

# Case Study

## HUS Children's Hospital

**Customer** HUS Children's Hospital

**Location** Helsinki, Finland

**Requirements** A new building to support existing specialised healthcare services offered for children and adolescents both nationally and internationally, to deliver effective care in the best interest of the patient, and to offer the hospital's staff, researchers and students an attractive place to work.

**Equipment** 778km Excel Category 6<sub>A</sub> Cca-rated U/FTP copper cabling, 35,000 Excel Category 6<sub>A</sub> Low Profile Toolless Screened Keystone Jacks.

**Customer's View** "HUS wanted to get rid of time-consuming routine tasks, improve logistics efficiency, and to elevate service experiences for patients, staff, students and researchers. As the hospital was still operating as normal, the timescales were crucial to this project to ensure that operations were minimally affected during the installation and transition. With Amplit being an accredited Excel Cabling Partner in tandem with SLO being an Excel Distribution Partner in Finland, HUS was confident that the duo could deliver a high-performance Excel solution to satisfy the requirements of the project. Amplit's experience and reputation was pivotal to Excel being selected for this project."

*Tommi Alanen - Project Manager, Amplit*

**excel**  
without compromise.

**The new children's hospital in Helsinki is a big project. In the 48,000 square meters and 230,000 cubic meters there are 11 operating theatres, room for 150 patients, and large pieces of art, which also are modelled.**

The hospital, which is also a part of Helsinki University Hospital (HUS), treats all paediatric illnesses. In Finland, the treatment of several demanding paediatric illnesses, especially cardiac surgery and organ transplantations, are centralised to the New Children's Hospital.

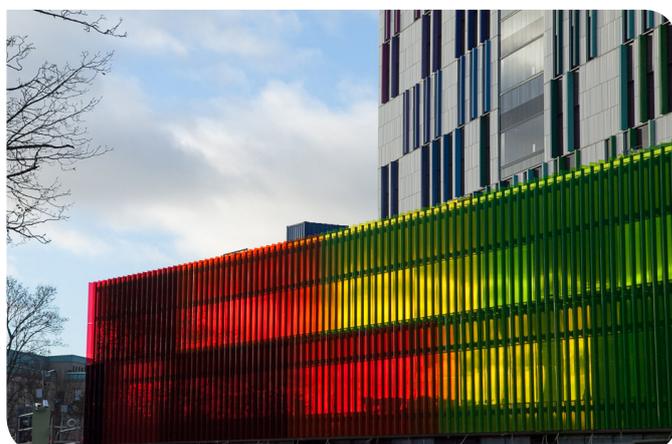
The hospital treats patients from new-borns to 15-year-olds, and some patients continue in care beyond the age of 15. Some of the youngest patients are premature babies weighing less than 500g at birth. Patients come from all over the country as well as from abroad.

Excellent treatment results, expert staff, diverse research, and new top-of-the-line facilities make the New Children's Hospital a world-class hospital.

The main goal of the project was to expand the specialised health care services to deliver effective care in the best interest of the patient, and to offer our staff, researchers, and students an attractive work place.

### The Requirement

The 175 million Euro investment began in Autumn 2013, with proposals being agreed upon at the end of 2014. With demolition works ending in March 2015, the implementation



planning soon began, with a view to expand the current health care provision in Finland's children's hospital. The key objective was to transform the efficacy of the hospital operations and patient atmosphere, with new digital services allowing hospital staff to provide quicker treatment information to young patients and their families through tablet devices, giving them more time to spend face-to-face with their patients. It was crucial to the project that ongoing treatments and patient-stays were unaffected by the constructions and installations.

### Sourcing a Partner

SLO, part of the international Sonepar Group, is Finland's largest supplier of electrical supplies. Since 2014, SLO have

been an accredited Excel Distribution Partner, operating as local support and service centres for Finland's Excel Cabling Partners. They offer sales and technical assistance to ECPs, hold stocks of key product lines to service demand throughout Finland and they have a wealth of knowledge about the Excel product portfolio regarding its high performance levels, its adaptability to a variety of vertical markets and its flexibility to be able to provide a tailored, comprehensive solution.

Amplit are a private company among the ten largest building engineers in Finland. Founded in 1987 as an electrical and telecommunications contractor for demanding projects, Amplit has seen a wealth of growth over the last few years. With the establishment of the HVAC unit, their operations have expanded to cover the entire building technology. They have also increased their investments in the maintenance and small-scale construction of real estate electrical systems and information and safety nets. More recently in 2016, Amplit became an accredited Excel Cabling Partner, entitling them to offer a comprehensive 25-Year Warranty for their installations.

