Nominee: Ark Data Centres

Nomination title: Ark Data Centres – delivering the most efficient data centres

It is thanks to their real estate origins, that most data centres consume vast amounts of energy in a wasteful manner. Worryingly, around 80% of UK data centres still reside within buildings that were never designed for this purpose which means their structure, organisation and utilisation can't be optimised to deliver the efficiencies that today's CIOs need.

Countering this, Ark Data Centres designs, constructs and operates what it believes to be the UK's most efficient data centres. A privately owned business, Ark is able to take a long-term view of its customers' genuine IT infrastructure needs and invites customers to buy only what they need.. Dedicated to delivering innovation, Ark's state-of-the-art data centre campuses in Hampshire and Wiltshire expect to be the largest in Europe and were the first to contractually fix power usage efficiency (PUE) for clients.

Ark prides itself on being a data centre company offering the lowest total cost of ownership (TCO) which has saved both millions of pounds and millions of tonnes of carbon for organisations in the defence, entertainment, systems integration, telecommunications, government and financial services sectors. For example, Ark can save customers more than £1.2 million from their power bill as well as over 6,000 tonnes of carbon annually, compared with an average data centre facility - lowering the total cost of ownership across the industry.

Part of Ark's core differentiator is the unique approach to cooling. Highly sophisticated 'matching technology' continuously monitors customers' equipment, and dynamically detects any change in cooling requirements. In addition to this, the cooling process itself is turned 90º from the norm so that the cool air runs through customers' hardware instead of blowing up from the floor past the front of it. The inherent ability of the cooling system to deliver the correct volumes of air when called for by the IT, coupled with a highly sensitive monitoring system, enables an IT room to support a mix of racks of varying density from 1kW to in excess of 30+kW operating next to each other for low- or high-density data centre applications – without any modification. This system, known as the BladeRoom Match Technology™, allows low- and high-density data centre space and IT to be allocated freely without the requirement for specialised racks - ideal for colocation data centres. This is fundamentally different from a traditional approach to pressurising a raised floor where hot spots and over-cooling can occur.

Also key is Ark's holistic view of the data centre. The data centre industry has long been aware of the benefits that can be gained by achieving real reductions in the energy consumed by the mechanical and electrical (M&E) infrastructure that supports the data centre itself. By optimising the electrical infrastructure with energy efficient cooling systems and strict air

management in the data rooms 85% of the energy utilised at Ark's facilities relates to the supplies for the computational operations in it. Integration of the data centre M&E and IT infrastructure monitoring and management systems using holistic DCIM systems enables real-time performance monitoring of the complete end-to-end operation. All of this makes it possible to gain a deep understanding of the complete data centre energy performance – including knowing how much power each device consumes or identifying where stranded capacity exists.

This integrated approach makes deeper collaboration possible between data centre operators and customer IT managers when it comes to intelligent capacity planning and the optimisation of energy usage across the entire data centre estate – especially as it makes it possible to clearly correlate the relationship between incoming power and outgoing server applications. With this DCIM model in place, it becomes possible to identify where inefficiencies or potential bottlenecks are occurring; enable continuous optimisation of data centre power, cooling and space; and to identify how resources and assets are inter-related – making it possible to simulate 'what if' scenarios.

Ark's aspiration to be the most efficient data centre provider in the UK is not only critical to a client's budgets, but it also has very important environmental benefits. Every site has been purposed designed to maximise eco efficiency. Everything from permeable road surfaces that facilitate surface run-off of rain water (water is collected in balancing ponds or swales to manage and balance runoff), to harvesting systems collecting rainwater from the buildings for evaporative cooling in the data centres reducing Ark's demand on the mains water supply.

Focused on delivering the very best data centres, Ark does not attempt to sell further up the services stack, and therefore end up competing with its own customers for business. As a result, all Ark customers enjoy a professional relationship of integrity and complete trust, buying from Ark only what they need. Capable of operating at the highest levels of security, Ark's incremental approach to building out its data centre campuses means it is constantly learning and innovating to remain at the forefront of the data centre industry, whilst minimising the operational legacy through the lifetime of the facility.

Why nominee should win

•   Ark Data Centres designs, constructs and operates the UK's most efficient data centres.

- It offers the lowest total cost of ownership (TCO) which has saved both millions of pounds and millions of tonnes of carbon for organisations in the defence, entertainment, systems integration, telecommunications, government and financial services sectors. Ark can save customers more than £1.2 million from their power bill as well as over 6,000 tonnes of carbon annually.

- Ark's market-leading innovation is not only critical to a client's budgets, but it also has a very important environmental impact.

- A holistic DCIM approach operates highly efficient data centre spaces