DATACENTER OUTLOOK GERMANY

2026

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ALL INFRATRUCTURE IS LOCAL – WHY THE FUTURE OF DATA CENTERS IS DECIDED LOCALLY

MARTIN KOHOUTEK, Director General, German Datacenter Association

Data centers have become part of the political and public debate. The National Data Center Strategy officially recognises them as a central building block for the economy and society. The Federal Government has set itself the goal of doubling data center capacity in Germany by 2030 and even quadrupling AI capacity. This is an important signal. But political ambition only becomes digital infrastructure when projects can actually be planned and implemented.

AND EVERY ONE OF THESE PROJECTS IS BUILT IN A VERY SPECIFIC PLACE.

That is where abstract digital infrastructure suddenly becomes a neighbour. A data center needs space and energy, becomes part of its surroundings and raises questions there. These questions are justified. Anyone seeking to develop new sites therefore cannot simply assume public support. Trust has to be actively built. This begins long before the first ground is broken: with clear information, genuine listening and a willingness to engage. It is not enough simply to explain why data centers are important. We also need to show what a project means for the municipality in which it is being built. The benefits must not remain abstract. They need to be visible locally. The Datacenter Outlook Germany 2026/27 shows from different perspectives just how closely planning certainty and strong local ties are now connected. Municipalities want to know what a new development means for them. Operators, in turn, need local partners with whom viable solutions can be developed. Where the two come together, the result is far more than a project capable of securing approval: it creates a shared perspective intended to last for decades.

As an industry, we have a responsibility here. We need to explain more clearly what we do and show more openly how digital infrastructure works. That is exactly why we organise the Open Data Center Day (Tag der offenen Rechenzentren – TdoRZ) every year. Operators open their doors and make visible what normally remains hidden behind stringent security requirements. People can ask questions, see for themselves and understand. What otherwise remains invisible becomes tangible.

But this openness must not be limited to a single day. Good neighbourly relations are built in everyday life – through reliability, dialogue and a genuine interest in the surroundings in which we build and work. The future of our industry is therefore decided on two levels at the same time: by a reliable policy framework that enables investment and planning – and at the places where this infrastructure is built.

TRUST CANNOT BE MANDATED. BUT WE CAN WORK TO BUILD IT EVERY DAY.

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WE WOULD LIKE TO THANK ALL PARTNERS OF GDACon26!

The annual Networking & Strategy Conference of the German Datacenter Association offers companies the ideal platform to present themselves as an indispensable part of the datacenter ecosystem.

GERMAN DATA CENTER MARKET

Stable growth in Europe‘s central market, in an era of transforming business models and changing market conditions.

CBRE

FACTS & FIGURES

FRANKFURT		BERLIN		MUNICH	
Current Capacity	1,274 MW	Current Capacity	153 MW	Current Capacity	48 MW
New Supply TTM[1]	254 MW	New Supply TTM[1]	1.6 MW	New Supply TTM[1]	0.2 MW
Projected New Supply NTM[2]	165 MW	Projected New Supply NTM[2]	2.9 MW	Projected New Supply NTM[2]	6.1 MW

- Demand for wholesale colocation and hyperscale build-to-suit is the core volume driver while retail colocation maintains a healthy base demand
- Germany is the biggest data centre market in Europe, over 1.5 GW of capacity are currently deployed
- Time-to-market is of the essence, grid capacity remains the core bottleneck
- While support for data centres is increasing on a state and federal level, local opposition on a municipal level is increasing

In Q2 2026, total colocation data centre supply in FLAPD reached a record capacity of 4.4GW, a 19% increase since mid last year and a 18.9% CAGR since 2020. Frankfurt and London are the two largest markets with Frankfurt accounting for 29% of FLAPD capacity, by far the biggest market in continental Europe.

Berlin, a distant second to Frankfurt when supply is considered, has stagnated of late when data centre construction is considered. However, it is still the 9th largest colocation market in Europe. Growth potential in Berlin is still high as multiple operators have landbanked sites and announced projects. But while Frankfurt is still the market of greatest interest from all hyperscalers and major cloud providers, Berlin (and Munich) only attracted partial data centre commitments that is reflected in lower overall demand. Smaller markets in Germany are set to experience shallow growth due to more localized demand for data centre capacity with AI inference being a strong contributor of this demand. More out-of-market developments are now materializing with Microsoft’s developments in North Rhine-Westphalia and the Schwarz Group project in Lübbenau being among the most prominent examples. These projects add sizeable data centre capacity to the market but only have a limited impact and pull-factor for additional data centre projects in the region. These large-scale deployments will remain singular events, but the potential scale is massive.

LAND VALUE CHANGES UNDER NEW POWER ALLOCATION METHODOLOGY

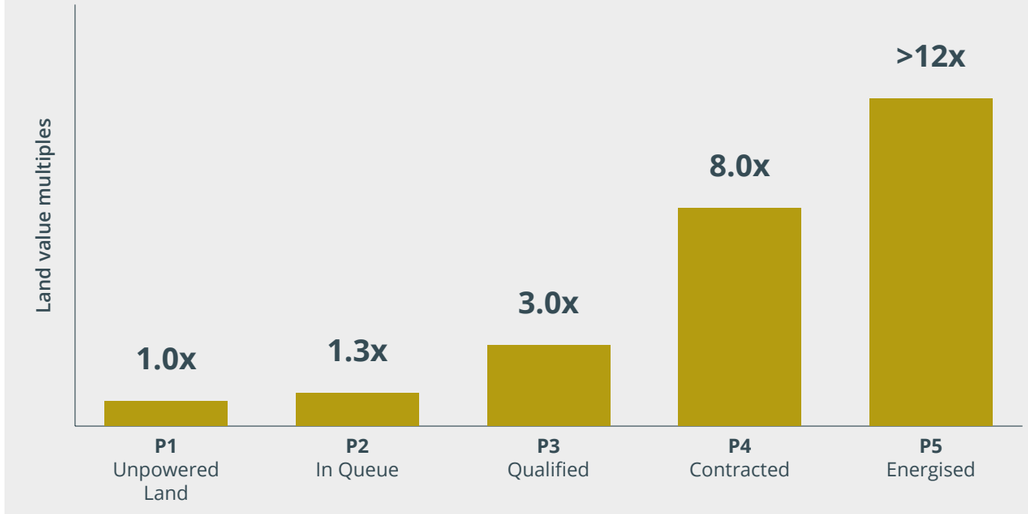
Germany’s data centre market in 2026 presents an apparent contradiction. Operators and investors are inundated with land offers, yet occupiers cannot find capacity and only a limited number of projects are entering the construction phase. Land supply and deliverable capacity have decoupled. A core element of this dynamic is that the binding constraint has moved upstream over the last 12 months. Offering a site costs almost nothing while energizing one now takes multiple years and a capital commitment that is often done at risk. At the end of Q3 2025, Germany’s four transmission system operators (TSO) held over 700 connection applications totalling roughly 270 GW. Although 78% of these applications came from BESS systems, data centres accounted for a relevant portion of the remaining requests, creating a massive backlog of power applications. The result is a market in which land is priced on potential while power is now allocated on evidence.

[1]Trailing Twelve Months, [2]Next Twelve Months

CBRE therefore propose the power maturity curve, a framework that prices a site by its position on a five-step ladder rather than by its location relative to an existing market. P1 is unpowered but zoned land that is generally suitable for data centre development. P2 is a site with an application lodged. P3 is a site that qualifies under the new maturity-based allocation procedure (Reifegradverfahren). With admission fees paid and at least partially meeting the four ranking criteria's set by the TSOs. P4 holds an accepted capacity reservation. P5 is energised. The decisive break sits between P2 and P3.

Since 1 April 2026, the TSOs have replaced the first-come-first-served Windhundprinzip with „first ready, first served": applications are pooled in cycles and, where oversubscribed, ranked on four testable criteria, site control and permitting, the technical connection concept, the applicant's capability, and grid and system benefit. Admissibility requires a €50,000 fee and documented minimum standards; an accepted reservation requires a realisation deposit of €1,500 per MW. This changes what land is worth. Under the old regime, an early application conferred priority, so a queue position carried real value. It no longer does for projects that require a direct connection to a TSO. Unsuccessful applications are not rejected but rolled into the next cycle, meaning a P2 site can persist indefinitely, marketed as viable, without ever advancing. Our indicative multiples reflect this: P2 only adds a 1.3 multiplier compared to P1, while P4 and P5 command 8x and above **(SEE FIGURE)**.

„POWER MATURITY CURVE" FOR DATA CENTER SITES IN FRANKFURT



Usual land multiples for data centre sites in the Frankfurt metro area. Final land value is influenced by general suitability, actual date of energizing the site, exact location and current demand. **SOURCE:** CBRE Research

Land value starts flat, then growth rapidly. The investment implication to leverage this dynamic is direct but carries more risk. Capital deployed into permitting, engineering and documented financing now converts into queue position, the highest-return marginal euro in the German market in 2026. Capital deployed into unpowered land banks does not. We expect a continuation of a visible bid-ask gap for the next twelve months as vendor expectations, formed under the old rules, meet buyers pricing under the new ones, followed by the first write-downs on speculative site aggregation. The majority of large-scale data centre sites in Germany that are offered are P1 and P2 sites priced as though they were P4. It has to be noted that his valuation dynamic currently applies only to projects large enough to require a TSO connection. Should this methodology cascade down to the DSO level, it would impact the 10-50MW segment that currently drives a significant portion of Germanys data centre pipeline.

The power maturity curve redefines value at the front end of the development cycle, but regulatory pressure on operational efficiency is simultaneously impacting assets further downstream.

NEW PUE LIMITS CREATE PERMANENT EFFICIENCY DIVIDE

While the maturity-based allocation procedure carries huge implications for site development, the amendments to the energy efficiency law (EnEfG) have far-reaching implications for data centres further ahead in the life cycle. The most notable impact is the increased spread between legacy data centres and new developments in terms of PUE. Previously the long-term gap was 0.1. The reform doubles it to 0.2 by moving the legacy endpoint to 1.4 while holding new builds at 1.2. From 1 July 2027, when the interim limit of 1.6 becomes binding, the near-term spread is wider still at 0.4. Germany will operate a two-tier efficiency regime that narrows on a legislated schedule but never closes.

CBRE expects the consequences to become visible during 2027, and they cut differently across the two colocation models. A 1.2 limit is achievable for wholesale facilities by construction: single tenant, contracted fill schedule, uniform hardware, high density. Retail colocation cannot converge in the same way, because holding saleable spare capacity is part of the business model, while facility overhead remains largely fixed against a variable IT load. New retail development therefore carries a structural compliance burden that new wholesale development carries only to a limited extent.

The counterintuitive consequence, and the one we expect to define 2027, is that the same gap protects incumbent retail assets. The reform is materially kinder to existing retail than to new retail, and raises the barrier to entry into a segment likely to see demand increase on the back of AI inference requirements. Our expectation is accordingly a widening pricing divergence within the retail segment rather than a simple repricing against wholesale. Carrier-dense assets with genuine interconnection ecosystem should hold/increase rental value, supported by a limited replacement pipeline and by rising demand for distributed, latency-sensitive inference capacity.

Alongside their own new build programmes, retail operators have a second route to capacity: Germany's legacy enterprise estate, where conversion is already the fastest answer to grid constraint and a facility commissioned before 1 July 2026 keeps its classification through a change of ownership and is measured against 1.6 rather than 1.2. Speed to power is the prize, the more permissive efficiency path improves the returns, and buyers who resolve the rebuild question in diligence should find this the most executable entry point into German capacity available in 2027.

DR.-ING. DIRK TUREK is Associate Director of Data Centre Research at CBRE. The team provides market intelligence across EMEA, covering all relevant markets, from FLAPD to emerging tertiary markets. The team tracks key metrics such as supply, demand, pipeline, vacancy and pricing, providing unparalleled insights into the data centre ecosystem.

FROM GROWTH TO STRATEGIC DEVELOPMENT

How Can Europe's Leading Data Center Location Continue to Evolve?

