Linklaters

So you want to build a data centre?
Here's what you need to know…

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Security

Physical

> Sophisticated security systems, CCTV and extensive onsite security

> Limited access — no exterior windows and few entry points

> Link to location — away from major roads to establish separation/landscaping barriers

Digital

> Network security infrastructure and use of network secure zones

Physical security

Whilst digital threats are the obvious cause for concern in the data centre context, physical security of the premises will also be crucial and there are a number of methods through which data centre owners and operators seek to maximise security.

Many of the larger data centres are situated in remote locations, out of cities and away from major roads and transport hubs, benefitting from reduced external and third party presence but with consequential potential security threat.

In terms of the design of a data centre building and with security in mind, you can expect to see purpose built facilities, with very few windows and entry points as well as increased wall density to protect against natural disaster and/or explosions.

Access into the data centre will be heavily monitored and limited, with 24/7 security at all access points and elsewhere on site anti-climb fencing as well as extensive video surveillance and mantraps. Biometric security methods (eg, retina or fingerprint scanning) are increasingly used in addition to traditional security cards, to limit scope for tampering and human error.

Security protocols are likely to be consistently tested and updated, with strict measures in place for the entry of, for example, maintenance and technical support.

Digital security

The prolific increase in data use and demand over recent years is particularly challenging in terms of cybersecurity. Cyber criminals use sophisticated means to corrupt and penetrate digital security walls, and multiple measures are therefore used to combat threats of this nature.

Tools range from anti-virus software and basic monitoring of user permissions to antibody-like technologies that identify and fight cyber intruders from within to network segmentation that creates additional barriers within a network. Strong authentication controls are essential, with at least two forms of authentication being required before users are permitted access to a particular system.

Every data centre will operate some form of digital security to protect its continued use, although the level of security may differ, depending on the size and nature of the businesses storing data within it.

Permits

Planning/Zoning permits

> Planning permission (whether in outline or full) is required for the construction and use of the land as a data centre

> UK planning system is plan led (ie, planning applications should be determined in accordance with the adopted development plan (otherwise known as a 'local plan') for the district/borough in which the planning application is made). The absence of an up to date local plan that identifies suitable locations is often a barrier to developing 'data centre' sites

> Active engagement in plan making/policy process to assist local planning authorities identify suitable sites/policies for allocation/inclusion encouraged

> Some local authorities consider data centres to fall within Use Class B1 (office and light industry) (now use Class E) or B8 (warehouse and distribution) — these are valuable as they permit the use of the property to move between these classifications and, in some instances, may mean that planning permission is not required

> Others local authorities consider data centres to be 'sui generis' — permission required for subsequent change of use once data centre no longer operational

Land allocation

The UK planning system is plan led (ie, planning applications should be determined in accordance with the adopted development plan (otherwise known as a 'local plan') for the district/borough in which the planning application is made). The absence of an up to date local plan that identifies suitable locations can be a barrier to developing data centre sites. Local plans often do not include data centre specific planning policies and, as such, this creates an instant hurdle for developers whose planning applications are not in accordance with the adopted local plan.

As a result, those operating in this area are increasingly actively engaging in the plan making process to assist Local Planning Authorities ("LPAs") to identify suitable sites (such as former industrial land known as 'brownfield' sites) and policies for allocation and inclusion in the local plan, often suggesting sites which they have acquired or intend to acquire in the district/borough. The purpose of this is twofold: first, should their site be allocated, it greatly increases the chance of a subsequent planning application being granted and second, to support their longer term growth plans in the district/borough.

As a consequence of a lack of allocated land, developers are often forced to try and develop greenbelt sites (in which case planning permission should only be granted in 'very special circumstances') or repurpose existing traditional facilities (eg, agricultural buildings on farms) which may put off potential occupiers who are often looking for bespoke premises and who have specific operational needs in terms of size, specification and location.

Use Class classification

LPAs across the country adopt differing approaches to the classification of data centres under existing planning legislation. For example, some consider data centres to fall within former Use Class B1 (office and light industry) (now Use Class E) or B8 (warehouse and distribution). The use of existing properties for the installation of data centres that benefit from these existing Use Class classifications may arguably not require planning permission for the installation of a data centre.

