

MANAGEMENT SUMMARY

DATA CENTRES: REAL ESTATE, INFRASTRUCTURE OR TECH? DOES IT MATTER?

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Data centre – the foundation of digitisation

Data centres are the key physical component of an increasingly immaterial and application-driven wave of digitalisation. The crisis triggered by the pandemic made society and the economy aware of the competitive aspects of a digital representation of our reality. The possibility of shifting business areas, operational activities, but also schooling and administrative spheres to the digital becomes a crucial competitive aspect.

The pandemic showed itself to be a catalyst in many areas of digitalisation, accelerating already existing megatrends in a sustainable way. Data centres form the physical counterpart to the mostly immaterial developments in areas such as Big Data, Industry 4.0, e-commerce

and cloudification. In particular, the shift to the cloud, i.e. to an imaginary data cloud, illustrates the discrepancy between the general perception and the real need for investment in the hardware data centres.

The rapid development of digital technologies and the resulting opportunities lead to self-reinforcing processes that cause exponential growth of data volumes and thus create an extremely dynamic demand for data centre capacities. The outsourcing of own IT infrastructures to private cloud environments, which is largely driven by the demand of private companies, leads to an enormous demand for space.

Figure 1: Global data volume (in zettabytes)¹

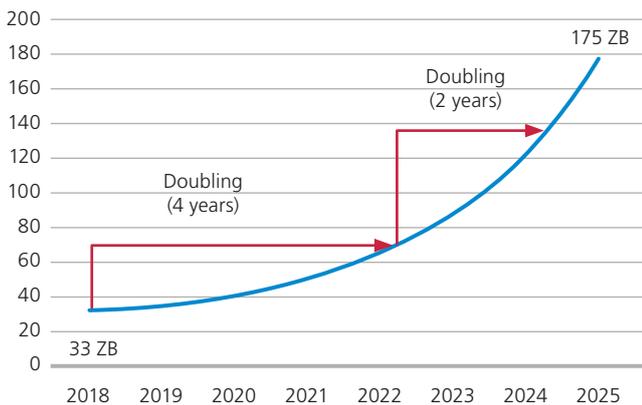
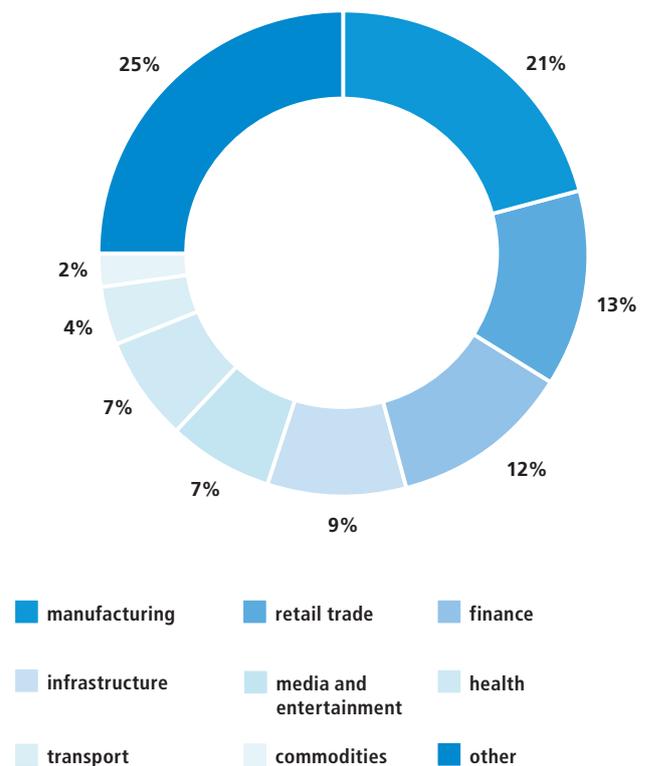


Figure 2: Data producers by industry 2018²



¹ International Data Corporation (2019)

² International Data Corporation (2019)

