



**Data Center
Group**



**Data Center
Engineering**

Innovative data center design

**Architecture and technical building
equipment for your IT infrastructure**

We plan today for your data center of tomorrow

Holistic, future-proof and cross-industry

Regardless of the industry, be it your own server room or a hyper-scale data center, be it a new building, a modular construction or the upgrading of a data center area: Our planning is done completely from one source. We develop architecture and technical building equipment, creating the greatest possible added value for your data center planning and project. Together for your digital home, together for the future of your business.



Secure and highly available

From operations with just a few servers to large-scale projects, high availability and top technical performance are required 24 hours a day, 365 days a year. Professional and structured data center planning forms the basis for this.



Economical

A well-planned project can save a lot of time and many costs. Our many years of experience in the planning and development of small and large data centers enable us to guarantee a diligent control of costs and time schedules as well as the trouble-free progress of the entire project.



Future-proof

A data center with a future perspective: planned to meet your needs, but also flexible to grow with your business developments and requirements. Through experience and foresight, scalable data centers are constructed to meet future standards and requirements.



Sustainable planning

A thoughtful data center design optimizes energy consumption, allows flexibility for future expansions and protects against physical hazards such as fire or water ingress. At the same time, the recycling of building materials and the use of sustainable materials are playing an increasingly important role. Recycled steel or ecological insulation materials reduce carbon

footprint, promote raw material efficiency and extend the service life of building materials in line with the circular economy. This not only protects the environment, but also creates the basis for a future-proof IT infrastructure. Sustainable architecture combines functionality with responsibility.



Advantages

Our advantages

Your needs as the foundation for sustainable and future-proof data centers

We combine data center expertise with architectural and technical know-how to turn your vision of a future-proof IT infrastructure into reality. Our solutions are based on innovative and ecological approaches that combine sustainability and efficiency. Thanks to state-of-the-art planning tools and an experienced team, we guarantee seamless, holistic planning - from the initial idea through to implementation.

Interdisciplinary expertise

We understand the requirements of the various parties in the planning project. This enables us to transfer your IT requirements to the structural architecture and TBE-planning.

Requirement-based planning

By means of demand-oriented planning, we avoid expensive overcapacities. This applies both to the currently required performance and to future developments and changes.

Innovative and sustainable concepts

We use innovative concepts to plan for the future today. Our planning takes into account advanced, sustainable and ecological concepts such as photovoltaic systems, surplus heat recovery, facade greening and green roofing, as well as charging and supply infrastructures for e-mobility.

Latest technological standards

Using the latest CAD and BIM software (Building Information Modeling), you can view your data center in the form of a 3D model even before it is built. This digital twin not only serves as a visualization, but also allows you to identify and prevent potential collisions in the planning of the building even before the actual construction. Benefit from optimized workflows and a wide ranging all-in-one solution.

Overall assessment

With our own experienced architects and specialist engineers, we are able to provide complete general planning services, thus avoiding loss of knowledge and minimizing risks. We consider the entire value chain for security, efficiency and high availability of IT infrastructures in our planning and ensure that your data center is designed for the future.



Architecture

A universal contact for your data center planning

Our interdisciplinary team consists of specialists in data center development. Thanks to the interlocking cooperation between architects and TBE planners, we work efficiently and can also accelerate all planning phases in your data center project. Benefit from increased added value, bundled know-how and a central contact person.

Our additional service portfolio for architecture

- Ground expertise
- Statics
- Species protection studies
- Planning of outdoor and open-air facilities
- Noise protection surveys
- Fire protection concepts
- Water management
- Drainage applications



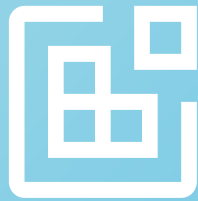
Technical Building Equipment (TBE)

Planning of technical building equipment from a single source

The correct design and optimization of technical systems contributes to maximum energy efficiency. With the professional planning of the technical building equipment (TBE), an optimum of cost savings and safety can be achieved in the execution.