These Use Class classifications are also valuable as they permit the use of the property to move between classifications (eg, change of use to another use within Class E is allowed without the need for planning permission or from B1 to B8 or vice versa until 31 July 2021) without planning permission; a benefit to the freeholder/landlord should the property be sold or re-tenanted.

Other LPAs consider that data centres are 'sui generis' in which case planning permission is specifically required for the construction and operation of a data centre at a property and any subsequent change of use once it is no longer operational.

Construction

Contract structure

> Building contract and professional appointments are key when significant works are involved, particularly in terms of long term repair

> 'Design and build' may be used so as to provide greater cost certainty and single point responsibility for design and construction. There may be one contract with regard to the building itself and a second for fitting-out which may require a more specialist contractor

> Consider treatment of specialist kit - may need to be pre-ordered and pre-paid

Specialist team

> Great importance is attached to M&E installation and likely that specialist designers and engineers with data centre experience will be appointed

> Operator will want to ensure design and construction obligations to customers passed down to design and construction team where possible. Collateral warranties/third party rights will be needed

> Design and construction team unlikely to accept unlimited liability for data losses resulting from defects. Thought to be given to appropriate level of liability/exclusion of particular types of loss. Duration of liability also key

Testing and completion

> Enhanced testing/commissioning regime with specific conditions to be met before completion can be certified will need to be adopted, which go beyond the more standard arrangements found in construction contracts for other types of building

> Specific response times within which contractor must return to site to remedy particular kinds of defect may also be included

The construction contract structure

The building contract and the professional appointments are key when significant works are involved in a new data centre, particularly so where you (or your occupier who will require contractual rights of recourse in relation to the design and construction team) will be responsible for its long term repair and maintenance and any defects which arise in the data centre.

Any external funder who is involved will also need to have confidence in the contract structure and will require similar rights in respect of it, whether by way of collateral warranties or third party rights.

There is no fixed contract structure for data centres: 'design and build' may be used so as to provide greater cost certainty and single point responsibility for design and construction, or a split approach to design and construction may be adopted. Similarly, it may be that one contract is let for the external envelope of the data centre building itself, and a second contract for the fitting-out of the centre which may require a more specialist contractor.

Alongside these considerations, thought should also be given to how particular specialist items of kit should be treated as these may need to be pre-ordered and paid for in advance.

## Appointing the right specialist team

By their nature, data centres depend very heavily upon power and cooling requirements. As such, greater importance is attached to the mechanical and electrical installations for data centres than for other types of building. It follows that specialist designers and engineers with data centre design experience will need to be appointed so that the specifications for these elements are correct.

The data centre operator will want to ensure that its design and construction obligations to customers are passed down to its design and construction team wherever possible. As for external funders, it will also need to obtain collateral warranties or third party rights for them.

The design and construction team will likely not accept unlimited liability for loss of profit or indirect loss resulting from a defect in the design and construction of a data centre and, as such, thought will need to be given as to what the appropriate level of liability, or exclusion of particular types of loss, should be. The duration of their liability for such matters is also key.

Testing and completion

It is likely that an enhanced testing/commissioning and witnessing regime will need to be adopted which includes specific conditions to be met before completion can be certified. These will go beyond the more standard arrangements found in construction contracts for other types of building. Post-completion, there may also be specific response times within which the contractor must return to site to remedy particular kinds of defect.
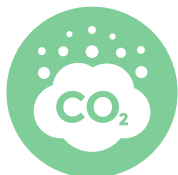
Environmental impact

What's the issue?

High power demands and corresponding high carbon emissions (similar to the airline industry)

Why it matters?

> Drive to use green energy and renewable power sources - eg, biogas, solar, wind, tidal power (also likely to impact choice of location)

> Higher power density

> Extraction of heat for use in nearby buildings (eg, schools, hospitals)

> Environmentally-friendly "green" IT policies as part of corporate governance

Sustainability

The environmental impact of data centres is an increasing concern. With sustainability higher up most corporate, industry and government agendas, unsurprisingly given the potential negative impact on credit ratings if not properly managed[1], the data centre industry has one of its toughest battles ahead in balancing what looks like pandemic-accelerated expansion with energy consumption and carbon dioxide emissions. So why are data centres so environmentally unfriendly, and is there anything they can do about it?

