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DC Mag

Magazine of the Data Center Group



High Performance

Strong commitment for great performance



New major projects

DCG with new promising projects continues to grow!



Sustainability

What potential does digitalization hold for the green transformation?



High Performance

What are the requirements for HPC infrastructures?

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Strong commitment for great performance

Dear readers,
dear employees,
dear friends of our company,

if you stick together, you can master any crisis. This strong statement was already mentioned in our first DC Mag in 2022. Although the COVID-19 crisis is slowly subsiding, the war situation in Ukraine has brought us new challenges in terms of delivery delays and rising energy prices. However, thanks to forward planning, teamwork at all levels and strong partners, we are able to celebrate great project successes and continue to grow at all levels. Many projects are already being planned or implemented and we have been able to constantly expand our team. Thus, we continue to grow with many new employees. With their qualification and expertise, our new team members help us grow and develop.

All these successes are largely due to the trustful cooperation with our customers and partners but most of all to the strong teamwork of all DCG employees.

Our projects are as individual as our customers, but from now on we can support our customers with our full service portfolio for their data center project - from consulting to planning, from building the data center with the appropriate products, to maintenance and operations - all under one roof.

This issue of our magazine is all about "High Performance". On the one hand, this stands for the field of high-performance computing, which is becoming increasingly important for many of our customers. In our interview with a specialist in this field, you can find out more about the special features and areas of application of high performance computing (HPC). Furthermore, in one of our reference reports, you will learn details about our HPC container data center, which we were allowed to realize for the Otto von Guericke University in Magdeburg.

On the other hand, the title "High Performance" also refers to the strong performance of our partners and our team as well as the high quality and performance of our solutions. For example, we are currently reporting on a number of major projects that were initiated and planned last year. Among other things, Data Center Group is implementing a data center for a high-performance cluster in the research department of the Johannes Gutenberg University in Mainz. The DCG team is also performing at a high level in Heidelberg: The groundbreaking ceremony for the new data center for the Heidelberg Innovation Park (hip) already took place at the end of last year, and planning for a new sustainable, efficient and highly secure data center in Bad Vilbel is also in full swing.

That's why it was also time for the modernization of our strong brand, which does justice to the quality and performance standards of the Data Center Group. The group with its six different business units has been unified, visually refreshed and optimized for a digital and flexible presentation, which you can see on our new website: www.datacenter-group.com.

In addition, DC Mag also offers insights into the internals of the Data Center Group: we provide glimpses of last year's festivities as well as our Kick-off 2023. In other articles and interviews, you will also learn more about our innovations in the area of research and innovation: new projects and collaborations that prepare us and our customers for the future.

For this future we wish our customers and partners as well as all our employees all the best and we are confident that we can shape it positively together. Last but not least, we would like to thank everyone for the good and trusting cooperation!



Ralf Siefen
CEO - General Manager

Dr. Ferdinand Höfer
CFO - General Manager



The team of the Data Center Group gathered on 27.01.2023 in the Betzdorf town hall to kick off the year.



The next stage is ignited

Kick-off event for the entire Data Center Group to launch the year was a great success

■ "We are still on the road to success and have ignited the next stage," says Ralf Siefen, Managing Director of the Data Center Group (DCG), proudly about the performance of the entire group.

Almost all of the approximately 200 DCG employees took part in the annual kick-off event in the Betzdorf town hall in January 2023. The event already has a long tradition, but had to move to the digital space for 3 years due to COVID-19. All the more everyone was happy that they could come together again in person for the annual kick-off event. A nice occasion to gather the whole team, which is not only working at the headquarters in Wallmenroth. The employees of the Berlin office and the colleagues who are normally on

the road all over Germany at the customer's site traveled to the event. And it was worth it: Numerous speakers from our own ranks and an external guest speaker ensured a varied and entertaining program. Several coffee breaks as well as lunch and finger food in the evening were provided with the support of the Stadthalle team, so there was also enough time for networking and communication exchange among colleagues.

The event was opened by the two managing directors Ralf Siefen (CEO) and Dr. Ferdinand Höfer (CFO). Siefen looked with pride at the positive development of the company in the last 18 years and motivated the team with the outlook for some big new projects in the coming years.



Ralf Siefen, CEO of the Data Center Group is proud of the performance of the entire group and looks positively into the future.



Prof. Dr. Patrick Glauner, AI expert from TH Deggendorf, spoke about opportunities and risks of artificial intelligence.

As early as the end of 2022, DCG reported on the major project that started on the renowned campus in Heidelberg and about the planning of the new state-of-the-art and energy-efficient data centers for the Johannes Gutenberg University in Mainz and in Bad Vilbel. In addition, there are other interesting and large projects in the pipeline, which we will report on shortly.

Various internal speakers from the departments marketing, sales, human resources, project and offer management, as well as consulting presented news and information on strategy, measures, results, and goals. Chief Financial Officer Höfer also presented the good business results of 2022 and the positive forecast for the current fiscal year. The event was enriched at halftime with a presentation by AI expert Prof. Dr. Glauner. The professor for artificial intelligence at the TH Deggendorf has advised the parliaments of Germany, France and Luxembourg on the topic and is regularly quoted as an expert. He showed in an entertaining and informative way opportunities and risks that artificial intelligence offers and what impact this will have on economy and society, as well as on the IT infrastructures of the future.

He argues that with increasing use of AI in industry and business, jobs will not be lost, but new opportunities will be created. DCG also has more and more attractive jobs to offer in the region due to the positive development of the company and the growth trend continues to increase.

Siefen summed up: "It is impressive what I have heard here today: DCG is in a great position and every department can point to great successes. It was clear today that teamwork is the most important thing: Together we are strong! All DCG employees work every day for maximum added value for our customers. With our strong portfolio, we are unique in the market and we can all be very proud of that." CFO Höfer adds, "This was my first personal DCG kick-off event. I experienced an impressive event and take away many positive impressions of a strong team."

New look - familiar quality

The new corporate design reflects the aspirations and achievements of the Data Center Group and highlights the group's strong growth

The Data Center Group looks back on its history of almost 20 years. Now it was time for a visual modernization of a strong brand that expresses our company and our values more clearly. The Data Center Group not only stands for the highest quality, but for a mission: future-proof and efficient IT infrastructures for sustainable digitalization.

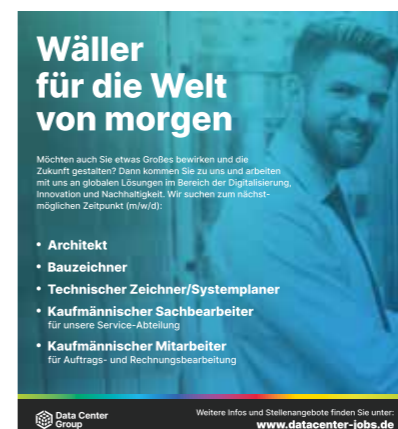
Our corporate design has been given a new look - fresher, more digital and more flexible. Above all, our new website meets the latest technical standards and is designed interactive and user-friendly. Here you will find all important information perfectly tailored to your needs -

no matter which industry you belong to or how big your company is. You will find references, news and all comprehensive information about our products and services for all industries. Feel free take a look: www.datacenter-group.com/en/

This new image does not cause a change in the quality of our services, but marks the beginning of the next chapter in our success story: Founded in 2005 as ProRZ Rechenzentrumsbau GmbH, several further milestones followed in the next few years with the establishment of additional business units for consulting, services, planning, products and operations. For several years now, the group has encompassed the entire portfolio of sustainable, future-proof and highly secure data centers and IT infrastructures.

The fact that Data Center Group unites the entire value chain under one roof is to be made clear with the new logo and the standardization of the naming of the different business units. In this way, we visualize our value proposition for you: We combine all expertise for your project - the high availability, security and cost-effectiveness of your IT. The entire implementation of complex projects is performed without frictional losses at the fastest possible processing speed.

Visit our new interactive website:



New and fresh ad motifs for various communication purposes.