We spoke with **DR WALTER FISCHEDICK**, Head of the Department for "Fundamental Issues, Law and Regulation of Digitalisation, Digital Economy, Start-ups, Innovation, Technology Funding, Technology Transfer and Digital Infrastructure" at the Hessian Ministry for Digitalisation and Innovation.

As a data center market grows, the challenges it faces also change. Land availability, grid capacity, energy supply, waste heat utilisation, permitting processes and local acceptance play a significantly greater role today than they did just a few years ago. From your perspective, what is currently the decisive challenge for the next phase of development of Hesse as a data center location?

Power supply and grid expansion remain the central challenges for the development of the location. Another key success factor is certainly public acceptance at local level. Data centers are increasingly in the public spotlight with regard to energy consumption and land use. Transparent communication, early engagement with local communities and demonstrating concrete benefits for municipalities – for example through waste heat utilisation or trade tax revenues – are crucial in this respect. It is clear, not only in retrospect, that the challenge does not lie in one individual factor alone, but in the interplay between these different requirements.

Together, Frankfurt and the Rhine-Main region have developed into one of Europe's most important data center locations. Looking back, what were the key factors behind this success – and which of them can actually be replicated in other regions?

Driven by the traditionally strong financial sector – Frankfurt's role as a banking and stock exchange centre – but also by industry, large data centers were already being established in Frankfurt in the 1970s. Combined with the city's decision in the mid-1990s to focus on fibre optics and market liberalisation, this created the conditions early on for a data hotspot to emerge here. The enormous concentration of data automatically attracted further IT infrastructure. Hesse therefore recognised the strategic importance of broadband and fibre-optic networks very early on and consistently advanced their expansion through political and financial support. Frankfurt has effectively become a self-reinforcing data center location. That cannot simply be replicated elsewhere.

At municipal level in particular, we see very different assessments of data centers: some regard them as indispensable digital infrastructure and an economic opportunity, while others initially see them primarily as major electricity consumers and users of land. What do you think is often underestimated on both sides of this debate?

Critics focus primarily on electricity consumption and land requirements, but often overlook the economic significance and considerable spillover effects: data centers are key infrastructure for digital business models, strengthen the digital ecosystem and are increasingly becoming a factor in location decisions. Potential benefits such as waste heat utilisation and the efficiency gains of modern facilities also often receive too little attention. The various stakeholders also frequently underestimate the need for integrated and strategic planning in which data centers are more closely integrated with energy systems – both in terms of waste heat utilisation and energy generation. Issues of digital sovereignty, secure data infrastructure and European competitiveness also frequently play a central role and extend far beyond the municipal level.

Does the next phase of development inevitably mean that further growth will increasingly be distributed outside the established Frankfurt cluster – or will geographical concentration around the Internet Exchange continue to represent a key competitive advantage?

From our perspective, the next phase of development does not mean moving away from the Frankfurt cluster, but rather greater geographical and structural differentiation in its development. The area around the DE-CIX Internet Exchange remains a key competitive advantage for certain business models due to its high level of connectivity, existing infrastructure and dense concentration of IT companies. At the same time, the Frankfurt/Rhine-Main metropolitan region is reaching limits in terms of available land and energy supply. As a result of these challenges, but also because of the emergence of a wide variety of business models and processes that do not necessarily depend on low latency or that require greater proximity to customer locations, some growth is shifting into other parts of the state. Examples from Hesse show that successful projects are already being established in middle-order centres. These decentralised structures do not, however, replace Frankfurt as the centre, but complement it in functional terms.

As explained in the state's data center strategy, Hesse is currently developing instruments to identify suitable locations at an earlier stage and to provide better support for municipal planning and approval processes. How is this intended to change current practice – both for investors and for the municipalities concerned?

On the one hand, the site potential register (Flächenpotenzialkataster) provides investors and operators with greater clarity at an earlier stage regarding potentially suitable locations in terms of grid connections, the existing fibre-optic network, the type of land available and, where applicable, waste heat potential. This contributes to greater transparency and to the development of locations outside the major centres as well. On the other hand, municipalities can use this approach to clearly demonstrate their interest in attracting data centers and are no longer necessarily dependent, for example, on presenting sites at real estate trade fairs and actively searching for investors. This approach focuses on managing supply rather than seeking to manage demand through restrictions.

One recurring topic is the utilisation of waste heat from data centers. Public debate sometimes creates the impression that the mere existence of a data center is sufficient for its heat to be utilised. In practice, however, heating networks, consumers, temperatures, timelines and business models all need to align. How can policymakers help ensure that regulatory ambitions result in projects that actually work in practice?

Utilising waste heat from data centers requires more than regulatory targets alone; it requires a coordinated interaction between technology, infrastructure and market participants. Policymakers can contribute by creating clear and reliable long-term framework conditions that are both ambitious and realistically achievable. These include binding but flexible requirements for waste heat utilisation as well as standardised definitions and planning principles. The expansion of heating networks remains essential. The focus here must be on creating investment-friendly framework conditions. Standardised contractual models and a clear legal framework that provide planning certainty for all parties involved can make an important contribution. Incidentally, the State of Hesse recognised the relevance of this potential at an early stage and supports, for example, the identification and utilisation of waste heat sources through the Hesse Heat Atlas. Data on waste heat potential is freely available there. A new training initiative is also intended to enable Hessian companies, municipal utilities, energy efficiency consultants and heat planners to identify waste heat potential, assess its utilisation and successfully implement corresponding projects.

Hesse today has experience that many other federal states will only acquire in the future. If you could give recommendations to a state that is just beginning to strategically develop larger-scale data center projects, what should it get right from the outset – and what mistake should it try to avoid?

The other federal states in Germany have in fact already embarked on this path – North Rhine-Westphalia and Brandenburg, for example. There are already numerous examples in practice that demonstrate what works and where further improvements can be made. One important aspect, for example, is to support or establish measures designed to promote acceptance at an early stage. This includes taking the concerns of local communities seriously, involving the public openly and at an early stage, reducing uncertainty and creating transparency. At the same time, it is important to establish topic-specific platforms for discussion and dialogue with transmission and distribution system operators in order to gain clarity about where a supply-led land policy makes sense – for example in the conversion of brownfield sites – and where the corresponding framework conditions are in place.

EXPERT INSIGHTS

What new DEVELOPMENTS are particularly relevant or promising for your organisation at the moment?

Particularly relevant are the latest AI chip generations, with power densities increasing to up to 230 kW per rack in 2026 – and expected to rise further. This is accompanied by technological changes in power distribution, such as 800 V DC. At the same time, energy efficiency and continuous PUE optimization are becoming increasingly important.

TORSTEN PESCH | Data Center Implementation Expert
Polarise

The EU call for proposals for AI gigafactories is mobilising up to 30 billion euros in investment – providing a further boost to the sector. Furthermore, the choice of locations for new data centers is changing: greenfield sites and locations away from the major hubs are increasingly coming into focus.

MARTINA WILLIAMS | Head of Work Dynamics Northern Europe
JLL

AI is the strongest driver of demand our industry has ever seen. What matters most now is scalable campus capacity, high-density infrastructure, and efficient cooling combined with waste heat recovery. Those who provide this AI-powered platform will lay the foundation for tomorrow's digital value creation.

MICHAEL NICOLAI | CEO
Telehouse Germany

We see a growing need for data centers to move closer to end users. As a result, future developments are becoming increasingly decentralized and locally distributed, requiring data centers to be considered as an integral part of urban and district development strategies.

PETER JUNKER | Associate Partner
Drees & Sommer

The shift to directly liquid-cooled GPU clusters: whitespace integration with primary and secondary loop, DLC distribution, cluster bring-up and 24/7 operations from a single source. Demand is moving from construction to lasting operational capability, and that is where Gatti's most interesting projects are.

CHRISTOF STÜHRMANN | Managing Director
Gatti Consulting GmbH

Particularly promising is the ongoing customer diversification. AI start-ups, HPC and life-sciences clients are taking up more space and capacity. In parallel, locations beyond Frankfurt, especially Berlin, Munich, Hamburg and the wider Rhine-Main region, are gaining ground where grid capacity is still available.

STEFAN RIEDMANN | Head of Project Management Service – DACH
BCS Consultancy

Our main focus is on making the new possibilities of AI-based data analysis usable for data center operators. Today, most operations still react to alarms instead of acting ahead of them. Alongside energy savings, data-driven optimization is increasingly aimed at operational reliability and at relieving the teams.

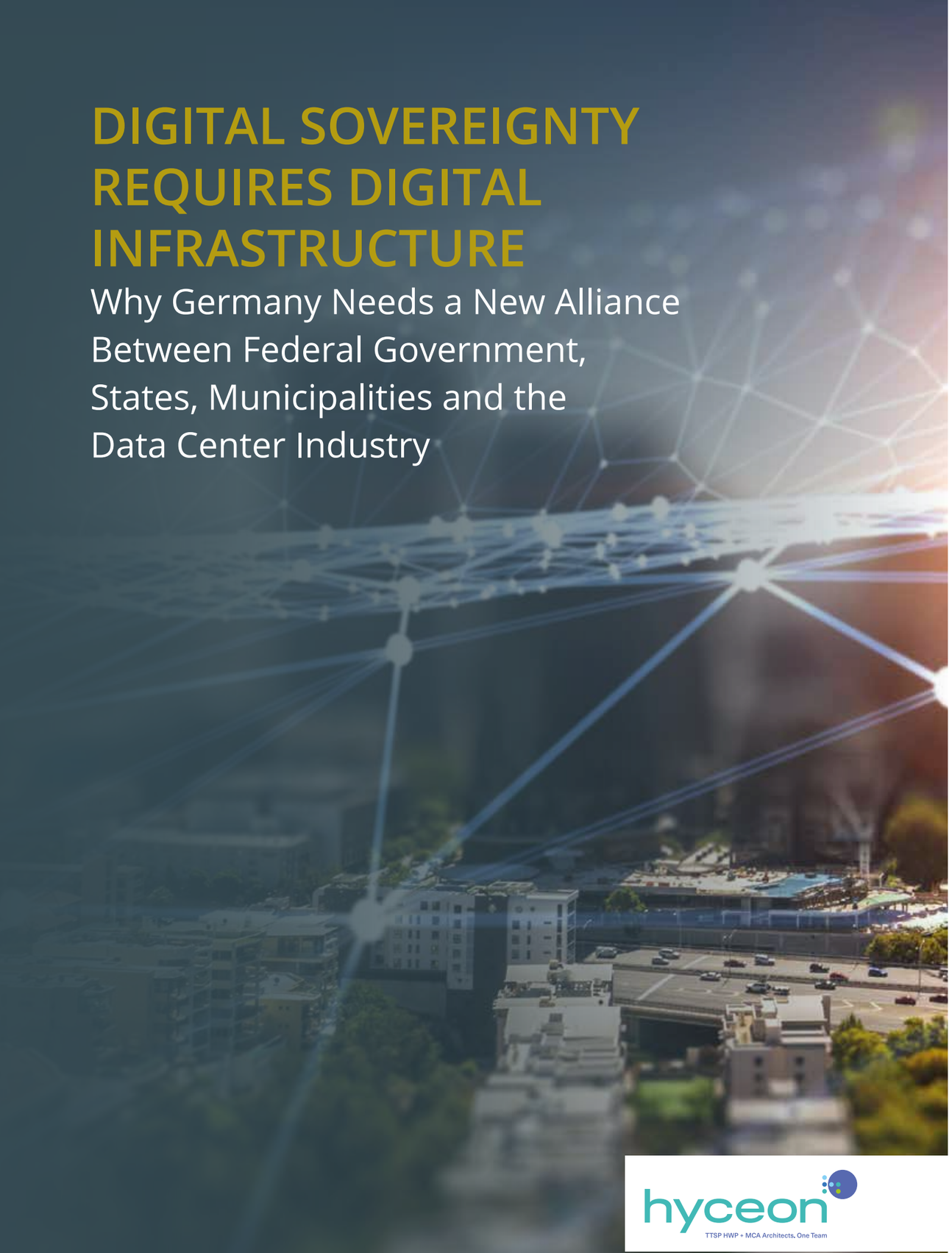
DR. THOMAS WEBER | Co-Founder & Managing Director
etalytics

Grid-Interactive Datacenters: data centres evolve from consumers into system resources – storage, load management and procurement smooth out price peaks. Beyond PPAs: 24/7 carbon-free energy requires hybrid portfolios of generation, storage and flexibility. Location vs. Grid Reality: grid capacity and bottlenecks determine sites, not proximity to customers.

