techUK is proud to represent UK data centre operators. Our award-winning programme is comprehensive and influential. Our aim is to ensure that the UK is a place where the sector can flourish. We intervene on policy, we mitigate regulatory impacts and we raise awareness. We have changed UK law and negotiated a tax concession worth over £200M for operators, we have reduced regulatory burdens, identified and mitigated business risks, established a community of interest and shared technical knowledge. We have educated the sector about policy and we have educated policy makers about the sector. During COVID-19 we negotiated the inclusion of data centres on the key workers list, obtained quarantine exemptions and protected construction sites. Most recently we secured a pragmatic solution for operators on changes to the taxation regime for red diesel.

What did we get up to in 2021?

2021 was a mixed bag. COVID remained a preoccupation: a rise in infections in the New Year, more lockdowns, establishing lateral flow testing for operators and clarifying international travel restrictions kept us busy. Then the summer pingdemic saw government intransigence threaten operational resilience: BEIS on the naughty step again.

Having left the EU, Brexit impacts were also front of mind, in particular data flows, and we were delighted that the UK was provisionally deemed adequate on 19th February with this decision confirmed formally in June, albeit with caveats. Less welcome was the tsunami of regulation in place of the promised bonfire of red tape, supply chain constraints, long delays on orders and price escalation, with the hike in energy prices presenting huge challenges for operators trying to bid forward in an impossible market.

We got to grips with our new relationship with government: on the plus side our dedicated team within DCMS provides welcome support, but growing political awareness of the critical importance of data centres places us in the firing line for every new regulation or policy review. Inclusion in the National Data Strategy in 2020 was followed by an obligation to notify transactions under the National Security and Investment Act which came into force in April. And now we have changes to the Network and Information Security regulations to look forward to. Paradoxically, many politicians and other stakeholders don’t make the connection between a thriving digital economy and the data infrastructure needed to underpin it, so public perception is an escalating concern and will be a priority in 2022.

Whilst responding to this new level of scrutiny we still managed to produce plenty of outputs including a report on sector readiness for climate change risks, a paper on growth drivers and challenges for the UK data centre market, an analysis of the systemic reasons why data centre energy consumption tends to be exaggerated, guidance on tax changes for red diesel and the usual array of position statements and consultation responses – more on these below.

In quarter one we were delighted to publish our Data Centre Programme Index. This is a thematic directory of our outputs (reports, blogs, position statements, consultation responses, guidance, briefings and infographics) organised loosely into subject matter dossiers. While it is, and probably will always be, a work in progress, this is the go-to place if you are looking for the latest state of play, or indeed the backstory, on any data centre topic that we have covered.

Equally pleasing were two firsts on the skills front – a new partnership between operators and the Heathrow University Technical College (UTC) and a skills outreach to schools with “I’m an Engineer”. In terms of platforms, it was a very busy year for speaking despite – or perhaps because of – so much being delivered online. We spoke at over 30 events including some face to face conferences in Autumn. We look forward to physical meetings in 2022.

Priorities for 2022

In 2022 work will continue on core issues like UK competitiveness so we will take government to task on energy costs and regulatory burdens. Skills shortages also continue to be a challenge and it is clear that we need to do a better job of explaining our sector both to those for whom data centres may provide a rewarding career, and those who criticise the very facilities that do so much to support our economy. Security and resilience continue to move up the agenda so we anticipate more work on this front too.
Topics covered in this update

1. **Regulation, Policy and Compliance**
   - National Security and Investment Act
   - Taxation of red diesel
   - Brexit and data adequacy
   - Generator woes - MCPD and IED

2. **Sector Resilience and Security**
   - COVID-19
   - Supply chain
   - Climate change adaptation and resilience
   - Security

3. **Skills**
   - UTC partnership
   - Schools outreach
   - Cross-sector outreach

4. **Planning, Development and Infrastructure:**
   - Planning
   - Construction and market growth
   - Heat Network Zoning Consultation

5. **Sustainability**
   - Climate Neutral Data Centre Pact
   - DIGITALEUROPE Data Centre Project
   - Climate Change Agreement
   - Cloud Sustainability Standard
   - Ministerial round table on data centres and net zero
   - Exaggerating Data Centre Energy: The Viking Helmet