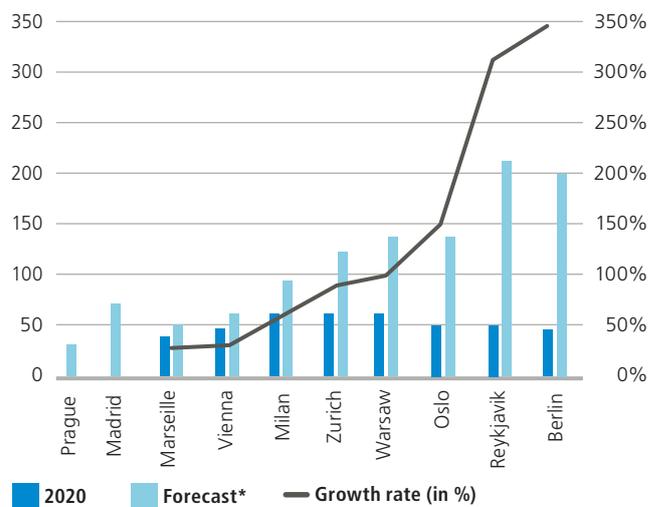
Real estate perspective – a new and different building type

Primarily, data centres are real buildings whose equipment features, and location criteria show similarities to the requirements in the logistics segment. Analogous to logistics, which in turn benefits in particular from growing online trade, data centres have shown a high degree of crisis resilience or have benefited from rapid growth. Regardless of the fact that data centres can't be used by third parties, they promise steadily increasing tenant demand. The commitment to the property – through extremely difficult relocations – offers long-term stable cash flows. In PWC's latest real estate trend survey, data centres are already in first place in the favour of investors. In all subcategories (investment, development, income), the prospects for data centres are rated highest, ahead of logistics. Nevertheless, data centres are special properties that also pose new challenges for traditional real estate investors and managers.

Co-location data centres provide a cost-effective and flexible solution to the majority of corporate-driven demand, creating attractive opportunities for real estate investors. Investors can profit from diversified multi-tenant structures and steadily exponentially increasing demand, while the technical risk resulting from the rapid technical progress of components is borne by the tenant itself. The need to make digitisation nationwide is leading to a decentralisation of the

market structure, which has been very concentrated to date, resulting in considerable growth potential beyond the FLAP-D markets.

Figure 3: Forecast of additions (in MW)³



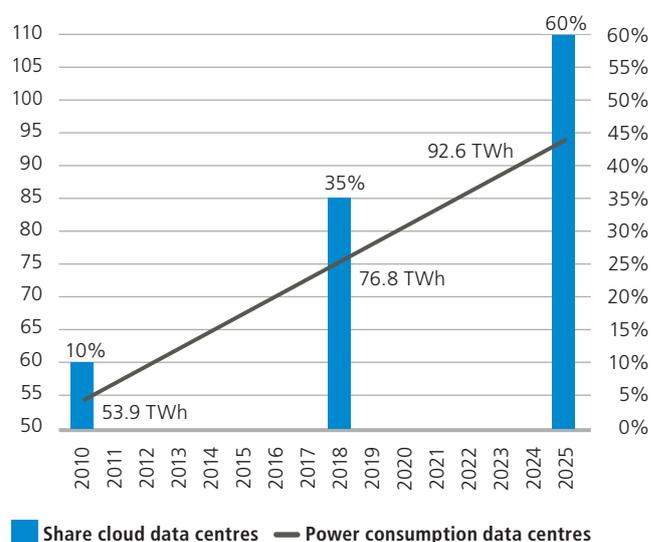
*Under construction or planned

Infrastructure importance – enormous power demand and the green transition

The already high integration of digital applications to control, for example, telecommunications, transport and security, as well as their substantial importance for private companies, reveal that data centres are part of the critical infrastructure. As the foundation of digital ecosystems, the importance is increasingly equal to the basic supply of water, electricity and heating.

At the heart of the availability of digital infrastructures is the supply of energy. On the one hand, the use of video conferencing and working from home, by reducing travel, seems to have a positive impact on the emissions budget. On the other hand, there is a considerable discrepancy due to the only indirect perception of the actual energy consumption. Today, the information and telecommunications industry is responsible for 5% - 9% of global electricity consumption. This is associated with about 2% of global climate-damaging emissions, which is roughly the same amount as global air traffic. Within the European Union, data centres were already responsible for 2.7% of total electricity demand in 2018. At 77 TWh, this is roughly equivalent to Austria's annual electricity consumption.

