

## Nominee: CBRE, Ark and Corning

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### **Nomination title: Delivering against the clock with a pre-terminated solution**

In late 2016, Corning, Ark and CBRE came together to create a beneficial and effective solution for a government organisation, which had embarked on a project to move and upgrade equipment to new secure premises that would support its future development. It was imperative that the migration was managed quickly and that the installation could provide a high quality, ultra-low loss network solution.

Ark was awarded the project due to its strong experience in the public sector, as well as its cloud and security capabilities. A joint tender between Ark and CBRE, a provider of full-spectrum life cycle services to data centre owners, saw the two businesses secure half of the contract at, new data halls in Corsham and Farnborough. Work on the remaining two halls was awarded to an alternative contractor using another manufacturer's solution.

The client required the data centres to be ready for operation within 12 weeks to minimise downtime and needed an ultra low-loss solution that they believed could only be achieved with traditional field-termination methods rather than a pre-terminated solution.

Confronted with this challenge, CBRE enlisted the support of Corning, who were selected for their pre-terminated EDGE™ solution, which would meet the demands of the project. Led by four project managers (two from Ark and two from CBRE) and a team comprising of 53 engineers, the three companies were able to meet the client's demanding timeframes without any compromise when it came to performance. Notably, every phase was finished two weeks ahead of the other contractor due to the reduction in installation time afforded by the EDGE solution.

From an infrastructure perspective, the design had to meet several objectives:

- **High density: Optimise space by maximising port capacity within a small footprint**

- **Project delivery:** Complete delivery and installation within a strict project timeline
- **Flexibility:** Easy to manage and accommodate changing business requirements
- **Scalability:** Provide flexible intrabuilding connectivity and the capacity for future growth
- **Cost effective:** The solution and all installation tasks had to be managed within the given budget

**How did the solution address the challenges and were there any particularly innovative aspects that made it stand out?**

**At the centre of the success of the project was the use of Corning’s pre-terminated EDGE solution, which enabled time spent installing to be substantially reduced, a critical requirement of the project.**

**Both vertical and horizontal cable management was addressed and simplified using pre-connected cable systems for trunks, cable assemblies and connector modules, also known as “plug-and-play” systems. Because backbone cables aren’t spliced onsite, time spent by installation engineers was reduced, bringing instant cost-savings.**

**The fibre panels in the data centre were connected with pre-terminated trunk solutions through the buildings. The high-density MTP® connector-terminated fibre trunk connections between rooms were implemented using Corning® ClearCurve® OM4 multimode fibre cables.**

**The solution consolidates cabling into a smaller number of low-profile trunks between rooms. This consolidation resulted in the delivery of a third greater density than the client had expected, improving the scalability and flexibility of cabling in the data centres and contributing to improved cooling efficiency.**

**By using bend-insensitive fibre, CBRE helped to mitigate the risks of bend-induced loss that can impact the performance and reliability of systems. With signal-loss a common problem**

as moves, adds and changes are made within the data centre over time, bend-insensitive fibre exhibits up to a tenfold reduction in loss at the point of the bend when compared to conventional multimode fibre. This protects the system margin or power budget headroom and prevents unscheduled downtime.

**What major challenges were faced during the project and how were they overcome?**

- **Speed to deployment – The tight delivery schedule was the primary challenge of the project. CBRE and Corning recognised that a pre-terminated solution would enable timeframes to be met whilst also offering a host of other benefits that suited the specific demands of the installation.**

**By deploying high-density 144 fibre pre-terminated trunk cables the installation time of the cabling was significantly reduced when compared to the traditional method of pulling in multiple bundles of smaller fibre cable counts.**

- **Space constraints – With space at a premium within the facilities, a considered approach was required during the installation. The small apertures in the building's steel work, which couldn't be expanded, would have posed a particular challenge with the wrong equipment.**

**Due to the small outer diameter of the Corning pre-terminated trunks, combined with the low profile MTP connector, this did not cause any issues during the installation.**

**What tangible benefits has the organisation seen as a result of the project's implementation?**

**The customer's installation was managed effectively, meeting all requirements and delivered ahead of time, two weeks ahead of schedule at every phase, and within budget.**

It is now profiting from the high-flexibility and cost advantages of the co-location model. With a single facility, the server, switch, storage and cable infrastructure, software and applications are easier to manage and control.

Crucially, the project also saw a number of value-adds that exceeded the scope of the customer's requirements, most notably in regards to scalability. Thanks to the innovative and modular concept of EDGE the customer was able to benefit from installing the same number of fibres in a smaller footprint, delivering greater capacity to expand than they would have with the original solution.

The customer had high expectations in terms of ultra-low loss, which the EDGE solution not only managed to meet, but significantly exceeded, while using standard, off the shelf components.

The EDGE system operates on a "plug and play" basis, providing flexibility and scalability in a modular platform. When it comes to the ongoing maintenance and management of the data centres, EDGE will enable the customer to move equipment around the facility without having to re-terminate.

### **Why nominee should win**

- **Ease of upgrade:** Flexibility of the EDGE solution will enable the client to upgrade to higher-speed applications with ease.
- **Ultra-low loss:** Provided ultra low-loss solution, confounding the client's expectations that this could only be achieved through a lengthier field-termination process.
- **Went over and above:** Met and exceeded the client's challenging time demands. Completed two weeks ahead of schedule at every phase through use of pre-terminated solution.
- **Future-proofed:** Delivered a third greater density than the customer required, managing for future growth with superior fibre access.
- **Cost-effective:** Pre-termination enabled time spent onsite by installation engineers to be reduced, bringing instant cost-savings.