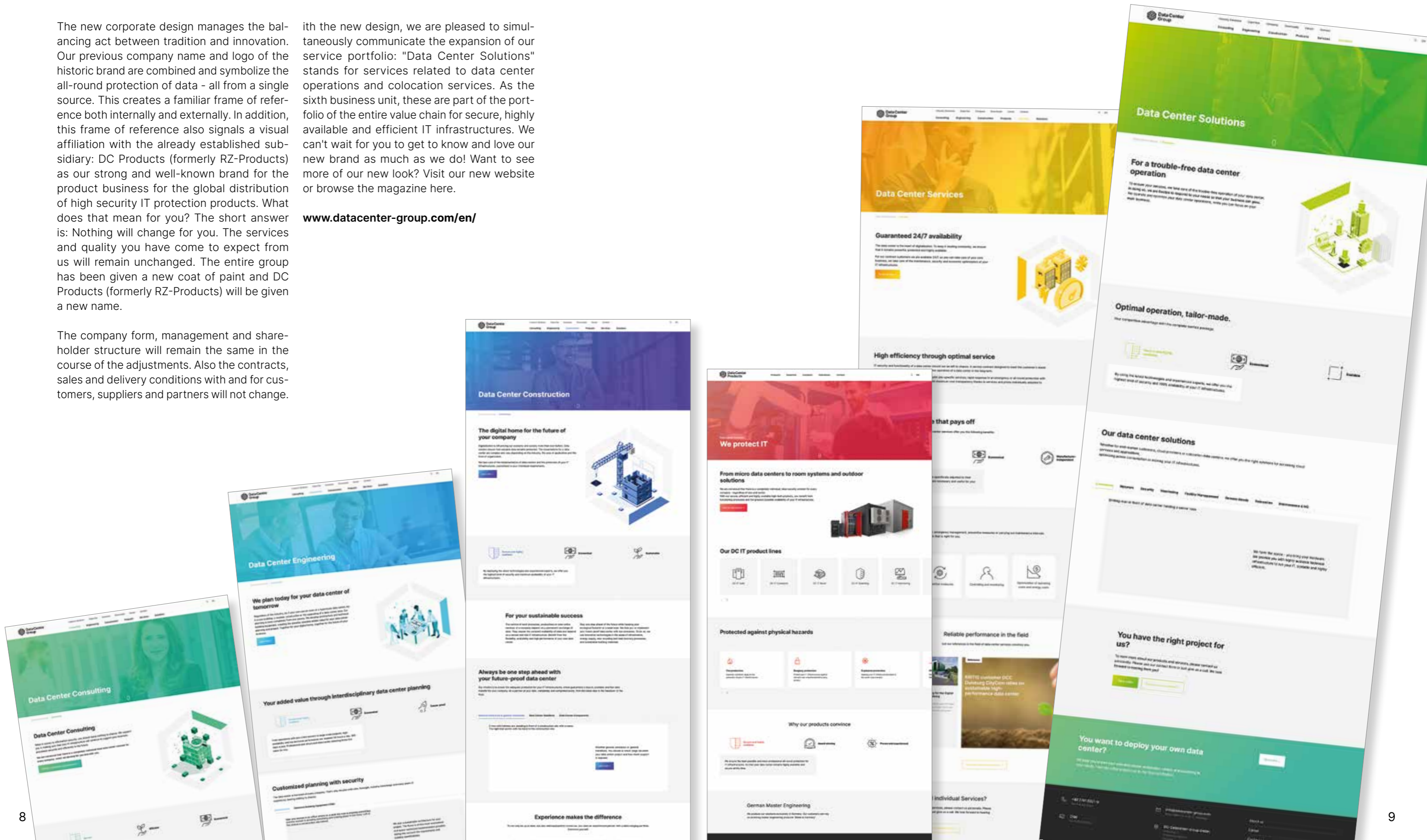


The new corporate design manages the balancing act between tradition and innovation. Our previous company name and logo of the historic brand are combined and symbolize the all-round protection of data - all from a single source. This creates a familiar frame of reference both internally and externally. In addition, this frame of reference also signals a visual affiliation with the already established subsidiary: DC Products (formerly RZ-Products) as our strong and well-known brand for the product business for the global distribution of high security IT protection products. What does that mean for you? The short answer is: Nothing will change for you. The services and quality you have come to expect from us will remain unchanged. The entire group has been given a new coat of paint and DC Products (formerly RZ-Products) will be given a new name.

With the new design, we are pleased to simultaneously communicate the expansion of our service portfolio: "Data Center Solutions" stands for services related to data center operations and colocation services. As the sixth business unit, these are part of the portfolio of the entire value chain for secure, highly available and efficient IT infrastructures. We can't wait for you to get to know and love our new brand as much as we do! Want to see more of our new look? Visit our new website or browse the magazine here.

www.datacenter-group.com/en/

The company form, management and shareholder structure will remain the same in the course of the adjustments. Also the contracts, sales and delivery conditions with and for customers, suppliers and partners will not change.



New data centers for the digital future

Whether it's video streaming, online gaming, remote work, education and research, or smart manufacturing - digitalization is experiencing an unstoppable push and development is not stopping. To keep everything running smoothly, all these applications need highly available and secure data centers. For just such necessary data centers, the Data Center Group (DCG) won several major projects at the end of 2022, which we would like to present here.

With more than 100 institutes and clinics, Johannes Gutenberg University Mainz (JGU) is one of the largest and most diverse universities in Germany. JGU is the only German university of its size to house almost all of its institutes on a campus close to the city center. A new building for the university computer center is to be constructed on this campus. This is necessitated by JGU's application to the "Nationales Hochleistungsrechenzentrum (NHR, national High Performance Data Center)" tender. In addition, the general renovation of the current location of the Center for Data Processing (ZDV) in the building is pending, which can only take place after the current computing center has been relocated. The Data Center Group won this contract in October 2022 and will implement and hand over the new data center as general contractor in 2023 and 2024. That means being responsible for planning and construction. "This is a data center project for a renowned customer - the

elite university in Mainz - which we will hand over on a turnkey basis," says Ralf Siefen, CEO of Data Center Group (DCG). The planned compact building, with a prominent location at the campus entrance, is to be realized as a high-quality and modern structure that at the same time integrates smoothly into the existing complex. Due to a surrounding curtain wall and screen cover for the external air-conditioning system, the building also visually gives a high quality appearance. The building presents a forward-looking image not only in terms of design but also in terms of ecological sustainability: extensive roof greening serves to reduce the CO₂ content and the ambient temperature in summer. With a power usage effectiveness (PUE) of 1.08, the data center is at the forefront of energy-efficient data centers. "This is really something special," Siefen emphasizes, highlighting "that we are a Rhineland-Palatinate company building for another Rhineland-Palatinate company."

High-performance computing center for Johannes Gutenberg University Mainz





Energetically future-oriented Data Center for Bad Vilbel

Such a data center is to be built in Bad Vilbel, Massenheim, north of Frankfurt/Main. The location in the Main region was not chosen by chance, as one of the largest Internet nodes in the world, DE-CIX, is only a few kilometers away. In October 2022, the building application for this data center was submitted, which DCG will implement as the project manager. The project is the new construction of a modern, modular, sustainable and also energetically future-oriented data center building. "Environmental sustainability plays a significant role in this major project," says Ralf Siefen, CEO of DCG. "We take this into account at a wide variety of points in the planning of the highly available and energy-efficient data

center" he continues. For example, the data center is powered by green electricity from renewable sources. Parts of the roof and the walls on the south and west side will be equipped with photovoltaic systems. This additionally reduces the amount of electricity purchased. These are effective measures for reducing greenhouse gas emissions significantly in the long term. The building is harmonized with the urban planning and green roof and facade are planned. These have an insulating and protective effect against UV rays, hail, strong temperature fluctuations, pollutants and dirt. Increased sound insulation due to good absorption by the vegetation is also guaranteed.

For an environmentally friendly use of resources, the extraction of heat for an external heat consumer is to be implemented. For this purpose, an interface for heat recovery will be implemented. The planned large-scale thermal spa in the city or new development areas in Massenheim that are connected to the district heating network could be potential customers for the waste heat from the data center. A large proportion of energy consumption in data centers is for air conditioning. Therefore, the use of coolers is planned. This ensures the highest possible proportion of indirect free cooling and thus guarantees a high efficiency of the refrigeration system. The large-scale project will consist of a main building with an annexe and will be equipped

with appropriate protection measures and the latest technology to ensure maximum physical security and availability of data. An office wing will also provide accommodation for a total of 30 newly planned permanent workstations. "We are proud to be able to plan this forward-looking project as a project partner. With it, we are setting new standards for industry," explains Ralf Siefen. The state-of-the-art data center is to be realized in Massenheim's Zeppelinstrasse on a total of 10,000 square meters. The Data Center Group is the developer, planner and implementer of the project. Work will start in 2023. 1.5 years are planned from the start of construction to the implementation of the complex shell including the expansion of the first construction phase.



Green Data Center for the Heidelberg Innovation Park

Heidelberg is a renowned location for cutting-edge research, startups and international companies. A hotspot for innovations in the fields of IT, AI, digital and life sciences is being created here: the Heidelberg Innovation Park, or the hip for short.