Figure 4: Development of electricity demand for data centres



³ Structure Research (2020)

⁴ Borderstep Institut (2020)

In addition to the power supply, access to a fibre optic network with as many branches as possible is essential. The speed (latency) of transmitting large amounts of data is another crucial parameter. In particular, the rise of M2M and the resulting need to transmit and analyse data in near real time will steadily increase the demands on connectivity. Depending on the specific orientation of the data centre

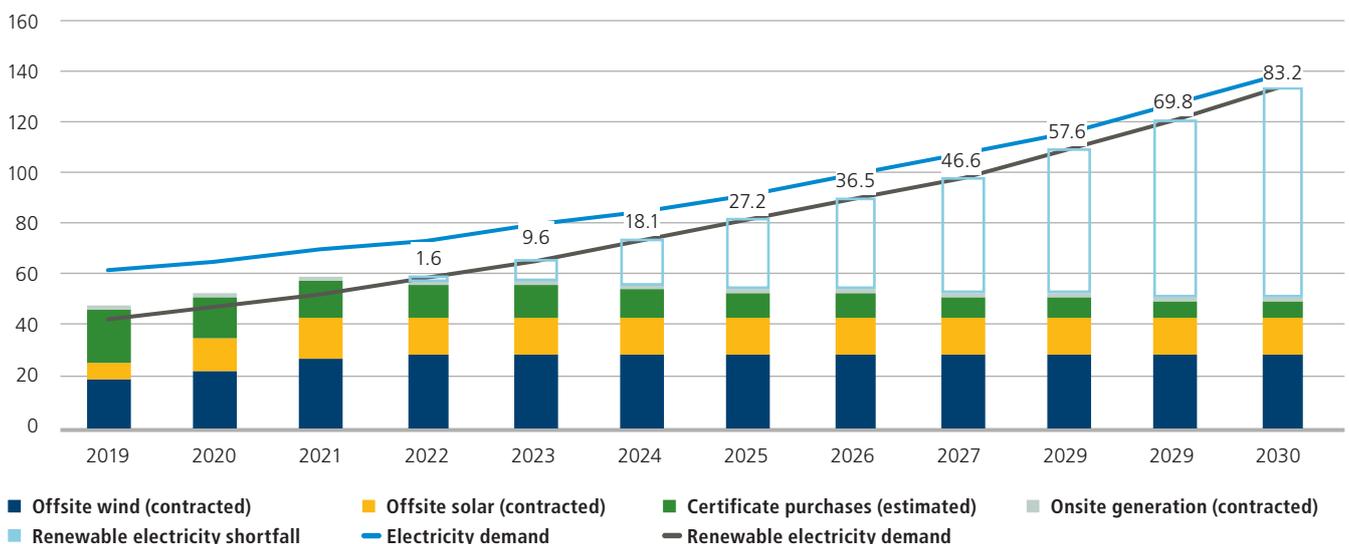
– for example: HPC, data storage or edge computing – latency requirements differ among individual customers. However, the foreseeable demand for data centre capacities in Europe will lead to an increasing decentralisation of the market – also to avoid bottlenecks. In this context, the infrastructure must continue to be built to meet demand and ensure further growth.

Sustainability

With the European “Green Deal”, the political guidelines for the ambitious goal of a climate-neutral Europe by 2050 were set. Special emphasis is placed on the digital transformation. The declared goal is the climate neutrality of data centres and the entire information and telecommunications industry by 2030. Energy suppliers and the data centre industry are thus at a turning point that marks the beginning of a transformation that is both green and digital. As the amount of global data continues to grow, creating new opportunities for value creation and control, the supply of renewable energy is focused. With the announcement of the European Green Deal, leading data centre and cloud operators joined forces and declared their intention to achieve climate neutrality by 2030 with an “EU Data Centre

Pact”. This voluntary self-regulation initially avoided strict regulation by the EU. The pact sets the goal of supplying 75% of the electricity needs of data centres with renewable energy as early as 2025. By 2030, the share is to rise to the required 100%. A look at the technology companies that already follow the global “RE 100” initiative shows how much additional renewable energy is needed to achieve this goal. Sustainability and thus the availability of renewable energy capacity as well as energy efficiency become the decisive determinants of property quality, competitiveness and future affordability. This makes the availability of these resources a key factor for future location decisions.