Energy

There's no denying that data centres use a lot of power; they need it to operate the IT systems and equipment which they house, and they also need it to cool down that same equipment so that it doesn't overheat and stop working.

How much energy are we talking about? Research suggests that data centres use around 1-2% of all electricity consumed globally and emit about the same amount of carbon dioxide as the airline industry. It's a lot, but the good news is that data centre energy consumption is not increasing exponentially, even if the demand for data itself is, at least in part because the energy required to process a given amount of data is decreasing (ie, data centres are becoming more efficient).

The data industry clearly still has a lot of work to do in mitigating the detrimental impact that data centres are having on the environment, or at the very least to ensure that such impact does not worsen as the industry grows.

How are data centre owners and operators looking to meet the sustainability challenge?

1. The industry is showing increased reliance on renewable energy sources including geothermal, hydroelectric and even biogas and composting, with some significant players claiming to be carbon neutral;

2. Higher power density means more power in the same space and fewer servers for the same amount of data. This means that the area required to be cooled is smaller, as well as resulting in multiple other cost savings and efficiencies;

3. Some data centres have successfully re-used waste heat, cooperating with businesses and facilities in the area to recover otherwise wasted heat and use it to heat local facilities and homes.

1 For further discussion on this, and the wider impact on ESG in the infrastructure investment cycle, please see our Thought Leadership Report here.

Location, Location, Location (and Co-location)

London vs. the regions

> UK as go-to location, with London/Slough most popular

> Transport links, proximity to businesses, connectivity vs. cost savings, space, proximity to potential hazards

> City locations = faster access to the cloud, faster response times

> Semi-industrialised locations

Power and connectivity

> Availability and cost of power is key (including temporary back-up)

> Water – electricity generation and cooling (cooler locations good as less cooling required)

Identification of risk factors

> Environmental risks and ground conditions - eg, flood

> Other risks – eg, industrial, geographical

Employment

Availability of key personnel

Co-location

Purpose built facilities where space, equipment and bandwidth are rented

London vs. the regions

As far as the UK is concerned (with the UK being a clear go-to location for data centres in Europe), London remains the most popular hotspot in the country. There are obvious reasons for this; proximity to businesses, transport links, access to skilled employees to name a few. But, like any other leading financial market, space in the capital comes at a price. For this reason and others touched on above, data centre hubs have popped up in alternative locations, both city and rural. Outer city locations still benefit to an extent from the advantages mentioned, but also benefit from more space at a lesser cost.

Power and connectivity

Data centres are huge power guzzlers, so access to power is always going to be a key factor in data centre location, both mains supply and temporary back-up supply to mitigate the impact of mains supply failure. Proximity to local infrastructure and power networks is important, but so is the specific location of the substations which the data centre has access to, and the cost at which these services can be provided. It's not only power that data centres need lots of; water is arguably equally important as cooling towers (which evaporate water to remove heat) are essential to keeping servers operating efficiently. Servers use enormous amounts of energy and generate heat in doing so and, if they get too hot, they can malfunction or stop working entirely. Some data centres are deliberately located in cooler locations, making it easier to remove the heat because the climate supports the job of the cooling equipment.

Identification of risk factors

The physical condition and vulnerability of the land on which the data centre is built is also an important consideration. Data centre owners will want to avoid locations with inherent weather or natural disaster risk and the land itself will need to be sufficiently robust to withstand the weight of the equipment and foundations required for a data centre fit out.

Employment

Whilst much of a data centre's operations can be managed remotely either from employees' homes or from a centralised location, key personnel including technical engineers and security will be required on-site so that any issues can be attended to quickly. So, although probably not at the top of the list when considering location, a core number of people, with specific technical knowledge, do need to be recruited and be able to get to work.

Co-location

Many organisations don't have the capacity for and don't want the cost and/or administration of running their own data centre and therefore rely on data centre "co-location"; housing servers in a secure facility housing a number of other companies' equipment. Essentially co-location involves renting space (including racks, cabinets and cable trays) and relying on the service provider's power, security and cooling systems. Companies will still be mindful of the location of their co-location facilities, as equipment is still likely to need to be accessed at regular intervals.

Rights and services

Ownership structure

The rights and services required to be documented in relation to a data centre will largely depend on how the ownership of that data centre is structured. Whilst big multinational technology companies such as Google and Facebook may build and own their own data centres, it is becoming much more common for companies to lease either part or all of a data centre owned by a third party. We are also seeing more interest in investment into data centres, with a number of joint ventures between data centre companies and investors hitting the headlines.

