

Case Study

ACE Training

Customer	ACE Training
Location	Oxfordshire, UK
Requirements	To upgrade the existing cabling infrastructure systems at ACE Training's Kidlington centre, replacing existing Category 5e solutions with Category 6 technology.
Equipment	Excel Category 6 U/UTP Cable, 1U Patch Panels, Patch Leads and Modules, Excel Bevelled Faceplates, Environ Wall Racks, Six-Way Power Distribution Units and Four-Way Fan Trays

excel
without compromise.

An Overview

Oxfordshire based ACE Training provides quality pre-apprenticeship programmes and apprentice training in brickwork, bench joinery, construction operations (groundworks), maintenance operations and site carpentry as well as introductory and part-time courses, OSAT and schools programmes.

When ACE Training needed to upgrade the systems at its Kidlington training centre, Managing Director, Adam Marsh contacted First Class Technologies - an **Excel Cabling Partner** - for assistance.

ACE Training has suites of workstations for apprentices to use to develop their skills, including all the latest technology such as large screens and interactive white boards.

There are classrooms containing 12 PCs per room, each running Windows Thin Client.

Sourcing a Partner

First Class Technologies (FCT) has supported the computer network infrastructure for ACE Training since 2007. During that time, FCT has deployed and supported servers to form a robust and resilient network, creating ICT suites with audio visual teaching aids such as interactive white boards and large format screens to enhance the learning experience of their apprentices.

In 2018, FCT remodelled and refreshed the network infrastructure, installing a new Dell Computers PowerEdge T440 server running a Microsoft Server 2016 operating system. The network incorporates three virtual servers for Terminal Services, File Server and Domain Controller (all Microsoft Server 2016), utilising licenses via Microsoft Open License scheme.

Moving forward to 2020 as part of a building refurbishment project, a new structured cable plant was conceived and designed using Excel Category 6 technology to replace an existing Category 5e solution that had evolved and extended over the years.



Building strong IT support for training company's education centre.



FCT are an Excel Cabling Partner, an accreditation which demands regular training, assessment and attendance at briefing events, where solution, industry and best practice updates are provided. With this accreditation in place, FCT were able to provide ACE Training with a comprehensive **25-year warranty** on all newly installed products.

The Right Product

The Excel Cabling system was originally chosen by First Class Technologies as long ago as 1997 as the base end-to-end cabling solution. There have been tens of thousands of outlets created in the ensuing 24 years, in both commercial office, industrial and educational settings across the length and breadth of the UK.

Having completed the training course to become an Excel Cabling Partner, FCT's installation team were well-equipped with up-to-date knowledge of the complete Excel solution, which provided peace of mind for ACE Training.

Since August 2019, as stocks were depleted and replenished, the majority of Excel Networking's component products have been supplied in **100% plastic free packaging**. Not only did this enable FCT to reduce their on-site waste volume, but the cardboard boxes encasing the modules and patch panels helped to make it easier for the engineer's on-site to complete the installation in a shorter space of time.

The quality of the Excel products combined with the **independent verification** for each product from institutions such as Force Technology and the products' compliance with current structured cabling standards was a crucial factor. Excel Networking met all the criteria and was selected as the provider for the structured cabling system.



Design and Installation

Excel Category 6 U/UTP reduced diameter cables are manufactured and tested to the TIA/EIA 568-B.2-1, EN50173-1 and ISO/IEC 11801 Category 6 specifications. Each cable consists of 8 colour coded 24 AWG polyethylene insulated conductors. These are twisted together to form 4 pairs with varying lay lengths. These pairs are then formed around a central 'X' shaped polyethylene filler, which assists in maintaining and enhancing the cable's performance. Designed to be quick and easy to install the cable requires no specialist installation tools and is supplied in Reelex packaging for fast, snag free installation.

The cabling was terminated into **Excel's Category 6 24-Port 1U Patch Panels**, which have been designed to meet or exceed the latest ISO and TIA requirements for category 6 compliance. Each panel is provided with a pre-printed self-adhesive labelling sheet for fast and easy on-site labelling, ensuring that ACE Training would be able to easily manage and maintain their installation long-term. The panels also feature a rear cable management tray which is attached quickly and easily to the panel without the need for fixings, making cable routing from the panel easier to manage within the racks and reducing stress on the cables.

These patch panels were loaded into Excel's **Environ WR Series Wall Racks**, which are suitable for installations such as this where the site doesn't call for large quantities of equipment. The racks housed Excel power distribution units and Excel Fan Trays to create a complete end-to-end solution.

Throughout the Kidlington location, the cabling was terminated into Category 6 UTP Modules, which were installed into curved plated single gang faceplates.

The Result

The new cable plant not only tidies up the cable harness that had grown inexorably in the centre over the past decade or

more but is also capable of handling up to 10 Gigabits of data compared to 1 Gigabit for the original Category 5e system.

Cables that adhere to category 6 specifications offer significantly lower levels of interference and near-end crosstalk, improving resilience and offering a future proof system capable of supporting new and emerging computing technologies.

The new Excel Category 6 cable plant radiates from a central communications cabinet to two satellite cabinets serving the suites of training computers. The cable plant supports both data and voice solutions for Ace, a system they depend upon to support developing technology needs into the 2020s and beyond.

In 2020, ACE Training refurbished and expanded its facilities, adding in new teaching rooms and refreshing facilities. Later that year, whilst the UK was in national lockdown because of the pandemic, First Class Technologies was able to redeploy some of the student PCs with built in web cams in the ICT suites to allow lecturers to deliver training remotely. This worked well on a daily basis and allowed the business to continue delivering its services and keep trading despite working through a pandemic.



"The team at FCT is an integral part of our business which ensures our systems keep working effectively, our trainers can train, our delegates can learn, and our data is kept safe. We've been delighted with and appreciate the service we've received from First Class Technologies. They've made some major changes to our IT infrastructure, but yet it's been such a seamless transition that we've hardly noticed it happening around us. First Class Technologies has helped us build the strong technical platform our business needs in order to continue to provide our clients with the excellent service they have come to expect."

Vanessa Cover | Director, ACE Training



"We strive to build up longstanding relationships with our clients, to help them through the changing stages of their businesses - and especially the changes caused by the pandemic in 2020. ACE Training's business changed dramatically when apprentice students were unable to visit the training centre during lockdown, and we were pleased to be able to support the team through it, to enable the business to continue growing and thriving."

Richard Hinton | Managing Director, First Class Technologies

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