DIGITAL INFRASTRUCTURE
& REAL ESTATE INSIGHTS
DATA CENTERS, FIBER, TOWERS, IXPS
PROMINENT GLOBAL DATA CENTER
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Digital Infrastructure-UK Outlook

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Regional editions of Cate Tech: Take a look at their outlook on the UK, the market leader in Europe, with insights from the experts: Located Platform UK, a proposition

The Multi-Trillion-Dollar Industry

The multi-trillion dollar club of the world's most valuable companies by market capitalisation is dominated by tech companies. Microsoft at $3T and Apple at $2.87t are ahead of Nvidia at $2T. They have recently been joined by Nvidia at $1.8T, overtaking Google and Amazon.

Philip Lee, Chairman of Platform Markets Group, the specialist digital infrastructure research and premier events company, summarised the market outlook:

> The Data Centre sector globally is already a USD1 tn market. The total global addressable market for digital is growing by USD800 bn per year. Opportunities through AI are generating a new era beyond cloud. The UK has always been at the forefront of innovation and recognised the critical value of data centres during the pandemic. It now needs to invest significantly in and harness the advantages of AI across health, defence, manufacturing and digital infrastructure. This investment is much needed to anticipate and prepare for future black swans but also to create world class digital capabilities. All these objectives require a network of robust data centres.

Fundamental challenges for the development of data centres are shared: soaring energy consumption, restricted power connections, rising land prices, construction cost inflation, skills shortage and increasing public and political scrutiny. The sector is thriving and Jaime's views are at their lowest in Nvidia (52) declared last week that we will need 2 Trillion Dollars of Data centers for it over the next 5 years.

We delve here into expert minds of prominent players in the UK digital infrastructure industry for a snapshot of the challenges, opportunities and trends in the UK market.

Data Centre Investment

Investors are attracted by data centers high quality tenant, long contract tenure and high asset value. Furthermore, hyperscalers and enterprises want to expand beyond their tier 1 market and serve customers in tier 2-4 markets.

Richard Ludwig, AEW Architects & Engineers Department at Aienta, a global investment banking and asset management focusing on the mid-market with offices across Europe, the US, Latin America and Asia. It provides the full spectrum of corporate finance advisory services, including M&A transactions, private equity and debt and equity capital raising across both private and public markets, M&A advisory services, and Aienta's Capital Markets in data center location and winning has accepted of his nominations.

Emerging data center locations

Mr Ludwig believes that London is expected to continue being the leading data center market in Europe. However growth is accelerating outside London as data center developers are looking outside available cities. This is driven by demand for cloud services and AI workloads that require larger campuses and higher densities that are not possible in available cities. Indications of this trend:

- Microsoft £2.3bn investment over the next 3 years to expand AI-enabled data center footprint.
- Google £1bn data center investment.
- The UK government building a £900m supercomputer for AI research in the University of Bristol.
- Manchester emerging as a hyperscale hub, where AEG Data recently announced an investment of £450M over the next five years, with the attractive attributes: a large population, strong SME base, strong connectivity, BBC and university campuses.

Where the smart money is going

> Investors are backing decentralised models to capture more localised demand of metro-edge typically 2-20MW facility in tiers 2 & 3 cities. An example of this trend is 1 Squared Capital buying 10 data centers last year across the UK.

Emerging areas of UK investment

New players include telco core sols are taking advantage of high multiples in the sector. Deep Green receiving £200M investment from Octopus Energy was a notable recent transaction that has successful heat re-use from it servers.

> Giving heat for free into district heating is advantageous when operating within local communities.

Investment Risks

Vincent Gorbatiuk, Head of UK & Europe at MORROW, the leading digital infrastructure manager looking for the next high growth sub segment within data centers, an investment risks:

- A main concern is the shortage of skilled and experienced people that can run a high quality smooth operation.
- A key factor is how we embed infrastructure and data centers in local communities in a sensible way. £100MM project had approved but local population opposed it in their backyard.

Impact of AI

AI and hyperscale companies are looking for quality companies who know what they are doing. Data center developers and operators have need to design data centers for AI while managing escalating costs and public pressure as the industry gains prominence.

Jensen Huang, CEO of NVIDIA at the World Government Summit in Dubai on the development of Sovereign AI:

> You need to build and activate the infrastructure required to deploy AI as fast as you can.

Growth across all regions will be an ongoing discussion this year round how to regulate AI, where will the energy come from and access to GPUs.

Matthew Dooley, Director at Ambler Infrastructure Limited, the investment firm focused on digital infrastructure and the transition to Europe, shared with his insights on early stage opportunities.