6. **Tissues and Issues**
   - Public perception
   - Power provisioning
   - Public sector estate – efficiency and resilience shortcomings
   - Policy process

7. **Events and Platforms**

8. **Summary of Publications**

9. **Governance, Further information and Contacts**
1  Regulation, Policy and Compliance

National Security and Investment Act
The National Security and Investment Act represents a seismic change in UK government policy on foreign direct investment, extending Government scrutiny of mergers, acquisitions and other transactions in the digital space. Data centres are firmly in scope as “data infrastructure”, one of the new sectors obliged to notify relevant transactions to the BEIS Secretary of State. While the intention is only to capture transactions that present a threat to national security, the initial scope was set very wide. Following extensive consultation with DCMS and BEIS (including a round table we set up for the data centre investor community to brief the BEIS Director of National Security), scope was narrowed to exclude entities with no operational remit (like landlords and leaseholders). The definition of relevant data was also refined. Changes and rationale were explained in the Government response. The sector definitions are covered by secondary rather than primary legislation to allow flexibility. While we were concerned about potential impact on investment flows and developments, so far disruption seems to be minimal. There is extensive Government guidance, plus a useful flowchart. You can find more in our Data Centres Index under the infrastructure tab, including our guidance for operators, a helpful briefing by Clifford Chance and a fireside chat at Capacity Europe.

Changes to taxation of Red Diesel
This is a prime example of a “simple” change with disproportionately complex ramifications. Many businesses, including data centres, use red (rebated) diesel in generators for non-road use which is taxed at a much lower rate than normal (white) diesel. HMT proposed to restrict rebated fuel to a few sectors such as agriculture and make it illegal for others, including data centres, to use it from April 1 2022. While the extra tax was unwelcome, the main issues for operators were practical: high volumes in tanks and low consumption rates would necessitate disposal of millions of litres of unused stock. We advocated strongly for a more pragmatic approach, and were delighted when HMT conceded that data centres could use up existing stocks without penalty (see our insight here.) Since then we have struggled to make sense of multiple iterations of government guidance which seemed to move the goalposts. In October 2021, they set a date of June 10 2021, retrospectively, as the point after which any fuel purchased but unused by 1st April 2022 would be subject to penalty (see Government guidance). HMRC also clarified concessions for standby generation. We produced guidance, including an FAQ, for operators. See also the Compliance section in our Index.

Brexit and data adequacy
Data centre operators, along with other digital service providers, were very anxious about UK adequacy and colleagues within techUK worked tirelessly to ensure that government gave sufficient priority to data flows in Brexit negotiations. We were therefore delighted when, on 19 February 2021, the European Commission provisionally greenlighted the adoption of two adequacy decisions for transfers of personal data to the UK, and even happier when this decision was confirmed formally on 28th June, albeit with caveats. This means that the Commission found the UK’s data protection regime provides an equivalent level of protection to the GDPR and the Law Enforcement Directive (LED). We arranged briefings for operators on the implications: you can find more here.

Generator Woes: MCPD and IED
During 2021 we had lots of problems with environmental permitting. We raised several snagging issues relating to MCPD including the EA’s refusal to allow operators to permit generators ahead of the deadline - see our position statement. On IED, years of wrangling turned into something more resembling trench warfare, again with the Environment Agency who are gold plating IED requirements, defining BAT without due diligence or informing either the industry or the supply chain, then retrospectively applying rules that had not been agreed with stakeholders. This we consider to be an abuse of process, and have therefore strongly criticised it. Both these issues are as yet unresolved. We escalated both issues to DEFRA in quarter one and still await a response. In the meantime you can find relevant resources in the compliance section of our Directory. We were hoping to develop an Industry Code of Practice for generators in cooperation with the Environment Agency but their extraordinary behaviour during 2021 has placed this in jeopardy.
2 Sector Resilience and Security

COVID-19

Any hopes that COVID-19 would be relegated to the back burner in 2021 were soon despatched. In quarter one we facilitated lateral flow testing for operators to help ensure that our key worker communities could screen for asymptomatic infection. We worked with DHSC and DCMS to develop guidance for operators running their own test sites and worked with Slough Borough Council and SEGRO to run a temporary test site for all workers on the Slough Trading Estate. We tried to keep operators abreast of international travel and quarantine rules as they chopped and changed, and lobbied hard during the summer pingdemic — asking BEIS to apply common sense and allow test and release of key workers. BEIS refused. Right at the end of the year we issued further travel guidance and helped government with a last minute effort to distribute tests to operators. More resources are on the COVID section of our Directory.