TOBIAS HEYEN | Chief Commercial Officer
ENGIE Energy Management and Solutions GmbH

DIGITAL SOVEREIGNTY REQUIRES DIGITAL INFRASTRUCTURE

Why Germany Needs a New Alliance Between Federal Government, States, Municipalities and the Data Center Industry



hyceon
TTSP HWP + MCA Architects, One Team

Digital sovereignty has become one of the key strategic objectives for both Germany and Europe. The rapid development of artificial intelligence, the growing importance of European cloud solutions and the ongoing digitalization of business and public administration all point to the same reality: any nation that seeks to process, store, and protect data must have access to robust digital infrastructure. Data centers are therefore no longer a peripheral element of digitalization—they are its foundation.

The German Federal Government, the European Union and many state governments have recognized this importance. AI funding programs, initiatives to strengthen European data spaces and investments in digital technologies all pursue a common goal: enabling Europe to become more independent in future technologies and strengthening its digital capabilities.

Yet it is precisely at this point that a remarkable tension emerges. While the need for additional data center capacity is rarely questioned at the national and European levels, the realization of new facilities is becoming increasingly difficult at the municipal level. Approval procedures are growing more complex, competition for land is intensifying, and existing concerns regarding resilient and sustainable energy supply continue to gain relevance. The result is a conflict of objectives that is increasingly slowing the expansion of digital infrastructure.

POLITICAL CONSENSUS OFTEN ENDS AT THE CITY LIMITS

Today, few would dispute the economic and societal importance of data centers. Without them, cloud platforms, digital government services, Industry 4.0 applications, and AI systems would simply not function. At the same time, demand for computing power continues to grow at an unprecedented pace.

Nevertheless, many project developers and data center operators face increasingly critical discussions at the local level. Municipalities are under pressure to prioritize the use of limited land resources carefully. Housing developments, commercial projects, energy infrastructure, transportation networks, and environmental protection all compete for the same space. In this context, data centers are not always perceived as strategic infrastructure but often as additional consumers of land and energy.

This perspective is understandable, but it frequently falls short of the broader picture. While citizens, businesses and public institutions readily embrace the benefits of digital services, the physical infrastructure required to enable them often remains invisible. The result is a classic dilemma: society demands the benefits of digitalization, but not always the infrastructure necessary to support it.

ENERGY IS BECOMING THE DECISIVE LOCATION FACTOR

The energy challenge further complicates the situation. Modern data centers require not only suitable sites but, above all, reliable long-term access to electricity. In economically strong metropolitan regions, grid expansion is increasingly reaching its limits. Access to power connections has become a critical factor in site selection decisions.

At the same time, expectations regarding sustainability and energy efficiency continue to rise. Data centers are expected to operate efficiently, utilize renewable energy sources, and contribute wherever possible to local heat-transition strategies. These requirements are both reasonable and widely supported by the industry. However, additional requirements and lengthy coordination processes often result in significant project delays.

This creates a paradoxical situation: precisely when Germany and Europe seek to expand their digital infrastructure, the conditions required to realize these projects are becoming increasingly complex.

BETWEEN DIFFERENT WORLDS

The data center industry therefore finds itself in a unique position. On the one hand, it represents the interests of businesses that urgently require additional capacity.

On the other, it must address the legitimate concerns of municipalities, grid operators, residents, and policymakers.

The challenge is not to determine a winner in this conflict. Rather, it is to reconcile different interests and create solutions that serve all stakeholders.

Municipalities need planning certainty and tangible benefits for their regions. Grid operators require long-term visibility for infrastructure expansion. Policymakers need adequate digital infrastructure to support their AI and digitalization strategies. Businesses, in turn, depend on stable and predictable conditions to justify investment decisions.

The success of future data center projects will increasingly depend on the industry's ability to bring these diverse interests together at an early stage.

FROM INFRASTRUCTURE PROJECT TO REGIONAL ECOSYSTEM

The data centers of the future can no longer be viewed in isolation. They must become part of a broader regional ecosystem.

This includes integration into municipal heat-planning strategies, the utilization of waste heat, innovative energy concepts, the expansion of renewable energy generation, and early coordination with both grid operators and local authorities. The more data centers are understood as components of regional development strategies, the greater the acceptance and planning certainty they will enjoy.

Most importantly, a change in perspective is required. Data centers are not merely consumers of energy and land; they are enablers of digital transformation. They provide the foundation for AI applications, digital services, advanced industrial processes and a significant share of future economic value creation.

THE HONEST BROKER OF A DIGITAL FUTURE

Germany faces the challenge of not only demanding digital sovereignty politically but also enabling it through the necessary infrastructure. The expansion of data center capacity is an essential prerequisite for achieving this goal.

This requires intermediaries capable of bridging different interests—actors who can bring together technological requirements, energy policy objectives, and municipal development priorities. The focus should not be on a struggle between digitalization and regional development but on identifying shared opportunities and practical solutions.

The future of digital infrastructure will therefore not be decided solely in Berlin, Brussels, or the boardrooms of technology companies. It will also be shaped in town halls, planning offices, and grid control centers. Anyone seeking to achieve digital sovereignty must find ways to connect these worlds.

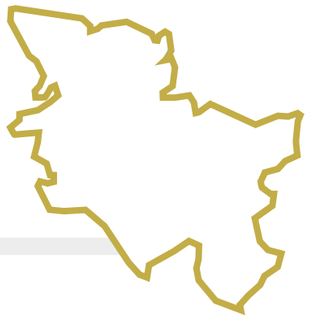
„The real challenge is not to push data centers through against competing interests. The challenge is to create infrastructure that simultaneously enables technological innovation, energy security and public acceptance.

Only then will Germany be able to build the digital infrastructure needed to secure its economic and technological future."

LARS MOSTERT is Chief Operating Officer (COO) at hyceon. He supports data center developments as a lead planner at the intersection of government, municipalities, energy providers, and industry. His focus is on creating viable solutions that bring together digital infrastructure, energy security, and regional development.

DIGITAL INFRASTRUCTURE IN A GEOGRAPHICALLY DISPERSED STATE

Which Data Center Models Are Right for Schleswig-Holstein?



We spoke with **JULIA CARSTENS**, State Secretary in the Ministry of Economic Affairs, Transport, Employment, Technology and Tourism at State of Schleswig-Holstein.
PHOTO: Frank Peter

As a geographically dispersed state, Schleswig-Holstein is structured differently from many of Germany's major economic and digital hubs. What requirements does this create for a future-proof digital infrastructure – and what opportunities could its expansion offer for the state's economic and regional development?

Schleswig-Holstein's economy is predominantly shaped by small and medium-sized businesses. And small and medium-sized enterprises need good infrastructure, which we have in place. Our state is situated between the North Sea and the Baltic Sea and connects Scandinavia with Central Europe, which means that a central network infrastructure with high-performance backbones is already available. Schleswig-Holstein is also a pioneer in fibre-optic expansion. Around 90 percent of the population has access to a fibre connection, and two thirds of them make use of it. This promotes acceptance of digitalisation and, in turn, acceptance of digital infrastructure.

One building block could be smaller, regionally distributed data centers – for example edge data centers developed by private providers, but also by municipal utilities, municipally owned companies or fibre network providers. Do you see this as a model for Schleswig-Holstein to bring digital services and computing capacity more broadly into the regions?

Yes, we are receiving enquiries for data centers across the state because we are making good progress with network expansion. This applies to both power and data networks. Regionally distributed data centers are important for public acceptance, while proximity to businesses and users is in turn an important factor for attracting further investment. In addition, a regional distribution generally makes it easier to utilise waste heat from data centers. So it is a classic win-win situation. Operators can promote their sustainability credentials, while local communities can benefit from affordable heat. Therefore, regionally distributed data centers are an important building block of our digital infrastructure.

Successful data center locations depend on a combination of different factors: high-performance power and fibre networks, suitable sites, planning certainty and appropriate conditions at municipal level. Where do you see Schleswig-Holstein as already well positioned today – and where does the state still need to create the necessary conditions?

Our state is an ideal location for energy-intensive businesses such as data centers because we generate more than twice as much renewable energy as we consume. As mentioned, we are a pioneer in grid expansion, and grid stability is above the national average. The potential availability of suitable sites is also good as a result of grid expansion and the associated construction of numerous new substations. But there is still room for improvement here. Our aim is to use our state development plan to ensure that provision can explicitly be made for land for energy-intensive businesses in these locations.

Different data center models have different location requirements: edge infrastructure benefits from proximity to businesses and users, while large data centers for AI training are less dependent on traditional internet hubs but place high demands on energy supply and grid capacity. Does this breadth of different models present a particular opportunity for Schleswig-Holstein – and does it require a differentiated approach to attracting investment?

The broad range of different data center models presents a major opportunity for Schleswig-Holstein. From an economic policy perspective, our objective is to make better use of surplus renewable energy locally and thereby increase value creation within the state. The establishment of energy-intensive businesses such as data centers follows the grid expansion undertaken by network operators. This applies to both the distribution grid and the transmission grid. Available connection capacity to the power grid is the decisive factor before other requirements can be met. Network operators such as TenneT and SH Netz provide support in this regard. Initial information on available connection capacities can also be accessed online. As grid expansion continues, new available connection capacities will emerge time and again. Therefore, grid expansion in Schleswig-Holstein is important both for the energy transition and for businesses looking to establish operations in the state.

Digital infrastructure can be more than a location factor for data centers themselves. High-performance fibre networks, regional computing capacity and access to cloud and AI infrastructure can also be attractive for industry, SMEs, research and new business models. How can the state help to create a broader regional digital ecosystem around this infrastructure?

The digital economy has been a focus of Schleswig-Holstein's investment attraction strategy for many years. The DiWiSH cluster (Digital Economy Schleswig-Holstein), for example, has existed for 20 years. DiWiSH connects the digital sector across the state and promotes the transfer of digital technologies into other areas of the economy. The cluster brings together business, academia, public administration and politics, thereby strengthening Schleswig-Holstein as a digital location. Schleswig-Holstein already has a broadly established digital ecosystem that is also attractive for data centers.The conditions in Schleswig-Holstein are also optimal when it comes to fibre-optic expansion. Through strong cooperation between the state, municipalities and private-sector stakeholders, we have been implementing a broadband strategy since 2013 that is clearly focused on fibre as its infrastructure objective. Today, fibre networks are available to businesses, academia and citizens in all regions of the state.

Looking ahead to 2030, what would successful digital infrastructure development in Schleswig-Holstein look like to you? What role could both regional and decentralised data centers as well as larger sites play – and how would you know that they had genuinely created economic and societal value for the state?

Schleswig-Holstein is making a major contribution to the energy transition and will also contribute to data sovereignty. Over the coming years, sustainable data centers will therefore be established regionally and on a decentralised basis at many locations, further strengthening small and medium-sized businesses in Schleswig-Holstein. Larger data centers will also be established at a few selected locations. This will depend on the ongoing expansion of the power grid infrastructure, whereas the availability of fibre networks is already no longer a limiting factor today. The data centers will attract further investment and continue to strengthen Schleswig-Holstein as a business location. The municipalities in which they are located will benefit from additional tax revenues and skilled jobs. There is public acceptance for new data centers as long as they are operated sustainably and their waste heat is put to meaningful use. In this way, the demand for data center capacity represents an opportunity for Schleswig-Holstein.

PUBLIC AFFAIRS

Impetus for politics and industry: The voice of the GDA

Over the past year, the data center industry has gained clear visibility in German legislation. For the first time, draft laws and policy initiatives explicitly recognize data centers: as systemically relevant large-scale electricity consumers under grid connection rules, as a distinct category for the apportionment of trade tax, and as strategic infrastructure in the adopted National Data Cen-ter Strategy. Visibility alone, however, does not create a reliable regulatory framework. What matters is how grid access, efficiency requirements, waste heat utilization, and municipal participation are de-signed in practice. This is precisely where the GDA has brought its members' perspective to the table — at the federal level as well as in the State of Hesse and the City of Frankfurt am Main. The following papers document this work. As most of the relevant processes are still ongoing, they also provide the foundation for the work ahead in the coming months. The full documents, availa-ble in German, can be downloaded via the QR codes.

