCEP. Some coordination was required during the initial stages of implementation to avoid having to carry out time-consuming safety briefings for service engineers at every plant (about cutting work on the enclosures, for example). “Rittal established a core team for the project, with designated service staff who were trained on a one-off basis. Since then, things have run just as I imagined,” says Lennackers.

DISCOVER OUR REPLACEMENT SERVICE!

Companies often put off replacing cooling units to avoid additional work during everyday operations – although if you choose the right partner, there is little that could go more smoothly. Rittal has already carried out projects such as the switchover at the plants of CCEP and larger-scale projects for numerous companies. Interested? Simply contact your local field sales service and we’ll do the rest.

Contact:
servicesales@rittal.de

SUCCESS RESONATING ALL OVER EUROPE

Word of the successful mammoth project spread, attracting attention all over Europe. “Rittal has since been listed as a preferred supplier, and our data provides an example of best practice. The switchover has also been completed in Portugal, and other European countries are currently looking into the requirements,” says Happe.

In this way, cooling units are continuing to ensure close collaboration between Rittal and Coca-Cola Europacific Partners. That includes Germany, too, as Lennackers confirms. “One project leads to another. We’re currently looking into the impact of replacing smaller cooling units or networking our units. In any case, a visit to Rittal showed me there are still a number of things we could do,” he concludes. □

Rittal and Beckhoff

SUDDENLY A MASS PRODUCER

Can a switchgear manufacturer suddenly become a mass producer and handle large-scale production involving thousands of enclosures? It is unusual in a sector where small series and one-off systems are the norm. **Beckhoff Automation** is an exception, though. The automation and control technology specialist understands how to leverage the **benefits of standardisation.**

TEXT: DR JÖRG LANTZSCH

ENCLOSURE CONSTRUCTION IS THE NUCLEUS

One of the world's leading specialists in automation and control technology, Beckhoff Automation GmbH & Co. KG has been using PC-based control technology as a foundation for producing innovative automation systems since 1980. What few people know, though, is that the original nucleus of the owner-managed family business with around 6,000 employees is its System Engineering department. A production area of 10,000 m² is devoted to this department alone, and Beckhoff currently has 350 staff working there, 150 of them engineers.

Beckhoff uses both KX enclosures (above) and AX compact enclosures from Rittal for the series production of its systems.

A company with more than 40 years of experience in switchgear manufacturing can still be surprised from time to time. "Series production involving three-figure volumes each week was not an everyday occurrence back when this project was initiated six years ago," recalls Maik Gretenkord from the Beckhoff System Engineering team, who is responsible for the project. The customer enquiry related to the manufacture of controllers for thousands of inspection machines that were to be used for quality control in a consumer electronics production operation.

CONCEPT WITH A STANDARD BOX

Before the project started, the specialists at Beckhoff suggested an ingenious approach to its customer – using just one type of "generic" control box to house the controls of the more than 20 different types of inspection machines, which are also built by different system integrators. The idea behind this was to use a standardised design to make series production simpler. At the heart of the control box is a Beckhoff controller with appropriate bus terminals. This is accompanied by a power pack, a number of electrical engineering components and a large number of plug-in connectors that can be used to connect all the different kinds of machines. The program on the Beckhoff controller is then the only thing that needs to be changed in each case to adapt to the various types of machine.

"The need to make the challenging series production of the control box as efficient as possible placed high demands on the suppliers involved," explains Gretenkord. ▸

Series production involving three-figure volumes each week was not an everyday occurrence for Beckhoff back when the project was initiated six years ago. That has now changed.

Standardised interfaces simplify the global integration of the generic control box.

“We had to ensure our suppliers would be able to reliably deliver the necessary components in sufficient volumes,” he adds. In the case of the Beckhoff controllers and terminals, the company was able to prioritise its in-house deliveries. For the components obtained from external suppliers, absolute delivery reliability was vital. When it came to the enclosure technology, Beckhoff opted for Rittal – and for the benefits of the KX enclosure.

ALREADY MACHINED AND ASSEMBLED

For efficiency reasons, enclosure machining work – such as drilling holes for the connection technology – was outsourced to the enclosure supplier Rittal from the outset. In large-scale production, there is no time for subsequent machining. The switchgear manufacturer therefore relied on the ability of Rittal as a strong partner to deliver the enclosures already machined and assembled. The compact enclosures thus arrive at Beckhoff with numerous holes already drilled in their side panels. “It was an exciting time when we started series production,” says Gretenkord. “My colleagues and I moved our desks into the production building so that we would always have everything under control and be able to take decisions quickly,” he adds. Each and every production step was optimised – from fitting the components on the mounting plate and wiring them up through to installing the configured mounting plate in the enclosure. What’s more, various options were examined in each case. “We also considered cellular manufacturing, for instance, where all steps take place at a single location. That proved not to be feasible, though, because production immediately grinds to a halt if a part isn’t available on time,” explains Gretenkord by way of example.

The optimisation focused not only on internal workflows, but also on the components used. For example, it became apparent that the location of the earthing bolt in the KX enclosures was difficult to access once the components were installed. “Rittal was able to relocate the earthing bolts in the enclosure,” reveals Gretenkord, who is impressed by this cooperative collaboration and also emphasises just how much Beckhoff trusts its supplier. “Everything had to be done very quickly. We tested the prototypes with the relocated earthing bolts and simultaneously placed the production orders with Rittal,” he explains.

OVER 24,000 ENCLOSURES

Over the course of the project that started a few years ago, Beckhoff has now produced and delivered over 24,000 of its control boxes – especially impressive when you consider this is done on a seasonal basis, with just a few weeks of production at a time. A total of over 30 different inspection machines have been able to use the controller – clear proof of how good the original concept is. The supplier’s ability to deliver is extremely important when it comes to meeting the tight schedules. After all, Rittal has had to reliably provide several hundred enclosures each week. “The flexibility of the collaboration with Rittal – together with the other key suppliers in the project – has been outstanding. Project-specific adaptations of the enclosure would otherwise have been impossible. We have learned a great deal from this experience and can now carry out our larger projects even more reliably and efficiently. This has resulted in a high level of innovation in our entire enclosure construction operation,” sums up Gretenkord. □

Maik Gretenkord (left) has pulled many an all-nighter with his colleague Matthias Diederich (right) and his team to set up the processes for series production of the control box properly.

“The flexibility of the collaboration with Rittal has been paramount. Specific adaptations of the enclosure would otherwise have been impossible.”

MAIK GRETENKORD, PROJECT MANAGER

WHAT IF SPACE GETS TIGHT IN THE ENCLOSURE?

The Beckhoff control box with the KX enclosure was designed in such a way that all the components fit on the mounting plate. When insufficient space is available, however, the question that often arises is what is the ideal way of accommodating additional components in the enclosure? In other projects with the AX enclosure, Beckhoff relies on the benefits of the interior installation rail. This rail can be fitted to side and roof surfaces without machining the enclosure. It is very easy to fix in place using a screw, and it clamps itself inside the enclosure to ensure a stable and secure hold.

“Thanks to the interior installation rail, we can install more electrical engineering components in the AX compact enclosure – faster and with excellent stability – away from the mounting plate,” says Maik Gretenkord.

OFFSHORE WIND TURBINES

Rittal enclosure technology for any weather

Enclosures – fighting fit for the energy transition

BRING ON THE STORMS AND HEAVY SEAS!

Laboratory-tested quality – Sebastian Otten checks whether enclosures are suitable for use in extreme offshore conditions at the accredited Rittal QA laboratory in Herborn. Here he is carrying out a test in the chemical-physical testing room, where a colour measurement is being performed on an enclosure surface.

Offshore wind turbines are exposed to extreme conditions on the high seas and must reliably brave the elements for 25 years and more. This is no easy feat for the technology inside – or for system suppliers such as **Rittal**. The company supplies appropriate **enclosure technology** for today's largest and most powerful wind turbines – and for many other renewable energy applications.

TEXT: HANS ROBERT KOCH AND DANIEL GIEBEL

The dimensions of offshore wind turbines are impressive. They can be as tall as the Eiffel Tower, with each individual rotor blade the length of a football pitch. However, being operated in the open sea places huge demands on these mega-turbines. The environmental conditions – waves, temperature fluctuations, sunlight, salty air and constant wind with the potential to develop into violent storms – pose many problems.

To withstand the salty sea air, for instance, the turbines require strong corrosion protection. Although the amount of salty air that gets into the turbines is minimised by overpressure systems, the salt is everywhere, getting into every nook and cranny and attacking metallic surfaces. Cost efficiency needs to be considered, too. Maintenance work on offshore turbines costs around ten times more than equivalent work on land. And if a fault occurs, short response times are vital to minimise the high losses caused by downtimes.

FIT FOR 25 YEARS AND MORE

Wind turbine suppliers offer a service that can extend over a period of 25 years and more. The enclosures used are therefore also expected to be durable, because they are not very easy to replace out at sea during servicing. This expectation ultimately serves as a basis for all enclosure specifications.

As part of its work with a leading wind turbine manufacturer, Rittal has drawn up a 70-page manual defining the global specifications for enclosures with C4-H corrosion protection. This manufacturer can thus show its customers what high-quality products are installed in the turbine – from enclosures and housings to accessories. "It's a kind of joint technical certification for the end customers – we're certifying the optimum protection of their products in this application," says Raphael Görner, Executive Vice President BU Power & Energy Solutions at Rittal.

TRANSPARENCY AND A GLOBAL PRESENCE

For wind turbine manufacturers, a project of this kind is only successful if the supply chain is tailored to their particular needs. Transparency and being able to trust suppliers play a big role, and the global presence of Rittal is beneficial in this context. Flexibility is another must. If any changes to products are required or if defects occur, these must be dealt with rapidly.

Rittal understands the significance of stable processes and robust action plans in day-to-day international business. Sudden changes to ▸

Reliability in the hub and nacelle: To protect the sensitive control technology in wind turbine hubs, Rittal offers highly robust compact enclosures for pitch applications. Meanwhile, VX25 enclosure systems, including cooling technology, are used to safely house frequency inverters and control and safety components in the nacelle and also in the tower.

TESTED QUALITY DOWN TO THE SMALLEST NUTS AND BOLTS

From the hub and nacelle to the tower – to ensure only components that meet the requirements of the C3-H and C4-H corrosion protection classes are installed in today's offshore wind turbines, Rittal has defined all the specifications down to the very last detail. These extremely detailed specifications not only cover enclosures based on the VX25 for use in turbines, but also compact enclosures, terminal boxes and every accessory – from the punched sections to seals, hinges and fasteners.

enclosures – such as new drilled holes or cut-outs on the mounting plate – often have to be adopted straight away for the next orders. It may sound simple, but it is a complex undertaking when it comes to day-to-day operations. Everything has to be done very quickly – delays are not an option and everyone involved worldwide must be informed immediately. "It is therefore vital to be 'Best in Class' – not only in terms of quality, but also when it comes to global implementation and support," explains Görner.

PROTECTION FOR ALMOST ANY SCENARIO

Increased corrosion protection requirements are not unique to offshore applications, though. The energy transition as a whole is creating an ever-growing number of applications that require outdoor systems, such as photovoltaic installations, charging infrastructure for electromobility and energy distribution stations. This also means tougher corrosion protection requirements for housings and enclosures. In this connection, plant engineering companies frequently have questions regarding DIN 12944 corrosion protection classes C1 to C5 (see interview). "The surface coating of the various Rittal enclosures offers reliable corrosion protection for almost any application, and protection up to C4-H will soon be available for the AX and VX in standard dimensions," confirms Görner. □

C1-C5?

WHAT DO THESE CORROSION PROTECTION CLASSES MEAN?

RAPHAEL GÖRNER,
EXECUTIVE VICE PRESIDENT
BU POWER & ENERGY
SOLUTIONS AT RITTAL

Mr. Görner, what exactly do DIN 12944 protection classes C1 to C5 signify?

