Transcript AAB1

Interviewer (Ir): So yeah, first of all thanks very much for taking the time, that's good. So basically just to give you a rough, kind of outline of the interview... as I said it's mainly about policy instruments and energy efficiency, but I'll just start off with a few questions about your job role and what the company does and stuff like that, so just kind of place the information we collect. Erm, so yeah, so if you could just briefly explain your job...

Interviewee (Ie): I was... well I was the data centre project manager here, then I... to build the [redacted] data centre which obviously shortly... erm once that was completed I then took another role of more the data centre operations manager which is ... the day to day upkeep of the facility. And then I went to do another big energy efficient facility in [redacted]. Erm, I've since moved on from the operations role and moved back into the project and what they call here [redacted], so any changes with data centres, however big or small... that's what my specific role is now. So we've gotta try to come up with a 3 to 5 year strategy at the moment. A roadmap of where we want to get our data centres, cos they're not where we want them to be at the moment. We've got 40 offices globally, we're putting in equipment, servers, storage, in local offices, and we shouldn't be. They should be hosted in major hub sites and just put connectivity back to those hub sites. That's the best way to do it, because when you're talking about scale of economies, you can obviously make sure that the biggest facilities are more efficient. We constantly, the company's constantly growing which faces challenges because every 2 years, one of... most of the European offices move around because they run out of space. Which means you've then gotta pick up, we'll call it a server room, a small data centre. You've gotta pick that up and migrate it all to the new office every 2 years, you've gotta be doing that. So what would be the model we'd wanna get to is having what we call [redacted]. So that's what I'm now working on. I've gotta figure out how to do a roadmap, how to make it measurable along the journey, whether we're actually achieving what we're supposed to be achieving, it's no good getting to the end and realising we've gone down the wrong road. And obviously consolidate existing facilities, virtualise as much as possible. And yeah we've got one of the core hub sites is here in [redacted], and if there is, we can incorporate it with all the other infrastructure from the other local offices. And get economies of scale that way. So we have said that's... the other thing, we have many models of different data centres. We have these HPC's, high performance clusters, high density facilities. We have our IT enterprise facilities, server rooms we'll call them. Which are for day to day stuff, logging on, you know, your emails etc. And then we have what we call here [redacted]. So we need to build out environments that are safe, and efficient as possible, for our customers to use. Cos historically they haven't been, you know, we've had a few incidents, which are, yeah, that could mean loss in production. But if we make sure each facility's properly built and constructed, let's say where necessary, UPS and generator backed. Then we can carry on doing that business 24/7. And then we are a global company, that's important. So if we go back to the hub model, if we go to the hub, the other regions, we can still use one of the other region's HPC clusters and infrastructure. So that's where we need to be. We've got a long way and a lot of work to do to get there. So yeah...

Ir: OK so... and the data centres are they all, is it a sort of enterprise model? Do you rent out space to other companies as well or...

Ie: Well, it's funny you mention that. We didn't historically. We are going towards that model. We have a global partner, [redacted]. That helped us build the facility in [redacted]. So yes, I am one of their pick up the phone and say, alright, my customers, engineering, have got a requirement, they need 6 racks for some boards. We should be able to ask [redacted] - why are we gonna build another facility, which is costly, it's time consuming, they always need it last minute. We should be able to phone up [redacted], and say I need 6 racks by next month, what have you got in this region. And they should be able to you know. That's where we've got to get to. We are looking at outsourcing more and more of the... not the HPC, but the other infrastructure. Like we have, there is one other bespoke requirement, I mentioned HPC, there's [redacted]. And there's the IT enterprise stuff, which is the stuff to do your day to day work. There's again media and low to medium density. Then you've, what's the other one, [redacted]. And they've got special requirements, so... we have some nice [redacted] that may require certain things, they're testing different ones all the time which raises challenges for us. Where are we going to put it? How are we going to cool it the best we can. And I guess we've got these facilities where we can say right I need to put one of these [redacted], what have you got? That's where we want to be but we're not there yet.

Ir: Erm, could you give me a rough idea of what sort of footprint is of your data centres? I'm guessing it's pretty big.

