

The logo for 'betop' features the word 'betop' in a bold, dark blue, lowercase sans-serif font. The letter 't' has a red and white striped graphic element above its stem. To the left of the text is a red vertical bar with a white diagonal shape that resembles a stylized 'L' or a lightning bolt.

betop

MAGAZINE OF THE FRIEDHELM LOH GROUP

A black and white silhouette of a man's head in profile, facing right. Inside the silhouette of his brain area, there is a white, fluffy cloud. The background is a light gray gradient.

FOCUS **CLOUD SOLUTIONS**

Mastering the cloud

New technologies require trust to establish themselves. Experts reveal the quickest ways to build up that trust.

At the push of a button

Eplan designs circuit diagrams at the push of a button.

Strong partner

Dexion impressed by short delivery times and wide range.

Second chance

NEUSTART association helps young people back on their feet.



Trust

Dear readers,

Trust is a valuable asset. You award it to those who demonstrate quality, high-level performance and sincerity. For this reason, I take it as a great compliment that you, our customers all over the world, place your faith in the products and expertise of the Friedhelm Loh Group.

Trust means responsibility. This is why we make you the focus of our daily work. We craft the best solutions for you from a basis of trust – all the time learning from one another. Trade fairs all over the world and the Rittal Innovation Center play an important role in this process. They are valuable platforms for creative ideas, which we then develop using our expertise for your benefit. The result is 1,500 patents and an extensive range of unique offerings.

Trust requires courage – above all when it comes to technological progress. Digitalisation unleashes infinite possibilities for you. At the same time, it causes uncertainty. To master the challenges presented by the Internet of Things and Industry 4.0, you need a trustworthy partner to help you set up the IT infrastructure you need. After all, your data is highly sensitive – and therefore needs careful protection.

Trust calls for security. A perfect example is the largest data center project in Europe, which was recently opened in Måløy, Norway. The 120,000 square-metre Lefdal Mine Datacenter is housed in the town's former olivine mine, which has been equipped to the highest security standards and is powered by renewable energy and cooled with water from the fjord. It is set to become the most cost-efficient, secure, flexible and eco-friendly data center in Europe.

Trust rests on reliability. So I would like to thank our partners at Lefdal and IBM for helping this project get off to such an amazing start. It is great to have strong and reliable partners at your side who boast solid experience and whose quality you can rely on. And we want to offer you this kind of partnership, too – which is why I invite you to get in touch with our experts. We want to create solutions with and for you that put your company head and shoulders above the rest and secure you competitive advantages.

I wish you plenty of valuable inspiration for a successful future!

Yours,

Dr Friedhelm Loh



Dr Friedhelm Loh

Owner and CEO of the Friedhelm Loh Group

Contents

TITLE



12

NO TRUST, NO SUCCESS

Using the cloud is increasingly proving to be a long-term, economic success factor for companies. The one thing it calls for is trust. How can providers and users develop this sense?

20

BRIGHT WITH SOME CLOUD

In the days of big data, cloud computing is a promising prospect. Who is already using the technology? What are the benefits that it offers on a day-to-day basis and what concerns do businesses have about embracing the cloud?

21

THE CULTURE OF CALCULATED RISK

You can't discuss the cloud without addressing security. Dr Dirk Schlesinger, Chief Digital Officer at TÜV SÜD, outlines effective security measures and explains why the courage to pursue progress pays off.

EXPERTISE

26

DISCOVER NEW OPPORTUNITIES

Big data etc. presents companies all over the world with major challenges. A spot-on IT solution is often hard to find. Not so with Rittal.



30

FULLY ON COURSE IN THE OCEAN OF DATA

Whether a global player or SME, every customer has its own wishes and needs with regard to IT. A universal solution – IT as a Service from Rittal.

34

READY FOR KITTING OUT

The launch of the Lefdal Mine Data-center has seen one of Europe's largest, greenest and most secure data centers enter service. An important milestone – also for customers of the Friedhelm Loh Group.

40

EVEN MUESLI IS MORE COMPLICATED

Time-saving innovation: Eplan Cogineer creates entire circuit diagrams at the push of a button.

42

THERE'S NO SUCH THING AS NO ANSWER

Practical solutions for all applications – the key trade fair innovations from the Friedhelm Loh Group at a glance.

46

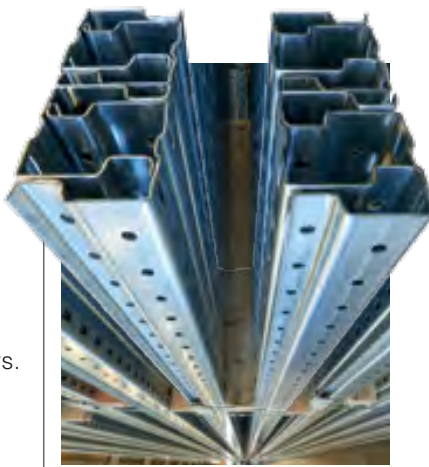
LIVE WIRES

How a certified standard solution improves the safety of wiring in small-scale power distribution.

48

CONSTANT DIALOGUE

Can Industry 4.0 concepts also be rigorously applied to control and switchgear engineering? The Rittal Innovation Center provides the answers.



EXPERIENCE

52

THE PACEMAKERS

Cideon simplifies data exchange to make collaboration between design and production more efficient.

54

THE INSPECTION CANNOT COME TOO SOON

Regular service and efficiency checks of cooling units ensure maximum operational safety. Ford was impressed by the package on offer by Rittal.

58

TAILOR-MADE INTEGRATION

Interfaces cause a lot of errors. To avoid them, Aerzen integrated its CAD systems into SAP PLM with Cideon's aid.

60

RISKS AND SIDE EFFECTS

Industry 4.0-style production requires real-time data processing. B. Braun uses the Micro Data Center from Rittal to achieve this.

64

SERIES-PRODUCED CUSTOMISATIONS

Is it possible to series-produce special machinery? 3CON says yes – and saves up to four days of engineering per order thanks to a uniform database.

66

HYGIENE MEANS RESPONSIBILITY

The top priority in the food processing sector is hygiene. Huuskes uses enclosures from Rittal that exceed the minimum legal requirements.

68

STEEL PURCHASING PARTNER

To offer its customers short delivery times and a broad range of materials, high-shelving manufacturer Dexion needs a strong partner – Stahlo.

COSMOS



72

QUITE A HEALTHY RESULT

Whatever the company, its duty to society grows in line with its economic success. The Rittal Foundation supports charitable projects near the sites of the Friedhelm Loh Group – to the tune of 650,000 euros so far.

COMMITMENT



74

NEW START FOR A SECOND CHANCE

Regaining lost faith: young people at risk learn how – with the aid of the "NEUSTART" association. The Rittal Foundation supports this good cause.

STANDARDS

03 EDITORIAL

06 SNAPSHOTS

10 AROUND THE WORLD

24 MAGAZINE: STAHLO IS INVESTING

50 MAGAZINE: STRONG PARTNERS

78 TOP PERFORMANCES – BE TOP!

79 OUTLOOK AND PUBLICATION DETAILS

Your opinion matters

Do you have any questions, suggestions, praise or criticism about the current issue? Simply e-mail the editorial team at:

betop@friedhelm-loh-group.com

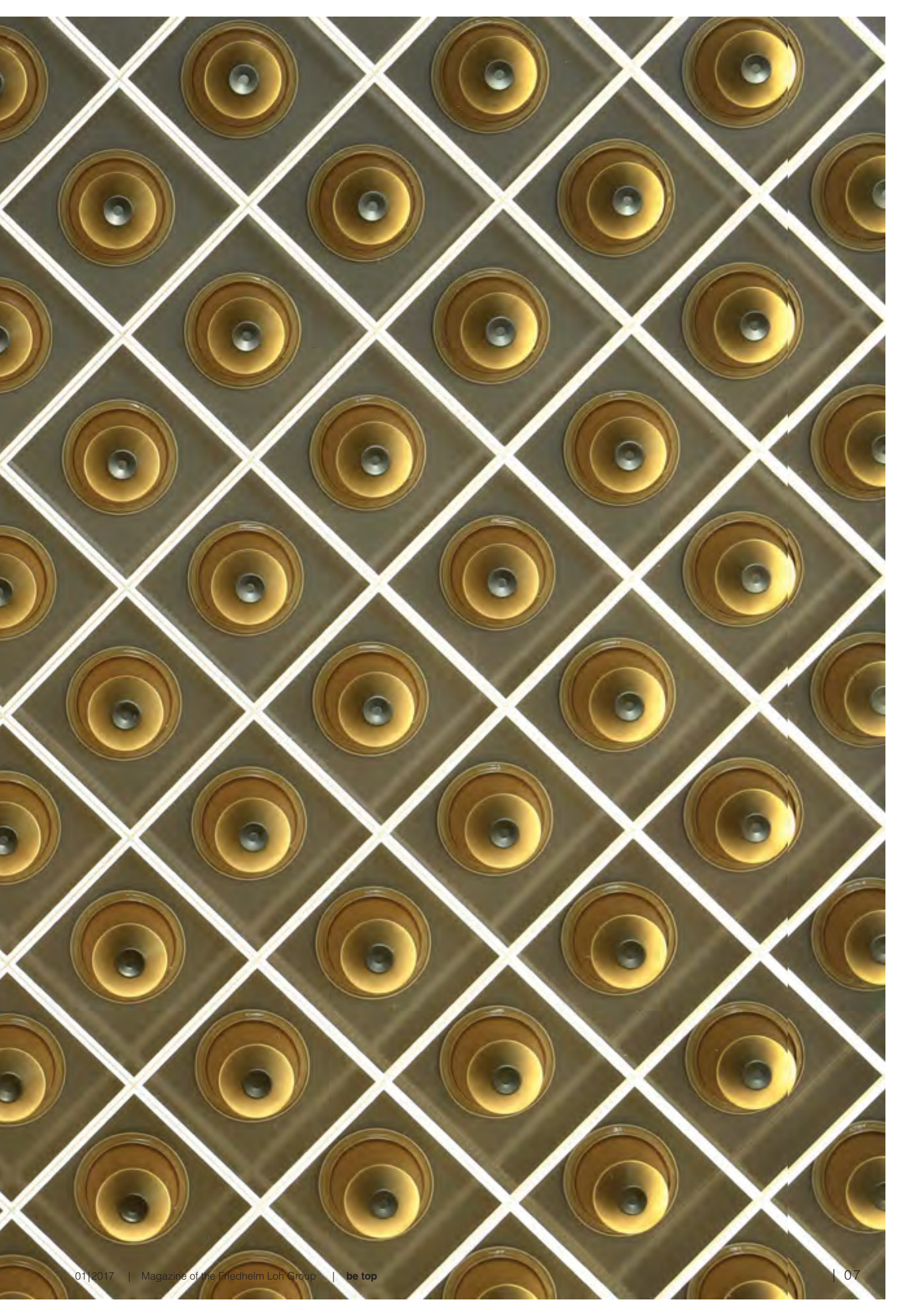


SNAPSHOTS

Hygienic production of goodies

When Daniel Peter constructed a chocolate factory on the outskirts of the Swiss town of Orbe in 1901, he could hardly have ever imagined it would play a key role in a global corporation in 2017. A merger in 1929 saw the factory become part of **Nestlé**. Nowadays, around 1,500 employees work at the Orbe site, manufacturing Nespresso capsules among other things. It is also home to the Nestlé Product Technology Centre (PTC), where coffee, breakfast drinks and infant food are developed. **Hygiene-focused designs** are particularly important in this environment. Which explains why the factory opted for the Rittal Hygienic Design enclosures, command panels and terminal boxes. They enable perfectly hygienic manufacturing processes. In addition, as an in-house innovation driver, the PTC is currently taking part in a one-year practical test run that pits a Blue e cooling unit against one of the latest generation Blue e+ units to compare energy consumption under real-life conditions.

► www.nestle.ch/de



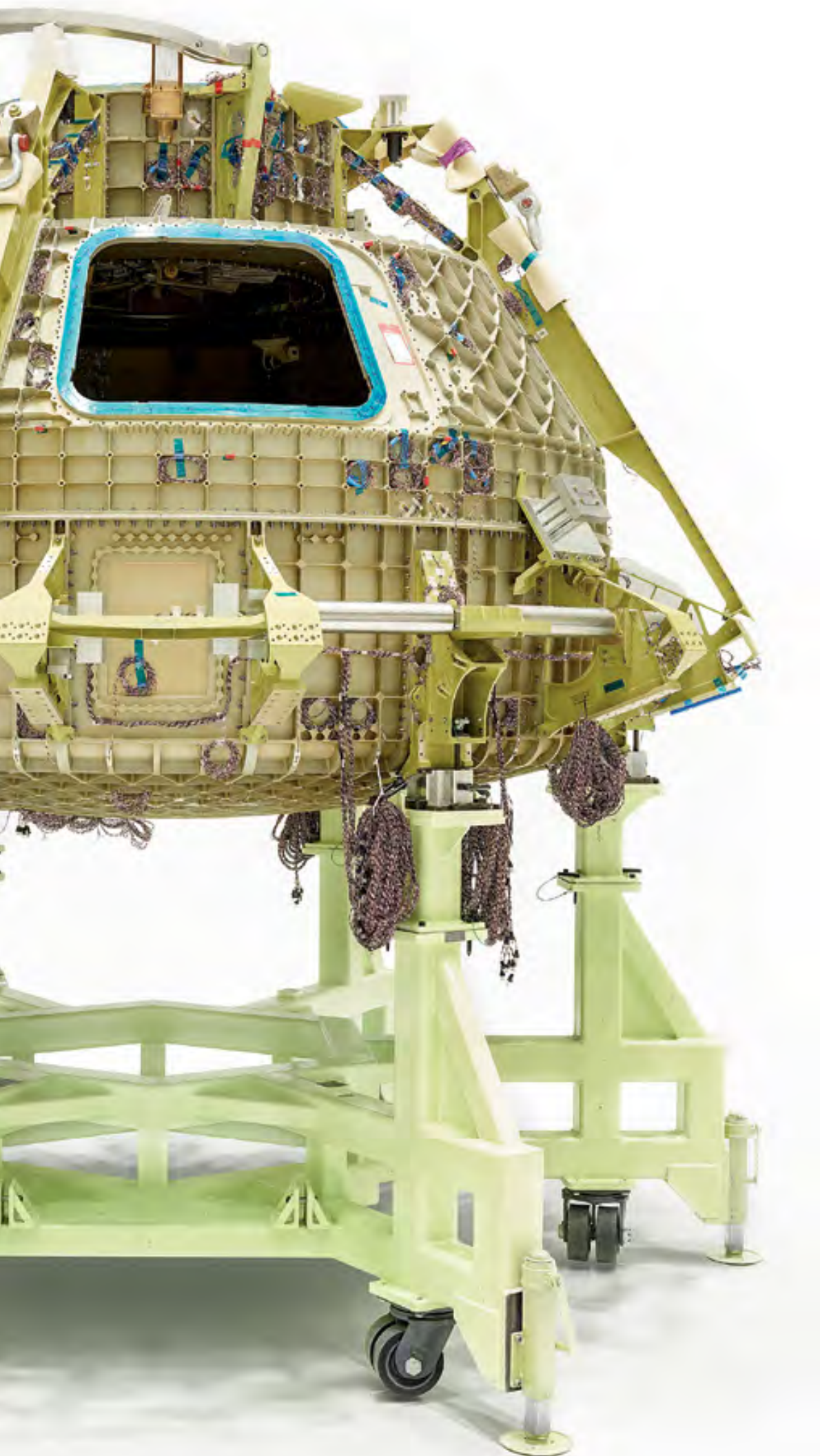
SNAPSHOTS

Unlimited horizons in the future

Soaring above the clouds like a bird – people have always dreamed of being able to fly. A good one hundred years ago, **Boeing** started to make this a possibility within everyone's grasp. Nowadays, this U.S. company is one of the world's largest aircraft manufacturers. But not many people know that Boeing also invests in aerospace engineering. At the University of Sheffield Advanced Manufacturing Research Centre (AMRC), Boeing and other leading industrial companies are conducting research together with eminent engineers and developing innovations in aerospace technology. The researchers are aided by **CAE software from Eplan**. This enables them to precisely record the work processes involved in the research projects. The picture shows the Starliner CST-100. This manned spaceship, which is currently being developed by Boeing, is scheduled to take off for the International Space Station in 2018.

► www.amrc.co.uk

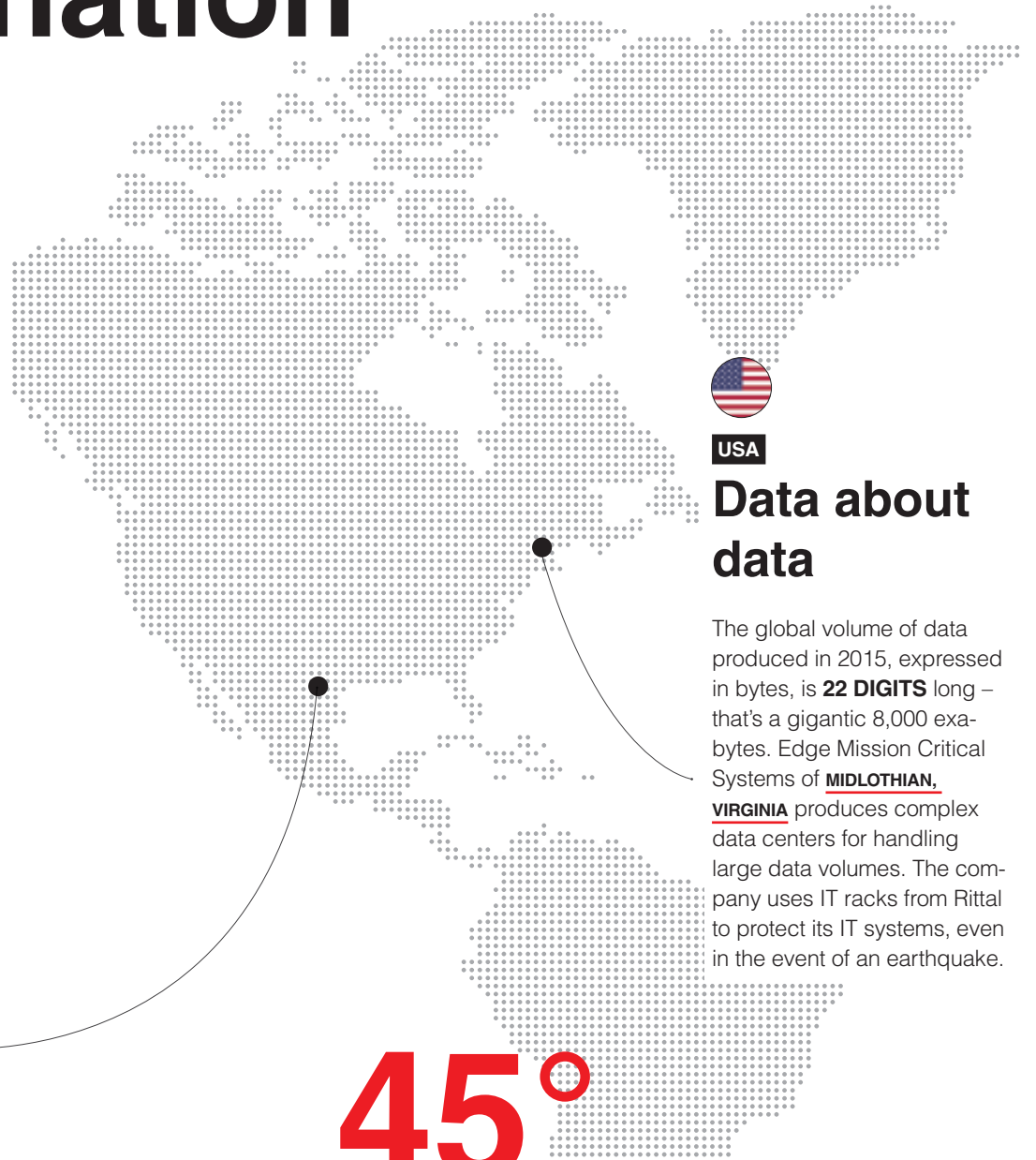




Benedict Redgrove "Starliner". From the "NASA - Past and Present Dreams of the Future" project which shows the development of this organisation from its beginnings to its future visions.