Raphael Görner: DIN 12944 deals solely with the corrosion protection of steel structures. This standard makes no reference to enclosures. It just relates to steel products with a relatively high material thickness. The standard doesn't cover topics such as coating or materials such as aluminium or stainless steel either – just the corrosion protection of components used for applications such as fire escapes, photovoltaic installations, etc.

Why is the standard nonetheless applied to enclosures?

This happens when plant engineering companies install the enclosures close to such steel structures and only know the corrosion protection requirements for these steel structures. In more than a few cases, when there isn't any information stating otherwise, the DIN 12944 corrosion protection requirements are extended to the enclosures.

What is the difference between the protection classes?

In terms of how the protection classes apply to enclosures, we can only refer to the salt spray mist test – from protection class C3-L, at 120 hours, through to protection class C5-H, at 1,440 hours.

What do the protection classes signify in terms of enclosure requirements?

Even though the standard does not apply to enclosures, Rittal can indicate what level of corrosion protection surfaces and materials offer, meaning our customers can compare this with their requirements. For example, the standard coating of our sheet steel enclosures passes a 120-hour salt spray mist test corresponding to class C3-L, while zinc-magnesium enclosures successfully complete 720-hour tests corresponding to C4-H and C5-M. In the future, various standard dimensions of the AX compact enclosures and the VX enclosures will have a surface coating that meets the requirements for protection class C4-H to DIN EN ISO 12944. □

ePOCKET
How digital system documentation makes maintenance easier.

Rittal ePocket

ROOFTOPS GO DIGITAL

When photovoltaic systems are going to be installed on a large scale on building roofs, speed isn't the only thing that counts. Anyone planning an installation of this kind must also consider maintenance, and that represents an opportunity for plant engineering companies. They can now support their customers – the operators – when it comes to servicing and offer them added value with **Rittal ePocket**, the digital wiring plan pocket. **Suatec** is a prime example of such a company. Along with AX enclosures, it is also using this digital system documentation solution for a project with **energy experts EHA.**

TEXT: RALF STECK

It's a familiar experience for any maintenance engineer – opening up an outdoor enclosure and finding a bundle of grimy, warped papers or folders hanging from the door. This is hardly surprising given that maintenance work all too often has to be carried out in bad weather. The ePocket electronic wiring plan pocket from Rittal offers a solution that is not just weatherproof, but also digital and easy to keep up to date. What's more, ePocket data can also be accessed online. This means service engineers can prepare in a warm, dry office and plan their work perfectly in advance, without having to climb onto the roof.

INTO THE CLOUD WITH A QR CODE

The digital wiring plan pocket consists of a QR code located on the enclosure's rating plate and a corresponding storage location in the Eplan cloud. When service engineers scan the QR code with their smartphone or tablet, ePocket takes them to the system documentation, including wiring plans, data sheets and other information in digital format. They can also open ePocket and download the files onto their phone or tablet before they even leave their office, meaning they aren't reliant on having Internet access on site.

"EHA has a futureproof digital documentation system thanks to Rittal ePocket."

CHRISTOPHER KÜHL, HEAD OF ELECTRICAL ENGINEERING DESIGN AT SUATEC

ePOCKET INCLUDED

Suatec GmbH in northern Germany included this digital solution based on ePocket in its quotation for EHA, the REWE Group's central energy service provider. EHA was looking for a supplier that could deliver large quantities of standardised enclosures for photovoltaic installations on the REWE Group's supermarket roofs.

"We supplied a design and the prototype for an enclosure that can be installed directly on the roof. The Rittal AX plastic enclosure model we used helped ensure the solution's high quality was clear even from the prototype," recalls Christopher Kühl, Head of Electrical Engineering Design at Suatec. EHA was impressed and ordered an initial series of 50 enclosures in 2023. A further 180 enclosures are on order for 2024.

MORE THAN JUST AN ENCLOSURE

Once the digital wiring plan pocket has been activated, the relevant enclosure data sheet is automatically uploaded to ePocket. Suatec then adds the documents for all the other components. "Thanks to the digital wiring plan pocket, we always have up-to-date documentation for every system," explains Kühl.

Besides the actual enclosures, some of the components inside also come from Rittal. In addition to the power distributors and isolators fitted on the RiLine 60 busbar systems, these include heaters and fans that ensure good climate control in the enclosure – in summer and winter alike. The way the enclosures are designed means they can be used for photovoltaic installations of various sizes.

ADDED VALUE RECOGNISED

The people in charge at EHA responded very positively to the digital add-on solution. "As energy experts, we benefit from the digital documentation in Rittal ePocket, which is stored in the cloud so it is easy to update and protected from the weather," says Bennet Robeck from the Technical Management Photovoltaics team at EHA.

"Using ePocket, we can take digitalisation to the next level. That in turn helps us establish fully digital, seamless in-house processes. EHA can then benefit from this digitalisation and has a futureproof digital documentation system thanks to Rittal ePocket," concludes Kühl. □

Thanks to the Rittal ePocket digital wiring plan pocket, system documentation that is always up to date can be accessed on any device – anytime and anywhere.

Find out more

www.rittal.com/ePocket

PLM and Engineering-to-Order

BOOSTER FOR SAP PROCESSES

Managing data flows digitally from the outset using an SAP PLM solution makes company processes fast and flexible. The “process booster” has been successfully implemented at **Schenck Process.** Together with **Cideon and BDF**, the world market leader for integrated measurement and process technology has standardised its order management and taken it to a whole new level.

TEXT: BIRGIT HAGELSCHUER

In not one but two locations – the United Kingdom and the Czech Republic – Cideon and the BDF team of digitalisation experts joined forces for the digital development of Schenck Process. SAP S/4HANA, SAP Engineering Control Center (SAP ECTR) and SAP Product and Process Governance (SAP PPG) were all rolled out at the same time for the market leader in material handling solutions and monitoring. Martin Schütz, Director Engineering EMEA and Project Leader Engineering at Schenck Process, explains: “Having analysed several options, our positive experiences with SAP PLM (CAD Desktop) and the opportunities offered by PPG and ECTR led us to opt for these solutions.”

MONITORED AND COLLABORATIVE

With the new SAP PLM solution as a “process booster”, the company is now able to digitally manage all data flows and processes from the outset, which means workflows can be monitored much more effectively. In day-to-day business, that means collaborative use of engineering, production and machine data. Furthermore, an “engineer-to-order” (ETO) process was implemented in an S/4 greenfield environment using SAP PPG – a completely new solution for plant engineering. ▸

“Thanks to its partnership with Cideon and BDF, Schenck Process has reached an important international milestone.”

MARTIN SCHÜTZ, DIRECTOR ENGINEERING EMEA AT SCHENCK PROCESS

STEP BY STEP TO SUCCESS

1 APPROACH

Assess the feasibility of requirements using the new IT solution. Implement the Proofs of Concept (PoCs) using best-practice methods. Roll out the SAP S/4HANA system, SAP Engineering Control Center (SAP ECTR) and SAP Product and Process Governance (SAP PPG) simultaneously.

2 CHALLENGES

Reduction of administrative work and error rates in data management. Agile implementation of the “single-source-of-truth” approach using a holistic, cloud-based software solution to increase connectivity and automation of the supply chain and customer journey.

3 CIDEON SERVICE

Process consulting and conceptual design work, implementation, configuration and data migration. Training for administrators and end users, microtraining, and solutions support.

4 CIDEON SOLUTION

SAP ECTR interface to Inventor, SolidWorks and AutoCAD, other Cideon tools such as the Conversion Engine and Enhancement Suite as well as PDM, and installation of SAP Visual Enterprise Generator.

5 OUTCOME

A consistent database, private cloud-based systems, and collaboration spanning the planning, engineering, quality assurance, production and shipping departments lead to greater efficiency, productivity and cost savings.

ADDED VALUE

- More innovation, productivity, quality assurance and profitability through consolidated and optimised processes in a common global SAP S/4HANA for all sites as a starting point for future expansions.
- Increased customer centricity through fast and seamless interaction for efficient aftermarket processes with short response times.
- A more efficient data model and a fully scalable approach deliver process efficiency and standardisation as well as growth, while also minimising overheads. Consistent end-to-end process design and automation of document input and output – all from a single source.
- Simplified company-wide processes thanks to a collaborative and integrated way of working. SAP ECTR for 900 engineers worldwide. Reduced reliance on “home-grown” solutions. Seamless integration of new acquisitions.

OBJECTIVE CLEARLY IN FOCUS

From the very start, Schenck focused on a high-quality, process-oriented end-to-end solution of this kind. “We wanted to establish an efficient PLM and an effective engineer-to-order process in the cloud,” continues Schütz. Schenck felt making collaboration as open as possible was key to the success of a project of this kind. “Teamwork, regular communication within the sub-projects, excellent transparency in the implementation of the project as well as cost transparency and an openness to change requests were the cornerstones,” says Schütz.

A STRONG BASIS

Cideon and BDF were identified as suitable candidates, and two sub-projects were then defined – “SAP PLM/PDM” and “Global Engineering”. As a result, SAP S/4HANA is being used as a scalable, modern cloud ERP system and is providing a strong basis for replacing the existing legacy IT systems at Schenck Process. SAP Engineering Control Center (SAP ECTR) and SAP Product and Process Governance (SAP PPG) also became a vital part of the project’s success. To avoid planning errors, the BDF/Cideon model factory was used – an exemplary system for the agile verification of defined processes. The SPG development team gradually adapted the factory’s simulated process results and implemented these promptly with the project teams, in several waves.

THE MANUFACTURING OF TOMORROW

Thanks to this project, Schenck will be able to adapt even better to specific customer requirements in networks in the future. The next step will be to integrate and connect more sites. Implementation of the Cideon Conify software solution is on the agenda, too, in order to ensure efficient connection of data and the automated PDM-compliant output of configured CAD data. The wish list also includes a configure-to-order (CTO) process, that is to say an engineering method in which a product is configured as required by selecting from a range of predefined options.

Schütz is already certain of one thing: “Integrated system solutions are more impressive than multi-system landscapes. Their data models make it possible for engineering work to directly impact logistics in an agile manner, with technological continuity at all times thanks to a consistent database.” □

“We wanted to establish an efficient PLM and an effective engineer-to-order process in the cloud.”

MARTIN SCHÜTZ, DIRECTOR ENGINEERING EMEA AT SCHENCK PROCESS

The successful project means Schenck Process can adapt even more effectively to customers and their specific needs and requirements.

SCHENCK PROCESS GROUP (SPG)

With over 1,100 employees, more than 300 patents and sites in Europe, Asia and the Middle East, the Group headquartered in Darmstadt is a leading global supplier of sustainable products, integrated solutions and services for chemicals and high-performance materials as well as infrastructure and energy projects. Its portfolio includes solutions for industrial weighing, feeding, conveying, pulverising, classification and mixing, including associated digital applications.

Schenck Process offers products, solutions and services for infrastructure and energy projects.

LKH Tech Talk

MONEY-SAVING INJECTION MOULDING
Which tweaks help?

PLASTIC: KEEPING COSTS UNDER CONTROL

From product design and engineering, material selection and mould engineering all the way through to production and packing – **injection moulding** offers more ways of cutting costs than you might think. Which ones are the most promising, though? We asked **Thomas Ritter**, Head of Engineering at **LKH**, how he works with his customers to make components more cost-effective.

TEXT: MEINOLF DROEGE

Mr. Ritter, according to a German saying, having good intentions is the opposite of doing things well. Do you see tendencies of this kind amongst your customers, especially when they are stepping up their efforts to make savings?
Ritter: I certainly do, but it's definitely not a new phenomenon and there's also an explanation in most cases. Customers wanting a new plastic product, design engineers, mould makers, injection moulding companies and material suppliers all have their own specialist knowledge. This is used with good intentions – often, though, without realising the consequences of the relevant improvements on the overall value chain, which extends from the product idea through to series production and logistics.

Can you give us an example?
Ritter: Special plastics are often the solution of choice for the reliable handling of high mechanical stresses. In most cases, though, these materials are expensive and involve high processing temperatures in processes with very narrow tolerances, which also drives up costs and increases the carbon footprint. However, making carefully considered changes to the component design at an early stage has the potential to get cost drivers under control. It may also make designing the injection mould simpler.