Ie: The total footprint?

Ir: Yeah.

Ie: We have a main core hub here in [redacted], with a HPC here. A 1 MW tier 3 facility. We have the [redacted] facility which we built out for 2 MW, again a tier 3 facility. We've only filled up... we built 2 data halls and we've filled up one meg of IT load. We're about to bring the other hall online actually next month, for another cluster. And then we've got a smallish one in [redacted] at present. But we're not planning to build an HPC in [redacted] due to infrastructure challenges we'll call it, in that region. Unreliable power. We're growing in [redacted], therefore we need to think about, it needs to be nearer to there, possibly. Not in [redacted] because there's other challenges, regulatory things with data centres. All the data centres [redacted].

Ir: OK. Well I think that gives us an idea of sort of what you do and stuff. So as I understand it you are participants of the Code of Conduct...

Ie: Oh yes.

Ir: When did you become participants?

Ie: Erm, the EU Code of Conduct I've been involved with from the start, not just at [redacted], cos I've been working for other companies previously and building data centres that complied to the code, that were participants of the code. [redacted]. And I'll explain a bit more about that later as we go, I'll show you a few things. But we took the EU Code of Conduct to the next level here, cos it's a best practice, but you interpret that how you want. If you take out the bits you want, you send off your forms... I'm not saying that you have to be 100% honest in that application and that's... so the industry desperately needs a proper certified energy efficiency certification, now the Uptime have started one I believe, I haven't looked into that personally. And there's also the other one that we've adopted called CEEDA. And it takes the EU Code of Conduct to the next level, and I'll explain that when we do the tour, because we built that data centre on this site so fast that we wanted to validate what we'd done, we could have got it wrong but we didn't, and that's the important value of, everything I tell you, I can prove. But then there's some people out there making big claims about PUEs, energy efficiency, without mentioning any names of big search engines. They cheat because they don't have a UPS, so it's not part of the mechanical load. They put batteries in the back of the servers, therefore it counts as the IT load. Well, we can all add our UPS to our IT load and have a PUE of 1.0! Anyway, I'm very vocal, very enthusiastic about the value that, of proper certification of a facility gives credibility in a much needed industry at the moment, where there's a lot of people making big claims.

Ir: So would the... do you think the code of conduct has done much to push energy efficiency in the industry?

Ie: Oh absolutely, I was involved when the data centre industry sort of turned round because of the threat of the Carbon Reduction Commitment. This is what sort of kick started it. And... the it's great for the industry, it's great for everything we're doing in the world. Let's get as much compute capacity for the loss of energy that we possibly can. Erm... [background noise] shall I keep going? The trouble with the EU code of course, it's that it's voluntary. But it gives us a baseline to say, you know what, we should be following this as a minimum. And you know what, the clever people will take it to the next level. And that's what we've been doing here, what we continue to do. So erm EU code is great, the form is a little complicated to fill in, it's very laborious, I have done one for the [redacted] project a few years ago when that went live. I went and filled in the wrong form. He sent me back the new form, and you couldn't cut and paste it in! So I went you know what forget it. And that's because we've lost some value there.

Ir: Do you think that puts...

Ie: The fellow who runs it keeps chasing me 'are you gonna do it?'. I haven't got time. Cos we've been through CEEDA process. Now the CEEDA is all based on the EU Code, so we've been audited. So really, one of the arguments I've have with the DCD CEEDA people is saying, well if you quantify us a CEEDA certified, that we've been ordered, you should automatically qualify as a Code of Conduct participant. The facility here when we did, when they came and did the audit, they had to go back and update the code of conduct. We'd raised the bar, which is phenomenal. Especially as we'd built the facility in 10 weeks from the ground up. So 1 MW tier 3, PUE of 1.1 all year round, 365 free cooling. 100% renewable energy, no waste in the construction of the facility, and there's loads more I can tell you when we look round the facility. So yeah...

Ir: OK. So you think... so something like, say CEEDA you say goes beyond the code

Ie: It's like a BSI, like an ISO, so you see these, we've got some ISO certifications like a lot of companies have, and BSI or something. Trust me, I see long term, the EU Code of Conduct will turn into a proper standard. We hear a lot of talk about that.

