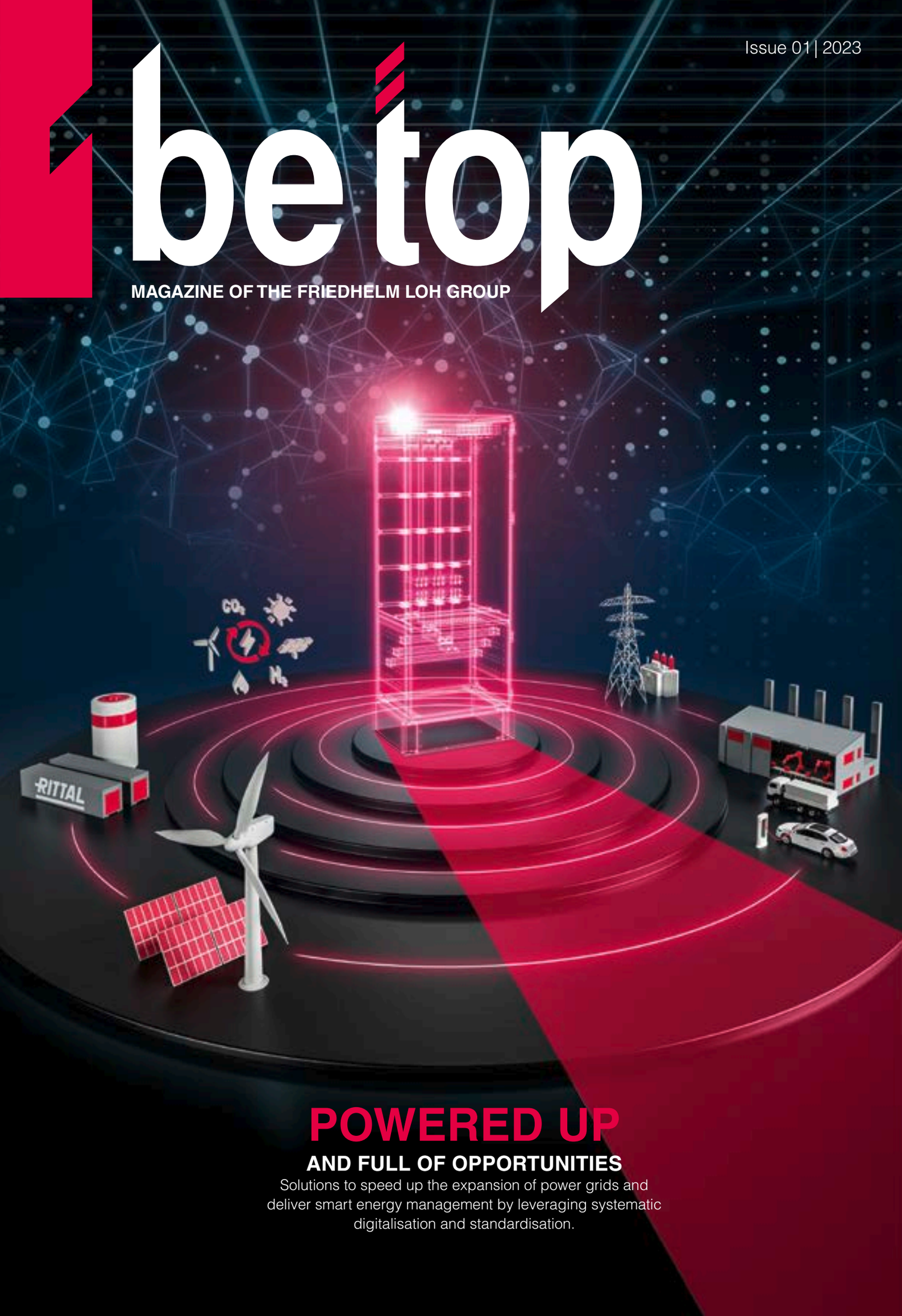
Issue 01 | 2023

betop

MAGAZINE OF THE FRIEDHELM LOH GROUP



POWERED UP

AND FULL OF OPPORTUNITIES

Solutions to speed up the expansion of power grids and deliver smart energy management by leveraging systematic digitalisation and standardisation.

Powered up

Dear readers,

Industry is under immense pressure, as it is currently undergoing one of the biggest upheavals of all time. It needs to press ahead with the digital transformation of its factories – but, at the same time, it is being forced to respond to high energy prices and to strive for economical energy supplies that will be secure for the long term. What's more, industry must help drive forward the rapid expansion of grids.

Transforming energy systems is a mammoth – and complex – task. Simple, stand-alone solutions don't exist. New, clever solutions are urgently needed. Seldom before have there been so many opportunities for innovation, optimisation and value creation. In other words, the energy transition is also opening up massive opportunities.

But how can the conversion of energy systems be accelerated? How can we help you, our customers, become even more successful and even better at what you do? What is needed is innovation that goes beyond products and solutions – a combination of hardware and software along the entire value chain. It all comes down to overarching solutions and standardised platforms that can be adapted quickly in line with future requirements. After all, that's what it's all about – being able to adjust to new challenges and requirements in the future with ever increasing speed.

This can only be achieved by working together in a good partnership geared to both the present day and the future. Thanks to their domain knowledge and expertise that spans the entire value creation process, the Friedhelm Loh Group companies can offer you support with everything from engineering and system technology to automation and service. They can help with product manufacture and configuration, supplying IIoT know-how for developing a smart factory and new solutions for smart energy monitoring in industry and IT. What's more, they can also offer expert knowledge when it comes to green steel and clever plastic solutions.

This new issue of be top will give you an insight into these companies – Rittal, Eplan, Cideon, German Edge Cloud, Stahlo and LKH. See for yourself – in this issue, we have interviews with experts, examples of best practice and, most importantly, reference stories from many different sectors and applications.

I wish you a pleasant read.

Kind regards,

Prof. Friedhelm Loh

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

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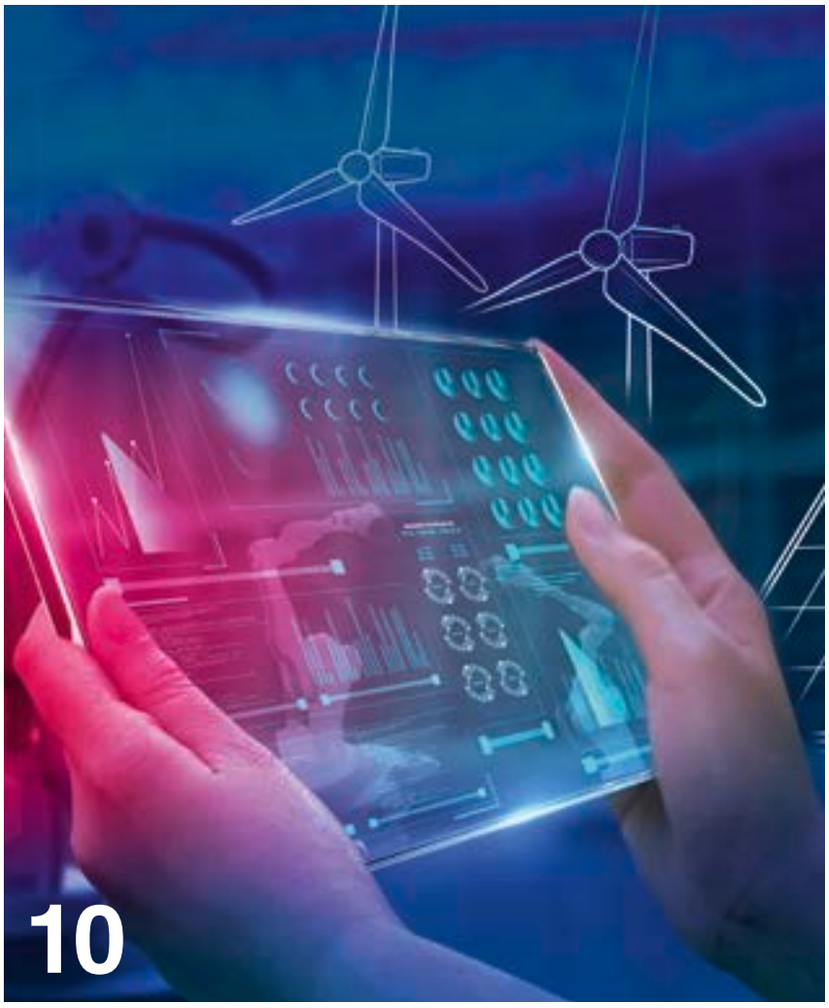


Dr Carola Hilbrand
Director Corporate and Brand Communications
Friedhelm Loh Group

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

NEWS UPDATE

COVER STORY

INNOVATION

be top online

Check out the digital version of be top:

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

NEWS

AWARD WINNER

Rittal recognised as one of Germany's Top 100 innovators

After demonstrating its innovative qualities in an independent scientific analysis, **Rittal** has now been awarded the **"Top-Innovator 100" seal of approval for 2023.**

The innovation competition, staged this year for the 30th time, saw Rittal particularly impress the scientific directors of compamedia – the competition organisers – in the categories of innovative processes and organisation. "We're delighted to have once again received this award that picks us out as one of Germany's top innovators," says Markus Asch, CEO of Rittal International and Rittal Software Systems. "There is one question in particular that drives us and our sister companies in the Friedhelm Loh Group, namely: What will our customers need tomorrow so they can remain competitive and fit for the future? We are convinced that, over and above products and solutions, it is innovation that is key in this respect," he continues. After all, thinking in terms of customer processes, optimising these consistently and thus creating added value throughout the value chain on a sustainable basis is what both inspires and drives the company.

Asch explains what exactly this means. "Nowadays, efficiency and productivity are business-critical factors for our customers. What's more, customer requirements are becoming ever more complex and the pace of change is very fast. Companies that want to remain competitive need to think beyond products and solutions. Rittal believes that innovation is all about making customers successful in all aspects of their performance. This means we need to develop platforms now and think in terms of new ecosystems. Thanks to standardisation, we can very quickly develop solutions for future scenarios on this basis." Philipp Guth, Chief Technology Officer of Rittal, firmly believes that this always calls for a combination of hardware and software. "If you stop thinking in terms of products and solutions and start thinking in terms of process optimisation, then the only option is to combine both worlds." Rittal has generally geared its activities to this spirit of innovation, as the Top 100-Innovator judging panel has now confirmed. The Top 100-Innovator competition is based on an independent selection process that involves analysing SMEs in line with more than a hundred criteria in five categories.

Innovative throughout the value chain: Philipp Guth, Chief Technology Officer at Rittal (left) and Markus Asch, CEO of Rittal International and Rittal Software Systems.

Close communication: All Eplan Partner Network players are benefiting.

THE EPLAN PARTNER NETWORK – TWO YEARS ON

Now some 60 partners in the network

Making sure their solutions offer maximum capacity for integration through consultation with Eplan – this is the common aim of the some 60 companies in the global Eplan Partner Network, which was set up a good two years ago now. By offering access to expert knowledge and pooling various strengths, the network ensures optimal communication between different software applications such as product configurators, CPQ programs, PLCs, PLM/ERP solutions and others. Customers benefit from verified software quality, continuous development work and systematic usage improvements in their own workflow. A foundation of open interfaces and deep integration gives rise to wide-ranging opportunities for implementing the digital transformation.

Key players from the world of automation, including strategic partners Rittal, Phoenix Contact and Rockwell Automation, have been involved right from the start in 2021. The Siemens Smart Infrastructure business unit joined their ranks in 2022. The technology partners – some 38 companies – make up the most extensive category of the Eplan Partner Network. In regard to the network's research partners, a collaboration has recently been agreed with TH Lübeck.

NEW RITTAL SUBSIDIARY

New presence in Serbia

More than 30 years after launching on the Serbian market, Rittal has established a new subsidiary – Rittal Serbia. In conjunction with Eplan, a new branch has been opened in Belgrade, and a national centre of excellence for industry and IT is being established there. The new office will concentrate on the growth and development of the Serbian market in particular and will form a national centre of excellence in both the industrial and IT infrastructure segments. The focus is on expanding business in the IT sector and the process industry. Together with Eplan, Rittal is aiming to help boost the competitiveness of the Serbian technology and industrial sectors. Another focus is on establishing a stronger presence in the Western Balkans through access to Bosnia and Herzegovina, Montenegro and Albania.

Official opening of the new Rittal branch in Belgrade.

SCHULZ SYSTEMTECHNIK

Into the cloud with Eplan

Cloud services are becoming ever more popular – including at **SCHULZ Systemtechnik.** Following a highly successful test phase, the company, which develops automation solutions, now wants to make the **cloud technology for Eplan solutions** standard for all its operations.

When it comes to large, complex projects involving many members of staff, it is all too common for network problems, delays and system crashes to crop up repeatedly. "These system issues have a detrimental impact on the project schedule and efficiency and are frustrating for everyone involved in the project," says Phil Krümpelmann, head of IT at SCHULZ Systemtechnik in Visbek in Lower Saxony.

Moving everything – in other words, not only the data the team is sharing, but also the software and hardware – to the cloud therefore seemed like the ideal solution. SCHULZ Systemtechnik has been working successfully with Microsoft cloud systems for a number of years now. "However, we didn't yet have any experience when it came to highly complex applications such as Eplan." Eplan and Microsoft were extremely interested in a joint solution and provided technical support for thorough testing.

EXPECTATIONS EXCEEDED

The IT team at SCHULZ set about the practical implementation in partnership with the design engineering department. Within just three months, they had laid the necessary foundations for testing the first project. The results exceeded all expectations – the stability of the network was rock solid, the system did not crash once and processing power was consistently very high. The collaboration between Eplan users is working well and improving all work processes. "Staff can now essentially take their work with them wherever they go. All they need is a computer with internet access – it doesn't need to have any storage capacity or processing power of its own. In the past, it took hours even just to carry out evaluations for larger projects. With the new technology, it only takes ten minutes," says Umut Ünlü, Services Team Leader at SCHULZ Systemtechnik. "The electrical engineering staff are thrilled, because collaboration within the design engineering team is now so much easier. Having started with Eplan Electric P8, our aim now is to integrate other Eplan systems – which have so far been running on premises – into the cloud," adds Krümpelmann.

Phil Krümpelmann, head of IT at SCHULZ Systemtechnik

COMPANY-WIDE SOLUTION

The highly promising tests are only the first step towards making cloud technology for Eplan solutions standard throughout the company. "Our expectation is that this will result in much greater flexibility in our work processes and boost efficiency overall, especially when it comes to integrating new systems into the IT infrastructure," explains Krümpelmann. The test clearly demonstrated another benefit, too. "We can now operate all our sites without a server. That in itself saves us eleven servers and we can also cut down significantly on expensive hardware. After all, up to seven people can work simultaneously on one virtual machine." As Krümpelmann explains, the administrative costs are lower, too. "Since the computing power comes from the cloud, we don't need to put as many resources into maintenance or our own hardware." There's also another benefit – scalability. "We only pay when we need the hardware and we can increase or reduce our requirements at any time."

SCHULZ SYSTEMTECHNIK

In Haiger, Rittal uses 250 digitally integrated machines to produce up to 8,000 enclosures and compact enclosures a day.

PRESTIGIOUS AWARD FOR RITTAL & GEC

Award for pioneering work

Every year, ROI-EFESO Management Consulting presents awards to companies that are using smart factories to carry out pioneering work for German industry. **Rittal** and its sister company **German Edge Cloud** won the **"Industrie 4.0 Award 2022"** in recognition of their digitalisation of production at the Haiger plant.

When it comes to digital transformation in industry, there are clearly defined goals – better transparency, greater knowledge and more speed. Rittal and its sister company German Edge Cloud (GEC) won over the ROI-EFESO Industrie 4.0 Award judges with their joint solution for these requirements. There was a particular focus on how cutting-edge Industrial Internet of Things technologies can be used to align processes with customer needs, leverage potential to boost efficiency and create new business models.

ORCHESTRATION SETTING BENCHMARKS

Rittal and GEC impressed the judging panel, which comprised 30 distinguished industrial managers and production specialists. "The combination of technologies and team spirit at the Rittal plant in Haiger is exemplary. Thanks to learning that's based on data and complete networking from the customer to machine control on the shop floor, the entire company keeps making progress, even in situations where conventional automation reaches its limits," explained one of the judges, Dr Jörg Ulrich, Executive Vice President, Head of Operations Region Europe, BSH Hausgeräte GmbH, at the award ceremony. "All in all, with its unique orchestration of staff, machinery and data, Rittal is setting new benchmarks for smart factory performance." Rittal and GEC see the accolade from the expert judging panel as validation that they are on the right path. They are in no doubt that digital transformation and customer focus are very closely linked – and that smart production is an integral part of it all.

Award ceremony: Judge Dr Jörg Ulrich (middle), BSH Hausgeräte GmbH, congratulates Dr Marc Sesterhenn (left), COO at Rittal, and Dieter Meuser (right), CEO of Digital Industrial Solutions at GEC.

"The energy transition: A challenge on this scale almost always offers one-time opportunities to reposition yourself."

Uwe Scharf, Managing Director of Business Units at Rittal

The challenge of the energy transition

POWERED UP

Although the **energy transition** is crucial for securing a stable, environmentally friendly and prosperous future, it is and always will be a Herculean task. According to a study from Norway, barely any aspect of the energy sector will be the same by 2050. This also means that the opportunities for industrial companies are huge, for instance in terms of **accelerated grid expansion** and **smart energy management.** The key levers are **end-to-end digitalisation and standardisation.**

Text: Ulrich Kläsener, Hans-Robert Koch, Steffen Maltzan

Turn away from nuclear and fossil fuels and towards renewables and better energy efficiency. The guiding principles of the energy transition certainly sound good. However, that change is also going to be disruptive. Conventional business models and entire infrastructures, products, technologies and services all need to be restructured. What makes this process really stand out is that it affects every sector of the economy, because everyone works with power in some way, whether they generate it, store it, convert it, distribute it, or consume it in industry, transport or buildings.

SIMPLY SWITCH?

So, why exactly does the energy transition present such an extraordinary challenge? On the one hand, it's because the task is so huge. The necessary infrastructure expansion is immense and covers every aspect of the energy system. It affects power generators at the start of the supply chain just as much as it does grid operators and industrial companies as end users. On the other hand, the task is also extremely complex. "It is one of the biggest change processes and there is no blueprint for it anywhere in the world. Simply switch? It won't work like that," points out Uwe Scharf, Managing Director of Business Units at Rittal.

There is, at least, a broad understanding of what this mammoth project relies on – a shift in focus for primary energy sources, establishing new infrastructure, and adopting a highly efficient and diversified approach to handling power. According to the highly regarded study "Energy Transition Outlook 2022" (ETO) produced by Norwegian company DNV, the share of electricity generated from renewables is to hit 83% by 2050. By contrast, the share of electricity generated from fossil fuels will drop from 59% to 12% and nuclear power from 10% to 5%.

A TIMEFRAME WITH OPPORTUNITIES

It is crucial for the future that energy systems are converted rapidly. Solutions are also needed that will take energy management in companies to a new level. "In the future, commercial success will be determined by energy efficiency and the digitally assisted, smart management of energy flows, consumption and load peaks, particularly in the manufacturing industry. In parallel with this, energy suppliers and grid operators will need to vigorously pursue infrastructure expansion and conversion," says Scharf.

How can industry manage the energy transition? What opportunities are arising and how can the sector continue to build the future?

According to the study, Europe is continuing to act as the driving force behind the energy transition and renewables are being established and expanded at a faster rate due to the energy crisis. As Scharf puts it: "The energy transition is taking place in an overall context that, on the whole, has never been more complex or dynamic. This also means that a challenge on this scale almost always offers one-time opportunities to reposition yourself."

All change for energy – tasks, opportunities and solutions

WHERE WE NEED TO FOCUS OUR ENERGY

The energy transition. Rarely have the plant engineering and manufacturing sectors ever needed smart solutions as quickly and urgently to deal with a wide range of **complex requirements.** But how can these requirements be met? Where are the opportunities? What needs to be done? We spoke to **Uwe Scharf, Managing Director of Business Units (CBO) at Rittal.**

Mr. Scharf, what kind of radical changes does industry need to prepare for when it comes to the energy transition?

Scharf: The "Energy Transition Outlook" sets out the primary trajectories for development up to 2050. This study from DNV shows that the overarching trend is one of increasing electrification – the keyword being the "all-electric society". Energy needs to be generated, stored, converted, distributed, and made available for consumption. It's a colossal market where the corresponding infrastructure needs to be built up. Another aspect covers the rising demands on the grids and the energy infrastructure as a whole.

Study: Energy Transition Outlook 2022

Energy prospects

With energy security, energy independence and rising energy costs in view, Europe remains a global pioneer in the energy transition. That was the assessment of the sixth "Energy Transition Outlook 2022" (ETO), which is compiled by Norwegian company DNV. According to the study, the driving force behind the transformation continues to be the growth and "greening" of power generation. Indeed, power generation will reportedly double by 2050 in order to keep pace with comprehensive electrification. The ETO also estimates that renewables will account for an 83 per cent share of the electricity system in 2050. The study states that the biggest engine for the global energy transition is the rapidly plunging costs associated with solar and wind power, which will offset the current, short-term shocks for the energy system. According to the ETO, despite short-term raw material cost challenges, the capacity growth of solar and wind is unstoppable – by 2050 they will have grown 20-fold and 10-fold, respectively.

"The energy transition is likely to see unprecedented regional and cross-industry cooperation."

Remi Eriksen
Group President and CEO at DNV

FIND OUT MORE

The complete study
http://eto.dnv.com

What specifically is changing with regard to the grids?

Scharf: The success of the energy transition depends on many factors. Firstly, the pace of energy grid expansion is going to pick up massively (and will need to), in order to keep pace with demand. Moving from coal, gas and oil to electricity from renewables is going to put huge strain on the power grid and considerably increase complexity in the system. After all, the present grid, which has been designed to distribute energy that is generated centrally, is becoming a complex network of numerous decentralised elements. Secondly, requirements regarding the transparency, flexibility and intelligence of the whole energy infrastructure will grow, and there must be a (digitally assisted) means of monitoring and controlling these. Thirdly, there is the way the various elements in the energy system interact with each other, which is known as "sector coupling". For example, take the idea of using car batteries as mobile storage devices and having electricity flow in both directions. Another example would be "power-to-gas" processes, during which wind and solar power is converted into hydrogen and methane. One thing is becoming very clear – when it comes to energy, we know that nothing is going to stay the same.