You said specialist knowledge alone does not suffice. What approach does LKH adopt?
Ritter: For a long time now, we have been operating in very diverse sectors such as automotive, electrical and plant engineering. As a result, we have broad-based user knowledge and process know-how. We benefit from our comprehensive in-house material expertise. This has led to the successful completion of numerous projects that involve substituting metal with plastic or one plastic with another, including design modifications – for Rittal and also for many other customers. The same goes for recycled plastics. We can very accurately predict how tweaks to specific aspects will impact total costs down the line. You could say our piggy bank is an ever-present feature throughout the entire process chain.

One of the key cost drivers is energy usage during the process. What is the best way of tackling this?
Ritter: We could be here all night (laughs)! I'll just mention two points. We know exactly how much energy our injection moulding machines use on which settings. Based on well-established data, we can therefore already estimate the approximate energy usage at the material selection and mould engineering stage. This can lead to unconventional solutions such as the preferred choice being a higher-priced stack mould, but one that runs on a smaller machine with lower amortisation costs and, above all, much lower energy costs.

Another possibility is switching from metal to plastic. We have carried out some interesting projects in this area in recent years, including for products that have mechanically and thermally critical characteristics or very high electrical engineering requirements. Plastic needs far less process energy than metal die-casting and offers more possibilities for cost-saving functional integration than sheet metal components.

What do you make of your customers' requirements when it comes to carbon footprint?
Ritter: Our customers want reliable statements about the expected carbon footprint of new products. However, only a small number of companies can calculate the specific energy requirements early on in the injection moulding process. We are able to do so, but that's only half the story. Data of this kind is now available for many of the materials we use. At the sampling stage, we therefore sometimes adopt the approach of having two alternative materials approved – a conventional plastic and a sustainable one, for example. This offers our customers flexibility. They can react quickly to the latest cost situation for the relevant plastic and opt for the alternative, without having to work their way through a new, lengthy approval process. □

"Making carefully considered changes to the component design at an early stage can get cost drivers under control."

THOMAS RITTER,
HEAD OF ENGINEERING AT LKH

NEWS
INNOVATIONS

Hardware and software – only intelligently combining these two worlds gives companies a real edge in industrial and IT applications. In this section, you can find out more about the latest product developments from **Rittal, Eplan** and **Cideon.**

Ready to use: With the Rittal TX Colo, the installation is up and running in no time!

Rittal TX Colo

New rack for colocation data centres

The huge demand for computing power due to increasing digitalisation has seen the colocation market expand rapidly in recent years, achieving an annual growth rate of 12 percent between 2020 and 2024. In colocation applications, companies lease either fully equipped racks or an entire room for the purpose of integrating their IT equipment. IT infrastructures must be up to the task, ensuring high energy efficiency, certified safety, a futureproof design and rapid scalability. It must also be possible to make changes at any time. Easy procurement, coordinated systems, high availability, short delivery times and global standards are vital, too. The new TX Colo rack from Rittal meets all these requirements. As a result, colocation suppliers can equip their white spaces with standardised solutions that benefit from immediate availability, have been developed specifically for the colocation market and share the same high quality as all Rittal solutions.

Rittal outdoor enclosures

Now also bayable

CS Toptec, a twin-walled outdoor enclosure, is now available from stock as both a standalone and a bayable solution. Series production and custom fit-out options bring considerable benefits for customers, especially in terms of delivery time and flexibility. The CS Toptec is taking the baying already familiar from Rittal large enclosures into the great outdoors. Preparations for perfectly coordinated outdoor cooling solutions are integrated as standard.

Eplan Platform 2025

Planning pre-assembled cables

New features in Eplan Platform 2025 now make project planning even easier in engineering applications. Sharing images and QR codes in the wiring plan (schematic) is a good way to store important information on an article. Device-specific properties and displaying all options (macros) directly on the component provide a better overview. In the future, it will be possible to route wires through special devices in 2D and 3D, and to plan pre-assembled cables using the Eplan Platform and pass these on to Eplan Cable proD.

Eplan Cable proD

Cable routes in 3D

Pre-assembled cables running from the enclosure to the machine, all in the appropriate length and following a carefully considered route. That is precisely what will be possible from September thanks to Eplan Cable proD. Visitors to Hannover Messe can get a first look at how cable routes are defined in a 3D model. The best thing of all is that MCAD data and information from both Eplan Electric P8 and Eplan Pro Panel can be easily integrated to combine electrical planning with mechanical design.

Eplan
eVIEW AR

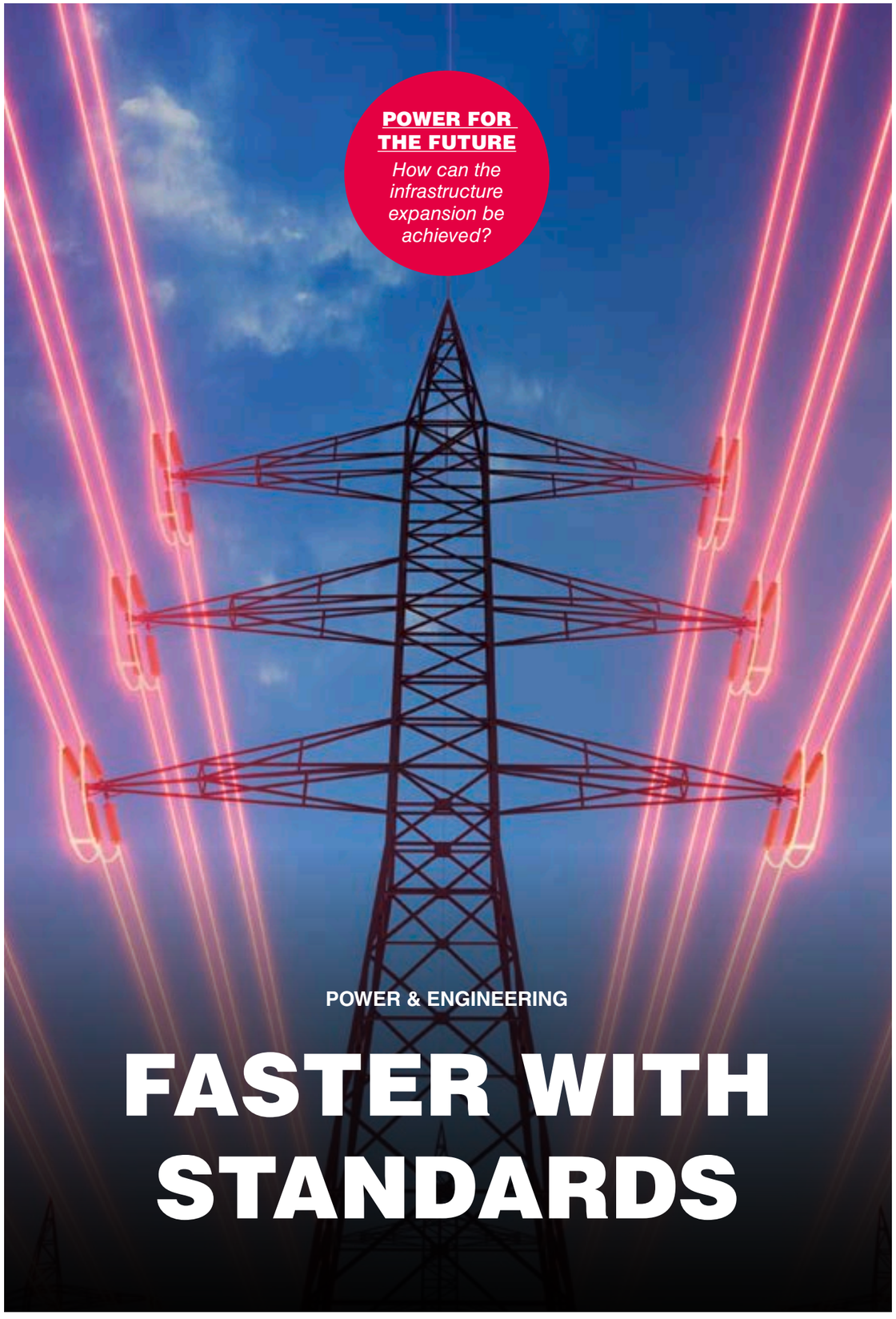
AR app for a perfect insight

At Hannover Messe, Eplan is offering initial insights into the new functions of the eVIEW AR app. Whether used on a tablet or smartphone, it offers a complete overview of components installed in the enclosure – with access to the electrical engineering documentation. Superimposing a digital twin on an actual enclosure creates a perfect link between the virtual and real worlds. This makes life easier for service engineers, who also benefit from shorter downtimes.

Cideon software

ECAD interface to Conify

Many mechanical engineering companies use product configurators, but machines are still often “reinvented” each time they are built. Cideon Conify does things differently. Amongst other things, this software makes it possible to generate design engineering data and parts lists directly from the configurator. This now also includes electrical engineering with Eplan, which makes customised design much simpler. What’s more, the system can be used to create a mechatronics parts list. Thanks to Cideon Conify, mechanical engineering companies using a product configurator can automate the generation of parts lists for electrical engineering and mechanical work.



“The Eplan platform can also be used to plan complete transformer substations, including the medium- and high-voltage levels.”

GERRIT HELMS, VERTICAL MARKET MANAGEMENT ENERGY

Moving towards an **all-electric society** means having to completely overhaul and massively expand our infrastructure. This is a Herculean task. One approach that can help us rapidly expand grids and energy systems is to standardise and automate value creation processes. The mechanical engineering sector provides the blueprint for this – and **Eplan, Rittal** and **Rittal Automation Systems** offer the appropriate software and hardware solutions.

TEXT: BIRGIT HAGELSCHUER AND HANS ROBERT KOCH

Our society and the entire energy industry are undergoing a transformation – becoming an all-electric society. Fossil primary energy sources such as petrol, diesel and natural gas are set to be replaced by electrical power. This will mean a huge increase in the demand for electricity, and grids will need to become much more flexible. However, it will be impossible to expand and convert the necessary number of distribution and transformer substations using the current design engineering and production methods.

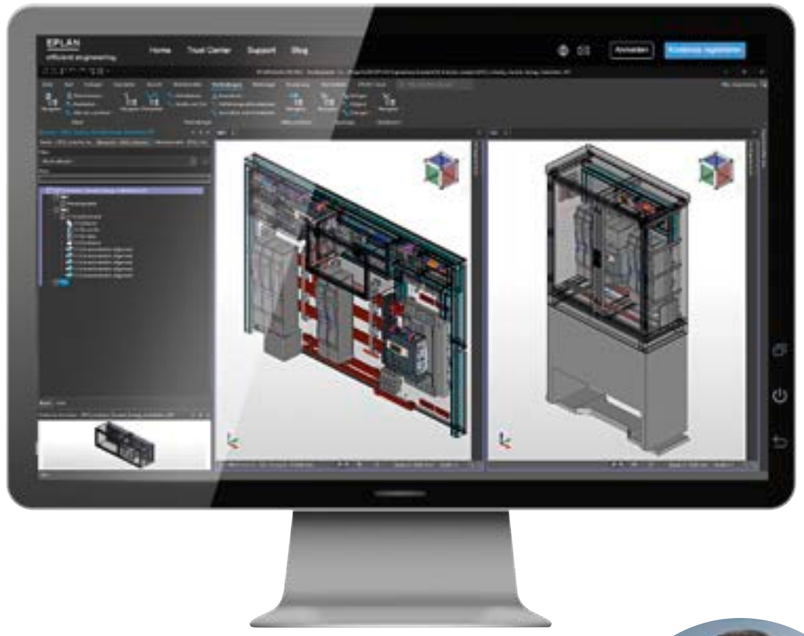
STANDARDISATION AND INDUSTRIALISATION ARE VITAL

How can this demand be met? Industry, and the mechanical engineering sector in particular, are showing us how. Machinery is normally based on standardised series that can be adapted for each specific order. Standardising the electrical engineering of this machinery starts at the design / project planning stage. Design engineers either use a master project that they modify for each order-specific project or – better still – work with a wiring plan (schematic) configurator such as Eplan eBuild. All they need to do when using this configurator is click the relevant functions, key data, variants and options. Wiring plans, parts lists and other documents are then generated on an automated basis.