21.08.2026

GEWERBESTEUERLICHE ZERLEGUNG (GewStG)

Fair allocation of trade tax: base the apportionment formula on rated IT load

In August 2026, the Federal Ministry of Finance's draft Income Tax Reform Act 2027 proposed, for the first time, a dedicated trade tax apportionment formula for data centers: nine-tenths of the tax base to be allocated according to an electricity-related parameter and one-tenth according to payroll. The GDA supports the underlying objective but considers contracted grid capacity an un-suitable basis for assessment. The paper explains why the relevant metric should instead be the installed and operational rated IT load and includes a fully drafted proposal for the corresponding statutory language.

22.07.2026

NETZANSCHLUSSPAKET (EnWG)

Reforming grid connection procedures — securing predictable connection capacity

In July 2026, the Federal Ministry for Economic Affairs presented a draft for a new grid connec-tion procedure intended to replace the current first-come, first-served principle. The GDA supported the overall direction but warned against the unilateral reduction of contrac-tually secured connection capacity after three years. Data centers ramp up their load in stages and maintain capacity reserves for redundancy. The position paper sets out eight specific pro-posed amendments to the legislative text — ranging from the recognition of ramp-up plans to the reimbursement of grid connection contributions where allocated capacity is subsequently withdrawn.

15.05.2026

KOMMUNALE WÄRMEPLANUNG FRANKFURT AM MAIN

Waste heat for Frankfurt's heat transition: potential is not the same as usable heat

Frankfurt's municipal heat planning recognizes data centers as a source of unavoidable waste heat. In its May 2026 position paper, the GDA provided context for the stated potential of 951 giga-watt-hours per year: a theoretical potential figure is not the same as heat that can actually be sup-plied. The paper describes the successive stages from identified heat potential to heat actually fed into a district heating network and sets out four key requirements for the implementation phase, which runs through 2028 and in which crucial decisions are now being made.

17.04.2026

NOVELLE DES ENERGIEEFFIZIENZGESETZES (EnEfG)

Bringing efficiency regulation back in line with EU requirements — the draft only goes halfway

The April 2026 ministerial draft aimed at accelerating implementation of the Energy Efficiency Directive brought tangible improvements: a 500-kilowatt threshold, a cost-benefit analysis instead of a comprehensive obligation to utilize waste heat, and a voluntary waste heat platform. Nevertheless, it fell short of the coalition agreement's stated objective of bringing German legislation back in line with EU-level requirements. The position paper assesses the draft from the industry's perspective and identifies the areas in which national gold-plating remains.

09.02.2026

REGIONALE RECHENZENTRUMSSTRATEGIE HESSEN

Hessian data center strategy: planning certainty instead of additional state-level requirements

In response to the consultation on a Hessian data center strategy, the GDA set out in February 2026 why the greatest benefit for Germany's largest data center cluster would come not from additional state-level obligations, but from greater planning certainty. The paper contains a detailed package of measures for reforming the Hessian Building Code, ranging from statutory processing deadlines for special-purpose buildings and preliminary partial building permits to the use of authorized administrative support personnel. It also proposes minimum criteria for data-center-ready sites, which municipalities can use as a practical assessment framework.

16.01.2026

ORIENTIERUNGSPUNKTE ZU NETZENTGELTKOMPONENTEN (AgNeS)

Grid charges: no capacity-based charge and no dynamic tariffs at the expense of reliable consumers

In January 2026, the Federal Network Agency published a set of key principles outlining the future structure of grid charges. The GDA rejected both a capacity-based charge levied on contracted connection capacity and dynamic grid charges. Both approaches would place an additional burden on consumers with stable, baseload-type demand without creating an effective incentive to change their consumption patterns, since data center locations are driven by customer demand. The paper sets out three guiding principles for the further development of the framework. The new system is due to take effect following the expiration of the Electricity Network Charges Ordinance (StromNEV) at the end of 2028.

09.12.2025

ÄNDERUNG DER KRAFTWERKS-NETZANSCHLUSSVERORDNUNG (KraftNAV)

Clarifying the KraftNAV: no priority grid connection for large-scale battery storage

Following the Federal Court of Justice's ruling of November 2024, large-scale battery storage facilities fell within the scope of the German Power Plant Grid Connection Ordinance (KraftNAV). This would have entitled them to priority grid connection based solely on the chronological order in which applications were submitted. In December 2025, the GDA supported the proposal to exclude energy storage facilities from the scope of the ordinance, thereby preventing scarce grid capacity from being blocked for years. The paper links this issue to the prequalification criteria that, in the industry's view, should determine a fair allocation of available grid capacity.

21.10.2025

NETZENTGELTE FÜR INDUSTRIE UND GEWERBE (AgNeS)

Do not penalize continuous loads: flexibility only where operationally feasible

In October 2025, the Federal Network Agency called the continuous-load provision under Section 19(2) of the Electricity Network Charges Ordinance (StromNEV) into question. The GDA argued for retaining it. With their uninterrupted operations, data centers represent reliable and stabilizing loads within the electricity system. In the colocation model, however, operators have no control over the utilization of their customers' IT equipment. The position paper assesses each of the three proposed flexibility options individually and explains why the 10-gigawatt-hour threshold must remain unchanged.

21.09.2025

NATIONALE RECHENZENTRUMSSTRATEGIE

National strategy: speed, grid access, and reliable procedures

In response to the consultation by the Federal Ministry for Digital Transformation and Govern-ment Modernization, the GDA set out its expectations for a national strategy in September 2025: grid expansion supported by transparent capacity maps, the allocation of scarce connec-tion capacity on the basis of qualified applications, and practical efficiency and waste heat requirements instead of rigid quotas. The strategy was adopted on March 18, 2026. Since then, it has become an important point of reference for policy development, including the new trade tax apportionment formula. The paper also examines how the United Kingdom, Italy, and Spain are accelerating permitting procedures.

Interview

BUILDING GOOD NEIGHBOR RELATIONSHIPS

PHOTOS: NTT Global Data Centers

Developing a new data center requires extensive preparation and planning. Project developers must consider a wide range of requirements, some of which may conflict when identifying a suitable location. The greater the computing capacity required, the more challenging the search becomes. One thing is clear: a technically sophisticated concept alone is no longer enough. Early communication, open dialogue, and the involvement of local communities are equally important.

MICHELLE HEITKAMP

We spoke with Michelle Heitkamp, who is responsible for community engagement at NTT Global Data Centers in EMEA.

Community engagement is becoming increasingly important in the data center industry. What do you see as its core responsibilities?

Our experience shows that a strong relationship of trust with the people living in the immediate vicinity of our data centers is essential to local acceptance. Community engagement is about building and maintaining that relationship. We want to be accessible from an early stage, communicate transparently, listen carefully, and incorporate feedback from local residents into the planning process.

Building trust usually takes time. When do you believe community engagement should begin?

We begin the dialogue as soon as a location is being seriously considered. Even during the planning stage, well before the complex permitting process begins, we believe it is particularly important to provide comprehensive information, understand people's concerns, and address concerns that become apparent.

Even if our planning team has conducted thorough research and has not identified any fundamental objections, local decision-making bodies or members of the public may raise legitimate concerns about the construction of a data center. It is therefore essential to identify potential reservations early, engage in dialogue, and provide comprehensive answers to outstanding questions.

This does not guarantee that a project will succeed. However, it significantly increases the likelihood of delivering a project that benefits both the region and our company.

The binding land-use plan for the proposed FRA6 campus in Nierstein was approved unanimously in December 2025, following the earlier unanimous approval of the corresponding amendment to the preparatory land-use plan. What role did early local dialogue play, and how did you approach it?

Early and extensive dialogue was an important part of the process, alongside careful technical planning and the statutory public participation procedures. When the plans were presented publicly in the fall of 2024, we also held our first information event for residents from the surrounding region and representatives of the local media. More than 350 people attended. A second information event in the summer of 2025 also attracted considerable interest. We documented the questions and feedback we received and provided ongoing responses on a dedicated project website. The website also gives interested parties access to the latest planning information, additional background on data centers, and a dedicated contact address for further questions.

What are the greatest challenges involved in becoming a good neighbor?

In our view, the greatest challenge is improving public understanding of data centers. Many people are not aware of the data center capacity required to support digital services such as social media, streaming, online shopping, and artificial intelligence applications. At the same time, uncertainty and concerns about data center operations remain.

That is why we place such importance on direct dialogue with local communities. Initiatives such as the Open Data Center Day (TdoRZ), which the German Datacenter Association will organize for the fourth time on November 6, 2026, provide insights into data center operations and give people an opportunity to ask questions. Participating data center operators across Germany open their doors for presentations and guided tours. We have taken part since 2023 and have seen strong public interest every year.

Another challenge is ensuring that all project partners involved in construction understand the importance of transparent communication. Construction projects require close coordination. When we promise local residents that they will be informed early about possible disruptions, we must first receive the relevant information ourselves in a timely manner. This principle also needs to be firmly embedded in our work with suppliers.

Does community engagement end once a data center becomes operational?

No, quite the opposite. We want to remain a good neighbor after a data center begins operations and to maintain strong, long-term relationships with the people who live nearby. Our goal is to become a recognized member of the local community and to be seen as a reliable partner. This creates trust and provides a basis for working together to find solutions, even when difficult issues arise. A strong reputation is also important for attracting committed employees and earning the confidence of our clients.

Can you share some best practices for building strong and lasting relationships with local communities?

Certainly. Let's start with sharing knowledge: Good neighbors get to know each other. People who understand how a data center works and why it is important are better able to recognize and assess misinformation. Whenever operational requirements allow, we therefore offer guided tours of our data centers.

Authenticity is equally important. We take criticism seriously and address it openly. Unexpected situations can arise during the operation, construction, or expansion of a data center. In such cases, we actively seek dialogue with the people affected.

For example, we have held dedicated community meetings specifically for the 10 to 15 residents living closest to a data center to inform them about planned modifications to the facility. Further meetings are planned.

Ultimately, the key is to remain visible and accessible. In the cities and municipalities where we operate data centers, we also contribute to the local community. This may include sponsoring STEM education programs at schools and universities or organizing community volunteer days. We encourage our employees to take part and give them time off to do so. We also welcome ideas from employees working at our local sites.

Many thanks for the interview!

6. NOVEMBER 2026

SECURE YOUR TOUR TICKET NOW

AN INITIATIVE OF

GERMAN DATACENTER ASSOCIATION

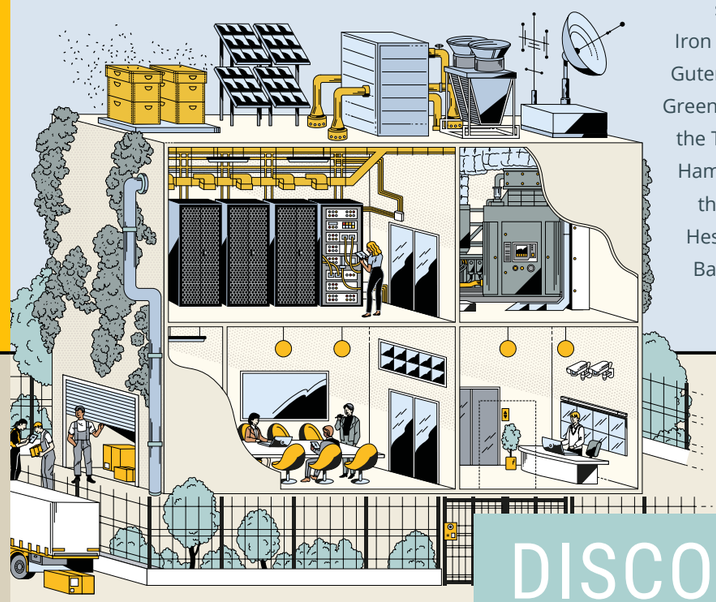
We talk about cloud computing, AI and digitalisation as if they were everywhere and nowhere at the same time. In reality, they have physical addresses – and those addresses are by no means limited to Frankfurt. On Open Data Center Day (TdoRZ), data centers across Germany open their doors, giving the public a rare opportunity to look behind the scenes of our digital lives. This transparency helps build understanding and is an important prerequisite for local acceptance.