Ir: And do you think that we need... the industry would benefit from that kind of standard being enforced? Or...

Ie: Well look, you've got companies building their own, they can do what they want. I think it's more important for co-los to be honest. Because if you are going to rent some space in a data centre co-lo provider, wouldn't you want a list with some other companies, you know I'd wanna know how efficient you are. OK you've got all the cost per kW per hour of the energy cost. Energy costs are much the same these days. Therefore, I wanna know if I can get a little bit more compute capacity for my buck. And that's important. And as a co-lo provider, if I was going to rent some space in another facility... I would insist, and in fact I have insisted... I've been round a lot of facilities, I've looked at them and yeah, ripped them to shreds, and some of them I'll mention, well have you not heard of the EU code of conduct? Did you not think to adopt some free cooling? And they just look at me in puzzlement, and you think oh my god.

Ir: What do you think might encourage...

Ie: Yeah, if they lost out... let's say you've got 2 data centre providers and one of them has got that certification for its efficiency and the other one hasn't well... you would be hopefully putting it in the more efficient facility wouldn't you? Or the one that can prove it. Yeah.

Ir: Why do you think that doesn't already drive data centres to take up these standards? Do you think mostly customers aren't interested?

Ie: I don't know, because the EU code of conduct is free, so why would you not? CEEDA you have to pay for, it's not that expensive if you were to compare it... if you want to go and get your data centre tiered, that's what used to happen in this industry, you would get your Uptime tiering. So I could prove my facility was a tier 3 tier 4 facility. But actually, what value do you get, except... it doesn't tell me it's gonna be any more energy efficient. If you show me the wiring diagrams and all the rest of the drawings, you can see that it's, and if you perform maintenance and all the other activities that you should be performing, we know it's the tiering you say it is. My facilities are tier 3. They are. We haven't got certified with Uptime. Why? I'm not trying to sell you space in them. I know they're a tier 3. To me what's more important is the energy efficiency, the EU Code of Conduct and CEEDA as we mentioned.

Ir: Good, erm... Do you guys come under the CRC and the CCA?

Ie: Erm, we do submit an energy rebate and all the rest of it every year. It's not a big part... it's sort of linked in with facilities, cos I'm actually IT, it's facilities. It includes, incorporates all the buildings, and all the meter readings, but yes we do submit our figures every year for that. Cause it all changed as well when they first brought in the carbon reduction commitment, and everyone was getting scared, and they were talking about a table, do you remember the league table? But then they said when you do all the changes... the following year you can't make any changes and therefore you go to the bottom of the table, although you're one of the most efficient facilities. So anyway that all died. As to kick starting the industry I think it's been a great thing. The amount of ... if you speak to Ian Bitterlin who's quite a character in this market. In his speeches that he gives about Moore's law and the growth of data and downloading Gangnam Style videos? You've heard that one have you? Yeah. You know, there is gonna be no let up on the amount of data. And it does make me laugh cos there's so many naive people that are saying 'well I'll just put it in the cloud'. And it's like, do you know what the cloud is? It's not that fluffy thing up there, it's a data centre somewhere in the world. You just don't know where your data's stored. You wanna know that that facility meets the best requirements it possibly could, you know.

Ir: OK. Do you think there's any other policy instruments that might be useful in pushing energy efficiency in the industry? Or any ways that you think the code of conduct or the CCA, any ways they could be made more effective?

Ie: [background noise] God! Yeah they need to simplify the application form for the EU Code of Conduct, that would be a start. Even filling it in online, there you go, have it all in a spreadsheet, with a load of confusing corrections in it. You might as well submit it that way.

Ir: So my impressions is that, your opinion is that the existing, the code of conduct and other standards and things are good, kind of, things, but the problem is more that they're not more widely taken up?