The only limit is your imagination

Global. Heat, rocks, big data – our customers are mastering challenges around the globe, assisted by products from the Friedhelm Loh Group.



MEXICO

Keep a cool head

EXTREME TEMPERATURES

in excess of 45°C are not unusual in Mexico. When the sun shines in the industrial city of **SALTILLO**, the Fiat-Chrysler automotive plant can get seriously hot. With this in mind, the car manufacturer is currently trialling the Rittal Blue e+ cooling unit, and comparing it against the systems currently in use. The aim is to ensure energy-efficient cooling even on hot days.



**45°
Celsius**



USA

Data about data

The global volume of data produced in 2015, expressed in bytes, is **22 DIGITS** long – that's a gigantic 8,000 exabytes. Edge Mission Critical Systems of **MIDLOTHIAN, VIRGINIA** produces complex data centers for handling large data volumes. The company uses IT racks from Rittal to protect its IT systems, even in the event of an earthquake.



DENMARK

Smooth-running processes

PUMPS are Grundfos' business. The designers at **BJERRINGBRO** have been collaborating with Eplan to develop their own configuration system, to ensure that their complex engineering processes run smoothly. The system is based on the Eplan Engineering Configuration (EEC) mechatronic solution.



RUSSIA

Passed with flying colours

Russian protective cabinet manufacturers Ekra spent **15 MONTHS** trialling Eplan software and comparing it under operational conditions with one of our competitors' products. The company, based in **CHEBOKSARY**, Chuvashia, was keen to reduce manufacturing times without sacrificing quality. Having completed the tests, they opted for EPLAN Electric P8 and EPLAN Pro Panel. The time sheets indicate that the time spent on design work has been cut by 40 percent.

20,000
m³/h



FRANCE

Efficient use of energy

20 INTERNATIONAL SUBSIDIARIES of the Schneider Electric (SE) Group based in **RUEIL-MALMAISON** already work with CAD solutions from Eplan; more will follow suit. "This should enable us to centralise our expertise and intensify collaboration between our various locations", explains M. Frédéric Abbal, Vice-President of the Energy department.



GERMANY

Searching for hidden treasure

MINING UNDERGROUND MINERAL RESOURCES for the world above. The TAKRAF company from **LEIPZIG** manufactures powerful machinery that can power its way through the soil or easily shift 20,000 cubic metres of rubble in an hour. A standardised RiMatrix S Single 9 from Rittal protects the company's business operations.

No trust, no success

Cloud computing. Moving IT systems to the cloud can be a very logical step for a company, as it can save costs, network locations around the world and compute large volumes of data. However, the first step is being able to trust this new technology. Here are five opinions on the quickest ways to build up that trust.

Text: Tino Scholz



Without that emotional commitment, it simply won't work. That's the starting point for Matthias Söllner, professor of management and business studies at the universities of Kassel and St. Gallen, when discussing cloud computing. It's not about technology, storage space, cost benefits or the necessity of digitalisation. Söllner takes a different approach. He starts by prioritising trust in the cloud. "That is fundamental," says Söllner. "New technologies only start to become established when users trust them. No matter how good or beneficial they are, if there is no trust, the technology will only be used by a handful of entrepreneurs." In short – it won't succeed.

Söllner believes there are still a lot of companies that have concerns about cloud computing. "First and foremost is the classic question of security – do I still have control over my data? The question of how easy it is to use is also important." According to the current "Allianz Risk Barometer", cyber attacks are among the top three risks for companies worldwide. In Europe and the USA, they are viewed as the second-biggest concern and, in the UK and Germany, as the biggest. Research Group IDC has established that, in addition to security, the biggest stumbling blocks preventing companies from embracing the cloud are stability, availability and compliance.

For scientists like Söllner, reluctance boils down to mostly irrational concerns, since the cloud ultimately has a lot of advantages. These include achieving cost savings, simplifying production sequences and networking multiple sites. An analysis carried out by IDG Connect and Oracle showed that 92 per cent of entrepreneurs believe they can roll out innovations faster using the cloud.

However, before they can really tap into the benefits, entrepreneurs first need to build up trust – something Söllner thinks is all too often proving problematic. "The fear of negative consequences sometimes outweighs any unbridled desire for innovation." Discrepancies like these are what have led Söllner to carry out research in this area. One of his focal points is "trust in information systems". And the big question that always crops up is how companies can build up trust in this technology – and do so early on, before a decision has to be taken on whether or not to use it.

THE KEY TO SUCCESS

Söllner and his colleagues at the University of Kassel have led a range of studies on the

"New technologies only start to become established when users trust them."



Prof. Matthias Söllner, 32, is an Assistant Professor at the Institute of Information Management at the University of St. Gallen and also leads a project in the same field at the University of Kassel. His main areas of research include trust in information systems, understanding and designing successful systems and theory-driven design. His doctorate was entitled "Deriving Trust Supporting Components for Ubiquitous Information Systems".

“More and more companies are realising the strategic value of the cloud.”



Tim Cole, 67, is a journalist and speaker. Born in America, he now lives in Austria and has made it his mission to make technology easier for people to understand. He focuses in particular on how business and technology can be combined. Among other things, he advises executives and staff on the rapid developments that have been made with regard to the Internet and Industry 4.0 and how they can be appropriately integrated into business strategies.

subject of trust building since 2014. Among other things, they have found that “trust has become one of the most important success factors in cloud computing in recent years.”

During their studies, Söllner and his team try to work out how cloud providers can encourage potential customers to commit. Among the most important issues are data security, service quality, customisation options and the expertise of the supplier. When suppliers address these trust-building elements, there is a greater likelihood that businesses will see the cloud as an opportunity rather than a potential security risk.

For example, the global “Cloud Transformation Survey” conducted by 451 Research showed that 41 per cent of work is being done in private or public clouds. Forecasts predict that share will increase to 60 per cent over the course of 2018. “This shows real progress is being made when it comes to trust in the cloud,” says Söllner. “The fact it is being used more widely will also help reluctant entrepreneurs overcome their uncertainty.”

It is therefore entirely plausible that demand could increase in the future. Indeed, more and more companies are realising they cannot escape the digital revolution. According to calculations from Credit Suisse, companies worldwide spent approximately 8 per cent of their IT budgets on cloud services last year. The bank envisages that share will rise to 14 per cent in 2020, bringing the total volume of the cloud computing market to 220 billion US dollars. ▶

IT publicist Tim Cole, who has been following the development of the cloud for a long time, has also noticed this trend: “Korea is the best example for me. The standard of networking there is outstanding. The same applies to China. The cloud is seen as a natural development in the UK, and the USA is still leading the way. That’s all because they trust the technology, believe in its benefits and don’t let doubts get in the way.”

In Korea, for example, Cole points out that there has been a great deal of experimentation, even though not everything has gone entirely smoothly. By contrast, in other countries such as Germany, experts have had to spend a lot of time winning companies over. “The biggest issue is this deep-seated uncertainty that goes back to the idea you lose control over your data. Managers are making decisions based on their gut feelings,” says Cole. “Businesses have for a long time had more faith in what they know, i.e. keeping their data in their own server room – even though that is an outmoded approach.”

All the same, this resistance has reportedly started to crumble at a lot of companies over the past two or three years. “More and more businesses are realising the strategic value of the cloud. If experts and providers can continue to draw attention to the benefits, and if the companies that are leading the way can provide positive feedback, then that will start to have an effect on those who have long been hesitant.”

A recent survey by the German Federal Association for Information Technology (Bitkom) found that two thirds of German companies (65 per cent) have used cloud offerings. In 2015, that figure was 54 per cent and, in 2014, it was 44 per cent. According to the survey, this strong rise in use can be attributed almost exclusively to small and medium-sized businesses. One reason for this could be that longstanding concerns are starting to work in reverse. For example, lots of SMBs are currently factoring the cloud into their planning because they can’t run in-house IT systems to the same standard of security and high availability as a specialised cloud provider can. “Running data centers is not the core business of SMBs,” says Cole. “Having a high-performance and flexible IT infrastructure is an absolute must these days. It simply isn’t possible to establish a smart factory or Internet of Things with in-house IT systems. It would be hopeless.”

FIVE QUESTIONS

that you should ask yourself to work out whether you can trust your cloud supplier

1

Is the provider interested in solving my problem?

Be proactive in setting out your requirements. Talk to your provider directly and you’ll soon figure out whether they understand your interests!

2

How does the provider work?

Certifications can provide evidence of high quality. Another good sign is when employees indicate that the highest standards are applied.

3

Is my data secure?

The provider’s location and the application of data protection laws will tell you whether data protection is a focal point.

4

What do others say?

Recommendations from analysts and journalists can be just as helpful as informative customer references.

5

How will my requirements be met?

The level of customisation that is available for the products you are offered should meet your requirements.

“Trust comes from personal relations.”



Dr Sebastian Ritz, 55, is a joint founder and Managing Director of iNNOVO Cloud, a pure play cloud start-up that specialises in ITaaS. Ritz has a 31 per cent holding in the company, which provides and runs complete cloud-based IT platforms (cloud workstations, HPC aaS, SaaS enablement, Openstack PaaS) for small and medium-sized businesses. Ritz specialises in the commercialisation of IT innovations.

THE MIST IS CLEARING

Cloud suppliers such as iNNOVO Cloud have long since taken this on board. Dr Sebastian Ritz, joint founder and Managing Director of the startup, which is based in Frankfurt am Main, recognised the obstacles that entrepreneurs need to overcome before they can embrace the cloud: “Three years ago, the cloud was still something pretty obscure and the issue of security dominated. That still applies to a certain extent, but it has also become an emotional issue. Customers are reluctant to let go. They want to walk into a server room where they can point their finger at their data. That’s where we need to build trust.”

Ritz believes that reference projects offer the greatest opportunity. “Our customer, Deutsche Bank, sent out an important signal for SMBs. Trust is a particularly important factor when it comes to banking customers. That had such a persuasive effect, that we don’t really need to discuss the issues with SMBs anymore.” For example, fintech company figo is also transferring its data to an iNNOVO data center. figo has found the cloud to be an important enabler for the digitalisation of business models. The company is currently driving digital business processes in the banking world, with more than 500 banks posting their account data on the company’s API-based platform. All this data is of course highly sensitive, but iNNOVO is auditable and BaFin compliant. ▶

“You can counter scepticism with a cohesive, end-to-end concept.”



Dr Jan Stefan Michels, 41 is Head of Standard and Technology Development at Weidmüller. The company develops industrial connectivity and automation technology solutions for its global customer base and uses electronics and electrical connection technology to combine power, signals and data in industrial environments. Michels and the company are active advocates of Industry 4.0 in several industry associations such as the German Electrical and Electronic Manufacturers' Association (ZVEI) and Plattform Industrie 4.0.

“However, trust doesn’t just come from reference projects, it also comes through personal relations,” says Ritz. “It is important to SMBs that they can look their business partner in the eye when dealing with strategic and business-critical IT.” More than anything else, companies trust people who can guarantee security and smooth running.

The biggest demand at present relates to virtual data centers with infrastructure services. These are initially used to store non-critical data. “Customers are cautious when it comes to more critical data,” says Ritz, and this is also because trust is built up on the back of functionality and practical collaboration.

Detmold-based company Weidmüller, a solutions provider for industrial connectivity, is also using cloud computing. “Our aim is to offer our customers added value and boost the performance of their processes. Cloud concepts offer many benefits in that respect,” says Dr Jan Michels, Head of Standard and Technology Development at the industrial connectivity specialist.

However, here too, it all started with establishing trust in the new technology and its security – whether for internal use or with respect to customers. “Cloud concepts are based on a technology that, in most cases, is run on an infrastructure that doesn’t belong to the company. Given that the whole issue revolves around the heart of the company – its develop-

ment and production – it is easy to imagine that there would be a certain amount of scepticism,” says Michels. “You can counter this by presenting a cohesive, end-to-end concept that covers everything, from all data points, sensors and communication to all the controllers that are integrated and the user groups in the environment.”

THE START OF A SUCCESS STORY

Weidmüller is driving cloud-based industrial analytics with a similar approach. The starting point is to comprehensively digitalise machinery and plants. The data that is generated – in potentially huge volumes, depending on the application – is saved in the cloud, where it is processed to derive detailed information on the status of production plants. The aim is to ensure production operators can identify faults before they occur and thus prevent downtime. “For example, we are working with a mechanical engineering firm that operates in the print media sector. Their machines need to run with absolute precision and reliability. After all, if anything goes wrong, we won’t have our morning paper to read at breakfast,” explains Michels. “The manufacturer’s service personnel are given early warnings about potential problems and impending faults and can then implement the necessary maintenance measures. This reduces downtimes and can also save on costs – for both the manufacturer and the operator. It is also a clear sign that the cloud is already an important part of our day-to-day lives. The trust that we invested in the technology years ago has paid off.”

The company has been so impressed that it has started using the cloud for its own production. “We are using cloud concepts in energy management, for example.” Data relating to energy consumption in the factory is analysed in databases. By comparing data against energy prices, Weidmüller can work out the most efficient and cost-effective way to run the plants. What will all that lead to? For Michels, that’s an easy question, as the signs are already there: “What we are seeing is the opening chapters in a success story.”

Prof. Söllner agrees this is a good approach, as it shows that trusting the cloud can pay off. However, he also has another suggestion for those who still need to be persuaded: “It would be good if large providers could pool their resources to really promote the cloud. In other words,

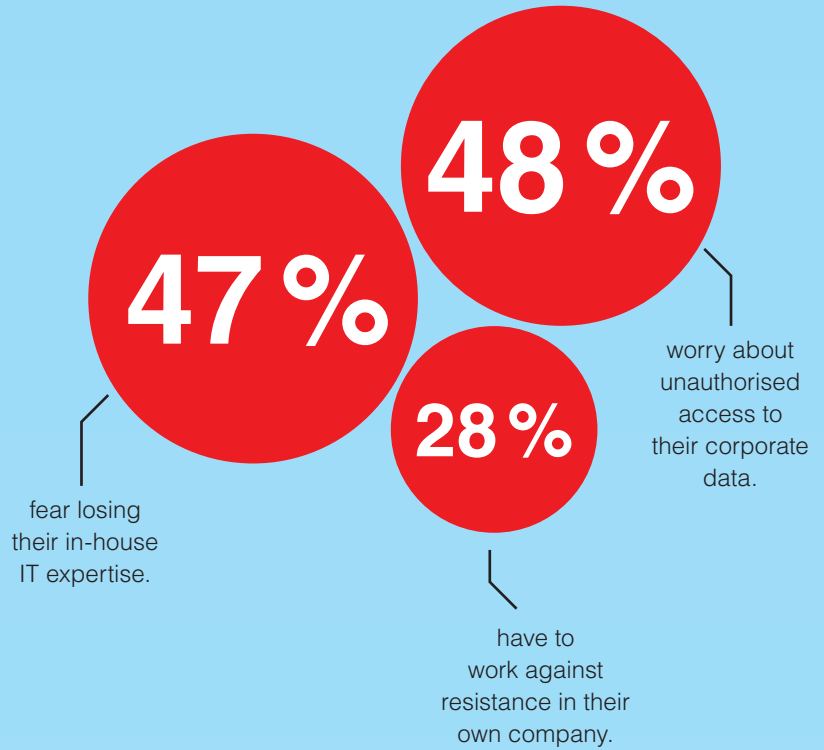
work together to win over customers. Once they’ve done that, they can start competing with each other and divide up the customers.” That would require trust on all sides – in the true spirit of innovation. ■

Bright with some cloud

Data. In the days of big data, cloud computing is a promising prospect. Who is already using the technology? What are the benefits that it offers on a day-to-day basis and what concerns do businesses have about embracing the cloud?

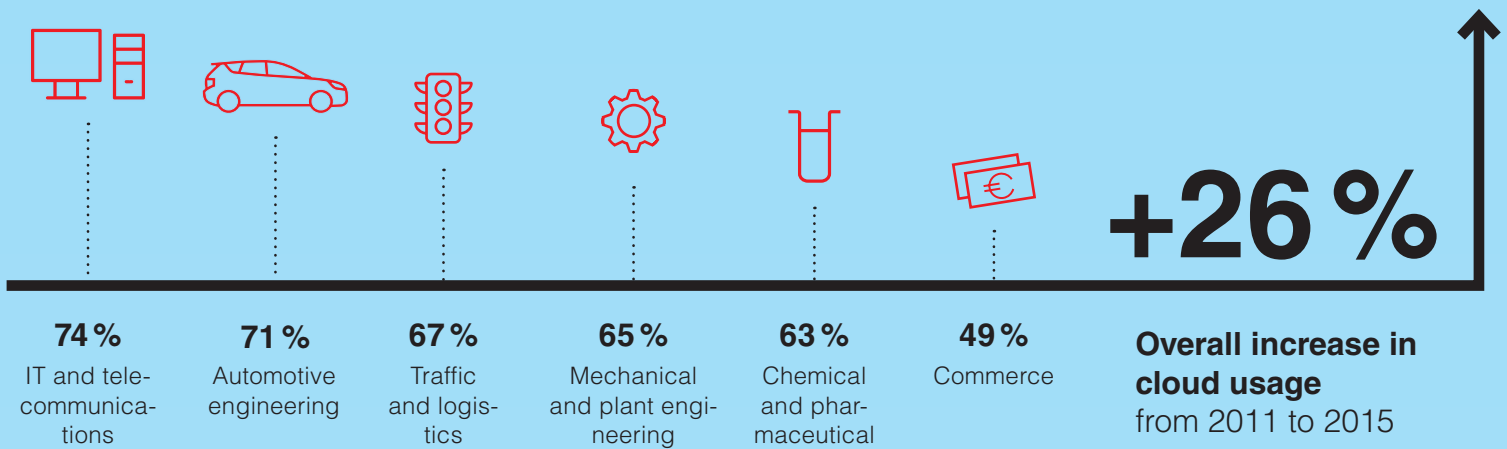
Source: BITKOM

Worries about data leaks are still holding back growth
Obstacles that make businesses hesitant



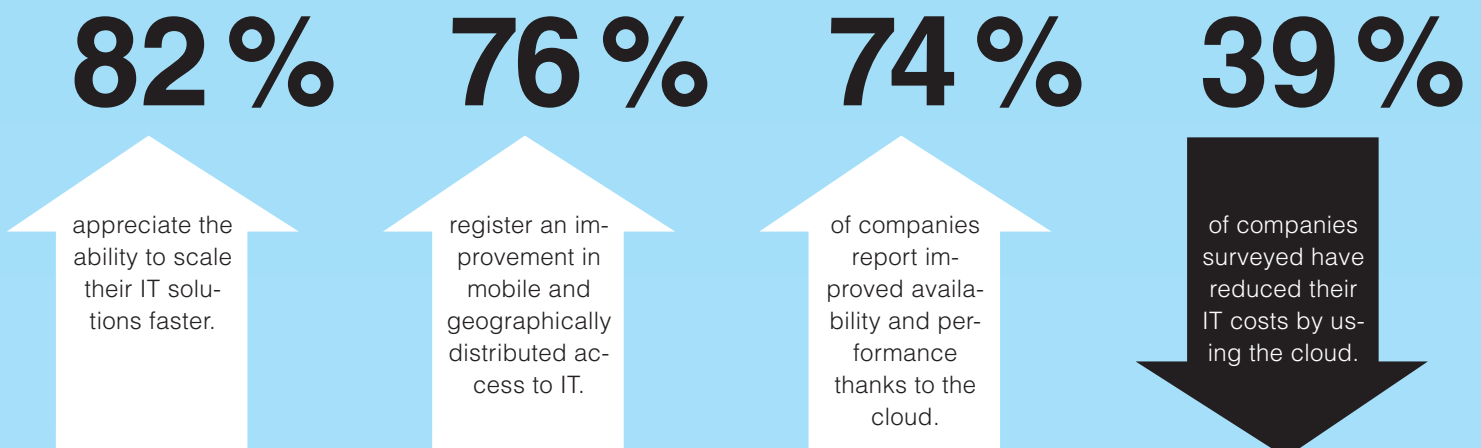
ICT sector still leading the way

Cloud usage by sector



More flexibility and lower costs

Effects of cloud computing on a company





The culture of calculated risk

Interview. The decision to embrace the cloud often comes with questions about security. In this interview, Dr Dirk Schlesinger, Chief Digital Officer at TÜV SÜD, talks about effective security measures and the courage to pursue progress.