Supply chain

We have been working closely with DCMS on supply chain resilience. Initial concerns were about supply chain bottlenecks, both in terms of over-dependence on specific geographical locations and also a lack of supplier diversity. Whilst there were delays due to lockdown and factory closures, most operators were able to rely on inventory. Since then, however, the situation has worsened. Order horizons have lengthened significantly, prices have escalated and the spot market that operators have relied on for their day-to-day needs has disappeared. This issue looks set to trouble us well into 2022 if not beyond.

Climate Change Adaptation: Sector Readiness for Climate Change Risks

All infrastructure sectors report every five years on the preparations they are making to address climate change risks. This is overseen by DEFRA under the Adaptation Reporting Power (ARP) and 2021 was the second time we reported. Last time, in 2016, we included reference to communications networks but on this occasion the EC-RRG (Electronic Communications Resilience and Response Group) has reported directly so we limited our scope to data centres. Our main concern is the potential disconnect between the resilience measures in place in enterprise data centres, particularly on-premise within the public sector, and the level of criticality of the data housed therein, in view of the lack of transparency or reporting. We also need to ensure that industry standards accommodate climate change risks adequately, and check levels of adoption. We used the pandemic as a proxy event to demonstrate how we respond to existential threats. Some useful lessons emerged from COVID both good (swift action, cooperation, DCMS support) and bad (the potential for poorly considered government restrictions to compromise operators’ ability to manage their own risk – as we saw with BEIS mishandling the summer 2021 pingdemic). The report is not a thrilling read but you can find it here:

Meanwhile we are continuing to work closely with other infrastructure operators through the IOAF (the Infrastructure Operators Adaptation Forum) and have also been collaborating internationally on climate change risks through CDRI (Coalition for Disaster Resilient Infrastructure) – another useful platform for knowledge sharing.

Security

The data centre sector has clearly become more interesting to government security agencies — CPNI (Centre for Protection of National Infrastructure) and NCSC (National Cyber Security Centre) and we have held useful dialogues with members of various teams across government who plan to publish guidance for operators in 2022. In the meantime we were pleased to work with member Genetec on their useful briefing about the interface between physical and cyber security in data centres.
3 Skills

UTC Heathrow Partnership

With COVID and Brexit making an existing skills shortage worse, we need to do more. At the end of 2020 a new opportunity emerged to work with the Baker Dearing Trust and CNet Training to partner with Heathrow UTC (University Technical College) to train 14-19 year olds for careers in the data centre sector. We hosted a series of meetings for operators in early 2021 and were absolutely delighted when the partnership was confirmed later in the year and then launched formally in November.

We should pay tribute to the huge amount of hard work done by CNet Training, the UTC and the industry partners: Ark Data Centres (Crown Hosting), Amazon Web Services, CBRE, CyrusOne, LMG, VIRTUS, Yondr. You can find out more about it here and there is plenty of background information in the Skills section of our index.

Schools Outreach with I’m an Engineer

During November and December we ran a very successful schools outreach with I’m an Engineer, where engineers and technicians from the industry volunteered to answer thousands of questions from hundreds of children, in a series of online chat sessions.

The questions put us all on the spot and it became obvious that we are not explaining our sector well enough! We did provide lots of supporting collateral and developed new material identifying employers within the sector and also an overview of the huge range of careers on offer (see Jobs in Data Infrastructure and our skills section in the Index). There is also more in our Pathways to Digital pages.

We now need to provide answers to some of the more common questions, so an FAQ will be developed in early 2022. We were overwhelmed with volunteers from the sector and plan to run this again.