20

By 2050, the number of PV and wind power plants will have grown 20-fold and 10-fold, respectively.

How is this upheaval impacting industrial companies?

Scharf: In addition to delivery bottlenecks, the skills shortage and the recent volatility on the markets, companies also have to treat energy as a success-critical and therefore business-critical and strategically important parameter. They need to deal with the availability of energy as a scarce resource and put in place smart energy management that moves energy-intensive production processes to times when energy is less expensive. It's important to start by asking the questions that really matter. For instance, how will the energy transition impact my own organisation, my products and processes, my business strategy and my customers?

That brings us to the crucial question – what do we do, Mr. Scharf?

Scharf: The great challenges of the energy transition also represent an opportunity with huge potential for all of us. Rarely has industry ever needed new solutions as quickly and urgently to deal with such a lot of issues. What's more, it needs more than just products – it needs partners who help manage complexity and safeguard competitiveness.

How can this new complexity be managed?
Scharf: Based on the experience Rittal and Eplan have built up with customers in the panel building, switchgear and mechanical engineering sectors, we can say that optimizing and industrialising process chains offers very considerable potential for operational efficiency. It is always important to think through all customer processes from end to end and understand them, so you can optimise them. Given the large number of applications and changes involved, optimisation is only possible through systematic standardisation in all areas. That is what we work on with our customers and partners. Integrated hardware and software solutions ramp up the pace of infrastructure expansion – from energy generation and storage through grid expansion and sector coupling, right up to the charging centre for electric vehicles. We are starting out in a lot of these areas, as a team comprising Eplan, Rittal and GEC.

That sounds complicated.
Scharf: It becomes more manageable when you think in terms of standards and modules. What will be decisive is whether we can see the bigger picture behind all the challenges, so we can then develop standardised solutions. From our point of view, the basic principle is to think, automate and digitalise along our customers' processes – to combine hardware and software and then create transparency. This approach will help reconfigure even complex systems more quickly and get them geared up for the future.

Rigorous digitalisation is viewed as the crux of the energy transition. Why is that?
Scharf: Because it reduces complexity. At Eplan and Rittal, we've been working closely with customers from right across the energy sector for many years. Digital data models are being created in all areas. Nonetheless, there are very few cases where digital continuity has truly been established from engineering through to construction and operation. The challenges involved in the energy transition are too multi-layered. What we need are consistent, networked and smart data models for establishing and running energy infrastructure, data centres, production machinery and plants, and for building technology. It makes sense that the sector coupling mentioned earlier can only work with ecosystems that have put in place data continuity. In this case, too, if you put a digital twin at the heart of everything, then you have the DNA – the central data hub – and therefore all the relevant information for a plant or system, which can be used in downstream processes from production through to operation. Ultimately, plant operators also benefit from that in terms of maintenance and networking.

"Thinking, automating and digitalizing along our customers' processes – that is the basic principle we have adopted."

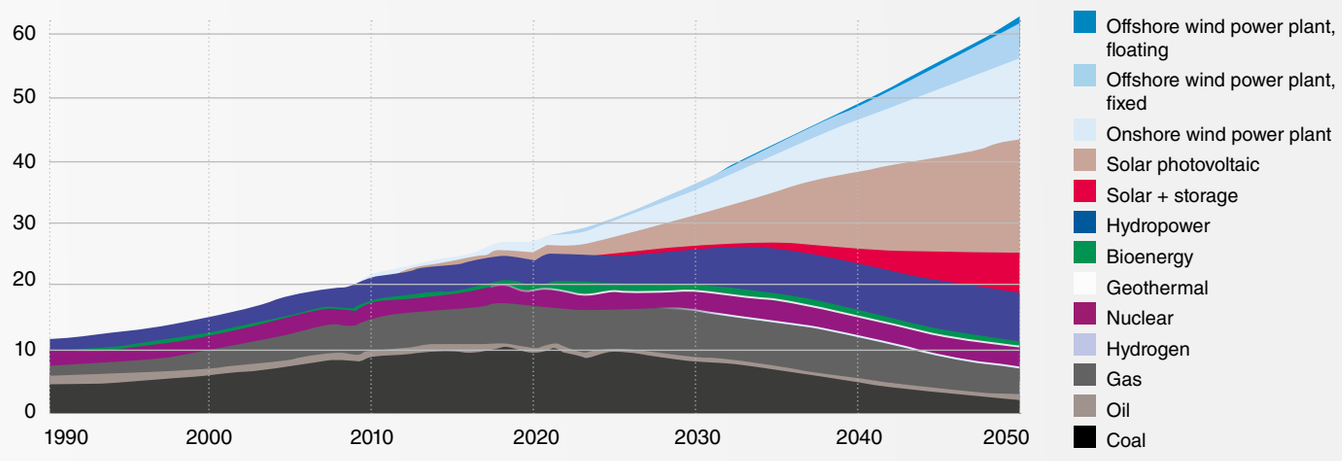
Uwe Scharf, Managing Director of Business Units at Rittal

10%

The share of nuclear power will drop from 10% to 5% by 2050.

World grid-connected electricity generation by power station type

(Units in petawatt-hours/year)



Source: DNV, Energy Transition Outlook 2022

According to the DNV study, the energy transition is likely to see unprecedented regional and cross-industry cooperation. Why is that the case and what are the opportunities that will arise as a result?
Scharf: The tasks at hand are simply too complex for anyone to handle on their own, or even tackle for their own purposes. We need partnerships and solution approaches that revolve around the sharing of experience. There is an immense treasure trove of experience, particularly in German industry, that makes it possible to take best-practice solutions as a basis. This brings us back to standards and modules. That is the approach we are taking, too. Rittal and its sister companies are giving the energy sector access to tried-and-tested solutions from countless international energy projects and markets at numerous points in the energy system. We want to assist as a partner, get to grips with the challenges and draw on a proven repertoire of solutions that can be applied to the problems at hand.

Which solutions exactly are you talking about? What is required?
Scharf: Our engineering standards, cutting-edge software platforms and base solutions for various segments of the energy market are good examples. Based on the numerous customer projects they have completed, Eplan and Rittal have jointly created best-practice templates, for example, for planning and implementing charging parks for the e-mobility sector. As a result, when it comes to electrical engineering with Eplan, planners can take a carefully conceived and preconfigured project as a basis, one that factors in all details including standardised industry hardware. All they might need to do is customise it a little, but that's instead of having to repeatedly develop everything from scratch. This approach speeds the project up with standards and modules that are geared toward data continuity.

Let's move on now from plant engineering to the operators. What can the manufacturing industry do as an energy consumer?
Scharf: As a major consumer with production plants, it can take matters into its own hands. Firstly, it can generate its own energy. There are industry-proven solutions for that, ranging from having solar panels on the roof to running an in-house biogas plant and so on. Secondly, it can measure its energy flows and then manage them – with assistance from a battery storage system housed in a power container, for example. Integrated data management for production processes that incorporates energy monitoring can help create the necessary transparency for this kind of approach. In fact, you can only achieve professional load management and control energy consumption if you have transparency over your data. That's the only way to create the flexibility needed to perfectly coordinate the availability of energy with its consumption.

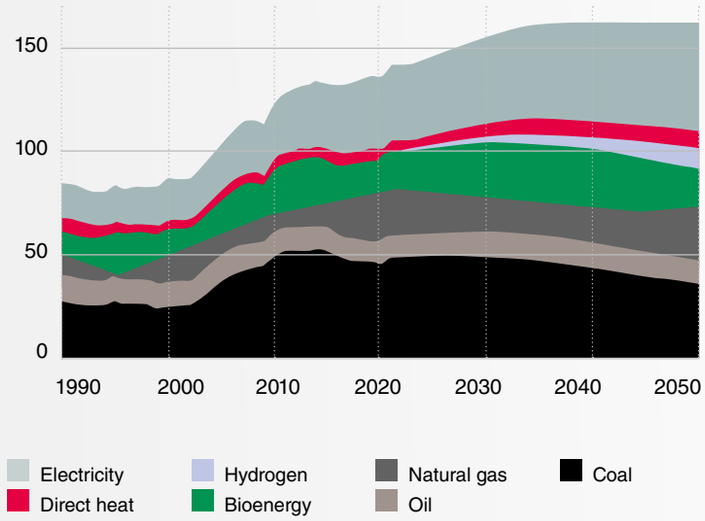
And transparency once again plays a crucial role in that?
Scharf: Precisely. If you can also combine information about production processes with the monitoring of energy flows, you can take transparency even further to incorporate a factor that is becoming increasingly relevant. Rittal (RiZone p. 19) and German Edge Cloud are showing how monitoring can be used to lay the basis for that with a new energy monitoring solution. The open architecture of the DPS (Digital Production System) as composable software (see page 22-23) makes it possible to rapidly integrate new requirements such as energy transparency.

What else is required if we are to really think "end to end" in all processes of the energy sector?
Scharf: Transparency in the supply chains. That is the all-important lever. Take the steel market, for instance, it is one of our biggest suppliers and extremely energy intensive. The market is confusing, and there are currently no uniform global standards for what constitutes "green" steel or how emissions generated during production are to be measured. Our customers are increasingly interested in how much carbon dioxide is actually generated by the steel they order from us. At Euroblech 2022, our sister company Stahlo generated the first impetus for more transparency in steel supply chains with its "Stahlo Steel Gate" PCF (product carbon footprint) demonstrator. When it comes to the complex issue of "green steel", Stahlo is also supporting its customers with what is the first transparency label in the steel market to date. Rittal is getting to grips with this issue so it can configure its future portfolio accordingly.

Thank you for talking to us!

Manufacturing energy demand by energy carrier

(in exajoules/year)



Source: DNV, Energy Transition Outlook 2022

83%

By 2050, the share of electricity generated from renewables is to hit 83%.

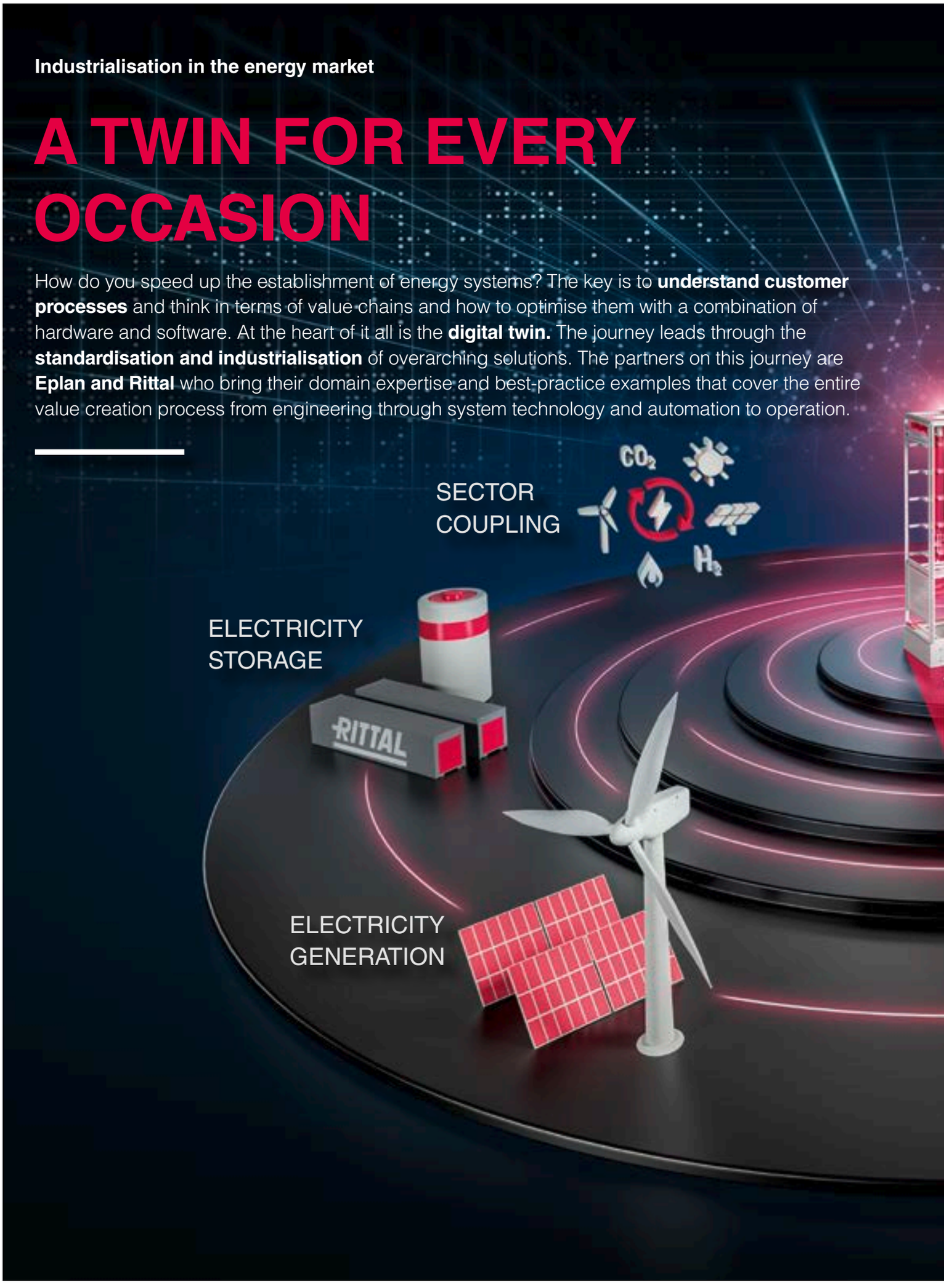
12%

By 2050, the share of fossil fuels in the power mix is to have plunged from 59% currently to just 12%.

Industrialisation in the energy market

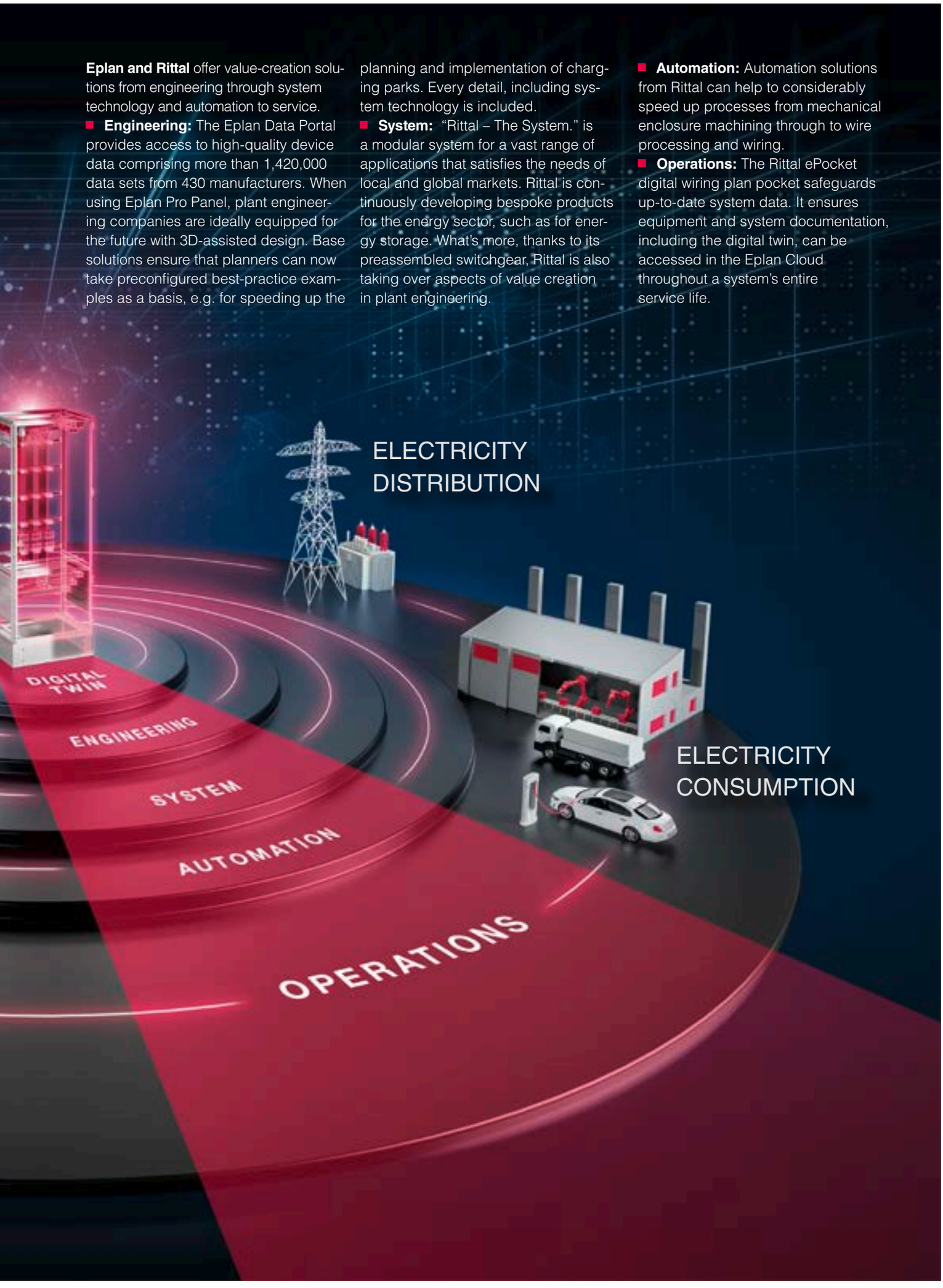
A TWIN FOR EVERY OCCASION

How do you speed up the establishment of energy systems? The key is to **understand customer processes** and think in terms of value chains and how to optimise them with a combination of hardware and software. At the heart of it all is the **digital twin.** The journey leads through the **standardisation and industrialisation** of overarching solutions. The partners on this journey are **Eplan and Rittal** who bring their domain expertise and best-practice examples that cover the entire value creation process from engineering through system technology and automation to operation.



Eplan and Rittal offer value-creation solutions from engineering through system technology and automation to service.

- **Engineering:** The Eplan Data Portal provides access to high-quality device data comprising more than 1,420,000 data sets from 430 manufacturers. When using Eplan Pro Panel, plant engineering companies are ideally equipped for the future with 3D-assisted design. Base solutions ensure that planners can now take preconfigured best-practice examples as a basis, e.g. for speeding up the planning and implementation of charging parks. Every detail, including system technology is included.
- **System:** "Rittal – The System." is a modular system for a vast range of applications that satisfies the needs of local and global markets. Rittal is continuously developing bespoke products for the energy sector, such as for energy storage. What's more, thanks to its preassembled switchgear, Rittal is also taking over aspects of value creation in plant engineering.
- **Automation:** Automation solutions from Rittal can help to considerably speed up processes from mechanical enclosure machining through to wire processing and wiring.
- **Operations:** The Rittal ePocket digital wiring plan pocket safeguards up-to-date system data. It ensures equipment and system documentation, including the digital twin, can be accessed in the Eplan Cloud throughout a system's entire service life.



NEWS

OPEN DIRECT CURRENT ALLIANCE

Rittal joins the Open Direct Current Alliance

In November 2022, **the German Electro and Digital Industry Association** (ZVEI) established the Open Direct Current Alliance (ODCA) in partnership with 33 organisations from the industry, university and research sectors. Rittal is also on board as a founding member. The aim of the ODCA, which is a working party at ZVEI, is to establish direct current technology for a whole range of applications and build a global direct current ecosystem. Direct current offers numerous benefits for a state-of-the-art industrial power grid: the efficient integration of renewable energies, lower resource consumption, reduced infeed power, stable grids and an open system for users. Direct current can thus help with hitting climate targets. “Through this work, we aim to make a further contribution to building a resource-friendly and carbon-neutral world,” states Raphael Görner, Executive Vice President Energy & Power Solutions at Rittal, describing the company’s involvement.

STAHLO

“Green steel” secured

Starting from 2025, Stahlo has secured carbon-reduced SALCOS steel from Salzgitter Flachstahl. Stahlo has already been supplying this steel to emissions-conscious customers since 2021. In line with Stahlo’s classification, customers will receive emission class C+ or B+ steels in the future, which equates to an emissions saving of more than 60 per cent compared to the conventional blast furnace (BF) route. “Our aim is to help our customers achieve their carbon optimisations,” declares Oliver Sonst, Managing Director of Stahlo. **Find out more about this on pages 70 and 71.**

Carbon-reduced SALCOS® steel will be available to customers of all three Stahlo sites.

RITTAL LAUNCHES NEW SERVICE IN GERA

Ri4Power – now also with preassembly

The demand for preassembled switchgear solutions is rising. To support customers with the mechanical construction of their systems, **Rittal** has opened its first preassembly centre for switchgear **at the Rittal Application Center in Gera.**

If plant engineers want to focus on their core skills, they will be able to take delivery of preassembled enclosures for low-voltage main distribution boards. "When customers make use of the services offered by the Rittal preassembly centre, we'll be creating value for them. That means they can devote more energy and attention to actually fitting out their systems and speed up their production process," explains Raphael Görner, Executive Vice President Energy & Power Solutions at Rittal.

At the new preassembly centre in Gera, enclosures will be configured with busbar systems and, if requested, circuit breakers before being preassembled and then delivered – all in line with customer specifications. Preassembly can be purchased as a service, which is a particularly appealing option for companies that don't have the necessary know-how or staff to complete the assembly work themselves. Having assembly services carried out directly by Rittal means that lots of mechanical process steps can be taken out of the equation. This generates a whole range of benefits for customers and takes a great deal of strain off their production operations, either by significantly reducing complexity and thus saving time and cutting costs or by removing the need for the relevant training. Instead, staff and their expertise can be put to more productive and efficient use elsewhere.

MANUFACTURER-INDEPENDENT ASSEMBLY

The VX25 Ri4Power System is ideal for the use of open and compact circuit-breakers from all well-known manufacturers, meaning customers won't end up dependent on specific components. If required, they can switch to products from other suppliers. Having Rittal carry out preassembly work also reduces the risk that plant engineering companies will make mistakes in their own system building operations. What's more, costs are clear from the outset and working with Rittal gives companies a technological edge, which is no small matter.