On the almost 15-hectare site of the former Patton Barracks, a place is growing in Heidelberg where ideas will be generated and creative minds will work on solutions and products for the digital future. The fact that a data center is to be built on the site has been part of the basic planning from the very beginning, because the demand for high-security IT data center space for companies in Heidelberg and the surrounding area is extremely high. "The new green data center offers an attractive and innovative portfolio for startups, SMEs and larger companies. Customers who run a critical business, such as government agencies, hospitals and universities, will also benefit

from the new, efficient and highly secure digital infrastructure," says Mayor Eckart Würzner. The data center is planned as an ultra-modern and also ecologically future-oriented building that is intended to make a contribution to the energy turnaround. After all, sustainability also plays a decisive role for the mayor of Heidelberg. "The data center is a pioneer in terms of ecology and energy efficiency," says Würzner. For example, the data center is powered 100% by electricity from renewable sources. For self-supply of administration and office areas, parts of the facade and roof areas are to be equipped with photovoltaics, which will reduce the share of purchased electricity. Furthermore, a facade greening at the Data Center is planned. This will serve as a natural air conditioning system and absorb CO₂. Further emissions will be saved by intelligent waste heat recovery, modern battery solutions and energy-efficient cooling.

The data center also meets the latest standards in terms of security: Certified according to appropriate criteria, it meets the highest security levels for critical infrastructures (EN 50600 for planning, construction and high-security operation of data centers; according to category VK3, SK1-3 and GN 1-3 / Uptime TIER III). "The green data center significantly strengthens the digital infrastructure within the Rhine-Neckar metropolitan region. With our sustainability strategy, we are setting new standards and are pleased to have strong partners at our side with the Data Center Group and a renowned family office," says Christopher Stief, founder and CEO of DCC.

Ralf Siefen, founder and CEO of the Data Center Group adds: "Modern innovative applications in research and development place special demands on the planning of future-oriented data centers. We are delighted about the groundbreaking ceremony and thus the start of a great project for Heidelberg as a location for innovation. We are proud to be able to demonstrate our many years of expertise in development, planning and construction of efficient, sustainable data centers certified to the latest standards together with our project partner, Data Center

Constructions GmbH." The future-oriented and sustainable Green Data Center is to be realized on the hip Campus with a pure data center area totaling 570 square meters and a total connected load of 2.0 MVA. Work started shortly after the contract was awarded in mid-October with the groundbreaking ceremony in early November. The first customers are expected to move into the data center in autumn 2023, after a construction period of just 12 months.



Groundbreaking ceremony on 3.11.22 at the hip site (f.l.t.r.): Dr. Christopher Stief (Founder and CEO, DCC), Georg Breithecker (GF Entwicklungsgesellschaft Patton Barracks), Eckart Würzner (Mayor of Heidelberg), Ralf Siefen (Founder and CEO, DCG), Uwe Pfeifer (Architect and Project Manager, DCG).

„Our data must be available around the clock“

Data Center Group implements efficient and sustainable IT infrastructures



■ **The Bruno Bock Group is the leading supplier of high-quality sulfur products for cosmetic applications, cleaners, paints and coatings, adhesives as well as plastics and other chemicals. The Group operates two sites in Marschacht in Germany and in Waterloo in the USA to optimally serve market requirements and provide a reliable supply chain to customers worldwide. Responsibility for people and environment is a central element in Bruno Bock's value system and strategy. In addition, corporate social responsibility is becoming increasingly important for the Group in relation to the entire global supply chain.**

"Our data must always be available, because a failure would be fatal and, in the worst case, we would have a production shutdown," emphasizes Daniel Beutler, operations engineer at Bruno Bock. For this reason, Bruno Bock was looking for a company that could implement a new, up-to-date and, above all, sustainable IT infrastructure for the company. The previous premises for IT no longer met the requirements and therefore needed to be replaced with a future-proof and fail-safe infrastructure protection. "The company has grown constantly, continues to grow, and the IT infrastructure must adapt flexibly to this process in order to meet our requirements," reports IT manager Fridhelm Wünnecke. In addition, they also wanted to meet the requirement that the servers be housed on the second floor to be protected from water penetration. That's why a new, highly available and secure solution was needed to ensure IT protection and avoid downtime.



Wünnecke and his colleague Beutler have been with the company for many years and know the IT infrastructure inside out. The company grew constantly and with this development, the requirements in this area and the overall data volumes also continued to increase. In addition to internal company data, both customer data and production data must be reliably protected, emphasizes Beutler. Likewise, factors such as redundancy, air conditioning, fire protection, physical access protection and, of course, the sustainability aspect played an important role in the planning of the data center, he points out.

"We were looking for a sustainable and secure solution," reports IT manager Wünnecke in conversation with the DC Mag editorial team. "We had already become aware of the Data Center Group via a visit to the it-sa trade fair a few years earlier. We were already very interested in the product at that time at the trade fair and were immediately convinced by the Micro Data Center solution, the red DC IT Safe.

The safe is extremely robust and has an efficient and particularly sustainable energy management, which was an important factor for us in order to be well positioned here as well. Fire and access protection are also guaranteed with this solution. The fact that we also received individual and professional advice ultimately prompted us to make the purchase decision."

The planning and installation by DCG went smoothly overall. Only a structural adjustment had to be made in the existing building in the form of a T-beam construction to ensure the load-bearing capacity of the DC IT safe. Just a few weeks passed from the first meeting to the implementation of the installation. "The cooperation with DCG was very professional and trustworthy. We were in constant communication exchange and felt very well looked after and expertly advised by our DCG contact persons, above all sales engineer Martin Jung. Therefore, we also decided to use the services of DCG's service business unit in terms of maintenance.



Photo: © Best4Tires

Decentralized structures for smart production

Best4Tires relies on edge solutions from Data Center Group to keep things running smoothly

“Production must be absolutely available in terms of IT. Downtime is not an option.”

Benjamin Uhr, Head of Best4Tires

Best4Tires is the experienced partner for both the tire industry and vehicle manufacturers. With decades of expertise in tires, rims and complete wheels, Best4Tires is one of the leading suppliers worldwide in this industry. Thanks to its in-house complete wheel production and perfect logistics, Best4Tires supplies workshops, car dealerships and tire dealers at the highest level. Progress and innovation are among the company's core values. This includes not only the further development of the company-wide digital infrastructure, but also the digitalization of production, logistics and sales processes. Highly available and fail-safe IT infrastructures at the headquarters and the individual company locations form the basis for this.

However, the previous data center was no longer able to meet this requirements: Some of the components were already quite outdated and inefficient. The server room did not meet today's standards and was in an improper location. Reason enough to look for a new solution and the Daufenbach production and logistics site was chosen. Various options were to be evaluated: The room-in-room system within the production hall was quickly discarded, as the fire protection requirements are too high to implement economically due to the storage of rubber tires in the immediate proximity. Since there was still an open space available between the various production halls and warehouses at

the site, there was great interest in a new outdoor data center. The DC IT Container as an all-in-one data center offered itself as a solution, since only minor structural measures are necessary for the foundation work and the data center can be set up completely pre-assembled. Cable shafts were already available at the desired location, which allowed direct access to the fiber optic cables.

There was also a similar need for optimization at the inter-European branches: redundant and secure protection of the IT infrastructures was to be created. The production sites in Bratislava (Slovakia), Győr (Hungary) and Graz (Austria) each chose the Micro Data Center DC IT Safe as a low-latency edge solution. Fail-safety and low latencies are particularly relevant for data processing at Best4Tires, as the production lines are completely digitally controlled. The individual components such as rims, tires and sensors are computer-controlled and fully automated in order to be delivered just-in-time or just-in-sequence to the corresponding plant of the car manufacturer. "Production must be absolutely available in terms of IT. Downtime is not an option. This could mean that the car manufacturer's assembly line comes to a standstill because the corresponding parts for completion are missing.

And every minute of downtime at the plant costs money. That's why we have built our IT infrastructures at all locations with complete redundancy. This means that the data centers are completely mirrored. If one system fails, the other can take over immediately," says Benjamin Uhr, Head of Infrastructure, Service and Support at Best4Tires. "We are very much 'on premises' oriented," he continues. "When communicating with the complete tire lines, we need very low latency, and we can't achieve that with a cloud-based solution. The server landscape for production needs fast communication through a short connection."

The Data Center Container at the Daufenbach logistics center is not only the digital heart of the Group. Among other things, the Sprinter fleet is also controlled from here. Guaranteed next-

day delivery is made possible by smart Sprinter management of the company's own Sprinter fleet of 190 vehicles and a digital route planning system. Shipment tracking, delivery note creation and sign-off are also purely digital. The constant availability of the data center is essential for route reconciliation, tour navigation and shipment data on the drivers' tablets. Benjamin Uhr summarizes: "Our business is heavily dependent on the functionality of the data center, which is why we didn't want to compromise on quality. That's why we opted for the high-quality and professional solution from Data Center Group."

Products



4 DC IT Safes in Austria, Hungary and Slovakia



1 DC IT Container Outdoor Data Center



The digitalized production line.