Rights

A data centre tenant will be keen to ensure certain data centre specific protections and provisions are included in its lease:

1. Increased rights over the roof space to retain equipment, and assurance that the roof is sufficiently sturdy to withstand the weight of cooling equipment;

2. Rights to retain equipment on the premises, including emergency equipment such as fire alarms, sprinklers and suppression systems;

3. Termination rights if there are persistent issues with power and/or connectivity;

4. Restrictions on neighbouring use, for security purposes and to avoid nuisance claims from adjoining owners;

5. Restrictions on the landlord's ability to interfere with the power supply;

6. Careful consideration of rent review provisions, including disregard of improvements to the premises and conduits serving them.

Services

The services available to the data centre occupier may be included within a lease or a separate services agreement. A service provider or landlord's main concern in relation to the provision of services will be, for obvious reasons, to include limits on their liability for system failure or power outage. A customer's main concerns will be to ensure a continuous and adequate power supply, sufficient ventilation, security and repair and maintenance provision in relation to any infrastructure which is the subject of the services.

In terms of other third party involvement, consideration should be given as to whether the premises has all necessary easements or rights of way over adjoining or neighbouring premises and whether all necessary wayleave agreements have been entered into.

Why Linklaters

We support our clients in achieving their strategies **wherever they do business**, using our experience and resources to help clients pursue opportunities and manage risk across emerging and developed markets around the world.

We have one of the broadest, deepest and most integrated real estate practices throughout Europe. We combine local expertise with global intellectual capital and infrastructure. All members of our global real estate practice regularly work together, we are experts in co-ordinating pan-European transactions and act as a single global team to deliver the highest standards of quality and consistency wherever our clients need to do business.

As well as the UK, we have market-leading direct real estate practices in Belgium, France, Germany, Italy, Luxembourg, Poland, Portugal, Spain and Sweden. Throughout our wider network of offices, we have strong real estate sector expertise. Where we do not have our own offices, we have tried and tested relationships with leading real estate lawyers in other countries.

A Pan-European view

Our global experience and expertise covers a broad number of jurisdictions, allowing us to support our clients across the globe. We provide here a Pan-European view of the data centre market from across various regions active in this space.

Belgium

Belgium offers significant advantages as a prime location for data centres, which has led to a notable increase in data centre activity in recent years, attracting major global players. Key factors appealing to investors include its central location in Europe, solid access to (renewable) energy infrastructure, and a moderate climate that is beneficial for cooling operations.

The Belgian team has extensive experience in advising on large infrastructure and IT projects, including data centres, involving the combined strengths of our market leading real estate, corporate, finance and TMT teams. Below, we provide some key considerations that arise in the context of data centre development projects.

One of the crucial aspects to consider when developing data centres is the ownership/occupation rights of operators/businesses with respect to data centre sites. Given the long-term investment and the critical importance of location, it is essential to ensure robust rights aligned with the lifespan and financing of the assets, limiting the landowners' ability to terminate agreements (early). This is often accomplished through the creation of financial leasing structures or the granting of long-term lease rights ("*emphytéose"/"erfpacht*") to operators with respect to the relevant assets. The relevant sites are frequently shared by multiple businesses.

With respect to development, it is worth noting that construction contracts for data centres include specific requirements that often exceed the standard arrangements

found in construction contracts for other building types. Essential in this respect is the appointment of a design and construction team with specific expertise in data centres as well as the inclusion of particular technical specifications corresponding to the needs of data centres.

Given the systemic importance of data centres for businesses, ensuring physical and digital security, reliable access to (renewable) energy infrastructure, proximity to businesses and transport links are all crucial factors.

In terms of location, the development of a data centre generally requires vast and flat surface areas with beneficial ground conditions and limited environmental risks (eg floods). In order to obtain direct access to renewable power sources, it is common practice for solar panels to be installed on the site (eg on the roof).

France

Over the past few years, the data centre industry in France has been steadily growing due to several factors, including the increasing demand for cloud services, big data analytics, and digitalisation across different sectors. The government's initiatives to boost the country's digital economy and infrastructure have also fuelled the demand for data centre services.