RIZONE OTM SUITE FROM RITTAL

Better energy transparency in the data centre

For a long time, the energy consumption in data centres was never called into question. Those days are gone now. After all, the demand for, and cost of, energy has skyrocketed. Influencing factors include digitalisation and with it the increase in data traffic and more extensive use of cloud technology. Data centres are also having to continuously ramp up their computing power so they can process data faster and more efficiently. So, how do you work out where savings can be made?

One lever is OT – the operational technology that keeps a data centre running and includes racks, power systems and cooling technology. The new RiZone OTM Suite software enables data centres to optimise their management of the OT layer and monitor physical systems. The solution is aimed at enhancing availability, safety and optimised energy consumption in data centres. It comprises various modules such as OT Device Monitoring, Power Management and Dynamic Cooling Optimisation. The modular RiZone OTM Suite utilises composable software from German Edge Cloud. This makes it possible to monitor energy and thus helps boost energy efficiency. After all, you need to know what your consumption is before you can optimise it and put in place downstream energy management.

Energy consumption and energy costs in data centres are skyrocketing and energy monitoring is becoming increasingly important.

THE AUTOMATION TWIN

Eplan and Rittal are working with control, switchgear and machine manufacturers to further the development of digital twins for machinery and systems and make data usable during operation. The automation twin could also potentially be used to identify energy consumers and measure energy consumption.

THE PRODUCT

Cideon is improving digital continuity in the digital product twin context with its CAD/CAM, PDM/PLM and product configuration expertise – from customer specification to manufacturing. If product data is available in its entirety, then further down the line it can be used, for example, to work out how much energy was used to manufacture individual components and the system as a whole.

Energy monitoring:
A new consideration for the smart factory

SMART TWINS

If separate, complete **digital twins** can be created for **automation systems, products and production processes,** and if they can be networked with each other, then all processes can be mapped transparently and optimised to achieve **smart production**. What's more, if this data can be linked to energy data, whole new opportunities could be leveraged for **improved energy transparency.** Factory operators could then monitor, manage and, in the future, control their energy consumption with precision. **Rittal, Eplan, Cideon and German Edge Cloud** have the necessary domain expertise to make that happen.

TWIN

THE PRODUCTION TWIN

German Edge Cloud uses information from data for faster networking and to visualise processes as a digital production twin. IIoT-supported production management then increases production efficiency and flexibility. If the production data is linked to energy data in the ONCITE DPS (digital production system), companies can then make energy flows transparent so they too can be optimised.

Energy monitoring on the painting line at the Rittal plant in Haiger.

Energy management in smart production

ESCAPING THE ENERGY TRAP

Mapping energy flows. Analysing energy consumption. Managing energy supplies better. These are some of the additional factors that heads of manufacturing need to get to grips with earlier than anticipated as they work towards **smart production.** So how do you **identify energy guzzlers** and then move **energy-intensive production processes to times when energy is cheaper?**

The energy crisis is making things difficult in industry. Rising prices are turning energy into a business-critical parameter. The result is that manufacturing companies are under more pressure than ever to deal with the availability of a scarce resource and put in place smart energy management. As factories continue to work on boosting overall equipment effectiveness and flexibility, one question keeps cropping up – how much energy does all this need? "Before you can evaluate, manage and optimise something, you need to be able to measure it and understand it in its context," points out Dieter Meuser, CEO Digital Industrial Solutions at German Edge Cloud. That is why, at the Rittal plant in Haiger, the software experts of the Friedhelm Loh Group are incorporating the monitoring of energy flows into the IT-supported 360-degree overview of all process.

So how exactly does this energy monitoring work? Production machinery and plants are fitted with energy meters that automatically transmit measured values to the ONCITE Digital Production System (DPS). The DPS is a platform for the agile management of manufacturing processes. While the manufacturing process is underway, the system compares master data to dynamic data from production and makes it available in a cycle comprising analytics, alerts and live dashboarding.

360°

Software experts are incorporating energy flow monitoring into the IT-supported 360-degree overview of all processes.

FROM ENERGY MONITORING TO ENERGY MANAGEMENT

"It is logical that production and plant directors can only get the insight they need if the energy data recorded is reconciled with the specific production processes and relevant product," explains the CEO, adding: "Theoretically, figures can be calculated right down to a product carbon footprint (PCF). It is a pretty safe assumption that the PCF will become a market-relevant factor in good time." Right now, however, it is energy efficiency that really matters: "If we can identify which job – with which unit numbers and product – recorded what kind of energy consumption on which system and when, then Rittal can move from monitoring energy to managing it, so production can be made more energy efficient."

MOVING PRODUCTION TO MORE COST-EFFECTIVE HOURS

The actual objective is to optimise energy supplies. A transparent overview of data relating to energy flows and their contextualisation create the basis for optimisation. Improvements can include professional load management for controlling power consumption, the prevention of load peaks and the detailed coordination of power availability and consumption, whether in terms of in-house electricity generation or external energy supplies. The keyword is "detailed": "Ultimately, smart energy management should also enable plant managers to move energy-intensive production processes to times when energy is cheap," states Dieter Meuer, adding: "You can already make those kinds of decisions really accurately using the data that is available now." ■

Interview

An energy footprint for every component

Energy management solutions are nothing new. However, what happens when energy data is linked to production data? We asked **Dieter Meuser**, **CEO Industrial Solutions at German Edge Cloud.**

01 The Friedhelm Loh Group utilises the domain expertise of several sister companies. How has this arrangement helped with the development of the new "Oncite DPS energy management"?

Meuser: The interplay of all these different skills within the Friedhelm Loh Group had a huge influence on the outcome and was really valuable. Different teams of experts have helped expand the ONCITE Industrial Suite to include an energy management service. The Rittal Digital Operations department with the Energy & Power, IT and Service business units and the ONCITE DPS R&D team, with its factory-based IIoT know-how, played a major part in the development work.

02 The Oncite Digital Production System (DPS) has been expanded to include an energy monitoring function. To what extent did the concept of "composable IT" come into play?

Meuser: We were able to expand the already productive ONCITE DPS system landscape at the Rittal Smart Factory in Haiger, adding the energy monitoring function during live operations. That was only possible thanks to the Scheer Group's "Scheer PAS" application composition platform, which is firmly embedded in the ONCITE DPS.

Dieter Meuser, CEO Digital Industrial Solutions at German Edge Cloud

03 What are the benefits of integrating energy monitoring into the Digital Production System?

Meuser: Energy management solutions have been on the market for a long time. Extending the ONCITE DPS product portfolio with an energy monitoring function makes it possible to correlate the energy consumption in a factory with a finished product. As a result, the energy footprint for every component can be worked out, meaning that, in the future, it will be possible to map production facilities with finely tuned energy consumption in response to electricity supplies.

Thank you very much for talking to us!

NEWS

INNOVATIONS FROM THE
FRIEDHELM LOH GROUP

The Eplan Engineering Standard supports users in their various work phases. Information and download: www.eplan.com

THE EPLAN ENGINEERING STANDARD

Getting started on a project faster and more efficiently

With the Eplan Engineering Standard, (first-time) users have access to sample data and templates that help them implement simple standards in their project. As Tom Wolff, Head of Eplan Engineering Standard, explains: "With the Eplan Engineering Standard, we give our customers practical assistance that is based on standardised data and processes. This means they can make very efficient use of the software." There is also a Guided Installation feature that includes the standardised configuration for getting started with the platform. Industry samples relating to mechanical engineering, energy and building automation further expand the practical examples, which are planned out in consultation with customers. The component data for the practical examples – with more than 20 of these having been incorporated so far – has, for the most part, been integrated on the basis of the Eplan Data Standard. Rittal enclosures and accessories are, for example, completely integrated under this fully comprehensive data standard, and this high data quality ensures everything runs smoothly within the project.

NEW RITTAL EX ENCLOSURES

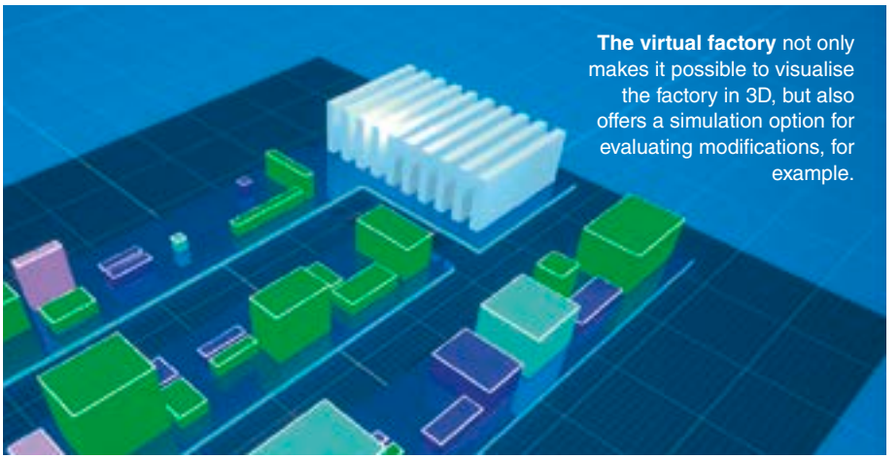
More than explosion protection

In areas with explosion hazards – in the petrochemical sector, at refineries, oil platforms and petrol stations, and in areas of infrastructure involving LNG and, to an increasing extent, hydrogen – it is vital that enclosure systems satisfy the most stringent of safety requirements. These include certifications such as ATEX, IECEx and UL HazLoc. The new Rittal plastic AX Ex enclosures offer this certified safety. There's more good news, too. Thanks to their very robust design and suitability for outdoor use, not to mention their wide range of expansion options, these enclosures offer considerable added value for the benefit of system operators and plant engineers alike. This new product is certified for use in atmospheres where there is an explosion hazard due to gases (Zone 1 and 2) and/or dusts (Zone 21 and 22). The new enclosure technology satisfies all requirements for maximum safety and robustness, including for outdoor applications. Impermeability is ensured thanks to a safe and reliable enclosure structure that features a double seal on the top and bottom edges of the door. This seal takes the form of an integrated rain protection strip made from a robust material that is resistant to both temperature and UV.

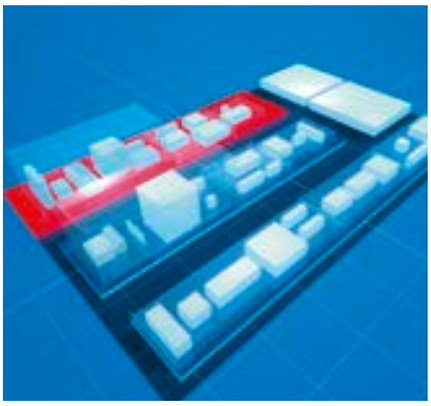
The new Rittal AX Ex enclosures are made out of fibreglass-reinforced, unsaturated polyester.

ONCITE INDUSTRIAL SUITE

Using the virtual factory to become a smart factory



The virtual factory not only makes it possible to visualise the factory in 3D, but also offers a simulation option for evaluating modifications, for example.



The real factory in virtual form – what's that all about? The aim is to take a holistic approach to planning, evaluating and optimising production. The virtual factory is a new service that has been added to the ONCITE Industrial Suite, making it possible to visualise the factory in 3D. The purpose of the service is to collect and analyse production data. This data can supply valuable information almost in real time and can also provide a historical account. This makes it possible, for example, to identify disruptive factors that are slowing down production processes. The information can therefore be used to uncover optimisation potential, analyse errors and make business decisions based on facts. The virtual factory allows for fast, graphic-based modelling of the factory, from the abstracted master data hierarchy of the machine park to the 3D model of the systems. This means the various sections of the factory can be transparently displayed almost in real time, thus helping maintenance engineers, machine operators and production planners to control the factory efficiently. It is therefore possible to find out which modifications can provide benefits in real-life production, for example, while still far removed from the real environment. This gives users a better overview. On this basis, production can be made more efficient and costs can be lowered. What's more, manufacturing companies become more agile, too. After all, customer requirements and market conditions are always changing. Companies that use the virtual factory are more agile and more flexible, since they are in a position to adapt their production processes in line with current requirements more quickly. The virtual factory is therefore an enabler of the factory of the future.

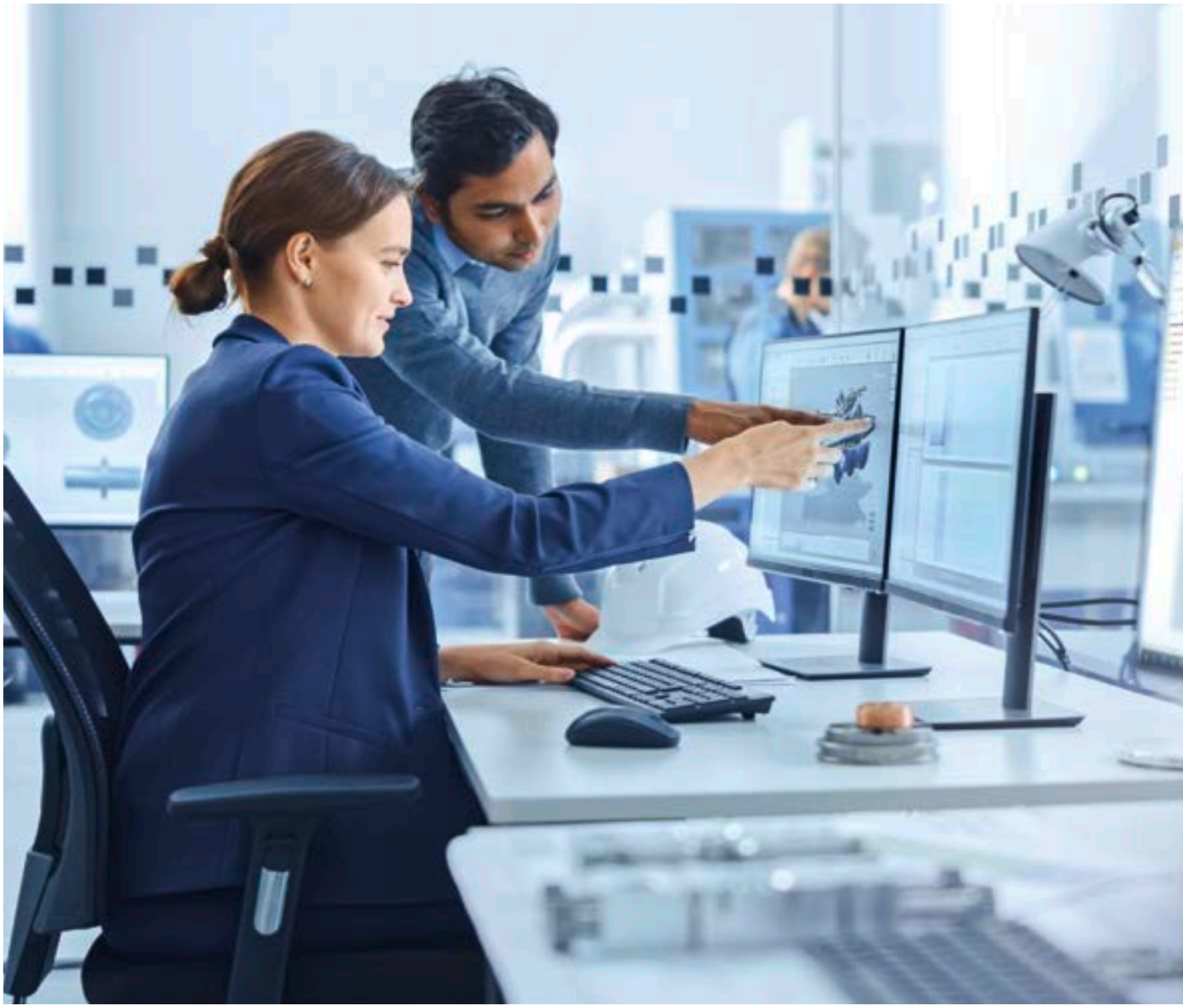
RITTAL AX ENCLOSURE SYSTEM

Interior door for double safety

When enclosures are used as operator terminals, for example, buttons and displays installed on the exterior door are often unprotected and exposed to the elements and the risk of unauthorised access. With its new standard solution for interior doors, Rittal is now offering extra security and safety for the equipment – and for the operating personnel, too. The add-on accessory, which is available for the AX plastic enclosure and the AX compact enclosure in sheet steel, can be installed in the enclosure as a second level and operator panel – quickly, easily and without the need for any machining.

The new interior doors offer protection for the installed components and can be used as an additional mounting level.

The new interior doors from Rittal mean the operating and equipment levels in the enclosure can be separated. This provides protection for both the components installed in the rear section of the enclosure and the operating personnel, who are kept safe from live parts. The interior door surface provides an additional mounting level in the enclosure that can be used as an extra area for installing buttons, displays, etc. The interior door can be installed at a variety of depths and thus offers flexibility to suit the application and requirements.



**End-to-end configuration –
from incoming orders to final delivery**

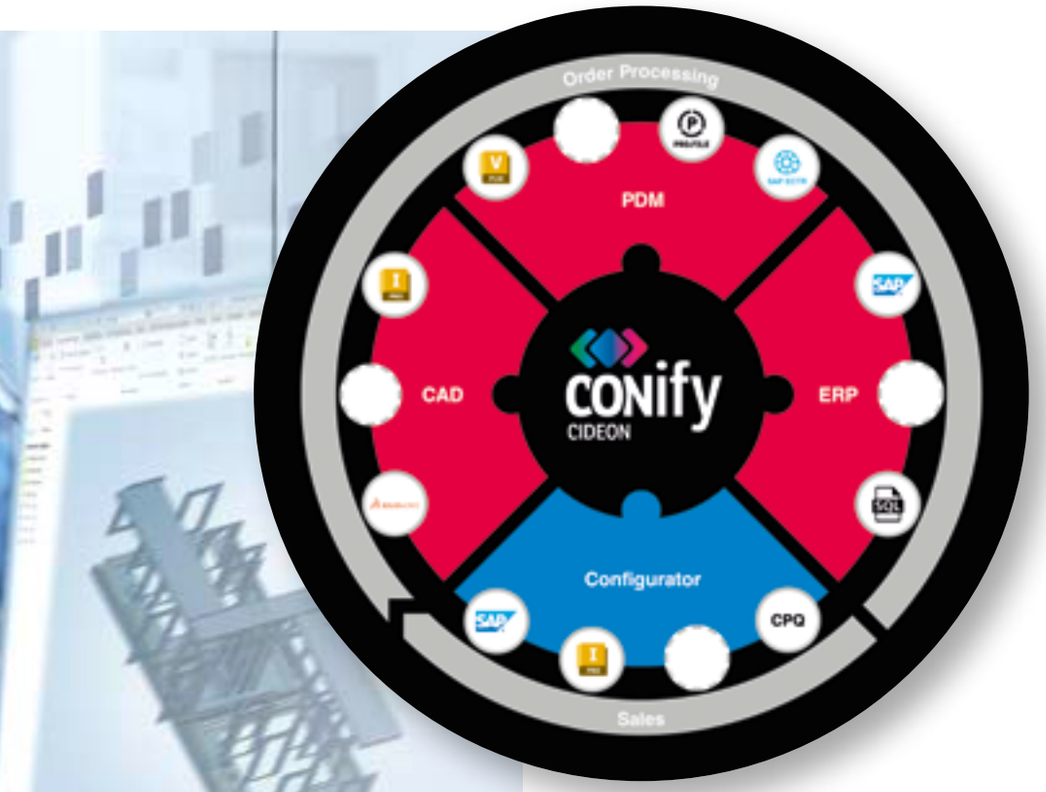
Interface power

Companies are increasingly configuring products that have multiple variants, but this involves complex in-house mechanical and plant engineering processes. In many cases, **CAD data** is not factored in. When using **Cideon Conify,** sales configuration, automated CAD data, engineering-to-order and bills of materials now go hand in hand – the ideal combination of **CONfiguration and CONnection.**

Text: Birgit Hagelschuer

Interdisciplinary configuration is now really taking off in mechanical and plant engineering to meet the demand for customised products at a reasonable cost. That calls for a high level of automation, together with extensive integration of all processes – including engineering-to-order. In large parts of the industry, however, this is not yet standard practice for configurable products that involve engineering work.

Cideon has now developed the ideal solution in the shape of Cideon Conify. It



Customised engineering-to-order processes, bills of materials, work schedules and production processes are taken into account.

Cideon Conify links data from the sales and engineering phases on an end-to-end basis to automatically provide PDM-compliant CAD data for the configured product.

automatically generates the configured product – the digital product twin – as a CAD data set and then saves it in a PDM-compliant format. The engineering-to-order team is thus able to incorporate customer-specific modifications with the minimum of additional outlay. This provides their order processing and production colleagues with clear and consistent documentation, bills of materials and work schedules. The result is a standardised, digital process that extends from creating orders all the way through to delivery with the maximum level of automation.

USING CONFIGURATION TO BOOST ADDED VALUE

The approach to processing products with multiple variants must be consistent throughout the entire value chain – from product development and sales through to engineering-to-order and delivery. Data management continuity – without any deviation or redundancy – is key during each of the sub-processes involved. The product development team already lays the foundation with well thought-out product standardisation and modularisation as well as associated mapping in product configurators and appropriate CAD models. This is the starting point for all subsequent steps.

The sales team can then use the relevant data and systems to prepare competitive quotations enhanced by visualisations, drawings and CAD models. Cideon Conify automatically generates CAD-neutral product data on the basis of the available parametric CAD data, normally in the form of a simplified overview. If an order is placed, this data will become more detailed. When creating the order, the parametric data can be used to generate detailed product assemblies, drawings and production documentation. This enables complete part masters and bills of materials to be created for any particular variant, while also ensuring the accurate reuse of historical components and assemblies.

If, as is often the case, modifications are required for specific orders, the engineering-to-order team will be able to locate the CAD data pre-generated by Cideon Conify in the PDM/PLM system and can focus on the changes necessary. This step in the process creates further bill of materials and article data that is used in company processes via standard interfaces – as a basis for further value creation right up to the point of delivery.

OPEN FOR INTEGRATION

Cideon consultants help businesses create an end-to-end configuration process. A configuration discovery workshop identifies potential for optimisation, and initial specific implementation plans can then be developed based on a target vision derived from a realistic demo model. This clearly defines how to create a lean process for products with multiple variants.