Figure 5: RE 100 global technology companies (in TWh)⁵



⁵ BNEF (2021)

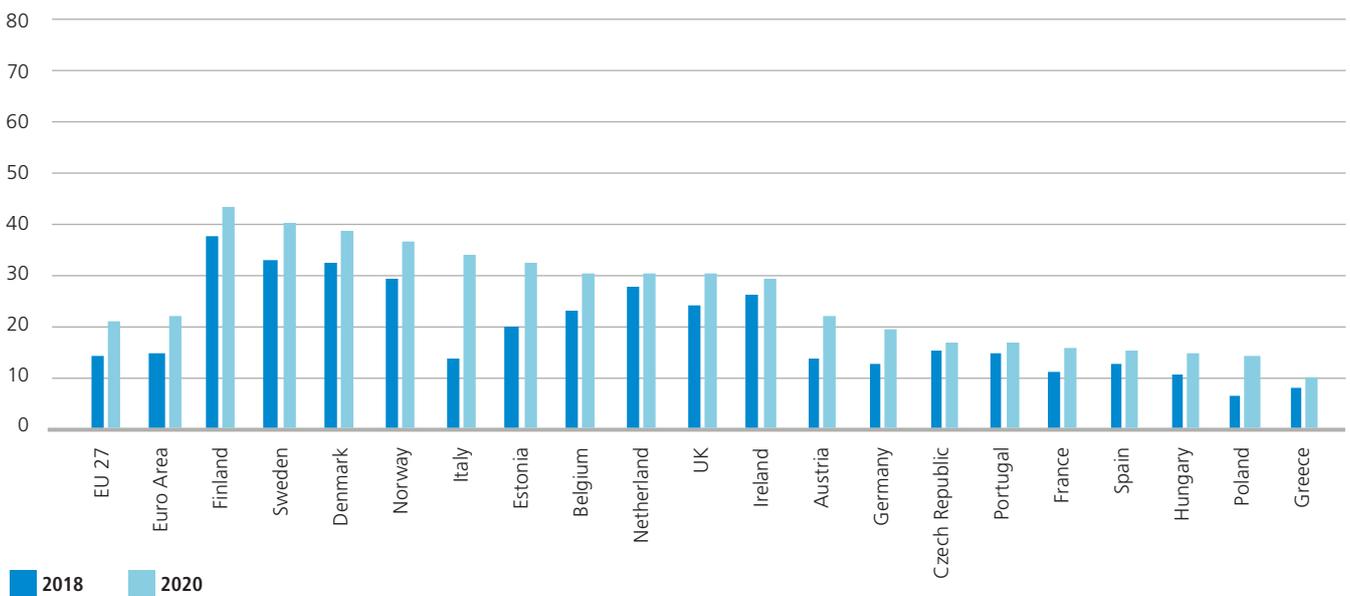
Reference to the tech segment – the fourth industrial revolution

In addition to the increasing networking of private individuals via smartphones, which are already a general part of everyday life, the corporate sector in particular is generating demand for capacity. Achievable productivity gains through analysis and control options as well as a new type of automation within Industry 4.0 require a more powerful IT infrastructure. Private cloud solutions that offer a high level of security and data protection, create sufficient capacity and flexibility are a cost-effective way to further develop digitalisation. By 2025, 80% of companies worldwide are expected to use cloud solutions. Accordingly, the demand for co-location data centres,

which form the private counterpart to the public services of the largest tech companies, will continue to grow dynamically.

Data centres form the physical infrastructure of these developments. As a central building block, they are essential to realise the far-reaching opportunities. For investors, this offers opportunities to profit from the steady development of the tech sector through tangible assets. Moreover, they do not bear the risks that arise from the rapid progress of technical hardware components, as they only provide the space.