Interview: Tino Scholz

Dr Schlesinger, data is the latest major currency. What's that all about?

Data has become a relevant economic asset. That in itself is nothing new. What's different is that now there's a market for this asset. Due to the growing volume of sensors in use, we have a gateway to data from things we previously couldn't access. This is culminating to a certain extent in Industry 4.0. The key is that the data generated by a sensor, asset or computer is being shared with multiple parties. Where commodities are shared, a market develops – and data is of particular interest.

And it has to be protected, too. How do you go about making companies aware that important information needs to be safeguarded?

Many companies, particularly small and medium-sized businesses are convinced that this issue doesn't concern them, especially as they don't have the necessary resources in house. What's more, they don't think they possess any data that third parties would be particularly interested in. I believe that is a mistake.

Why?

We recently conducted an experiment during which we set up a virtual waterworks on the Internet. Even though it was just a small waterworks in the middle of ▶

nowhere, we registered a lot of attacks from all over the world in a very short space of time. When you set that out in front of SMBs, they start to see the problem. Lots of large companies have already recognised the issue.

So is confidence in security still the biggest issue when it comes to using the cloud?

In Germany, at least, there is still a very intense need for security. This leads to questions such as: Where in the cloud is my data physically located? Is it in Germany, or can an American company access my data under certain circumstances? At the same time, the naivety in some quarters can be breath-taking. People are still sending unencrypted emails with confidential attachments. It's something of a contradiction in terms – companies worry about the security of the cloud on the one hand while being pretty careless at times in their personal communication with business partners.

Where in particular do you think companies have catching-up to do?

When it comes to sensitive, business-critical data. Small and medium-sized businesses in particular could be bolder. Although many want to embrace the cloud, they're only really taking baby steps at the moment. A lot of companies still fear negative consequences, so they're trying it out with data that isn't quite so critical first. That means primarily organisational information and communications applications, rather than design files and supply chain data.

What are the main issues?

Many companies are preoccupied with legal certainty. When something has been certified – i.e. recognised by the state – that takes away a little of the uncertainty. We operate as a testing services provider for these certifications. There are already two standards that are not quite so well known, namely ISO/IEC 27.017 and 27.018, which focus on cloud security and data privacy. The German Federal Ministry for Economic Affairs and Energy has also launched the Trusted Cloud Label. This badge for trustworthy cloud and cloud-related services shows that minimum requirements have been met in terms of transparency, security, quality and legal compliance.

Are certifications and Trusted Cloud Labels enough to boost trust in cloud technology for the long term?



ABOUT THE INTERVIEWEE

Dr Dirk Schlesinger, 53, is Chief Digital Officer at testing services provider TÜV SÜD, which is headquartered in Munich. Part of his role is to promote digitalisation at TÜV SÜD. This covers topics such as automated driving, cybersecurity and the various different ways that new digital technologies can be used.

In general, I think the market is growing strongly at the moment. However, you also have to say that certification is only ever the basis for a business model. In the past, we would test a toaster, for example, and say: "It's safe, nothing can happen." When it comes to software, there's always a grey area, because the state of development can change very quickly. So, although certificates are important and useful, they can

gives you more experience. My former boss once said: "If you don't fall flat on your face every now and again, then you probably haven't been trying hard enough." A lot of companies still need to learn this culture of calculated risk. That's not a rational problem – it's a human one.

How do you get around that?

By having faith – even if you have to force

“The cloud gives companies a lot of opportunities when it comes to designing business models.”

only ever be a framework for functional performance and IT security.

Are emotional factors important in addition to rational concerns?

Every one of us, in my opinion, has a tendency to want to reuse approaches that have worked in the past. If it worked yesterday, it'll work tomorrow. However, that doesn't apply to a lot of cloud issues. Lots of companies are reluctant to experiment. Why? Because there's always a chance you could make a mistake or even fail. This failure culture is a bit of a problem, particularly in Germany.

Why should companies deliberately take risks?

Many companies don't realise that even if they try something and it doesn't work out it might still have been a worthwhile exercise. There are two words in English for when things don't go according to plan – "mistake" and "failure" – and the difference between them is interesting. A "mistake" is generally bad, i.e. you've done something wrong, while a "failure" can be good, as it

yourself sometimes. I've noticed that a lot of very small companies, particularly start-ups, don't think twice about whether or not to use the cloud. They simply put everything they can into it. Usually, they can't afford to put in place all the in-house infrastructure they would otherwise need. That's not usually a problem though, as they grow very quickly – and their cloud grows with them.

What can companies themselves do so that they feel safer in the cloud?

I always urge them to put together a phased plan. They need to ask themselves: How do I want this process to take shape? In other words: What data do I want to put in the cloud? What would I rather leave out? What am I going to start with? The cloud isn't a quick fix. It's not a process that's going to happen overnight in one simple step.

So it's more of an ongoing development than a rapid change?

Speed is good, of course, but only when you know what direction you're heading in.

It's important to think about what services you want from the cloud. Do you just want office packages, travel cost accounting, payroll accounting? Or do you want to go a little further and use the cloud for transactions with customers, too, perhaps in terms of real-time data transmission, which would be the icing on the cake. These are considerations that every company can and should take into account.

Have you seen any efforts on the part of companies to try and reduce the risks associated with using the cloud?

I'm sure that before the cloud nothing was 100 per cent safe either. It's just that companies talked – and thought – about the risk a lot less. It all centres on one core question: How much do you want to invest, how hard are you willing to work to make things difficult for hackers?

As a security expert, what is it that you want?

Maximum certainty. There are effective options for keeping out potential hackers or making it as difficult as possible for them to hack systems. It's not altogether far-fetched to compare a hack attack to a conventional break-in. A burglar will look for easy targets. If a building has a camera or alarm system, is well lit or has a dog patrolling its grounds, the burglar might try breaking in – but it will require a lot of effort and careful planning. It's more than likely he wouldn't bother, as the risk would be too high. It's pretty easy to guess what that means for less well protected premises.

So security and progress have to go hand in hand?

Yes. Someone recently said to me that in five or ten years it'll be just as normal for companies to store their data in the cloud as it was five years ago for companies to have a website or webshop. However, before they can harness the full potential of the cloud, companies need to understand that it isn't just about making existing processes a bit cheaper or outsourcing them. The cloud is much more than that – it gives companies a lot of opportunities when it comes to designing business models. ■



Video interview about Industry

Dr Dirk Schlesinger about how the world of work is changing:

www.tiny.cc/schlesinger

EXPERTISE



Ultra-high-strength growth

One of the most cutting-edge manufacturer-independent steel service centres in Europe is to be constructed in Gera during the next 15 months. In 2019, Stahlo's workforce will start processing high-strength steels for the automotive industry and industrial customers on two slitting lines and two contouring systems at production and warehouse facilities with a footprint of 22,000 square metres. "We are doubling capacities, as our customers' faith gives us the confidence to invest in unique company structures and state-of-the-art technologies. Our investment of approx. 45 million euros will set new standards in the sector, but above all enable us to offer an unparalleled combination of slitting line and large contours," says Guido Spennath, Managing Director of Stahlo. The two sites in Hesse and Thuringia will equip Stahlo with a processing capacity of over 600,000 metric tons for slitted coils, cut-to-size sheets, trapeziums, standard sheets, profiles and contoured blanks. Key high-quality offerings include the outer panel components for the automotive industry and processing ultra-high-strength steels up to a tensile strength of 1,900 N/mm².



Connecting two worlds

A new link between Eplan Electric P8 and the TIA Portal Engineering Framework from Siemens is capturing users' attention. The Eplan TIA Portal Connection and TIA Portal Openness enable reciprocal data communications between the two worlds of electrical and automation engineering. Users can process and compare data at every stage of the project. Eplan Electric P8 circuit diagrams, PLC overviews, hardware configurations and network installations are the kind of data intended for automatic production via this link. The new link should speed up project planning and produce outstanding quality.



Xinqiao says "Thank you"

Shanghai's district of Xinqiao presented Rittal with the "Special Prize for Leading Enterprises of Xinqiao Town 2016" before an audience of government officials and business chiefs. The award was made in January to leading companies that have made a special contribution to the economic and social development of the district. The panel of judges felt that Rittal's outstanding commitment to implementing Industry 4.0, its investments in innovations, creative problem-solving and social commitment clearly earned it this accolade.

Strong partners

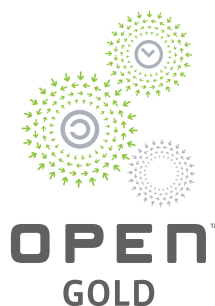
Rittal has brought a strong partner on board to help implement increasingly vital IT concepts such as the Internet of Things and edge computing. The company plans to involve Hewlett Packard Enterprise in supplying modular data center solutions. "Hewlett Packard Enterprise is an impor-

tant partner for Rittal that gives us better market access when it comes to quickly providing customers with tailor-made, high-end data center solutions," says Andreas Keiger, (2nd left) Executive Vice President Sales, about the new partnership.



Large network, low consumption

Google's data center alone consumes as much electricity as a city of 200,000 households. Overall, data centers account for three per cent of the world's total electricity consumption. Facebook launched the "Open Compute Project" (OCP) to tackle this problem. As a leading manufacturer of IT infrastructure solutions, Rittal has become a gold-status member of the OCP, after already having actively supported it in recent years. "This step formalises our involvement and gives us the opportunity to offer our OCP products across the whole market," explains Jason Rylands, Global Director Data Center and Open Compute at Rittal. Rittal wants to play a role in promoting innovations for hyper-scale data centers and to meet changing customer requirements.



VOLKER HINDERMANN

The new man at the top of plastics specialist LKH.

New Managing Director of LKH

In February, Volker Hindermann became the Managing Director of LKH, a plastics processing company in the Friedhelm Loh Group, based in Heiligenroth. Prior to this, he was a Subgroup Director at Poppe GmbH. Mr Hindermann graduated in plastics engineering from Aalen University. In his new role as Managing Director, he oversees sales, logistics and production. He will also be focusing on implementing the LKH 2020 growth strategy.

Discover new opportunities

Digitalisation. To help companies of all sizes put into action their plans for Big Data, the Internet of Things and similar, Rittal is hosting a voyage of discovery through innovative IT scenarios.

Text: Joscha Duhme

High-performance computing, edge computing and analytics – to meet the challenges of the digital revolution, companies are having to work ever more closely on innovative IT infrastructures. Exhibiting at this year's CeBIT, Rittal set out to show visitors it is the ideal partner. Under the motto "Discover it", the company invited visitors to step into the "cloud" in Hall 4, in the midst of major international IT companies, and explore the world of innovative IT solutions.

"The digitalisation of all sectors of manufacturing, trade and other businesses requires the rapid and adequate provision of IT solutions through data centers that can be procured simply and economically and which can be operated efficiently and safely," explains Andreas Keiger, Executive Vice President Sales Europe at Rittal. The need is even greater for manufacturing companies that want to network their plants and drive up productivity. Due to the burgeoning volumes of data that are being generated, modernising IT infrastructures is a top priority. Upgrading the necessary IT capacities is often a complex and investment-intensive task. "That is



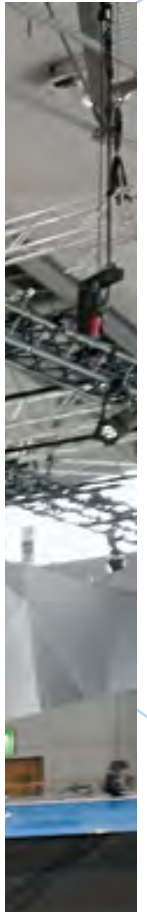
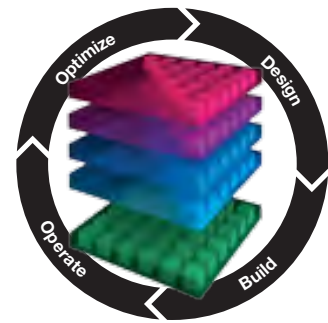
Digital revolution

The digitalisation of business, industry and trade requires data centers that can be procured easily and cost-effectively and run efficiently and securely.



Lifecycle IT

Rittal offers scalable products and solutions for all the phases of a data center lifecycle. IT components – rack, power, cooling, monitoring and security – can be integrated into the physical infrastructure to create system solutions ranging from an individual rack to a turnkey data center.



why companies need a trustworthy partner that can work with them to find the right approach out of all the various options that are out there,” says Keiger. “We therefore provide support for the entire lifecycle of data centers, from the initial idea through to operation. We offer the ideal solutions for every phase, customised to suit specific customer requirements.”

All solutions are geared toward the periodic lifecycle of a data center. The cycle starts with developing a concept and selecting the solution modules, which includes calculating investment and operating costs. Examples of additional solution modules are building the physical infrastructure, integrating IT components such as servers and storage, and commissioning systems. The data center can be run either by the customer or through managed services. Finally, Rittal checks the installed solutions to ascertain their efficiency, costs and sustainability. “This sequence of processes should be viewed as a continuous cycle, with companies able to jump in at any of the various phases,” says Keiger.

The IT solutions can be scaled on a flexible basis to suit specific needs. What’s more, the standardised, modular data center components can be deployed very quickly. “Cost effectively, securely and in the usual Rittal quality,” explains Keiger. The range includes the data center location (more on page 34), service models (see page 30) and a comprehensive solutions portfolio for all IT scenarios.

Also covered are edge data centers. These are ideal, for example, for processing data from networked machinery in the **Internet of Things** and are deployed where the data is generated – i.e. close to production. The system is made up of two, four or six Rittal TS IT racks that comprise predefined components for climate control, power distribution, fire suppression, monitoring and secure access. This means they can be supplied quickly, with all the legal requirements regarding fire safety and data security already taken care of.

It is well worth taking a look at power consumption, especially for large **hyperscale** data centers. Rittal is supporting and promoting the Open Compute Project (OCP) initiated by Facebook, particularly in terms of providing expertise in standardising data center architectures. Several data center systems are based on a DC power supply, including the “Rittal OCP-Rack 12V DC”, the “Rittal OCP-Rack 48V DC” and the “Open19-Rack”. “The aim behind these freely usable open rack specifications is to make sure the best possible use can be

Discover it.

The digital transformation and the factors driving it pose a number of challenges for companies. The solutions from Rittal are geared toward meeting precisely those challenges.

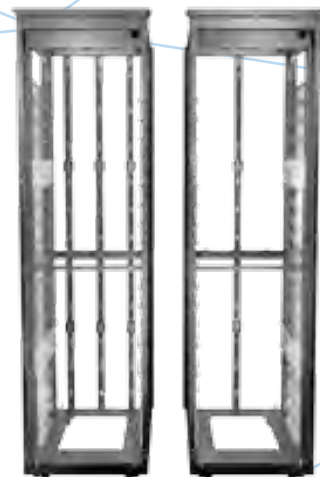


Internet of Things

There are very few areas of life that are untouched by smart applications: Of course, this means volumes of data are growing rapidly and that requires secure IT solutions that can be deployed quickly and scaled to requirements. Short latency times are crucial if data from networked machines is to be processed fast. The solution is an edge data center located close to production.

Hyperscale

The Open Compute Project (OCP) aims to optimise energy consumption in very large, high-performance data centers. This can be achieved by using direct current as standard in OCP racks from Rittal.





High Performance Computing

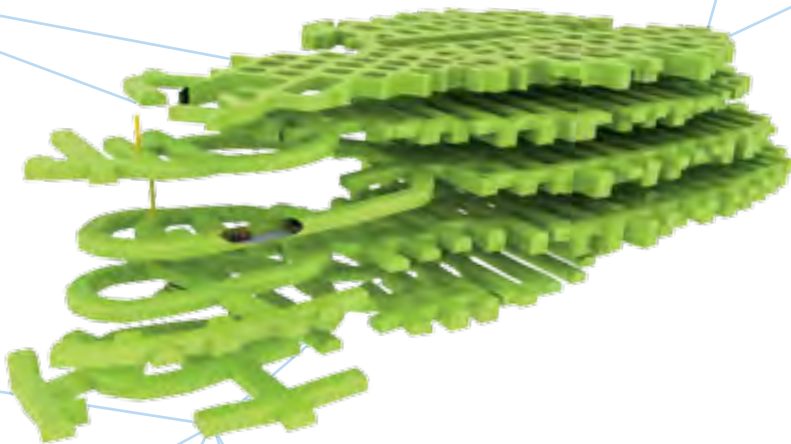
High power density is a key requirement in high-performance computing (HPC). Rittal offers standardised modules that can be combined to create a mobile, turnkey container solution for HPC applications that includes HPCaaS. This portfolio is suitable for the most demanding application scenarios.

made of a 600 mm wide rack in terms of the number of servers and hard drives,” points out Keiger. The big advantage of the OCP rack DC technology is that the active components in the rack don’t have power packs of their own but are powered by a “DC busbar” instead. “This design eliminates transformer losses in localised power distribution systems. IT components can be operated at higher temperatures, which requires less cooling,” adds Keiger.

High-performance computing (HPC) applications are employed whenever large quantities of computing power are needed, for example in complex 3D renderings for film productions, simulations for new car models, or in scientific data analysis. “In this segment, we’re talking about several thousand processors in one IT rack,” reports Keiger. “Since a CPU generates more heat than a cooker hotplate, increasing power density puts extreme requirements on the cooling system.” Rittal supplies custom climate-control concepts to ensure high-performance servers can be efficiently cooled. The company’s extensive experience in rack, suite and room climate control combined with tried-and-tested system solutions for demanding HPC applications help to get the high temperatures under control.