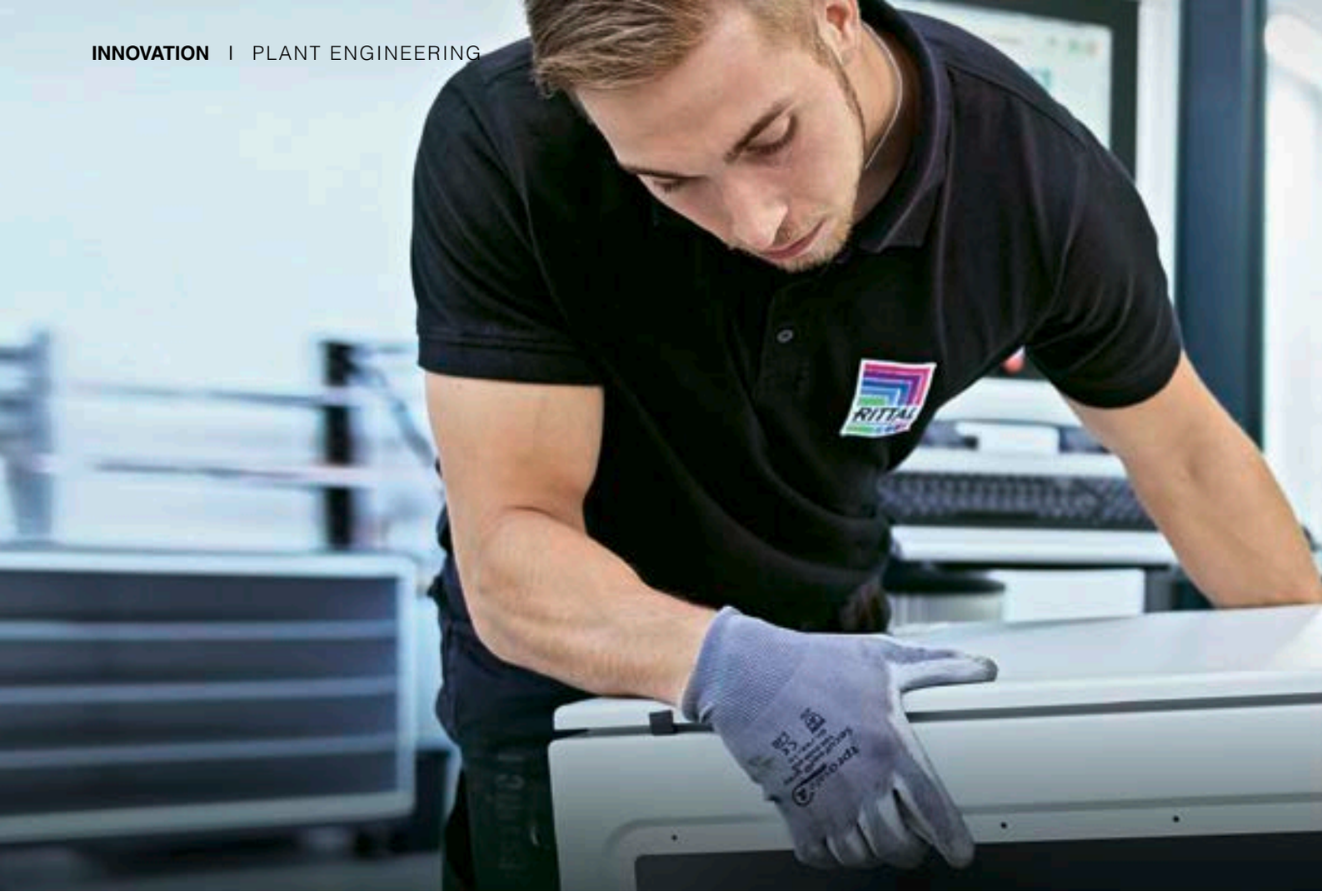
The modular concept of Cideon Conify can be extended and various systems can be integrated. Sales configurators such as SAP and FDU (Autodesk) are currently supported, as are the CAD systems SolidWorks from Dassault Systèmes and Autodesk Inventor. When it comes to PDM, the focus is on Autodesk Vault and SAP ECTR, but other systems can also be connected or planned to be connected.

IN A NUTSHELL

Cideon Conify is taking configuration processes to a whole „new level“. Project lead times – from customer inquiry to order – are much shorter, the quality of quotations is better and the number of recurring tasks can be reduced from the outset. ■

FIND OUT MORE

www.cideon.com/solutions/conify



Automation in plant engineering

HOW TO RAMP UP SPEED

In **mechanical and plant engineering** the primary focus has long since shifted away from being "just" on product quality. It's all about the process. It has to be simpler, more efficient and, most importantly, faster. The only way to achieve that is by ingeniously **combining hardware and software,** through digitalisation and automation. When companies need assistance with that, **Eplan and Rittal** can help right from the start, with their **value chain consulting and engineering expertise and automation know-how.**

Text: Ralf Steck, Hans-Robert Koch

The amount of work done by hand in panel building and switchgear is still very high, which makes the sector particularly vulnerable to current developments such as the skills shortage. For example, wiring takes a great deal of work and, more importantly, time that companies often don't have. So what can genuinely help speed up work, and where is the best place to begin?

GET OFF TO A GOOD START!

"A one-hundred-per-cent accurate wiring schematic is the bedrock of efficient panel building and switchgear manufacturing," explains Uwe Harder, head of Eplan Consulting. "Although every subsequent step builds on this digital foundation, companies often only create a logical wiring schematic – one

Combined with a high-quality product, an efficient process provides that crucial competitive edge. Looking for advice?

that doesn't go all the way down to wire level. That means details such as the colour and diameter of a wire or the precise number of terminals will be missing. These gaps cause issues in production most of all, because that's where specialist expertise is needed so that a functioning enclosure can be built even though the documentation is incomplete. When working on that kind of basis, it's only logical that there'll be limited scope for automation."

The staff at Eplan Consulting have broad expertise and a great deal of experience from a wide range of projects and sectors and from working with companies of all sizes. Harder sets out the most important factors that make for an efficient process: "It starts with developing engineering methods and standards, and doing so across all disciplines. Integrated systems make it possible to get a full picture of the product and are essential for truly comprehensive digital mapping – a digital automation twin. We also advise on how to link the engineering environment with system landscapes such as ERP, PLM and other IT systems." The consultants start by carefully and thoroughly analysing processes. They are recording the current state of affairs. An offer is then put together that already incorporates an ROI analysis so the customer knows precisely which measures are necessary to achieve the desired outcome.

Harder continues: "It's not just about linking up with other departments using SAP, for instance, it's also about doing that on a very practical level within engineering itself. That means connecting to the configurators of terminal strips from the manufacturer.

Planning 3D layouts in Eplan Pro Panel, instead of referring back to manufacturers' STEP data improves engineering in panel building and switchgear manufacturing significantly.

"A one-hundred-per-cent accurate wiring schematic is the bedrock of efficient panel building and switchgear."

Uwe Harder
Head of Eplan Consulting

This approach ensures lots of processes and sequences that are still carried out manually today can be digitalised and therefore automated. At the same time, complete documentation is generated here in Eplan that can be used in production later on, as a basis for automation."

THE PROCESS OFFERS POTENTIAL

Matthias Schüler, Director Value Chain Consulting at Rittal, has facts and figures at his fingertips that reveal the huge potential improvements automation can bring. A study was carried out during which a pre-defined enclosure was designed and manufactured on a manual, semi-automated and then fully automated basis. Production without any aids took 58 hours from receipt of the order through to completion, while simple automation solutions helped reduce that production time to 34 hours. The fully automated process was able to produce a completed enclosure in just 24 hours – two and a half times faster than the manual process. Schüler's opinion on the outcome is clear: "The real potential lies in the process, not in the materials! The manual process always gets more

Workshop-Layouts: Looking for advice?

When it comes to workshop Rittal Value Chain Consulting can see the bigger picture in panel building and switchgear manufacturing. Leveraging experience gained from numerous projects, Rittal consultants analyse pre-existing and planned production facilities to help ensure individual components are arranged perfectly. Transport routes are optimised and minimised, and processes are streamlined for maximum efficiency. Concepts are developed based on the typical product range, unit numbers,batch sizes, and the workshop areas then evaluated using software.

Perforex Milling Terminal MT speeds up milling throughput times for everything from small enclosures and panels to large enclosures.

FROM 58 TO

34

Many hours can be shaved off production time using simple automation solutions.

„Leveraging experience gained from numerous projects, we analyse preexisting and planned production facilities and help optimise the workshop layout.“

Matthias Schüler
Director Value Chain Consulting at Rittal

labour-intensive towards the end because you're spending less time on engineering and on creating digital data, of course. By contrast, automated processes require a lot more preparation but take up less time as you move through process – preparation pays off, in other words." The actual creation of digital data can also be optimised in this process step, for instance by using data from the Eplan Data Portal during 3D layout planning in Eplan Pro Panel, instead of referring back to STEP data from the manufacturer. Although STEP data includes precise geometries for the components that are to be positioned on the mounting plate, they don't offer anything else. The data set for a component in the Eplan Data Portal includes not just the outer geometry, but also the position and importance of the connections, the position and type of fastening points and additional information such as a thermal analysis of the enclosure.

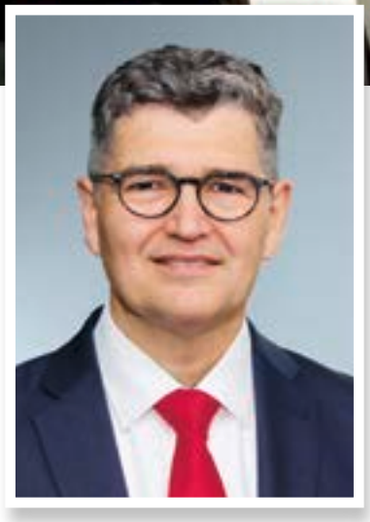
SAVE TIME BY HAVING THE RIGHT DATA

A data set in the Eplan Data Portal is almost a digital twin for a component and contains all the information required for the subsequent process, from the automated production of the mounting plate with drilled holes, threads and cut-outs through to wiring. The Data Portal holds 2.5 million data sets for components from 400 manufacturers, meaning there are no restrictions on utilising this data. "During the study even just using the Data Portal resulted in a seven-hour time saving compared to using STEP data in the layout," points out Schüler, highlighting

the benefits. Once all the components have been placed, the software can place the wiring on a fully automated basis. Based on the wire diameter, it is possible to calculate how full the cable conduits will be. Terminals and components can be transferred to programs for preparing processes and to ERP systems for placing orders.

DATA THAT IS FIT FOR PRODUCTION

In a project, all engineering data derived from the digital twin can be transferred to the order management tool, RiPanel Processing Center. The jobs are then assigned to the different process steps. For example, the data for mechanical machining is transferred to the "Perforex Milling Terminal" for milling or to the "Perforex LC3030 3D laser" for laser processing. The data for fully automatic wire processing is sent to the new "Wire Terminal WT C", where the wires are cut to length, printed, and the wire ends are treated with end ferrules. In addition,



"The new Wire Terminal WT C doesn't just prepare wires automatically, it now also offers three options for further processing of wires."

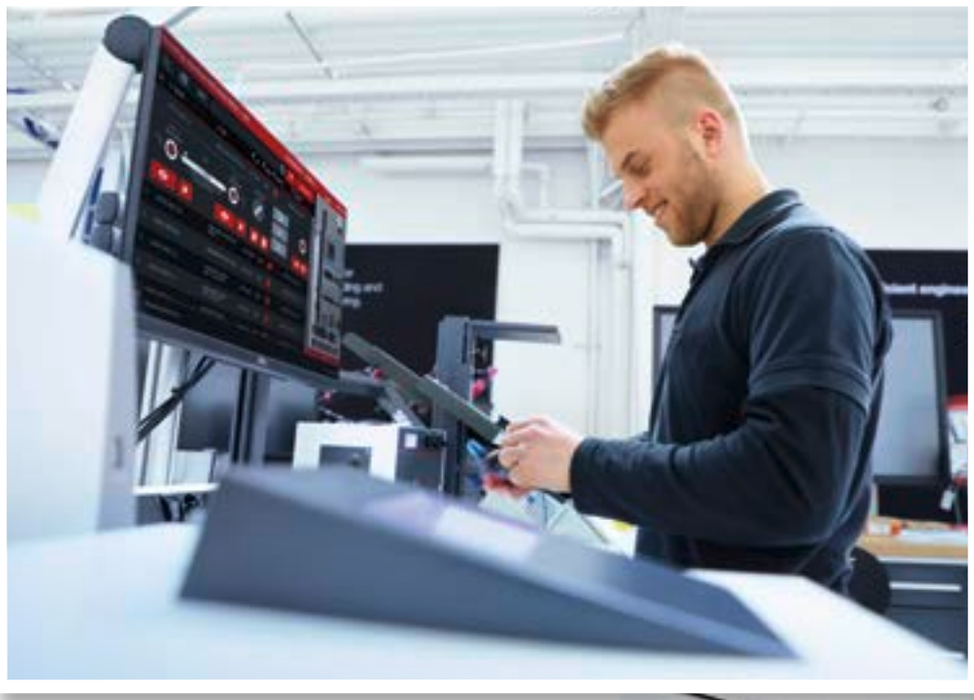
Tim Kramer
Head of Product Management & Product Marketing
at Rittal Automation Systems

Wire Terminal WT C: This new wire processing machine can handle up to 36 different wires with cross-sections from 0.5 mm^2 to 6 mm^2 on a fully automated basis.

it will be possible to send the information for the processing of busbars to the machines of the company Ehrt, which now also belongs to Rittal Automation Systems. With the solutions for automated processing for cutting, punching and bending the copper bars, production processes in plant engineering can be further optimised.

DIGITAL AIDS

The next production step accounts for the biggest share of the manual work – mounting plate assembly



UP TO

80

metres is the distance that wires can be blasted through Teflon hoses to workstations.

and wiring. All components such as C rails and cable conduits are screwed into the prepared assembly holes and the wires are connected and laid. Wiring is one of the most time-consuming, error-prone and complex steps, and one that Rittal and Eplan are optimising and simplifying with various solutions.

A step-by-step guide such as Smart Wiring is a great help. Staff are shown each wire individually – in 3D, if desired. Thus, the wiring is entirely system-managed and is additionally supported by the sequentially arranged or requested wires from the Wire Terminal: From the first connection point on the terminal strip, through the visualisation of the routing path in the cable duct, to the correct connection to the electrical component. "Errors are spotted faster, progress is documented precisely and conduits are filled evenly, just as the software has calculated during the engineering process. As a result, faulty wire connections are almost systematically eliminated so that this work can, in theory, also be carried out by non-electricians," explains Tim Kramer, head of Product Management & Product Marketing at Rittal Automation Systems.

AUTOMATED WIRE "SHOOTING"

Pre-prepared wires offer additional certainty because they are produced and sequentially arranged in how they will be processed later. Rittal has appropriate solutions for this, too, with machinery using data from Eplan to prepare wires by cutting them to the length specified in Eplan, attaching end ferrules and labelling them. The wires are stored in a rail system or as a bundle that has been arranged in the correct sequence. Smart Wiring then guides workers through the process of installing the wires in the sequence produced by the wire processing machine.

Perforex LC 3030: This laser centre has been specially developed for the automated, mechanical modification of standard enclosures made of stainless steel, sheet steel and powder-coated metal panels.

FIND OUT MORE

www.eplan.co.uk/services/consulting

www.rittal.com/ras

"We're now going a step further with the new Wire Terminal WT C. The system doesn't just prepare the wires, it also 'shoots' them to the workstations, on a virtually just-in-time basis," says Kramer. To do that, the system uses Teflon hoses that run from the machine all the way to each workstation, covering distances of up to 80 metres. The prepared wires are "blasted" to the relevant workstation with compressed air, and the WT C can serve several workstations in parallel. A ring sensor at each workstation registers when a member of staff has removed a wire, which results in the next wire being supplied to the workstation via Smart Wiring. "Thanks to this kind of assistance and automation, staff working on wiring tasks don't need as much specialist expertise, which means valuable specialists can be put to work where their know-how is really needed," says Kramer. And adds: "Such as in testing or engineering." As a result, automation doesn't just make work easier, it can also help with tackling the current skills shortage. ■

Process excellence thanks to Cideon interface

The direct route into the world of SAP

Using engineering data directly in SAP delivers process excellence and boosts performance. The ECTR interface between **Eplan and SAP** developed by **Cideon** has enabled **RAMPF Production Systems GmbH & Co. KG** to eliminate error sources while at the same time networking its engineering and business worlds.

Text: Birgit Hagelschuer

The future belongs to networked business models, which rely on high-quality master data. Companies that fail to take appropriate action will quickly run into problems in the digital transformation era, making automation more difficult or even impossible. RAMPF Production Systems GmbH & Co.KG was quick to recognise this challenge and, as part of its process excellence strategy, took a closer look at document management, data traceability, change numbers and bill of material (BOM) handling/information. Transferring BOMs from the ECAD system and the associated handling were shown to be especially time-consuming and error-prone.

LINKING ELECTRICAL ENGINEERING

Developed by Cideon and marketed via SAP, the ECTR interface between SAP and Eplan offered an efficient solution. As always, Cideon provided customer-specific consulting and implementation services to maximise the benefit. Electrical engineering data was linked to SAP ECTR at RAMPF to facilitate project and BOM management. The interface's functionality was also enhanced to meet the requirements relating to BOM extraction and material creation. The SAP ECTR interface to Eplan Electric P8 ensures redundancy-free ECAD and PLM/ERP integration into SAP. This technological approach made it easy for RAMPF to link the relevant design engineering and development disciplines. What's more, the company now has a user interface that is easy to use and a technical bridge between the worlds of engineering and busi-

Thanks to the ECTR interface developed by Cideon, RAMPF can use its engineering data directly in SAP and streamline processes.

"Finding the right solution is not just a job for me, it's a passion."

Björn Niebann
Consultant with Eplan

ness. Implementation of the interface's basic functions in the RAMPF system was followed by a briefing for key users and a test phase that Cideon supported live on site to start with and later remotely. In the subsequent optimisation phase, the final step was to define and implement the requirements that had arisen during the project phase.

SPEEDY BOM EXTRACTION

The technological change has established a new, streamlined process that requires fewer personnel resources, has been shown to save time when extracting BOMs and noticeably reduces the number of errors – a significant benefit in times of scarce resources and acute material shortages. Thanks to process control functionality, components that are needed urgently can now be ordered in advance. All this boosts both cost-efficiency and operational excellence. RAMPF design engineers are working with the ECTR via a user-friendly interface that displays data in a similar way to Win®Explorer. In Eplan itself, SAP functions are incorporated directly via an Eplan menu, and it is rarely necessary to switch to the SAP user interface. At RAMPF, the process of transferring projects, article information and BOMs to SAP and managing them there is now automated and reliable. Björn Niebann, Consultant with Eplan, comments: "The connection of Eplan to SAP via ECTR very quickly achieves end-to-end data consistency and thus reduces possible media discontinuities". ■

Added value

- Datafication and automation thanks to setting new, technology-neutral standards for process excellence
- Elimination of error sources by storing data just once for the entire company and using automated data management processes
- Additional interface functions for BOM extraction and material creation
- Audit-compliant working thanks to automated attachment of revisions
- Use of incorrect drawings prevented
- Speedy BOM extraction, reduction in personnel requirements, and streamlined processes
- Quick to learn thanks to intuitive operation
- Support and training from Cideon

FIND OUT MORE

www.rampf-group.com/en-us

RAMPF® discover the future

TH Lübeck – a fully thought-through charging infrastructure

“We research at system level”

The energy revolution is decentralised and is taking place in distribution grids. The **“Department for Electromobility and Power Electronics”** at the **Technical University of Applied Sciences Lübeck** (TH Lübeck) is researching how charging infrastructures can be integrated into these. The result of their work is a rapid charging station with a charging capacity of up to 1 MW. This is application-oriented research at a level unparalleled in Europe. It is made possible through **partnerships** with industrial companies such as **Eplan.** We discussed this with **Professor Roland Tiedemann and Clemens Kerssen.**

Text: Stephan Kuhn

How can charging infrastructure be implemented including storage technology?

Storage included: Electromobility is just one factor in the energy revolution – the key is intelligent load distribution.

Professor Tiedemann, the energy revolution is advancing faster than anticipated, and the energy mix is changing. Companies have to be prepared for this, too. What is the current situation?
Roland Tiedemann: There is a general problem we face when it comes to the energy revolution – storing the energy. There has been too little attention given to this core issue so far. The country is virtually covered in wind and solar farms, and yet there's a limit to what we can do. There is still a long way to go. In our research project, we therefore always view the energy revolution in parallel with the subject of electromobility.

Why is that?
Tiedemann: Electromobility is important for two reasons – firstly, as a consumer, and secondly, as a means of storage. At the moment, we can't even provide the energy that would be necessary for a wholesale switchover to electromobility – our electricity grids simply don't have that kind of capacity. The other key aspect is that electric vehicles can also act as a means of storage, but we are still a long way from where we need to be.

So much depends on storage technology, then ...
Clemens Kerssen: Absolutely. That is what we are focusing on here in the Department for Electromobility and Power Electronics. To our mind, when we think about electromobility, we are also looking at the storage technology. Our energy supply used to be centralised, but is now increasingly decentralised – for example with wind farms, solar panels, biogas, etc. – and the same applies to consumers. The interplay between electromobility, charging technology and decentralised energy supply and energy storage is therefore a core question for the energy revolution.

Who exactly is still running behind?
Kerssen: To put it simply – everyone. We're all doing something somewhere, but we're missing the big picture. We have issues on the technology side, in standardisation, in legislation and in availability. There are a huge number of questions that are yet to be fully addressed. What's more, many companies are doing their own thing to bring their own, manufacturer-specific solutions onto the market. From our perspective, this is counterproductive and not conducive to the global energy and mobility revolution. We have really felt the weaknesses of the system for ourselves for the first time as a result of the Ukraine war. Storage should actually have been factored into the energy revolution from the outset. After all, it's always been known that we will have to switch from continuous generation based on power plants, for instance, to sporadic generation based on wind farms and solar installations, for example. We have to create load distribution – and that means storage.

