

Case Study

Arena d'Aix en Provence

End-User Arena d'Aix en Provence

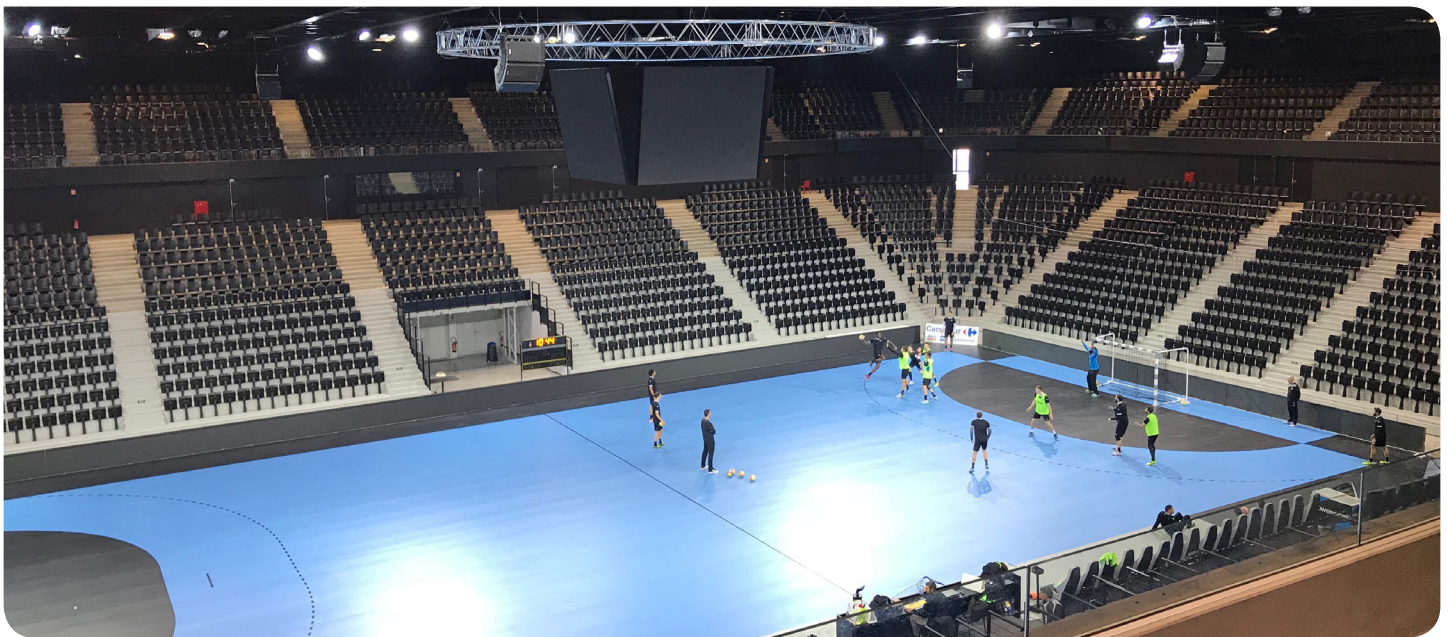
Location Les Milles, Aix-en-Provence, France

Equipment Excel Category 6_A Dca-rated copper cabling, Excel Category 6_A toolless keystone jacks, Excel OM3 Cca-rated Enbeam Fibre cabling and Excel Environ Communications (CR) Racks.

Customer's View "We were thoroughly impressed with the support from both CCF – as our distributor – and Excel Networking Solutions, who supplied us with a top-quality product that met and exceeded the expectations of those involved with the project. The Excel team and CCF supported INEO and ourselves from the very beginning of the project, and over the course of the installation we developed a strong partnership, where we all shared the desire to achieve the same goal."

Florent Perez, Engie INEO

excel
without compromise.



€72 million

20,000 m²

17
configurations

Max. 8,500
Seats

1,200
parking spaces

Background Information

The city of Aix wanted a new, modern Arena space that was flexible to be able to accommodate different events and shows for the public. The venue's layout, capacity and accessible equipment needed to be able to adapt its configuration to suit the requirements of a variety of events, from sports competitions, live entertainment and concerts, among other events.

The Arena d'Aix en Provence is a multipurpose room near

the district of Les Milles in Aix-en-Provence that was inaugurated on October 11th, 2017. The arena has a main hall of 6,000 to 8,500 seats and a secondary hall of 1,000 to 2,000 seats for sports events and shows.