Special thanks due here to our brilliant sponsors; Global Switch, Future-tech, Keysource and 4D Data Centres

Addressing short term needs: Information exchanges

While our focus this year was on plugging long term needs we held a knowledge exchange session here with the IMechE on 11th March to raise awareness among the wider engineering community of the many career opportunities in the sector. We also ran a similar session with BALPA to identify opportunities for pilots seeking careers outside aviation.

We now need to find ways to smooth the pathway into the sector for those with the right capabilities but needing to acquire technical knowledge.
4 Planning, Development and Built Infrastructure

Planning
In April we produced a position statement suggesting the NPPF (National Planning Policy Framework) should include data centres alongside communications under digital infrastructure. This was a follow-up to our 2020 response to the Government’s Planning for the Future consultation which included lots of pictures but neglected infrastructure: we noted this and criticised the redirection of CIL funds away from infrastructure. Also in April we prepared an FAQ for planners to explain data centres, including their locational attributes, to support decision making. While we struggled to get traction at strategic level – we had hoped that the RTPI might work with us – we did engage briefly with MHCLG whom we alerted to the planning lacunae on data centres. Our input was well received but we were told not to expect anything too soon. We also plan to challenge the Carbon Offset Fund in London, which is acting as a development deterrent.

Construction and Market Growth
The UK’s commercial data centre market is undergoing a buoyant period of growth and we explored the main drivers behind this, plus opportunities and challenges in data centre construction in our paper: Securing our Digital Future which we wrote in cooperation with new member Procore. We also welcomed a very insightful guest blog from Vijay Mistry at VIPA digital on investor appetite within the UK data centre market. This was followed up in September by a fireside chat with Matt Pullen from CyrusOne who provided an overview of broader market trends within the sector.

Heat Network Zoning Consultation
Government issued proposals to introduce heat network zones, where certain organisations would be obliged to connect – either as offtakers or heat providers – in September and we responded to the consultation. Our position was broadly supportive – the UK lacks the heat networks that we see in Scandinavian countries and this means there are no customers for data centre waste heat. However we were keen to see adequate governance of heat networks and made it clear that data centres might not be able to provide consistent levels of heat and that it could be counter-productive to require them to do so. You can find our consultation response here.

5 Sustainability

Climate Neutral Data Centre Pact: Self Regulatory Initiative
The CNCDP initiative was launched in January 2021 with support from data centre operators, cloud service providers and national trade associations, ourselves included. Initiated by EUDCA and CISPE, signatories commit to a set of minimum requirements on energy efficiency, renewables uptake, water use, server and heat reuse. We were appointed to the Board and it has proved to be busy, challenging and rewarding. You can find the details here.

DIGITALEUROPE Data Centre Project
We have been following this activity with interest as it is focused on EU legislation relevant to data centres and is producing very useful positions. With so many other initiatives underway we have been less active than we would have liked but we have shared our collateral. We hope this work continues and look forward to contributing more in 2022. In parallel we are seeing a rapid growth in new, dedicated data centre trade associations across Europe and have recently updated our NTA listing – this is not by any means complete but it gives details of those we are most regularly in touch with. We have also been working with organisations like SDIA who are trying to tackle some of the longer term technical sustainability challenges like heat reuse and hydrogen.
Climate Change Agreement

The CCA has been a hugely frustrating dialogue: After the Chancellor confirmed in 2020 that the CCA would reopen to new applicants and be extended for two years, to 2025, the implementation of this sensible step has been a shambles. BEIS, the Department for Business, Energy and Industrial Strategy has set a new low for policy dialogue: shortcomings included a wholly inadequate window for new sites to apply which left many excluded and forced participants to commit before knowing what targets they would be obliged to meet. BEIS then proposed targets based on political ideology without any supporting evidence, demonstrated a dismal understanding of technical infrastructure and seemed oblivious to commercial realities. They have since moved the goalposts so many operators now face stricter targets than those they signed up for.