TdoRZ

TAG DER OFFENEN RECHENZENTREN

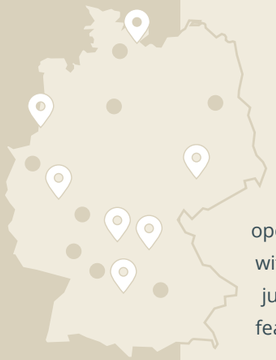
WWW.TDORZ.DE

The participating data centers are spread across the whole of Germany. From qbeyond and Artfiles New Media in Hamburg, Grass-Merkur in Hanover and NTT in Berlin, the map extends to nLighten in Hürth, WIIT in Düsseldorf and Pfalzkom in Mutterstadt, as well as HLRS in Stuttgart, rockenstein in Veitshöchheim, ScaleUp Technologies in Nuremberg-Fürth and NTT in Munich-Unterschleißheim. The Rhine-Main region has a particularly high concentration of participating sites, including Telehouse, NTT, Iron Mountain, CyrusOne, Johannes Gutenberg University Mainz and the Green IT Cube in Darmstadt. In 2026, the TdoRZ map thus stretches from Hamburg, Lower Saxony and Berlin through North Rhine-Westphalia, Hesse and Rhineland-Palatinate to Baden-Württemberg and Bavaria.



DISCOVER THE ECOSYSTEM!

Who keeps the internet running?



This geographical diversity is reflected not only in the locations of the data centers themselves. In 2026, the new “Ecosystem Atlas” will, for the first time, also showcase the companies that plan, build and equip data centers and enable their operation. The Atlas maps these companies across Germany and highlights their role within the ecosystem, as well as their solutions and expertise. In doing so, it demonstrates just how diverse and regionally rooted the wider data center ecosystem is. The Atlas also features career profiles and entry opportunities across the entire value chain.

EMERGENCY POWER SYSTEM RETROFIT

Upgrading whilst operations continue

NTC NOTSTROM TECHNIK CLASEN

WHAT A RETROFIT ENTAILS – AND WHY IT BECOMES NECESSARY

Emergency power systems are generally designed for a service life of twelve years for uninterruptible power supplies (UPS) and up to a maximum of 30 years for emergency power generators (EPG). As they age, the risk of failure increases, spare parts become scarcer and the technology often no longer complies with current regulations or meets the increased performance requirements of a business. A retrofit provides a solution here: this refers to the targeted replacement or comprehensive modernisation of existing emergency power technology – for example, emergency power systems (EPS), uninterruptible power supplies (UPS) and the associated electrical and building management systems – within the existing infrastructure.

The particular challenge here is that, unlike in a new-build project, there is no ‘empty building’ available. The replacement takes place whilst operations are ongoing, i.e. whilst the system continues to run and the areas it supplies – such as a data centre, a production facility or a critical infrastructure operation – must be supplied with uninterrupted power. A shutdown or even a brief interruption to the power supply during the construction phase is usually out of the question in such environments.

WHICH TRADES ARE INVOLVED IN A RETROFIT

An emergency power retrofit is rarely a purely electrical installation, but rather an interdisciplinary construction project requiring the coordination of several trades. The process often begins with the structural framework, such as mounting frames, platforms and brackets. These must be designed to support the new equipment, installed and protected against corrosion before the actual systems can be put in place. Furthermore, structural alterations are often necessary – such as adjustments to existing raised floor systems or other technical and functional changes – to ensure the new system integrates seamlessly into the existing infrastructure.

Once the structural work is complete, the actual installation or reuse of existing components takes place: cable support systems are fitted, and the electrical cabling is either replaced or reused. This is followed by the replacement of the main components with a modern, resource-efficient emergency power system and a highly efficient, uninterruptible power supply. To ensure that the new systems can be monitored and controlled, the building management system (BMS) must also be adapted – for example, through additional bus connections, potential-free signals and updated visualisation within the control system. In addition, the existing monitoring technology, such as fire alarm or access control systems, is usually adapted to the new infrastructure to ensure that safety standards are maintained throughout.

The scope of work usually also includes refurbishment: surfaces are restored, for example through filling and painting work. The process concludes with a final clean of all affected areas, from floors to windows, so that the premises are ready for handover not only technically but also in terms of their physical condition.

Because so many trades are interlinked, a precise construction schedule is crucial. Each construction phase must be timed so that the existing emergency power supply is not interrupted at any point – this often means operating redundant systems in parallel whilst individual components are replaced one after the other. In practice, such projects are therefore often organised as a general contractor arrangement, in which a single point of contact coordinates all trades, rather than the operator having to manage a large number of individual specialist firms themselves.

A real-world example: for a company in Hamburg, two site distribution centres were newly installed, with a scope of work ranging from concrete stations, emergency power generators, UPS systems with batteries and air-conditioning systems to fire alarm, access control and fireextinguishing systems. Such a project exemplifies how many specialist disciplines must work together in a retrofit project to ensure that the end result is a fully functional emergency power supply that complies with standards.

A SECURE POWER SUPPLY IN UNCERTAIN TIMES

There is a clear reason why companies invest in such projects at all: security of supply has become a key strategic issue. Whether it be grid fluctuations, geopolitical risks or statutory safety standards – dependence on the public electricity grid has become a potential weak point in many sectors. One solution to this is controlled independence, achieved through the interplay of uninterruptible power supplies (UPS), emergency power systems (EPS) and battery storage.

In the event of a power cut or voltage fluctuations, the UPS immediately takes over the supply to sensitive loads without any delay – which is crucial, for example, in data centres and server rooms, where even a brief drop in voltage can lead to data loss. It bridges the gap until an emergency power generator takes over power generation. If the UPS cannot provide sufficient backup, emergency power generators come into play: diesel or synthetic fuel-powered generators capable of independently meeting a business's energy requirements – ranging from manually operated units to fully automated systems that automatically detect power cuts and start up within seconds.

Working in tandem, the UPS bridges the first few minutes, whilst the emergency power system takes over immediately afterwards; as soon as the public grid is available again, the switchover back to the grid takes place automatically. This system is increasingly being supplemented by battery storage systems, which act as buffers and active energy managers and also enable costeffective temporary storage. More and more companies are even going a step further and exploring the possibilities of fully off-grid operation, decoupled from the public grid.

A retrofit is therefore not only a technical necessity, as old systems are reaching the end of their service life, but also an opportunity: when replacing them, the emergency power supply can be adapted to meet today's requirements – higher power densities, new regulatory requirements or the integration of battery storage and renewable energy sources.

„In this way, a necessary upgrade becomes a strategic investment in a company's future resilience.

This is achieved whilst simultaneously increasing efficiency, significantly reducing operating costs and improving the carbon footprint."

JÖRG BÖHME has been CEO of Notstromtechnik-Clasen GmbH since 2019, a systems integrator specialising in manufacturer-independent, high-availability emergency power systems. "We equip companies with reliable emergency power so that they can operate with peace of mind and independence" – this is the guiding principle of the company, which, since 1996, has been ensuring that customers – particularly those in critical infrastructure sectors – receive the best possible, needs-based energy supply in emergencies, from design and planning through to installation and maintenance.

EXPERT INSIGHTS

What current DEVELOPMENTS are slowing down market growth?

The biggest obstacle today is local political concern about data centers, largely driven by prejudice (such as noise or water use) but also by a perceived lack of benefit for communities. This leads to delays and, in some cases, the failure of projects altogether.

ALEXANDER HAUSER | Chief Executive Officer
hyceon

Fragmented permitting regimes and inconsistent regulatory frameworks across EU member states slow deployment. We need aligned policy—on grid access, permitting timelines, and environmental standards—so that investment flows to where demand is, not just where bureaucracy is lightest.

NIAMH GALLAGHER | Head of Infrastructure and Energy, Public Policy DACH
Amazon Web Services (AWS)

Grid connection and permitting take longer than the technology cycle: a cluster is planned in months, its power connection in years. Power density is often already too low by the time a site goes live. Binding deadlines for connection and permitting would help. On top of that, supply shortages are making business harder.

CHRISTOF STÜHRMANN | Managing Director
Gatti Consulting GmbH

Different interests and priorities among the various stakeholders (operators, municipalities, policymakers, local residents) can lead to a standstill in planning for the expansion or construction of data centers. “Roundtable” discussions are important

DR. HELMUT KREISER | IT Department, Deputy Head
GSI Helmholtzzentrum für Schwerionenforschung GmbH

Lengthy permitting processes, grid connectivity constraints and regulatory complexity remain among the industry‘s key challenges. Greater planning certainty, more efficient approval processes and better alignment between energy, heat and digital infrastructure can help accelerate investments and bring innovation to market more quickly.

KATJA MODDER | Partner, Head of TMT
KPMG AG

Reliable and affordable access to power remains a key challenge. Limited grid capacity, long connection timelines and high electricity prices can delay new developments. Faster grid expansion and closer collaboration between data centers, grid operators and policymakers are essential to enable sustainable growth.

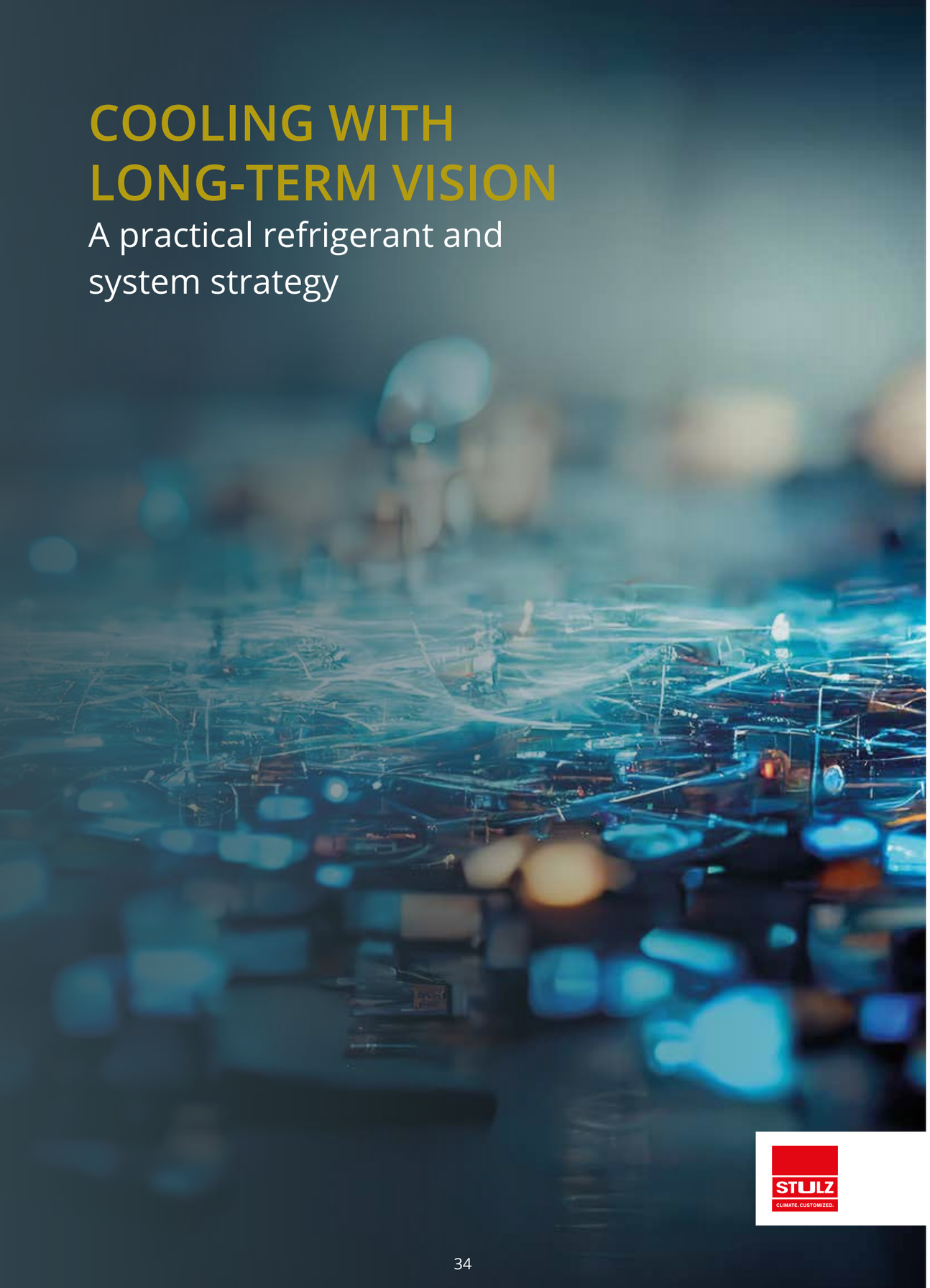
KONSTANTIN HARTMANN | Senior Vice President, Global Sales & Client Services
NTT Global Data Centers

The challenges are many and varied: Sluggish progress in grid expansion, a lack of baseload capacity and high energy prices in Germany, protracted planning and approval processes and fragmented responsibilities, emerging prejudices and growing local opposition to data centers, and a shortage of skilled labor.

