

Case Study

Aix-Luynes Prison

Customer La prison d'Aix-Luynes

Location Luynes, France

Requirements A high performing complete solution to improve access to technology and activities for staff, inmates and visitors to the detention centre, whilst maximising safety and security to support the expansion of the existing prison site.

Equipment Excel Category 6_A U/FTP 1x4p and 2x4p, Environ Racks and WB, Fibre optic OM3, with all the connectivity, accessories and around 8500 keystone jacks.

Customer's View "With this being an expansion of the existing prison site, Luynes 1, it was important that the sensitivity of the project was understood, maintaining security standards throughout the installation. With Tandem Reseau being an accredited Excel Cabling Partner, the client was confident that the Excel solution would satisfy all requirements of the project, which had been designed specifically with the prison environment in mind. The high performance, quality reputation and renowned reliability were pivotal in Excel being selected for this project."

Sylvain Frebourg | On-Site Project Coordinator, Tandem Reseau

excel
without compromise.

Aix 2, which has been under construction for several months adjacent to Aix 1, aims to disencumber the original building to relieve pressures on Aix 1 and create a safer, more secure environment for staff, inmates and visitors. Situated in between Aix and Luynes, the new establishment will be the biggest institution in the region, with an increased capacity to house 735 inmates in response to the current over-occupation of the penitentiary.

"The Aix 2 development will transform the detention centre for the benefits of the personnel", commented Nathalie Guillemeau, project manager for the Apij. Each cell will have a shower and the windows will be enlarged to increase the brightness around the prison, along with other modifications and renovations. The aim is to give an "urban" spirit more than a prison environment, and "we have also reflected on integration into the landscape", continues Apij.

The renovation will form a connection between Aix 1 and Aix 2, linking the two buildings together to create a complete 38 acre site with 14 buildings in total, featuring prison buildings, the gymnasium, the parks, the workshops, the personal services area and the isolation unit, amongst other facilities.

The installation for this project was designed with a prison environment in mind, specifically to support the expansion of the original site with a new building and additional facilities to transform the institution. The Excel solution helped to create a safer and technologically intuitive detention centre, the aim of which was to provide a high performance, secure and reliable site for staff, inmates and visitors.



The Requirement:

The ninety million euro investment made to facilitate this project required a high end infrastructure solution which could meet the needs of this sensitive site. The key objective for the installation was to transform the penitentiary environment for all affected, increasing efficiency and improving security measures to ensure the safety of staff, inmates and visitors was a top priority.

Sourcing a Partner:

Tandem Reseau, based in Champigny sur Marne, has been a specialist installer in the datacom industry since 1995, with experience installing in a wide variety of vertical markets. Over the years, Tandem Reseau have nurtured partnerships with key influencers in the market, including becoming an accredited Excel Cabling Partner entitling them to the 25 year warranty for all their installations. 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, Tandem Reseau were able to specify products based on their adaptability to suit the sensitive prison environment for this installation.

The Right Product

Given the sensitivity of the working environment, it was essential to choose a solution where top-level performance, quality and security were paramount. The Excel solution was chosen by Tandem Reseau and agreed by the Aix 2 project coordinator for these reasons. With accolades across a spectrum of other prison environments, the installer and end-user could rest assured that the Excel range was suitable for the purpose.

A crucial part of the Aix 2 project was to meet the demands of the staff whilst satisfying the needs of the inmates and their visitors, providing more access to technology and additional facilities. With more than 800 cameras on site needing to be managed through a central access control zone, the network needed to operate at high speeds for optimum experience and security. The need for inmate access to an increased range of technological equipment also had to be considered when choosing a product. The decision to choose products from the Excel range was taken based on the partner's previous experience with the brand and its proven efficacy in similar reference sites.

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. With a strict timeline where the overall project was scheduled for 18 months with 10 of those being for the building construction, it was crucial that the chosen solution was

flexible to meet changing requirements easily, which Excel was. For some buildings, such as the cells, it was imperative that the works were completed on time by the 350-strong installation team given that as many as 1500 inmates would need to occupy these cells by the end of the project's deadline. The success of this installation hung on to the appropriate security measures being in place in time.

Excel products are Delta 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 accredited partners such as Tandem Reseau all contributed to Excel Networking Solutions being chosen as the right product for the project.

Design and Installation

CCF, an Excel Distributor Partner and specifier for this project, designed the complete infrastructure solution to meet the requirements of the end user. The prison wanted to re-think the operational side of the detention centre without compromising on the security and safety of the staff, inmates and visitors. The main goal was to provide more access to technology and activities around the centre, from IP Camera solutions, access control, telephones and TVs.

Excel Fibre Optic OM3 cabling was chosen to support the future proofing of the installation. Given the time and effort required to plan an installation in an environment as sensitive as this detention centre, it was important that the installation was future-proof to prolong its lifetime. Excel's Enbeam OM3 cabling solution has been designed to be compact, lightweight and extremely flexible and simple to install. 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. 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.

Excel Category 6_A cabling was chosen as it takes the performance capabilities of copper infrastructure to new levels, which was a particular 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 as large as this. 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. The "S" Foil configuration ensures separation of the pairs that ensures the performance. The individual pairs are set to different lay lengths to ensure optimum performance.

Around 8500 Excel Category 6_A Keystone Jacks were loaded into Excel patch panel frames. A rear management tray with purposely designed cable tie positions is supplied with each panel. These accessories perfectly accompanied the Excel Environ 24U and 42U Racks that housed the installation, protecting the infrastructure equipment and keeping the



connections safe and secure in a locked environment.

Due to the sensitivity of the project, it was imperative that Tandem Réseau's team stuck to the project deadline of 18 months. It was important that the installation was accurate and professionally finished, particularly in certain areas of the site such as the cell blocks, where there was a specific date that inmates would be entering the new site. The quality of the Excel Solution ensured that the end user received a system that was ready-to-go and secure enough to house the increasing population of inmates whilst providing a protective, safe work environment for the staff and visitors.



The Result

At the beginning of the project, it was envisaged by the end user and the construction company that the two sites – the existing Aix-Luynes 1 and the new Aix-Luynes 2 – would be connected together thanks to this project. Tandem Réseau were one of 60 additional companies to the construction firm (Bouygues Group) who helped to realise project success. The site now boasts a selection of “neighbourhood” spaces to provide an environment designed to help people escape the hypersecurity atmosphere without compromising on safety. Light and bright colours have been used throughout the new building, and the two are connected by a walkway, and the new section houses a stream of running water to create a calmer, more “urban” environment.

After the 14 buildings were built, the infrastructure installation could begin, and the connectivity, data speeds and security measures across the prison have been vastly improved, helping to provide a secure environment for everyone who passes through the prison doors.

Key Statistics

- 14 buildings
- 6 tower cranes
- 4 mobile cranes
- 160,000 hours of structural work
- 45,000 hours of integration
- 25,000 m3 of concrete
- 130 tonnes of steel
- 350 builders/installers in peak strength



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