“This sophisticated IT-supported and partially automated electrical engineering would be inconceivable without Eplan,” says Gerrit Helms from the Vertical Market Management Energy team at Eplan. “The associated digital continuity in particular offers companies fresh potential,” he adds. This continuity applies both horizontally across the various stages of project planning – from preliminary planning using Eplan Preplanning to commissioning and maintenance – and vertically across individual disciplines, all the way through to the supplier for tasks such as cable processing.

BENEFITS OF DIGITAL CONTINUITY

This kind of computer-aided engineering (CAE) is beneficial for operators of power grids and decentralised energy systems who are looking to speed up their processes using digitalisation and (semi-) automation. It lays the foundation for standardisation and digital continuity throughout the entire construction and manufacturing process. Suppliers of the protection and control technology modules, for instance, can continue to work seamlessly with the documentation from project planning and add their detailed engineering to the existing project. This significantly speeds up and rationalises the design engineering and manufacturing of these modules. According to Jan Oliver Kammesheidt from the ▸



A complete overview – the Eplan platform is ideal for planning everything from low-voltage switchgear to complete transformer substations.

Find out more

www.eplan.co.uk/industries/energy

www.rittal.com/LVDB

Global Vertical Market Management Energy team at Eplan, operators can take this digitalisation and automation step without any kind of risk. “Numerous suppliers are already using standardised and automated electrical engineering with Eplan and are familiar with it from other industrial projects,” he explains, adding that many manufacturers also include documentation in Eplan as standard when delivering switchgear and transformers. “We thus ultimately complete the perfect full circle, ensuring digital continuity in the documentation used during the subsequent operation of the systems,” he says.

ONE PLATFORM FOR ALL

Another advantage associated with this kind of design engineering approach is that everyone involved in the project is always working with the latest data – from operators using the viewing function to see the current status of the planning process through to suppliers who require information and developers working at different locations. Planning becomes more efficient, processes become more transparent, and errors caused by having different versions of data are avoided.

ALL VOLTAGE LEVELS CAN BE COVERED

In the mechanical engineering sector, the Eplan platform is almost exclusively used to plan and implement low-voltage electrical systems. “However, the software can also be used to plan complete transformer substations, including the medium- and high-voltage levels. Well-known enclosure planners have been making full use of this function for many years,” reveals Helms. When it comes to digital continuity in the planning and production processes, the connection with Rittal offers a further special feature – a close link between the software and hardware components, including enclosures, power distribution units and climate control systems.

“It is time to learn from the standardised and automated methods used by innovative industrial companies.”

RAPHAEL GÖRNER,
EXECUTIVE VICE PRESIDENT BU
ENERGY & POWER SOLUTIONS AT RITTAL

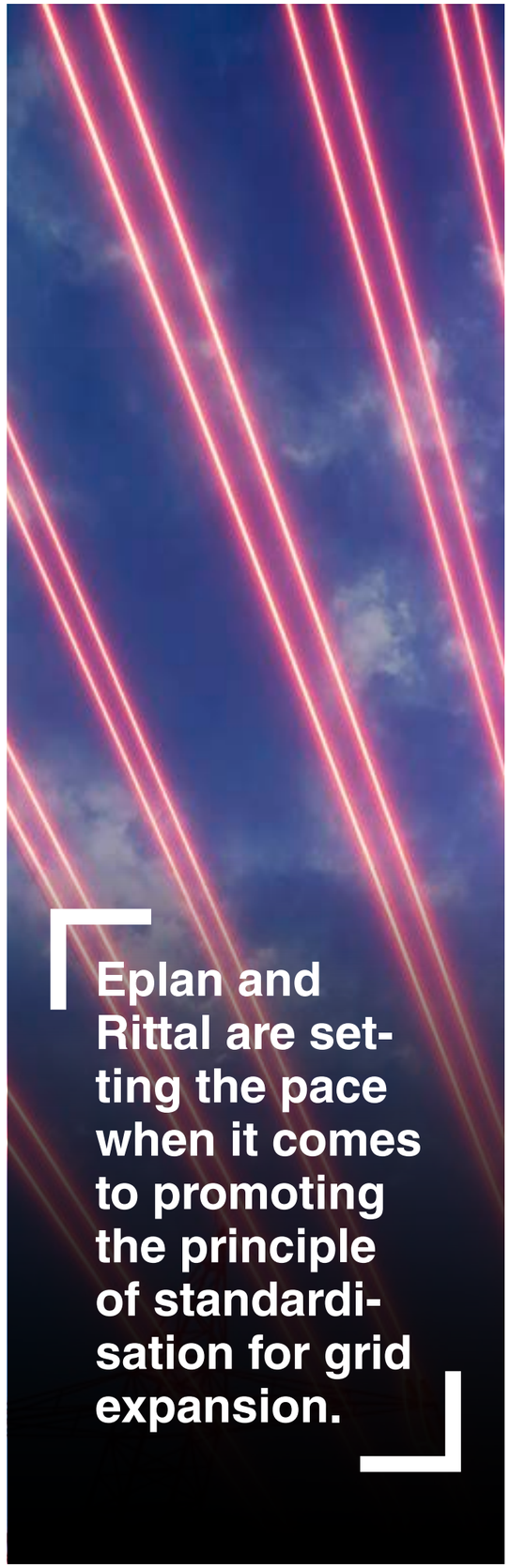
STANDARD INDUSTRIAL PROJECT FOR A TRANSFORMER STATION

In collaboration with customers, Eplan has developed a transformer station with a medium- and low-voltage system that is available as a project in the Eplan cloud. This standard industrial project can be used to plan distribution stations, infeed stations and hybrid installations as well as storage systems for renewable energy – complete with a list of equipment that is typical in the sector. All that remains to be done is to customise the project if necessary. Standardisation thus speeds things up right from the engineering stage.

The data set also contains all the necessary information for modular Rittal system engineering and for subsequent machining using machinery from Rittal Automation Systems. This results in significant time and cost savings, standard-compliant design and a digital twin for operational use. “Eplan and Rittal are setting the pace when it comes to promoting this principle of standardisation for ever more applications,” explains Raphael Görner, Executive Vice President BU Energy & Power Solutions at Rittal.

LEARNING FROM INDUSTRY

A platform of this kind paves the way for an energy sector ecosystem that is equally useful to everyone from grid component manufacturers and enclosure manufacturers to systems integrators, planners and grid operators. “The approach long since adopted in industry of efficiently planning and manufacturing much larger quantities of standardised systems that have a great many variants is increasingly heading the way of the energy sector, too. It is therefore time to learn from the standardised and automated methods used by innovative industrial companies,” says Görner. □



“The approach of efficiently planning and manufacturing much larger quantities of standardised systems that have a great many variants is heading the way of the energy sector, too.”

JAN OLIVER KAMMESHEIDT,
GLOBAL VERTICAL MARKET MANAGEMENT
ENERGY AT EPLAN

SPOTLIGHT IT COOLING
The challenges AI will bring for data centres

AI meets IT

TAKING THE PLUNGE. IS IT A GOOD IDEA?

ChatGPT was just the beginning. **Generative artificial intelligence** – GenAI – is taking over the world at breakneck speed. 2024 will be a year of roll-outs in industry. But what does that mean for **data centres**? Can conventional air cooling cope with the increasing levels of waste heat? What role does **liquid cooling** have to play? And where does the German Energy Efficiency Act (EnEfG) come in?

TEXT: STEFFEN MALTZAN

The energy efficiency of data centres must be optimised to the absolute limits of what is physically and economically possible.

“The big hyperscalers are currently investing heavily in AI – as a leading global supplier of racks, Rittal engages in intensive dialogue when it comes to developing cooling solutions.”

ANNA KLAFT, VICE PRESIDENT SOLUTION SALES IT AT RITTAL

The analysts on the Omdia consulting team expect global demand for computing power to grow ten-fold in the next five years, which in turn means expenditure of 30 billion dollars through GenAI alone. This is a huge technological revolution, not least when it comes to the cooling technology, since the enormous computing power and the associated electricity consumption are pushing energy efficiency requirements to a whole new level.

FIGHTING HEAT WITH WATER

GenAI applications need high performance processors (GPUs). These generate so much heat that the cold air currently used as standard will soon not be enough. To dissipate the heat quickly enough from the processors, these hotspots need to be enveloped by a flow of cooling liquid. “Water will come to play a greater role, especially as a single-phase direct liquid coolant,” explains Anna Klaft, Vice President Solution Sales IT at Rittal. “The big hyperscalers are currently investing heavily in AI. As a leading global supplier of racks for this sector, we engage in intensive dialogue with these customers when it comes to developing appropriate modular cooling solutions.”

OPTIMISING TO THE LIMIT

High performance data centres also need a lot of electricity. Their energy efficiency must therefore be optimised to the absolute limits of what is physically and economically possible. Although the majority of data centre operators are already very active in this regard, the government in Germany is looking to accelerate the process using the EnEfG. Klaft, who is also Chairperson of the German Datacenter Association (GDA), is very sceptical about this approach: “More distinctions should have been made in the requirements. Energy efficiency is a worthy ambition, but it mustn’t become an obstacle to expanding urgently required digital infrastructure.”

The Act stipulates that data centres going into operation after July 2026 must have a Power Usage Effectiveness (PUE) of 1.2. Such an impressive level of energy efficiency has to be carefully planned, however, and as Klaft acknowledges: “Most of the data centres that will be affected have already been planned or approved. If this act delays the construction of this kind of facility, it will slow down infrastructure that is desperately needed for the energy transition.”

JOINT SOLUTIONS

Klaft believes it would have been helpful to have greater differentiation when it comes to heat recovery. “A blanket obligation is no guarantee of efficiency. In many places, it will effectively mean a ban on new data centres. It is therefore now essential that the industry comes together to work on new solutions to ensure the law does not act as a brake on digitalisation. Water cooling with heat recovery is a prime example of this.”

This form of cooling offers excellent conditions for implementing the difficult heat recovery stipulations in the Energy Efficiency Act. Compared to the warm air currently used as standard, the cooling water for the high-performance processors comes out of the data centre at a higher temperature, meaning it is easier to warm it up with heat pumps to heat a building, for example – or to take the heat out of generative artificial intelligence. □

Smart Factory

AI EYES AND BRAINS IN THE PRODUCTION HALL?

Artificial Intelligence is changing the world. The potential seems huge, and the pace is set to ramp up even further with generative AI. There is plenty that is already working well, but not yet in sensitive industry sectors. How can industry realise tangible benefits in its factories now?

TEXT: STEFFEN MALTZAN

Artificial Intelligence (AI) enables machines to imitate human capabilities such as logical thinking, learning, planning and creativity. As a result, technical systems can be aware of their surroundings, respond to them, and solve problems independently. Have you ever heard of software that uses generative AI (GenAI) to create new content independently to achieve goals? How about machines that pay attention and think actively? GenAI is an attractive proposition for every area of automation. It is therefore no real surprise that the forecasts regarding economic potential are huge. In June 2023, McKinsey predicted that the productivity boost provided by GenAI could contribute 2.6 to 4.4 trillion dollars of added value a year to the global economy. However, what elements have already been sufficiently tested that they are ready for industry adoption?