The product knowledge and field experience of SLO and Amplit gave HUS the confidence to move the project forward with these partners. Their familiarity with the Excel product set and renowned reliability in the field, alongside Amplit's network of 200 installation professionals, meant that the partners were well prepared to take on large-scale projects such as the HUS Children's Hospital.

### **The Right Product**

Given the sensitivity of the working environment and making sure that patient treatment and experience was minimally affected during the installation, it was essential to choose a solution where top-level performance, quality and efficiency were paramount. The Excel solution was chosen by the partners for these reasons. With accolades across a spectrum of other vertical markets, the installer and end-user could rest assured that the Excel range was suitable for the purpose.

Excel Category 6<sub>A</sub> 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<sub>A</sub> component requirements, delivering high performance over distances of up to 90 meters, which is essential for a site as large as this, which is made up of 10 floors (including a basement and roof space). 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 35,000 Excel Category 6<sub>A</sub> Low Profile Toolless Screened Keystone Jacks are a reduced sized toolless termination RJ45 socket, which takes less than 2 minutes to terminate. Utilising this product helped to keep the project on track and meet the deadlines imposed.

Due to the nature of the products being installed within

an operating hospital environment, the Excel Category 6<sub>A</sub> solution, which provides 10 Gigabit Ethernet, was chosen to ensure the network was future-proofed. The screened nature of the installation ensures that there is no electromagnetic noise, mitigating the chance of alien cross talk within the cable bundles, as well as protecting the cable from potential interference from the various equipment in the hospital.

The product portfolio from Excel constitutes an end-to-end solution where performance and ease of installation are prerequisites. With an emphasis on compatibility and standards compliance from cable to cabinet, reliability and product availability, Excel is the complete trusted solution.

Excel has invested in third party test and verification programmes for over 15 years, and all products are Delta verified. 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 accredited partners such as Amplit all contributed to Excel Networking Solutions being chosen as the right product for the project.

### **Design and Installation**

SLO designed the complete infrastructure solution to meet the requirements of the HUS children's hospital. The design of the hospital has been influenced by HUS's desire to change the whole operation of the hospital. The system design ensured that the fixed and the wireless infrastructures of the children's hospital were ready for new digital operations, which help to increase comfort, improve the hospital's efficiency, and give the personnel more time with the patients to create a warmer atmosphere and a nicer experience.

Planning and scheduling was an imperative part of the design process prior to installation. At the beginning of the deployment phase, the distinct timescales required proactive planning to ensure that SLO and Amplit could co-ordinate their stock levels and delivery times to avoid any delays in installation. This project had a strict timeline and in some instances, the project was moving at a rate of laying 40km worth of cable a week. As such, it was crucial that SLO had continuous availability of cabling to supply to Amplit to avoid any delay to the project. Thorough planning from all involved meant that problems were identified before installation even begun, meaning that the team did not encounter any "shut down" times.

This short installation time as well as a restricted delivery location access and timeslots, it was imperative that Amplit's team stuck to the project deadline. It was important that the installation was accurate and professionally finished, to mirror the ethos that the hospital was striving to achieve to create a better environment for young patients. The quality of the Excel Solution ensured that the end user received a system that was ready-to-go to provide a better, digital-focused hospital environment.



*Tomi Alanen - Project Manager*



## The Result

Following the installation and the construction of the new building, the Children's Hospital in Helsinki is now able to offer a world-class experience to its young patients and their families, improving their time spent in the hospital undergoing treatment. High speed connections and uninterrupted data transmission means that the hospital now boasts top-of-the-line facilities, diverse research capabilities and expert staff who have more time to spend hands-on with patients, all of which leads to excellent treatment results and a renowned reputation.

Reflecting on the installation, Heikki Pietarinen (SLO Project Co-Ordinator) commented, "Together, we have positively impacted the patient experience by installing atmospheric-effect lighting and moving illusion lighting in the common areas of the hospital, and by installing colourful lighting that the patient can control with a tablet in the individual rooms".

Echoing these reflections on the project, Tomi Alanen – Project Manager at Amplit – commented, "Working on the Children's Hospital in Helsinki has been one of our biggest projects so far. At the busiest times of the installation, we had a total of 60 electrical engineering professionals on site working at the same time."

The project was completed, tested and handed over without any installation issues two months earlier than expected with little to no disruption to existing patients and ongoing treatment plans - HUS were very pleased with the results. The new facilities represent world-class medical care to serve all children and their families across Finland. The care of many very challenging illnesses, requiring treatment such as heart surgery or organ transplants, will be concentrated in the new section hospital.

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](mailto:sales@excel-networking.com)

[www.excel-networking.com](http://www.excel-networking.com)

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