The Client's Requirement

To create a flexible space capable of playing host to an array of large-scale events in the Aix region, whilst being able to provide top end facilities and network connectivity to staff and visitors.

Sourcing a Partner

INEO Aix en Provence, a major player and experts in electrical installations for the tertiary sector, industry, transport and renewable energies, were the key installer chosen for the job. INEO offers its private and public customers global solutions from design and production up to maintenance.

The installers decided to go with the Excel structured cabling solution. Excel products constitute an end-to-end solution where performance and ease of installation are pre-requisites. This was a key requirement for this project, which needed to use infrastructure products from just one brand. With an emphasis on compatibility and standards compliance 'from cable to cabinet', reliability and product availability, Excel is the complete trusted solution.

The installers worked closely with Excel Distribution Partner (EDP), CCF Aubagne, which is a specialist distributor of IP components, with a vast stock holding capacity less than one hour from the installation site. This was an important part of the choice, to ensure that the deadlines imposed on the project were met and that the event in October could go ahead as planned.

Both CCF and the installers are accredited Excel Partners, ensuring that they have a wealth of experience with the Excel product set, which is important when installing a cabling system on such a large scale. What's more, being accredited partners entitles them to offer the Excel comprehensive 25-year warranty, providing peace of mind to end users such as Arena d'Aix en Provence.

Having worked with Excel's comprehensive range of products for a number of years, they are up-to-date on the latest additions to the product portfolio and are in a strong position to promote and recommend the full solution as they trust the quality of the Excel product range. With this knowledge of the products and the brand, they were able to specify and install products based on their ability to fulfil the end user requirements.

The Right Product

The nature of the business operations in this project meant that it was essential for the chosen solution to boast end-to-end capability, high quality, reliability and simplicity to install. The Excel solution was chosen for these reasons. With accolades across a diverse spectrum of vertical markets across France and the wider world, the installer and end-user could rest assured that the Excel range was suitable for the purpose.

Since the beginning, the estimated finish time for the whole project was October 2017, so it was imperative that CCF and INEO adhered to the strict timescales to allow for a smooth handover in the autumn. The selected products needed to be flexible and scalable to meet the changing requirements of such a vast project, which Excel was. What's more, the availability of stock was a crucial part of this installation. Having a local stock holding of required products meant that delivery timescales were adhered to and the project

wasn't fazed by delays, further helping to achieve a finished solution before the deadline. What's more, the products are covered by a 25-year warranty because they were installed by an accredited Excel Partner, providing the end user with the assurance that they were receiving a high quality, trusted solution at the right price.

Excel products are Force Technology (formerly known as Delta) verified. Excel has invested in such test and verification programmes for over 15 years. Third party verifications are an independent "tick in the box". As well as testing the component and channel, the manufacturing facilities are visited for spot checks to ensure the consistent quality in the manufacturing process. The certification, compliance to standards and full warranty for the installing party contributed to Excel Networking Solutions being chosen as the right product for the Arena d'Aix en Provence project.

Design and Installation

CCF Aubagne, an Excel Distribution Partner and specifier for this project, designed the complete infrastructure solution to meet the requirements of Arena d'Aix en Provence. It was crucial that the development of the site and the delivery of a top-performance cabling infrastructure solution was within the defined timescales, ready for a smooth transition for all staff and visitors to the site

Excel Category 6_A screened S/FTP cabling was chosen as it takes the performance capabilities of copper infrastructure to new levels, which was a requirement for this project. The cable is designed to exceed the ISO/IEC, TIA and CENELEC for Category 6_A component requirements, delivering high performance over distances of up to 90 meters. Arenas by design have large open spaces with plentiful spectators. In the modern era, these spectators require (and almost expect) internet access in all areas of the venue they are visiting. This Category 6_A cable is perfect for large deployments of wireless access points that will be providing next generation Gigabit 802.ac Wave 2 Wi-Fi Connectivity, which is essential for a site such as this, which spreads across almost 20,000 m²; wireless connectivity will need to be available throughout the building, and this cabling will ensure this is feasible. The new system supports several applications including 10GBASE-T, (10 Gigabit Ethernet) adding to the future proofing nature of the installation. This product also lends itself to any high definition bandwidth hungry video footage requirement, making it perfect for this project, which is open to the large numbers of people at once, and so will have installed numerous CCTV cameras feeding from the cabling infrastructure to ensure visitor safety. Each cable consists of two sets of two pairs wrapped together in an "S" configuration with high quality, strong, aluminium/polyester foil tape, providing screening for each pair. This configuration separated the pairs to maximise performance and to mitigate any risk of alien cross talk, which is especially important in an environment where there will be frequent access to the

network from multiple devices, such as will be the case at the Arena. The individual pairs are set to different lay lengths to ensure optimum performance.