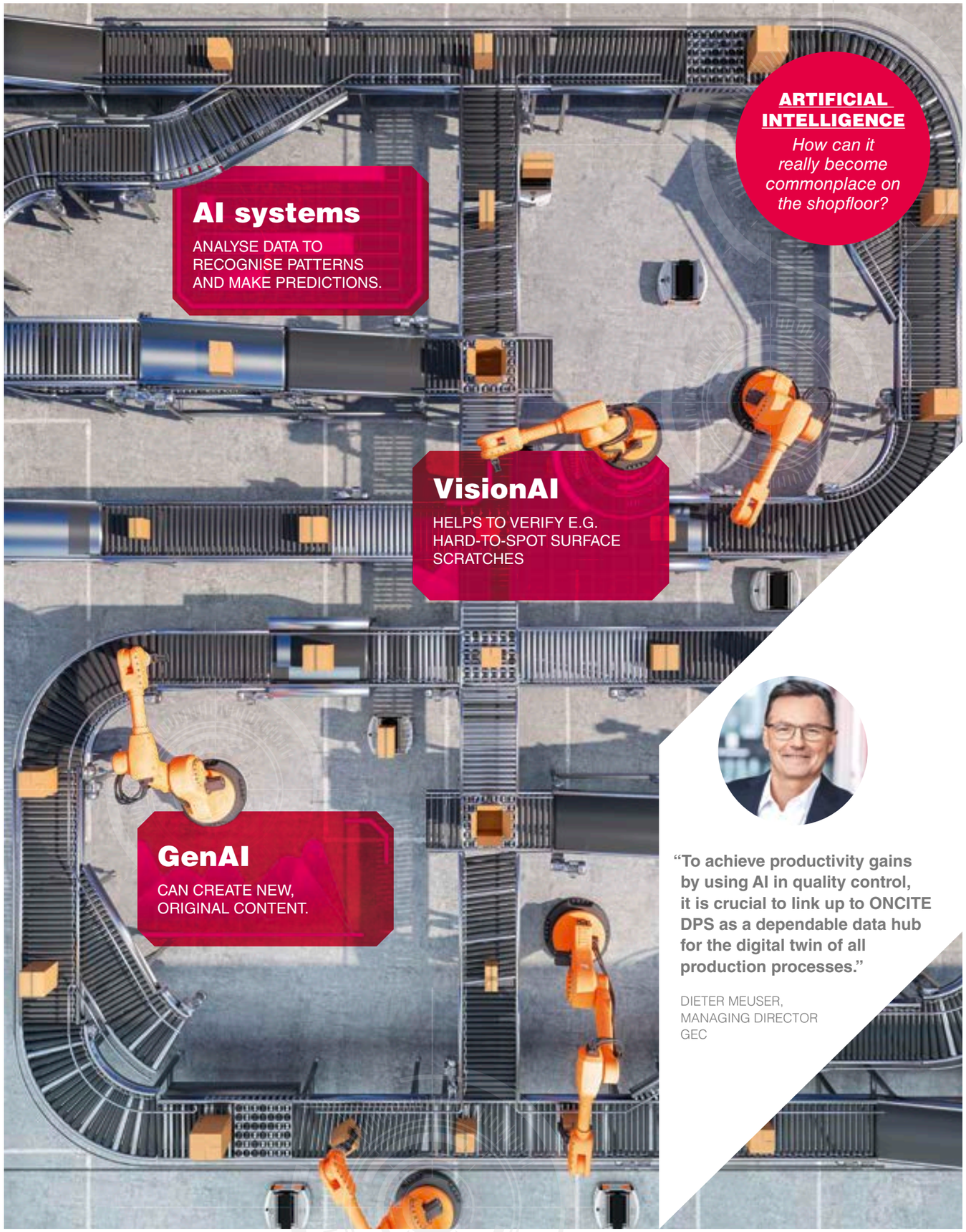
AI ALONE IS NOT ENOUGH

"Alongside information management, the most obvious area of application for AI in production facilities is visual quality control," says Dieter Meuser, CEO of German Edge Cloud. Cameras have been used for this for a long time. AI is now taking this to a new level. While the traditional approach involves getting data scientists to train visual models and involves a lot of effort, AI support makes it possible for departments and workers to do this themselves. "Such applications have long since proved themselves in proofs of concept," says Meuser. "However, they need to meet even more requirements if they are truly to take their place in everyday work on the shopfloor." Meuser can see two main focal points: "It has to be simpler to connect them to existing systems. And it has to be straightforward for users to correlate the data from quality control with the data from the production processes."

German Edge Cloud is now making that possible with ONCITE Analytics VisionAI, a new service from Digital Production Systems in cooperation with IBM. The modularity of the digital production system's microservice-based software architecture cuts the work and cost involved in the implementation, while at the same time ensuring digital continuity. By linking up with the operational data from ERP and machine data from the shopfloor, ONCITE DPS creates the perfect platform for transparency, insights and traceability in production processes. When the results of quality assurance checks are also added into the equation, transparency is expanded further still, opening up the possibility of more productivity optimisation.

THE FUTURE IS GENERATIVE AI

"The many medium-sized manufacturing companies out there are in particular need of solutions that can be implemented quickly and are cost-effective and scalable with just a few users as soon as they are launched," says Meuser. "By combining our DPS with IBM software for visual inspections, we are able to offer them this way in, with a solution from a leading software provider." For Meuser, it is already clear what the next trend will be. "Generative AI will become more dependable as a useful tool for industry. When it comes to visual inspection, the AI would then be capable of generating its own simulated error images with which to train the models, thus further increasing the speed and quality of detection quite significantly." □



"To achieve productivity gains by using AI in quality control, it is crucial to link up to ONCITE DPS as a dependable data hub for the digital twin of all production processes."

DIETER MEUSER,
MANAGING DIRECTOR
GEC

FOREVER CHEMICALS

How can the worlds of politics and industry act responsibly?

One question:

GREEN TRANSFORMATION WITHOUT PFAS – IS IT FEASIBLE, SARAH BÄUMCHEN?

A GUEST ARTICLE BY SARAH BÄUMCHEN,
MEMBER OF EXECUTIVE MANAGEMENT AT ZVEI

Climate change is one of the most pressing problems for Germany, Europe and the rest of the world, and combating increasing global warming is one of the most important tasks for our society. We are of the firm belief that we must face up to this challenge. The use of innovative technologies, especially from the electro and digital industry, is the vital key to protecting our climate while also safeguarding our prosperity.

If this transformation is to succeed, however, the industry must continue to rely on a specific category of substances with outstanding properties that make them indispensable for our sector's high-tech products. We are talking about per- and polyfluoroalkyl substances – PFAS for short. Amongst other things, these substances are used in wind turbines, heat pumps and energy storage units, but also in electric drives, enclosures and semiconductors as well as many other products and the associated manufacturing processes. They therefore play an essential role in the energy transition, digitalisation and electrification. The blanket ban on PFAS proposed by the EU at the beginning of last year would thus have dire consequences and cannot be the right strategy when it comes to dealing with chemicals responsibly.

It is true that PFAS can pose risks to humans and the environment. We therefore need a risk-based approach that regulates their use, while also differentiating between the various PFAS groups and their respective uses. A blanket ban on the entire PFAS category, which comprises over 10,000 individual substances, cannot be the solution.

It goes without saying that industry must do its part and handle this substance category responsibly. The electro and digital industry in particular normally only uses PFAS in internal, encapsulated applications or in closed systems that are subject to professional disposal and recycling at the end of their life cycle. Furthermore, this industry is endeavouring to replace PFAS with other substances in risky applications wherever possible. However, it is also true to say that, in the case of many applications, technologically and ecologically appropriate replacement substances for PFAS will not become available in the foreseeable future.

Be that as it may, the EU now apparently wants to adopt a sledgehammer approach to the regulation of PFAS. The consequences would be far-reaching and would be bad for climate protection. It would suddenly no longer be possible to use, manufacture or refine the aforementioned products and countless others. The EU would thus be jeopardising not only the achievement of its climate targets, but also Europe's status as an industrial location, and both the competitiveness and innovative strength of our companies. On top of that, a total ban on PFAS in the EU would obviously not rid the world of them. They would still be used in many other regions around the globe.

Sarah Bäumchen has been a member of the ZVEI Executive Board since 2022 and is responsible for the Political Affairs division. She has previously worked for the German Non-Ferrous Metals Association and the FDP parliamentary group.

All this places a heavy burden on companies, fuels investment uncertainty and hampers plans relating to measures such as expanding capacity. ZVEI, the German Electro and Digital Industry Association, is therefore joining other industry partners in opposing the proposed ban on PFAS. We are asking for PFAS to be differentiated and treated according to the risk they pose rather than being subject to a blanket ban. It must remain possible to process certain PFAS for as long as no alternatives to them are available.

After all, without PFAS, the energy transition threatens to grind to a complete halt. No-one can want that. Of course, any transformation phase involves risks, but so does the shift to a climate-neutral industrial society – a shift that politicians are calling for and that we support. It is therefore important to manage this process effectively. Moreover, the time has come to initiate a discourse about which risks we as a society are prepared to accept. We firmly believe that it will be impossible to achieve a risk-free world, so the important thing is to deal with potential risks responsibly. Our electro and digital industry is deeply committed to this. □

Sarah Bäumchen

READY TO SERVE
Switchgear pre-configured and "ready to eat"

Engineering

À LA CARTE FOR DATA CENTRES

Simple selection, quick service! There is now a ready-configured Eplan project for data centres that provides a new efficiency boost when it comes to planning switchgear systems. The **Industry Standard Project**, developed jointly by **Rittal** and **Siemens**, now makes it quick and easy to implement dependable power supplies for data centres that offer high availability.

TEXT: DR JÖRG LANTZSCH

Power failure in the data centre! It's the stuff of nightmares for every IT manager. The causes of such blackouts vary hugely – natural disasters, human error, or even a technical fault in the power supply. Naturally, that power supply must be safeguarded at all times. There is not a company these days that can afford for their IT infrastructure to go down. It's no wonder, then, that planners and operators of data centres pour a lot of engineering expertise into this problem.

However, planning switchgear systems for data centres is not a trivial undertaking. There are many steps involved in getting a data centre switchgear system from design and engineering to manufacture and commissioning. Special requirements must be taken into account, such as incorporating redundancy for all components and factoring in automatic switching between the redundant power supplies. However, how are planners to strike the balance between implementing all technical requirements correctly and ensuring the project is completed efficiently and quickly?

READY-MADE ENGINEERING

Planners now receive support from Rittal in the form of a ready-configured Eplan project for data centres that provides significant efficiency gains along the entire value chain. The new Industry Standard Project takes account of all technical requirements that need to be met for a main low voltage distributor (LVDB) in a data centre.

Here's what that looks like. In the Industry Standard Project, the electrical energy that comes in from the medium-voltage transformers is distributed to the individual outputs, which in turn supply the server racks. This is done by the Ri4Power system from Rittal. To ensure a high level of availability for the data centre, the system includes an automatic transfer switch from Siemens as a core component. This switch constantly checks the two infeeds. If the primary supply fails, it switches immediately to the secondary infeed. An uninterruptable power supply (UPS) buffers the switching procedure to ensure the power supply to the consumers in the server racks is not interrupted.

"The Industry Standard Project makes the planning of switchgear systems for data centres quick and easy."

JÖRG KREILING, DIRECTOR PRODUCT MANAGEMENT ENERGY & POWER AT RITTAL

DESIGN VERIFICATION AT THE PUSH OF A BUTTON

Data centre planners can adapt the Industry Standard Project to their own specific requirements. This has the benefit that the engineering has already been done in Eplan. Parts lists, wiring diagrams, 3D design and documentation are all completed with just a few clicks of a mouse. All components are perfectly coordinated with each other in the Eplan project. Alongside the enclosures and the power distribution components from the Ri4Power system, these components also include the automatic transfer switch and appropriate circuit-breakers from Siemens. For customers using the new solution, the all-inclusive carefree package also includes the documentation. The entire system, including the automatic transfer switch is type-tested and has a design verification to IEC 61439. As a result, there is no need for any time-consuming individual testing of the complete LVDB.

Using the Energy Standard Project leads to time savings and efficiency gains in all phases. The engineering is taken care of in no time at all. The parts list can be transferred directly to procurement, and all standard components from the Ri4Power system have short delivery times. And if that's not all straightforward enough, systems can even be preassembled in the new Rittal Application Center in Gera. □

Interview

“WE PROVIDE GREEN STEEL WITH TRANSPARENCY”

The steel industry is facing major changes, particularly in relation to sustainability and transparency. Green steel plays a vital role in this. In this interview, **Oliver Sonst, CEO of Stahlo**, offers an insight into the steel industry and sheds light on the availability situation of green steel and how his company, an independent steel provider, ensures transparency.