The container data center offers maximum availability and secure protection for sensitive production data.



The data center container can be transported by trucks.



(f.l.) Benjamin Uhr (Best4Tires) with Florian Hammer (Data Center Group).



100 years of Treuhand: A new data center to mark the anniversary

Treuhand Weser-Ems-GmbH Wirtschaftsprüfungsgesellschaft desired for a redundant system. The task was fulfilled in time for the birthday celebration.

Treuhand Weser-Ems-GmbH Wirtschaftsprüfungsgesellschaft is an owner-operated company specializing in the following areas

- auditing
- tax consulting
- legal advice
- management consulting
- IT consulting

Treuhand operates in Germany at the locations Bremen, Oldenburg and Wildeshausen. In 2022, the company celebrated its 100th birthday. The service provider has also been working in the international environment for many years. As a consulting company, Treuhand gains deep insights into sensitive figures and data of its clientele. Treuhand therefore attaches great

importance to data security and data availability. In 2017, the company developed an IT strategy paper with measures for the next five years. In addition to replacing the entire server landscape and all cabling, the top priority within the paper is to build a redundant system.

„We considered whether we affiliate with another data center or create our own resource,” says Ralf Feldkamp, Head of Administration and IT at Treuhand, looking back at the beginning of the planning process. Treuhand decides in favor of its own data center solution. This is where the Data Center Group (DCG) comes into play. Via public announcement, Treuhand was looking for a suitable service provider to plan and install a redundant system on a greenfield site. The company decided in favor of DCG's offer. Treuhand wanted a backup data center in a container.

The company expected a redundant system to provide greater reliability and security for its daily business processes. Since Treuhand has its own internal IT experts, some necessary steps could already be planned in advance. DCG is taking care of other things, such as the installation of an air conditioning system or preparations for the installation of a charging station for electric cars on the company premises. DCG is also planning all cable ducts and connections as well as the entire interior of the container. The result will be a modern and efficient system with new cables, clusters, switches or VxRails.

Security and system availability are indispensable for Treuhand. Because at a consulting firm like Treuhand, nothing runs without IT anymore. "All business processes run via the data center like our central DATEV program, time recording, Outlook and our telephone system," says IT Manager Ralf Feldkamp, listing a few key points. Therefore, DCG focussed particularly on the stability of the entire system during the preparatory planning. Treuhand uses a so-called digital document management tool - DMS for short. If the IT fails, everything would come to a standstill because all of the client's files would not be available.

DCG started implementation at the end of 2021. Due to the situation on the international supply markets - a consequence of the coronavirus - there were initial bottlenecks. Treuhand has set a fixed time frame, but this also includes buffer times. At the beginning of May 2022, the container and all other components arrived at the DCG Headquarter in Wallmenroth. The interior work was carried out almost completely in the Westerwald. Just about three weeks later, the work was completed.

A special transport service took care of the transfer of the container to Oldenburg. About 85 percent of the work on the container was already done before delivery to the customer. The remaining things were done by the DCG specialists on location, such as the installation of the air conditioning system, all measurement work, and setting up the door. The decline of the container took place before June 17, 2022. Despite the external delivery bottlenecks, DCG met the specified schedule and completed the project quickly. DCG was also responsible for the cabling and connection of the charging station on the Treuhand site for its own e-car fleet. Treuhand was only waiting for approval from the local electricity provider. Then the electric cars can be charged directly at the office building. The setup and installation of the redundant system have also been completed in the meantime. Treuhand also had to contend with supply bottlenecks when purchasing the hardware. Otherwise, this work would also have been completed by now and the alternative data center would be on the network.

The 100th anniversary of the Treuhand went off as planned in the summer of 2022. Thanks to the expeditious work of DCG, there was no sign of construction work on the site in front of the container. The overall verdict of IT manager Ralf Feldkamp therefore is positive: "DCG has absolute core competence in the planning and construction of data centers. All project participants know what needs to be done at all times. We received quick answers to our inquiries and valuable help. If we at Treuhand have further expansion needs for our data centers in the future, the first place I call is DCG."



Alternate data center in a container.



Ralf Feldkamp, Head of Administration and IT (Treuhand).

Fire Academy Geretsried – Secure IT for our personal safety

Authority including police and fire control center
equipped with new IT infrastructure



The state fire school Geretsried (Staatliche Feuerwehrschiele Geretsried, SFSG) is an authority subordinate to the Bavarian State Interior Ministry for Sports and Integration, which is responsible for the basic and advanced training of the command and special forces of the fire departments, the command forces and other participants in civil protection as well as the dispatchers of the integrated control centers in Bavaria. It is thus a competence center for the entire range of non-police emergency response.

Due to this special situation, in which fall out of the IT infrastructure would have significant consequences also for the safety of people, and the associated high requirements, the ministry specified a consolidation of the IT infrastructure. Normally, this is the responsibility of the Weilheim State Building Authority (Staatliches Bauamt Weilheim) - an authority for structural engineering and road construction and responsible for around 1,000 buildings in the administration and construction measures in civil building projects as well as construction measures of the German Federal Armed Forces and US Armed Forces. Since the server infrastructure had to meet high requirements in terms of security and availability (SK III and VK III in accordance with EN 50600), the Weilheim State Building Authority brought the Data Center Group on board on the recommendation of the fire school Geretsried.



The fire school during a training exercise.



Central reporting center of the SFSG.



Fire drill of the SFSG at a gas station.



"The State Building Authority also builds server rooms, but the specification in this case was very high. We needed a specialist for these high requirements and therefore decided on the Data Center Group", Josef Schilcher, Dipl. Ing (FH) Electrical Engineering at Weilheim State Building Authority, summarizes the situation.

The conceptual design of the project was initially initiated by the operator, fire school Geretsried. Here, the consulting of the Data Center Group under the direction of Michael Wörster set the course for the later implementation. The challenge was to bring an IT infrastructure to a certifiable level according to DIN EN 50600. The project was carried out and implemented by the specialists of the Data Center Group via the Staatliches Bauamt Weilheim. In this process, it was crucial for everyone involved to understand what it means to have to build a data center according to the requirements of DIN EN 50600. In a building on the site, former training rooms could be used to rebuild the IT concept according to the requirements of the SFSG.

2 server rooms were integrated into the existing building and a technology container divided into fire compartments was placed next to it. Despite difficult implementation conditions due to the COVID-19 pandemic and supply bottlenecks, the time frame of the project was just over one year (January 2021 - February 2022). Due to the G7 summit in June 2022, which took place in Munich and whose security concept also included the control centers of the police and fire departments of the fire school Geretsried, adherence to the schedule had become essential. SFSG can now use a secure, future-proof and efficient data center and concentrate on its actual tasks.

Josef Schilcher describes working with the Data Center Group as follows: "Normally, we attach great importance to physical proximity to our partners. But in this case, we wanted to work with a specialist. The consulting, planning and implementation by the Data Center Group went absolutely smoothly and was perfectly organized. The cooperation was pleasant, calm and constructive. The Data Center Group reacted quickly and competently to new requirements from the user, or from the Staatliches Bauamt Weilheim. It was a great fit, both professionally and personally".



New high-performance computer for research and education

Data Center Group implements compact modular data center for Otto von Guericke University of Magdeburg

■ Otto von Guericke University Magdeburg (OVGU) focuses on engineering and natural sciences, medicine as well as economics, social sciences and humanities. The university's demand is to constantly enhance the state of education and science through teaching and education. Such a task and the generated data volume require a functioning and highly available IT infrastructure.

For a long time already, OVGU has had two data center locations on the campus. The IT landscape is redundant across both locations. The implementation of a new data center resulted from the OVGU's decision to comprehensively renew one of the data center locations and from the approval of the OVGU's new high-performance computer that could not have been operated at either the remaining location or the transitional OVGU site. Thus, an alternative solution in form of a compact modular data center was chosen, describes Dr. Gregor Zimmermann (IT Manager, OVGU) the initial situation.

"The OVGU data center is our institution's data core. All research and administrative data is located here. A loss or even a fall out would be fatal. Therefore, we operate two data center locations. The new, modular data center does not completely follow the ordinary rules due to the current use for the high-performance computer as this requires no redundancy and even failure is not critical. As this is certainly about to change during the future use, we already decided to schedule required redundancies in the operating technologies", reports Dr. Zimmermann.



”

„The complete data center was built within two weeks and then put into operation. Speed of construction and maximum security are just two of the many advantages of container-based data centers.“

Michél Düring, Head of Project Sales



Keeping an eye on the IT infrastructure

Partnership with Datwyler IT Infra

With the decision in 2020 to comprehensively renew one of OVGU's data center locations, it was foreseeable that none of the locations would be suitable for the expansion by the new high-performance computer. Therefore, Dr. Zimmermann's team started considering a modular data center in the summer of 2020. At that time there was no determination with whom the project would be carried out. The necessary planning preparations were carried out internally at OVGU. "As a part of the preparations we checked a number of references and execution options", reports Zimmermann. That's how the Data Center Group (DCG) came to their attention.