What's more, the Category 6_A cabling was of Euroclass Dca, s1a, d1, a1 standard, as identified on the cable's outer sheath and box packaging, as well as in Excel's [Declaration of Performance](#) certificate. The cabling is fully compliant with the European Construction Products Regulation (CPR), with superior levels of smoke emission, flaming droplets and acid gas production, making this product a versatile and safe choice for the Arena venue.

[Excel Category 6_A Toolless Butterfly-Style Keystone Jacks](#) were loaded into [Excel Patch Panel Frames](#). The keystone jacks open at the rear in a butterfly manner and can be easily fastened quickly without the need for tools once the cable has been terminated, making them an ideal choice for this time-sensitive project. The cabling that ran from the patch panels was terminated around the Arena venue into aesthetically pleasing [curved shutters](#), allowing for building-wide connectivity.

The patch panel frames were fitted into [Excel's Environ CR Racks](#), a versatile range of racks with features suitable for a wide range of applications within the data, security, audio visual and telecommunications markets. The CR Series offers 600Kg load rating, and exceptional mounting space allowing the installation to house the structured cabling and accompanying switches, servers or networking equipment. The racks were fitted with [Excel Power Distribution Units \(PDU\)](#), with French plug sockets to help control input power. Horizontally mounted into the Environ cabinets for a higher density solution, the PDU units supported the appropriate management and distribution of power across the entire installation.

Excel [Enbeam Fibre Optic OM3 cabling](#) was chosen as the backbone cabling to support the installation. Excel's OM3 cabling solution has been designed specifically for internal and external applications. These compact, lightweight cables are extremely flexible and are quick and easy to install, and as such were a suitable choice for the Arena d'Aix en Provence, which was a large-scale installation project with a strict deadline to ensure performances could go ahead as planned. Choosing a backbone cable that was easy and flexible to install was crucial to the installation teams meeting the deadlines. The cables are constructed around swellable reinforced yarns as common strength members containing up to 24 colour coded 900µm tight buffered fibres, covered with a flame retardant, low smoke zero halogen, outer sheath. The print legend on the cable now includes information regarding the DOP number, Test and Classification of the cable for traceability.

As per the copper cabling, the fibre cabling is compliant to CPR, with a [Euroclass of Cca, s1a, d0, a1](#). Fibre also provides an extremely reliable backbone for data transmission back to the core, whilst also being immune to lots of interference, caused by other services within a building, there are no issues with the data transfer. This was especially important for this

project, where there would be thousands of occupants at the same time. A solution that supported the reduction of interference and the improved transference of data was vital. The capabilities of the fibre allowed the network to be designed to work with the vast size of the facility and installation, giving the ability to offer a range of ethernet applications over several distances:

- 1000BASE-SX (Gigabit) Ethernet - up to 550m
- 10GBASE-SR/SW (10 Gigabit) Ethernet – up to 300m
- 40GBASE-SR4 (40 Gigabit) Ethernet – up to 100m
- 100GBASE-SR10 (100 Gigabit) Ethernet – up to 100m

The duration of the project lasted from the end of 2016 until October 2017. It was important that the installation was accurate and professionally finished with minimal interruptions, hence the accredited installers being chosen to ensure maximum project efficiency and allow for the site to be finalised and ready for the first performance in October.

The Result

In October 2017, the €72 million Arena d'Aix en Provence – a beautifully futuristic venue suitable for hosting a variety of events and competitions – was opened and the public were invited to the first event of many; a French Handball Championship between PAUC and Chambéry, which was celebrated alongside a South American-style Bodega Canteen and Cocktail Bar and a DJ. Other events that have been held in the venue include:

- November 2017 - Concert Les Enfoirés Kids
- April 2018 - Fed Cup 2018: Semi-Final France - United States
- June 2018 - Pool 12 of the League of Nations Volleyball



Excel House
Junction Six Industrial Park
Electric Avenue
Birmingham B6 7JJ
England

T: +44 (0) 121 326 7557
F: +44 (0) 121 327 1537
E: sales@excel-networking.com

www.excel-networking.com

Mayflex MEA DMCC
Office 22A/B
AU (Gold) Tower
Cluster I
Jumeirah Lake Towers (JLT)
Dubai
United Arab Emirates
PO Box 293695

T: +971 4 421 4352
F: +971 4 421 5814
E: mesales@mayflex.com

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