TEXT: CHRISTIAN VILSBECK, A&D

Steel expert: Oliver Sonst, CEO of Stahlo, a company of the Friedhelm Loh Group

Mr Sonst, Stahlo is aiming to become a green steel provider. What exactly is “green steel”?
Although the term “green steel” is quite commonly used, there is no official, standardised definition of it. Steel differs according to how it is manufactured, such as the electric route that melts scrap materials in an electric arc furnace (EAF). By contrast, the conventional route manufactures raw steel in a blast furnace using ore and coking coal. At present, the term green steel refers to lower-emission versions of these production routes, as well as improved emissions quality across the entire supply chain. Green steel can be manufactured by smelting recycled scrap material using green electricity. Green steel can be expected to generate emissions at a level around 30 to 60 percent lower than conventional manufacture.

How much interest is there in green steel at the moment, in your experience?
There is enormous interest at the moment, since every company is obliged to address its emissions. Most companies have to define how they might optimise their operational processes over the next few years so as to achieve the targets of the Federal Climate Change Act by 2045. Steel manufacturers have already got themselves into position. Currently, many of them are favouring direct reduction as a technical solution. This process involves producing sponge iron, or “direct reduced iron”, from iron ore and – preferably green – hydrogen. The majority of leading steel manufacturers have already designed and project engineered such systems, in some cases with the help of subsidies. However, further corporate investment depends on whether a “green market” emerges. This remains to be seen.

Are you already arranging or procuring certain batches of green steel for your customers?
To safeguard availability, we have already concluded agreements with numerous steel plants about the supply of CO_2-optimised steel. We develop technical and economic emission-reduction roadmaps for our customers, based on their current steel usage, their targets, and the batches we have secured. We are also already in a position to procure CO_2-optimised steel – either steel manufactured using an EAF or highly optimised steel from a blast furnace. We recommend any customers who are interested in green steel to start planning early and not rely exclusively on future availability. After all, some analysts are already predicting supply bottlenecks for green steel of up to seven million metric tons in 2030.

Customers with high steel requirements should therefore start making advance agreements as soon as possible ...
That’s right – and I’m not just saying this out of self-interest. Vehicle manufacturers and major suppliers are already getting involved directly in steel plants or special projects so they can secure the significant volumes of green steel they need. They have realised that, after switching to a green electricity tariff, the CO_2 reductions achieved through green steel are the next-best way of optimising their own footprint. For these large companies, this is a way to guarantee their supply at an early stage. However, this is simply not practical for small- and medium-sized enterprises with an annual requirement of maybe only 5,000 or 10,000 metric tons of flat steel. As an independent steel service centre, this is where we come in. We can reserve this amount of green steel from a range of steel plants in advance. We offer complete transparency as regards planning and the costs across the various green steel products. ▸

> **“At present, the term green steel refers to lower-emission production, as well as improved emissions quality across the entire supply chain.”**

How can you provide your customers with the necessary transparency throughout the entire supply chain?
Our steel compass provides customers with transparency regarding what they are buying and the associated emissions. They can use our application to set their climate targets and we will calculate precisely how much of which material has to be combined, and how much it will cost. What's more, we offer clear certification management so customers can be sure they are getting what they pay for. It is our goal to treat emissions like a material value and create transparency throughout the entire supply chain.

Are there already moves to standardise the documentation of emissions values for steel?
We are already some way down that road with the DMP digital material pass, which enables standardised test certification to EN 10168 for steel coils.

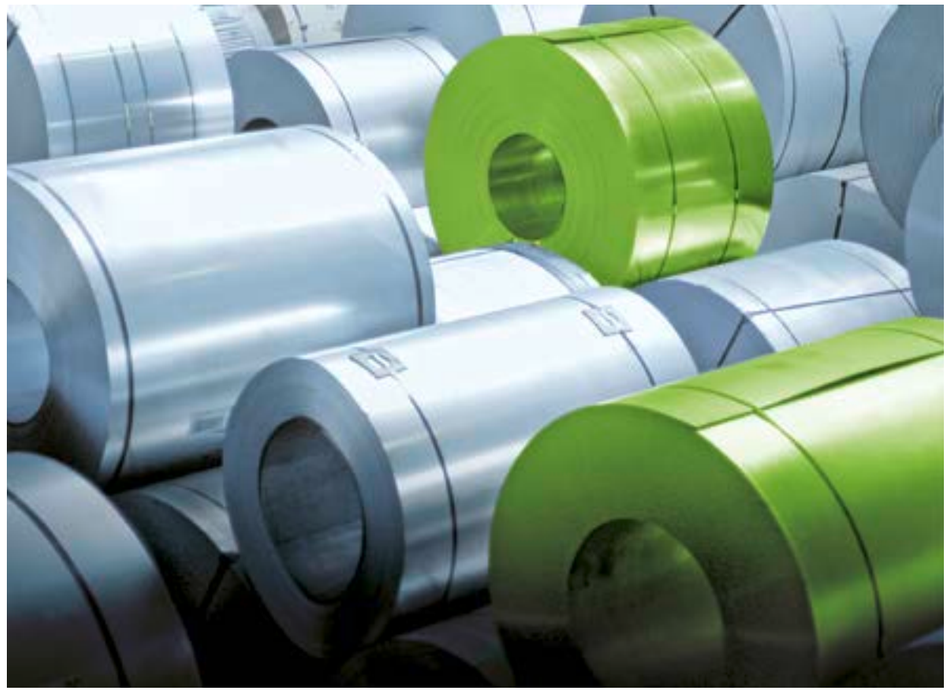
> **"In the first few years, more optimised products with mass balancing will be offered on the market."**

This is how we intend to document batch characteristics such as emissions values and material properties. This transparency is extremely important for green steel in particular. We are already active in the automotive industry and are working with partners to share product and material passes. After all, the goal of ecosystems such as Manufacturing-X and Catena-X is to enable transparency throughout the entire supply chain in a standardised and shareable data format. We are leading the way with our DMP, as there is not yet anything comparable in the steel industry, so we are already able to offer customers a transparent solution that uses blockchain to keep it safe from manipulation. We think the most plausible route for future development definitely lies in the compliant transmission of data to the ecosystems I just mentioned. That's why we attach great importance to ensuring our solution remains adaptable to the agile changes in requirements that may come in the future. After all, key rules of play and definitions have still to be agreed with all parties.

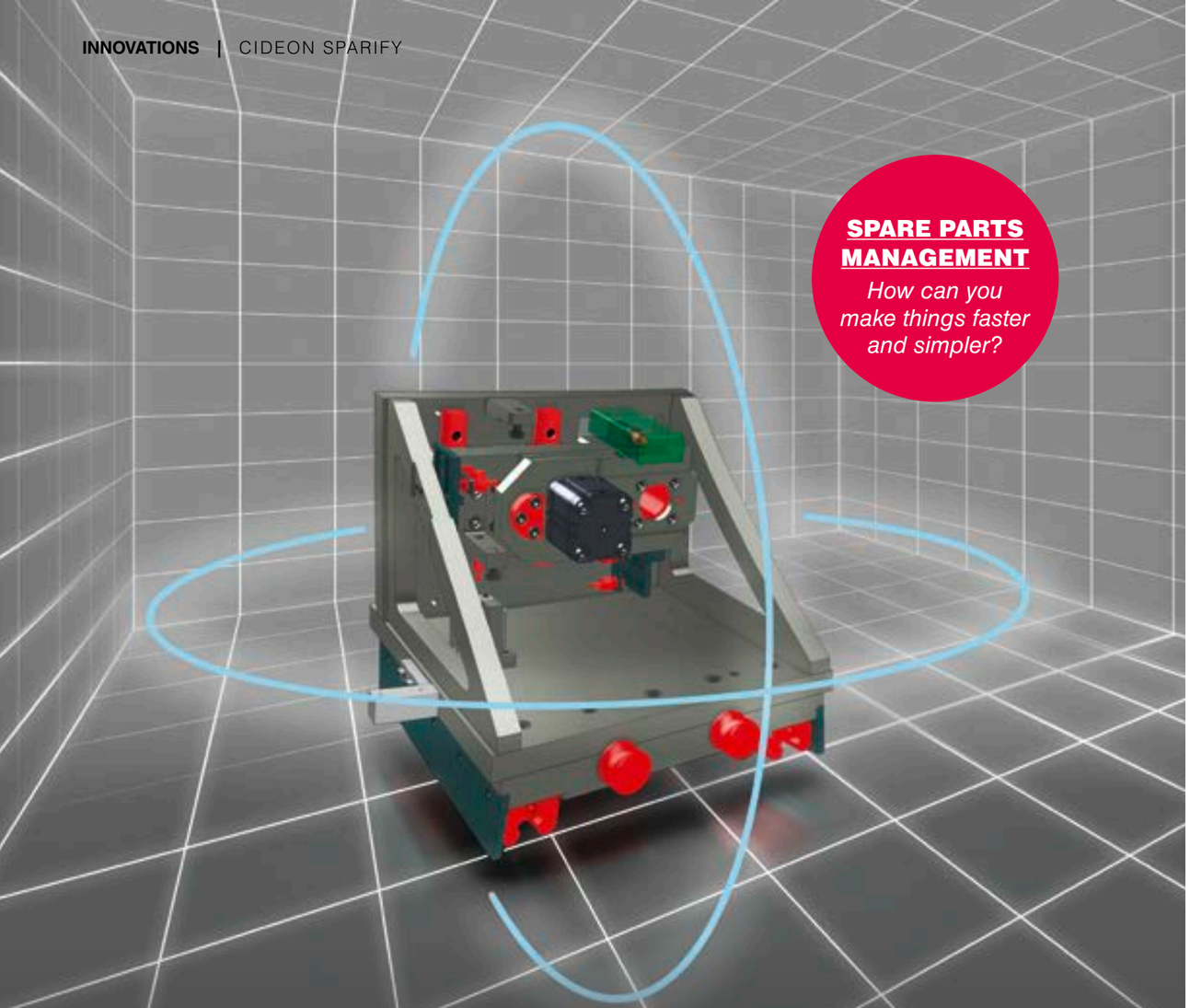
What is the price premium for green steel?
As a rule of thumb, steel manufacturers generally add a premium of about 20 eurocents per kilogram, which works out at around 200 euros per metric ton. This is for steel that is manufactured with emissions levels that are around 30 to 60 percent lower, which is equivalent to approximate CO_2 savings of 0.7 to 1.4 metric tons per metric ton of steel. By way of comparison, an emissions certificate in the ETS trading system currently costs around 90 euros per metric ton of CO_2.

What is the situation for Stahlo in terms of its own carbon footprint?
Since the beginning of 2022, we have only been using green electricity for our operational processes, which naturally has a positive effect on our footprint. As a result, we are using almost no fossil fuels anymore, except for some natural gas on particularly cold winter days to heat the workshops. Our carbon footprint is calculated by dividing our total emissions by the amount of steel produced. Currently, this value is around 3.6 kg of CO_2 per metric ton of processed steel. Our goal is to bring this down below three kilograms per metric ton. By electrifying our equipment, we have already made considerable progress and have cut our CO_2 emissions by half since 2020.

Why should customers turn to an independent steel provider such as Stahlo?
Customers benefit from the global availability of all steel products, which we, as an importer, can offer on an international basis and through our supply arrangements with leading steel plants in Europe. They also have the option of obtaining smaller amounts of special products from specific steel plants through us, and enjoy dependable security of supply. Our prices stay competitive. Furthermore, we can provide even small customers with access to environmentally friendly steel options. We are aiming to generate around 30 percent of our turnover through green steel by 2030. This equates to roughly 150,000 to 200,000 metric tons. Our customers also get complete planning certainty, since – as part of the Friedhelm Loh Group – we value honest partnerships and long-term relationships. □



> **"New solutions will be available from 2026, when steel from the first direct reduction plants becomes available."**



SPARE PARTS MANAGEMENT
How can you make things faster and simpler?