FIND OUT MORE

www.th-luebeck.de/en

Applied research: The prototype of the rapid charging station combines the expertise of the department – from the software programming to circuit board manufacturing.

What is the specific question you are pursuing in your research project?
Kerssen: We were interested in how it might be possible to build high-performance rapid charging technology for electric vehicles, because combustion engines still have that key advantage of only taking minutes to fill up. We also realised that, to achieve high charging capacity, we would need intermediate storage in our electricity grid, too. Otherwise, the grid will be overloaded in the evenings when everyone is charging their cars. That's how our Power 400 research project got started, which led us to develop high-performance rapid charging systems with integrated buffer storage.

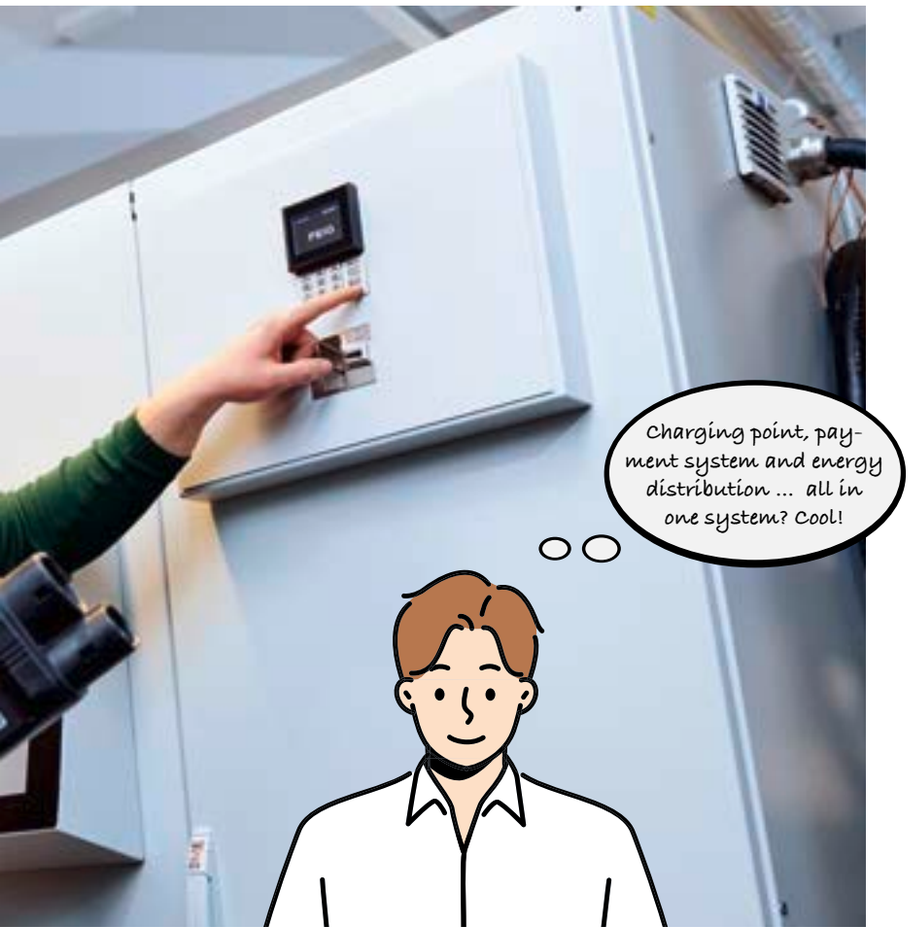
And what does your current solution look like?
Tiedemann: We have produced the prototype for a DC rapid charging station, and can theoretically charge with one Megawatt at a single charging point. That puts us ahead of the pack at European level. By way of comparison, one Megawatt is what they use to charge submarines in Kiel. Our AC technology is based on a modular concept. We have a master-slave system, in which a single master can be used to control and easily retrofit various different slave units. As a result, we don't have to implement a complete standard plan immediately, but instead can wait and see how well used the charging park is. Our systems are already designed for buffer storage. We are currently using electrical battery storage, but we are also working on a combination with fuel cell technology.

A really good team:
The supervisors from TH Lübeck and Jan-Oliver Kammesheidt from Eplan (front).

How much of your work, or that of TH Lübeck, has gone into this development?
Kerssen: Everything – and much, much more (he laughs). As we tell our students, this project covers everything you will learn when studying electrical engineering or IT. We build the hardware, we program the software, and we take on the circuit board manufacturing if there isn't a standard circuit board available. Our system has an interface to the battery management system, features an energy management system, and is ready to interface with the grid and communicate with the battery or fuel cells. We have integrated everything from the payment system to the grid connection, and could even implement bidirectionality – so as far as we're concerned, we're good to go.

So at the end of the project, there will be a charging station with your name on it?
Tiedemann: Not necessarily. What's important is that we have a product that can meet the current challenge and that we are as open as possible to various perspectives. Let's get that launched first and see how the field reacts and how it goes down. Some energy companies want to provide a nationwide charging infrastructure and the foundations of this have already been laid, more or less, but without doing any location analyses. That's a big gap.

Who will benefit from your wealth of knowledge?
Tiedemann: We are at the prototype stage, and now we have to find industry partners to launch the product onto the market. With the experience we have gained from this process, we could optimise issues



"With our rapid charging station, we are ahead of the game at the European level."

Prof. Roland Tiedemann
Head of the Specialist Group for Electromobility, Power Electronics and Decentralised Energy Supply (EMLE)

further and create a development cycle that leads from research through production, and to the marketplace. The field of decentralised energy supply and charging technology represents a huge market.

When it came to the technical implementation, you brought in support from the industrial sector. Why is that?
Kerssen: We don't work in isolation – we want to develop a technologically feasible, scalable solution. That is the bridge to Eplan and Rittal. We were able to build up our prototype professionally using standardised components. The charging point, the payment system, the energy distribution, and, of course, the LVDB are installed in enclosure systems and components from Rittal, and designed to build on the software solutions Eplan Electric P8 and Eplan Pro Panel. What's more, many of the components that are used for the charging infrastructure are already available as data sets on the Eplan Data Portal. We can pretty much map more than 80 per cent of electromobility using standard solutions from Eplan and Rittal.

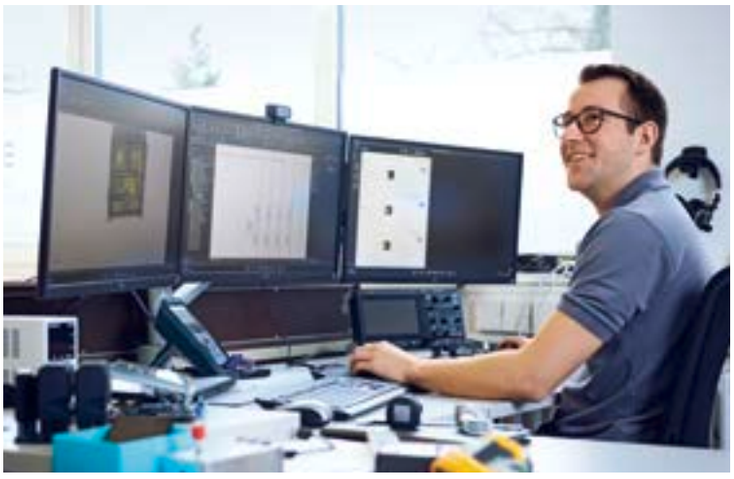
Tiedemann: This professionalisation is also good for our research. As a professor, Eplan makes it much easier for me to explain our hardware to the students so they can learn how a charging system or electric motor is constructed, for example. That is a huge step forward.

So what is new about your approach?
Tiedemann: There are a few areas of focus that make us stand out. Firstly, we aim to practise research holistically at system level. Specifically in relation to energy generation, this covers conversion, transportation, storage and consumption. As a result, a large network made up of industry, partners and research is important to us. We don't want to just develop something to be kept in a drawer, but rather we aim to solve real problems in collaboration with the business world and our network of partners. If the necessary components don't exist, our partners in the basic research sector help us out.
Kerssen: What sets us apart is that we work dynamically in our department, and all on an equal footing. As a result, it is the best idea that matters, not rank or name. There are plenty of people who talk about what could be done, but we actually do it, and are able to say: "Here's the solution." ■

Thank you very much for the interview!

A payment model for the charging station has also been developed and integrated.

Eplan software (Electric P8, Pro Panel), has been used to design the solution and Rittal enclosures.



Control panel design and production at Siemens WKC

IT'S ALL ABOUT THE DIGITAL TWIN

How can you achieve that essential transparency and efficiency when planning and manufacturing control panels and switchgear?

End-to-end data model – from the Order Centre via Manufacturing Engineering, Assembly and Inspection through to Dispatch.

You don't need a crystal ball to see into the (near) future of panel building and switchgear manufacturing. All you need to do is visit the **Siemens Systems Engineering Plant (WKC)** in Chemnitz. Each year, the WKC builds around 21,000 control panels and approximately 29,000 small enclosures (predominantly on a batch-size-1 basis), making it one of Europe's market leaders. The plant is largely digitalised throughout, all the way from processing customer data to delivering the control panels. In this article, **Hans-Peter Kasparick and Mirko Löffler,** who are responsible for digital strategy and manufacturing engineering, provide an insight into their processes and collaboration with **Rittal and Eplan.**

Text: Gerald Scheffels

The view looking out from the gallery over the hundreds of control panels being manufactured is genuinely impressive. How do you achieve that all-important transparency and efficiency in planning and production?
Kasparick: We made an early start, about 20 years ago in fact, on structuring specific technological and process know-how in our "digital twin". Today, this approach means we can avoid doing the same work twice over and can cut our throughput time, both in our collaboration with customers, suppliers and partners and within our own value chain. As a result, we are generating benefits for customers and safeguarding our long-term competitiveness. That is the core of our strategy.

Let's look at internal processes to start with. How does the digital twin for a project come about?
Kasparick: The first step is to transform technical information from our customers or our in-house Design Engineering team into digital values and save these in databases in a structured format. This produces a digital twin that complies with standardised specifications and is kept up to date throughout the course of the project. That means we're working

"Rittal and Eplan are key partners for us. We pick up on ideas that they are developing to market readiness. We learn from each other, complement each other and talk to each other."

Hans-Peter Kasparick
Digital Strategy and Innovation at Siemens WKC

with an end-to-end data model – one that starts out in Design Engineering then passes through the Order Centre, Manufacturing Engineering, Assembly and Inspection, all the way to Dispatch. All the specifications for production – whether automated or manual – are derived from this model.

That then also means that the digital data model always matches the actual, physical control panel.
Kasparick: Exactly. The latest changes are adopted directly.

The data model has to be universal so it can be processed in different ways and in different systems. How do you achieve that?
Löffler: We have developed our own data model that can use Eplan Pro Panel data as a basis for incorporating additional information, processing it and outputting it so it's compatible with our production operations. When it comes to cross-system standards, we are advocating for the Identification Link, the Asset Administration Shell and ECLASS Advanced as fundamental semantics. One of the first results is the digital product passport, which can be used to unequivocally allocate and process information about the product and its lifecycle. This gives companies a means to document their carbon footprint, for example, which is a requirement of the forthcoming EU taxonomy. That is a crucial customer benefit brought by digitalisation.

If we move on to the next step – production – can you tell us how your production systems are linked up to the digital twin?
Löffler: Our data model gives us flexibility when it comes to interfaces and enables us to supply workstations with machine data, robot data or information for people – all as appropriate to the specific workstation configuration. For instance, production data for drilling centres, milling centres, laser processing and wire processing is generated automatically the moment it is used in production. This is where the digital world and the real world come together.

To what extent are your customers aware of the digitalisation in your company – how does it benefit them?
Löffler: They benefit from rapid throughput times, high quality and competitive prices, and also enjoy added value in engineering and production. The functional engineering we pursue enables us to generate modular and standard-compliant wiring plans. Our customers utilise this support precisely because many plant engineering companies have only limited capacities when it comes to electrical planning. If the

engineering data we get from our customers is in a digital format, we can transfer it directly to our digital twin without having to convert or digitise it first. Production data, PCF values, export data, etc. are added to the digital twin as it makes its way through the plant. If required, the digital twin is also delivered to the customer in digital format along with the actual product itself. This approach enables us to eliminate all waste at the interfaces in customer-supplier relationships.

Theoretically, your customers – and suppliers, too – can benefit from the digital twin that you create on a customer-specific basis. Do they make the most of that?
Kasparick: There are some really good approaches amongst our suppliers when it comes to the provision of CAx data. Our customers are still somewhat restrained in their use of these options. However, we are confident that will change – certainly by the time new digital business models are being developed for cross-company cooperation, if not before.

When it comes to using the digital twin and automating control panel building, you have a clear lead on many competitors. Who are you working with and where are you finding partners to help you plan the next steps in automation and digitalisation?
Kasparick: These days, we talk to a range of solution providers. Rittal and Eplan are key partners for us, because they are really driving forward solutions for control panel building. That applies to the software side of things, but also to control panel products as well as to automation solutions and machines. That is why they are preferred suppliers and innovation partners for us. We pick up on ideas that they are developing to market readiness. We learn from each other, complement each other and talk to each other.
Löffler: Naturally, we're also in close and regular discussion with our customers in the mechanical and plant engineering sectors. We both contribute to, and take inspiration from, this mutually beneficial collaboration.

Turning to the near future now, can we ask what kind of projects are underway? What do you think you and your partners should be working on?
Kasparick: The skills shortage is only too real, and we're really feeling it. Besides promoting electrical engineering early on in local schools and through educational collaborations, we also need robust automation solutions so we can further optimise internal processes. One example of that would be automated wiring for very flexible wires.
Löffler: On a data level, that means the digital twin must be independent of whichever system has been used to create or process it. We need to standardise data exchange so that every engineering tool can play its part in creating data efficiently while ensuring that all the different factories in their widely varying configurations can still utilise the data that is accumulated.
Kasparick: One key factor is that climate-neutral energy management and low-carbon mobility are opening up whole new groups of customers. Energy needs to be distributed and sensors and actuators need to be connected across all these areas, and the best place to do that is in one central location – the control panel. The only way we can leverage this potential over the next few years is by pursuing efficient cross-company cooperation. It's all about collectively standardising everything and developing digital information-sharing. This is where we want – and need – to do some convincing, both independently as the WKC, but also from within ZVEI, other organisations and with our more than 200 active customers. ■

Many thanks for talking to us!

"The digital twin must be independent of whichever system has been used to create or process it."

Mirko Löffler
Head of Manufacturing Engineering at Siemens WKC

The Siemens WKC in Chemnitz builds around 21,000 control panels and approx. 29,000 small enclosures a year – virtually all on a batch-size-one basis.

Switching to web technologies

COMPOSING INSTEAD OF PROGRAMMING

As industry and its factories and products become smarter, it is increasingly important that the associated software development is both **flexible and agile,** such as for new, data-based services in the Industrial Internet of Things (IIoT). IT in industry is certainly undergoing a complete transformation at present, with a switch underway from closed to open software architecture and in the direction of **composable software.** Platforms such as the **ONCITE Digital Production System (DPS)** introduced by **German Edge Cloud** in 2022 are showing the way.

Text: Ulrich Sendler and Steffen Maltzan

How can software applications in industry be easily linked in the future, and how can software limitations be overcome?

For a long time, software for industry was primarily a tool that could be used to control key processes more efficiently, from order processing and engineering through to production and service. The systems used for this purpose had their own language and their own data format, so the exchange of data between them proved problematic. This form of IT is now reaching its limits, as it certainly does not allow data to fulfil its ascribed key role as the new fuel needed to drive a smart factory.

The fact that data must fulfil this role is indisputable, however. What is needed is an open software architecture known as composable software, which offers maximum flexibility via application programming interfaces (APIs) and can integrate and extend new software applications fast. "Composable software, based on microservices and open standards such as Kubernetes, is increasingly being recognised as a solution," says Andreas Zerfas, CTO Digital Industrial Solutions at German Edge Cloud. This solution has now also been tried out in practice and proved successful – including in the ONCITE Digital Production System (DPS) at the Rittal plant in Haiger.

The microservices architecture of the DPS offers the flexibility that is needed to now truly deliver the promised benefits of Industry 4.0 with IIoT applications and flexible manufacturing management (smart MOM). In situations where conventional, closed, monolithic software, such as traditional manufacturing execution systems, is reaching its limits, the door is therefore opening to new possibilities. If, for instance, it transpires that data relating to the movement of a robot arm is useful for a particular step, this movement can be added in a trice. The newly obtained data can also be used as input via an API. This is how composable software works.

"With container technology, most software development steps through to operation can be truly automated."

Andreas Zerfas
CTO Digital Industrial Solutions
at German Edge Cloud

SWITCHOVER IS OPENING FURTHER DOORS

If required, industrial customers can choose from a range of ONCITE DPS expansion stages and forms of use. The ONCITE Industrial Suite services work both on edge applications directly on the shop floor and on all standard cloud platforms. A hybrid multi-cloud forms the basis for this, and this is currently establishing itself as the most favoured type of solution in industry.

"With container technology, most software development steps through to operation can be truly automated," says Zerfas. DevOps is the watchword. Instead of laborious programming, followed by a test phase and, finally, release, these steps are conducted in parallel and are much, much shorter.

To boost the adaptability further still, German Edge Cloud has chosen Scheer PAS as a strategic partner. As a result, Scheer PAS is part of the system as an application composition platform with its low-code and integration functionality.

On this basis, with ONCITE DPS, open standards, cloud-native microservices and digital twins, it is now possible to make that step of becoming a smart factory. The adaptability of the DPS is currently being demonstrated at Rittal in two respects when it comes to energy. In the Rittal plant, the rapid integration of the new "energy flows" parameter has increased the transparency of production by adding an increasingly relevant factor. What's more, at Rittal, the software is serving as a basis for the new RiZone OTM Suite for optimised management and energy monitoring in data centres. ■

NEWS

AROUND THE WORLD

What do **jet boat captains**, **train passengers in Mexico** and **festival-goers** have in common? They all rely on solutions from the companies of the Friedhelm Loh Group.

CANADA

TETRIS FOR FREQUENCY INVERTERS

Based in the Canadian province of Quebec, Cascades specialises in packaging solutions. In its Motor Control Center (MCC), which amongst other things controls the systems' energy management, components needed to be fitted in as efficiently as possible. **Eplan** simulations confirming that two frequency inverters can be installed in one MCC from now on helped with this tricky task by making it possible to halve the number of panels.

MEXICO

1.525

KILOMETRES ...

… is the length of the new "Tren Maya" railway project. Tourists can visit 190 attractions, such as archaeological sites and underground caves, in the course of their train journey. Large and small enclosures from Rittal help ensure that passengers arrive on time. The **Rittal VX25, VX IT and AX** are used in the technical rooms at the 19 stations on the line. A special coating on these enclosures enables them to withstand the humid conditions.

NETHERLANDS

ALL CHARGED UP – SUSTAINABLY

Whether at festivals or on building sites, generators have an important role to play. They have previously always been powered by diesel, but a company called “The Green Generators” has developed a more sustainable solution in the form of battery storage systems. Model 100 – its flagship product – used to have a power rating of 100 kWh. With the help of Rittal and Intercel, this has now been increased to 500 kWh. While Intercel’s contribution to the project was providing innovative lithium batteries that enabled the number of batteries required to be reduced from 12 to 6, three **Rittal VX25 enclosures** securely house each set.

NEW ZEALAND

HIGH SPEED FOR THE IT INFRASTRUCTURE

In New Zealand and all around the world, HamiltonJet has a reputation for top-quality jet boats and waterjet propulsion systems. This company is turbocharging its business by using the **Rittal RiMatrix Micro Data Center.** The advantages of this complete solution lie in its rapid availability and high level of physical protection. The Blue e+ cooling unit is located “astern” on the rack and ensures the IT remains on course, even at high temperatures.

Rittal opens its first Application Centers

EXPERIENCE VALUE CREATION LIVE

Rittal Application Centers are being launched around the world. The first was opened in **Italy** in January and the second in **Austria. Germany or perhaps the USA** will follow this year, and the next centers are already being lined up. **So, what exactly are they?**

Text: Hans-Robert Koch

How can panel building and switchgear manufacturers make the leap into the world of digitalisation and automation – and how can they prepare for the future? The answers to these questions can be found at the new Rittal Application Centers (RACs). "This is where we put the spotlight on the customer and their workshop, application scenarios and processes," says Markus Asch, CEO of Rittal International, summarising the concept. "You could call it a kind of bootcamp for switchgear manufacturers." These are the places where existing and new customers can work with experts from Rittal to develop their projects, get to know new technologies and try these technologies out easily. Everything is done in the spirit of "Join. Apply. Grow." "The combined expertise of Eplan, Rittal and Rittal Automation Systems is unparalleled on the market. The Rittal Application Centers take this recipe for success closer to our customers all around the world," explains Asch.

TESTING AND TRYING OUT

Panel building and switchgear manufacturers can bring along their own projects, test the efficiency of new workflows in real workshop environments and get a first-hand look at the benefits of software solutions and automation technology.

"The Rittal Application Centers are where we put the spotlight on the customer and their workshop, application scenarios and processes."

Markus Asch
CEO of Rittal International
and Rittal Software Systems

Managing directors, heads of production, enclosure fitters and planners can contribute their own very specific tasks – from engineering with Eplan software through solutions from Rittal Automation Systems to optimising the entire value chain. "Our goal is to give our customers a competitive edge and show them new development opportunities for the future," points out the CEO.

PRACTICAL SOLUTIONS

The Rittal Application Centers offer practical solutions for a huge range of specialist questions, such as: What are the details that really matter during the digital creation of circuit diagrams and 3D models? How can efficiency be significantly increased by the automated machining of enclosures, mounting plates and top-hat (DIN) rails? What advantages does the digital twin of an enclosure offer? What role does data maintenance play in terms of consistency in the value-creation process – from engineering and machining to cable processing and software-supported wiring? And, last but not least, questions about workflow and ergonomics are examined – from solutions in handling to in-depth process analysis. ■

Debuts in Italy and Austria

The first Rittal Application Center opened at the end of January in Valeggio, Italy (image above). Customers from the mechanical and plant engineering sectors were invited to the opening celebration. "We are proud to be one of five pilot projects for launching the Rittal Application Centers. The team is extremely motivated and is looking forward to the first appointments with our customers," says Marco Villa, Managing Director of Rittal Italy. Investment in the project has been considerable. The workshop in Valeggio has been fitted out with a new Perforex MT, the Wire Terminal C10 and a new Wire Station. The second Rittal Application Center opened its doors in Vienna, Austria, in March. Another of the centres of excellence will be opened in Germany this year, at the Gera site.

