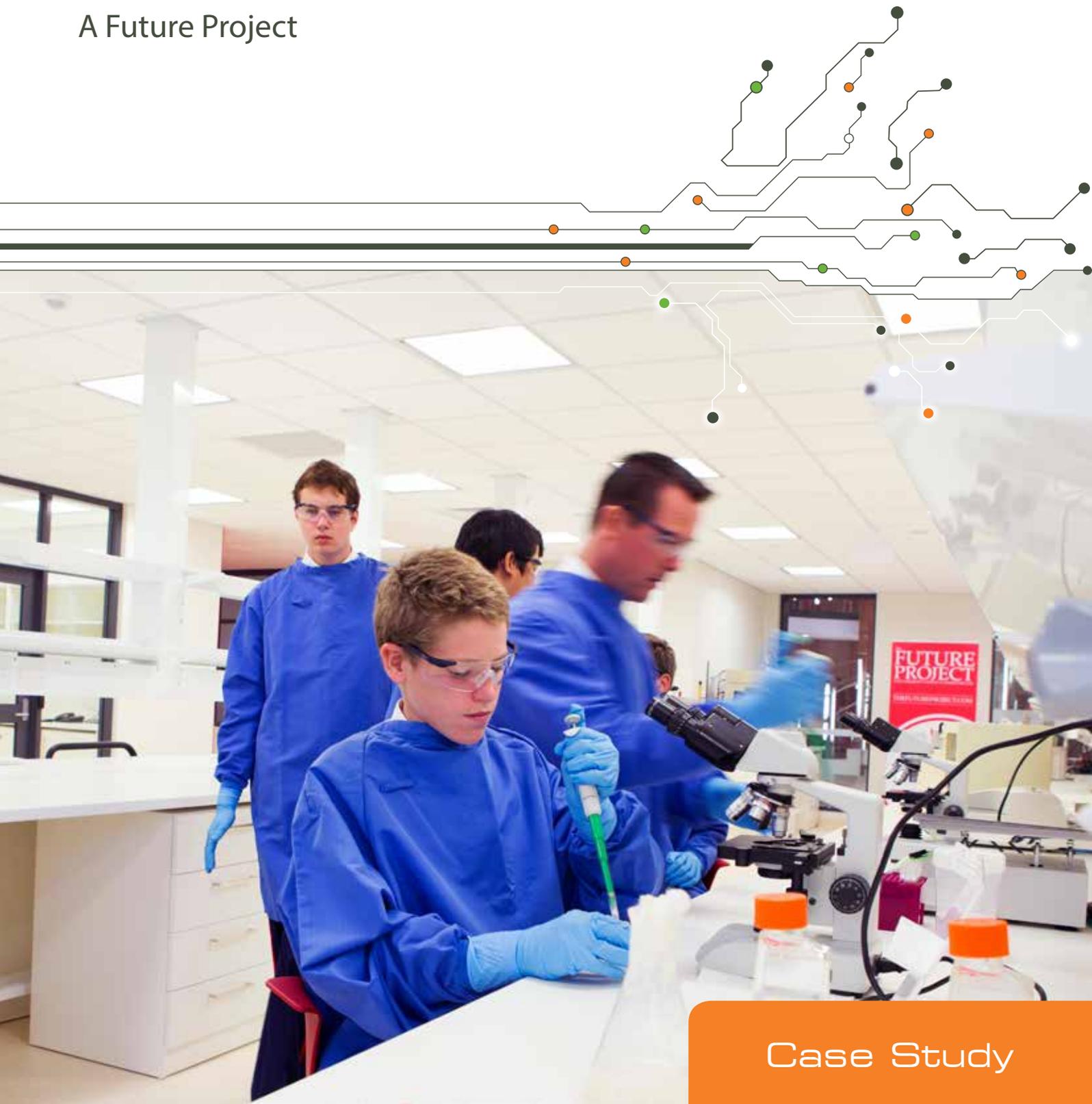


mySmartCTI™

The King's School Science Learning Centre

A Future Project



Case Study

The King's School Science Learning Centre

A Future Project



Project Details:

