

# PLANNING THE DATA CENTER



## PLANNING AND SITE SELECTION

- ★ Financial viability
- ★ Real estate law and acquisition
- ★ Law and business
- ★ Feasibility studies
- ★ Property leasing
- ★ Site due diligence
- ★ Contract management
- ★ Project management
- ★ Tax and structuring
- ★ Regulations and compliance
- ★ Power purchase agreements

- ♥ Detail orientation
- ♥ Clear communication

Professionals in this working area, that specialize in data centers, need to take into account various technical and environmental considerations. For example, in the site selection process, they must take into account the critical needs of data centers such as reliable, high-capacity (green) power supply and excellent connectivity. Furthermore, they must be up-to-date on local policies and permits that may complicate the planning.

Indeed, working in this segment means possessing different areas of expertise, depending on the company services. Examples are real estate law and contract management, site due diligence, project management and compliance, but there are many other specializations to be considered!

## DESIGNING THE DATA CENTER

- ★ Architecture
- ★ Modular design
- ★ Building regulations
- ★ Energy efficient building
- ★ Mechanical design
- ★ Electrical design
- ★ Utility design
- ★ Technical engineering
- ★ Quality and safety standards

- ♥ Systematic thinking
- ♥ Creativity

Designing a good data center design requires a wide range of expertise.

Professionals in this working area, that specialize in data centers, must possess relevant architectural knowledge, combined with energy efficient building methods and the right technical engineering competencies for the design of business critical environments. In this, connectivity, power and cooling infrastructures play an essential role.

# BUILDING THE DATA CENTER



## CONSTRUCTING THE DATA CENTER

- ★ Civil, structural and architectural services
- ★ Engineering and installation of electrical and Mechanical systems
- ★ Data-infrastructures
- ★ Environment, Quality and safety
- ★ Project management

- ♥ Collaboration
- ♥ Problem solving

Once a data center is planned and designed, the actual construction can take place. In construction, we can differentiate two areas: "white space" in data center refers to the area where IT equipment are placed. This includes servers, storage, network gear, racks, air conditioning units, power distribution systems. The grey space in the data centers is the area where back-end infrastructure is located. This includes switchgear, UPS, transformers, chillers and generators. Depending on the company, employees are specialized in white space, grey space, or both.

People working in this segment, must have in-depth technical building knowledge, as well as a deep understanding of quality and safety standards.

## SUPPLYING THE DATA CENTER

- ★ Manufacturing
- ★ Engineering in a wide range of areas, varying from: power supply and distribution, emergency generators, fire safety, HVAC, physical security, racks, IT hardware, connectivity
- ★ Energy efficiency
- ★ Maintenance planning
- ★ Mechanical/electrical building

- ♥ Problem solving
- ♥ Innovation

Construction companies often collaborate with preferred suppliers. The suppliers work together closely with the general contractor to integrate the equipment in the total facility. This advanced equipment covers a wide range of specializations, varying from a.o., power supply and back-up systems, cooling systems, physical security and fire safety.

Technical improvement of this equipment is key for the endurance of these companies. In the data center industry, this more often means improvements in energy efficiency, reliability and maintainability. Working in this segment, means having in-depth knowledge on specific products and its added value for data centers.

# RUNNING THE DATA CENTER



## MANAGING THE DATA CENTER (BUSINESS)



- ★ Planning & development
- ★ Financial control
- ★ Customer support
- ★ Project management
- ★ Monitoring and supervision
- ♥ People skills
- ♥ Reporting

Companies that manage the data center from a non-technical, business perspective are always on the lookout for organizational development. Its employees are responsible for business continuity and for making strategic plans to develop the company further. In addition, they have an important role as leader for its direct staff or even the entire company. Excellent leadership and people skills are therefore essential. Finally, this management needs excellent reporting skills as they need to inform and explain their plans to its client, which is the owner of the data center.

## MANAGING THE DATA CENTER (OPERATIONAL)



- ★ Technical monitoring
- ★ Continuity of all critical systems
- ★ Mechanical/electrical building
- ★ Maintenance planning
- ♥ Escalation management
- ♥ Reporting

Companies that manage the data center from an operational perspective, have the responsibility to make sure that all critical services of a data center are running continuously, without outages. People working in this area continuously optimize processes in order to prevent escalations. They see to it that technical staff members do their work accurately and make sure that the customer is supported in their needs. Just as is the case with the non-technical management, they need excellent reporting skills as they need to inform and explain their plans to its client, which is the owner of the data center.

## SECURING THE DATA CENTER



- ★ Access control
- ★ Surveillance and CCTV-operations
- ★ Safety and emergency measures
- ★ First responder to incidents
- ★ Reporting
- ♥ Customer care
- ♥ Observation

Often, the security management is also outsourced to a third party. Security professionals are responsible for security and safety of the data center premise. They monitor the facility, detect potential threats and risks and take immediate action in case of suspicious events. The guards are also the first point of contact for visitors. They take responsibility for identifying, authenticating and granting access to employees and visitors. Therefore, excellent customer service skills are essential. Lastly, they are the first responder in case of emergencies, providing adequate assistance and ensuring all those present.

# ONGOING SERVICES IN THE DATA CENTER



## CONSULTANCY



- ★ Expertise in areas such as, strategy, risk management, recruitment, HR, insurances, security, sustainable policies, compliance, subsidies etc.
- ♥ Analytical
- ♥ Problem solving

Consultancy companies provide data centers with insights and expertise that can help them to make better decisions or build more effective strategies. This could apply to various disciplines across the organization.

People working in this segment enjoy problem solving. They are analytical, critical thinkers that have the ability to dive deep into the client's challenges. In addition to creating effective, structural solutions, they can convey the message in a clear and persuasive manner.

## TESTING AND COMMISSIONING



- ★ Knowledge of all mission critical systems
- ★ Certifications (NEN/ISO)
- ★ Technical documentation
- ★ Asset management
- ♥ Analytical
- ♥ Detail orientation

Reliability is a key feature of a data center, perhaps even the most important one. Commissioning is the process that reviews and tests the data center's physical infrastructure design as a holistic system in order to assure the highest level of reliability. Commissioning in an ongoing process. The principles of commissioning already play a vital role in the design phase, and during the build and operation of the data center; these principles are periodically tested. People working in this area need to have an eye for detail and work very precisely.

## LEGAL SERVICES



- ★ Contract management
- ★ Compliance
- ★ Ethics
- ★ Various specializations, including, energy law, intellectual property, IT law, GDPR, real estate
- ♥ Clear communication
- ♥ Detail orientation

Responsible for ensuring that the data center complies with relevant laws and policies. This includes staying ahead of developments, interpreting laws in the context of the client's activities and advising management with the relevant information. There are many specializations to consider in this area. One of the key focus areas is (green) power supply, as this is the most important fuel of data centers. A green energy is scarce in many data centers, professional support is often needed to guarantee continuous power supply. Often, this is arranged in Power Purchase Agreements (PPA's). In addition, specialists in this area include specialists in IT, real estate, intellectual property and real estate.

## RECYCLING



- ★ Logistics
- ★ Safety and health
- ★ Environmental engineering
- ♥ Systematic thinking
- ♥ Collaboration skills

Data centers are capital intensive companies. They make use of state-of-the-art technology in order to guarantee the continuity of their services. Indeed, older equipment is periodically replaced by newer and often more energy efficient equipment. Many data centers choose to recycle their equipment and outsource these services to professional recycling companies. People working in this segment need knowledge of logistics as the recycling discipline is part of an often large supply chain. As they need to work together with a large amount of stakeholders, collaboration skills are essential.