

# Case Study ›

## PROJECT OVERVIEW

- Australia's largest paediatric facility
- Won 2015 "voice/data" category NECA state and national awards
- PowerCat 6A for data connectivity
- PowerCat 7A for future proofing with OM3 & OS2 pre-term and trunk fibre backbone

## Lady Cilento Children's Hospital (LCCH), Queensland, Australia

**Officially opened in November 2014; the Lady Cilento Children's Hospital (LCCH) is part of a \$1.5 billion project located in South Brisbane, Queensland, Australia. It is Australia's largest and most technically advanced paediatric health facility and is the hub of the Children's Health Queensland Hospital and Health Service. This large multi-storey building is supported by Molex PowerCat 6A U/FTP copper cabling infrastructure, PowerCat 7A S/FTP cable for future proofing with OM3 and OS2 pre-term and trunk fibre backbone.**

### About LCCH

Named in honour of Phyllis Dorothy Cilento, the Lady Cilento Children's Hospital (LCCH) replaces the Royal Children's and Mater Children's hospitals. The hospital is setting new standards in services and facilities for patients, families, visitors and staff by enabling access to care, advice and support all in one location. The design concept of the hospital is based on a living tree and also allows for future expansion and has won the architects the Future Health Project Award in the 2013 Design and Health International Academy Awards.

### The project

Queensland Health is a department of the Queensland Government which operates and administers Queensland's public health system. This department identified that the treatment and management of paediatric health in their current facilities were out of date with contemporary global health provision practice and as a result invested \$1.5 billion to build a new state of the art facility that rivals best practice for paediatric care anywhere in the world.

Programmed Electrical Technologies supported Molex's bid into this open-specified project based on technical compliance to and exceeding Queensland Health's specification and the pricing and support (Brisbane, Melbourne, USA, Europe and Asia) involved at different stages to bring a solution together, as the project evolved to accommodate new challenges, growth and structure that Molex put in place to secure the project.

Being the primary paediatric care facility for Queensland, as well as the Disaster Management Control Centre which can back up and support other centres, it is mission critical that telecommunications services are robustly manufactured,



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installed and supported through provision of multiple redundant paths should one physical link fail. LCCH has certainly provided for this contingency with diverse cable paths designed into the site to ensure communications links are not removed from the care provision function of the site.

### The installation

The project required the installation of over 23500 Cat6A U/FTP field outlets, over 3700 OS2 Fibre outlets, over 800 Cat6A U/FTP Rack Ties and over 650 OS2 Rack Ties.

The site consists of 19 levels (including basements) and is constructed of concrete slab with an Appolic façade. The architectural design is based on the Jacaranda Tree, a large tree native to the State of Queensland which spreads its branches across a wide area. The LCCH site also does this with a network of trunks and branches running throughout, connecting the inside with the outside.

The LCCH site delivers a range of LAN network speeds of up to 10Gb as required by operational need and bandwidth intensive applications. Included in this is the provision of telemedicine, robotics, prosthetics, digitally-integrated operating theatres and obstetrics. Further, the site provides network connectivity through over 1100 wireless access points, patient entertainment, mobile duress, CCTV and nurse call also over the Molex structured cabling network.

The use of Molex's Cat 7A cable essentially future-proofs the site for years, as advances in technology and bandwidth requirements are more easily serviced by existing 1.2GHz cabling plant over and above the 500MHz of Cat 6A. The use of pre-terminated fibre cable in lieu of traditional splicing environment saved considerable sums in both labour and dollar costs. The use of Molex's Cat 6A Angled Patch Panels halved the usually required volume of horizontal management thereby doubling the potential volume of ports per rack.

### The challenges

Tight time frames and difficulties accessing deliveries to the project site due to its inner city location were real challenges faced during the project. Molex worked with distributor Pacific Datacom to provide logistics support by storing product ordered in advance, offsite and co-ordinated deliveries to the site as required. This ensured the project was completed within the stipulated deadlines. Pacific Datacom's support and involvement throughout this project was imperative to the smooth logistic management and delivery of Molex product into the site. Molex's PowerCat 6A side entry outlets and our smaller



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cable diameter Cat6A cable were the winners in this project. A lack of adequate cavity depth across the site meant that use of side entry jacks was imperative in delivering the technical outcome. In addition, the ability to purchase and install smaller cable baskets also led to the delivery of cost savings.

### Testimonial

"Molex and Programmed worked closely on this important project for over four years. Across the life of the project, our companies worked closely to ensure that the outcome was technically sufficient to allow for the numerous functions required as part of the operations of a tertiary medical facility. Of particular note is the support Programmed received from Ken Macrae (Molex H/O Melbourne) and Grant Colledge (Molex Queensland). Ken's logistical organisation allowed for the sourcing of product globally and ensured that required product was on-site on-time. Grant was on-site regularly offering technical and installation support through multiple site inspections, which was appreciated and valued."

**Daniel Willis, Project Manager, Programmed Electrical Technologies**

### NECA awards

In November 2015, Programmed Electrical Technologies won the State and National Awards for the "Voice/Data" category for their work on the hospital.

### Conclusion

"Molex, Programmed Electrical Technologies and Pacific Datacom worked seamlessly and successfully throughout the planning, construction and handover phases of this important and high profile project. Programmed demonstrated a consistently high level of tradesmanship throughout the install which required strong standards and installation practice adherence and an innovative approach in the design and deployment of copper and fibre links. Molex and Pacific Datacom, with our longstanding and successful relationship, worked well as always as a team and ensured that the site had what it needed when required. As a team, we are proud of the result that is the structured cabling network of this key facility which is now live and operational and supporting the healthcare outcomes of Queensland's sick kids." **Grant Colledge, Business Development Manager, Molex Premise Networks**



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