Currently, France has nearly 200 data centres, 80% of them located in the Iles de France region, and more are expected to be established in the future. Due to the legal requirements

surrounding the technical and operational features as well as the location, operation, acquisition, and disposal of these assets, it is crucial to approach them with careful consideration.

Our real estate team in Paris has been assisting clients with their data centre projects for several years, providing a comprehensive service tailored to the unique needs of each client, and effectively navigating the legal requirements associated with such asset. By leveraging the collective strengths of our corporate, finance, tax, telecommunication, and public teams, we provide a full service support from setting up data centres to selling assets.

Germany

Frankfurt is a booming city for data centres in Germany. In an economy driven by data, these sites are key components of mission-critical enterprise systems. Frankfurt is home to the world's largest internet node and with circa 60 colocation facilities, cloud nodes, internet exchanges and disaster recovery and business continuity sites, the city and the surrounding Rhein-Main area form the largest European hub.

Increasing digitalisation is facilitated by the growth of the data centre industry which creates an ever-complex infrastructure. The Rhein-Main area is a particularly attractive location due to the perfect mix of a well-trained digital workforce, reasonably priced commercial real estate, highly stable general infrastructure and attractive living conditions. On a national level the new federal government focuses on

pushing an aggressive digitalisation strategy which will further accelerate the need for the corresponding digital infrastructure. In its zoning plan, the city of Frankfurt has set aside a number of designated locations for data centres which are seen as both welcome and innovative.

Our team in Germany has been involved in some of the tech and infrastructure sectors' biggest deals for many years. We are proud to cater to the mentioned advanced requirements of data centres with the combined strengths of our market leading real estate, corporate, finance, telecommunication and regulatory teams.

Italy

Italy is one of the Western European countries where the data centre market is growing fastest. This is due to the request of Italian corporations, especially in the field of cloud services. It also helps, in general, the economic growth that has followed the problems of the pandemic period and the considerable amount of EU funds and subsidies (so called PNRR) supporting the digitisation of businesses. The PNRR dedicates a significant proportion of investments to the creation of a national cloud which manages the most sensitive data. This development primarily includes the National Strategic Pole but also other privately owned data centres and cloud platforms.

Demand for new data centres derives from the adoption of innovative applications and services, particularly in the fields of AI, Big Data and IoT, where digitalisation of the public sector is playing a substantial role. Another factor driving growth is the greater data traffic linked to the considerable number of submarine cables that connect Italy to other nations and regions of the world, due to the country's strategic geographical position.

Market sources identify 55 data centre facilities already built in Italy and seven on the way, distributed over approximately 16 sites. Milan is still the reference city for the market. Other reference areas include Ancona, Arezzo, Bologna, Frosinone, Padua, Palermo, Pavia, Perugia, Piacenza, Pisa, Rome, Treviso, Turin and Venice.

Luxembourg

The Luxembourg real estate market combines several aspects. It is centrally located in Europe and benefits from the local booming economy. It is also characterized by limited offer and attractive returns.

As Luxembourg is a hub for the fund and finance industry and benefits from the most up-to-date technology, notably in terms of cabling, it should be ideally placed to host data centres.

The scarcity of the land however results in very high prices, which entails that supporting functions building such as data centres are not that common there, but are rather located in neighbouring countries, where prices are more affordable.

Poland

Whereas warehouse buildings designated for logistics, e-commerce or goods storage purposes remain one of the most popular development projects in Poland, data centre projects are becoming increasingly popular in recent years. Data centres are similar in nature to industrial/warehouse buildings and consequently tend to be built in industrialised locations. Furthermore, they are often also categorised in the same planning/zoning designations.

Vast areas of land very often located in close proximity to large urban agglomerations, as well as lower costs of construction materials in Poland compared to other Western European countries are two examples of why there may be a rapid increase in new data centre projects in Poland in the following years. These factors may be decisive for investors and developers considering new data centre locations.