Figure 6: Share of companies using cloud services (in %)⁶



⁶ Eurostat (2021)

Return expectations

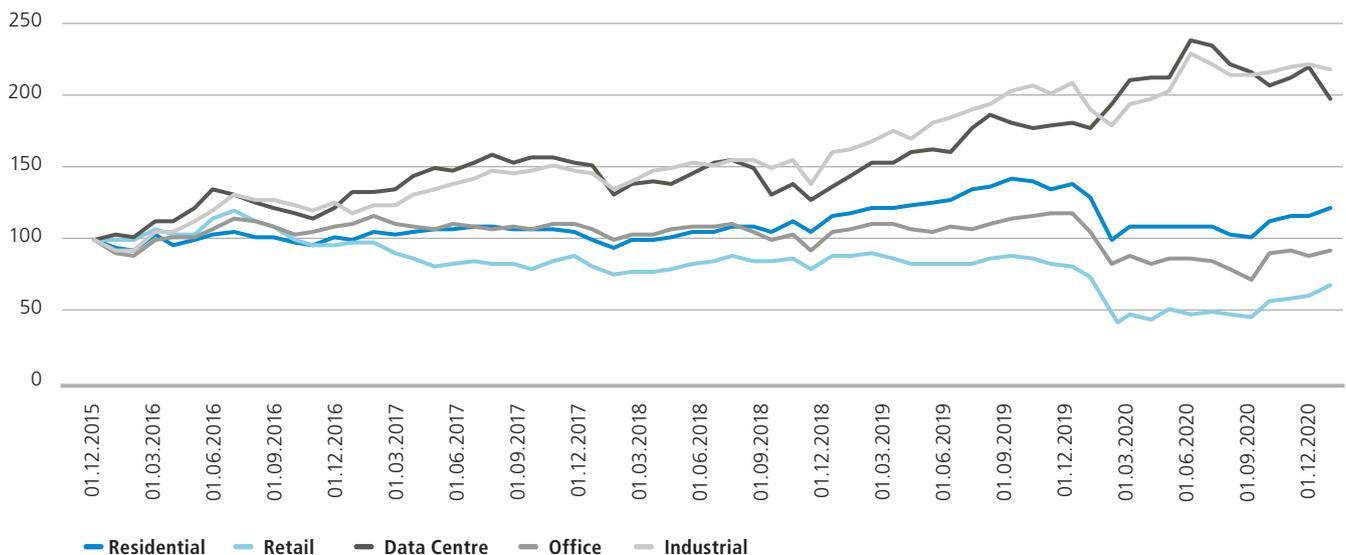
The data centre transaction market is characterised by M&A activity, resulting in a relatively high degree of opacity. The FTSE NAREIT for data centres – a recognised benchmark for real estate investment trusts (REITs) – recorded growth of almost 170% over the past 5 years, up to its peak in the first half of 2020. Over the period from January 2015 to December 2020, this results in an annual return of 19%.

An analysis by Savills from the end of 2020 shows that the expected return for European data centres is between 5% and 7%. The main

determinant is the quality of the building. In this context, future viability, i.e. sustainability, will also play a central role in the valuation. Comparable to the development in other real estate sectors, strong yield compression is expected within the next 2 years.

Analogous to the development in the logistics sector, which evolved from a niche area to a fixed component of institutional real estate portfolios in the last decade, increasing institutionalisation supports the development of the market for data centres.

Figure 7: FTSE NAREIT Index by sector (2015=100)⁷



High investor demand from traditional real estate investors, as well as data centre REITs targeting economies of scale and market share, is meeting relatively low supply. The resulting price pressure will shrink returns, but offers opportunities for greenfield projects. Companies that are able to manage the complex requirements in data centre project developments can leverage additional potential by building new data centres.

Data centres offer an ideal combination of an investment in real estate, infrastructure and tech. Competitive advantages can be generated through experience in the development of green logistics – due to the parallels – as well as expertise in infrastructure – especially renewable energy. Assignment to one of the three categories is therefore irrelevant. Data centres offer long-term, alternative investment opportunities that benefit from exponentially increasing demand in the midst of a green as well as digital transformation.

⁷ Bloomberg

Gain more insights by reading the full version. Get access to our comprehensive analysis “Data Centres: Real Estate, Infrastructure or Tech? Does it matter?”



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