The RiMatrix BCC Balanced Cloud Center is ideal for creating in-house IT infrastructures quickly. The turnkey container data center is suitable for both standard applications and for more demanding tasks such as high-performance computing (HPC) and **big-data** applications.

Time-to-market is a critical factor for companies. Thanks to its standardised data center architectures, Rittal is an enabler for IT infrastructures that can be set up quickly, scaled to needs and run on a fail-safe basis. In partnership with iNNOVO Cloud, the range of solutions is being extended to include service models such as IT as a service (ITaaS) and data center as a service (DCaaS). Rittal is thus helping companies of all sizes to set up IT systems for Industry 4.0 projects, for example. Rittal provides the turnkey solutions for on and off-premises use. Keiger: “These are only examples of what our IT solution range can do. When our consulting services are added into the mix, we can develop options for any requirement. Our customers can then focus entirely on their core business.” ■



Big Data

Handling and evaluating large volumes of data requires state-of-the-art IT infrastructures. Systems like these can be securely and flexibly put together in the space of a few weeks in the Lefdal Mine Datacenter.

Fully on course in the ocean of data

IT service. Whether the customer is a global player or SME, a plant engineering company or food manufacturer, a cloud fan or cloud sceptic – Rittal can provide the optimum “IT as a service” solution for everyone.

Text: Rebecca Lorenz

I believe there is a need for maybe five computers worldwide,” IBM boss Thomas Watson reckoned in 1943. Some 70 years later, it turns out that Watson could hardly have underestimated future demand more dramatically. In the age of Industry 4.0, the Internet of Things and big data, our entire world revolves around computers, smartphones and tablets. A quickly implementable and failsafe IT infrastructure is becoming more and more crucial worldwide for sustained economic success.

This is one of the major challenges many companies face as part of the digital revolution. “The ability to provide cost-effective, secure IT solutions quickly can make or break a company these days,” explains Martin Kipping, Director International IT Projects at Rittal. “But not every company can or wants to operate its own data center.” The solution to this lies in flexible, scalable infrastructures and operating and business models.

One option is IT as a Service (ITaaS). “We therefore deliver solutions to meet all of our customers’ IT scenarios,” Kipping says. Whether purchased, leased or rented, self-managed or managed services, on- or off-premises – Rittal has both the physical infrastructure and the tailor-made IT services for every scenario. “We achieve this by combining our own expertise with the lengthy experience of our partner, iNNOVO Cloud.”

“We know our customers will only entrust us with their data if they can be totally sure that we cut no corners when it comes to security.”



Martin Kipping, Director International IT Projects at Rittal

SOLUTIONS FOR ALL IT SCENARIOS

A prime example is the RiMatrix Balanced Cloud Center (RiMatrix BCC) – a ready-to-use, turnkey cloud data center. “Components such as IT racks, climate control technology, containers and power supply are ready and waiting as pre-defined modules,” Kipping explains. And the server, storage and network are also all pre-configured and included with the delivery. Thanks to this high level of standardisation, the data center has an extremely short time to market and is deliverable within six weeks.

The RiMatrix BCC also offers the optimum gateway to the world of cloud computing. “We use the open source framework OpenStack as the cloud management software,” Kipping says. This opens up a very wide range of cloud models. From private clouds for those customers who operate their own “on-premises” data center right through to external private clouds, where the required computing power is rented “off-premises” in a cloud park, the BCC is easy to scale and thus suited to every conceivable customer requirement.

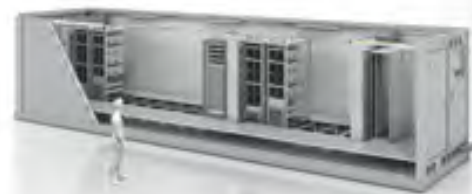
As part of the CAPEX (bought) and OPEX (rented) models, Rittal provides its customers with round-the-clock computing power to fulfil their needs. In the end, they pay only for what they have used. “This enables even small and medium-sized businesses to join the digital revolution,” Kipping points out. By outsourcing IT, they save energy costs, space and human resources. This allows them to focus on their core business.

FAITH IN HIGH-LEVEL SECURITY

However, many companies remain sceptical about storing their sensitive data off-site. “After all, you have to rely on the data center operator seeking the same level of data security that you would yourself,” Kipping says, adding: “We know our customers will only entrust us with their data if they can be totally sure that we cut no corners when it comes to security.”

The best example of this is the Lefdal Mine Datacenter (LMD). This “green” data center lies buried deep inside a Norwegian mountain, which provides a high natural level of physical and electromagnetic protection. What’s more, the data center is operated as a lights-out facility with strictly limited access. Power and cooling redundancy provide full protection against outages.

“Hand in hand with our partners, we are continually progressing from our solid foundation as a rack and infrastructure supplier towards providing solutions that cater for a wide range of IT scenarios to meet very specific requirements,” Kipping explains. This represents an important leap into the future for both Rittal and its customers. Our scalable, turnkey solutions provide companies with a quick and secure means of implementing the digital revolution using state-of-the-art IT systems. ■



RiMatrix Balanced Cloud Data Center

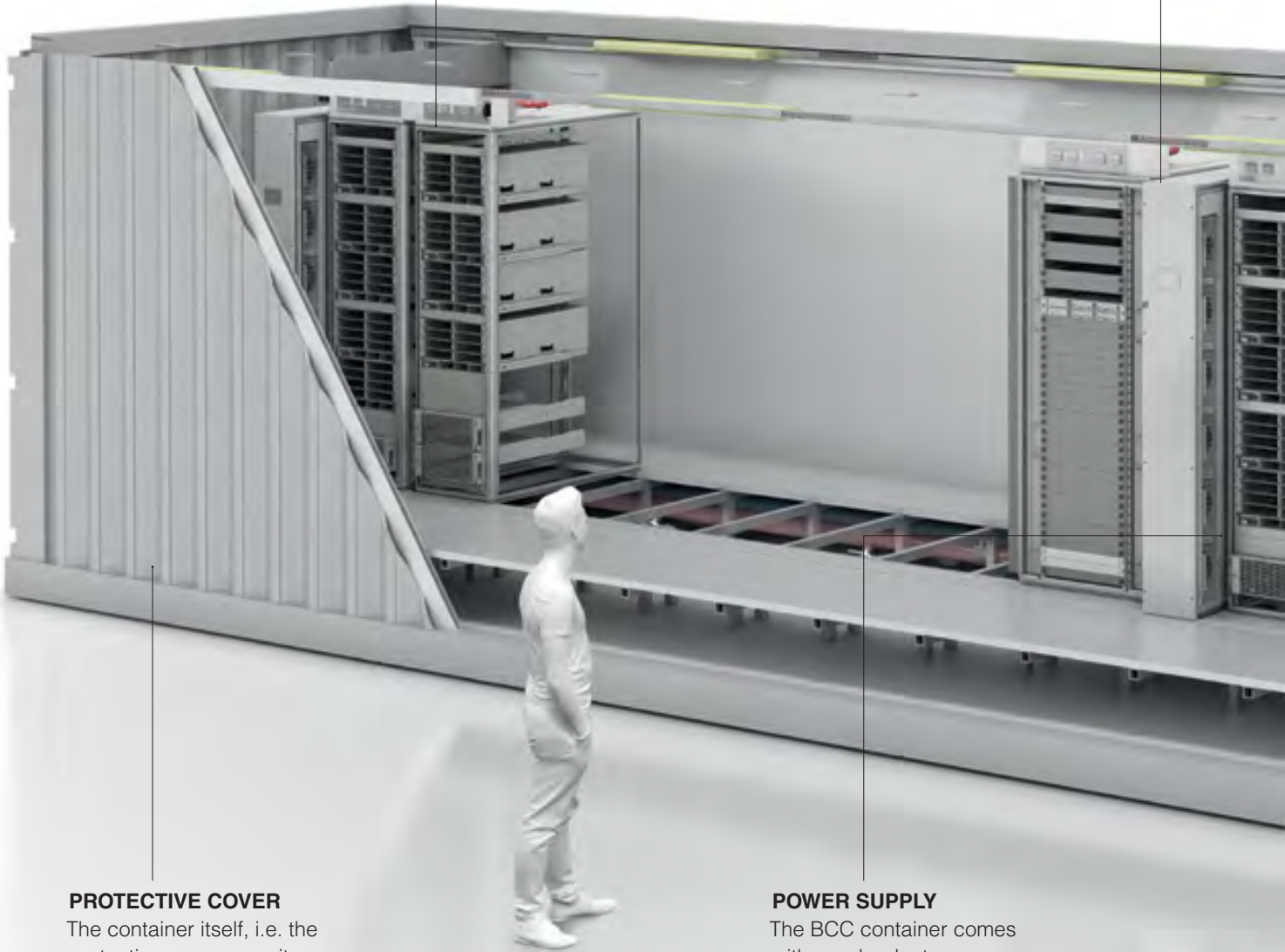
The ready-to-use, turnkey cloud data center (see also the following double-page spread) comes equipped with all key components – including IT racks, climate control technology and power supply.





THE NETWORK

The iNNOVO cloud model used with the RiMatrix BCC consists of five binary logic objects (blobs). Each blob has a maximum of two IT racks, and its server and storage capacity can be tailored to meet the customer's needs.



PROTECTIVE COVER

The container itself, i.e. the protective cover, permits outdoor siting while ensuring protection to IP 56. It also ensures burglary protection to RC2; its door meets RC3 or RC4 protection standards. In terms of fire protection, it complies with the E130 standard to EN 1363.

POWER SUPPLY

The BCC container comes with a redundant power supply (A+B), ensuring resiliency.



CLIMATE CONTROL

Climate control plays a key role in ensuring data centers can be operated smoothly and safely. Liquid cooling packages suck in the warm air emitted by the racks and release it again once it is cooled.



WATER COOLING

The double floor of the data center not only makes it easier to install the supply and data leads – the filtered air supply pipes also ensure adequate ventilation.





THE DATA MINE

This unique data center provides capacities of up to 200 megawatts, natural protection against electromagnetic pulses and an eco-friendly cooling system using water from the fjord.

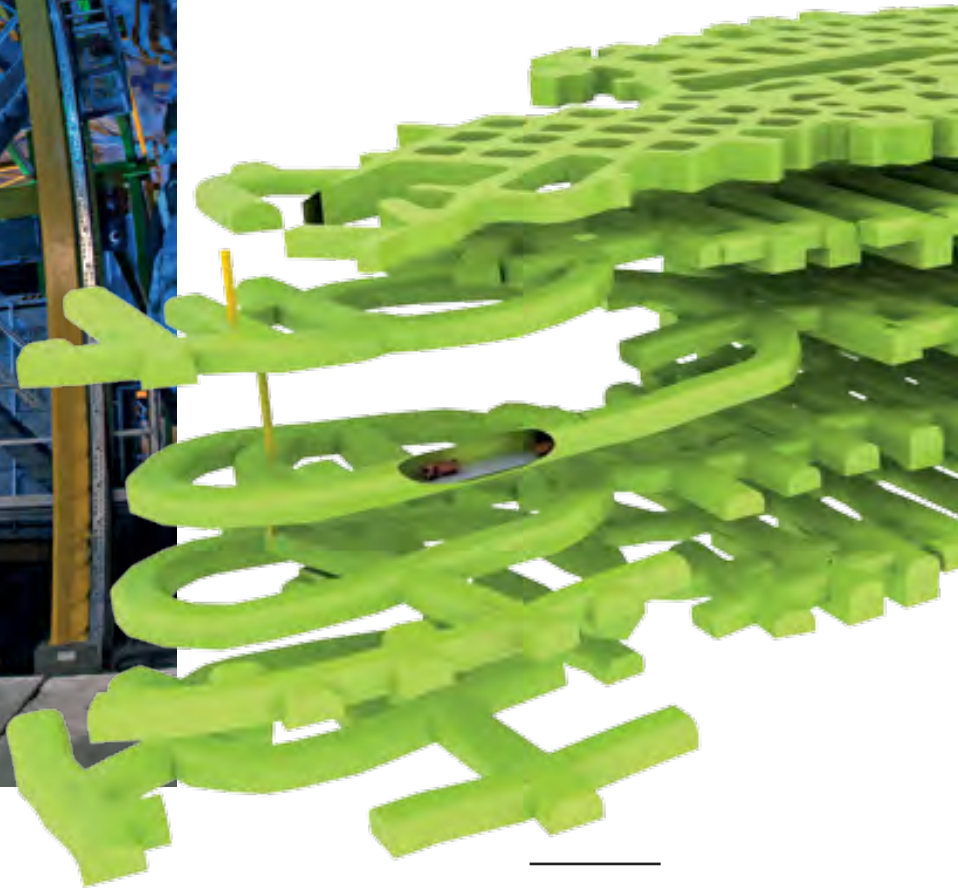
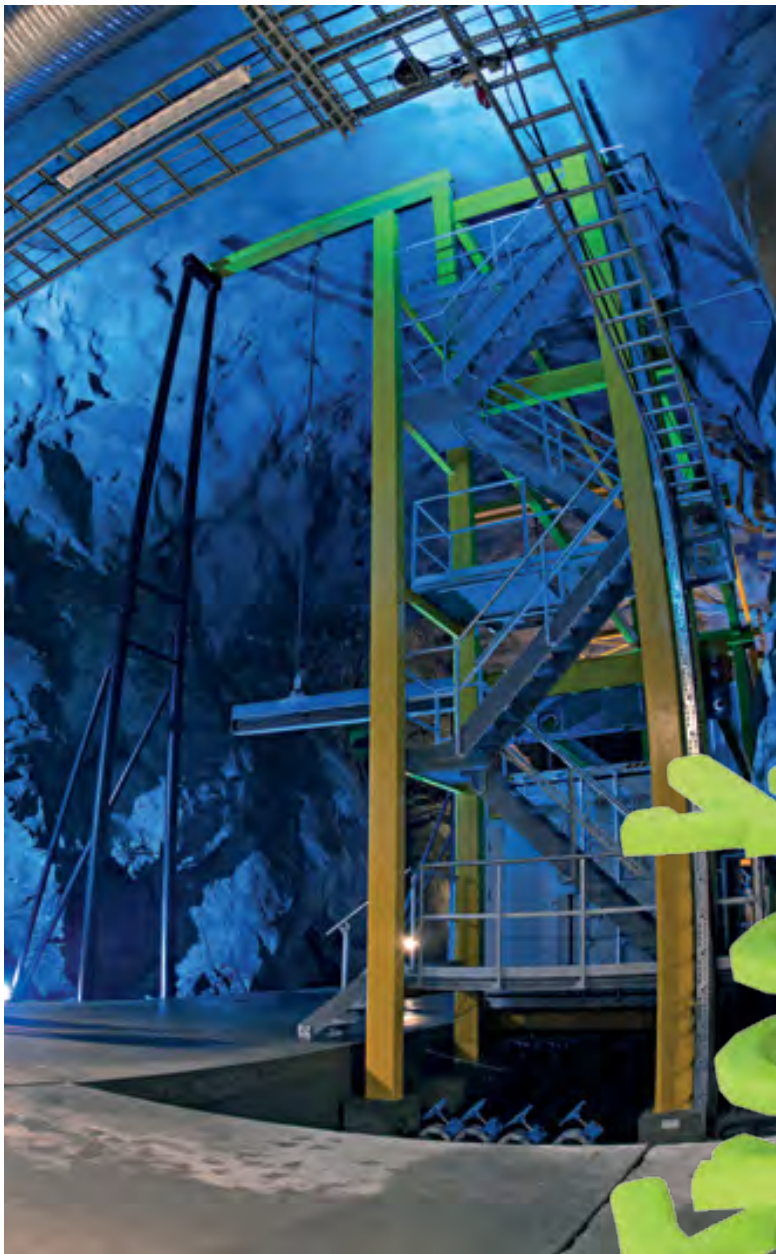
Ready for kitting out

IT service The launch of the Lefdal Mine Datacenter in Måløy, Norway, has seen one of Europe's largest and greenest data centers enter service. The first customers are already using the facility housed in the former mine. It provides IT capacities for companies of different sizes.

Text: Joscha Duhme

Green, reliable and efficient

The Lefdal Mine Datacenter (LMD), located in a former mine, sets new standards in cost efficiency and sustainability. It is powered almost exclusively by renewable energy. The LMD scores a power usage effectiveness rating of less than 1.15 and can potentially supply more than 200 megawatts of IT capacity.



PLENTY OF SPACE

The 75 chambers – one of which is shown in the picture – have a total floor space of 120,000 square metres.

HIGH-LEVEL PROTECTION

5 underground storeys are protected against electro-magnetic impulses.



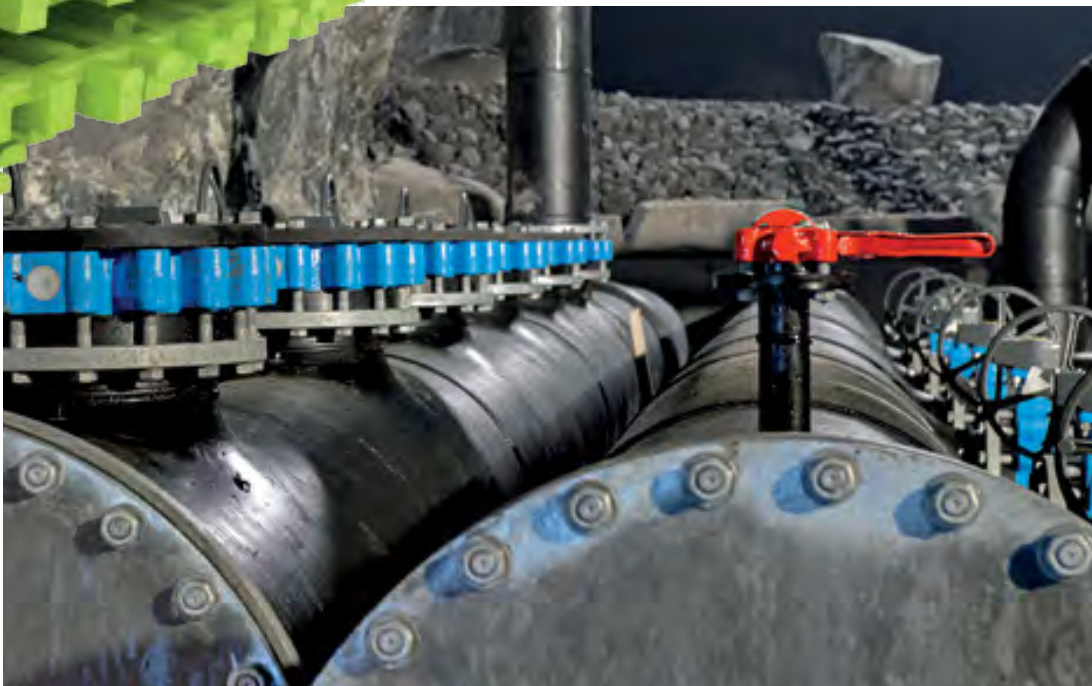
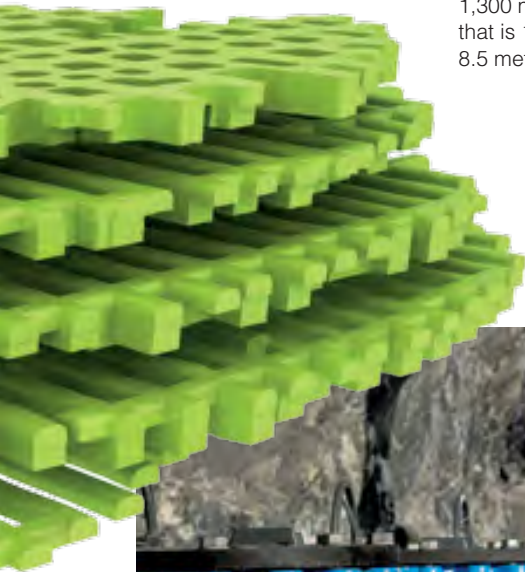
GATED ACCESS

The entry point leads to a 1,300 metre-long access road that is 14 metres wide and 8.5 metres high.