FIND OUT MORE

www.rittal.com/rac

Modern design and refreshingly high quality: When it comes to its products, Hansgrohe prioritises quality and sustainability – and that means keeping an eye on energy efficiency, too.

Rittal energy check and the Blue e+ S cooling

NO MERE DROP IN THE OCEAN

As manufacturing companies are faced with soaring energy costs, their aim is to save energy, but without any knock-on effect on their productivity. With the advice, service and new technologies it offers, Rittal helps its customers do exactly that. The trial of the **Blue e+ S series cooling unit** in a new output class **at Hansgrohe SE** demonstrated just **how remarkable the potential energy savings are.** The production managers were positively surprised by the results.

Text: Ralf Steck

Trial demonstrates energy savings of more than 60 per cent at Hansgrohe.

Live test: Rittal and Hansgrohe chose to conduct the trial in the grinding and polishing facility.

"Rittal promised us energy savings of 60% – and, sure enough, we're currently achieving savings of 61% in our actual operations. To be honest, it really surprised us."

Johannes Kopf
Industrial Engineering Project Leader at Hansgrohe SE

Sustainability, environmental friendliness and energy efficiency have been key priorities at Hansgrohe SE for a great many years now. Back in 1992, when the company started operating its solar power plant on top of its new production facilities in Offenburg, this was, in fact, the biggest roof-mounted solar power plant in the world. Moreover, in 1995, Hansgrohe SE became the first industrial company to win the environmental prize awarded by the Baden-Württemberg Ministry of the Environment. All the company's sites, both in Germany and worldwide, have been climate-neutral since 2021 and 2022 respectively.

It therefore came as no surprise that, when Rittal asked Hansgrohe whether it would like to try out one of the new enclosure cooling units in the Blue e+ S series, the company's managers jumped at the chance. "This sort of thing is always of interest to us," says Johannes Kopf, Investment Planning Project Manager at Hansgrohe. "Our vertical integration is very extensive, so we also have a large number of machines and enclosures. We therefore use a lot of climate control units, too. Although each individual climate control unit uses relatively little electricity compared to machines and robots, the sheer quantity of these units means that, when you add them all together, their total energy consumption is pretty significant."

Stefan Eibach, Enclosure Climate Control Product Manager at Rittal, adds: "We already knew that Hansgrohe attaches a great deal of importance to energy efficiency. That's why we put this company very high up on the list when we were choosing customers to try out our new, compact and energy-saving climate control units."

THE PERFECT TEST ENVIRONMENT

The two companies opted to conduct the trial in the grinding and polishing facility, where robots in six production lines bring a high sheen to the cast and milled metal parts used in Hansgrohe products. Even though the dust produced by the ▸

"Existing enclosure cooling units in Germany are ten years old on average. At this age, it's generally well worth replacing them with a cooling unit in the latest efficiency class."

Judith Kötzsch
Vice President Business Development Service at Rittal

At a glance: NFC transmission of data to a smartphone.

grinding process is extracted, the air in the grinding facility still contains many particles that can pollute the cooling unit. What's more, the machinery and grinding processes themselves generate heat – the air is hot and quickly becomes dusty, which makes this an ideal environment for putting a cooling unit through its paces.

CHECK LIST IN THE NAME OF EFFICIENCY

Before the first test unit was installed, Rittal conducted a service and efficiency check of the entire production facility in Schiltach. Rittal developed this standardised procedure as a means of providing its customers with reliable figures about potential savings in connection with enclosure cooling. Judith Kötzsch, Vice President Business Development Service at Rittal, explains the process. "The first step in our efficiency check involves documenting the current state of affairs. We look at which machines are present, how old they are and what condition they are in. A dirty cooling unit that hasn't had any maintenance work done on it for years uses more energy than a unit that is the same age but, most importantly, has had its heat exchanger and filters cleaned on a regular basis. We also ask about the regional electricity price and the working hours – in other words, the number of shifts during which the machines are operational.

This data is then used to perform an initial analysis to work out the current energy consumption and suitable countermeasures, ranging from carrying out maintenance to replacing certain units entirely. This means we can calculate potential energy savings, the associated amortisation period, cost savings over a number of years and the reduction in CO_2 emissions, and then present these figures to the customer. The customer is therefore given a full list of measures, complete with the cost and financial benefit of each one.

750 W COOLING UNIT PUT TO THE TEST

As an option, a trial of a new unit can also be used to verify the cost benefits that have

FIND OUT MORE

hansgrohe

www.hansgrohe-group.com

www.rittal.com/efficiency-analyses

been calculated. If required, certified subsidy managers at Rittal can help the company concerned find appropriate energy-related funding schemes that will help the investment pay for itself even faster. Once the energy check has been completed, Rittal works with the customer to implement the list of measures. "Existing enclosure cooling units in Germany are ten years old on average. This means they are rapidly approaching the age when it's well worth replacing them with a cooling unit in the very latest efficiency class," adds Kötzsch.

"You can use the Scan & Service app to check the cooling unit when you're walking past it and then you know immediately that everything is OK."

Hakan Zahal
Head of Grinding & Polishing
at Hansgrohe SE

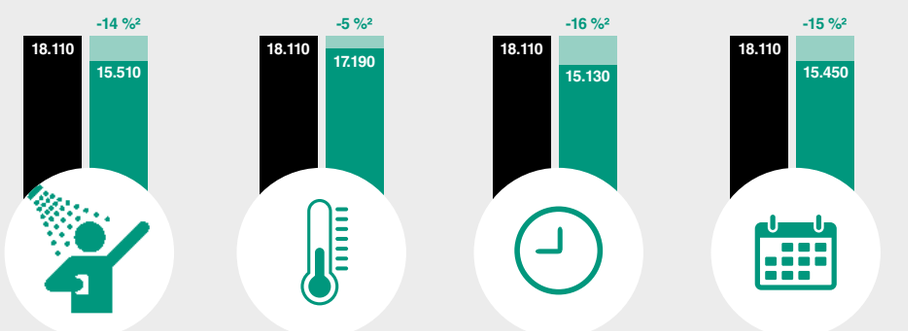
A CONSTANT OVERVIEW OF EVERYTHING

At Hansgrohe, too, an efficiency and service check of this kind was the first item on the agenda. Once this had been completed, the SK 3361.100 cooling unit at one of the grinding centres was replaced with a unit from the latest-generation Blue e+ S range with a rated output of 750 Watts. "It all happened very quickly," recalls Hakan Zahal, who operates the system. "In late October 2022, the Rittal service engineers replaced the cooling unit for one of the enclosures, and it took them less than two hours. It was all very straightforward, since the only thing that needed to be modified was the cutout in the enclosure door. The electrical connections all fitted, so it was simply a case of plugging things into different sockets, including the door-operated switch and the fault signal relay.

Zahal goes on to describe the company's initial experience of the new unit. "It just works away in the background and actually saves us work, too. Our old cooling unit didn't have integrated condensate evaporation, so we had to empty the collection container regularly. The new unit evaporates the condensate, so no maintenance is needed on a day-to-day basis."

"You can use the Scan & Service app to check the cooling unit when you're walking past it and then you know immediately that everything is OK," says Zahal, referring to another significant benefit of the Blue e+ units. The new units send data to a smartphone or tablet by various means including NFC transmission. System messages, the unit's current settings and other data are also all recorded and displayed. Kopf has been positively surprised by the energy savings that were forecast by Rittal and are now indeed being achieved in ongoing operations. "Everybody knows that you can achieve energy savings of 20 to 30 per cent with a new, energy-efficient unit. However, Rittal promised us some 60 per cent – and, sure enough, we're currently achieving savings of 61 per cent in our actual operations. To be honest, it really surprised us. What's more, if we disregard the integrated condensate evaporation – in other words, if we carry out a like for like comparison with our old unit – this figure actually rises to 70 per cent." Kopf then sums up the results of the trial to date. "So far, the trial has all taken place during the autumn and winter – and yet we've still recorded large percentage savings. Due to the integrated heat pipe, we're likely to see even higher savings over the summer. In any event, the Blue e+ S has certainly exceeded our expectations. What's more, Rittal has proved that the data that was calculated during the efficiency check can also be achieved in practice. We are definitely going to implement further recommendations from the efficiency check bit by bit, with a view to optimising energy consumption in our production plant." ■

Saving water, energy and carbon dioxide in the shower



Water usage[1]
(9 l/min instead of 16 l/min)

Temperature
(35 °C instead of 40 °C)

Duration
(2 min instead of 4 min)

Frequency
(Every 3 days instead of 2)

Carbon footprint in kg CO_2e

- ACTUAL
- TARGET
- Savings

ACTUAL value based on a standard bathroom with a 20-year usage phase, in a four-person household. Daily 40-minute use per person with an average of 345 presence days per year. Electricity generation via electricity mix. Heat generation technology of an average new building. Use of standard materials and product variants.

1. For example, through one Hansgrohe showerpipe with EcoSmart technology and a flow rate of 9 litres per minute instead of 16 litres per minute (on average) at 3 bar in the standard version.
2. The percentages reflect the savings potential of the respective individual measures. The total savings potential of 30 per cent is not calculated from the sum of the individual measures, but from the combination of the four measures indicated.

Source: Hansgrohe analysis "On the Way to a Green Bathroom", March 2022

Rittal Service – practical tips for IT managers

Saving energy can be easier than you might think

Data centre operators are currently under huge pressure to **cut energy consumption,** but what practical steps can they take and what impact do these measures have? The **Rittal Service team** has some concrete suggestions. Besides the little “quick wins” that can be achieved just by adjusting the cooling parameters slightly, **free cooling in particular can soon deliver measurable results.**

Text: Ulrich Sendler and Steffen Maltzan

"Higher server air intake and water inlet temperatures in conjunction with an external free cooler can significantly cut energy costs."

Martin Dörrich
Head of the Product and Spare Parts Management service at Rittal

A free cooling system – such as the rooftop chiller shown here – is an easy option that quickly pays off.

How can I make my data centre more energy-efficient and cut electricity costs? Does adjusting the cooling parameters lead to significant savings? Many Rittal customers and partners are asking the company's service staff these questions. A look at numerous cases in actual data centres shows that the solution is often more obvious and pays off faster than you might imagine. The main focus is on the IT infrastructure, especially the cooling system. And it's clear that, although the cooling parameters are important, they don't deliver significant savings on their own.

The German industry association Bitkom bases its approach on the international recommendations of ASHRAE (the American Society of Heating, Refrigerating and Air-Conditioning Engineers). For example, the thermal guidelines for Class A1 enterprise data centres permit server air intake temperatures ranging from 15 to 32 degrees Celsius and recommend values in the somewhat narrower range of 18 to 27 degrees.

Martin Dörrich, Head of the Product and Spare Parts Management service at Rittal, has put together a recommendation taking a genuine customer scenario as an example. As in many data centres, this customer's server air intake and water inlet temperature parameters were set lower than necessary, at 18 and 13 degrees respectively. Cooling was exclusively via chillers, and these temperature settings meant their compressors were running for long periods throughout the year. Increasing the server air intake temperature by four degrees, to 22 degrees, and the water inlet temperature to 15 degrees initially delivered only small cost savings. "When this was combined with the additional use of an external free cooler, however, a significant saving in annual operating costs was achieved," reveals Dörrich. "Taking into account the cost of investing in a free cooler, including materials and conversion work, this modernisation project paid for itself in just 1.7 years or so, not to mention reducing the carbon footprint and relieving the strain on the overburdened power grid," he adds.

When combined with infrastructure modifications that can be implemented quickly, adjusting the parameters thus leads to a noticeable saving, while still ensuring compliance with the specified requirements and settings. When, or rather where, does using a free cooler produce results of this kind? Whenever the outdoor temperature is regularly lower than the water inlet temperature that has been set, the system is operating in free cooling mode and the compressors are switched off.

The example provided shows that the data centre's geographical location and the typical temperatures there over the course of the year play a major role when it comes to saving energy during data centre operation. The cooler the location, the easier the saving is to achieve and the faster such infrastructure modifications pay for themselves. Different factors need to be considered in southern Europe or Africa to the ones that apply in a country such as Germany. Wherever the local climate is suitable, free cooling is an easy option that quickly pays off. ■

FIND OUT MORE

www.rittal.com/it-cooling

Arc flashes are rarely totally unexpected – Rittal and DEHN can provide active protection for switchgear.

Arc fault protection thanks to Rittal and DEHN

ACTIVE PROTECTION

The lights suddenly go out at the logistics centre of an online mail order company. The package sorting equipment, storage and retrieval systems, conveying units and picking stations are without power. Everything has ground to a halt – it's a nightmare scenario! The cause of the power failure could be an **arc flash in switchgear.** How, though, can failures of this kind be prevented or at least limited in their duration?

Text: Dr Jörg Lantzsch

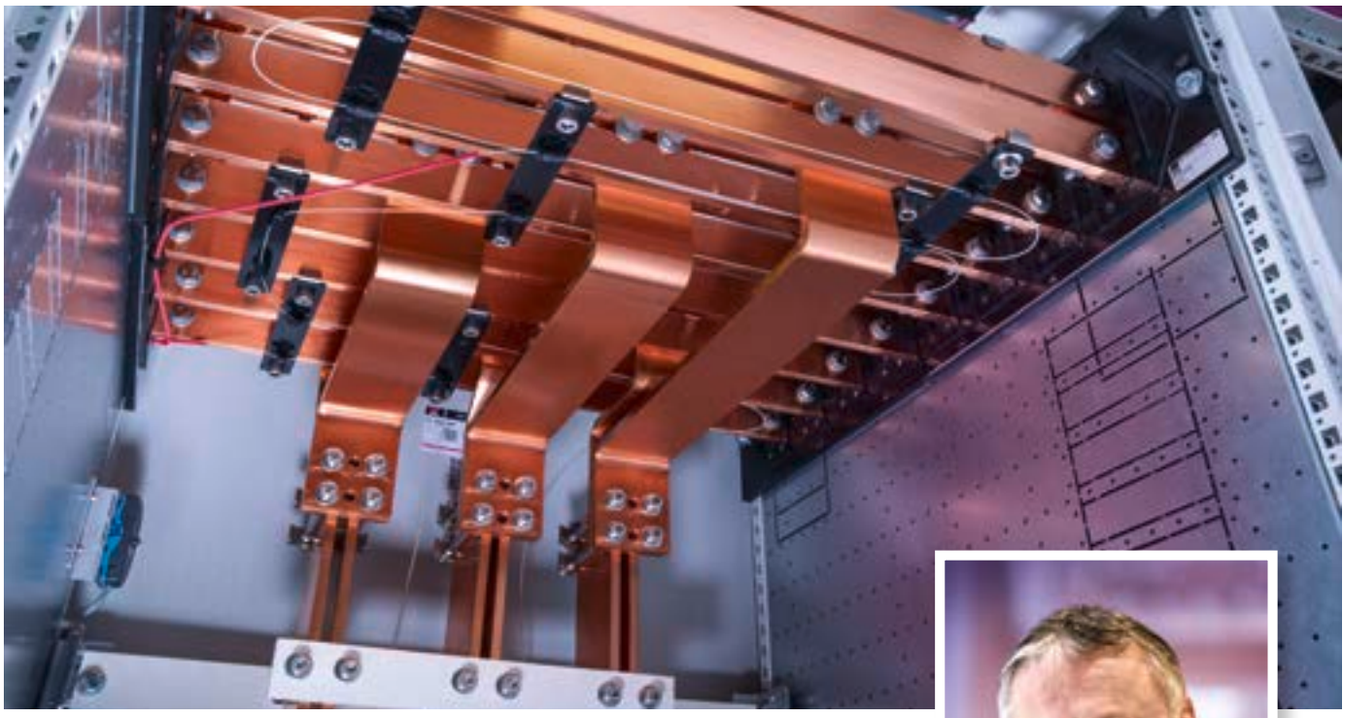
The mere thought of such a power failure is enough to make logistics managers break out in a cold sweat. It would no longer be possible to place goods in storage, and customers would be left waiting in vain for their packages. The standard next-day delivery promise of online traders would be at serious risk. In many cases, the cause of such an outage is trivial. A tool that's been left behind or a screw is all it takes to trigger an arc flash in switchgear, with dire consequences. Depending on the type of arc fault protection installed, parts of the system may be destroyed or at the very least badly damaged. In the worst-case scenario, it can take several weeks to repair – a period during which the logistics centre is restricted to emergency operations.

But what can be done to prevent problems of this kind or at least limit their duration? "That's the question plaguing many managers," says Jan Kretzschmar who, in his role as head of the Low/Medium-Voltage business unit at Elektro Vieweg, planned the power supply systems for two logistics centres operated by one of Germany's largest online mail order businesses. The energy consumption of these centres is extremely high. Four low-voltage main distribution boards (LVDBs), each of which is supplied via two separate medium-voltage transformers, provide the electrical energy for the two centres. Together, these installations have a total rated current of 17,000 A. One of the key requirements when planning the LVDBs was Class C active arc fault protection. According to Kretzschmar, Elektro Vieweg is increasingly encountering these kinds of requirements: "The demand for arc fault protection has been growing strongly for a number of years."

ACTIVE ARC FAULT PROTECTION

If the kind of active arc fault protection demanded by logistics centres is installed, an LVDB can quickly be taken back into operation after an arc fault accident. Elektro Vieweg used the VX25 Ri4Power system from Rittal to provide such equipment in the logistics centres. When planning and costing the solution in close collaboration with Rittal, Class C arc fault protection was achieved by installing a DEHNshort system. A combination of optical sensors and current converters can very quickly detect an arc fault as it is occurring. This triggers a connected ultrafast switching device that acts as a short-circuiter and, within a millisecond, creates a parallel current path with lower resistance to the arc flash.

The whole process – from detection through to the arc flash being extinguished – takes just a few milliseconds. The extent of the arc flash is thus so limited that the switchgear is ready to turn back on as soon as the cause of the fault has been rectified and the extinguishing devices have been replaced. The DEHNshort system's sensors can identify the switchgear panel where the fault occurred. The system can also be installed in such a way that the switchgear is split into several protection areas, meaning the fault can be located very quickly and rectified immediately. The power supply can be restored in no time at all, and operations can continue.



VX25 Ri4Power: Reliable, type-tested low-voltage switchgear for machines, equipment and power distribution up to 6,300 A – here with Flat-PLS busbars and installed light sensors from the DEHNshort system (images above and below).

EXTENSIVELY TESTED SOLUTION

The combination of VX25 Ri4Power and DEHNshort has been tested at the IPH in Berlin, an institute that specialises in testing high-performance electrical technology. Besides reliably extinguishing arc flashes, the system must also be resistant to false tripping – in the event of an arc being emitted by circuit-breakers when disconnecting short-circuit currents, for example. The connections between the switchgear and the extinguishing devices must withstand the mechanical forces of the current following activation. Proof of compliance with all these requirements is provided in tests to DIN VDE 0660-600-2-1 (IEC TS 63107). Subsequent evaluation of the test results takes place in accordance with DIN EN 61439-2 Supplement 1 and IEC TR 6164.

COOPERATION WITH EVERYONE INVOLVED

"The fact that the process of implementing the switchgear in line with the requirements went so smoothly was partly due to the excellent cooperation between everyone involved in the project," insists Kretzschmar. Besides obtaining certification for the Ri4Power and DEHNshort combination, extensive training at DEHN also played a particularly important role. The team is now planning more, similar solutions for logistics centres. "And we'll be using the same – now proven – technology for these, too," confirms Kretzschmar. ■

"The demand for arc fault protection has been growing strongly for a number of years."

Jan Kretzschmar
Head of the Low/Medium Voltage business unit at Elektro Vieweg

FIND OUT MORE

www.rittal.com/powerdistribution

Arc fault protection

What are arc fault classes A, B and C?

An arc fault accident in low-voltage switchgear can have dire consequences. If no precautionary measures have been taken, the switchgear can be damaged – or even completely destroyed – by the resulting high pressures and extreme temperatures of over 10,000 degrees Celsius.

People located in the vicinity are also at acute risk. DIN EN 61439-2 Supplement 1 defines various arc fault protection classes.

Class A relates exclusively to the protection of people, who must not be put at risk by the high arc temperatures. Furthermore, the high pressures generated must not lead to risks resulting from parts of enclosures being hurled through the air in an uncontrolled manner.

This is normally prevented using pressure-relief components that dissipate the pressure by directing it upwards. **Class B** additionally requires the arc flash to remain confined to one part of the switchgear. This means that, although the switchgear is damaged, it is not completely destroyed.

Class C – the highest class – calls for either an appropriate design that confines the arc flash to its point of origin or a suitable device, such as the one used in this case, that extinguishes the arc flash before it can cause any damage. The switchgear is then ready to operate again as soon as the fault that caused the arc flash has been rectified and the short-circuiters have been replaced.

Interview

What are the key factors for switchgear?

Active arc fault protection can prevent massive damage to installations and also protect people against risks. How can switchgear manufacturers go about improving their know-how, and what factors do they need to consider? We ask **Lutz Graumann, Global Account Manager at DEHN SE.**

01 Why is arc fault protection such an important issue for manufacturers and operators?

Graumann: In almost all areas of industrial companies where people are present, protecting them is a mandatory requirement. This necessity is set out in our occupational safety legislation, and the statutory risk assessment must always be carried out. Low-voltage switchgear poses several potential risks, one of which centres on arc faults. Besides putting personnel at risk, arc flashes can also cause significant material damage, including a fire.