Cideon Sparify

VISUALISING SPARE PARTS IN 3D

The **preparation of spare parts catalogues** is a complex task that requires careful planning, efficient data management systems and continuous updating. The new **Cideon Sparify** cloud-based web application simplifies the whole process.

TEXT: DANIEL GIEBEL

The 3D depiction of machinery and products in the spare parts viewer makes it easier to select the spare parts required.

THE BENEFITS

- Reduced manual outlayfor maintaining catalogues
- No superfluous work
- Seamless adoption of CAD models from engineering
- Integration of key metadata from the PDM system
- Cutting-edge medium for spare parts sales
- Straightforward change processes during updates
- Eases the load on the spare parts department

Providing spare parts for customers is often a challenge in the everyday operations of many companies. Different departments, including engineering and service teams, have to be involved in the process – as do systems that are sometimes superfluous. This makes preparing and managing data a complex task. Cideon Sparify simplifies and standardises this work, thereby reducing the associated outlay significantly. The change process is clearly regulated and linked to the design model. If the design changes, all that is needed is a reboot of the upload. As a result, the updated model is always available on Cideon Sparify almost immediately.

SIMPLE IS BETTER

The application, which has been developed based on Autodesk Platform Services, uses the design CAD models from engineering and – where available – PDM data, and visualises these in an online spare parts catalogue. The selection process is extremely easy thanks to the 3D depiction in the spare parts viewer. But that's not all. If required, the ordering process can also be automated. Rolf Lisse, Managing Director of Cideon, explains: "Lots of information, such as the model number of a spare part, is already in the PDM system. The CAD data are then used to create a 3D view of the product concerned, in which the end customer can directly and clearly identify the spare parts required and select them." Access can be via a weblink that is provided or through iFrame integration on the manufacturer's website. This easy user navigation and clear labelling prevent order errors.

"Data is used to create a 3D view of the product, which the end customer can use to select the spare parts required directly."

ROLF LISSE
MANAGING DIRECTOR OF CIDEON

Watch the video here:

FLEXIBLE USE

Cideon Sparify is available in two versions. The "Basic Solution" is used wherever companies have already classified spare parts in a PDM system – preferably Autodesk Vault. The existing spare parts information can then easily be uploaded to the new web application.

If structures first need to be set up, however, it is better to use the "Professional Solution" version of the program. CAD and PDM are first standardised with the help of Cideon Consultants to create a single source of truth, then uploaded to the spare parts viewer. Existing data can therefore be reused to good effect centrally and without requiring any intermediate steps. Where necessary, the software can be customised and expanded, by adding an automated order processing system, for example. □

NEWS
COMMITMENT

The charity work of the **Rittal Foundation** has a global impact – from supporting all kinds of initiatives throughout Germany to projects on the ground in Ukraine, India and Israel. The shared goal of all these activities is **to help communities.**

Annual donation for 2023

€200,000 donated worldwide

GAiN is helping refugees in Ukraine, providing them with food and much more besides.

Pulling together to make things happen: This is the idea behind the annual donation campaign, which raises money for charities and global aid organisations. A near six-figure sum had been collected by the end of 2023 – an amount that **Prof. Friedhelm Loh** topped up to 200,000 euros.

CHRISTLICHER HOSPIZDIENST GÖRLITZ
A donation of 12,500 euros has gone to this Christian hospice service that supports terminally ill patients and their families. “Amongst other things, this will help provide volunteers with basic and further training,” says the service’s coordinator, Anja Hempel.

EVANGELISCHE INTEGRATIVE KINDERTAGESSTÄTTE
The Rittal Foundation has donated 10,000 euros to help this inclusive Christian daycare facility in Monheim am Rhein set up “dream rooms” for quiet relaxation, guided meditation and therapy sessions. “We’re delighted that, thanks to the donation, two of the rooms are now up and running,” says Katerina Katsatou.

GLOBAL AID NETWORK (GAIN)
A sum of 20,000 euros is benefiting the GAiN aid organisation, which provides emergency humanitarian aid in over 50 crisis regions. The donation is being shared between projects in Ukraine, Armenia and Israel. The support provided by GAiN includes food, clothing and a whole lot more.

The other donation recipients were Bodelschwinghsche Stiftungen Bethel (for people with all kinds of disabilities), Caritas Workshops in Montabaur, Debora Foundation India, Diakonie- und Sozialstation Heckengäu and Regionale Diakonie an der Dill (both involved in Christian welfare and social work), Lebenshilfe Altenkirchen (for people with mental disabilities), Tafel Hessen (a food bank), and Oberlausitzer Kinderhilfe Bautzen and SOS-Kinderdorf Gera (both helping children).

New website

An overview of all aid projects

To make the Rittal Foundation’s projects more transparent, the new website of the Friedhelm Loh Group’s charitable foundation tells people accessing the site all about the four funding categories – Training & Education, Welfare & Social Issues, Culture & Science and Environment. The website address remains the same: www.rittal-foundation.de

Reading and language support

Help for young Ukrainians

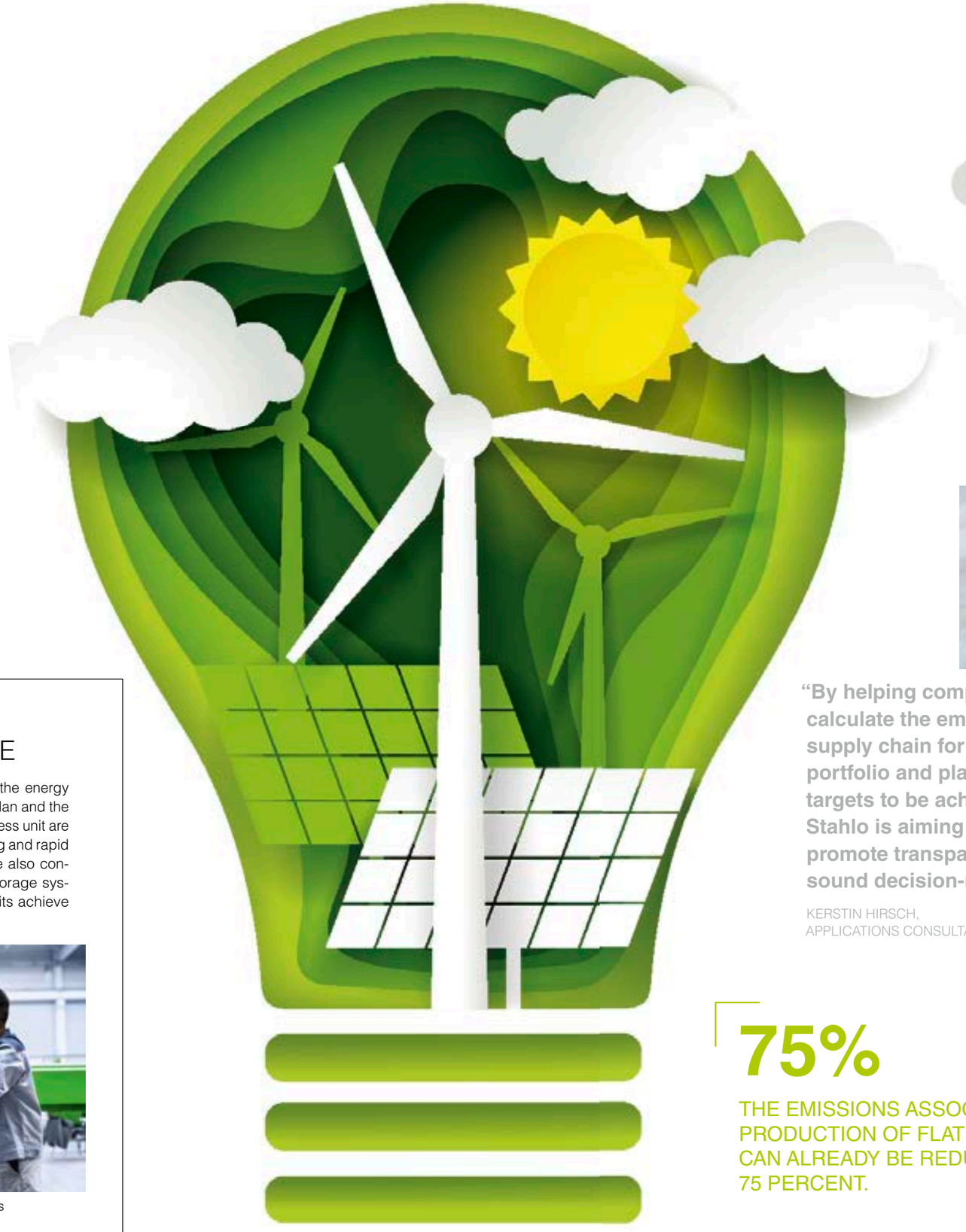
At the beginning of February 2024, the Rittal Foundation’s Managing Director Rainer Reissner, Marcel Martin from Stahlo and Andre Theuerkauf from Rittal in Gera handed over a 6,000 euros donation to Jumpers in Gera. Jumpers is short for “Jugend mit Perspektive” (young people with prospects), and this Christian children’s charity is committed to supporting children and families throughout Germany who find themselves in socially challenging situations. Amongst other things, it provides healthy meals, tutoring, all kinds of workshops, retreats and also comprehensive assistance for refugees. This is exactly where the donation will be going. A Ukrainian staff member recently joined the Jumpers team in Gera to help provide after-school support for children and young people from Ukraine. Her activities in her role as a key carer include providing reading and language support.

The future is green

SHAPING AND IMPROVING OUR WORLD

All around the world, teams from the **Friedhelm Loh Group** are working on making our products and sites **increasingly sustainable**. We are also helping our customers to do the same. We reveal what our Group has already achieved and what we are planning next. We also hear what people have to say about sustainable technologies.

TEXT: DANIEL GIEBEL



FOR OUR CUSTOMERS

CARBON-REDUCED PLASTICS

LKH is pressing ahead with technical innovations to promote the use of CO_2-reduced plastic. For example, the company is making increasing use of recycled materials and bioplastics, which have an 85 percent smaller carbon footprint than conventional plastics. In 2024, further initiatives to replace certain materials are expected to save some 1,300 metric tons of CO_2.

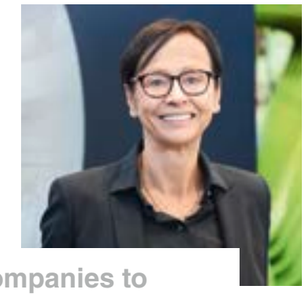
CARBON-REDUCED STEEL

Green steel is in demand. With its state-of-the-art site in Gera, Stahlo is one of the pioneers in this field. The company, which is an expert partner for the procurement of CO_2-reduced steel, has rigorously geared its organisation and processes to reducing CO_2 and operates one of the most cutting-edge, energy-efficient steel service centres there is.

ENERGY EXPERTISE

Infrastructure is an essential part of the energy transition. Industrial solutions from Eplan and the Rittal Energy & Power Solutions business unit are helping to ensure the efficient planning and rapid expansion of energy grids. They are also contributing to e-mobility and energy storage systems. What's more, Rittal cooling units achieve energy savings of up to 90 percent.

Stahlo is an expert partner when it comes to the procurement of green steel.



"By helping companies to calculate the emissions in the supply chain for their flat steel portfolio and plan sustainable targets to be achieved by 2030, Stahlo is aiming to help promote transparency and sound decision-making."

KERSTIN HIRSCH,
APPLICATIONS CONSULTANT AT STAHLO

75%

THE EMISSIONS ASSOCIATED WITH THE PRODUCTION OF FLAT STEEL PRODUCTS CAN ALREADY BE REDUCED BY UP TO 75 PERCENT.

60%

OUR TARGET FOR 2030 IS REDUCING CO_2 EMISSIONS BY 60 PERCENT COMPARED WITH 2019.