Our additional service portfolio for TBE services

- Heating, air conditioning and ventilation systems
- Building automation
- Energy concepts, waste heat recovery
- Medium and low-voltage switchgears
- UPS systems
- Emergency power systems
- Photovoltaics
- Electrical installation
- Fire alarm technology (DIN 14675)
- Perimeter protection
- Burglary detection technology
- Access control
- Video control
- Voice and alarm systems
- Data networks
- Extinguishing systems



Our engineering service portfolio

Pre-concept building

We provide you with an orientation guide before we enter into actual planning. The prerequisite for this initial solution concept is a precise analysis of requirements, utilization and quality for your data center. The preliminary concept not only includes a cost estimate, but also a 3D model of your future data center. Thanks to state-of-the-art BIM software, we can create this digital twin, which will not only convince you, but also simplify further coordination and approval processes.

Permit planning

Hand in hand, we take care of the necessary building permits within the framework of architecture and the TBE. In this context, we provide verifications for technical, structural and building physics aspects, which must be submitted to the authorities for the building permit.

Request for proposals and their evaluations

We prepare the RFP's and evaluate the incoming bids for you. Trust our many years of experience and our knowledge of the industry, on the basis of which we have drawn up criteria for evaluating incoming offers. We then compile the contract documents for all service areas.

Building design

This planning phase involves the concrete elaboration of the preliminary design. With this conceptual design, we enter into negotiations on the approvability and prepare a cost calculation, so that you have full transparency over your project.

Execution and detailed planning

The building permit has been issued. A detailed execution plan prepared by us provides the necessary information to the specialists involved in the planning.

Project supervision

Using a project plan, we monitor all work processes and compliance with milestones to ensure that your data center is completed on time. We also constantly monitor the execution and quality of the service to prevent defects.

Building Information Modeling (BIM)

The digital twin for precise planning

Building Information Modeling (BIM) is used to plan and control construction processes. Virtual models are used to create a digital twin of your data center. The digital information makes it possible to plan and construct buildings holistically and support them throughout their entire life cycle.

The model collects all the information and makes it accessible. This means that everyone involved in the project knows the status at all times. The model comes into play in the early construction phase and provides information on possible collisions. In this way, potential problems are identified and rectified before they can cause high costs or timing delays.

Data centers are subject to particular challenges due to their high technical complexity: precise cooling concepts, redundant energy supply, optimal use of space and sustainable design. BIM offers decisive advantages and use cases that make planning easier.

Energy and sustainability analysis

Digital twins enable CO₂ balancing of all materials used before construction and an analysis of emissions during the construction phase as well as later operation. In addition, they enable a carbon footprint to be calculated for all materials used before construction and an analysis of emissions during the construction phase and subsequent operation.

4D schedule simulation

The geometric data from the model is linked to the construction schedule in order to simulate construction progress and identify potential bottlenecks or delays at an early stage.

Quantity and cost calculation

Based on a BIM model, the geometric and alphanumeric data is used to generate exact quantities. These numbers can be utilized for cost estimates and tenders, which increases the accuracy of such a calculation and minimizes errors.

Inventory documentation and facility management

Once a construction project has been completed, the BIM models can be used for documentation of the building inventory and for facility management. The model serves as digital twin of the building and provides a detailed basis for maintenance, renovation and building management.



Sustainability in data center planning

Our contribution to a green future

The construction industry contributes significantly to CO₂ emissions worldwide, which is a particular challenge in the context of data center construction. Data centers should not only be operated efficiently, but should also be designed sustainably regarding their construction and the use of resources. Sustainable building materials and innovative recycling methods play a key role in minimizing the environmental footprint of data centers while increasing their efficiency.

Sustainability



Use of sustainable building materials

Minimization of CO₂ emissions and use of recycled materials



Recycling and reuse

Reduction in the need for new raw materials, careful use of natural resources



Recycling of electronics

Recycling of valuable metals, disposal of hazardous substances



Energy-efficient design

Use of renewable energies (wind, solar power), optimization of thermal energy through digital twins and CFD analyses



Holistic design

Combination of sustainable building materials and energy-efficient building concepts



CO₂-reduced concrete

Use of industrial by-products (e.g. coal fly ash, silica fume), recycled concrete from demolition materials



Water management

Rainwater utilization for cooling and irrigation, efficient water-saving measures