RAPID STANDARDS

The installation sites already exist for the 300 RiMatrix S container data centers that will be set up cost-effectively within just a few weeks.



COOL SOLUTION

The fjord provides a continuous supply of cooling water, which is fed via heat exchangers as a cooling source.



OPENING SPEAKER

Dr Karl-Ulrich Köhler, CEO of Rittal, expects a “fantastic future for this unique site”.

Sense the atmosphere of the past, present and hopefully fantastic future of this unique site,” said Dr Karl-Ulrich Köhler, CEO of Rittal, as he offered the visitors who had travelled from all over Europe a chance to get a feel for the special environment – at the opening of the Lefdal Mine Datacenter (LMD). The caverns carved deep into the rock in this former olivine mine offer a potential 120,000 square metres of net whitespace and over 200 megawatts of IT capacity with immediate effect.

Köhler’s enthusiasm for the potential that has been created close to the Norwegian town of Måløy is shared by Laurence Guihard-July, General Manager at IBM Resiliency Services. “The opening of the Lefdal Mine Datacenter is an important milestone in technological progress. As we head into the future, Lefdal will help us to provide our customers with the capacities they require and shape data center design for a long time to come.” IBM is the technical partner of Lefdal and Rittal in the Norwegian data mine.

In the weeks leading up to the opening, countless engineers worked around the clock to prepare the mine for its new use. They tarmacked roads, secured the shaft covers and installed lighting systems. The result is an underground data center. The 16-metre high tunnels, where valuable olivine minerals were once extracted, are now home to vast shelves that accommodate three industrial containers one above the other. These contain high-performance server technology, storage media and climate control units. Hundreds of these data center containers will be stacked together here in the future. The enormous capacity of the halls in the side of the mountain and the associated logistics enable various cost-efficient scalable solutions.

“LMD is unique in terms of scalability, security and cost efficiency,” explains Jørn Skaane, CEO of the IT company. Combined with the eco-friendly use of renewable energy for supplying power and cooling water, Lefdal offers outstanding conditions for secure, eco-friendly and efficient operation of data centers. Skaane is convinced that LMD will be a success and highlights three key factors to explain why: “We have a great many experienced people in the region. The market is growing rapidly day by day. And our product is impossible to copy.”

INDUSTRIALISATION OF IT

Rittal is also firmly committed to the project and has got on board as a strategic technology and implementation partner. “The ongoing digital transformation will undoubtedly lead to greater demand for data center capacity and thus to highly efficient industrialisation of data center infrastructure and services – in other words, intelligent standardisation,” says Köhler. “We are experts in highly efficient industrialisation and firm believers in it. It’s been part of our DNA since the company was founded in 1961.”

The container solutions used in the Lefdal Mine follow the trend towards industrialisation. “This makes it possible to create larger, flexible and scalable data centers using modules,” says Andreas Keiger, Executive Vice President for Sales Europe at Rittal. “Thanks to our standardised RiMatrix S data center modules, which are supplied in containers, customers can start operating at LMD within four to six weeks of ordering.” Time is a critical factor particularly for cloud and colocation providers. The preconfigured containers generally comprise ten or twelve server racks, which are ready for immediate use, including power distribution, climate control and software for monitoring and IT infrastructure management. This enables flexible

use of IT systems with various models such as colocation, private cloud via IT as a Service and Data Center as a Service (see page 30).

“The Lefdal Mine Datacenter puts everything else in the shade. It’s never been as easy to create an efficient and highly secure IT infrastructure for companies of all sizes,” Keiger confirms. This exceptional project is probably the leading example in the comprehensive portfolio of solutions that Rittal offers for IT scenarios involving a wide range of requirements.

“LMD isn’t just big, secure and well connected – it’s also green,” says Keiger. “The servers are cooled using the water from the surrounding fjord and thus have impeccable environmental credentials.” To this end, the operators laid water pipes with a diameter of around one metre at a depth of approximately 80 metres that lead to the water/water heat exchangers installed in the mine. From there, the water is fed through supply pipes to the container modules, where the Rittal LCP (Liquid Cooling Packages) solutions are deployed.

This efficient cooling solution is one of the reasons why LMD is up to 40 per cent



PROUD HOST

Egil Skibenes, Chairman of the Board of Lefdal Mine Datacenter was glad about the interest shown by international guests.

cheaper than all other data centers in Europe. “This is made possible in part because the mine already exists as a ‘building’, the operating costs with a power usage effectiveness of 1.08 are extremely low, and the energy costs compare very favourably at a European level,” adds Keiger.

Despite the vast dimensions of the mine and the enormous potential applications of the modular data centers, the tunnel system under the fjord is quiet and tidy. Aside from the hustle and bustle of the opening ceremony, peace and quiet reigns in what was once a working mine. As all the IT components are located in security rooms or containers, they benefit from the best possible physical protection. The LMD also serves as a “lights-out facility”. System administrators can use remote access facilities to monitor and manage the servers. It is only under exceptional circumstances that authorised individuals will enter the containers and rooms where the digital raw materials from all over the world are processed. They are equipped with helmet cameras and external links that give customers from around the world direct insight and even enable them to issue instructions. ■



IMPRESSED

Laurence Guihard-July, General Manager at IBM Resiliency Services, sees the shape of things to come in LMD.

Even muesli is more complicated

Configuration. Whereas quality components used to need assembling by hand, nowadays intelligent software assists with the process. Eplan Cogineer completes circuit diagrams at the push of a button.

Text: Ulrich Kläsener and Joscha Duhme

Instead of an old-fashioned sheet of white paper, nowadays the designer stares at a white monitor display as he contemplates where to start with his circuit diagram. Even though designers maybe don't dread this blank page quite as much as novelists are renowned to, even they often wish for their own "little helper". After all, a great deal of work, sometimes stretching to weeks, lies ahead of them because no two circuit diagrams are the same. Every machine, system and project presents its own special requirements. "And yet large parts of any circuit diagram are based on repetitions and standards," explains Thomas Michels, Director Product Management at Eplan. It is precisely these factors that Eplan Cogineer, a new solution for automatically generating circuit diagrams, puts to good use. Designers don't need much prior experience to use this simple configuration method to generate automated circuit diagrams. "We wanted to create a solution that is as user-friendly as possible but offers really innovative functions," Michels adds.

In contrast with the previous automation solutions that called for great expertise, Eplan Cogineer does not require extensive training. Users of Eplan Electric P8 and Eplan Fluid will take to Eplan Cogineer like a duck to water. Existing Eplan macros can be used to compile regulations. This means the entire team can complete the work directly, flexibly and precisely. Only the basic principles and macros need preparing separately by more experienced staff.

The division of tasks is reflected in the Eplan Cogineer's two modules – Designer and Project Builder. The Designer module acts as a factual database, so it's here that Eplan Cogineer stores the rules that need to be applied. These include the Eplan macros, procedural structures and configurations themselves. Once these are stored, the actual design process is performed in Project Builder. The designer automatically follows the rules and relationships stored in Designer while working in Project Builder. Michels explains: "The one-hundred-percent data continuity from design through to construction enables us to quickly complete customers' projects spot-on." He says this has dual benefits. "Error-free implementation of the defined rules and structures ensures a high-quality end configuration. What's more, far more projects can be created in the time that used to be taken up with copy-and-pasting pages and macros."

Eplan Cogineer cuts the time required for circuit diagrams by up to 50 per cent. This is partly down to its intuitive user inter-

face. In lay terms, Michels likens the configuration process to creating a photo album on the Internet. "There, users are offered appropriate templates for the layout, such as for holiday photos. They upload the photos at the push of a button and then also add a special colour filter or caption to certain ones." Eplan Cogineer provides the same kind of assistance with its automated project set-up function. The solution guides users intuitively, for example through selecting the power rating for motors. As soon as a selection changes the data, the program makes automatic adjustments. The configured project can be generated at the push of a button in Eplan Electric P8 or Eplan Fluid. ■

EPLAN EXPERIENCE

Experience on board

Eplan Cogineer is based firmly on Eplan Experience.

WHAT IS EPLAN EXPERIENCE?

Eplan Experience is a methodical approach that aims to increase a company's engineering efficiency and optimise design processes. It is based on more than 45,000 customer feedback responses.

HOW IS IT INCORPORATED INTO COGINEER?

Eplan Cogineer offers a straightforward product structure, makes it easier to comply with standards and speeds up the engineering process thanks to new design methods. These form three of Eplan Experience's eight action fields.

Rolled oats

Nut allergy?

Yes

Sunflower seeds

Healthy?

Yes

Raisins

Exotic?

Yes

Grated coconut

Rolled oats
Sunflower seeds
Raisins
Coconut

Flax-seed

Rolled oats
Sunflower seeds
Raisins
Flaxseed

No

Pieces of chocolate

Exotic?

Yes

Grated coconut

Rolled oats
Sunflower seeds
Chocolate
Coconut

Flax-seed

Rolled oats
Sunflower seeds
Chocolate
Flaxseed

Step 1:

Customise muesli mix using online supplier

No

Nuts

Healthy?

Yes

Raisins

Exotic?

Yes

Grated coconut

Rolled oats
Nuts
Raisins
Coconut

Flax-seed

Rolled oats
Nuts
Raisins
Flaxseed

No

Pieces of chocolate

Exotic?

Yes

Grated coconut

Rolled oats
Nuts
Chocolate
Coconut

Flax-seed

Rolled oats
Nuts
Chocolate
Flaxseed

Configure your muesli

Customised muesli home delivery

Muesli mix

Vegan?

No

Milk

Warm, cold, with honey?

Yoghurt

Warm milk, honey, mango
Warm milk, mango
Cold milk, mango
Yoghurt, mango
Juice, mango
Soya drink, mango

Fresh fruit

Exotic?

Banana

Warm milk, honey, banana
Warm milk, banana
Cold milk, banana
Yoghurt, banana
Juice, banana
Soya drink, banana

Regional?

Berries

Warm milk, honey, berries
Warm milk, berries
Cold milk, berries
Yoghurt, berries
Juice, berries
Soya drink, berries

Apple

Warm milk, honey, apple
Warm milk, apple
Cold milk, apple
Yoghurt, apple
Juice, apple
Soya drink, apple

Step 2:

Enhance with fresh ingredients at home



There's no such thing as no answer

Hannover Messe. If customers are going to master their everyday challenges, it is important to get to the bottom of them. Adopting the slogan “Let’s talk about”, the companies of the Friedhelm Loh Group spoke to customers and showed them some very practical solutions.

Text: Joscha Duhme



LET'S TALK ABOUT ...



INNOVATIONS AVENUE

Based on a range of everyday challenges, visitors got to experience practical solutions to a wide variety of problems right up close.

Rittal – The System
Faster – better – everywhere.

The new
System
Catalogue

- Innovations included
- Reader-friendly navigation
- Direct links to online tool
 - Configurators
 - technical drawings
 - Assembly/operating instructions
 - Performance diagrams
 - worldwide approvals

... COOLING



If the current increases, the Blue e+ chiller cools 70 per cent more efficiently.

In Germany alone, industry spent more than 35 billion euros on energy in 2015. 71.2 per cent of this was for electricity. No wonder, then, that energy efficiency is a burning issue for all manufacturing companies.

Blue e+ chillers use DC inverter technology as standard (speed-controlled components) to automatically adapt the cooling power to the load profile of the relevant application.

Blue e+ chillers are up to 70 per cent more efficient than their conventional counterparts. The same parts are used as in the Blue e+ cooling units, which helps with the storage of spare parts and improves machine availability.

... SERVICE



In case of outages, IoT-capable devices can improve availability.

Unplanned machine outages cost companies time and money. Productivity suffers as a result. Although devices already provide a lot of data, it is difficult to filter out the right information in order to achieve the required result.

Rittal products, such as its cooling units and chillers, can communicate with higher-level systems using the OPC-UA protocol. This means they can also be integrated into cloud-based applications, e.g. Siemens MindSphere.

Services such as smart maintenance increase machine availability. Not only that, but they are also easy to integrate into the customer's smart factory and in-house maintenance.

... LIGHT



Optimised LEDs help you see – and stay safe – in the dark.

Wiring and maintaining enclosures calls for good lighting, for example to avoid mixing up cranks. In many cases, low-output fluorescent tubes are still installed. These are difficult to attach, only light up certain areas and take up a lot of space.

Rittal's new LED system lights are purpose-made for installing in TS 8 enclosures. They illuminate enclosures up to 1,200 millimetres wide and 2,200 millimetres high and have a wide-range input voltage of 100-240 V.

This intelligent lighting improves safety and the flexible voltage makes it easier for international companies to plan their use. What's more, the light takes less than one minute to install without tools.

...ELECTRICITY



Tools take up time, whereas push-in technology saves it.

Conductor connection clamps are paid little attention but are frequently used. Installing them using conventional screws is a time-consuming process. These screw connections inevitably require maintenance, which also costs money.

Rittal's new conductor connection clamp is the first to use push-in technology. It's a versatile choice for connecting cables to five and ten-millimetre-thick busbars.

The push-in technology means the clamps are quick to connect and maintenance-free. Despite accommodating a wider variety of cables, the potential for errors is reduced, as there is no need to consider the specified torque for the screws.

LKH'S PARTNER STAND

Trend towards lightweight construction



ADDED VALUE

LKH, a member of the Friedhelm Loh Group, showed how substituting metal with plastic can achieve unbeatable efficiency. Many visitors seized the chance to investigate practical solutions at LKH's joint stand with sales partner Panzer GmbH, just as they did with Rittal and Eplan. "Attending the trade fair enables us to present the major advantages of innovative plastic solutions and explain face-to-face the added value that LKH creates," says Rüdiger Braun (1st from left), Head of Sales and Engineering. This, he explains, starts with the engineering and manufacturing that LKH performs as a full-service supplier of injection-moulded parts using machines with up to 1,600 metric tons of clamping force and extends right through to intelligent logistics.

... SOFTWARE



If engineering hits a snag, Eplan Syngineer ensures transparency all round.

The mechanics, electrical/control engineering and IT/software that go into developing a machine do not always run in harmony – because the design software lacks transparent, fast and straightforward communication channels.

Syngineer provides an open, cloud-based solution that links all the engineers involved, despite each field using different software. This paves the way for truly mechatronic engineering.

Syngineer does away with time-consuming adjustments and the cumbersome sharing of information that has beset communications between the different engineering departments until now. This solution ensures transparency across multiple disciplines.

Live wires

Power distribution. Safety and efficiency are also the top priority for controls and switchgear. RiLine Compact is Rittal's first certified standard solution for low energy requirements.

Text: Rebecca Lorenz

By the time controls and switchgear go live, they comply with all the relevant standards and guidelines and ensure maximum protection for users. However, they will then undergo repairs and modifications throughout their lifetime. This frequently involves removing covers or fitting these over the live parts after completing the work. If this is rushed and done incorrectly, there is a chance that someone might touch these live parts – with grave consequences. Besides burns to the skin, nerves can also be damaged. In the worst case scenario, the person might even stop breathing and suffer cardiac arrest. "In Germany alone, there are more than 3,000 accidents involving electricity each year," says Michael Schell, Director Product Management Power Distribution. And yet they can easily be avoided – and that's equally true of small switchgear and controllers.

The number one rule is to rule out any chance of contact. "But there are often shortcomings with small controls," explains Schell. This is because power distribution in this segment still uses conventional wiring and comb rails (see infobox). Preventing contact is not as easy with these methods, or the shields become dislodged over time. "Of course, this is not an efficient solution in any case," he adds. "This is why we have launched the new RiLine Compact system." Because only a standardised solution ensures safety and provides a cer-



BUSBAR

The busbar system in the RiLine Compact is most suitable for small switchgear and control systems with a maximum current of 125 amperes.

CONTACT GRID

The end-to-end grid of contacts allows complete top-mounting of the system. The component adaptors are mounted using a simple plug-in technique.

**COVER**

The cover provides seamless, effective protection against contact. It's an easy way of preventing accidental electric shocks.

Pros and cons**CONVENTIONAL WIRING**

The many individual connections in conventional wiring make the overall structure extremely unclear and involve a lot of wiring work. Trying to locate a fault is very time-consuming.

**COMB STRIPS**

The comb strip technology varies according to the manufacturer and specific design. This makes it most suitable for installing rows of identical devices. Inter-wiring is needed to assemble different devices. An additional cover is required for any unused comb strip outputs to protect against contact.

**STANDARDISED BUSBARS**

Standardised busbars provide a fully contact-protected, end-to-end system solution. Thanks to their simple connection method, the related devices can be installed quickly and safely.

tified power distribution solution. "There is huge demand due to the numerous small switchgear systems used in the manufacturing industry – and they are being packed together increasingly densely as well," Schell says.

This new compact busbar system was specially developed for small switchgear with a maximum current of 125 amperes. "The main component is a board with integrated busbars and contact shields," explains Sylvia Ann Jungbauer, Product Manager Power Distribution. The cover has an end-to-end grid of contacts, which means the components can be installed without removing the protective cover.

This also saves a lot of time during assembly and wiring, which makes the system more efficient and cost-effective. "RiLine Compact uses innovative cross-board technology," Jungbauer points out. "The idea is to make it as easy as possible for our customers to design safe and reliable power distribution." Rittal's dedication to achieving this aim can also be seen in the connection solution and the unit's construction.

"In the case of the RiLine Compact, the components can be mounted without using tools," Jungbauer explains. "The mechanical fixing and contacting are performed in a single step." The power is supplied via an adapter with tension spring technology, which makes it easier to insert the connection leads. The resulting contact points comply with industry standards, have been tested for the maximum tensile force and are maintenance-free. Once the board is connected, the next step is to plug the required device adapters into it. Rittal supplies adapters to fit all the major manufacturers' switchgear and control units. "This ensures all switchgear and control units can be installed and powered with ease."

To make selecting components even easier, Rittal is also in the process of setting up a web configurator for RiLine Compact on its website. This will mean the components can be selected either manually or automatically according to the type of device and then placed directly onto the board. A 3D model depicts the end result and supplies the documentation. The price, availability and delivery time can be immediately checked in the online shop. ■

Constant dialogue

Innovation. The Rittal Innovation Center is where Rittal, Eplan and Cideon demonstrate ways of consistently implementing concepts such as Industry 4.0 in control and switchgear engineering. The aim is to drive forward digitalisation and inspire new innovative solutions.