Cloud Sustainability Standard

We had an unhappy interaction with DEFRA in spring regarding a cloud sustainability “standard” they were developing on behalf of Cabinet Office. The concept is sound – that those bidding for government contracts should meet sustainability criteria and that these criteria are harmonised across government to avoid multiple conflicting requirements being imposed on business. The main focus was on data centre performance, for which a wide variety of relevant, peer-reviewed sustainability standards and metrics already exist. We were concerned that those developing the proposals were unaware of existing standards and unfamiliar with data centre environments. They also demonstrated conceptual shortcomings regarding wider sustainability practices. We hosted a workshop but no concrete proposals were presented by DEFRA which made it impossible for industry to respond. For the first time ever we declined to engage and asked for a review of the process. Since then we have been in a much more productive direct dialogue with Cabinet Office who produced revised KPIs to which we responded in September, pointing out that government must apply similar requirements across its on-premise estate.

Ministerial Round Table on Data Centres and Net Zero with Julia Lopez MP

We, along with a number of operators, participated in a round table with Julia Lopez MP, Minister of State for Media, Data and Digital Infrastructure at DCMS, to discuss data centres and net zero. It was part of the National Data Strategy and there were two exam questions from DCMS, both very valid:

- Q1: Why do figures for data centre energy use vary so wildly?
- Q2: How do we reconcile making the UK a global centre of excellence for data centres with our net zero commitments, in view of the growth and energy consumption of the sector?

DCMS was keen for the sector to announce a commitment as an outcome of the round table but since operators are already signed up to multiple voluntary and mandatory requirements, we felt that a commitment from Government to audit its own on-premise estate, which was not obliged under such measures, would be more appropriate. The more general point about the need for greater scrutiny of public sector on-premise and legacy data centre estate was landed during a productive discussion and operators were impressed with the positive and informed way that the Minister led the dialogue. Since then, mindful of the validity of the questions posed, we have been working on some answers – see below.

Data Centres and Energy: The Viking Helmet

The question raised by DCMS about the wildly varying estimates for data centre energy use deserved a formal answer and in October we produced our Viking Helmet piece, which sets out some of the systemic reasons why data centre energy use tends to be overestimated. These include problems like varying definitions, using out of date sources, wrongly interpreting trends and confusing predictions with scenarios - plus of course common mistakes like mixing up bits with bytes, Watts with WattHours and energy with electricity. The Viking Helmet document is on our Index under the Energy section, where you can also find a recording of our fireside chat with on the topic with George Rockett at DCD London.
Public perceptions
Although data centres have long been subject to a huge array of regulatory obligations (often unintentionally, due to lack of awareness among policy makers), the sector is now increasingly, and explicitly, in the scope of new legislation and policy instruments from NSIA to the EU’s Green Deal. Paradoxically, many politicians and other stakeholders have yet to make the connection between a thriving digital economy and the data infrastructure that underpins it. We must do a better job of explaining why we need data centres and that the internet is not run by magic, but by physics. If not, we risk negative public perception and possible moratoria. This is a key priority for 2022.

Power provisioning
We have struggled to get meaningful dialogue with National Grid on power provisioning in the West London area, where there are localised capacity constraints and no sign of short or even medium term improvements. However, at the end of the year the Future Energy Scenarios team got in touch to say they were developing future projections and wanted to know more about the escalation of data centre power demand. We were candid in explaining that while large scale developments would increase demand in and around existing clusters, there could be a parallel drop in consumption if the trend to outsource and consolidate activity continues. However, there would most likely be a geographical mismatch with reductions likely to be widely distributed and increases concentrated into a few areas. Their report is due out by summer 2022, so look out for that.

Resilience and efficiency shortcomings within government on-premise data centre estate
We are increasingly concerned that, while Government is very keen to apply metrics and standards to commercial providers, little attention is being paid to the public sector’s on-premise data centre estate. We have pointed this out on multiple occasions, and suggested that much greater self-scrutiny is needed by government. Nothing concrete has emerged so we plan to escalate this issue in 2022.