A significant project challenge was to manage the synchronization of the HPC project and the disassembly of the old site. The new location for the HPC had to be realized by the end of November 2021. Therefore, the modular data center project was scheduled for completion in the second half of September. The time reserves were planned precisely so that the HPC team was able to set up the new system in the module data center on time.

The requirements had already been determined: The high-performance computer with a demand for 10 cabinets of 20 kW each formed the fixed project framework. The required redundancies for the operating technology were also predetermined. A particular planning challenge was the dimensioning of the power supply: A modular data center with a network performance of 200 kW was to be implemented. It was important to the OVGU team to obtain a modular, redundant UPS system that would initially be expanded with only 50 kW of power since only the management servers and storage systems needed to be protected for the high-performance computer. "For subsequent use, expansion to 150 kW is planned", emphasizes Dr. Zimmermann. The cooling supply should - according to requirements - initially not be designed redundantly, but later be able to be converted to redundancy.

At present, the modular data center has been under full load since the commissioning of the high-performance computer in December 2021. The occupation of the cabinets is between 60 and 70 %, and the power output is up to 190 kW at full load of the high-performance computer. The project was completed in November 2021, so it took only 6 months from commissioning to completion. The solution is planned for a special project as an interim solution - i. e. with a deployment period of at least 10 years.



Dr. Gregor Zimmermann, Head of IT OVGU.

"The new data center houses OVGU's new high-performance computer (HPC). This is used by all faculties for simulation calculations. Results are only stored here during the calculations. As soon as a calculation is completed, the data is moved to the OVGU's main data center", Dr. Zimmermann underlines.

Dr. Gregor Zimmermann: "The implementation of the entire project with DCG was very stringent. After the initial discussions on the project implementation and a few adjustments, all steps were carried out according to plan. During the implementation we always had a contact person of DCG at our side and we were always informed about the project status. We would do the same again at any time."

Facts & figures

- External dimension 10 x 7 m und 3,25 m high
- Space for 12 HPC racks
- 8 sidecooler for air-conditioning
- Separated technical area in the container data center
- 220 kW cold water generator designed for peak-load cooling

Learn more about High Performance Computing on p. 32-33.

Since last year, the Data Center Group has been working together with Datwyler IT Infra - a partnership of equals from which the customers of both companies can only benefit.

Datwyler was founded in 1915 and employs 950 people worldwide. Among the data center projects that Datwyler IT Infra supplies or manages itself, there are many well-known names - just as with the Data Center Group. For the existing customers of both companies, but also with regard to new orders, this partnership represents a perfect complement. After all, both teams have a wealth of expertise and sustainable, future-oriented solutions that the other can use profitably in its projects.

Datwyler IT Infra is an internationally active company with headquarters in Switzerland and subsidiaries in Europe, the Middle East and Asia. Datwyler helps organizations around the world to successfully expand their core business thanks to future-proof and intelligent IT/OT infrastructures.

The partnership is already bearing fruit: In Germany and Switzerland, both companies are in the process of developing joint data center projects for new customers.

The solid company appears on the market, among other things, as a supplier of innovative system solutions, products and services for data centers, but also as a partial or general contractor, covering the entire value chain in its data center projects. The basis for this is Datwyler's high level of expertise in the development and manufacture of the required products and solutions, its project experience, its global presence and its internationally established partner network.



ITInfra.datwyler.com

HD-DCS - the high-density cabling solution from Datwyler IT.



Taking advantage of the potential of digitalization for green transformation

Data center construction with vision: Data Center Group experts unlock the immense potential of sustainable concepts



Fabian Buda, Consultant (Data Center Group).

The strong growth of the data center industry, especially in Germany, demands enormous amounts of resources. To minimize this demand and at the same time not to slow down growth, Data Center Group (DCG) has drafted a strategy paper on sustainable concepts that can be applied individually in parts for each data center project. "Digitalization presents us with new challenges, but also offers us a wide range of opportunities to achieve sustainability goals", emphasizes Donald Badoux (CSO, DCG).

Data centers offer enormous potential for shaping the digital transformation in a sustainable way. The report "Our Common Digital Future" by the German Advisory Council on Global Change (WBGU) identifies diverse approaches (WBGU, 2019). According to the WBGU, the digital transformation will lead to society transformation comparable to major development processes in human

history. "Sustainability transformation can only succeed if the digital transitions are aligned in a resource-friendly way", according to the report. When designing data centers, DCG's data center experts follow an internal strategy paper that forms the guideline for sustainable data centers in Germany. Core topics of this paper are:

- Optimization of power consumption of end-user equipment
- Waste heat recovery
- Facade greening
- Photovoltaics
- Energy-efficient plant systems
- Recycled building materials
- Requirements of the "Blue Angel" certification

For each project, these points are considered, discussed and various option packages are put together. All project development through to operation is processed within DCG's value chain, ensuring that all these concepts can be applied.

"Even partial implementation of our sustainable concepts results in limiting environmentally harmful emissions of CO₂ and free temperature emissions. Potential temperature increases for the respective site can thus be actively limited. The absolute driver of this avoidance is in fact the use of waste heat", says Fabian Buda, consultant at DCG.

Sustainable data centers as heat transition pioneers

Most energy consumption in data centers is caused by the operation of IT systems. In thermodynamic terms, IT systems are air heaters whose heat potential has not been optimally utilized in the past. However, there are already several options for effectively utilizing this waste heat, such as extracting the heat for the data center's heating requirements. The Main DC data center near the world's largest Internet node DE-CIX in Frankfurt am Main is a pioneering project for the successful implementation of such a concept. DCG built one of the largest and most sustainable data centers in Germany in record time. The plant systems required for heating the offices simultaneously cool the technical utility rooms. Thus, the effect of heat generation is used twice.

A generally further possible option is the decoupling of heat for an external heat consumer. And the greening of the facade of a data center also represents a milestone for future data centers. There is also the possibility of using data center waste heat to integrate a newly developed district heating network in an area to be determined, to cover the heat demand in an ecologically and CO₂-neutral way. Such a project would be a pioneer project of the heat transition. This variant enables the most efficient use of the full potential of

climate-damaging CO₂-emissions by using energy-intensive systems. The project planning of the data center can easily include integration into a district heating network. The trend toward sustainable construction is also an important factor: If regional and reused building materials are used for the shell, further resource savings are possible.

Innovative paths to a sustainable digital future

The variants show clearly how multi-layered the topic is to be considered. The energy aspects of IT infrastructures and new concepts for data centers are not the only relevant factors. There is also room for improvement in other areas for innovative paths to green transformation. "When it comes to implementing future, sustainable data centers, not only the entire industry but also the end customers regarding the consistent optimization of energy consumption and, above all, politics about the necessary regulations are in demand. It is also important to offer incentives here in form of targeted funding opportunities. Demand-oriented planning and operation adapted to this are innovative ways to a sustainable digital future", Donald Badoux points out.

Source: Report "Our Common Digital Future" by the German Advisory Council on Global Change (WBGU).

Holistic analysis for future-proof data centers

Data center construction - but done right: Feasibility study and sound site analysis as a basis for innovative and long-lasting projects

Finding the right location for a planned data center is a demanding task and requires a comprehensive and targeted analysis. Many parameters and influencing factors must be considered and cross-sectoral action must be taken. General factors are often overlooked, such as the dangers that can arise from traffic routes or ground conditions. In addition to location, factors such as connectivity and energy supply must also be examined. The consultants of Data Center Group (DCG) know that these and many other parameters must be observed comprehensively.

The requirement of the location search for planned data center projects is - above all - to get a 360-degree view of the potential dangers and risks but also the chances of the most different locations. Professional analysis is used to generate possible site proposals for a data center project. A selection criteria catalog for data center locations from the German Federal Office for Information Security (BSI) provides important information. The factors relevant to the selection of a location when planning a new data center regarding high and maximum availability are covered by DCG's specially created criteria catalog including security aspects and unrestricted availability. The experts' many years of experience based on successfully implemented projects is

definitely an advantage in the location analysis. The project development of data centers requires a well-founded feasibility study. This provides, among other things: Environment analysis, development analysis, market analysis, rough concept as well as a solid, adaptable and transparent business plan. "One of our daily challenges is to generate all the necessary information for our analysis and to develop a concept based on it", says Fabian Buda (Consultant, DCG).