Text: Rebecca Lorenz

Can Industry 4.0 be implemented in practice? Which process steps can be accelerated? Is it possible to manufacture batch sizes of just one efficiently? Control and switchgear manufacturers are facing these questions all over the world, as increasing digitalisation, globalisation and automation ramp up the pressure on efficiency and costs. The Rittal Innovation Center started providing the answers in autumn 2016. Rittal, Eplan and Cideon showcase rigorous implementation of Industry 4.0 concepts in control and switchgear engineering located here on a floor space of more than 1,200 square metres. "We want to provide our customers with focused assistance to keep on expanding their value-added processes," explains Jan-Henry Schall, Head of the Rittal Innovation Center. To help achieve this, users can visit the Innovation and Training Center to see, experience and try out new approaches and discuss things with experts from the Friedhelm Loh Group. "Only by scrutinising each individual step in the digital process chain can we identify hidden efficiency potential and then further expand it," Schall explains. This cuts costs, shortens throughput times and develops new automation concepts. ■



1 ENGINEERING

The virtual prototype, the digital twin of the enclosure under production, is created using software solutions from Rittal and Eplan. It links together all the process steps involved in manufacturing control systems and switchgear.



Discover your potential!
Visit the Rittal Innovation Center in Haiger, Germany:
innovationcenter@rittal.de



8 FINISHED PRODUCT

Once production has been completed, a 1:1 model of the virtual prototype exists as a real product.

2 WORK PREPARATION AND INCOMING GOODS

The data from the virtual prototype can be transferred faultlessly via integrated PDM-ERP interfaces to the downstream processes for commercial aspects and production. Here, this data supports all processes, from work preparation and incoming

goods through to pre-assembly and dismantling, which can also be made more efficient using the appropriate handling tools from Rittal.



3 MACHINING

To improve the workflow and quality and boost efficiency, automated machining is used to produce enclosures, cabinets and panels. Data from the virtual prototype directs the Perforex BC processing centres and the Perforex LC laser processing centre.

4 PREPARING ASSEMBLIES

DIN rails and ducts can be cut automatically, again using data from the virtual prototype. The terminal strip configuration and assembly of wiring cables can also be performed fully automatically.

5 MOUNTING ASSEMBLY PLATES

Individually adjustable assembly frames make mounting and the downstream work steps more ergonomic.



7 FINAL ASSEMBLY AND CHECKING

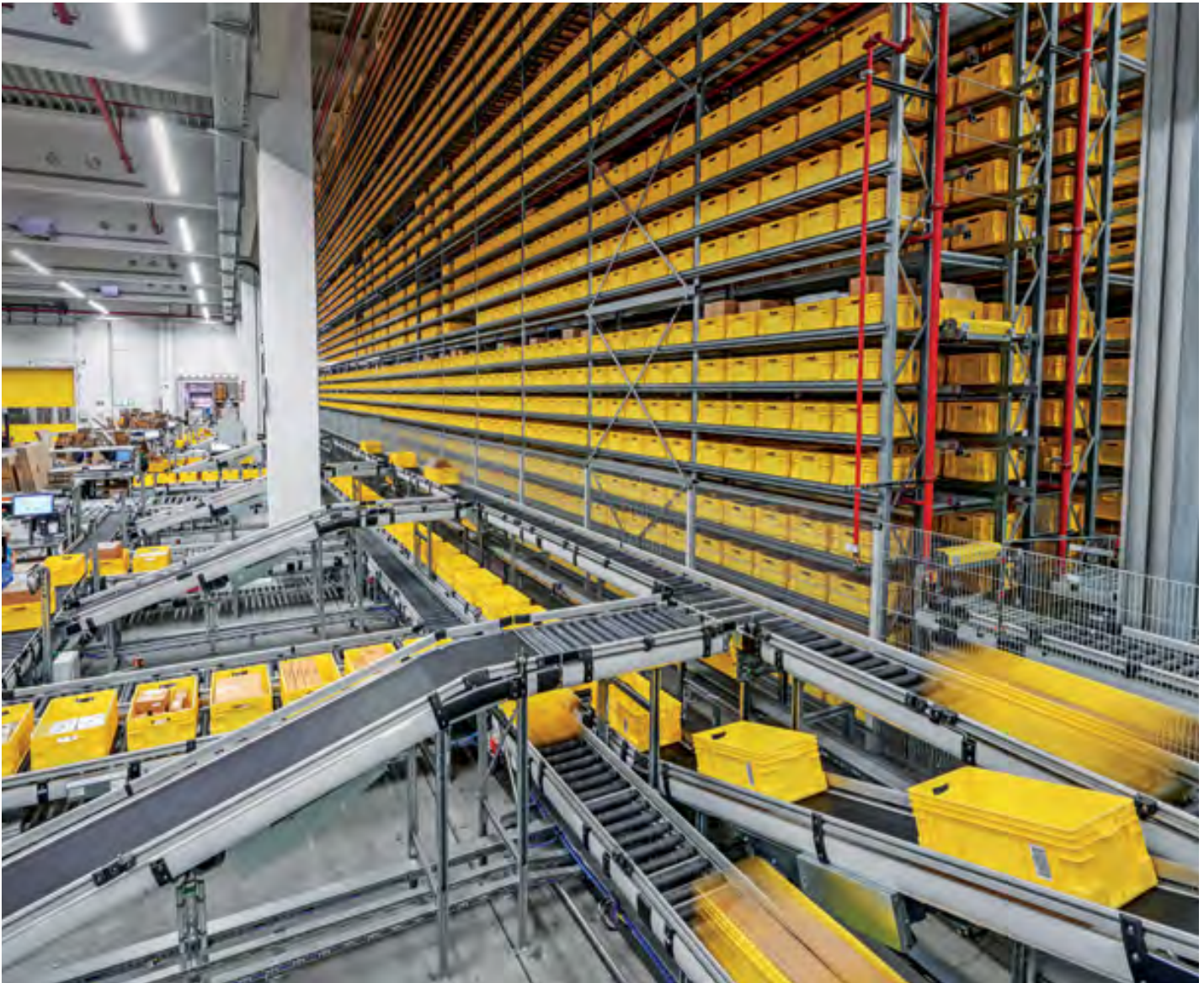
Installing pre-wired assembly plates and assembling and wiring the remaining components. Subsequent quality control and test.



6 WIRING

All components are wired according to the information contained in the virtual prototype. The worker is given step-by-step instructions for the manual wiring by EPLAN Smart Wiring. Traceability and transparency significantly boost efficiency.

EXPERIENCE



Delivery within
24
hours

Rittal is poised to offer its customers delivery within 24 hours throughout Germany. To achieve this, the company is optimising its warehouse and transportation logistics. Constructing a comprehensive haulage network and digitalising the entire logistics chain, for example, should enable next-morning delivery. Entire consignments can be monitored from start to finish using a track-and-trace system. Holger Michalka, Executive Vice President, Sales and Distribution, Global Logistics and International Service, says: "This is Logistics 4.0 and unique throughout Germany."

Experts visit experts on site

“If you can’t come to us, we’ll come to you” is the motto of the “In-house Expert Day” run by plastics specialist LKH. Following the success of the first in-house expert day at Vibracoustic in Hamburg in November 2016 and the event at Rittal in Herborn, the third expert day has now been held at the Reinhausen machinery factory in Regensburg. Once again, over 40 staff members from development, design, purchasing and quality management attended the talks by the experts from LKH. The successful expert days event is set to continue in the autumn at Kiekert and Bitzer.



Everything at a glance

Rittal’s new 936-page System Catalogue 35 lays out the entire product portfolio for control and switchgear engineers and IT specialists. This includes solutions for industrial housings and enclosures, power distribution, climate control and IT infrastructure, as well as software and services.

Besides the print version, the catalogue is also available online in PDF format, which contains direct links to web pages with further information and the Rittal online shop. It is published in English and German and there are plans to expand this to 13 more languages soon.



Successful development with IBM

Rittal has been working in close collaboration worldwide with U.S. IT company IBM since July 2016. This partnership has now borne its first fruits. IBM India and Rittal India joined forces to develop a plug & play ISR (Integrated Server Room), of which more than 70 have already been sold, including to prestigious customers such as Chrysler India Automotive.



Mr 100 Percent

Jan Bednarik was clearly proud to receive his certificate. He scored maximum points in the final examination of his six-month period of training to become an Eplan-certified engineer (ECE). The course is designed to turn Eplan users into certified engineering experts. The control and safety systems specialist from Irish energy company ESB International was the first

candidate to achieve a perfect score: “On average worldwide, participants answer around 80 per cent of the questions correctly. To get the full 100 points is an outstanding achievement!” remarked trainer David Ebenezer. Eplan UK is delighted for him. Further info is available at:

www.eplan.academy

The pace-makers

Interface. Reduced waiting times, fewer errors – this agile solution automates fast, two-way data exchange at the interface between engineering and production.

Text: Martina Pump

Industry 4.0 and the corresponding digitisation of processes – in manufacturing, purchasing and sales – increase the demands placed on businesses. For a company to be able to react flexibly to changes in the production process, the individual elements must be perfectly networked with one another. This is where Cideon and its 3DX xPDM – SAP interface come into play by effectively integrating commercial and technical production aspects: “Previously, developers spent up to 30 per cent of their time waiting for authorisation from the SAP process, as the different areas were not interlinked as well as they could be,” explains Nitin Tawari, Senior Business Development and Sales Executive at Cideon. “Contracts are fed in via SAP ERP and the whole authorisation process is also managed in SAP. At the same time, the entire product lifecycle – from the idea and planning, followed by development and validation, right through to documentation – runs on PLM software,” he continues.



“The state-of-the-art Cideon interface between SAP ERP and Product Lifecycle Management (PLM) systems forms the basis for Industry 4.0,” Tawari says. Changes to requirements that affect production or quality control, for example, are visible to both parties and can be integrated and implemented in the rest of the workflow without long delays. The automatic data exchange runs asynchronously in the background.

OPTIMUM LINK BETWEEN ERP AND PDM SPEEDS THINGS UP

This saves a great deal of time, as other tasks can be accomplished side-by-side and the data no longer has to be entered by hand. It also reduces the error rate, particularly for repetitions, as the system recognises past errors and sounds the alarm. Data is also better protected thanks to the automated data exchange in the background, which leaves fewer external points of attack. The fact that, this way, users don't need to know both systems further saves on resources. Not only that, but this white-label solution allows developers to work with a familiar interface – instead of using the SAP mask.

Tawari likens the 3DX xPDM – SAP interface to “a motorway where data flows in both directions quickly and reliably – without jams, red lights, roadworks or accidents.” The Cideon Synchronisation Server (CSS) acts as the interface in this case. Regulations configured in the CSS coordinate the two-way data exchange between 3DX and SAP. Cideon provides a graphic mapping editor for this purpose, which enables users to react quickly to new requirements, regardless of whether the change occurs in SAP or 3DX.

The 3DX xPDM – SAP interface speeds up a company's processes by achieving more efficient collaboration throughout the entire process chain. Faster communications boost productivity and cut the time it takes to launch products. What's more, the company can react flexibly to new requirements, such as in purchasing, production and quality control, and thus react immediately to changes in the orders situation. This saves a great deal of time – and is a key step towards Industry 4.0. ■

“The state-of-the-art Cideon interface between SAP ERP and Product Lifecycle Management (PLM) systems forms the basis for Industry 4.0”

Nitin Tawari

Senior Business Development and Sales Executive at Cideon

CONSTANT DATA FLOW

Cideon's 3DX xPDM interface makes processes less prone to errors thanks to automatic data exchange between sales and product management.

The inspection cannot come too soon

Service. You don't need to be a customer to benefit from Rittal service. The efficiency and service check for cooling units reveals the maintenance status and savings potential of equipment. Ford in Cologne has benefitted from the package.

Text: Martina Pump

A cutting-edge production plant for engines in winter. A small red light on a cooling unit is flashing away to itself, but the unit is out of sight. Months later, one of the production machines suddenly grinds to a halt. A cooling unit in engine production has failed. It's the worst-case scenario – a production stoppage. It may be some time before the cooling unit responsible for the shutdown can be repaired. And time, in this case, is money. ▶





A "HOT" MACHINE

It isn't just engines that need reliable cooling systems – the production equipment used to manufacture them does, too.



“The check highlighted potential savings for our plant.”

Helmar Bencker,
Manager Plant Engineering & Environment, Ford Cologne,
commissioned Rittal to carry out service checks on more than 200 cooling units.

NEGLECTED COOLING UNITS

The service check on the entire cooling unit infrastructure highlighted often very major maintenance requirements and even faults.

“In 2015 alone, faulty cooling units caused a total of 13 plant stoppages,” says Helmar Bencker, who is jointly responsible for energy efficiency at Ford in Cologne. “It is not an uncommon occurrence. Production plant operators often only take action when a stoppage occurs. Basic maintenance tasks such as cleaning or replacing filter mats are frequently neglected,” reports Andreas Karl from Technical Order Handling at Rittal Service International.

RITTAL OFFERS SERVICE CHECK AND ADVICE

“Naturally, we have in-house climate-control technicians, and they don’t wait around until a plant breaks down,” adds Bencker. However, if they are working at other plants, they can’t be on site straight away. “That’s why we gratefully accepted Rittal’s offer to take an inventory of all our cooling units and review potential energy savings.” Two



“Plant operators often only take action after downtimes.”

Andreas Karl,
Head of Technical Order Handling, Rittal Service International,
established that 11 per cent of the cooling units were faulty.

service technicians from Rittal spent a week carrying out a service and efficiency check on the enclosure and machine cooling systems at Ford. They reviewed the maintenance condition of more than 220 units at the Cologne plant. This involved checking the cooling unit components for soiling, damage and bearing noise. Next, they compiled a maintenance checklist and suggested improvements. “We also look at how processes can be improved and give customers one or two tips on potential savings. That doesn’t necessarily mean we advise them to replace units,” emphasises Karl, who was responsible for the service check at Ford with his colleague Ralf Schneider.

“Our analysis showed that 25 of the 226 installed enclosure climate control units – i.e. 11 per cent of them – were faulty and needed to be repaired or replaced,” says Karl, summing up their findings. Most of these units were products from a competi-

tor and were just five years old on average. The remaining ten faulty units included six from other manufacturers (between ten and 20 years old) and just four Rittal units with an average age of 15 years.

Rittal offers service contracts designed specifically to help companies keep an overview of cooling system infrastructures like these, implement regular maintenance to protect against downtime and make sure they are well prepared for an emergency. "The people in charge of maintenance and servicing can then always count on us being on site very quickly in the case of a failure," says Karl. Rittal doesn't just offer the efficiency and service check that Ford commissioned for its own climate-control components but for systems from other manufacturers, too. "Our service isn't just an after-sales offer. In other words, it doesn't just cover equipment sold by us. It is in fact separate from our cooling unit sales." However, the project in Cologne also showed that these units can save a great deal of energy.

The Rittal team worked in parallel with the service check to set up a practical trial in the engine plant. Starting from July 2016, the 2.6 kilowatt Rittal Blue e+ cooling unit was compared against the 2.5 kilowatt cooling unit of a competitor. "According to the results so far, the Blue e+ unit has achieved an energy saving of 88.9 per cent compared to the third-party product," explains Karl.

RESULTS IMPRESS THE INTERNATIONAL MANAGEMENT TEAM

Using the data it had captured, Rittal compiled a comprehensive efficiency calculation for the Ford plant in Cologne. The results were presented in early November 2016 during an international meeting of the 15 global Ford Engine Plant Managers, including Jürgen Schäfer, Director Cologne Powertrain, and Helmar Bencker from the Cologne plant. The Plant Managers were very impressed by the results.

By replacing 150 cooling units with Rittal Blue e and Blue e+ units, the Cologne plant can achieve energy savings amounting to over 552,000 euros and 276.3 metric tons of CO₂ over a service life of ten years. After deducting the investment sum, the payback period is fast, at just 2.42 years, and well below the required period of 3.5 years. This was a crucial argument for the Plant Managers at the meeting, who suggested that savings potentials identified in Cologne should be reviewed for the plants in the UK and USA, too.

THREE QUESTIONS FOR:

Judith Kötzsch



Director Rittal Service International, Business Development

The service and efficiency check at Ford revealed the need for maintenance work and potential savings. Is that what usually happens?

The condition of cooling units not covered by a maintenance contract varies from plant to plant. Their maintenance is actually often neglected. That has an impact on machine availability and energy consumption. A heavily soiled cooling unit consumes up to 30 per cent more power than a clean one. What's more, in certain cases, it can be worthwhile replacing old units with the latest technologies.

How can customers get long-term support from Rittal?

We offer multiple-year service contracts that help installed equipment retain its value and ensure the associated costs can be planned.

What are these contracts like and what benefits do they offer?

An agreement is made regarding maintenance intervals and reaction times. Everything is included, from the annual service to on-site deployment within four hours. In each case, customers benefit from transparent costs, fully qualified service technicians and warranty extensions.

LOWER ENERGY COSTS AS A RESPONSE TO COST PRESSURES

After evaluating the analysis, Rittal prepared a quotation for Ford Cologne that covered both the maintenance and repair work and the replacement of faulty plants with new, more energy-efficient Rittal Blue e+ cooling units. This is particularly important to Ford, as the cooling units are not just a business-critical factor but also a means of countering the cost pressures in the automotive industry: "When the service life of a cooling unit is taken into account, an average of 48 per cent of costs are generated by energy costs, whereas only 28 per cent stem from the original price of the unit. Investing in an energy-efficient cooling unit is therefore a sensible decision in almost all cases," explains Karl.

It also puts Bencker and his colleagues in a better position regarding ISO standard 50001, which aims to help organisations establish systematic energy management. Ford is certified to this standard. Bencker: "Every plant has to identify and implement corresponding annual savings measures." Regulations on saving energy in buildings, which counter energy losses caused by heating and cooling processes, also place stringent demands on the manufacturing sector. The efficiency check from Rittal is the ideal solution. It not only helps Ford avoid production downtime, it also uncovers opportunities to save energy. Another plus point is that lower energy consumption also means lower CO₂ emissions, which benefits the environment. It's a win-win situation for all those involved. ■

Secure benefits now



Register your cooling units and get a benefits package that includes efficiency checks!

www.rittal.de/produktregistrierung
(German content only)



CLOSED SYSTEM

Instead of relying on interfaces between its design and commercial systems, Aerzen now accesses a single source of truth (SSOT) thanks to Cideon.

Tailor-made integration

Processes. Interfaces are only the second-best solution. Nothing beats a single data source, or “single source of truth”, as it’s known. This insight prompted Aerzen to ask Cideon to help integrate its CAD systems seamlessly into a SAP PLM system.

Text: Ulrich Kläsener and Joscha Duhme

“Cideon convinced us that direct integration was the best way to achieve seamless processes.”

Axel Stürmer

Head of Standards and PLM / SAP PLM Project Manager at Aerzen

A 3.8 kilometre swim followed by a 180 kilometre cycle and then a 42 kilometre run. The very thought of this is enough to make couch potatoes break into a sweat. At the other end of the spectrum, triathletes seem to accomplish this feat very smoothly. However, throughout this ultra-demanding test of endurance, more than anything else it’s the transitions that send competitors’ pulses racing higher. Switching from one mode to the next requires the athletes to change their clothing or manoeuvre their bicycles through the transition zone. This costs time and has little to do with the feat that is really required. “Losing time like this naturally affects competitors’ ability to break sporting records. And it’s the same story when it comes to transferring data from design software into the company’s PLM system,” explains Jan Coppel, Head of Sales SAP PLM Germany at Cideon Software.