DGNB, LEED and BREEAM

Planning in accordance with national (DGNB) and international certifications for sustainable construction (LEED, BREEAM)



Wood as a renewable raw material

Use of wood from sustainable forestry, lower CO₂ footprint than concrete or steel



Green insulation materials

Materials such as hemp, sheep's wool, recycled glass, optimization of material use through BIM (Building Information Modeling)



Life cycle management

Life cycle analysis (LCA) to assess the the environmental impact



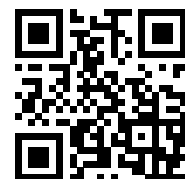
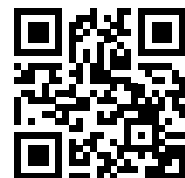
Extending the life cycle

Reconstruction and relocation of data centers to new locations

Our references

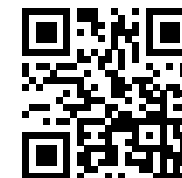
We offer solutions for companies of all sizes - from small businesses to global corporations and the public sector.

Scan the QR code and see more cross-industry references



University of Potsdam "Powerful" solution in the transformer building

In order to meet the increasing demands on its IT infrastructure, the University of Potsdam was in need of a modern data center. DCG planned the project in an old transformer building, which is a landmarked building. Despite challenges such as limited space, monumental protection requirements and ongoing operations, the project was planned according to the customer's wishes and completed on schedule.



envia TEL Planning for high-performance data center

The Data Center Group has planned a modern high-performance data center for envia TEL in Taucha near Leipzig. Covering 2,000 square meters with 40,000 servers, it meets the highest security standards in accordance with the DIN EN 50600 standard. A particular focus was placed on sustainability: the waste heat is used via heat pumps to heat office space and the data center is operated entirely with renewable energies.



KUKA AG Sustainable solution for mechanical engineering company

The Data Center Group has planned a highly available and sustainable data center for KUKA AG at its headquarters in Augsburg. Particular challenges in the planning were the self-sufficiency and green orientation of the infrastructure, which was designed to meet the future requirements of digitalization. DCG was responsible comprehensive planning, including the creation of a specification sheet and TÜV certification in accordance with TSI Level 3.

Our other services



Consulting – Advice for the first step into your new data center

Would you like to get advised first? Our experts are at your side right from the start. Together, we develop a customized strategy that precisely meets your requirements - from the initial needs analysis through to a detailed site evaluation. We provide you with professional support during all planning and decision-making processes and ensure that your project takes the right direction from the start.



Engineering – Reliable planning and smooth integration

Do you want to take the next step and move your project forward? We make sure that a vision becomes reality. Benefit from our close connection and cooperation between the engineering and construction departments. This results in solutions that precisely meet your specific requirements and fit perfectly into your infrastructure.



Construction – Efficient implementation and precise implementation

Do you want to make your vision a reality and complete your construction project? We make sure that your projects are implemented smoothly and on time. With our focus on the construction of data centers and our expertise as a general contractor and general transferee, we offer you maximum quality and reliability. Thanks to our integrative approach, we create buildings that not only meet the highest standards, but can also be seamlessly integrated into your existing infrastructure.



Products – Innovative solutions for your requirements

Are you looking for flexible and future-proof solutions for your IT infrastructure? We offer you an extensive portfolio - from micro data centers to modular room systems and data center containers. Our products are designed to precisely meet your specific requirements and enable maximum scalability. With our intelligent technology and first-class quality, we create solutions that are ready for immediate use and can be integrated smoothly into your environment.



Services – Comprehensive support for reliable performance

Do you want your data center to run perfectly at all times after the construction phase? Our service team will take care of the ongoing maintenance and servicing of your system to ensure that you can concentrate fully on your business. From regular inspections and security updates to 24/7 support - we take care of the technical support so that your data center remains resilient and efficient in the long term.



Solutions – Secure operational management for maximum relief

Would you like a little extra? The Data Center Solutions business unit offers you complete operating concepts that cover all technical and infrastructural aspects. We take responsibility for the ongoing performance and availability of your data center. This allows you to concentrate on your core business while we ensure reliable operations.



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