Better Regulation - The broken policy dialogue
We are extremely concerned by the tsunami of policy instruments emerging post-Brexit, in place of the bonfire of red tape that was promised. We are also dismayed by the addition of gratuitous bells and whistles when existing instruments are revised. We complained vigorously in our response to the Better Regulation Consultation which you can find here. In addition to a culture of “do as I say, not as I do”, Government is increasingly demonstrating a worrying level of institutional amnesia. Technical expertise within many policy teams also seems to be a thing of the past – it is now unreasonable to expect those working within the Department for Business to have had any exposure to a commercial environment. Direct communication with individual seems to on the wane and we increasingly have to communicate via anonymous “helpdesks” (more accurately “helplessdesks”) where the standard response is that an answer will be provided in ten days. This may happen, or it may not. The answer may be helpful, or it may be Delphic, irrelevant, or just plain wrong. We still await an answer from DEFRA to a question on MCPD submitted in March 2021. Answers from the HMRC helpdesk have been factually incorrect. We challenged this behaviour in the better regulation consultation; in response we got platitudes. In our view the policy dialogue is broken.

7 Events and Platforms
2021 was a very busy year for events and we spoke at over 30 conferences and events on topics ranging from circular economy to construction trends. We spoke at Capacity Europe on the NSI Act, at Data Centre World on sector energy use, at DataCloud Congress on sector climate priorities, at DCD London on data centre energy myths and at the Internet Governance Forum on sector carbon emissions. In fact, sustainability was our topic at most events including EuroDIG and the Cloud and Net Zero Summit.

Sustainability was also our subject at a number of events with politicians and policymakers from the UK and EU: in addition to our round table with Minister Lopez we spoke at the European Parliament’s IMCO Committee and at the launch of the EE1st principle. We also presented at DG Connect Summer School on energy myths. We also ran some events ourselves including a roundtable on power purchase agreements and renewables sourcing with Baringa Partners. We covered market drivers and construction trends at Built Environment Networking, we spoke at Data Centres Ireland on regulation and at the Coalition for Disaster Resilient Infrastructure on data centre resilience standards. In terms of press coverage, we appeared in Computer Weekly, DataCenterDynamics, Inside Networks and Techerati, among others.


8 Summary of Publications and Outputs in 2021

In addition to the outputs we produced during 2021 we were delighted to publish guest pieces from Genetec on data centre security, from RIT Tech on infrastructure management from Clifford Chance on NSIA and from Zeigo on PPA aggregation. We had a great blog on Investment from VIPA digital and did a fireside chat with CyrusOne. We love publishing member content so please get in touch if you have something to share.

Links to our 2021 outputs:

January Guidance for Setting up a Testing Site - FAQ for Data Centre Operators
February Data Centre Directory of Publications and Resources
April Securing our Digital Future
April Informal Input to DIT on Better Regulation
April Position Statement - Data Centres and Strategic Planning Policy
July Position Statement on Self Isolation Requirements
July Provisional Quarantine Guidance for Operators, Isolation Obligations, and more....
September Position Statement on IED
October Position Statement on MCPD – Early Permitting and CO Monitoring
October Response to Consultation on Better Regulation
October Feedback on HMRC Guidance on Red Diesel taxation
October Data Centre Energy Use - The Viking Helmet
September I’m an Engineer, Internet Zone Overview and I’m an Engineer, Internet Zone – How to Register
November Data Centre Employers
November Data Centre Careers: Who Runs the Internet?
Jobs in: Planning and Design, Construction, Engineering and FM, IT and Networking,
Jobs in: Energy and Power, Resilience and Risk Management, Security, Sustainability,
Jobs in: Business Management, Policy, Professional Advisory and Market Transactions.
November National Security and Investment Act - Guidance for Data Centre Operators
November Response to Consultation on Heat Network Zoning
December Updated List of European National Trade Associations
December Our Guidance Materials for Operators on Changes in Taxation of Red Diesel
December Sector Readiness for Climate Change Risks - Report to DEFRA Under the Adaptation Reporting Power

8 Governance, Further Information and Contacts

Governance
techUK’s data centre programme is overseen by the UK Council of Data Centre Operators which meets five times a year and sets strategic direction for the programme, agrees priorities and reviews activity. Council ToR, member bios, application criteria, meeting notes and papers are all available on request and our formal Council Communications can be found under the relevant topic headings in our publications index.

Further Information
The best place to look for information is our publications index where the first section includes past overviews

Data Centre Programme Overview 2020
Data Centre Programme Overview 2019
Data Centre Programme Overview 2018
Data Centre Programme Overview 2017
Data Centre Programme Overview 2016

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