02 What justifies the additional costs of arc fault protection?

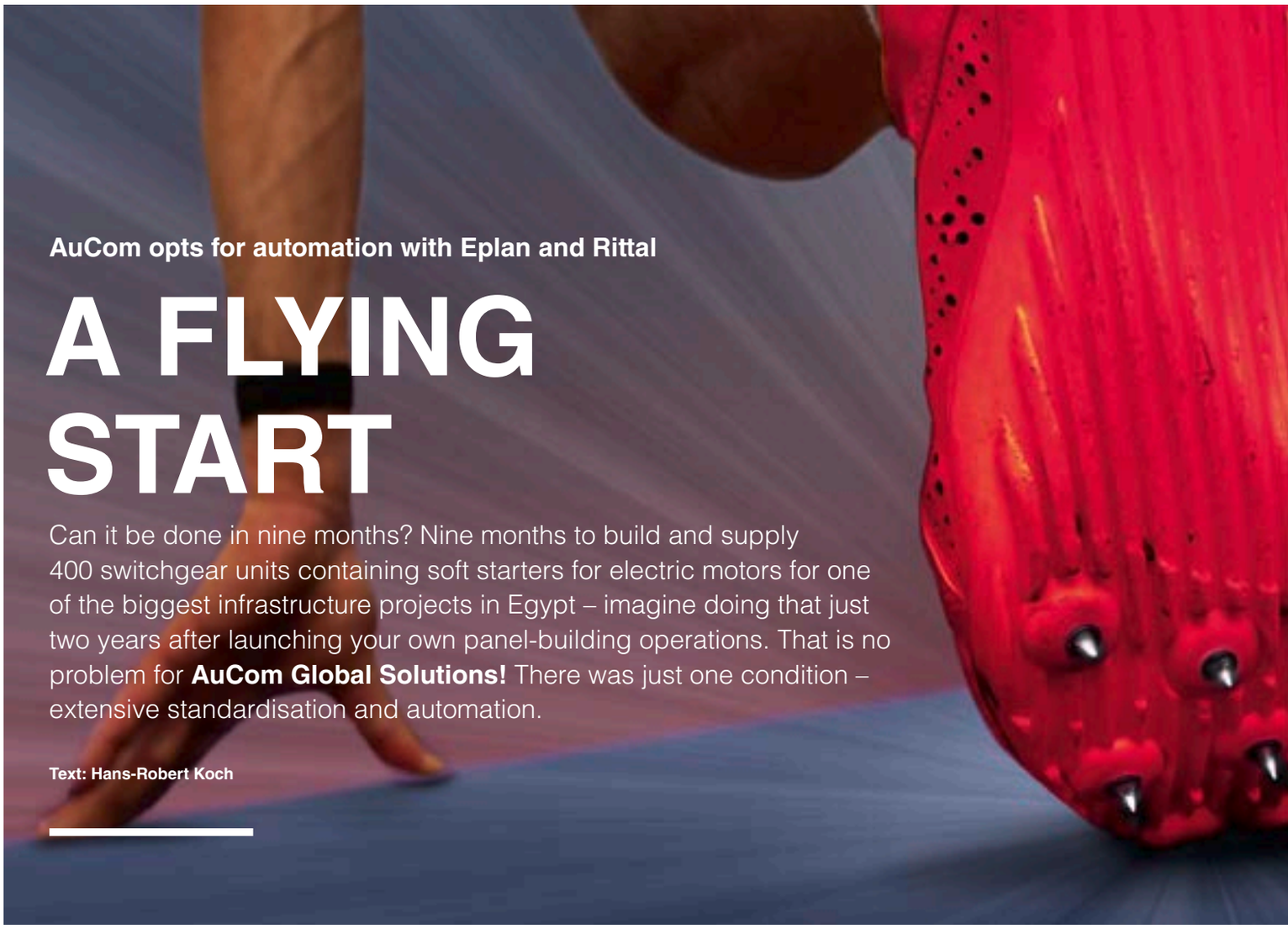
Graumann: If equipment needs to be repaired or replaced after an arc fault accident, this can take weeks, if not months. The supply bottlenecks currently affecting many components are exacerbating this situation. Active arc fault protection, which costs an extra 10 to 15%, depending on the switchgear, is always the best solution in my opinion.

03 What factors need to be considered when planning arc fault protection?

Graumann: First and foremost, it's important for the switchgear and active arc fault protection to be tested together. Rittal had the IPH in Berlin perform testing of this kind on the VX25 Ri4Power system in combination with our DEHNshort solution, with successful results. What's more, our switchgear teams are given the training required to install the system. The training we provide is very comprehensive. After all, the system only works if it is installed professionally and then tested. Thanks to all these measures, end customers can rest assured that their switchgear meets the requirements of DIN VDE 0660-600-2-1 (IEC TS 63107) and offers Class C protection in line with DIN EN 61439-2 Supplement 1. ■

Lutz Graumann, Global Account Manager at DEHN SE

Thank you very much for speaking to us!



AuCom opts for automation with Eplan and Rittal

A FLYING START

Can it be done in nine months? Nine months to build and supply 400 switchgear units containing soft starters for electric motors for one of the biggest infrastructure projects in Egypt – imagine doing that just two years after launching your own panel-building operations. That is no problem for **AuCom Global Solutions!** There was just one condition – extensive standardisation and automation.

Text: Hans-Robert Koch

Everything at the company in Sendenhorst, north-eastern Germany, is bursting at the seams. It's not just the order books at AuCom that are full – the production workshops are too. Tightly bayed switchgear sits just a couple of steps from wire processing and enclosure machining equipment. Everything is crammed into the tightest of spaces. Production operations at the European headquarters of this New Zealand company currently have an overall footprint of 2,800 square metres. That is why the specialist in electronic drive technology is urgently looking for more production and warehousing space, not to mention more staff. The company already invested a seven-figure sum in the construction of a new workshop in 2022, and another workshop is due to follow this year, at a similar cost. This mid-size company is certainly on a growth trajectory. It has doubled its sales compared to 2021 and its headcount quadrupled between 2020 and 2022. In 2023, the workforce is set to top 100.

Thomas Zirk-Gunnemann, Managing Director of AuCom Global Solutions, attributes this success to a rising demand for soft starters that has been brought about by the energy revolution. "Our products have never been more relevant than they are today," says the electrical engineer. Soft starters help to reduce the energy consumption associated with starting up large industrial motors and ease the strain on drives, power grids and power plants. According to the Managing Director, these benefits have been proven in applications such as in Qatar, where air conditioning compressors used in the World Cup 2022 stadia were fitted with AuCom soft starters, and in Egypt's giant "New Delta" infrastructure project, where they have been used in large pumping stations for water reservoirs.

400
UNITS

for "New Delta", one of Egypt's biggest infrastructure projects.

400 UNITS FOR EGYPT

Another reason behind the company's commercial success, according to Zirk-Gunnemann, is its decision to invest in automating production processes and standardising enclosure technology. "Without these developmental steps, we would have had no chance of winning the 'New Delta' mega project," he explains. "We had to provide assurances we could deliver the complete project, which comprised a total of 400 switchgear units for 70 new pump stations, within nine months – and that at a time when material

What is the effective alternative when a compact enclosure isn't quite enough, but you don't need a bayed enclosure?

flows and supply chains were unstable," points out the Managing Director. On top of this, there was tough competition from local Egyptian switchgear builders, who have much lower labour costs. "Right from day one, we knew the only way we could compete would be by putting in place automated production." The company has eight years of experience in switchgear production. Having worked closely with suppliers and launched its own in-house panel building operations two years ago, AuCom understands the processes precisely. However, its partners were reluctant to invest in automation technology. In late 2021, AuCom took matters into its own hands and invested in a fully comprehensive package of automation technology and engineering software. "When we do something, we do it right," declares the boss. The company's decision to procure the fully automated Wire Terminal wire processing system and Perforex machining centre from Rittal and to source engineering

The VX SE free-standing enclosure: AuCom doesn't need baying options for its enclosures. Only standalone solutions are created.

The VX SE free-standing enclosure

The benefits at a glance

- Forming the side panels and roof from one piece reduces ordering and assembly outlay
- Creating the body from a single piece ensures maximum stability and torsional rigidity
- High protection category up to IP 66/ NEMA 4 or 4X
- One-piece enclosure construction ensures excellent EMC characteristics
- Engineering can be transferred 1:1 from the VX bayable enclosure to the VX SE free-standing enclosure
- The VX SE free-standing enclosure uses the same accessories platform as the VX bayable enclosure series
- Wide range of dimensions available in cluding widths up to 1,800 mm, equiva lent to up to three bayed VX enclosures
- Depths of 300 mm are ideally suited for applications where there is little space, such as for building technology

software from Eplan paid off. “After just one year, we can say that we made the right decision and that it was exactly the right step for us in terms of being able to compete,” says Zirk-Gunnemann.

STANDARD MODEL IDENTIFIED

One of the reasons AuCom was so successful was because it clearly defined an enclosure standard early on in the process. Once the decision had been made to market not just the safe start technology but its “packaging”, too, the company worked out which model of enclosure it should use moving forward. Thanks to a range of technical plus points and a 24-hour delivery promise, it was the VX SE free-standing enclosure from Rittal that won through as the favourite. “To be competitive, it’s essential we define a clear standard, and we’re using the Rittal standard as our own,” explains the electrical engineer. The VX SE is being used in three sizes, meaning it covers all requirements in terms of ease of assembly and cost-effective production. “It is absolutely the most logical choice of enclosure model for us and helps us cut out the most steps.”

A FREE-STANDING ENCLOSURE MAKES LIFE EASIER

The AuCom enclosures don’t require any of the baying options that are typically used in conventional plant engineering, because the soft starter technology can only be installed in a free-standing enclosure as a standalone solution. The drive specialist doesn’t need side access to the enclosure for the purposes of assembly and fit-out either. What’s more, the company wanted to save on having to unpack and fit separate side panels and dispose of all the packaging material too. The VX SE covers all these needs. In contrast to bayable enclosures with a frame and removable side panels, the free-standing enclosure has an all-in-one body made from a single piece of steel sheet or stainless steel. As the side panels and roof are formed from one piece and fewer individual components are required, both ordering and assembly are far simpler and faster. Since the side panels, roof and frame are conductively connected, no additional earthing to the frame is required, delivering a further time saving.

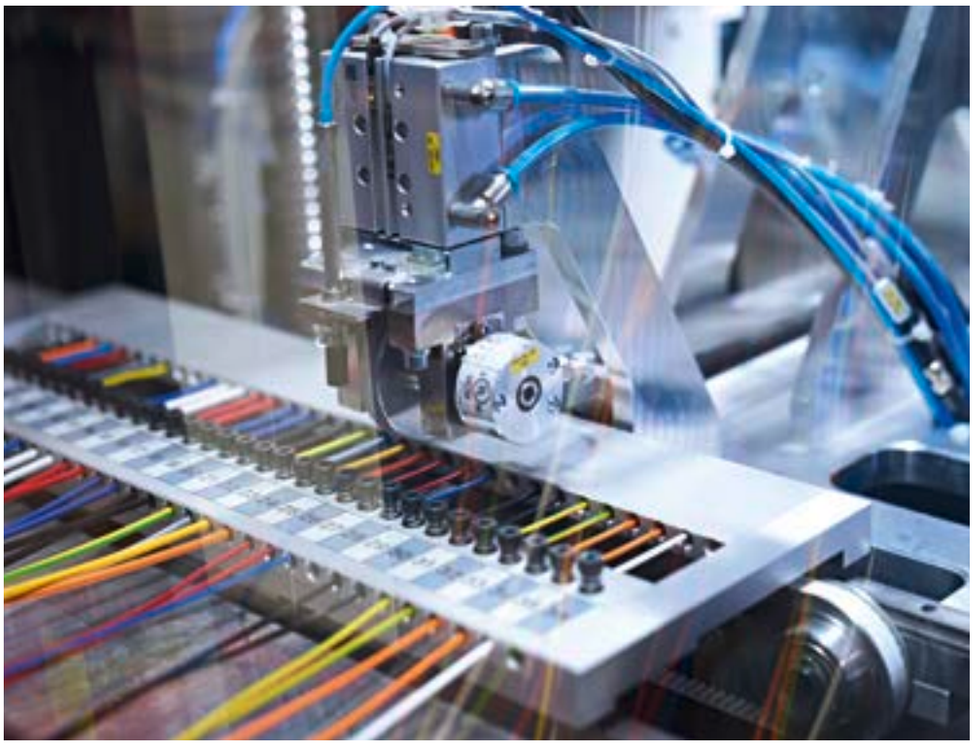
“However, we have developed a standard that can be extended with additional options,” points out Zirk-Gunnemann. “For example, our enclosures can be fitted out in line with customer requirements to include as many system components as they need, such as rails and punched sections with additional motor circuit breakers, terminals and protection

Acceleration: Automated machine technology from Rittal, such as the Perforex Milling Terminal MT (above, centre) and the fully automated Wire Terminal WT C wire processing machine (below, right), are helping speed up processes at AuCom considerably.

FIND OUT MORE

www.rittal.com/com-en/products/VX-SE

www.aucom.com



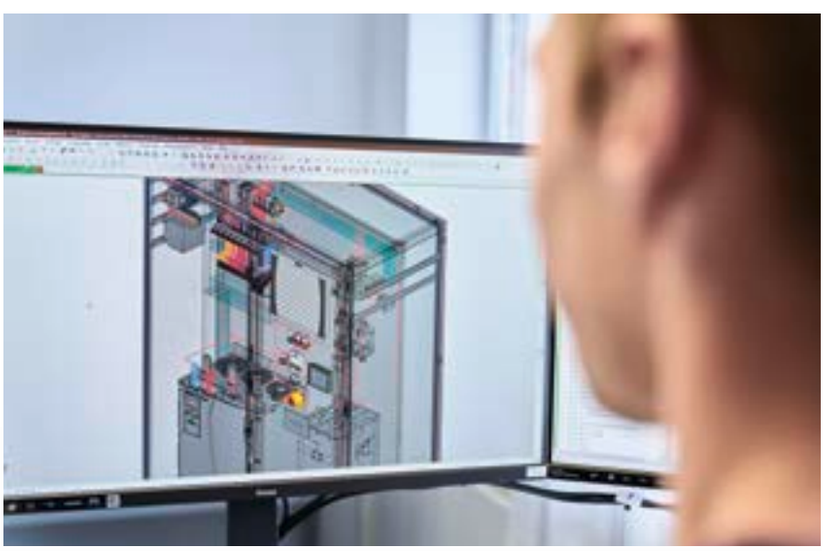
"To be competitive, it's essential we define a clear standard, and we're using the Rittal standard as our own."

Thomas Zirk-Gunnemann
Managing Director at AuCom Global Solutions

THE FULL PACKAGE IS JUST RIGHT

Although other market solutions were available for establishing automated production and creating a platform for enclosure technology, AuCom opted to hit the 'reset' button and start over with a whole new, all-in-one package comprising enclosure standard and automation technology. "Ultimately, we decided to get everything from the same source and build a close partnership with Rittal and Eplan," says Zirk-Gunnemann. ■

relays." Another advantage is that, by using the VX SE, the plant engineering company can make the most of the system accessories available for the VX25 bayable enclosure series. VX compatibility for interior components is made possible by adaptor rails. This means components such as punched sections, rail systems and partial mounting plates from the VX25 can all be installed in the VX SE. As a result, the entire VX SE can be enhanced using VX25 accessories.



Engineering with Eplan: AuCom uses Eplan Pro Panel software for the 3D construction planning of its switchgear.

Never without a helmet – that's the policy adopted by Peter Marszelewski, Head of IT at German tyre manufacturing company Ralf Bohle. He also made safety a top priority when it came to building a new data centre.

New IT infrastructure at tyre manufacturing company

FAILSAFE

A fire breaks out in the data centre – firefighters arrive on the scene and turn on their hoses. Within a matter of seconds, servers and IT infrastructure are all deluged with water – it's an image IT administrators aren't keen to dwell on. At **Ralf Bohle,** there's no chance of flames taking hold in the server room. The **Schwalbe bicycle tyre** manufacturer has made safety and security a priority and opted for **IT infrastructure from Rittal.**

Text: Patricia Späth

How do you create a highly available IT infrastructure – without any compromise?

Peter Marszelewski, Head of IT at Ralf Bohle GmbH, gives a rueful smile as he recalls his bike trip from Garmisch-Partenkirchen in southern Germany to Riva del Garda in northern Italy last summer. Almost at his destination, he had a fall after a heavy downpour on a singletrack trail. There was some good news, however – his head was uninjured. This passionate cyclist wouldn't dream of setting off on his bike without wearing a helmet. And in his role as Head of IT at the German company that revolutionised the bicycle tyre market with its "Schwalbe" brand, Marszelewski isn't prepared to entertain any compromise when it comes to the safety and security of the corporate IT infrastructure either.

SHIFTING UP A GEAR

With its server room that had grown over time, the company had been on slightly shaky ground. However, when the decision was taken to build new headquarters at the company's Reichshof site and allocate a dedicated space to a data centre, this opened up a whole range of completely new options to Marszelewski and his team. It didn't take long to draw up the requirements – there was to be no compromise when it came to the safety and security of the new data centre. "Our international sales offices are also connected to the IT infrastructure here at the Reichshof site, so any outage would have devastating consequences," says Marszelewski as he sums up the challenge involved. "It wouldn't be possible to place orders via the ERP system, for example, and there would be no access to the online shop. And, after all, who can manage without their bike tyres?" he says with a grin. The application for the warehouse management system also operates via the data centre, and is a centralised service for the sites in Germany, the Netherlands and the UK. Customers, who include both well-known bike manufacturers and smaller bicycle retailers, order directly from Ralf Bohle and are keen to receive their goods as quickly as possible. Forklift trucks that are connected to the warehouse management system by means of WLAN are an important interface in the supply chain. The system sends information directly to the cab of the forklift truck. This tells the driver which rack they need to drive to in order to pick up the goods.

Thinking ahead: The data centre is ideally equipped for the next ten years and can be expanded at any time by adding more IT racks.

The oxygen reduction system works with a compressor that filters air out of the room. A membrane filters out the oxygen. As soon as the oxygen level in the air rises, the compressor starts up again.

Following a visit to another company in the local area, Marszelewski was in no doubt that the IT infrastructure needed to be housed in a security room. A dedicated space in the new building had been allocated to the data centre. The data centre was designed to allow for growth, especially since the Head of IT had reduced the previous 45 servers to just seven by means of virtualisation. Some 50 percent of the eight racks now available are standing empty, ready to be put into service if the company experiences the same kind of huge growth it has over recent years. A further eight racks can be added to the security room at any time.

NO POSSIBILITY OF SPARKS JUMPING

Another reason why the company decided to opt for a Rittal security room was because it wanted to install an oxygen reduction system – and this calls for a well-sealed room. The system keeps the oxygen level in the data centre between 14 and 15 percent, which prevents fire from breaking out in the first place. In normal environments, oxygen levels are around

"You don't let just anybody build you a server room – you get in touch with Rittal."

Peter Marszelewski
Head of IT
Ralf Bohle GmbH

FIND OUT MORE

www.schwalbe.com/en/start

Providing peace of mind: The CMC III monitoring system from Rittal keeps a constant eye on the physical ambient conditions, monitoring parameters such as temperature and humidity.

Customer proximity: Rittal sales rep Patrik Debus provided support for the project from the outset and visited the site to see the result for himself.

21 percent – and everybody is familiar with the experiment that involves placing a glass over a burning candle and watching the flame go out as soon as the remaining oxygen has been used up. “Protecting the data centre against fire was really important to me. Otherwise, if a fire did break out and we had to call the fire brigade, the servers would all be deluged with water in next to no time,” says Marszelewski, as he explains the decision to opt for an oxygen reduction system. “Admittedly, the low oxygen levels mean that accessing the data centre is a bit like an extreme mountaineering experience, but we only need to go in every four to six weeks. And when it is time to go in again, we always let a colleague know, so they can rescue us if necessary.”

HEAT RECOVERY FOR HOT SHOWERS

A high level of safety and security for the data centre was not the only item on the wish list – energy efficiency was another important consideration. An aisle containment solution consisting of door and ceiling elements ensures that warm and cold air cannot mix. This increases the efficiency of the climate control units. A Liquid Cooling Package Inline DX is used here. A neat trick with this solution is that the waste heat is used to heat the communal shower. It should come as no surprise that many members of staff at Ralf Bohle GmbH travel to work on two wheels. “Some colleagues cycle quite a few kilometres into work in the morning, so they need a shower when they get here,” explains Marszelewski. After recovering from his bruised ribs, he is now back in the saddle, too – with a new helmet, because safety is his priority, whether he’s on his bike or in the data centre. ■

Can plastic replace metal?

A better product is the enemy of a good one – the strength of LKH lies in pro-actively suggesting improvements to products and processes.

LKH interview

GOING FROM GOOD TO BETTER

Being open to different perspectives can be the key to boosting added value and making production more efficient. Substituting materials and methods is one example. **Steffen Diehlmann, Head of Sales at LKH,** explains how the company can work with customers to **systematically optimise their products** – in terms of sustainability, cost-effectiveness, functionality or production reliability, for instance.

Interview conducted by Meinolf Droege.

"The value analysis specifies and calculates the effects of potential product measures on the cost situation and sustainability in a transparent and comprehensible way."

Steffen Diehlmann
Head of Sales at LKH

Mr. Diehlmann, do you still come across customers who use the old mechanical engineering saying: "If you know anything about plastic, you use steel"?
Diehlmann: Yes, that still happens from time to time. However, word should have spread that plastic isn't necessarily the cheap alternative but is often the better one from a technical perspective and also in terms of cost-effectiveness. I'll give you an example from back in the 1950s when Arburg, now a global player, was looking for the fastest possible way of reducing the extremely high levels of complaints relating to moisture damage in photographic flash devices. It only achieved this by switching to a completely new sealing system made of plastic, for which the first injection moulding machine was then built. Presumably, the unit cost of the new plastic solution was not lower to start with. However, the resulting improvement in product quality made production viable for the first time, as complaints subsequently fell to almost zero.

The solution back then was born of necessity. What is your approach today?
Diehlmann: Our approach is based on a value analysis of individual products. Our very high level of in-house material and process expertise, not to mention our mould know-how, enables us to evaluate these influencing factors very reliably. What's more, we have successfully implemented a whole host of these substitution projects, and not just with our fellow Group company Rittal. It goes without saying that we also incorporate this experience into our analysis.

Are your customers' procurement departments sufficiently open to completely new solutions or do you encounter – to put it politely – a certain paralysis?
Diehlmann: That's when we take things to a different level. Initially, it may well be the procurement team of our customers or potential customers getting in touch with us. However, subsequent discussions then primarily take place with their development department, and their quality control team and marketing specialists might occasionally be brought on board. On our side, designers, process engineers, material specialists and/or project managers get involved in these discussions as required. It's about ensuring we can look at a product from different perspectives.