To save time at this interface and speed projects up, a few years ago the team at the Aerzen machinery plant started scrutinising data exchange between departments and disciplines. For many years, the well-established specialist in blowers and compressors had been using a tried-and-tested but ageing ERP (enterprise resource planning) system to manage its design, commercial and logistics processes. The departments were well accustomed to exchanging printed Excel sheets. This used to cost time, cause errors and delay the delivery of orders. It was clear that Aerzen needed a state-of-the-art IT infrastructure, and for strategic reasons the management decid-

ed to replace the existing resource planning system with SAP. The PLM project team then had to decide between introducing a design-related PDM (product data management) system or integrating its CAD (computer-aided design) systems directly into SAP PLM (SAP Product Lifecycle Management).

“Cideon convinced us that direct integration was the best way to achieve seamless processes,” says Axel Stürmer, Head of Standardisation and PLM and the SAP PLM Project Manager at Aerzen. “Unlike external interfaces which exchange redundant data between the systems, our direct integration offers single data source – a ‘single source of truth’,” Coppel says. “We opted for Cideon based on their ability to assist us from beginning to end – from process advice, system implementation, CAD integration and data migration through to process automation and optimising design methodology using our CAD system,” Stürmer explains.

PARALLEL ACCESS

The advantages of direct integration are apparent each day. “Components for special-purpose machinery have long delivery times, which means they need ordering well in advance,” Coppel points out. He says the purchasing team can now access the necessary information via a uniform system as soon as it has been released by the design team, while the engineers continue with the rest of their design work. “At the same time, networking all the departments to one system speeds processes up if changes need to be made retrospectively.”

Directly integrating the CAD systems also meant the designers had to change their established procedures. Cideon oversaw the implementation process, adjusted the design guidelines to meet the requirements for direct integration and helped the users to optimise their work methods. This has improved throughput times.

Aerzen also manages all of its product and process documentation using SAP PLM. Introducing Cideon’s output management system has enabled the company to provide documents faster and automate ordering processes. Users can collect authorised documents to produce output jobs and process these at the touch of a button – in a fully regulated process. Coppel points out: “If processing an output job manually takes 20 minutes, this equates to a massive time saving when working with 500 to 600 orders per day.” ■

Protects against risks and side effects

IT protection. Medical products call for state-of-the-art manufacturing technology and detailed documentation. B. Braun is implementing Industry 4.0 to achieve this – and is using a Rittal Micro Data Center for real-time production-related data processing.

Text: Martina Pump and Rebecca Lorenz

20

TIMES PER SECOND
is the frequency at which
the B. Braun infusion
solution is used as part of
a treatment somewhere
in the world.

Nurses bustle along the corridors, the alarms in the intensive care unit sound and an electrolyte solution drips quietly but continuously from the infusion bag hanging at the patient's bedside. After 12 hours of fasting, a five-hour general anaesthetic and almost four hours on the operating table, this liquid is meant to give the post-operative patient a new lease of life. The presence of germs or impurities could have fatal consequences. And yet under these circumstances, the helpless patient simply has to rely on the containers and liquids being sterile – and thus helping to fight infections rather than cause them.

To meet the expectations of doctors and patients in this regard, B. Braun, one of the world's leading manufacturers of medical technology and pharmaceutical products, focuses on safety and cleanliness in the manufacture of infusion bottles. "To ensure maximum sterility of the Ecoflac production environment, last autumn we automated our manufacturing processes as far as possible," says Matthias Bömer, Head of Quality Control at B. Braun. The company invested around 50 million euros in the new Industry 4.0-compatible production line.

Since then, all the work processes, from raw material consumption through to PLC process control and compliance documentation, have been digitally networked at the Glandorf plant in Lower Saxony. This produces an extremely large volume of data – as manufacturing medical products must adhere to established good manufacturing practice, the guidelines for quality assurance of production processes. "We save the details of every batch, such as the source of the raw materials water and salt," Bömer explains, along with information about the relevant hygiene regulations and staff involved.

Once these data sets have been compiled, they are automatically processed in an electronic batch recording application. "We map the manufacturer's instructions electronically to record all the processes and results fully automatically, transparently and in line with the legal requirements," Bömer explains. Manual manipulation is impossible – and improved safety is guaranteed. By being able to trace every single batch right back to the individual ingredients, B. Braun meets the strict requirements that doctors, patients and legislators place on the pharmaceutical industry. ▶

COMPACT DATA SAFE FOR HIGH IT OUTAGE PROTECTION

It might sound straightforward, but this caused B. Braun an unexpected problem to start with. “As more and more IT moves into our production environment, we need a quickly applicable solution for a powerful IT landscape,” says Werner Mielenbrink, Head of Media Supply at B. Braun Avitum AG’s Glandorf site. Yet the existing data center at the company’s headquarters in Melsungen was too far removed from the actual B. Braun production site in Glandorf. “The relatively high latency meant the time taken for data transfer would have hampered smooth production processes,” Mielenbrink explains. “After lengthy consideration, this led us to opt for a decentralised on-site solution.”

B. Braun initially calculated that six server enclosures would serve this purpose. However, the simple solution they envisaged at the start did not meet the required standards for physical protection. This was because the former archive for paper documents that was to be transformed into the data center did not offer adequate protection against hazards such as theft, dust, corrosive gases, fire and fire-extinguishing water.

This is where the Micro Data Center from Rittal came into play, a kind of data safe for IT systems, which B. Braun is already using at its Radeberg site in Saxony. “There, we had been able to see for ourselves in advance how Rittal’s solution is not only flexible but also outage-proof and quickly set up without the need for major construction work,” Mielenbrink says. Integrated into a protective enclosure, the Micro Data Center can be used to operate the server, storage or network – at up to resistance class four. Equipped with modular surveillance systems, climate control solutions, a fire detection and extinguishing system and intelligent power distribution, the enclosure provides a complete security zone around the server racks. “This high safety standard convinced us that the Micro Data Center would meet our requirements,” he points out.

To shore up its security, B. Braun decided to install a redundant IT landscape in Glandorf consisting of IT racks, cooling, power distribution, monitoring and fire protection. Set up side-by-side and linked together, the installations effectively ensure failure resilience and provide the requisite physical protection. “Because the data center is made up of individual modules, we were able to start off by constructing



“Rittal’s Micro Data Center is the perfect safety solution. It enables us to operate a secure and redundant data center without the need for any complicated construction measures.”

Werner Mielenbrink is the Head of Media Supply at B. Braun Avitum AG’s Glandorf site.

one of the network enclosures,” Mielenbrink recalls. IT experts from Rittal simply constructed the Micro Data Center around the IT rack afterwards.

SEAMLESS MONITORING

“This provided us with high availability right from the start,” Mielenbrink says. “This was important to us because our IT systems need to work seamlessly to ensure continuous production.” This is another reason why Mielenbrink’s team monitors all the important parameters for IT operations – such as the door contacts on the IT enclosures, uninterrupted power supply and the temperature and humidity inside the data center – with the aid of the CMC III monitoring solution from Rittal. The DET AC fire detection and extinguishing system, which is also integrated, emits a warning if it detects even the smallest smoke particles in the air so that technicians can react in good time. This means that many causes of fire can be eradicated in advance.

“Rittal’s Micro Data Center is the perfect safety solution to meet our stringent requirements because it enables us to operate a secure and redundant data center without the need for any complicated construction measures. The collaboration between our IT experts and the Rittal technicians has worked extremely well. Good faith and a wealth of professional experience and expertise have helped make our IT modernisation project future-proof,” he continues.

One thing that extends its lifetime so well is B. Braun’s decision to go for a modular, scalable solution in the form of the Micro Data Center. Should the production line need to be expanded at any point and require further IT resources, IT staff can very easily add a further enclosure to the existing three-fold suite. The necessary wiring was already laid during the assembly of the first enclosures. ■

Integrated protection systems

The Rittal Micro Data Center is basically a data safe. The compact data center contains all the relevant equipment and is housed in a protective enclosure. This provides a high level of protection against potential physical threats to IT. The protection concept is suitable for one or – as in the case of B. Braun – more server rack solutions and thus perfectly suits the requirements of SMEs.



THE DATA SAFE

Its stable enclosure and door protect the technology against vandalism, fire-extinguishing water, unauthorised access, dust, fire, corrosive gases and theft.



HEAT DETECTORS The CMC III temperature sensor monitors the ambient temperature in the enclosure. Its plug & play format makes it faster to install and ensures it is recognised automatically.



NO ACCESS

The electronic key combination lock prevents unauthorised access to the IT infrastructure inside the protective enclosure.

Series-produced customisations

Engineering. A uniform data base using Eplan enables special systems engineering company 3CON to work faster and more efficiently – saving the company up to four days per order. This gains 3CON an important competitive advantage in the demanding automobile sector.

Text: Rebecca Lorenz

Nowadays, special machinery manufacturers are expected to construct a one-off machine as quickly and efficiently as one off the shelf,” explains Thomas Neuschwendter, an electrical designer at 3CON. Considering that 3CON’s customers are manufacturers and suppliers in the extremely efficiency-driven automotive market, the argument that this is basically impossible by definition cuts no ice. “Since every system is a one-off, most of the time is taken up with planning and design.”

A further challenge lies in the different international standards. “We used to sell our systems only in Europe, which meant there were no problems,” Neuschwendter says. “But since we started exporting our systems to the United States and Mexico, we have had to meet entirely new requirements for the appropriate certification.” It is therefore no wonder that the existing ECAD software at 3CON was quickly pushed to its limits following this international expansion. “It soon became clear that we needed a new solution – and because some customers already required the plans in Eplan format, I was familiar with the capabilities of this software.”

DATABASE SEALS THE DEAL

The greatest advantage in the eyes of Neuschwendter and his team is the seamless data provision. After all, expertise from a

number of different areas is pooled into 3CON’s systems – for example electrical engineering, pneumatics, robotics and heating engineering. “Before, we would have used partial solutions and thus had to take interfaces within the system into account,” Neuschwendter explains. “But using Eplan Electric P8, Eplan Fluid and Eplan Pro Panel allows us to work with a uniform database throughout.”

This accelerated work processes at 3CON. “A project that would have needed a week to complete with our previous software now takes us two to three days,” Neuschwendter says. This creates the best possible basis for boosting the global market leader’s competitiveness. However, meticulous preparations were required to seriously ramp up efficiency. “First, we trained our engineering staff how to use the new software,” Neuschwendter recalls. After that, they configured their first system.

EXEMPLARY PLANNING

“We made a conscious decision to configure the first Eplan-based system with every conceivable option,” Neuschwendter says. “This provides us with a virtual 150-percent system that we use as a template whenever we like.” In practical terms, this means that staff simply deselect superfluous parts in each new order they process. Any changes are incorporated fully automatically into the part-plans, such as for switching or terminals. There is no longer any need for a countercheck.

But the company would like to continue to cut down its employees’ workload in future: “The software from Eplan enables us to automatically create central documents such as circuit diagrams, assembly drawings and diagrams,” he explains. “This allows us to spend much more time working on innovations, which generates considerable added value for the company.” ■

1 INCOMING CUSTOMER ORDER

The clock starts as soon as 3CON receives the order. It must not take significantly longer to deliver a special system than it would for an off-the-shelf product.

2 CHECKING REQUIREMENTS

As every system has to meet different requirements, 3CON analyses the customer's needs precisely.

3 SYSTEM DESIGN

The designers at 3CON work in a similar fashion to sculptors. From the solid block of stone – in 3CON's case, the "150-percent model" – they chip away only the parts they don't need for the finished work of art – the system. This saves up to four working days of design.

TIME SAVINGS:
4 days

4 SPECIAL CUSTOMISATION

Very particular customer requirements sometimes call for manual customisation of individual parts. For this, 3CON uses the Eplan data portal.

70,000
COMPONENTS FROM
179 MANUFACTURERS
ARE CONTAINED IN
THE EPLAN DATA
PORTAL.

5 SYSTEM MANUFACTURING

The circuit diagrams, assembly drawings and diagrams required for production are drawn from the database. This saves time and makes the process less prone to errors.





Hygiene means responsibility

Food industry. The top priority when manufacturing food is maintaining hygiene standards. To ensure its standards are above and beyond the minimum legal requirements, Huuskes uses Hygienic Design enclosures from Rittal.

Text: Rebecca Lorenz

Mould spores, mouse droppings and cockroach nests – what food safety inspectors found in the production plant of a large German bakery a few years ago was anything but appetising. Unfortunately, shocking hygiene violations like these are not as rare as you might hope. Whether in Germany, the USA or China, new cases are constantly hitting the headlines. As consumer confidence crashes, it is not uncommon for these incidents to end with the company in question closing its doors for good. After all, when it comes to food safety, both the authorities and consumers take matters very seriously.

It is no surprise then that hygiene regulations for the food industry are set out at both international level – as with ISO 22000, Hazard Analysis and Critical Control Points and the Codex Alimentarius – and national level. Keeping track of all these rules and regulations is no easy task, particularly for small and medium-sized business. However, it is not impossible, as Dutch food processor Huuskes has shown.

Established in 1956, the company is one of the leading suppliers of raw, frozen and convenience foods in the Netherlands, employing a workforce of more than 800 and generating 100 million euros in sales. “To make sure we don’t let our customers down, we are always looking to maximise quality and hygiene standards in production,” explains Frank Hagmolen, Head of Technical Services at Huuskes. And what about legal requirements? They are the minimum standard at the company. The company is also implementing the latest guidelines from the European Hygienic Engineering and Design Group (EHEDG), which affect first and foremost the working environment of the processing machinery.

HYGIENIC DESIGN BOOSTS PRODUCT SAFETY

Food production at Huuskes centres on the state-of-the-art machine and plant technology, which is controlled on a largely automated basis with the aid of scanners. Hygienic design – i.e. the engineering of hygiene-compatible machinery, plants, housings and enclosures – is an important factor for product safety in food processing. Dirt must not be allowed to accumulate or remain on surfaces and must be easily removable.

“We would prefer it if all our suppliers could guarantee optimum ease of cleaning for their products,” points out Hagmolen. “Since that isn’t the case, we do everything we can to find the best solutions ourselves.”

FOOD STANDARDS

Triply clean



INCLINED TO HELP

The 30-degree forward slope of the roof ensures liquids flow off and objects can’t be left lying on the enclosure.



SEALED UP TIGHT

The gap-free external silicone seals are easy to replace and eliminate cavities between the enclosure and door.



CONNECTED INTERNALLY

Positioning the hinges inside the sealing zone ensures the outside of the enclosure is especially easy to clean.

That was why he approached Rittal. “We asked our colleagues there to take an unbiased look at our production environment. External feedback is important to us. That’s the only way we can be objective.”

During a detailed inspection, the Rittal experts identified a problem in the production plant. The old plastic enclosures designed to protect the fire extinguishers from humidity and cleaning agents were unfit for purpose. “Due to their surface quality and design features, plastic enclosures work out less hygienic in the long run. Bacteria and dirt can accumulate on the surfaces and in the dead spaces,” explains Freddy van de Kolk, Key Account Manager at Rittal. That is a particular problem for food manufacturers such as Huuskes. Ultimately, customers trust that the products they are supplied with are totally germ free.

FAST, EASY CLEANING THANKS TO STAINLESS STEEL

“Because stainless steel cleans up very well, significantly less cleaning agent and disinfectant needs to be used,” says van de Kolk. Hagmolen has also found the same over recent months: “The Hygienic Design enclosures enable easy and reliable cleaning. That is an important requirement for us, as we simply can’t compromise on hygiene.”

Supplied as standard with gap-free silicone seals, a sloping roof and a captive screw fastener, these stainless steel enclosures satisfy all European standards and guidelines – and also improve safety. After all, stored in their Hygienic Design enclosures, the fire extinguishers in the production plant are always in easy reach, should a fire break out.

For Hagmolen, the fact that Huuskes is certified to ISO 9001 and holds a Skal certificate for the storage and supply of organic products is a testament to the company. “There’s no better proof of quality and hygiene. Ultimately, these certificates show our customers that we meet even the highest standards.”

280

**STEEL IS NOT SIMPLY
STEEL**

Dexion currently has around 280 steel items listed, covering a wide variety of the dimensions and qualities required for manufacturing



Warehouses to measure – partner for purchasing steel

Logistics. Dexion uses thin steel sheets to make extremely stable shelves up to 30 metres high for carrying loads that weigh tons – along with very intricate shelves for small parts for an enormous range of applications. The company presents its steel supplier, Stahlo, with a few challenges with its short delivery times and extraordinarily broad range of materials.

Text: Meinolf Droege

Whether it's a huge roll of newsprint, pipette tips for medical technology, a car's new front windscreen or a roll of fabric for the next fashion collection – fast and efficient turnaround of goods is essential for economic success in almost all sectors. Equally important for high-performance in-house material flow and trade are the customised shelving systems to meet a company's individual needs. This is precisely what Dexion, part of the international Constructor Group, produces in a wide range of permutations using highly automated systems at its headquarters at Laubach in Hesse and other sites. The focus is on shelving for pallet racks, high-load mobile racks and floor racks for different sectors. However different the finished products might look, the key material for the almost inevitably cus-

tomised warehouse and operating facilities is always steel. It produces lean, space-saving and yet highly resilient designs.

“Our customers are heavily involved in logistics. This makes a smooth supply chain and high availability crucial to their success, something all their market partners have to reflect. This is why we demand the same from our suppliers in the steel industry,” says Gerhard Schwager, COO of the Constructor Group. Evi Engert, Head of Supply Management, adds an impressive statistic: “However, steel is not simply steel. We currently have around 280 steel items actively listed to cover a wide variety of the dimensions and qualities required, of which almost half are fast movers.” And this although Dexion now almost exclusively processes strip material and only processes sheets and blanks for niche products.

Thus the movers and shakers at Dexion place weighty demands on their steel supplier of choice. Despite the difficult procurement situation on the steel market right now, often short order lead times and fluctuating margins mean Dexion requires a reliable supply of all qualities. Many products also call for processing more unusual thicknesses of steel. It was Stahlo's persistent high standards and ability to deliver all the required dimensions and qualities quickly that prompted Dexion to choose this supplier as its partner. The expanded anti-dumping measures introduced by European governments in 2016 are one of the main factors that have caused a massive supply problem. Since the tougher penalty duties could also be applied retrospectively to goods already imported, many suppliers held back with their steel imports. The European steel manufacturers' delivery times now stretch beyond 30 weeks with not entirely clear pricing.

“Despite all this, our global procurement structure, extensive in-house stocks and highly customised logistics concepts meant we already managed to deliver almost all of the ordered dimensions quickly during the first few months of our collaboration from mid-2016 onwards,” explains Stahlo's Managing Director, Guido Spenth. He is confident they will be able to fulfil almost 100 per cent of orders by further optimising the logistics between Dexion and Stahlo, despite the considerable challenges they face. “We started with small deliveries, then booked 2,500 metric tons of steel during the first quarter of this year.” And this is increasingly generating further business with Dexion's sister company in Romania, too. ▶

ROLLED INTO SHAPE

Multiple reshaping with tolerances of less than one tenth of a millimetre result in complex profiles, which become the supporting components of various shelving systems. Throughout three shifts, the shiny metal sheets pass directly from the multi-ton coil through different roll-forming systems with integrated test equipment. Dexion's manufacturing centrepiece produces some very intricate-looking yet extremely stable geometric shapes that, when set in the appropriate frames, form the spine of any shelving system. It is hard to believe that such a rigid profile with different sections and dimensions, measuring up to 16 metres long, can be formed simply by precise shaping of relatively soft sheets. If customers want, they can be made even longer – after all, flexibility is a powerful argument to beat off the competition. Having been cut precisely to length, some of these profiles are immediately transferred to a welding line, where they are automatically joined together with support brackets to form beams and other components under the watchful eye of skilled welders. On the neighbouring production line, another fully automated process produces precisely folded-to-size shelves including all the attachment points in various sizes and with different load capacities. Customers are supplied with a giant jigsaw made up of these and many other components, which is then quickly

2.25

MILLIMETRE THICKNESS
is not stocked by all steel suppliers. The kinds of intermediate thicknesses that Dexion uses present a challenge for Stahlo, but one which it overcomes with

and accurately slotted and screwed together on site.