Holistic thinking along the value chain

When decisions are to be made, facts are needed. To this end, DCG's consultants comprehensively document the conditions under which the project can be implemented. With the help of a feasibility study, the consultants develop the IT and data center strategy according to the customer's requirements. Location factors, such as a development plan, are included in the considerations and a rough concept is developed from this. All considerations are documented - whether existing buildings or new construction, or whether the requirements can be developed at the desired location. The various opportunities and risks, as well as possibilities for energy connection and connectivity, are put through their paces. This is possible because DCG covers the entire data center project development value chain.



Ralf Siefen, CEO of Data Center Group.

This includes the complete analysis, planning, construction, operation and certification of data centers. The experts know exactly where to start in order to provide an accurate analysis. All potential sources of danger must be included and weighed. With the site analysis, the team delivers proposals that are worked out down to the smallest detail and prepared ready for decision-making. This enables potential risks to be identified directly and unpleasant surprises to be avoided in the future. In times of digital transformation and increasing volumes of data, the developments of Industry 4.0, and ever larger projects, the demands on IT infrastructures are also constantly rising. The consultants have their finger right on the pulse and keep an eye on all standards to develop a future-proof best-practice solution.

"We think holistically. That's why we first get to know the customer and his industry in detail and find out about his needs. For example, does he want to operate an in-house data center or does he want to implement a colocation data center? We determine the required size of the data center and examine the potential risks at the site. To do this, we prepare a comprehensive environmental analysis and check factors such as earthquake risk, temperature conditions, risk of lightning, potentially attack-prone objects in the immediate radius, heavy rainfall, traffic routes, etc. On this basis, we investigate what measures are required to reduce the risks to an acceptable level. It is also

important to consider the site according to the criteria of economic energy supply. In our development analysis, we check whether connectivity can be provided economically, which carriers are represented, transfer points, bandwidth, etc. This includes substations, line lengths as well as redundant paths. The preparation of a business plan is also part of our work scope. This always depends on the model the customer prefers, for example, own operation, joint venture, leasing, SEP model (turnkey construction with integrated planning service), etc. Here, we benefit from our know-how based on numerous successfully implemented projects", emphasizes Michael Wörster, consultant at DCG.

Professional analysis is the key to sound planning

Transport connections and electrical supply are important issues, as are short latency times. The availability of public media must be checked and, if necessary, ensured by means of on-site technology. Future-oriented sustainable concepts such as the use of waste heat from a data center have already been implemented in many DCG projects. The experts know: Only on the basis of a well-founded and foresighted planning a future-oriented, innovative and sustainable data center can be created. The consultants show which data center solution is the right one. "Well analyzed is half built: From consulting and planning to professional implementation of concepts and individual services, DCG covers the entire spectrum of the value chain related to the security of on-site IT infrastructures. The expertise of our consultants lays the foundation for durable and innovative data center solutions", highlights Ralf Siefen (CEO DCG).

Source: Kriterien für die Standortwahl von Rechenzentren (BSI): https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/RZ-Sicherheit/Standort-Kriterien_Rechenzentren.pdf;-jsessionid=853CE28ADB0C93D0FFF466B88624CB3E.internet082?__blob=publicationFile&v=1

„With our expertise, we set the foundation for durable and innovative data center solutions.“

Ralf Siefen, CEO of Data Center Group

„In the end, there is always a single line or a picture“

Interview with expert Daniel Menzel on the topic High Performance Computing (HPC)

Sonja Philipp (Data Center Group): Daniel, thank you for being here. Who are you, what do you do, and what does Menzel IT do?

Daniel Menzel (Menzel IT GmbH): My name is Daniel Menzel, I am the founder and CEO of Menzel IT GmbH. We are a Berlin-based company specializing in high-performance infrastructures, called HPC, and private cloud computing clusters.

S. Philipp: Menzel IT and the Data Center Group have worked together before. How did the contact come about and what was the project about?

D. Menzel: We got to know each other through a mutual customer, which is based in research. Menzel IT had been supporting the customer for some time and Data Center Group then joined them as data center planners. We made sure that both the infrastructure and the IT in it is up and running.

S. Philipp: You just mentioned that your company specializes in HPC. What do you mean by that?

D. Menzel: There are various definitions of HPC: One is based on the assumption that you have powerful servers, and powerful means high performance. In the actual sense, and this is the definition we also follow, HPC means simulation in research - e.g. for 5G, 6G, crash simulations or fluid simulations. In short: modeling the real world in mathematics, for which computing power and capacity are required.

S. Philipp: What are typical applications and computational capabilities in HPC? What is calculated and what is the end product?

D. Menzel: At the end of the simulation, there is always a single line or a picture. And before that, there is always the translation of a real issue into mathematics. When an engineer or scientist has figured out the problem, he is able to express the problem in various computational problems, for example mobile phone optimization, crash tests, or: How do I get 2 tons of steel into a mold without it cooling? But also blast simulations or fluid simulations can be translated into mathematics as a real-world problem. HPC can also be used in climate research, which is becoming increasingly relevant today. Weather forecasting, for example, is computed by specialized HPC clusters that dump the collected input values into a large mathematical model, resulting in the final weather forecast. All these use cases become similar mathematics and can then be computed in HPC.

S. Philipp: What are the special features or requirements for the IT infrastructures of a high-performance data center compared to a classic data center?

D. Menzel: HPC means: I need a lot of everything. In the infrastructure, that starts with the power. HPC means power densities of 40, 50, even 60 kW in a rack, which of course also have to come out as cooling.

S. Philipp: HPC is accordingly very energy-intensive. Are there efforts or strategies to make it more efficient and sustainable? Are there also technologies in this direction?

D. Menzel: In any case, there are technologies to make the issue more sustainable. On the infrastructure side, I'm thinking about how to both efficiently feed the energy in and get it cooled. The issue of water cooling is a very big one with HPC because I can't get the energy out of the system any other way. But there are also efforts to write code more efficiently. It makes a huge difference whether I have to compute for 3, 5, or 10 days at a time. Both in terms of speed and cost. If I'm using 150, 200, or 500 kW for 2 to 5 days, I'm going to see that on my electric bill at some point. There are an amazing number of possibilities, which are far too seldom exploited. This is also where Menzel IT GmbH comes in to advise.

S. Philipp: Your forecast: Where is the journey heading? What are the developments of the future?

D. Menzel: I believe that the amount of what is simulated will increase even more in the future. Crash test simulations are a good example in this case. It's insanely expensive to keep rebuilding a new car with changed parameters. On the PC, on the other hand, all I have to do is turn a few knobs and then simply recalculate: Is this cell now better or worse compressed to protect people? The future will be to test real things and processes only in the very last step and instead to simulate them digitally first.

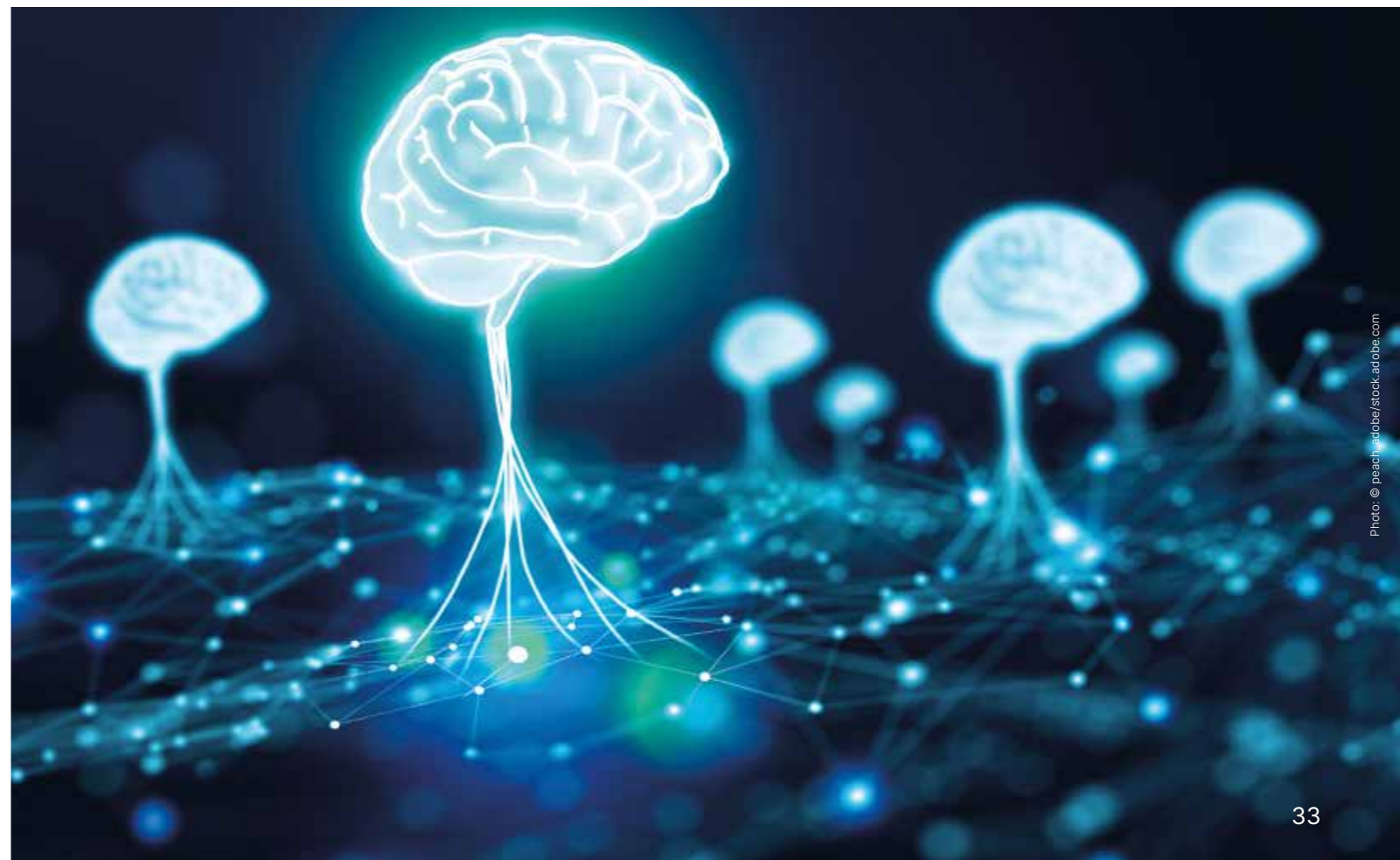
S. Philipp: Thank you very much for the interview and the explanations on the subject of HPC.