100%

THE LKH PLANT IN HEILIGENROTH OBTAINS 100 PERCENT OF ITS ELECTRICITY FROM HYDROPOWER.

"We are aware of our responsibility to the environment and the world in which we live. This commitment from our corporate principles applies throughout our Group. Sustainability thus plays a role for every employee and is also relevant to our work with suppliers, partners and customers. Only together can we achieve our targets."

ISABEL TARTLER, SUSTAINABILITY MANAGEMENT, FRIEDHELM LOH GROUP

FOR CLEAN PROCESSES

LESS METAL WASTE

Metal – whether in the form of tin, aluminium or stainless steel – is precious, and the Friedhelm Loh Group takes various steps to reduce the amount it has to scrap. For example, FLG companies are optimising their use of materials, ensuring more effective damage protection for delivered materials, recycling waste metal and using alternatives to destructive testing. As a result, the volume of scrap metal has been cut by more than 1,800 metric tons this year – in Germany alone.

WASTE PREVENTION

Recycling instead of throwing away – at the Rittal plant in Haiger, a team is working in collaboration with a film manufacturer to develop a recycling system for film waste. Currently, up to 90 kilograms of film waste is disposed of each day. The aim is for the film manufacturer to use this waste to produce new film in the future. In other areas, too, we are working on ways to prevent waste, such as reducing the amount of paint-stripping in the paintshops.

EFFICIENT PLANT PROCESSES

When it comes to energy consumption, the companies in the Friedhelm Loh Group don't just look at their buildings – they also consider their plant processes. Here are two examples. One of the paintshops at the Rittal plant in Haiger is being converted to clean and degrease workpieces at a lower temperature. It will also soon start using a new powder coating that dries at a cooler temperature. The results are of the same high quality, but the energy consumption is much lower. Starting in the coming year, the plant will also be saving even more energy thanks to a new control system for its air compressors that ensures they do not run at high power when this isn't necessary. These concepts are already being extended to other plants in Germany and around the world.

FOR GREENER PLANTS

USING GREEN ELECTRICITY

Since there are limits to the expansion of photovoltaic installations – due to space constraints, for example – buying in green electricity also plays an important role. The Friedhelm Loh Group does this across Germany and, in some cases, on a global level. For example, 100 percent of the electricity purchased by the LKH plant in Heiligenroth is generated by hydropower, while a solar park in India has been supplying two-thirds of the electricity we need there since 2017. Our aim is to switch all our international sites to green electricity by 2030.

PHOTOVOLTAICS EXPANSION

We already have PV installations supplying us with solar power at our sites in Germany, Italy and Austria. This year, we are putting further installations into operation at Rittal China and the Rittal Global Distribution Centre in Haiger. In total, these installations will supply some 2.8 megawatts of power, almost doubling the proportion of our overall electricity needs that we cover ourselves. Over the coming years, teams will analyse what else is possible in terms of generating solar power and will implement measures accordingly.

All our sites are gradually being switched to using green electricity, like the Rittal plant in Haiger.

100%

OUR AIM IS TO SWITCH ALL OUR INTERNATIONAL SITES TO GREEN ELECTRICITY BY 2030.

"As Energy Manager for the Friedhelm Loh Group, I focus 100 percent on devising and implementing energy-related measures for the Group worldwide."

FELIX MÜLLER, ENERGY MANAGER OF THE FRIEDHELM LOH GROUP

Nationales Automuseum

WHERE HORSEPOWER MEETS DESIGN

Racing from zero to a hundred in terms of popularity since it opened last year, **Nationales Automuseum – The Loh Collection** has become a new dream destination for car lovers and technophiles from all over the world. The museum now has a **special exhibition** dedicated to the legendary **Ferrari** brand and is also stepping up its commitment as an **academic hub**.

TEXT: DANIEL GIEBEL

"FERRARI" SPECIAL EXHIBITION
A globally unique collection of high-class cars

Since it opened in July 2023, the museum located in Dietzhölztal, in Central Hesse, has welcomed over 40,000 visitors from all over the world – an impressive figure that is matched by the high level of media interest. In December 2023, the museum was also presented with the FIA Founding Members' Club Heritage Cup at the FIA Grand Gala held in Baku, Azerbaijan. This international accolade from the world of classic automobiles recognises the efforts of dedicated organisations, events and individuals to promote and preserve automotive history.

SPOTLIGHT ON FERRARI

Following the permanent exhibition's winter break, the new season at the Nationales Automuseum is starting with an impressive special exhibition. "Ferrari – Masterpieces for the racetrack and road" offers a unique collection of legendary Ferraris. From prototypes of historically significant sports cars to Michael Schumacher's Formula 1 racing car, the exhibition showcases Ferrari's diverse history. These rare cars come from the personal collection of museum founder Prof. Friedhelm Loh. "Each and every vehicle represents an important piece of automotive history and also the company's history," he emphasises. Promising detailed insights into nearly 80 years of Ferrari history, the exhibition brings the cars and their stories to life.

A number of exhibits with Pininfarina coachwork were made specially for royalty and business magnates. They offer an exclusive opportunity to explore this motoring history. The exhibition also focuses on Enzo Ferrari, the man who, by instilling his passion for technology and design into the company's DNA, continuously took it to new heights.

OPENING HOURS AND FURTHER INFORMATION

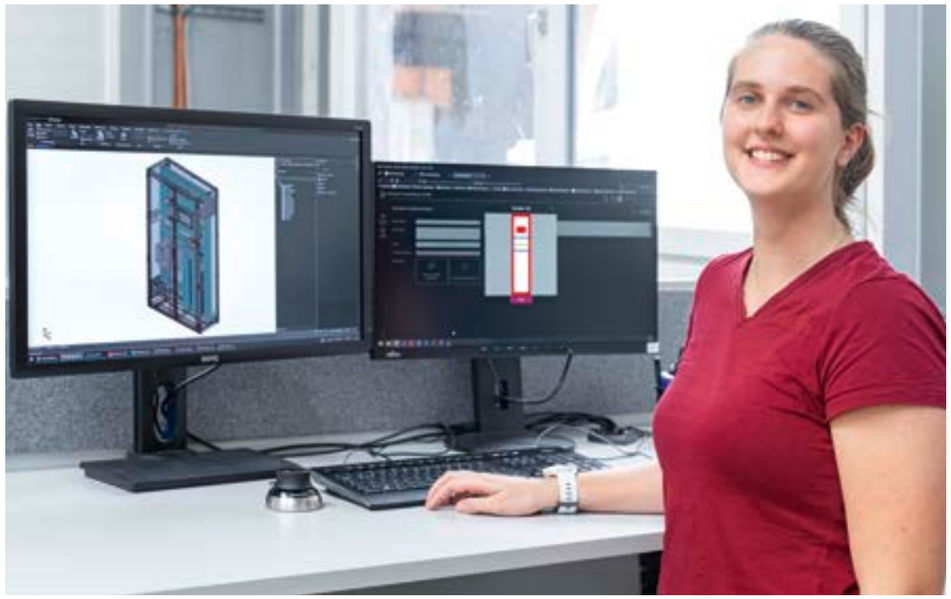
Nationales Automuseum – The Loh Collection, including the New York New York **restaurant and diner** and the **museum shop**, is open from Wednesday to Sunday. You will find the exact opening hours, along with ticket prices, directions and much more besides, at **www.nationalesautomuseum.de/en**

LEARNING FROM CLASSIC CARS

Steps to establish the museum as an academic hub are also in full swing. In collaboration with Nuertingen-Geislingen University (HfWU), it serves as a campus of the Faculty of Economics and Law under the direction of Prof. Jochen Buck. For example, the museum offers a Certified Expert for Historic Cars (CEHC) course. As part of their studies, course participants are trained as classic car appraisers. Besides gaining in-depth restoration knowledge, for instance, they also learn how to assess the history and originality of vehicles.

The Certified Expert for Car Design (CECD) course, on the other hand, is aimed at anyone who is looking for a more intensive focus on automotive design. Experts teach CECD students about the process of designing a vehicle, what disciplines this involves and how these disciplines work together. They also learn how the automotive design process of the future will be aided by artificial intelligence and why the decisive success factor in the automotive industry is no longer the product itself, but rather the user experience. So what kind of user experience does the Automuseum offer? A truly fascinating one! □

Top: Red supercars in front of the museum's main entrance. Bottom: Certified expert courses teach students a great deal about the engineering and design of classic and modern vehicles.



Issue 02|2024:

TOTALLY DIGITAL

Hargassner is one of the world's leading suppliers of biomass heating systems. The Austrian company is now using a highly automated process to manufacture the switchgear installed inside their systems, skilfully drawing on the software and hardware expertise of Eplan and Rittal. For this purpose, Hargassner utilises the data from the system's digital twin throughout the entire value creation process. This is boosting availability, quality and competitiveness.

Find out more in the next issue of be top!

PUBLICATION DETAILS

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PUBLISHER
Friedhelm Loh Stiftung & Co. KG
CEO:
Prof. Friedhelm Loh
Rudolf-Loh-Strasse 1, 35708 Haiger, Germany
Tel. +49 (0) 2773 924-0
E-mail: betop@friedhelm-loh-group.com
www.friedhelm-loh-group.com

RESPONSIBLE EDITOR
Dr Carola Hilbrand (legally responsible for content)

EDITOR-IN-CHIEF AND COORDINATION
Hans Robert Koch, Patricia Späth

REALISATION AND DESIGN
TERRITORY GmbH
Brüsseler Strasse 89–93
50672 Cologne, Germany
Tel. +49 (0) 221 998 051 311
E-mail: territory-koeln@territory.group
www.territory.de

EDITORIAL STAFF
Daniel Giebel, Astrid Hopp

AUTHORS
Jannick Bangard, Sarah Bäumchen, Daniel Giebel, Meinolf Droege, Birgit Hagelschuer, Hans Robert Koch, Alexandra Lachner, Dr Jörg Lantzsch, Steffen Maltzan, Ralf Steck, Christian Vilsbeck

PHOTOGRAPHY
Michael Koch, Digital Fotogroup GmbH

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Linguatext Ltd, Martin Planer (translation management), John Wilkins

GRAPHICS
Andrea Stitz, Petra Nienstedt, Anja Beyer, Jeanne Renault-Rumbucher, Nina Konzmann

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E-mail: info@aumueller-druck.de
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Customer: IT-Budget

"I'M A FAN OF THE TX!"

There are football fans, there are music fans and there are also fans of racks – including Christoph Laves, Managing Director of IT-Budget GmbH in the German town of Taunusstein. The network technology manufacturer, distributor and dealer has a soft spot for robust network racks. His company's portfolio includes some 15,000 different articles. Laves knows the market, its manufacturers and their IT rack portfolios like the back of his hand. "Since opening in 2004, we've focused on server and network racks. By the time Amazon started selling books, we already had an online shop for IT racks," he says. IT-Budget now also offers custom designs. "We realised there was a demand for articles that you can't get directly from any manufacturer. We then started pre-assembling racks and producing niche models such as soundproofed server racks and dustproof racks – in other words, custom solutions in small quantities and with a very quick turnaround," continues Laves.

Demand is high. Out of all the leading network technology racks, Laves has a favourite. "I'm a big fan of the TX CableNet from Rittal. I was delighted when it was launched," he reveals. "The highly robust frame and the numerous mounting options are impressive. There's nothing to beat this rack on the market – a high-end frame and definitely more fit-out options than competitor products," he adds. The particular benefits mentioned by Laves include the frame's load-carrying capacity of up to 1,500 kg, flexible cable routing and the possibility of fastening accessories to all parts of the rack, at any height. □

IT-Budget GmbH has been modifying IT racks since 2004 and is run by Christoph Laves. His current favourite is the TX CableNet from Rittal.

Scan here to go to the video:

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GROUP

Friedhelm Loh Stiftung & Co. KG
Rudolf-Loh-Strasse 1
35708 Haiger, Germany
Phone +49 (0) 2773 924-0
Fax +49 (0) 2773 924-3129
E-mail: info@friedhelm-loh-group.com

www.friedhelm-loh-group.com

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