JENS PETER MÜLLER | Country Director Germany
Iron Mountain Data Centres

The biggest challenge right now is electricity availability. To be able to carry out larger projects, especially in Tier 1 markets, we are working on combinations of various components to ensure overall electricity availability—grid power, solar, wind, and battery storage solutions. Early involvement of all stakeholders is crucial for this.

CHRISTIAN KALLENBACH | Head of Business Development, Sales & Marketing
GARBE.DC



COOLING WITH LONG-TERM VISION

A practical refrigerant and system strategy

Since as far back as 2006, the regulation of fluorinated greenhouse gases under the F-Gas Regulation has had a fundamental impact on the technological direction of air conditioning systems. With the latest amendment (EU) 2024/573, this development will reach a provisional peak next year. The legislator is once again drastically accelerating the phase-down and, from 2027 and 2030 respectively, will impose Global Warming Potential (GWP) limits of less than 150 on certain system designs that are also used in data centers.

Recent developments, such as the integration of AI systems and ever-increasing power densities in data centers, make it clear that air conditioning has long since moved beyond its status as a secondary discipline within data center infrastructure. Today, it forms a critical backbone for high-availability IT infrastructures and is crucial to the overall efficiency, competitiveness and basic feasibility of modern data center projects. Data center operators are therefore faced with a strategic decision on which direction to take. Simply replacing individual components is not an adequate long-term air conditioning solution. Today, to ensure that infrastructure is competitive and compliant with the law by 2040, a holistic, systems-based approach is essential. Meanwhile, factors such as the choice of refrigerant, operational reliability, energy efficiency and noise insulation must work together seamlessly. Those investing in refrigeration today are also investing in regulatory compliance and site compatibility, which extend far beyond the next deadline set by current regulations.

REGULATORY CERTAINTY AND INVESTMENT PROTECTION THROUGH 2040

2040

EFFICIENCY
Data Center Cooling Solutions with pPUE < 1,08

NOISE REDUCTION
Minimizing Ambient Noise with LWA < 80 dB(A)

CUSTOMIZING
Modular Data Centers in the Age of AI and Edge Computing

REFRIGERANT
Meet the Cooling Needs with low GWP < 150 Refrigerants

FLEXIBLE REFRIGERANT STRATEGY PROTECTS INVESTMENTS

The air conditioning market demands investment-safe and, above all, practical solutions to handle future regulations. With a GWP of 148, the R454C refrigerant offers a compact yet efficient solution for operating Direct Expansion (DX) systems. As an A2L refrigerant, it is flame-retardant and can be easily integrated in data centers with the appropriate safety equipment. Compared with the more flammable A3 alternatives, A2L refrigerant also requires significantly fewer structural and technical safety measures in many DX applications. Existing system architectures can also be retrofitted for low-GWP operation with relatively straightforward modifications.

The STULZ systems of the CyberAir 3PRO DX series show how this architecture has been translated into highly efficient, secure and practical system operation. R454C is definitely no longer a provisional solution. Rather, it forms a strategic building block for a refrigerant strategy that is both compliant with regulations and technically manageable. At the same time, however, the forward-looking infrastructure planning also requires a consistent focus on natural refrigerants. In this context, R290 is establishing itself as a practical solution, both in terms of environmental sustainability and basic thermodynamic efficiency.

The combination of chillers featuring R290 technology and water-cooled indoor units has proved particularly effective in recent large-scale projects. Even in the modular data center sector, operators now often explicitly

request propane. A hybrid portfolio of solutions could therefore be the strategic response to an accelerated phase-out. R454C is suitable for compact DX applications; R290 enables future-oriented, centralized chilled water generation.

SYSTEM ARCHITECTURE THAT EXTENDS BEYOND REFRIGERANT

In the field of cooling technology, looking at individual components in isolation always carries risks in terms of operating costs and system compliance. That is why, today, sustainable air conditioning solutions are characterized, in particular, by the intelligent interplay of all key system factors.

To ensure resilient plant operation, basic parameters such as operational reliability, noise insulation and the refrigerant strategy employed must be integrated directly into the cooling technology design. Energy efficiency also remains a crucial factor. Minimum requirements are set by the German Energy Efficiency Act (EnEfG), among other legislation. In order to reliably comply with these legal requirements, the cooling system – as the largest secondary consumer in the data center – must only incur minimal additional energy costs. Even low-GWP solutions must demonstrate their performance in 24/7 operation under these new conditions. However, alongside energy efficiency, noise insulation is also becoming ever more important in the data center sector. Low-noise systems with an LWA value of less than 80 dB(A) can play a significant role in ensuring the acceptance of new sites.

Voluntary noise abatement measures should also be regarded as a sensible investment, as they reduce legal risks and enhance public acceptance.

LIQUID COOLING AS A KEY TECHNOLOGY FOR MODERN HIGH-PERFORMANCE IT

Artificial intelligence and edge computing are driving a massive increase in rack density. When heat loads exceed 130 kilowatts per rack, air cooling reaches its physical limits. The widespread or hybrid use of Liquid Cooling is therefore inevitable.

Advanced direct-to-chip solutions are already capable of directly cooling around 75 percent of IT workloads. The remaining 25 per cent, which stems from the operation of power supply units and cable losses, is handled by air-based precision air conditioning systems. In high-performance scenarios such as this, Coolant Distribution Units (CDUs) such as the CyberCool CDU from STULZ act as the technological heart of the system. They form the interface between IT-related Liquid Cooling and the building's chilled water infrastructure. The systems control the flow rate, system pressure and temperature distribution entirely autonomously.

At the same time, they ensure seamless system filtration and continuous monitoring. Modular solutions with integrated Coolant Distribution Unit reliably dissipate heat loads of around 1,550 kilowatts per unit.

„Whilst regulatory pressure on data centers is increasing worldwide, this shift also presents an opportunity for operators to thoroughly optimize their data center infrastructure.

Those who plan their architecture with a view to the future can minimize regulatory risks, save on energy costs and thus remain competitive for the long term.“

PETER WÄSCH, a graduate electrical engineer, is Head of Modular Datacenter & MDC Germany and has been with the company since 2023. His many years of international experience in management positions within the data centre industry and his expertise in the field of modular data centres make him a key figure in this segment.

EXPERT INSIGHTS

Which TRENDS do you think will be particularly important in the short term?

Three developments are decisive: the AI-driven increase in data center demand, the build-up of a reliable hydrogen infrastructure, and the implementation of the StromVKG, a capacity market law for. All three show that data centers are no longer an isolated location factor but are becoming increasingly interlaced with the country's energy infrastructure.

MARKUS BLÜM | Managing Director
Green Mountain KMW Datacenter GmbH

AI workloads are massively increasing power demand — power density management is becoming a key priority. Critical short-term trends: high-performance UPS for GPU clusters, 800V DC architectures, grid interoperability, and renewable energy integration for sustainable, scalable data centers.

ANDREAS ROCKENBAUCH | Datacenter Segment Leader Germany
Eaton

We expect rapid growth in AI inference workloads and broader adoption of AI across business processes. At the same time, digital sovereignty, resilient supply chains, and open, interoperable infrastructure will become increasingly important to support innovation and long-term competitiveness.

ADREAS TIMM | Executive Director Sales Central Europe, Member of the Leadership Team
Intel Germany Services GmbH

The transmission operators' maturity assessment is reshaping powered land valuations. Application date no longer determines access; proven maturity through site control, permitting and financial strength does. Queue positions alone must be reassessed. If distribution operators adopt the same framework, many more sites will be affected.

DR. DIRK TUREK | Associate Director
CBRE

The successful implementation of solutions such as onsite generation depends on both public and political acceptance. Many people are still unaware of the critical role data centres play in the economy and society. Industry associations such as the GDA therefore have a key responsibility in driving political engagement and raising public awareness.

STEPHAN SEGBERS | Vorstand
RheinEnergie AG

The defining trend is the shift from construction to production. AI demands infrastructure that adapts faster to changing compute, power and cooling requirements. Adaptive Infrastructure Platforms combine industrialized standardization with flexibility, scalability and continuous adaptability.

HOLGER ZULTNER | Managing Director
Leadership Datacenter GmbH

Battery storage systems are becoming increasingly important as they combine security of supply, efficiency and greater energy independence. In addition, new technologies offer very high levels of efficiency and can eliminate the need to replace wear parts for up to 15 years, resulting in a highly attractive total cost of ownership (TCO) for customers.

JÖRG BÖHME | Managing Director
Notstromtechnik-Clasen GmbH (NTC)

The data center industry must first educate more clearly to dispel prejudice. At the same time, it needs to focus more on creating local value, largely through voluntary community engagement measures, in order to avoid a legal grey area.

ALEXANDER HAUSER | Chief Executive Officer
hyceon

HYPERSCALERS AS THE DRIVING FORCE

How Anglo-American Construction Culture Is Reshaping Data Center Construction in Germany

PHOTO: Max Bögl

Under the influence of international hyperscalers, the development of data centers in Germany has evolved from a trade-oriented construction process into a highly integrated production system. In this system, the general contractor does not primarily assume the role of a traditional contractor, but rather that of an orchestrating system that integrates planning, procurement, and execution into a robust overall structure. This role arises not from organizational preference, but from the need to make different logics compatible with one another: German standards and contractual structures on the one hand, and globally standardized project models on the other.

Established German project models are based on clearly defined scopes of work, sequential phases, and a strict separation between planning and execution. This model is designed to minimize risk through detailed specifications.

Hyperscaler projects, by contrast, follow a logic of controlled ambiguity. Decisions are made earlier, planning statuses remain flexible for longer, and execution begins based on reliable but not final information.

The general contractor acts as an intermediary between these systems. The contractor structures the planning so that it remains compatible with international supply chain logic without violating the regulatory requirements of the German market.

The key shift lies in integration. Planning is no longer a separate, upstream phase but rather an integral part of a continuous process that is closely intertwined with procurement and construction execution. To this end, the general contractor assembles a cohesive team of specialist planners, contractors, and suppliers that is organized not according to traditional trade-based logic but rather according to systems and functions. Electrical engineering, cooling, construction, and control technology are not considered in isolation but as interdependent subsystems of an overall model. The quality of project execution depends less on the optimization of individual trades than on the stability of the interfaces.

The significance of these interfaces is shifting. While the traditional model aims to resolve them through detailed planning, in the hyperscaler context they are deliberately retained as control points.

The general contractor defines them early on, assigns clear responsibilities for them, and maintains them consistently throughout the entire project. Changes are not avoided but are incorporated into this structure in a controlled manner. This results in a different approach to the level of detail in planning: what matters is not the completeness of the documentation, but its compatibility with downstream decisions and processes.

Collaboration with German subcontractors requires a targeted adaptation of working methods.