D. Menzel: You're very welcome. Thank you.

You can read the full interview here or watch it as a video:



Sonja Philipp, Team Lead Marketing (DCG) in conversation with Daniel Menzel, CEO (Menzel IT).



Binding sustainability indicators and a register for data centers

An interview by Ulrike Ostler, Editor-in-Chief Datacenter-Insider, with Dieter Thiel, Senior Consultant at DCG

The energy consumption of data centers is rising and rising. It is all the more astonishing that there is no reliable data and uniform parameters for data centers in terms of sustainability or even climate neutrality, which the government is demanding by 2027. This is where the "PeerDC" project comes in, which aims to create a practical data center register. Data Center Group is collaborating on this. Why?

In order to define and implement effective measures for reducing the energy consumption of the digital infrastructure, the data center register is intended to create the appropriate basis. The three goals of the project are:

- Establishment of a register for data centers and visualization of the register's contents
- Development of an evaluation system and evaluation software for energy-efficient data centers
- Examination of the transferability of the results and feasibility of a rating system for data centers on a European level

The PeerDC project, the creation of a registry for data centers, has been running for 22 months since October 2021 and thus ends in July 2023. Why is Data Center Group participating in it?

Dieter Thiel: To remind myself of the meaningfulness of such a project, I would point out that data centers in Germany already consume around 17 billion kilowatt hours of electricity a year, around 2 percent of our total electricity consumption. That means around 7 million tons of CO₂ released into the environment. Due to the increasing penetration of IT in all areas of life by new tasks that computers can solve, an increase in data centers, the resulting growing hunger for energy and, consequently, CO₂ emissions can be expected. According to various forecasts, that's 6 to 8 percent per year attributable to data center operations.



And we know that data center design is usually very energy efficient, but real-world operations, often due to oversizing, are inefficient. And PeerDC precisely captures the real operating conditions and makes data centers comparable according to uniform evaluation criteria. This also makes potential savings visible. But this is interesting for operators and users. You know it from the real estate sector: Anyone buying or renting a house today naturally looks at the energy certificate.

For Data Center Group, which has completed around 2,500 data center projects, both new buildings and modernizations, sustainability and energy efficiency have always been important issues. We are proud of the fact that we have been using energy sparingly for a long time and have built data centers with Power Usage Effectiveness (PUE) of 1.3 to 1.4: Our current data center concepts enable PUE values of less than 1.25. Even though DIN EN 50600 defines other parameters such as water requirements, you could also say that a low PUE value was our interpretation of sustainability.

Although everyone who plans and operates data centers is familiar with this parameter, it is also subject to criticism. For example, the PUE value drops if the IT in the data center is not being utilized, although a lot of energy could be saved if, for example, a higher computer utilization were achieved through virtualization and hardware were saved.

Dieter Thiel: In fact, values such as PUE are too one-dimensional. In most cases, we know the "design PUE", i.e. the theoretical value that is determined when planning a new data center on the basis of growth forecasts, but we can only assume how the data center "behaves" during operation, i.e. with different, usually lower utilization, and what share IT actually has, but we don't know. Just a few years ago, data centers in Germany had an average PUE of 1.9 according to the Borderstep Institute; now it is 1.6 or 1.5. This is a pleasing trend, which we owe to improved infrastructure, but it also makes it clear that the consumption share of IT is increasing as the PUE decreases. Such a value of 1.3 means that IT requires around 77 percent

of the energy and thus becomes the biggest adjusting screw; the smaller share is at the expense of UPS systems and cooling. In addition, the utilization of IT and infrastructure rarely reaches 100 percent. Inefficiency is inevitable.

In this context, I would like to refer to the BMBF-funded "Meru" project, which is nearing completion. The aim here is to identify the causes of rebound effects and to demonstrate tools for avoiding them. Underutilized IT and oversized data centers were the main causes of rebounds in the data center sector. Despite the latest technology, underutilization causes poor efficiency. And here we are talking about mid-double-digit percentages.



Dr. Dieter Thiel, Senior Consultant (Data Center Group).

In fact, through monitoring in various projects, Data Center Group had already considered taking action itself in order to determine efficiency figures in ongoing real operations. The invitation to tender from the Environment Agency came just at the right time. Now Data Center Group is working together with the University of Stuttgart under the direction of Professor Peter Radgen, the Öko Institut Berlin, DENEFF and the German Data-center Association (GDA) in the PeerDC project.



What is the Data Center Group's role in the PeerDC project?

Dieter Thiel: While the university and the Öko Institute are working on the development of the web platform, the Data Center Group is providing support with the development of practical parameters and their application and acceptance. The balance between the amount of data requested, the willingness to provide information and the meaningfulness of the data must be right for the whole thing to be a success. Too large a query volume can be counterproductive. This is only possible with a sufficient information base. For this, we need practice partner customers and data center operators. In fact, we are still looking for more practice partners!

Who should they be? And what do they get out of it?

Dieter Thiel: Ultimately, we will develop criteria for an energy efficiency register as demanded by the German government in its immediate action program adopted on July 13. Through cooperation, our practice partners can help shape the criteria, promote acceptance and participate in sustainability development. They gain a competitive advantage by being the first to benefit from the results. Because in the future, customers of data center services and tenants of data center space will pay more attention to purchasing sustainably. And operators will buy data centers from companies that build climate neutrally, especially as this also increasingly becomes a political and legal requirement. Everyone should really participate: owners and operators of small and medium-sized data centers, but also large co-locators. The latter are still hesitant.

How does the collaboration work and what is the result?

Dieter Thiel: We have already sent 'trial balloons' to some partners, a questionnaire that should ideally take half an hour to an hour to complete. It serves to collect data from the companies that will lead to a definition of key figures or to the determination of the parameters from DIN EN 50600. The practical partners should show us which data can be collected, which can and should be made publicly accessible for the register, but also which are confidential and whose disclosure would endanger security or be detrimental to business. The exploratory process is taking place in workshops.

Critics of this project and other projects initiated by the government or the UBA object that a lot can be made up in this country, but that everything is completely irrelevant internationally.

That's the typical excuse. It's the same as always. It's true that someone has to start. We also want to extrapolate PeerDC to Europe; the criteria can find their way into EN 50600. And in principle, every data center could be evaluated according to these criteria.

This text is an excerpt from an interview appeared on www.datacenter-insider.de on 16.08.2022.

Become a practice partner!

Benefit from helping to shape the energy efficiency register by being one of the first companies to be certified and to be able to advertise a verified sustainable service.




Photo: © yelantsew/stock.adobe.com

Synergies of the BFE and DCG

With the help of BFE, we can reach out to the other end of the cable and get more accurate information about downstream operating costs

BFE

Ein Unternehmen der 

With the BFE Institute for Energy and Environment, Data Center Group has a leading company in energy efficiency and sustainability consulting at its side. The BFE and Data Center Group complement each other perfectly and offer real added value, especially to data center operators. Why is it a good fit? To answer this question, we invited Michael Wörster, Team Lead Consulting at Data Center Group, and Till Boeder, Head of Department at BFE, for a joint interview.

