



FULL-SERVICE FOR DATA CENTRES

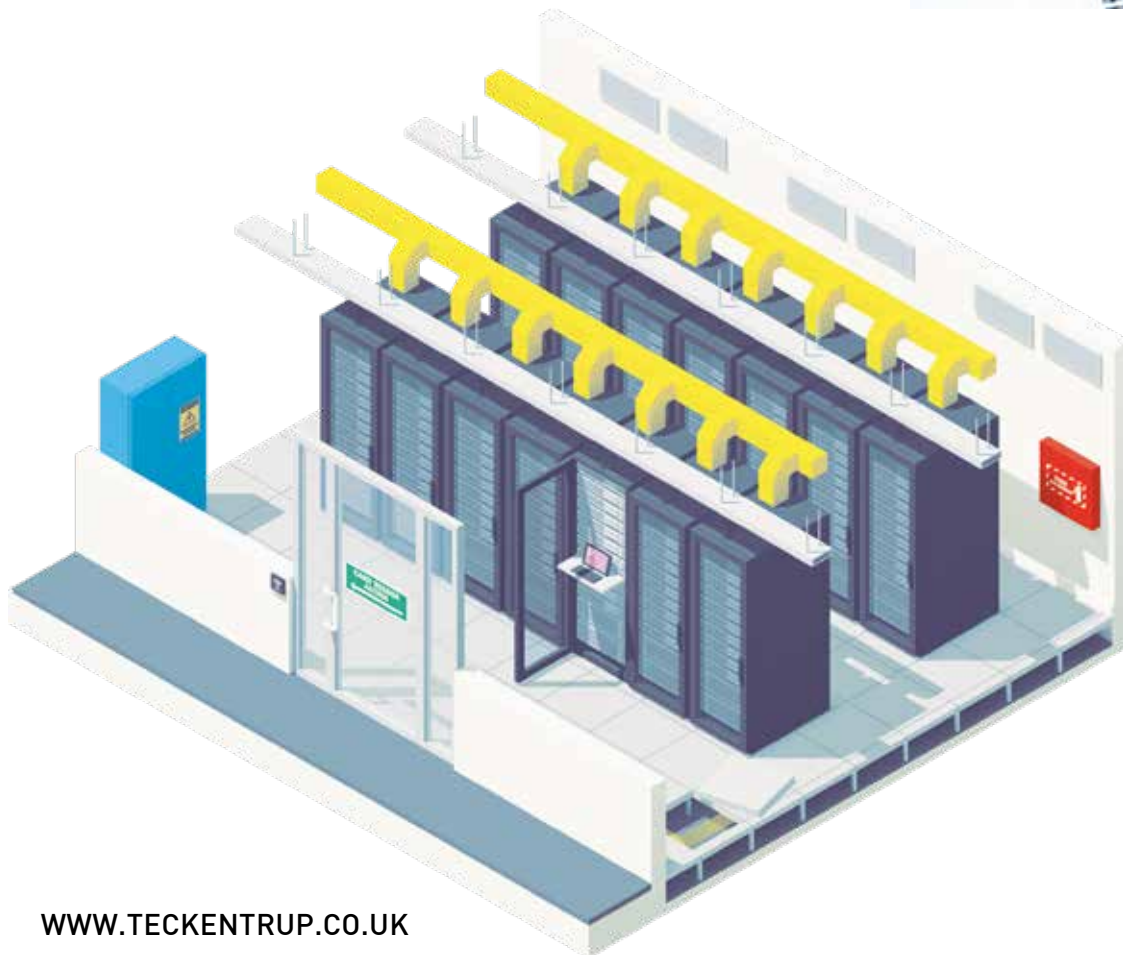
Big data behind secure doors

When people think of data centres, the first things that come to mind are telecommunication providers and cloud operators such as Amazon, Microsoft and Google, or streaming service suppliers such as Netflix, who rely on large computing capacities. However, data centres are of great importance for the overall future viability of commercial enterprises and society as a whole, because the digital infrastructure has long since become a central focus and is the starting point for all considerations regarding (new) company ventures.

The task

What hardly anyone thinks about is the physical infrastructure of these data complexes. In fact, a large number of suppliers are needed to reliably build and maintain the critical infrastructure of data centres. In this highly sensitive environment, high demands are also placed on doors and their manufacturers. In recent years, Teckentrup has developed in-depth product know-how and a wide range of services and consultation services in this field, enabling the German company (Verl, NRW) to provide reliable support to planners and project managers worldwide and to work closely with them to realize building projects.

In the early phase of the construction project, these requirements include the development of technical solutions, the preparation of drawings for approval, contact with building authorities and comprehensive advice, especially in the areas of lock technology and peripherals. Teckentrup's customers can rely on fast tendering and intensive project support (tracker). Short delivery times and adherence to schedules make the project easy to plan from the very beginning.



Schematic structure of the „data halls“: a smooth flow must be ensured, because large data centres are part of the critical infrastructure on whose functioning society is particularly dependent. Fire, water ingress and failure of the cooling system or unauthorized access and contamination by extinguishing foams or dust - many factors can keep the operator of a data center on alert. All these points must be taken into account during the planning stage.

