

Case Study

Aerospace Valley – TMA Toulouse

Customer Aerospace Valley – TMA Toulouse

Location Toulouse, France

Equipment Excel Category 6_A Dca-rated copper cabling, Excel Category 6_A toolless keystone jacks, Excel OS2 Dca-rated Enbeam Fibre cabling and Excel Environ Communications (CR) Racks.

Customer's View "We needed to ensure our facility could offer future proofed performance to those who would be using the network. To do this we needed to offer a system that could provide reliability and a guarantee that if anything did go wrong it would be rectified quickly. The Excel system installed was able to provide this. The support we received from the Excel Distribution Partner and the reliability of the stock availability and product performance was second to none. I am confident with the 25-year warranty that TMA Toulouse will enjoy a fast and reliable infrastructure solution for many years to come."

Representative, INEO Toulouse

excel
without compromise.



On the edge of the South ring road, the B 612 building will house researchers from the IRT Saint-Exupéry, the European GPS company, the Aerospace Valley cluster alongside other offices and start-ups. The impressive block of grey concrete pierced with loopholes sits alongside the road on the outskirts of Montaudran.

TMA Toulouse is the future international district south-east of Toulouse, related to aeronautics, air space and embedded systems. Not far from the site's location is the [Espace Clément Ader](#), which was delivered in 2014. This was the first building

of what now constitutes the Montaudran Aerospace campus, and featured Excel products in its systems installation.

The 56-hectare district includes a 1.8km track, which is comprised of:

- 240,000 m² dedicated to activities directly related to the industries of tomorrow in the fields of Aeronautics, Space and Embedded Systems (AESE), Energy and Digital (190,000 m² reserved for offices and 50,000 m² for research and higher education)

- 80,000 m² of housing (800 family housing units and 330 student housing units)
- 20,000 m² of shops and services
- 15,000 m² of public facilities

This flagship project of TMA Sud whose construction began in early 2016 and ended earlier this year in April 2018, was estimated at a value of € 9.5 million excluding tax.

The Client's Requirement

To redevelop the former site of Aéropostale Toulouse, with optimum performance to exceed expectations of the staff and visitors to the site. The main goal was to install top quality products to create a complete end-to-end networking solution to meet the needs of those who rely on the infrastructure.

Sourcing a Partner

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

INEO decided to go with the Excel structured cabling solution. Excel structured cabling products constitute an end-to-end solution where performance and ease of installation are pre-requisites. With an emphasis on compatibility and standards compliance 'from cable to cabinet', reliability and product availability, Excel is the complete trusted solution.

INEO worked closely with Excel Distribution Partner (EDP), Coris Networks, which is a specialist distributor of IP components, with a vast stock holding capacity of 440 m² on Agen with a relay point in Toulouse itself, guaranteeing that the Excel products would be available for the project quickly.



Both Coris Networks (Distributors) and INEO (Cabling) have been accredited Excel Partners for over 9 years, 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 clients like TMA Toulouse.

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.

The product portfolio from Excel constitutes an end-to-end solution where performance and ease of installation are pre-requisites. With an emphasis on compatibility and standards compliance from cable to cabinet, reliability and product availability, Excel is the complete trusted solution. Since the beginning, the estimated finish time for the whole project was April 2018, so it was imperative that Coris Networks and INEO adhered to the strict deadlines to allow for a smooth handover in the spring. 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 (INEO), 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 verified. Excel has invested in such test and verification programmes for over 15 years. Third party verifications are seen as 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 TMA Toulouse project.

Design and Installation

Coris Networks, an Excel Distribution Partner and specifier for this project, designed the complete infrastructure solution to meet the requirements of TMA Toulouse. It was crucial that the redevelopment 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.

Over 100 kilometres of [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, which is essential for a site such as this, which spreads across almost 350,000 m². 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 it-self to any high definition bandwidth hungry video footage requirement, making it perfect for this project, which has 500m of the 1.8km track as a classified zone, where there are multiple CCTV cameras feeding from the cabling infrastructure. Each cable consists of 4 pairs individually wrapped in an overall covering of high quality aluminium/polyester foil tape, providing an individual screen for each pair. These sub units are then cabled together with the pairs set to different lay lengths to ensure optimum performance. An overall braid screen is applied to provide further immunity to outside noise and to mitigate and 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 TMA Toulouse.

What's more, the Category 6_A cabling was of Euroclass Dca, s2, d2, a2 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 TMA Toulouse.

Over 4,000 [Excel Category 6_A Toolless Butterfly-Style Keystone Jacks](#) were loaded into 122 [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 patch panel frames were fitted into [Excel's Environ CR Racks](#), a versatile range of 800mm wide 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 145 [Excel Cable Management Bars](#) to help support the cable and keep the infrastructure neat and secure. The racks were also accompanied by [Excel Power Distribution Units](#), 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 OS2 cabling](#) was chosen as the backbone cabling to support the installation. Excel's OS2 cabling solution has been designed specifically for internal and external applications, which is ideal for this space which is home to a range of open landscape and different buildings. Compact, lightweight and extremely flexible and simple to install, these cables were a great fit for the TMA Toulouse project. The cables are constructed around a gel filled (non-dripping and silicon free) tube containing up to 24-colour coded 250µm primary coated fibres. This tube is covered with water blocking E-Glass fibre elements as strength members. As per the copper cabling, the fibre cabling is compliant to [Euroclass Dca, s2, d2, a2](#). 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 are various operations, businesses and start-ups in action at the same time on the same campus. 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 design to work with the vast size of the facility and installation, giving the ability to offer a range of ethernet applications over a number of distances:

- 1000BASE-LX (Gigabit) Ethernet - up to 5,000m
- 10GBASE-LX4 & LR/LW (10 Gigabit) Ethernet – up to 10,000m
- 10GBASE-ER/EW (10 Gigabit) Ethernet – up to 22,250m
- 10GBASE-LR4 (100 Gigabit) Ethernet – up to 10,000m

- 10GBASE-ER4 (100 Gigabit) Ethernet - up to 40,000m

The duration of the project lasted from May until September 2017. Given this tight timeline, it was important that the installation was accurate and professionally finished with minimal interruptions, hence the accredited installer being chosen to ensure maximum project efficiency and allow for the site to be finalised and ready for visitors by Spring 2018.



The Result

As of April 2018, the various teams and businesses at the TMA Toulouse campus established themselves in the B612 building. The new flagship of research and development for the aerospace industry is fully up and running with an end-to-end infrastructure solution that they can rely on. Currently there are 810 occupants including 500 SMEs, and these figures are set to grow throughout 2018. Yann Barbaux, President of the Aerospace Valley Cluster, commented, "Our move into the heart of B612 marks a new beginning with new and exciting perspectives. The close proximity of key players within the Aerospace industry will support the fostering of new partnerships and collaborations in the field."

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