Many contractors rely on complete construction drawings before they can perform their work. In the hyperscaler environment, this expectation shifts. Services are commissioned based on defined scope of work and functional requirements, while detailed designs are developed in parallel with construction.

The general contractor is responsible for stabilizing this shift by establishing clear guidelines for the level of detail in planning, approvals, and responsibilities. Without this structure, uncertainties arise that directly translate into schedule and cost risks.

Roles such as BIM Manager, Design Manager, Commissioning Manager, and Package Manager—as well as additional specialists for health and safety, quality, sched-

ule management, document management, and interface coordination—are not merely supplementary functions but firmly established management roles.

Another structural difference lies in standardization.

Hyperscalers work with globally developed design templates that enable a high degree of repeatability. These blueprints define not only technical solutions but also processes, verification mechanisms, and documentation requirements.

Here, the general contractor does not play a creative leadership role in the traditional sense, but rather an adaptive one. This role involves translating the specifications into the local context, verifying their compliance with standards and permitting requirements, and integrating them into the supply chains of the participating companies. The focus is not on developing new solutions, but on implementing existing specifications within local constraints, combined with integrated value engineering to optimize the details.

The dynamic nature of these projects leads to a reassessment of time. Construction timelines are shortened, planning and execution phases overlap, and decisions are made under greater time pressure. The general contractor stabilizes this system through clear decision-making structures and defined escalation pathways. Delays rarely result from technical problems, but rather from unclear responsibilities or a lack of decision-making authority at interfaces. Management therefore relies less on traditional schedules and more on continuously ensuring the ability to make decisions.

This results in changing requirements for the disciplines involved. Specialized planners lose their isolated role as sole authors and become part of an integrated production process.

Contractors assume responsibility for planning tasks earlier in the process and must adapt their internal processes accordingly. At the same time, dependence on functioning supply chains and standardized components increases. The general contractor consolidates these dependencies and makes them manageable.

This development does not lead to simplification, but rather to a consolidation of requirements. Complexity is not reduced, but rather shifted—away from the technical detail of individual components toward the mastery of processes, interfaces, and dependencies.

In this environment, a general contractor's effectiveness does not stem from size or individual competencies, but from the ability to establish a consistent system that remains stable under time pressure and integrates different logics.

JOHANNES WEITZEL has led Max Bögl's Data Center MEP division for two years and previously spent 30 years managing the integrated planning of complex large-scale projects.

ULRICH TERRAHE, Founder and Managing Director of dc-ce RZ-Beratung, has developed innovative solutions for energy-efficient data centers for over 25 years.

KEY EVENTS OF THE GERMAN DATACENTER ASSOCIATION

27 JANUARY 2027

POLITICAL KICK-OFF TO THE YEAR AND GDA NEW YEAR'S RECEPTION

At the beginning of each year, our **Political Kick-off** brings together representatives from politics, public administration and the data center industry in Berlin. Together, we discuss current political developments and strategic decisions shaping the expansion of digital infrastructure in Germany.

SEPTEMBER 2027

GERMAN DATACENTER CONFERENCE

The **German Datacenter Conference (GDACon)** is Germany's leading industry event. The two-day conference programme offers valuable insights into technologies, strategies and regulatory developments in the data center industry. Alongside the conference programme, high-quality networking is a key focus – supported by the event app, which facilitates targeted connections, partnerships and new business opportunities.

5 NOVEMBER 2027

OPEN DATA CENTER DAY (TdoRZ)

Every year on the first Friday in November, we organise **Open Data Center Day** (Tag der offenen Rechenzentren – TdoRZ), when data centers across Germany open their doors. Through guided tours, members of the public gain a transparent view inside these highly secure, often little-seen infrastructures – and a tangible answer to the question: "Where does the internet actually live?!"

Depending on the format, GDA members benefit from exclusive access or special conditions – from the members-only New Year's reception and discounts on GDACon tickets and sponsorship packages to free participation for data center operators in TdoRZ.

GERMAN DATACENTER TALENTS & IMPACT AWARDS

YOUR IDEA FOR 2027

Next year, the German Datacenter Association will once again recognise outstanding projects and talent. Are you currently working on an academic thesis, a technological innovation or a solution for more sustainable digital infrastructure? Then mark your calendar: the next application round opens in early April 2027.

DIFFERENT PERSPECTIVES FOR A BROAD RANGE OF TOPICS

As the award has expanded, so too has the range of submissions: academic research now stands alongside technological innovations and solutions aimed at improving sustainability and efficiency. This diversity calls for different approaches to evaluation and is therefore also reflected in the composition of the jury.

Chaired by **Prof. Dr. Peter Radgen** and **Dr. Alexandra Thorer**, the jury brings together experts from academia and research, the data centre industry and IT, consulting and start-ups, as well as municipalities and the public sector. Their different perspectives make it possible to assess not only technical and academic quality and the degree of innovation, but also practical feasibility, sustainability and the added value for digital infrastructure. In this way, the breadth of the different award categories is appropriately reflected in the evaluation process.

ALESSA GANGL
Bechtle / Initiative D21

DR. DANIEL HACKENBERG
Technische Universität Dresden

ALEXANDER HANDSCHUH
Deutscher Städte- und Gemeindebund (DStGB)

HEIKE KOCH
Hessen Trade & Invest

STEFANIE KREUSEL
Deutsche Telekom

PROF. DR. HELENA LIEBELT
Technische Hochschule Deggendorf

JEROME EVANS
firstcolo

DR. LUKA KIM
Vantage Data Centers

PROF. DR. PETER RADGEN
Institut für Energiewirtschaft und Rationelle Energieanwendung der Universität Stuttgart

DR. ALEXANDRA THORER
BCS Consultancy

2026 WINNERS

YOUNG TALENTS

LENA JULIANNA GUDDAT | AN URBAN PLANNING AND ENERGY PERSPECTIVE ON INTEGRATING A DATA CENTRE INTO A SMALL-TOWN ENVIRONMENT

As digital infrastructure expands, the demand for data centres continues to grow. At the same time, data centres continuously generate waste heat, whose potential for municipal heat supply has so far only been utilised to a limited extent. In her master's thesis at Frankfurt University of Applied Sciences, Lena Julianna Guddat examines how a data centre can be integrated into a small-town environment in a way that allows its waste heat to contribute to heating a local neighbourhood.The study reverses the conventional planning logic: rather than taking the data centre as the starting point, it begins with the existing or potential local demand for heat. To explore this approach, the thesis combines an urban neighbourhood design with an energy concept and thermal simulations of a local heating network. Adjacent existing buildings are also included in order to broaden the heat demand base and increase the utilisation of waste heat. In addition, Guddat develops an initial approach to determining the spatial requirements of a data centre. The results show that demand-oriented planning can create new opportunities for both the spatial and energy-related integration of data centres. This makes it possible to consider urban development, heat supply and data centre development together from the earliest stages of the planning process.

ERON QORRI | EFFICIENCY, NOT JUST ACCURACY: AN ENVIRONMENTAL BENCHMARK FOR MACHINE LEARNING ON TABULAR DATA

Machine learning is typically evaluated based on how accurately a model makes predictions, while energy consumption and CO_2 emissions often remain overlooked. In his bachelor's thesis at Karlsruhe University of Applied Sciences, Eron Qorri examines how widely used machine-learning methods can also be assessed in terms of their environmental efficiency. To this end, he compares five common methods across datasets ranging from 178 to 11 million data points, considering model optimisation, training and subsequent use. The results show that no single method delivers the highest environmental efficiency across all dataset sizes. The study also finds that the use of particularly powerful hardware only becomes worthwhile above a certain volume of data. Dataset size itself has a significant impact: in one example examined, reducing the dataset from eleven million to one million data points lowered CO_2 emissions by around 97 percent, while model performance decreased by only 2.9 percent. The overall environmental footprint is also influenced by the number of predictions made and the timing of the computations. The thesis therefore extends the conventional evaluation of machine-learning models to include their environmental efficiency and demonstrates how the choice of model, dataset size and usage patterns affect computational requirements – and, consequently, the energy demand of the underlying digital infrastructure.Innovation & Future Technologies.

INNOVATION & FUTURE TECHNOLOGIES

GRIDFLEX GMBH | TERAWATTS DC CONVERTER: HIGH-EFFICIENCY BATTERY BUFFERING FOR DATA CENTRES WITH DIRECT DC COUPLING

TERAWATTS

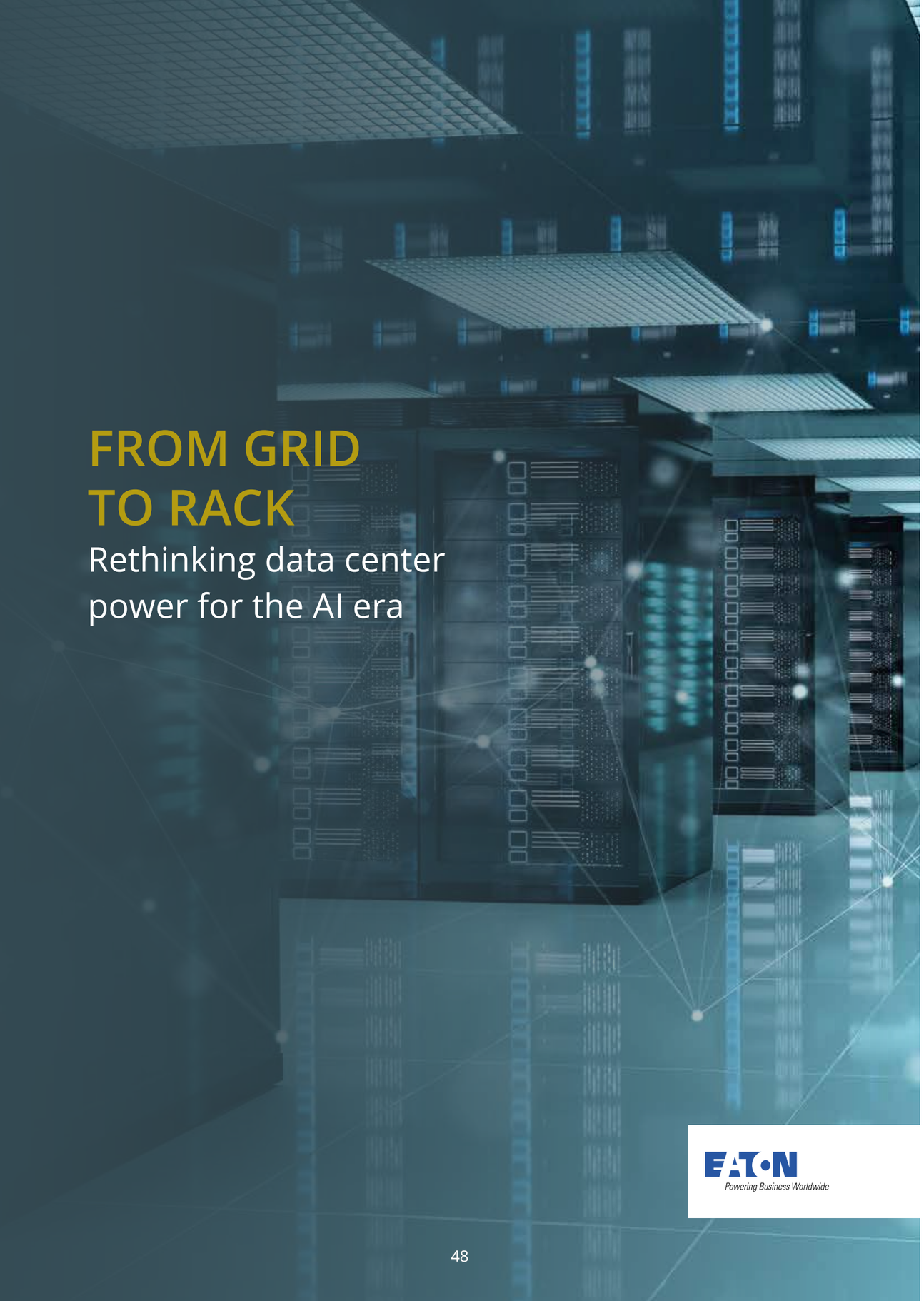
As performance requirements in data centres continue to increase, efficient energy systems and the integration of battery storage are becoming increasingly important. With TERAWATTS, Gridflex GmbH is developing a DC/DC converter that connects battery storage directly to a DC power source using Partial Power Conversion (PPC). While conventional systems route the entire power flow through a converter, PPC technology converts only the voltage difference between the battery and the DC source. As a result, typically only three to five percent of the total power actively passes through the converter. According to the company, this enables TERAWATTS to achieve a conversion efficiency of more than 99.9 percent. For data centre applications, the TERAWATTS D2 has been developed with a power rating of 250 kW and a DC voltage range of 600 to 1,500 volts. Directly connecting a battery buffer to the DC bus is designed to improve charging and discharging efficiency by 2.5 to 3.5 percent compared with a conventional connection. At the same time, the system requires less power electronics, space and material while reducing conversion losses. The project therefore demonstrates how battery storage can be integrated more efficiently into data centre power systems through a different power conversion architecture. A functional prototype has already been developed, with the first pilot projects planned for 2026.