> We see an opportunity in the future around data sovereignty with the adoption of AI and cloud based AI that's going to have to transition across borders. Its important to understand the regulations across those borders to ensure a reliable service. Northern Ireland might be an interesting candidate where you can develop an operator with one foot in the UK and another in the EU. Ireland has been a very important opportunities in an underserved and under developed market.

The Edge Computing Market(s)

Dale Kelly, Director Consulting & CCO at 371 Partners, a consultancy that helps telcos and their partners innovate, shared her insights from primary research with tech companies and telecom operators on edge market drivers, investments and use cases.

> Edge computing investments slowed in 2022 but have picked up again since 2023. They totalled around $8bn in the last 4 years. 3% of all time cloud investments. Edge computing build out is driven partly by telecom operators in partnership with hyperscalers. The demand stems from use cases in computer vision to video streaming to cloud gaming. Autonomous vehicles and drones need edge but are not yet here.

CO2 emissions

Josh Joshi, the industry Executive Chairman of AbsaBage, a joint investment of Liberty Global and DigitalBridge shaping the future of edge infrastructure in Europe, highlights the industry's past achievements and future growth prospects.

> What we have achieved in the last 20 years is that the data center industry found a home for photons in a created value. They could have been in an enterprise data center with a 2-3 PUE. The industry saved society mega tons of CO2 in the development of a sustainable environment to drive the future.

Pushing growth in new locations

Where to site a data center is a mix of connectivity and access to power. Regional centers needed for these activities are Manchester, London and Bristol. Wales has seen a significant growth and where startups developed 5G capacity.

Two factors are seen to be driving that regional development:

A- Low cost of power, land and tax and easy planning regulations.

B- Where workloads are going to be used. Pick the right customer to look demand and drive prices up.

Northern Ireland, as a framework for all above, is a future opportunity.

UK data center industry ESG & sustainability targets

Susanne Kana is an AI scientist focused on discovering AI technologies to accelerate performance, energy efficiency and sustainability. She is currently Platform Engineer at Digital Gravity Infrastructure Partners focused on investments for The Future of Data Centers in the AI era. She is an Energy Policy, Stanford University and a Data Center Advisor on the United Nations Sustainable Development Goals Programme. She led 3A Digital Clean Energy Infrastructure projects – IT Countries for Google, Microsoft, Goldman Sachs, AWS, Apple, Meta, Equinix.

Mrs Kana shared her insights on meeting sustainability targets, the future of legacy facilities and whether operators and enterprises are ready for scope 3 emissions reporting.

Sustainability needs young talent

> We cannot tackle ESG without inclusivity of young talent, sustainability comes natural for the young generation as they think about what their world will be in 50 years' time. We need them to join our industry in the past to reach Carbon Neutrality for the Future of Data Centers and ICT sectors.

Sustainability targets

> Only 17% of corporate companies making carbon neutral pledges have a written plan of how they will actually reach their goal by 2050.

> Please ask people you hunt how they will measure their CO2 emissions for direct, indirect consumption and in their supply chain. It is a must to collaborate as an industry to green the electric grid which is not green 24/7 today.

ESG Investments

The target of reducing carbon emissions by 68% is at risk while the fossil fuel industry maintains they can't shut it down because 'we stop civilisation and industrialisation'.

> The sense civilisation and industrialisation are when we blow a hole in the ozone layer. The earth is on a disastrous trajectory. We must take action in our ESG investments for the world not to exceed 1.5C global warming.

According to IPCC climate report contributed by an international team of more than 200 scientists and researchers, it is the greatest threat to humanity.

A call for circularity

Mrs Kana urges stakeholders to invert the status quo from 'grab, use, toss' resources and embrace circular thinking for a carbon free economy, not just the Data Center industry.

> Cities are full of non-green concrete and non-green steel. Compare that with places in Japan and Korea where data centers have zero embodied carbon, going free water and regeneration of heat waste using Absolute Zero designs and Net Zero operation throughout the lifecycle.

The private sector leading climate action

> We decided after COP26 to not give up and work harder to make the energy transition and the carbon capture a reality. Fossil fuel is not evil. It's the emission that comes out of it that we want to capture and not allow it to emit to the environment.

The future of legacy facilities

> I am grateful to those who managed zero downtime facilities of 99.999999%. It is essential to maintain uptime but that alone is now insufficient. We need to do it in a more sustainable way and talk about people and the planet. We need to build things differently.

Next Gen Absolute Zero DC

Mrs Kana is driving the building of next generation Absolute Zero 3 data centers with hyperscalers actively seeking locations of new builds to support 100%SSD and 24/7 Carbon Free Energy (CFE) covering the full lifecycle from design, site selection, build, material and operations to site decommission, setting a new framework for the industry. Zero carbon cement, zero emission, zero water, zero waste, zero dirty fuel best practice.