Thank you very much for your time. You also have a good personal contact. Please describe in your own words the secret of this successful partnership.

Till Boeder (BFE): We have the necessary expertise in energy efficiency and take care of special sustainability issues. At the same time, we always keep an eye on the costs, entirely in the interest of our customers. Until now, we have considered data centers as an entire energy unit. Through the cooperation with Data Center Group, we get a much deeper insight into a data center. This allows us to save energy and avoid CO₂ emissions in advance. How does the power get to the data center? That's our interface with Data Center Group. Which connection is best suited? Everything that happens in the data center, that's where Data Center Group is top professional.



Michael Wörster, Team Leader Consulting (DCG).

Michael Wörster (DCG): As a developer, Data Center Group takes a holistic view of data centers in terms of security, availability and energy supply. Together with BFE, we offer our customers real added value, because now we can already decrease costs and CO₂ emissions when it comes to the energy connection. For me, the cooperation with BFE means an expansion of competence for the customers.

Till Boeder (BFE): I can agree with that. Especially when planning large data centers on greenfield sites, we provide Data Center Group with much more knowledge about the adjusting screws to the upstream areas. This is primarily about energy connection and distribution, which are firmly in the hands of the network operators. Here's an example: When it comes to energy consumption, we can have a closer look together with Data Center Group to evaluate whether there are opportunities for privileged treatment for our customers - key words: voltage level, network charges or 7,000-h- regulation. If a large data center meets certain requirements, the network operator rewards this by paying back the data center operator. Thanks to the support of

Data Center Group, we can therefore optimize downstream operating costs in advance. For our customers, that means they don't have to worry about it later.

Michael Wörster (DCG): Let's take a look at how large data center operators can reduce costs in the long run through smart planning up front. Let's choose energy connection for example. Depending on the possibilities of the network operators, a data center can be connected via different voltage levels. Thanks to BFE, we can now calculate the costs incurred in advance. The lower the voltage level, the more network charges must be paid. Reason: The technical effort and losses on the part of the network operators are greater. Therefore, in some cases, it makes sense to choose a higher voltage level, since the technical effort is then lower and thus the network charges are also lower. In addition, the issue of privileging mentioned by Till Boeder also is a factor in unlocking further savings potential. Of course, we don't just look at the cost side, but always keep an eye on operational reliability as well. Depending on customer requirements, we develop the energy concepts based on DIN EN 50600 or, in the case of large cloud providers, so-called hyperscalers, also according to the requirements of the U.S. Uptime Institute. We then usually approach the network operators and tell them what to supply. In the best case, two cables from two substations. With BFE, we are expanding Data Center Group's service portfolio by including other topics in the areas of energy efficiency and sustainability consulting. BFE also allows us to reach out to the other end of the cable and get more accurate information about downstream operating costs.



Till Boeder, Head of Department (BFE).

Quick question: What technical developments can be expected in the near future? Where can further optimization be made?

Till Boeder (BFE): Large data centers in particular produce a lot of heat, most of which has so far gone unused. There is a lot of room for enhancement in the use of waste heat. Together with Data Center Group, we are involved in the 'Bytes 2 Heat' initiative of DENEFF, the German Energy Efficiency Initiative. The initiative focuses, e. g., on ways of harnessing waste heat in other environments and thus saving other resources. I am convinced that there will be clear requirements from the legislator about waste heat utilization. If a company then fails to meet certain sustainability requirements, it will lose customers. Up to now, the issue of emissions has often been determined by price and not by specifications. However, since legal regulations will soon be established, it makes sense for data center operators to address the issue today.

Michael Wörster (DCG): When planning a data center, we take into account many requirements that play a role. But there are also many grown data centers that can save a lot of energy and emissions. Unfortunately, hardly anyone on the operator side has the knowledge of what optimizations are lying dormant there. That's why we're pleased to be working with BFE, because their main business is decarbonization. With an operating time of 8,760 hours per year, a data center is a company's major energy consumer. Therefore, there is also enormous potential for savings here. We are also part of 'PeerDC', an initiative of the German Federal Environment Agency.

Michael Wörster (DCG): I don't want to make it easy for myself, but I can't put it any better than Till has just done. After all, we are also part of MVV Enamic and use short distances when it comes to exchanging expertise. From my point of view, the collegiality is a real enrichment. I have pinched myself more than once because I could hardly believe how smoothly this cooperation with the people at BFE works. In terms of our competencies, we have the same understanding. This is how we create added value for our customers together. Thanks for that, Till.

There, we are working together with other partners to establish a standardized register for data centers. On the one hand, this creates the basis for future statutory regulations, which are already being planned. On the other hand, it makes it easier to define new data centers and adapted achievable requirements. In the data center environment, management systems will be introduced in the future to record and control energy and sustainability. Much is not yet decided, but it will come soon. We are prepared.

(Learn more about "PeerDC" on p. 34-36.)

Finally, a question for both of you: What are you excited about in the other partner?

Till Boeder (BFE): With Data Center Group, we as BFE have in-house expertise that is second to none. As BFE and as part of MVV Enamic, we are the experts when it comes to energy efficiency and sustainability. When it comes to the details of data centers, we contact our colleagues at Data Center Group. The cooperation works collegially, it is 'us'.

Michael Wörster (DCG): I don't want to make it easy for myself, but I can't put it any better than Till has just done. After all, we are also part of MVV Enamic and use short distances when it comes to exchanging expertise. From my point of view, the collegiality is a real enrichment. I have pinched myself more than once because I could hardly believe how smoothly this cooperation with the people at BFE works. In terms of our competencies, we have the same understanding. This is how we create added value for our customers together. Thanks for that, Till.

Thank you very much for this informative interview.





Seminar for self-motivation for our trainees



How do I motivate myself for tasks without putting them aside for too long? I have a mountain of tasks - how do I divide them up so the mountain becomes smaller and can be climbed as quickly and easily as possible? These topics come up often in daily work during apprenticeship. That's why the topic of this year's seminar for our trainees was "Self-motivation". In this context, our trainees were able to exchange ideas with the seminar leader Heike Nahlenz-Schauermann. The following main topics were discussed in the team and deepened in group work:

- Business game on employee motivation
- SMART method – tasks should be specific, measurable, attractive, realistic and scheduled
- Time management
- 5 tips on how to avoid putting aside tasks for too long

In addition, team building was strengthened within the entertaining and informative seminar. "The trainee seminars have been an integral part of our training program for many years. It is important to us that our trainees network with each other in addition to their regular work and stay in touch. This strengthens team spirit. And the topics are more important than ever," emphasizes Kim Blecker (Head of Human Resources and Legal, Data Center Group).

Summer party

After a long break our summer party took place at the beginning of July 2022. All employees and their families were invited. Besides fun and games for young and old with a jumping castle, a photo box and a DJ who set the right mood, the physical well-being was also provided: The culinary offer included refreshing drinks, a large buffet and an ice cream truck, exclusively ordered for our party. The program was rounded off by wonderful sunny weather, so it was possible to celebrate outside until late into the night.

Christmas party

After a 3-year break, our Christmas party finally took place again as a live event. After the employees had arrived at the beautiful Berghof in Dauersberg, the evening started with a speech by CEO Ralf Siefen. After long-time employees were honored for their services to the company (see Anniversaries on page 43), all guests could help themselves to a delicious and rich buffet. Afterwards, the three best Christmas outfits of the evening were chosen and awarded a small gift. After that, the dance floor was opened and extensively celebrated until well after midnight.

We hope that these celebrations will be followed by many more and look forward to the upcoming events in the new year 2023.

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Welcome to the team

We continue to expand our expertise and welcome the following new colleagues

Since August 2022

Armagan Gümüşbas	Trainee Industrial Management Assistant
Melina Mogrovejo-Sanchez	Trainee Industrial Management Assistant
Svetlana Schlösser	Trainee Industrial Management Assistant
Melina Anselm	Trainee Technical Systems Planner
Paul Böhmer	Trainee Technical Systems Planner

Since September 2022

Manuel Griesbeck	Service Technician Munich
Sarah Uebach	Cleaner

Since October 2022

Fabian Heinz	Marketing Referent
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Since January 2023

Marco Schäfer	Project Planner Electrical and Safety Engineering
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Since February 2023

Michael Reuber	Project Buyer
Anja Veling-Jaeger	Head of Finance & Controlling
Andrea Weller-Braun	Human Resources Administrator

Anniversaries

Congratulations!

10-year company anniversary

July 2022 – February 2023

Christina Hüscher

15-year company anniversary

July 2022 – February 2023

Uwe Pfeifer
 Tim Kohlhaas
 Peter Mockenhaupt
 Jörg Lorenz
 Birgit Nies
 Frank Weidenbruch

The Data Center Group team says thank you for the great commitment and wishes continued success!

Imprint

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