In terms of owning structures, it is hard to predict which will be most popular, ie whether companies will tend to retain ownership of constructed data centres or lease space in the facilities constructed, owned and operated by a third party investor. Thus far, the first option has prevailed, as data centres have been built and owned by players such as Google, Microsoft and other IT companies, which need such assets for their own operations. However, leasing space is currently gaining in popularity since serviced data centres started to be developed by professional operators or developers which specialise in providing such space (and megawatt allowance) for rental for the IT sector. Such space becomes the serviced office equivalent for data storage purposes. Newly built data centres in Poland are mainly constructed in the BTS (built-to-suit) formula, where facilities are designed and constructed to entirely suit operator's needs and requirements. Additionally, as originally most data centres were constructed by IT companies to serve their own needs, we anticipate an increased interest in the sale and leaseback formula in this sector.

As with real estate in general, data centres that provide interactive services are all about location. Warsaw (and its proximity) remains the most popular destination in Poland for such projects. The main reasons for that are, among others: close proximity to businesses and end-users and access to high-performance connectivity and highly qualified employees. In this location we also see higher demand for data storage services. Rural locations could be more appropriate for central data centres, which may require a great deal of space, rather than smaller edge data centres.

Portugal

Due to the low availability of data centres in the main FLAP markets, demand has been shifting to other markets. Portugal is particularly well positioned to capture this type of investment, as it offers exceptional fundamentals for the investment in data centres, notably, a very safe country with skilled labour, political stability, large production of renewable energy, low

risk of extreme weather events, good optic fibre network and deep waters with extensive maritime protection by NATO. Additionally, Portugal has a strategic geographical position in relation to submarine data transmission cables, with landing points to 11 submarine data transmission cables serving counties in Europe, Africa, Middle East, South Asia and South America.

Currently Portugal is served by 38 data centres, mainly classified with a Tier I and Tier II levels, located from north to south of the country, including the Azores and Madeira. As of 2023, seven new projects are being developed, from which we would highlight the following: (i) Start Campus, located in Sines, a 495 MW data centre campus which will be one of the largest hyperscaler data centre ecosystems with 100% and 24/7 sustainable and green energy; and (ii) Lisbon Data Centre, located in Vila Franca de Xira, a hyperscaler data centre with 20 MW planned by 2025, with the possibility of reaching a capacity of up to 100MW.

Portugal is publicly recognised for fostering innovation and being a welcoming hub for large technology companies and hyperscalers and has taken concrete steps to embrace the digital transformation and encourage technological investment. From a regulatory perspective, it presents unique solutions to the challenges posed by the trend towards data sovereignty and the growing sophistication of global cyber threats, with minimal restrictions on data processing within the EU legal framework and strong adherence to best practices in the law and regulation of data protection. While working within the high standards of the EU legal framework, Portugal maintains a sensible, secure and confidential privacy and cybersecurity enforcement regime.

Spain

The data centre market in Spain is experiencing significant growth and presents several opportunities for businesses operating in the industry. This expansion is due to a number of factors including Spain's strategic location as a hub for connectivity between Europe and Africa, as well as a gateway between Europe and Latam; its favourable climate, with moderate temperatures that reduce cooling costs and potentially improve energy efficiency; its renewable energy potential, which can reduce data centre operators' carbon footprint and operational costs; and reliable existing communications infrastructure.

Fibre optic networks, power infrastructure and access to transportation are key factors to consider while selecting a site. In Spain, many data centres are located in areas with access to high-speed internet, such as major cities like Madrid, Barcelona and Valencia.

Due to the specifics needs and requirements of data centres, both the planning regime and the relevant construction agreements tend to be more complex than for traditional businesses and standard construction contracts. Investors need to work with experienced legal and technical advisors to ensure that the documentation meets their needs and protects their interests.

Data centres in Spain typically offer a range of services, including colocation, cloud computing and back-up. Typical agreements that generate revenue for data centre operators in Spain include: (i) colocation agreements, that allow customers to lease space, power and cooling resources in the data centre to store their IT equipment and servers, (ii) cloud services agreements, that allow customers to access cloud computing resources provided by the data centre operator, and (iii) disaster recovery agreements, that allow customers to use the data centre as a backup site for their IT infrastructure and applications upon a disaster or outage at their primary location. Due to the complex nature of these agreements, investors need to work with experienced legal advisors to ensure that these agreements meet their needs and protect their interests.

UK

Linklaters has been involved in some of the telecoms and infrastructure sectors' biggest deals for many years. The remit of the team has widened as the market has grown to incorporate a growing number of digital infrastructure assets, including data centres.