WHAT IS IMPORTANT FOR THE PLANNING OF A DATA CENTER

How exactly the requirements of a data centre differ from those of any other construction project is best understood by looking at the design and associated needs of a data facility.

Potential hazards range from water ingress, cooling failure, unauthorised access and contamination due to extinguishing foams or dust. Protection against fire is a very basic requirement. Relevant here, are walls, floors and ceilings. According to the respective fire resistance classes, these must be designed to fire resistance class F30, F60 or F90, i.e. „fire-resistant“, „highly fire-resistant“ or „fire-proof“. This is not so much about fires occurring in the data centre itself. Early fire detection systems (EFD) generally suffocate the source of the fire quickly. Fire sources in neighbouring rooms or buildings are usually problematic. Doors must therefore also meet special requirements for sealing and have special fire protection. Doors must be planned at least as fire-resistant or highly fire-resistant so that they can withstand fire for 30, 60 or even 90 minutes. Teckentrup has European certificates for these doors and national approvals are also available for many countries.

Protection against flue gas, splash water and pressure loads is also essential for doors in various areas of the building. For example, the danger of smoke is often underestimated.



In data centers, high demands are made in terms of security and fire protection. With doors from Teckentrup, operators can be sure that all requirements are met.



Whether pressure or security doors - Teckentrup offers the complete range and is able to offer a fire resistance class of up to 90 minutes in raised installation positions without project-specific approval.

Flue gases are often corrosive and can attack materials of IT systems in a very short time. Even remote sources of fire can threaten IT components in this way, as gases can travel long distances and be drawn in through the central air conditioning system. A higher level of safety can be achieved if the smoke gas sealing is tested according to EN 18095 and at least a protection level IP56, i.e. protection against dust and strong jets of water, is proven.

Increased safety requirements.

Doors with resistance class RC 2 or RC 3 (in accordance with EN 1627) are absolutely essential in order to provide maximum protection for vulnerable areas in the buildings. For the door manufacturer, this means that in some areas, several characteristics in one door must be combined: security, fire, pressure, panic etc. come together here. The construction of the individual server rooms (cages) represents a major technical challenge. Fire protection in elevated installation positions (so-called raised floors) in combination with lightweight construction stud walls must be provided.

Comprehensive demands on the access technology.

Since different tenants often come together within a data centre, regulated access control to certain areas of the building must be guaranteed. Sometimes these may have different demands on security concepts and thus also different requirements on the locks to be installed and the access technology - e.g. electric locks, magnetic contacts, bolt contacts, panic functions and their compatibility with card readers, fingerprint sensors etc.



The construction of the individual server rooms (cages) represents a major technical challenge. Here, fire protection must be integrated into elevated (so-called raised) floors in conjunction with lightweight stud wall constructions. Photos: © www.lindner-group.com

PROPERTY COMPETENCE FROM ONE HAND

- High service orientation
- Comprehensive advice
- Quick quotation
- Intensive project support (tracker)
- Short delivery times
- Adherence to delivery dates

Large construction projects are under great cost pressure. Therefore, every Teckentrup product is embedded in a process optimization concept. The company relies on a comprehensive service - from planning to the operation of the products. Teckentrup is at your side with consulting and planning services, ensures just-in-time delivery if required and can also be reached for short-term problem solutions during the construction phase at any time. So you can be sure that you will receive the right solution for all requirements of your property and that your needs for design, security and service will be met.



We have already been able to prove in several projects over the last seven years that we know the requirements of the market very well and keep on going until we have found the right solution for our customer. In some cases, this can also mean that we develop suitable customised solutions and support our customers with our knowledge and experience during the approval process. Our customers appreciate this, especially companies such as Errigal Contracts, Mercury Engineering und DPR Construction.



Pascal Seliger | International Sales Director & amongst others responsible for major international projects at Teckentrup

The Solution

In recent years, Teckentrup has succeeded in positioning itself worldwide in this market. In particular, the following unique selling points often tip the scales in favour of the German company:

- **Wide range of products (multipurpose, fire, security, sound insulation, pressure doors or even a combination)**
- **Special equipment such as acoustic vision panels**
- **4-sided frames (installation in shafts)**
- **doors up to 3 metres in height and width**
- **Fire resistance class up to 90 minutes in raised mounting positions**

This door height is necessary due to the ever-increasing size of server cabinets for increasing computing and storage capacities which must be transported through the doors into the individual „data halls“. Furthermore, Teckentrup is able to offer a fire resistance class of up to 90 minutes in raised installation positions without project-specific approval. The testing has been finished successfully and we are just awaiting the final documentation from DIBt (German Institute for Structural Engineering) latest by September 2020. This ultimately saves time and money.



Currently, the company is working on facilitating installation in sandwich panels, especially for the export market. This is particularly relevant for data centres, which are divided into different areas or rooms using sandwich construction. They can be erected more quickly and are therefore cheaper to build. In all this, customers benefit from the high level of expertise of the well-coordinated project

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Double-leaf dw 62 doors in large dimensions (3 x 3 metres) are mainly used in data centres.

management team. Last year, customers such as Errigal Contracts and Mercury Engineering, who particularly appreciate Teckentrup's high level of service orientation, product quality and delivery reliability, were convinced by the company's expertise, says International Sales Director Pascal Seliger.