Scope 3 reporting

Companies are moving energy workloads to where they have renewable energy supplies. However, regulations on scope 3 reporting are a massive underlying.

Loren Long, co-founder of 3TAG, LTD, advises legacy facilities against easy solutions like offsets.

> The green washing few will come into effect in 24 months and it derails the use of offsets.

UK Grid

One of the reasons data centers are met with resistance is because they apply for large connection while capacity is restricted. Data centers are in a queue to connect to the grid together with housing, electric vehicles and energy storage. Experts expect we will see data centers split their sites to different grid connections and manage a portfolio of different sizes and locations.

Peter Weber the Founder & Director of Energy Optimisation Solutions, the energy broker and grid scale solutions company, on the grid consultant and how to engage:

> The grid infrastructure and the deployment of new technology are suffering from 2-3 decades of under investment in the UK grid. Queue management is also an archaic methodology.

Anyone with a wind interest in a greenfield site can make an application into the grid. You don't need to have that much money or planning permission. This clogged up the application queue with speculators. Some in renewables and energy storage are speculating on the value of that grid connection queue.

A 5 point plan is being installed to fix this problem run by DFNSO that will transform the way applications are treated. Rather than being a first come first serve principle, it will be first ready first served principle. So if you have planning consent, the money and a design and are ready to implement you will be leapfrogged nearer the top of the queue.

> We have a capacity shortage because data center operators maintain headroom between standing capacity needs and contracted connected capacity to be able to expand into that capacity.

That can take 5-7-10 years. All the while you are not expanding into that capacity. It can not be utilised on the network either.

> We can be facing into a clawback of unused capacity. If you are sitting on 10-20-30MW of unused contracted capacity, you may be forced to lose that.

It's a question of renewables and storage. If we can get rid of the intermittency of solar and wind and store energy long-duration, a tech that is arriving, if we can design a decentralised grid that allows wholesale bolting on of more renewable capacity we can control storage.

UK land and real estate for digital infrastructure

Alexander Burgarone, Head of Data Centre Valuations at Knight Frank, global market leaders in transacting data center deals, shared his insights with us on what can hold back growth: power, land, public opinion, cost, lack of capital and exiting a billion dollar asset.

> The exit value of new schemes is huge, billions for single assets. When you want to exit there will be a rarefied pool of potential buyers, namely sovereign wealth and infrastructure funds.

Public opinion

> Perhaps we are not as good as could be at lobbying. Poor public perception is an increasing risk. We have responsibility for messaging round data centres to the public. There is a huge opportunity to change public perception.

Capital, and is one of Asia's largest diversified real estate groups headquartered in Singapore. The group has approaching 650MW globally and is bringing Asian capital into Europe.

My summary of Stuart Jarvis insights, its Director of Investment and Asset Management, on capital driving the market that will come from 3 blocks:

1 - Infrastructure investors: low risk, low return pool of capital are used to technologically advanced investments and can dig into deep pockets. For this entity, it is about the IT operational assets and which infrastructure funds.

2 - Real Estate Investment Trusts and property funds: some will also have the deep pockets and the technical expertise required to get their hands around data centres. They are a steady pool of capital with slightly higher returns than the infrastructure guys.

3 - Private Equity: depending on what they wish to achieve. It's often about getting in early, aggregating, building platforms and selling on established businesses for the estimated length of this era.

Engagement Strategies and Plans

Gerald Lo leaders in the digital infrastructure industry who contributed insights, I am privileged to be part of this million dollar discussion:

> This platform is operationalising a well-informed community. A useful initiative given the acknowledgement that interpretations and communities' sentiment vis the industry's growth. By sharing knowledge, we are accelerating awareness and bespoke stakeholders connected. Please continue to share your insights.

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Published by

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Expert insights on the UK digital infrastructure, Europe's market leader. Grateful for the valuable contributions from Philip Lee, Richard Ludwig, Vincent Gorbatiuk, Matthew Dooley, Dale Kelly, Josh Joshi, Susanne Kana, Loren Long, Peter Weber, Alexander Burgarone, Gerald Lo, Stuart Jarvis and Jaime Tate Cortes, who's insights on the future of the industry, sustainability, and the transition to Europe's market leader. Thank you for your time and acknowledge useful conversations and connections! Jaime Tate Cortes, Chief Data Officer, Tech Strategist, PE, Marketing, Communications

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Chief Data Officer, Tech Strategist, PE, Marketing, Comms, Tech Entrepreneur, Strategic Partnerships
Thank you Jaime Tate Cortes for your insightful analysis. Congratulations to Philip Lee for your vision and leadership. Looking forward to a strategic team at #Platform@371Partners. Looking forward to successful conferences.
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