How exactly does this process work? Can you provide a specific example?
Diehlmann: The first job we did for one of our customers involved optimising a hybrid part made of sheet metal and plastic. We reduced its carbon footprint, made it more ergonomic and significantly improved cost efficiency in production. Once this project had successfully reached the series production stage on schedule, the customer asked us also to scrutinise other products. A Tech Day that we held with our customer started with a brief introduction to plastics technology. This was followed by three workshops to draw up initial proposals for a solution. These workshops focused on designing articles in plastic, mould design and selecting the right plastic, especially in terms of flame retardancy. Having started with rough estimates, we then moved on to a detailed value analysis for the promising projects. An analysis of this kind specifies and calculates the effects of potential product measures on the cost situation and sustainability in a transparent and comprehensible way.

Anyone who has always based their designs on metal must find it rather hard to consider the possibilities of plastics technology. How do you deal with that?
Diehlmann: Unfortunately, you're right. We therefore repeatedly scrutinise products that have been on the market for some time and analyse them proactively. We occasionally find solutions that the customer hasn't even started looking for yet. A customer we approach with a suggestion of this kind, which is often already pretty specific, is more likely to be won over. Incidentally, it's not just a case of replacing metal with plastic, but also of replacing plastics that are expensive or require a lot of processing with alternative plastics, or replacing new materials with recycled equivalents. Especially given the debate surrounding CO_2, that is set to become massively more important very soon. ■

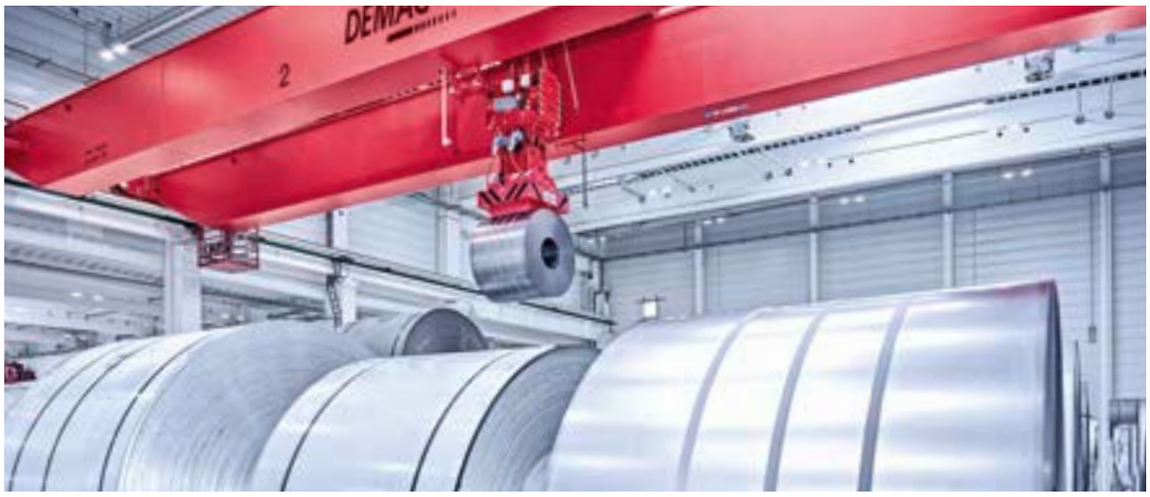
Stahlo secures supplies of green steel

ON A ROLL

Many **Stahlo** customers want and need to reduce their carbon footprint for the long term. One way of doing this is to use **low-carbon steel** – and the steel service centre has now secured supplies of **SALCOS steel from late 2025 onwards.** This means customers will be able to use steels in the C+ and B+ emissions class and thus meet their own targets for further reducing their carbon footprint.

Text: Hans-Robert Koch

There is a great deal of interest in green steel – from both end users and steel processing companies. For instance, demand for cars and household appliances that have been manufactured in an environmentally friendly way is rising. As companies work hard to decarbonise their supply chains, the issue of finding reliable green steel suppliers is becoming ever more pressing. Initial volumes of this green steel are now coming onto the market. Stahlo has been supplying its customers with steels produced via the "Peine electric arc furnace (EAF) route" since 2021. These steels have the Stahlo D+ classification – in other words, they have a substantially reduced carbon footprint due to the electric process that is used to produce them. This process cuts emissions by over 60 per cent compared to the conventional blast furnace (BF) route. Stahlo has now signed a partnership agreement with Salzgitter Flachstahl to secure supplies of SALCOS® (Salzgitter Low-Carbon Steelmaking) material, provisionally from late 2025. Consequently, one of Europe's most modern steel service centres is ensuring the availability of steels in emissions class C+ or B+ based on Stahlo classifications (www.stahlo.de/en/classification-label).



Stahlo offers an extensive range of flat steel grades. The focus – sheet steel with special surfaces and properties ranging from high to ultra-high strengths.

"We are delighted that we will be a reliable supplier of green steel for our customers moving forward."

Oliver Sonst
Managing Director of Stahlo

RELIABLE SUPPLIER

"A great many of our customers are following a decarbonisation roadmap, which sets out reductions in emissions over the coming years in logical steps. Many customers have already planned and made valuable progress within their direct sphere of influence (Scope 1 + 2). However, upstream emissions are another key lever when seeking to optimise your carbon footprint, and it is the upstream suppliers, such as steel suppliers, who are responsible for these. Our aim is to help our customers achieve their carbon-cutting measures in steel procurement for the coming years and meet upstream Scope 3 requirements," says Oliver Sonst, Managing Director of Stahlo. "We are therefore delighted to be expanding our long-standing, trusting partnership with Salzgitter Flachstahl even further, thus making us a reliable supplier of green steel for our customers moving forward."

Ulrich Grethe, CEO of Salzgitter Flachstahl GmbH adds: "The Salzgitter Group works in close collaboration with customers and partners to achieve climate targets – fully in line with our strategic Mission Partnering for Transformation. The collaboration with Stahlo again demonstrates that customers are following our lead on the path to green steel production. Our many partnership agreements show that markets for green steel are becoming more established in various customer sectors."

THE CLOSED LOOP TARGET

With its own ideal carbon footprint of less than 3.6 kg carbon dioxide per metric tonne of processed steel, the steel service centre is supporting its customers in optimising the product carbon footprint (PCF) of the steel products they purchase. Stahlo supplies a sophisticated range of flat steels to companies in the Friedhelm Loh Group, such as Rittal, and customers in the manufacturing and automotive industries.

Moreover, Stahlo and Salzgitter Flachstahl are planning to complete the recycling chain. Stahlo could return sorted, pure scrap directly to Salzgitter Flachstahl, thereby making closed loop recycling a reality. What's more, Stahlo, as an industry pioneer, is continuing to press ahead with supply chain transparency and secure certificate management to strengthen trust in the new "green" supply chain ecosystem. "Being an independent steel service centre puts us in an ideal position to satisfy the need for reliable information," says Sonst. With the "Steel Gate" application presented at Euroblech 2022, the steel specialist offers a solution for implementing carbon tracking along the steel supply chain digitally, transparently and, above all, securely. This solution makes use of blockchain technology. ■

FIND OUT MORE

www.stahlo.de/en
https://salcos.salzgitter-ag.com/en/index.html

NEWS

Danjaa (16) dreams of studying medicine. She is saving hard, using the money she earns from her sewing work.

DEBORA FOUNDATION PROJECTS BEARING FRUIT

Help that keeps on growing

When disasters hit, rapid aid is vital for survival. During the coronavirus pandemic, the **Debora Foundation** therefore provided direct emergency aid to landless inhabitants and people of the lowest caste in India. The objective now is to achieve long-term development success – together. After all, **the Foundation's work is based on the principle of helping people to help themselves.**

Soft whirring, lengths of material and women's voices – in Shravanur, a small village in the south of India, ten young women are sewing the threads of a more independent life. In this "stitching school" and others like it, girls and women from especially needy families are learning how to make items of clothing – everyday garments and school uniforms, but also dresses, blouses, etc. for Hindu festival days. These are very much in demand in the villages and earn the seamstresses good money. At the end of the course, they are given their sewing machine free of charge and, along with it, the opportunity to earn a living. For example, 16-year-old Danjaa is saving hard and intends to use the money she is earning to realise her big dream of studying medicine.

Together with the International Justice Mission (IJM), its local partner in India, the Debora Foundation has established stitching schools in four villages in the space of a year. Over 90 women have so far taken part in the project and more will follow. The schools were actually started as a temporary coronavirus emergency aid initiative in 2020, but they have proved so popular that they are being continued as a further sustainable project alongside the Foundation's core goal of building a school in India. "It's intended to work as a kind of small return on investment, in both financial and social terms," explains Dietmar Roller, a development expert and CEO of the IJM. He reveals that the women ventured outside their family circles and experienced a sense of community for the first time. "That creates self-awareness and sometimes even a real awareness of what being an entrepreneur involves," he comments, adding that two women who met during the course had just recently started a business together. In some cases, the women were earning twice as much as their husbands. "Sometimes, their income feeds the entire family," says Roller. And sometimes – as in Danjaa's case – it nourishes a very special dream.

FRIEDHELM LOH GROUP MAKES ANNUAL AND SPECIAL DONATIONS

Staff donate € 580,000

Embrace responsibility, help those in need and set an example – that's what the **management and staff of the Friedhelm Loh Group** want to do in the areas where they live and work. More specifically, they have helped the earthquake victims in Syria and Turkey with a **record sum of 200,000 euros** from the traditional annual employee donation and a further **special donation amounting to 380,000 euros.**

With the record sum of 580,000 euros, the Friedhelm Loh Group is this year supporting international aid organisations and a total of eleven charitable organisations in the regions surrounding the company's sites. Some 200,000 euros of this is from the traditional annual employee donation that supports regional facilities such as the Hermann-Schuchard-Schule, a school for disabled children with special needs that forms part of Hesse's Hephata Diakonie evangelical community care centre in Schwalmstadt-Treysa. The 30,000 euro donation to the school has enabled it to carry out urgent renovation work on its flat roof. This had started leaking, which meant some rooms could no longer be used. "The donation comes at exactly the right time and is having a real impact," says Hephata's press spokesman Johannes Fuhr.

SUPPORT FOR HELPERS

Local food banks are also benefiting. "The war in Ukraine and inflation have resulted in unbridled demand," says Willi Schmid, who chairs Hesse's regional association of food banks. A total of 135,000 people in need throughout the state are being provided with food. That's 35,000 more than one year ago and the figure includes many Ukrainian refugees. It represents a mammoth logistical challenge for the staff and drivers, most of whom are volunteers. After all, the fresh food all needs to be refrigerated, every transport pallet needs to packed individually and all the food banks need to receive adequate supplies. That would be impossible without external financial support.

SPECIAL DONATION FOR EARTHQUAKE VICTIMS

A special, unbureaucratic donation campaign has raised an additional 380,000 euros for the earthquake victims in Syria and Turkey. A number of Turkish staff were involved in the process of identifying which institutions to send the funds to so as to ensure the donation gets directly to the people in need.

18-year-old Raja, who loves dancing and music, gets the chance to calm down in the multi-sensory "snoezelen" room at the Hermann-Schuchard-Schule. The school's leaking roof threatened to disrupt this peace and quiet.

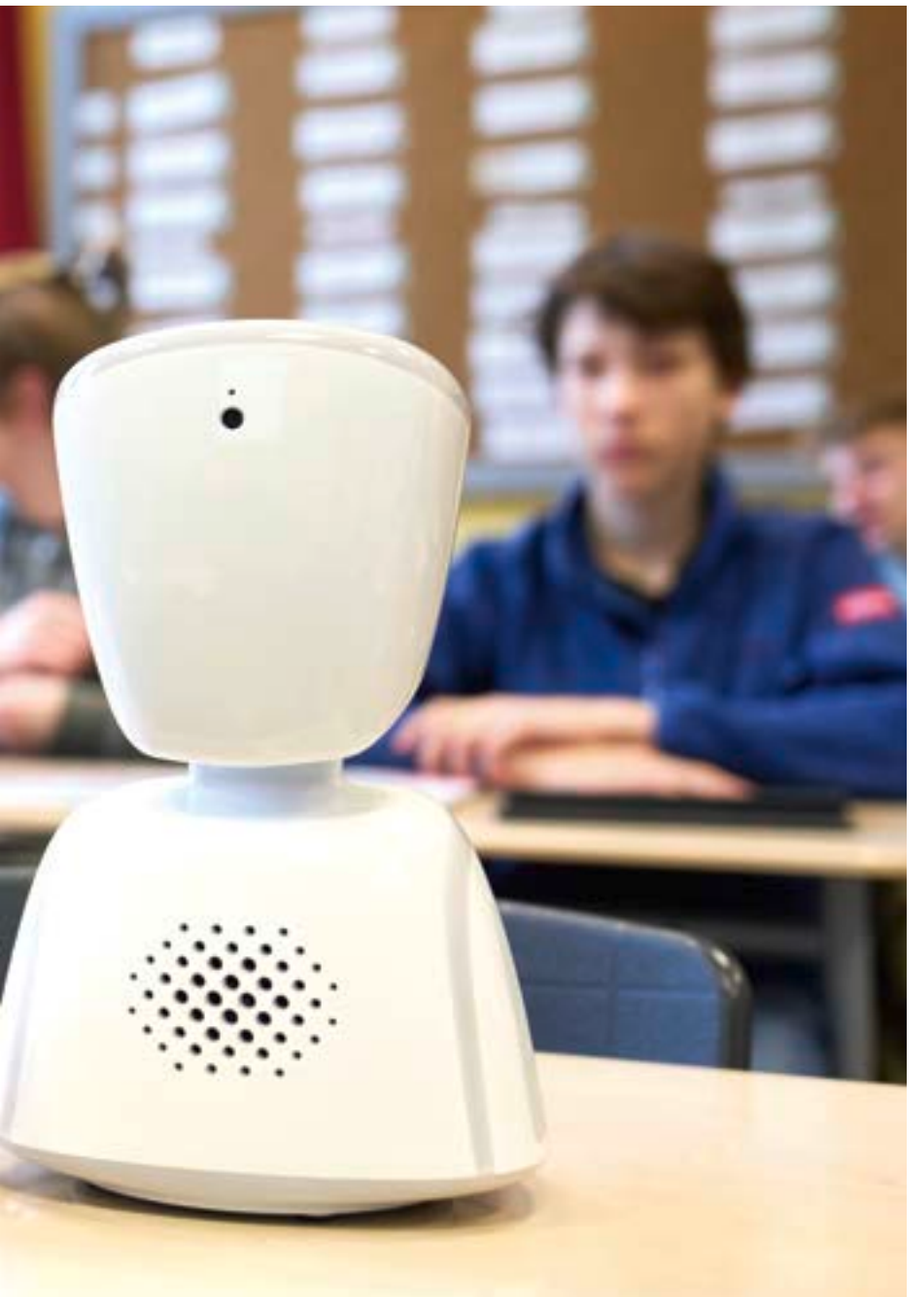
The earthquake victims in Syria and Turkey are being sent a special donation amounting to 380,000 euros.

Rittal Foundation

USING A ROBOT IN BIOLOGY LESSONS

Fiona has cancer. That's why a little white robot is now going to school for her every day. The 15-year-old can use her tablet to connect to the so-called **'telepresence avatar'** from the hospital or at home, and so take part in lessons and even talk to her friends. This has been made possible by a **donation from the Rittal Foundation.**

Text: Alexandra Pfeifer



Fiona's place at school is not unoccupied, thanks to the telepresence avatar, which the Friedhelm Loh Group's charitable foundation handed over to the Peiper Paediatric Cancer Ward at Gießen/Marburg University Hospital in December. The teenage cancer patient can continue to to take part in lessons.

How a small robot ensures that sick children can continue going to school.

ACTUALLY ALMOST AS USUAL

The 15-year-old is in the middle of a course of therapy. Some exhausting months followed, after the doctors had discovered a bone tumour in her left upper arm two years ago. At school, classes went on without her, but the social isolation she experienced was even worse. No cocoa in the cafeteria, no cheese rolls, no break time shared with schoolmates. In fact, Fiona is always on the move. She loves carnival and the dancing that goes with it. Really the world is at a standstill. Her mother Andrea alone could not compensate for Fiona's lack of social contacts. "I'm always there to help and advise Fiona," says Andrea. "But I'm still just her mum. I can't replace her friends."

Then finally, 18 chemotherapy sessions later, Fiona had the hope that she had beaten cancer. But it came back. Back to square one. How would Fiona handle the isolation this time round? How is she supposed to make up for the missed school lessons? But this time everything was going to be different – thanks to a donation from the Rittal Foundation.

The three of them sit at the long table in the school cafeteria with a warm cheese pretzel. Lea and Clara giggle. Everything is just as usual, well almost. Because their friend Fiona isn't there. She's been in hospital for quite some time. And yet: She is "present in class instead of not being there at all".

The school gong signals that the break is over. Lea gently tucks "Fiona" under her arm and hurries back to the classroom. Third lesson, biology. "That's Fiona's favourite subject," the friends say. However, today she looks somewhat pensive. Her glowing eyes are just small, bright pixel dots. And the head emits blue flashes. "That means that Fiona doesn't want to be talked to at the moment," Clara explains. "She's probably not feeling too well."

Clara (left) and Lea (right) like to use the break to chat with their friend Fiona. The teenage cancer patient can continue to to take part in lessons.

"There are some days when Fiona only participates passively in the lessons. She can still listen and be taught the school subjects."

Lisa Stoy, teacher

Fiona can connect to the avatar via her tablet and follow the lessons on a livestream.

Shortly after Fiona's second diagnosis, the Friedhelm Loh Group's charitable foundation donated two so-called 'telepresence avatars' to the Peiper Paediatric Cancer Ward at the Gießen/Marburg University Hospital, where the 15-year-old is being treated. Because Fiona's condition is largely stable, one of the avatars provided has been going to school on her behalf since the start of the year. It didn't take a great deal of preparatory work, just a bit of paper and a stable internet connection at both ends. The teachers and classmates quickly got used to their "new classmate". And now it is perfectly normal to see a 30-centimetre tall robot sitting there in Fiona's place.

A LITTLE NORMALITY IN AN ABNORMAL SITUATION

"The avatar is charged in the secretary's office at night, and one of us picks it up before school starts," Clara and Lea explain. This allows Fiona to get connected directly to the classroom every morning via a live video stream. She can make her presence felt via a flashing light, and she can also ask questions and even whisper to the people sitting next to her; or just listen, as she did today. Then it simply switches to blue for a short time. "There are some days when Fiona only participates passively in the lessons. But that's no problem at all," says her teacher, Lisa Stoy. "She can still listen and be taught the school's subject material." This is worth a lot, especially in the minor subjects, since the home schooling that Fiona gets between the therapy blocks only covers content from the main disciplines. Without the avatar, a lot of school material would fall by the wayside – and Fiona might even have to repeat the class.

NOT LOSING TOUCH

Yet it's not just about the subject matter. It is just as important for Fiona simply to be there. And larking about during breaks instead of just cramming her way through the subjects. Above all, she is strengthened by the prospect of returning to class once the period of therapy is behind her. But until then, the robot is her link to the outside world. "My friends take great care of the avatar," says Fiona with a broad grin. And when they are not in the classroom, they also carry "Fifi" across the school grounds. During sports, the ninth year pupil can watch the others sweating or set the mood in music lessons as a "living" disco light. During job application training, she makes plans for her professional future.

Nevertheless, the 15-year-old still looks forward to the day when she can return the avatar. That will be in May, if everything goes well. Clara and Lea are already counting the days, too. "We're quite certain that Fiona will be back again. After all, we've been through all this together before." The little robot will then be moved to another child's place. And Fiona will then be in the next grade. ■

“Everyday life speeds up the process of healing”

- December 2022: Rainer Reissner hands over two avatars to the Giessen Parents’ Association for Children with Leukaemia and Cancer
- The Rittal Foundation is underwriting a five-year service contract for the two robots (cost: €12,000)
- According to Prof. Dieter Körholz from the Gießen/Marburg University Hospital, the Friedhelm Loh Group Foundation is thus helping to aid young cancer patients recover. “We view this project as very important support during the lengthy treatment period. Every little touch of normality and everyday life helps the healing process,” says the director of the Clinic for Paediatric Haematology and Oncology.

“A great project that lets children and adolescents participate in social life.”

Rainer Reissner
Managing Director of the Rittal Foundation

“The avatar has again brought a bit of normality into my life.”

Fiona, 15 years old, cancer patient

Fiona hasn’t lost her smile. The ninth grader is looking forward to the time when she can finally go to school herself again.

Issue 02|2023

An extra boost for engineering

The energy industry is under pressure. Technologies and systems for renewable energies need to be put to use fast, right across the board – and energy supplies need to be safeguarded for the long term. What's more, this applies worldwide. Enercon, a global player in the wind energy industry, consistently implements its "Energy for the world" vision. Engineering processes also need to keep pace with the increased speed of innovation in this sector. This is why Enercon has opted to switch to the globally established Eplan platform (with Electric P8, Pro Panel and Harness proD) for its electrical engineering operations – a platform that provides Enercon with optimal cloud-based support. The new efficiency is providing a boost – including for the project – and is cutting costs, too.

Find out more in the next issue of be top!

ENERCON
ENERGIE FÜR DIE WELT

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FASTER, AND WITH NEW FEATURES

A glimpse into the future – Eplan Platform 2024

Getting faster results in automation – this is what many companies are aiming for, and the Eplan platform offers them exactly the support they need. This platform, which features cloud-based article management, multi-standard support for wiring plan macros and a fast 3D graphic engine in its current 2023 version, speeds up the project planning process. Eplan is offering the first insights into the Eplan Platform 2024 at Hannover Messe.

Users can look forward to new calculation functions in relation to block properties. These all have one aim – to simplify design decisions on the basis of direct statistical comparisons when creating the wiring plan. In the 2024 version, managing terminals is simpler than ever – thanks to the terminal editor, users can manage terminal accessories more easily and check and validate the terminal strip. Another exciting innovation for enclosure design is the new 3D navigation cube. This simplifies 3D views of an enclosure layout, thus making it much easier to create a digital twin in Eplan Pro Panel.

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