Ie: Definitely. The funny thing is, the EU Code of Conduct for data centres, it has been adopted in the US. I know it says EU, but it's still a good base for a co-lo... we need a global thing, a global standard. The Uptime do one now, I'm not sure what it's called, I don't know what it costs, certainly they're tiering certification isn't cheap. And I see a market where this CEEDA could definitely add a lot of value. [background noise, laughter] Yes, anyway! Couldn't any more noise if they tried! Get out the back, start digging up the pavement! There's nothing that's forced on anyone at the moment. It's all voluntary. And there's different ways of interpreting PUE. We shouldn't get too hung up on PUE, trying to be the best PUE there is. Just make sure that where you are it is the best it could be. As I said there's ways people interpret PUE, we shouldn't get too hung up on that which we shouldn't do. It's a good sort of say, OK, we achieve this all year round but, we mustn't get hung up on that. Because you can actually, if you put a tier 4 facility in, your PUE would go up, it would get worse, because you've got twice the infrastructure. But you shouldn't be cowering from doing that if that's what your business needs. So if you've got a tier 4 facility, you could never achieve the PUEs you would from a tier 2, maybe a tier 1, I don't know, I've never built a tier 1! And a tier 3. The tiering does have an impact on the PUE. It would be unfair to be penalised because you need a better resilience for your business. And therefore, you know, you can only achieve a PUE of 1.4.

Ir: Erm, do you think there's a place for... do you think data centres need support in terms of the, I guess a company like [redacted] is a big company, with a lot of skills and expertise, but for other data centres do you think there's a place for support in terms of energy audits, and you know, maybe subsidising energy audits or subsidising engineering design services, do you think...

Ie: It's funny cos about 2 weeks ago I was in [redacted] just ripping it to shreds. I've also visited a few facilities in [redacted], there's a whole host of facilities over in [redacted] isn't there, it's like a corridor of data centres. And I just was horrified with what I saw and they're all proud and... But erm there's some very easy things they can do in the code of conduct that obviously no one's even looked at. Like the one in [redacted] I mentioned last week, you know, no blanking plates in the racks. You could very cheaply install some blanking plates and start turning down your cooling, make some cost saves. No one's even... they don't know what a blanking plate is! But this is the point they've got to get the, I suppose, whether it's the EU code or the CEEDA, whether it's Uptime... it is getting out there, we are sending out the message, it's all about efficiency. I guess where energy costs now come down which nobody saw a few years ago. That hasn't helped, cos now people have sort of took their foot off the gas, excuse the pun. So now people aren't too bother cos of the energy costs. I'll tell you another thing that has a big impact that nobody ever thinks about is the cost of connectivity, the cost of fibre. So when we presented this facility to our execs they said... right we building the facility here. Course they'd seen something on telly, 'why aren't we building it in Iceland?' Because the connectivity we needed, the low latency bandwidth we needed, it would have cost us millions. For the 1p on the energy cost save per kW, you never... and that is something that I think we need to do, which I can't see happening any time soon is to force some of these telco companies to reduces the cost of the fibre. Because it costs so much. And while they cost so much we won't be building our production facilities where we need that low latency, in places like Iceland. Yes it's great for back ups and all the rest of it because you don't need that quick through put. But us as a business, you could never do that, put our HPC there, because the turnaround for the data is too long. So it would be stale by the time it's come back. Same as the stock market you know. If you've got 2 traders, one trading off a screen that's looking at data sent to them from London and one from Iceland, the one in London's always gonna have the edge. So until they reduce the telecoms, the connectivity and the cost of latency, which is millions more than the cost of energy, sadly we're not gonna put our production data centres in these places that we could get all this free energy, 100% renewable, green energy. Which is sad really, but I think they could put more pressure on the telcos. The Verizon's in this world, the Virgins the BTs. All those companies, I think the industry starts needing to put a bit more pressure on them, it's very expensive. The cost is phenomenal. And the more bandwidth, the more you pay. It's not only about energy sadly. Of course your CFO always wants to know 'what's it gonna cost?'. If you get very energy efficient facilities, cooler, but the cost was half a million more, against the one that isn't as efficient that's next to your customers... you're never... yeah.

Ir: OK. Well I think that pretty much covers everything I wanted to ask you, unless there's anything else you wanted to add or?

Ie: No I can't think of anything, thank you.

Ir: OK.