Above all, the different requirements for shelf loads and compartment widths and depths affect the dimensions required for the supporting components. "Although we sell standard products, the dimensions are often highly customised," Schwager says about day-to-day business. A company that stores only DIN-shaped pallets with heavy goods requires different shelf sizes from a plastics processor that handles very large but lightweight bumpers in its warehouse. And if space is tight in the warehouse, the only way is up! To offer competitive solutions in all sectors, Dexion can also supply higher-strength steel and intermediate thicknesses such as 2.25 and 2.75 millimetres, which are not stocked by all steel suppliers. This is where Stahlo has always stood out: "Besides non-standard dimensions, minimum tensile strengths – but above all special yield-to-tensile ratios and also the good weldability of our consistently zinc-plated quality products – play an important role," Guido Spenrath reports.

ONGOING CO-DEVELOPMENT

Dexion has spotted potential to optimise activities in this area. Schwager wants to discuss even more intensively with his designers and materials partner Stahlo how new kinds of steel can be used cost-effectively. The companies' proximity to one an-





“A smooth supply chain and high availability are crucial to success. This is why we demand the same from our suppliers in the steel industry.”

Gerhard Schwager, COO of the Constructor Group, has high demands.

other is not the only factor that helps. Both also consider themselves SMEs and work in straightforward organisational structures. And both are interested in long-term collaboration, as Schwager, Engert and Spenrath all agree. This ensures a relaxed atmosphere, even where they have different interests. “Our discussions have already revealed several new pieces to the puzzle that we will work on together to shape the whole picture,” Schwager reveals. Standardisations of dimensions that might make good sense and optimising logistics between the steel manufacturer and roll-forming system have been two interesting topics during their face-to-face talks.

As Dexion only stocks material in its own store to last three, maybe four, weeks on average, reliable delivery of the raw material is always a key issue – at competitive prices, of course. In the past few years, Stahlo has secured some very good procurement options based on a wide range of sources. Stahlo’s purchasers regularly travel to different countries. They already visited China and Korea, which are not affected by the anti-dumping measures, some years ago. And they recently scouted for new sources in Brazil and Mexico. “We purchase worldwide and can secure material. We supply the right solutions, which we implement hand-in-hand with our customers,” Spenrath reveals about their purchasing strategy. Thanks to our multi-sourcing

SHELVING PROFESSIONALS

Dexion GmbH

Founded in 1956, the company has 220 employees and is now a member of the Constructor Group, a technology and market leader in European warehouse logistics. It was Demitrios Comino's original idea of using an angle section with a pitch pattern of holes to make the first shelving system and methodical expansion of this principle that set the ball rolling. He called his company Dexion from the Greek term for “right”.

and own stocks, Stahlo can generally even find a quick solution for urgent needs resulting from other suppliers’ shortages or for special kinds of steel.

Planning and constructing storage facilities are not the kind of things companies do every day. Nonetheless, customers also order specially configured systems from Dexion with noticeably decreasing delivery times. The company accommodates this and consistently adapts its own procurement and production logistics accordingly. Stahlo is a partner that will continue to keep a handle on costs and deadlines in future – to ensure that the Amazons, IKEAs and the local DIY stores of this world never run out of space to store all their stock. ■

Quite a healthy result

Foundation. The Rittal Foundation is now six years old. Its successes so far provide motivation for the years ahead.

Text: Elena Berhausen



Some 650,000 euros, 150 projects and countless individual happy memories have been notched up during the Rittal Foundation's first six years. Welfare, education and culture are the three pillars of the foundation, which has been supporting social projects based near the Friedhelm Loh Group's German sites since 2011. As the region's largest employer, the company bears a responsibility towards members of its local community. "The focus on projects close by to the company's sites underlines our solidarity with local people and our commitment to shaping and improving the society in which we live," explains Friedemann Hensgen, the Chair of the Board of the Rittal Foundation. Last year, a tombola to mark the fifth anniversary raised around 30,000 euros. "This clearly demonstrates that the Friedhelm Loh Group's employees back this good cause," says Dr Friedhelm Loh, who launched the foundation five years ago to mark the 50th anniversary of Rittal. He continues: "It is my sincere wish that disadvantaged individuals see that we think about them and are committed to improving their lives. We want and shall continue to do this in future as well."



3 pillars form the basis for the work of the Rittal Foundation. Besides welfare and education projects, culture is also promoted.



Rittal Foundation

6 years of the Rittal Foundation. It was set up in 2011 to mark Rittal's 50th anniversary. Celebrations included a tombola that raised almost 30,000 euros for this good cause.



5 million euros was the sum donated to launch the foundation by Dr Friedhelm Loh, owner and CEO of the Friedhelm Loh Group.



650,000 euros has already been distributed between the different German sites of the Friedhelm Loh Group by the Rittal Foundation.

150 charitable projects have already benefited from the Rittal Foundation's assistance.

SUCCESS STORIES

- 1 The "HIPPIY" program, co-funded by the Rittal Foundation, improves child migrants' language development.
- 2 The Rittal Foundation supports "Jumpers" in its efforts to help disadvantaged children in Gera.
- 3 Rittal shares the experience it has gained in the "Training refugees" pilot project with other companies.
- 4 People attending the benefit concert in the Rittal Arena in Wetzlar built "bridges from person to person".
- 5 Employees worked extremely hard to make the Otfried Preussler School's grounds accessible for the disabled.

“I have noticed that my mentors feel confident I won’t relapse. I am no longer afraid of this either.”



New start for a second chance

Life guidance. Robi Brömel needed a helping hand in life to start over again. “NEUSTART” offered just that. The association helps young people who, through addiction or crime, have lost faith in themselves and lost touch with society. The Rittal Foundation has supported the association for years.

Text: Elena Berhausen

If you continue this way, you will not be around in six months’ time,” a doctor informed Robi Brömel one morning in hospital. The night before, he had overdosed for the third time in quick succession on a cocktail of drugs. These days, the 22 year-old talks openly about how things spiralled out of control. “At the time, after starting my apprenticeship as a car mechanic near Freiburg, I had fallen in with people who already did drugs. They smoked joints, and I was curious, so I tried cannabis, quickly followed by speed and cocaine, and eventually ecstasy and LSD, too.”

“NEUSTART” (“NEW START”) was his last chance. The re-socialisation project with the programmatic title took him in and not only gave him a chance but also a perspective. With support from the Rittal Foundation, NEUSTART helps young people who have had a brush with the law find their way back to a useful life. The foundation has just donated 5,000 euros towards adding a café and a common room to the existing farm complex.

For 27 years, this welfare centre in Breitscheid has been somewhere for young men to go who have fallen off the rails, want to get back on track and need help starting over. It was set up by the local congregation of Free Protestants. These days, the association has around 100 volunteers who visit prisoners in the region, run sheltered accommodation for young people at risk and do a whole lot more besides to help them change their ways and regain the faith society has lost in them.

AFTER HITTING ROCK BOTTOM, THE ONLY WAY IS UP

Robi Brömel cannot recall much from his bad times – thank goodness! But the narcotics have also erased many of his childhood memories. This saddens the young man. “I can still precisely recall the realisation that hit me in hospital that I would have to stop if I wanted to live,” he says gravely.

Robi sought help and made a conscious decision – on his parents’ advice – to find a Christian organisation before looking at NEUSTART in Breitscheid, among others, together with his counsellor. “The place was so calm and beautiful that I immediately opted for Breitscheid. When I saw the farm, it was love at first sight,” he smiles. After completing detox, Robi arrived there in March 2014 to make a fresh start in the rural idyll set in the heart of Hesse. ▶



LOW RELAPSE RATES

“Not everyone who comes to us stays. We are an addictive-substance-free zone – no alcohol or nicotine, access to media is rationed in stages, and there’s no outside contact for the first three months. This puts a lot of people off,” says Arne Thielmann (50), the Director of NEUSTART. But of those who stay the course he can say: Around 50 per cent have stayed on track, started a family and found a new job. The relapse rate for drug addicts at state-run institutions is far higher. “I believe this is because treatment at most institutions is limited to one year. For most people, this is simply not enough time to fill the vacuum created by coming off drugs,” Thielmann says.

In contrast, at NEUSTART no one has to leave after a year. The “lads”, as Thielmann calls the five young men aged between 15 and 23 years old who currently live on the farm, can stay as long as they and their

1

PLEASURE

Working with the llamas makes a welcome change from all the carpentry.

2

CONSISTENCY

Social worker Thomas Landgraf helps Robi make a fresh start in life.

3

MOTIVATION

Making things with their own hands as apprentice carpenters gives them self-confidence.

counsellors feel is beneficial. They generally take four to five years. During this time, they try to do more than overcome their addiction. They also learn to completely overhaul their life. This allows them to gradually adopt new structures, work or embark upon a new apprenticeship in the farm’s carpentry workshop, where they produce wooden pallets and packaging and supply them to customers within a 100-kilometre radius – including the Friedhelm Loh Group. “We’ve been an A-grade supplier for Rittal for 20 years because we do a good job. We have established a relationship of trust over many years,” Thielmann explains.

He says long-term, all-round assistance, placing faith in the men and consciously emulating the Christian role model are the most important ingredients for NEUSTART’s success. “We share our lives with these lads, who are often broken souls and can’t even manage the most rudimentary daily tasks. This calls for a great deal of patience, homely surroundings and com-

plete dedication.” However professional they might be, those in charge hope that NEUSTART can avoid being turned into a formal-style institution for as long as possible, as they have every faith in the vitality of this lively community with its family-style framework.

DETOX IS NOT ENOUGH ON ITS OWN

The workshop smells of freshly cut wood shavings. Robi is keenly focused on the milling task at hand. He has been clean for more than three years. He is training to become a carpenter and has already passed the stage-one exams. He also now has a girlfriend. “The first six months or so were unbelievably tough. The detox made my body ache all over and I was very weak and spent a lot of time sleeping,” he recalls. He had no contact with his parents and was not even allowed to attend his grandmother’s funeral. During the first year, like all new arrivals, he underwent occupational rehabilitation at NEUSTART. “It was a challenge to last for eight hours back then. But I noticed that I was managing after half a year,” he says.

Social worker Thomas Landgraf, who has mentored Robi at NEUSTART from day one, knows how important it is to get addiction-prone young people into employment. “It restores their self-confidence to learn that they can make things with their own hands. This motivates them to assume responsibility and forge relationships with others. In turn, this puts them on a good footing for developing career prospects and restoring society’s faith in them.” Thielmann then adds: “It’s not enough to take the drugs away from them. They need something to give them a new meaning in life, new self-esteem and faith in their abilities.”

The association has invested a great deal to help this happen, to make the farm complex more appealing and to encourage interaction with other young locals. The five-hectare plot was gradually enriched with a llama paddock, a scout hut, a football pitch/golfing range, a lovingly decorated farm café and various other amenities. The 5,000-euro donation towards adding a café and a common room with kitchen to the farm has just provided an extra form of support. “We are very grateful that we can rely on the long-term support of the Rittal Foundation and employees of the Friedhelm Loh Group,” Thielmann says. “Without this assistance, a lot of what we do would not be possible.” The team at NEUSTART can still vividly recall the occasion four years ago when 70 volunteers from the Friedhelm Loh

“It’s not enough to take the drugs away from them. They need something to give them a new meaning in life, new self-esteem and faith in their abilities.”



Arne Thielmann is the director of the NEUSTART welfare centre in Breitscheid, which helps young people with criminal records or addiction problems get back on their feet. The aim is to help them achieve as much independence as possible so they can cope in mainstream society.

Group turned up out of the blue to restore a derelict fence and lay a hard road surface at the entrance.

Friedemann Hensgen, the Chair of the Board of the Rittal Foundation, believes it makes perfect sense for a family-run business such as Rittal to nurture a particularly long and close relationship with NEUSTART. “NEUSTART and the Rittal Foundation both pursue the same aim of opening up new avenues and prospects for people who have been marginalised in our society. We have been particularly impressed by the unstinting commitment the staff show to this good cause. Thus the Rittal Foundation is happy to match this by sponsoring various NEUSTART projects,” Hensgen explains.

Robi is also conscious of a long-term change: “I have noticed that the supervisors are slowly giving me more independence and trusting me not to go downhill again. I am not afraid of doing that either.” Robi hopes his experience will deter other children and young people from experimenting with drugs, which is why he accompanies Landgraf to neighbouring schools to tell pupils his story and answer questions. He aims to fully qualify as a carpenter next year. “I have put my life in order. NEUSTART helped me a lot, showed faith in me and taught me self-respect. It’s not possible without this kind of support.” ■



Supporters welcome!

NEUSTART is funded almost exclusively by donations and income from leases and rent. Would you like to lend a hand? All the relevant contact details can be found at:

neustart-breitscheid.de/spenden,
rittal-foundation.de (German only)



Healing powers

People who believe in a medicine's power to heal will get better more quickly – whether it has a genuine active ingredient or is just a placebo. This effect harbours massive potential for medicine by activating the body's own self-healing powers, which have been demonstrated to account for as much as 80 per cent of certain treatments' success.

You have reached your destination! Or maybe not?

The small prefix "la" is all that separates the French place names Plagne from La Plagne in satnav systems. It's a small difference but a long detour. When a coach driver entered the wrong version and then blindly followed the satnav's directions, he ended up taking his group of holidaymakers to the Alps instead of the Mediterranean – some 600 kilometres away.



Your PIN is 120 over 80

Forgotten your password? No big deal – at least not in the future. If the banks have anything to do with it, we will soon be switching to biometric security technology. The British bank Barclays has developed a very special method using blood pressure. It seems that variations in people's blood pressure in their fingers can help identify customers. This should make online banking more secure than ever before.

Complete trust

Trust is a key feature in secure data exchange. Our everyday lives offer examples of the healing power of blind faith – or how it can lead us astray.



A question of genes

Can I trust this person? This evaluation forms a key part of our first impression. Researchers at Harvard University have now discovered that some people have a genetic advantage when it comes to looking trustworthy. They possess a certain oxytocin receptor that makes their body language more open. This means they are systematically judged to be more trustworthy by other people.



Blind faith

For their owners, they are both indispensable aids and faithful companions – guide dogs. The owner and dog need to literally have blind faith in one another. This requires special training, in which the dog learns "intelligent disobedience". The dog should be able to recognise hazardous situations of its own accord, in which case it then overrides its owner's commands for their own safety.

Everything that glitters is not gold

In the 1920s, the chemist Franz Tausend claimed he could turn lead into gold and won over many rich sponsors with his charm, including Kaiser Wilhelm II. When the scam was exposed, he was sentenced to four years' in jail – and those he had duped became laughing stocks.

ISSUE 02 | 2017

See you soon!

Norwegian Joy – built by the Meyer Werft shipyard in Papenburg, Germany – is the world's fourth-largest passenger ship. Here, up to 4,000 passengers expect to be looked after around the clock. Among other things, this calls for high-performance IT solutions. Rittal used its expertise to provide support for the shipbuilding process, producing on-board data centres that continue to ensure high availability and fail-safe operation in the face of rough seas, fluctuating humidity and pounding diesel engines.

FIND OUT MORE IN THE NEXT ISSUE OF BE TOP.



PUBLICATION DETAILS

BE TOP

Magazine of the Friedhelm Loh Group
Issue 01 | 2017
ISSN 2195-3198

PUBLISHER

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

RESPONSIBLE EDITOR

Regina Wiechens-Schwake

EDITOR-IN-CHIEF AND COORDINATION

Christian Abels, Hans-Robert Koch,
Patricia Späth, Peter Sting

REALISATION AND DESIGN

muehlhausmoers corporate
communications gmbh
Moltkestrasse 123–131
50674 Cologne, Germany
Phone +49 (0) 221 951533-0
E-mail: info@muehlhausmoers.com
www.muehlhausmoers.com

EDITORIAL STAFF

Cornelia Baddack, Henrike Dörr, Joscha Duhme, Rebecca Lorenz, Elke Weidenstrass (editing of the German edition),
English translation: Linguatext Ltd.; **Consultation/copy-editing:** Martin Planer

AUTHORS

Elena Berhausen, Meinolf Droege, Joscha Duhme,
Ulrich Kläsener, Rebecca Lorenz, Martina Pump, Tino Scholz

ART DIRECTION

Anja Hamann, Conrad Wegener

IMAGE EDITING

Jan Steinhauer, Anna Thoma

GRAPHICS AND PRODUCTION

Katrin Kemmerling, Michael Konrad

PRINT AND LITHOGRAPHY

Wilhelm Becker Grafischer Betrieb e. K.,
Haiger, Germany; purpur GmbH, Cologne, Germany

PHOTO CREDITS

Page 1: Getty Images/samxmg (cloud), Getty Images/Seth Joel (face); page 3: F.L.G.; page 4: Getty Images/Richard Newstead (left); Max Kulich (right); page 5: Michael Koch (all); pages 6–7: Fabrice Coffrini/staff/Getty Images; pages 8–9: Benedict Redgrove; pages 10–11: iStock (flags, Mexico), plainpicture/

Clara Ritz (bucket-wheel excavator), Grundfos (piping); page 13: Getty Images/Richard Newstead; pages 14–18: Valéry Kloubert; pages 21–22: Fritz Beck; page 24: Michael Koch; page 25: shutterstock (monitor); F.L.G. (screenshot, top right, bottom left, bottom right); Open Compute Project (bottom centre); pages 26–27: Nils May; page 28: Nils May (top), F.L.G.; page 29: F.L.G. (top), Lefdal Mine Datacenter; page 30: Michael Koch; pages 31–33: Max Kulich; pages 34–35: Petter Saetremyr; page 36: Petter Saetremyr, Lefdal Mine Datacenter (illustration); page 37: Vidar Furnes (top left and bottom), Petter Saetremyr (right); page 38: Vidar Furnes; page 39: Vidar Furnes (left), Petter Saetremyr (top right); page 41: iStock; pages 42–45: Nils May; pages 46–47: F.L.G.; pages 48–49: F.L.G. (enclosures), Michael Koch; page 50: Michael Koch; page 51: F.L.G.; pages 52–53: plainpicture/fStop/Sven Hagolani; pages 54–55: Ford of Europe GmbH; page 56: Ford of Europe GmbH (top right), F.L.G. (2x); page 57: F.L.G.; page 58: Derek Brahney; pages 60–63: Michael Koch; page 65: stocksy; page 66: shutterstock; page 67: F.L.G.; pages 68–71: Michael Koch; page 72: Michael Koch (top); Ralf Triesch (bottom left); F.L.G. (bottom right); page 73: Michael Koch (top left and right), F.L.G. (bottom); pages 74–77: Michael Koch; page 78: Getty Images/Yuri Nunes/EyeEm (drugs), Getty Images/H. Armstrong Roberts/ClassicStock (men), shutterstock (PIN), iStock (guide dog); page 79: Arno Redenius

© Friedhelm Loh Group 2017, ISSN 2195-3198



FRIEDHELM
LOH
GROUP

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

www.friedhelm-loh-group.com