With extensive expertise across Real Estate, Planning and Construction as well as M&A (including financial sponsors), Telecoms (including regulatory and foreign investment and key contracts) and Finance (including acquisition, CAPEX and infrastructure financing), we are able to offer clients the highest quality service across the entire digital infrastructure spectrum.

There is a need for an in depth understanding not only of the way data centres operate from a Real Estate perspective (from managing risks in constructing and developing data centres to analysing optimum title holding structures), but also an understanding of the underlying business and how income is generated.

With data centre usage set to double every five years, we expect to see a continued boom in new facility development, despite obvious cost and complexity increases for operators and despite weaker macroeconomic conditions. London remains Europe's largest data centre market, second only to the "Data Centre Alley" of Ashburn, Virginia. For several reasons, as touched on above, we predict increased interest in outer London areas and a continued spotlight on sustainability and energy efficiency for users, investors and operators alike.

One of the fundamental issues that data centre players in the UK, as well as many other jurisdictions active in this area, are currently dealing with is access to sufficient power, with shortages in multiple major European markets. Developers and operators are therefore beginning to consider new locations where power is more readily available.

Global highlights

- > **Vantage Data Centers:** advising on AustralianSuper's €1.5bn investment in Vantage's EMEA platform for a sizeable minority ownership.
- > **Vantage Data Centers:** advising on its pending acquisition of Next Generation Data, a purpose-built, carrier-neutral Tier III data centre facility in Wales.
- > **AtlasEdge:** DigitalBridge's joint venture with Liberty Global to create AtlasEdge.
- > **Colt's European data centres:** DigitalBridge's acquisition of Colt's portfolio of European Edge Data Centres.
- > **Digital Bridge:** on the establishment of Scala Data Centers S/A, a Latin American hyperscale data centre platform headquartered in Brazil, through the acquisition of data centre and colocation assets from UOL Diveo.
- > **HSBC:** advising on two purpose-built data centres.
- > **A US investment bank:** advising on its data centre requirements.
- > **A major investment bank:** advising on its data centre requirements in South East England.
- > **Reliance Globalcom:** advising on the sale of its subsea cable and data centre business.
- > **AXA IM:** analysing legal restrictions in 12 jurisdictions in relation to implementing their global archiving policy and centralised data centre in France.

- > **One of the world's leading pension plans:** advising on its US$360m co-investment with Warburg Pincus into Singapore based Princeton Digital Group – one of Asia's leading data centre and internet infrastructure providers, with facilities in Singapore, Indonesia, India and China.
- > **BNP Paribas Group:** advising on the acquisition of two data centres in Belgium.
- > **The world's leading organisation of independent audit, tax and advisory firms:** advising on rolling-out centralised data centres in the EU and restrictions under data protection law or other key professional secrecy rules applying to auditors.
- > **One of the 10 largest global banking groups:** complex litigation related to building defects in data centres of the group having caused major financial damage.
- > **Data Centre acquisition:** advising a cloud computing specialist on the acquisition of data centres and related assets from Vmware in France.
- > **German data centre:** a consortium of investors in connection with a joint venture for the construction of a hyperscale data centre in Germany.
- > **Vantage Data Centers:** advising on the acquisition of Etix Everywhere, a provider of colocation services through its global network of hyperscale, edge and HPC data centres.

- > **Lamda Hellix:** advising on Interxion's acquisition of Lamda Hellix (Greece).
- > **An international data centre developer and operator:** advising on a newly built data centre close to Frankfurt, one of the largest sites in Europe.
- > **Computer and data processing companies:** advising on the development and investment facility agreement to finance the design and development of a 27MW hyperscale data centre under development in Frankfurt.
- > **Ivanhoé Cambridge Europe:** advising on the sale of the Munich Techdata Centre.
- > **A global infrastructure investment manager:** advising in an auction process pertaining to terrestrial fibre, submarine cables and data centres in a number of jurisdictions, including Germany and several other European countries.
- > **An IT manufacturer:** advising in connection with the installation of equipment for a data centre of an investment bank.
- > **An IT manufacturer:** representing in defence of claims by a call centre operator for alleged defects in the construction of a data centre.
- > **Barings:** advising on the acquisition of a c.640,000 sq ft property located in Stockholm, with uses including distribution, offices and data centres.

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