SUSTAINABILITY & GREEN DATA CENTER

ETHERNETICS | FROM MEASUREMENT TO ACTION: AUTONOMOUS ENERGY OPTIMISATION AT RACK LEVEL IN THE DATA CENTER

ETHERNETICS
DECARBONISE DATA CENTERS

A portion of a data centre's energy consumption occurs within the racks and can only be influenced to a limited extent by efficiency measures at the building and facility infrastructure level. Ethernetics addresses this directly with an intelligent Power Distribution Unit (PDU). The technology monitors power distribution within the rack and automatically optimises it during operation. It dynamically balances the load across the three phases and continuously responds to changes in the connected equipment. In addition, the system manages redundant server power supplies: power supplies that are not required can be switched off while maintaining the necessary level of redundancy. The PDU also analyses the load profiles of individual connections, identifying servers that remain unused or operate at consistently low utilisation levels. According to Ethernetics, this approach has achieved reductions in energy consumption at rack level of up to 21 percent in existing installations. The solution is designed as a retrofit and replaces existing rack PDUs without requiring changes to the building, cooling systems or fundamental electrical infrastructure. According to the company, it is already in use at eleven sites across five countries. The project therefore demonstrates how energy optimisation can be extended to the rack level, combining continuous monitoring of power consumption with automated interventions.



FROM GRID TO RACK

Rethinking data center power for the AI era

EATON
Powering Business Worldwide

Artificial intelligence is changing the amount of power a data center needs and how that power is distributed inside the facility.

High-density GPU systems are pushing rack requirements towards hundreds of kilowatts, with megawatt-scale designs now on the horizon. At those levels, conventional low-voltage distribution becomes harder to scale. Higher currents require more copper, larger conductors and more space for electrical infrastructure. Each additional conversion stage also introduces losses and heat.

These pressures are behind growing interest in 800 VDC distribution. However, the move to 800 VDC will not happen across the entire data center at once. The first and most immediate use case is high-density compute.

800 VDC STARTS WITH THE GPU RACK

Supplying power at a higher voltage reduces the current required to deliver the same amount of power. Within high-density GPU racks, that can reduce the size of the power shelves and associated infrastructure, leaving more space available for compute and helping make megawatt-scale racks practical.

Networking equipment, cooling distribution units and other loads could also benefit from DC distribution over time. Adoption is likely to follow the areas where increasing density creates the strongest case, while equipment, standards and operational experience continue to develop.

For many operators, that points towards a hybrid architecture for some time to come. Existing AC infrastructure can continue to serve conventional loads while 800 VDC is introduced for the highest-density compute.

RETHINKING THE POWER CHAIN

Higher-voltage distribution can reduce current, conductor size and conversion losses. Greater gains become possible when the complete power chain is reconsidered around the requirements of AI infrastructure.

A recent joint Trane Technologies and Eaton reference design gives an indication of the potential. By advancing medium-voltage architectures for high-density AI facilities, the design reports combined energy-efficiency gains of up to 15%, copper reductions of up to 80% and installation-cost reductions of up to 30% compared with conventional low-voltage designs.

These figures relate to the complete reference design rather than 800 VDC in isolation. They show the potential available when power conversion, distribution and protection are engineered together from the grid connection through to the rack.

ENGINEERING FOR A POWER-SENSITIVE ENVIRONMENT

Direct-current distribution is already established in other industries, but data centers bring a particular combination of high power density, sensitivity to power disturbances and demanding availability requirements.

800 VDC distribution therefore requires careful coordination across the electrical system. New technologies such as solid-state transformers and solid-state circuit breakers are being developed for these architectures, with protection, power conversion, energy storage and rack-level equipment all needing to work together.

The relationship with the rack itself is especially important. Protection has to respond quickly enough to isolate faults while avoiding unnecessary disruption to adjacent compute. Decisions made around power shelves and GPU loads can consequently affect equipment and protection strategies much further upstream.

Facility electrical engineers, rack designers and equipment suppliers will need to work more closely as rack densities rise. Power architecture can no longer be developed independently of the compute systems it supports.

BUILDING EXPERIENCE WITH HIGHER-VOLTAGE DC

There are potential advantages to moving to still higher DC voltages as rack and facility power continues to increase. For now, the industry has a substantial amount to learn from deploying 800 VDC safely and reliably at data center scale.

Those deployments will build practical experience in areas including protection, switching, safety, maintenance and system coordination. They will also help operators establish where DC distribution provides the greatest benefit and where conventional AC remains the better fit.

The lessons are already feeding into thinking about the next generation of power architectures. Rather than a single wholesale transition, the path is likely to be a gradual expansion of higher-voltage DC as technologies mature and operational confidence grows.

PREPARING GERMANY'S INFRASTRUCTURE FOR DENSER COMPUTE

Germany faces the same rapid increase in AI compute density as the wider global market, alongside particularly acute questions around power availability, efficiency and resilient digital infrastructure.

800 VDC cannot address shortages in grid capacity. It can, however, help operators make better use of the power and physical space available within the data center, particularly as GPU racks move towards much higher densities.

Planning for that transition now gives operators more flexibility as AI infrastructure evolves.

„The immediate focus is the high-density GPU rack, but the engineering experience gained there will influence power distribution across the wider facility.

As the data center ecosystem adapts, 800 VDC is likely to become an important part of how new capacity is designed, protected and scaled."

ANDREAS ROCKENBAUCH has been working in the data center industry for almost 25 years. Now in his eighth year with Eaton, he is leading Eaton's Data Center Segment Germany since the beginning of 2025. Previous positions included positions at other well-known companies in the industry. He also holds an EMEA Key Account Manager position for three global colocation operators.

CONTRIBUTORS

hyceon
TTSP HWP + MCA Architects. One Team

TTSP HWP Planungsgesellschaft mbH is an interdisciplinary planning and consulting company specializing in the development, design, and delivery of data centres, as well as complex infrastructure and real estate projects. The company combines expertise in architecture, engineering, master planning, and project management, supporting both local and global clients throughout the entire project lifecycle. Since the merger of TTSP HWP and MCA Architects, the two companies have operated as an integrated pan-European group with offices in Germany and Ireland. Together, they leverage their extensive experience with the brand hyceon, to deliver innovative, sustainable, and energy-efficient solutions for data centre projects across Europe.

WWW.TTSP-HWP.DE

EATON
Powering Business Worldwide

Eaton is an intelligent power management company helping the data center industry design, build and operate more scalable, resilient, efficient and sustainable digital infrastructure. As AI, cloud, edge computing and big data increase rack densities, dynamic loads and pressure on grid connections, operators need to add capacity faster without compromising uptime, safety, cybersecurity, energy performance or thermal efficiency. Eaton brings together power distribution, backup power, grid-interactive UPS, energy storage, modular and prefabricated systems, digital infrastructure management, racks and enclosures, lifecycle services and advanced cooling technologies to help operators optimize critical infrastructure from grid to chip.

WWW.EATON.COM

NTC
NOTSTROM
TECHNIK CLASEN

Notstromtechnik-Clasen GmbH (NTC) has been a leading systems integrator in the field of emergency power design and installation for over 30 years. As a manufacturer-independent company, we specialise in integrating bespoke emergency power solutions into existing infrastructure, as well as implementing complete power supply systems in accordance with individual customer requirements and statutory and infrastructural specifications. Our extensive experience ranges from early server room installations in the late 1990s to state-of-the-art data centres of all sizes – including projects with a capacity of up to 300 MW. A key factor in our success lies in the manufacturer-neutral consultancy, planning, implementation and support we provide for in-house power supply solutions, including retrofits. NTC develops bespoke concepts that are precisely tailored to our customers' technical, economic and operational requirements – regardless of whether existing systems are being expanded or new facilities are being built from scratch.

WWW.NTC-GMBH.COM

NTT DATA

Global Data Centers, a business unit of NTT DATA, operates one of the world's largest data center platforms, with more than 160 data centers across over 20 countries and regions. As a carrier-neutral operator, NTT provides its customers with access to leading cloud providers, internet exchanges and telecommunications network providers, including its own IPv6-compliant global Tier 1 IP network. With advanced power and cooling solutions, NTT provides the foundation for modern high-density and AI infrastructure, enabling secure, scalable connectivity at both regional and global scale.

SERVICES.GLOBAL.NTT/GLOBALDATACENTERS

STULZ is a global provider of innovative, mission-critical cooling solutions. Founded in 1947 and with its headquarters in Hamburg, Germany, it is represented by 33 production and sales companies, a network of more than 150 partners and produces in 8 countries. Its solutions provide precise temperature and humidity control, as well as reliable cooling capacity, to safeguard the operation and longevity for data centers, telecom infrastructure and industry.

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As the world's largest data center real estate practice, CBRE Data Center Solutions provides the strategies, insights and end-to end services needed to optimize data center solutions from inception through disposition. With an unparalleled understanding of the market, CBRE leverages its extensive global footprint and deep industry expertise to deliver tailored solutions that meet the unique needs of clients across the globe. The Data Centre Solutions team has covered the market for over 25 years, amassing unparalleled expertise in this distinctive asset class.

WWW.CBRE.COM

The Max Bögl Group is one of Germany's leading construction and technology companies. Thanks to its high level of vertical integration, industrial prefabrication, and in-house logistics, the company efficiently and reliably executes complex large-scale projects. In the data center sector, Max Bögl develops and builds turnkey solutions from a single source. Together with its affiliated partner company, dc-ce RZ-Beratung, the Max Bögl Group offers a comprehensive range of services for data center projects.

WWW.MAX-BOEGL.DE

ABOUT GDA

GERMAN DATACENTER ASSOCIATION AND GERMAN DATACENTER CONFERENCE

The German Datacenter Association (GDA) is the industry association representing Germany's data center sector. It represents around 320 member companies reflecting the full diversity of the data center ecosystem: data center operators, suppliers, service providers, as well as research institutions and municipalities. The association provides them with a platform to strengthen the growth of the industry together and to improve its visibility and recognition across business, society and politics.

Since 2022, GDA has organised the German Datacenter Conference (GDACon). It brings together decision-makers from the data center industry with representatives from politics, the energy sector and the wider digital infrastructure ecosystem.

The German Datacenter Association was founded in 2018 and is based in Frankfurt am Main.

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PUBLISHER
German Datacenter Association e.V.
Mainzer Landstraße 181
60327 Frankfurt
+49 69 130 134 70
www.germandatacenters.com

EDITOR-IN-CHIEF
Julia Niederwipper
Senior Manager Brand & Content Strategy
niederwipper@germandatacenters.com

CONTRIBUTIONS
German Datacenter Association
(Julia Niederwipper, Nik Maurice Krämer, Melissa Vollmers)

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hyceon
Lars Mostert

CBRE
Dr. Dirk Turek

Eaton
Alexander Rockenbauch

NTC Notstromtechnik Clasen
Jörg Böhme

NTT Global Data Centers
Michelle Heitkamp

STULZ
Peter Wäsch

Max Bögl
Johannes Weitzel,
Ulrich Terrahe

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www.coast-design.de

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