Location	Sydney, Australia
Type of Building	Educational Facility
Architect	Cox Richardson
Builder	Denham Constructions
Electrical Consultant	Building Services Engineers
Electrical Contractor	Direct Electrical

'People like to wonder and they call the adventure Science.' - Ralph Waldo Emerson (1803 – 1882)

Founded in 1831 The King's School is Australia's oldest and one of its most prestigious independent schools. Located on 148 hectares in North Parramatta, The King's School is home to around 1,500 students from Kindergarten to Year 12. In 2014 the school officially opened its \$20M Science Learning Centre, a centre that exceeds the school's commitment to excellence in learning and sustainability. The Future Project as the centre is known operates as a learning and research facility with up to 16 full-time academic and industrial research scientists and aims to give students the opportunity to experience science and engineering in a new and exciting way. The school's students will partner with these scientists for some of their research.

"The Future Project is about embedding a working, university grade research precinct within The King's School's unique Science Centre. The result is that genuine scientific enquiry is unfolding at the very heart of teaching and learning science."
Roger Bennett, Deputy Head of Science, The King's School

The centre also presents students with a unique opportunity to learn about the design and operation of sustainable buildings as it uses a KNX based energy control and management solution developed by **mySmartCTI** which the boys will utilise as part of their studies. **mySmartCTI** is thrilled to have been an integral part of bringing this building to life and we look forward to seeing what The Future Project will deliver.



A World Class KNX Automation Solution

As befits a building delivering cutting edge scientific research and education, The King's School Science Learning Centre has at its heart a cutting edge **mySmartCTI** KNX solution. As the worldwide standard for home and building control KNX brings together products from over 340 manufacturers under the one open-source and vendor-neutral operating platform.

Lighting Control



The KNX lighting control solution throughout the Science Learning Centre uses local switching points in laboratories and seminar rooms. These allow users to quickly configure the lights and ceiling fans in these areas to suit their immediate needs at the touch of a button. Motion sensors are also used in these areas configured in absence detection mode and automatically turn off all lights and ceiling fans should no movement be detected for 30 minutes.

In smaller rooms such as offices lighting is totally controlled using motion sensors configured in presence detection mode. Lights will turn on when users enter the room and off again 30 minutes after vacating.

External lighting operates using inputs from the KNX Weather Station on the roof of the building. Lights automatically turn on when the ambient light level drops below a pre-set level.



Façade Control – External Venetian Blinds



External Venetian Blinds around the building are controlled using the KNX Weather Station and a Sun-tracking algorithm in the Head-End Software. When the ambient light exceeds a defined threshold the blinds will tilt through a range of positions depending on their location on the façade. As a safety precaution should the wind speed exceed a defined level the blinds are retracted and held in the raised position until the wind reduces.

Metering

Energy meters across each floor of the Science Learning Centre measure both Power and Instrument Values whilst Hydraulic meters measure gas and water as well as alarms on the water retention tanks. All values are communicated to the Head End PC via KNX meter interfaces.

KNX Head End

The KNX Head End PC operates NETx Automation Voyager Server software which is used to monitor and control the field devices. This includes;

- › Monitoring and control of all lighting channels/zones with real time status and time scheduling
- › Control of external blinds based on sun position with manual override control
- › MARs module for analysing KNX energy and hydraulic meters
- › Visual display of KNX metering information on the mySmart enGauge atrium display panel
- › High level interfacing to mechanical services and window automation via BACnet server



Design » Deliver »
Optimise » Guarantee

High Level Interfacing



Mechanical Services are linked to the **mySmartCTI** KNX Head End PC using a BACnet /IP interface on the KNX IP Ethernet backbone. The KNX Head End PC is able to read the current room temperatures and air conditioning run status as well as read and write the room temperature set points.

The window automation system is also linked to the KNX Control System via a KNX/IP interface enabling the reading of room humidity, system status and the starting and stopping of the AC. This is particularly important as the control of the AC system is linked to both the status of the window automation system and the presence of people in that room.

This shows the true power of a KNX based system, whereby different devices can easily share common infrastructure including switch points, sensors and weather stations with absolute certainty as to their operation and compatibility.

Design » Deliver »
Optimise » Guarantee



About mySmartCTI

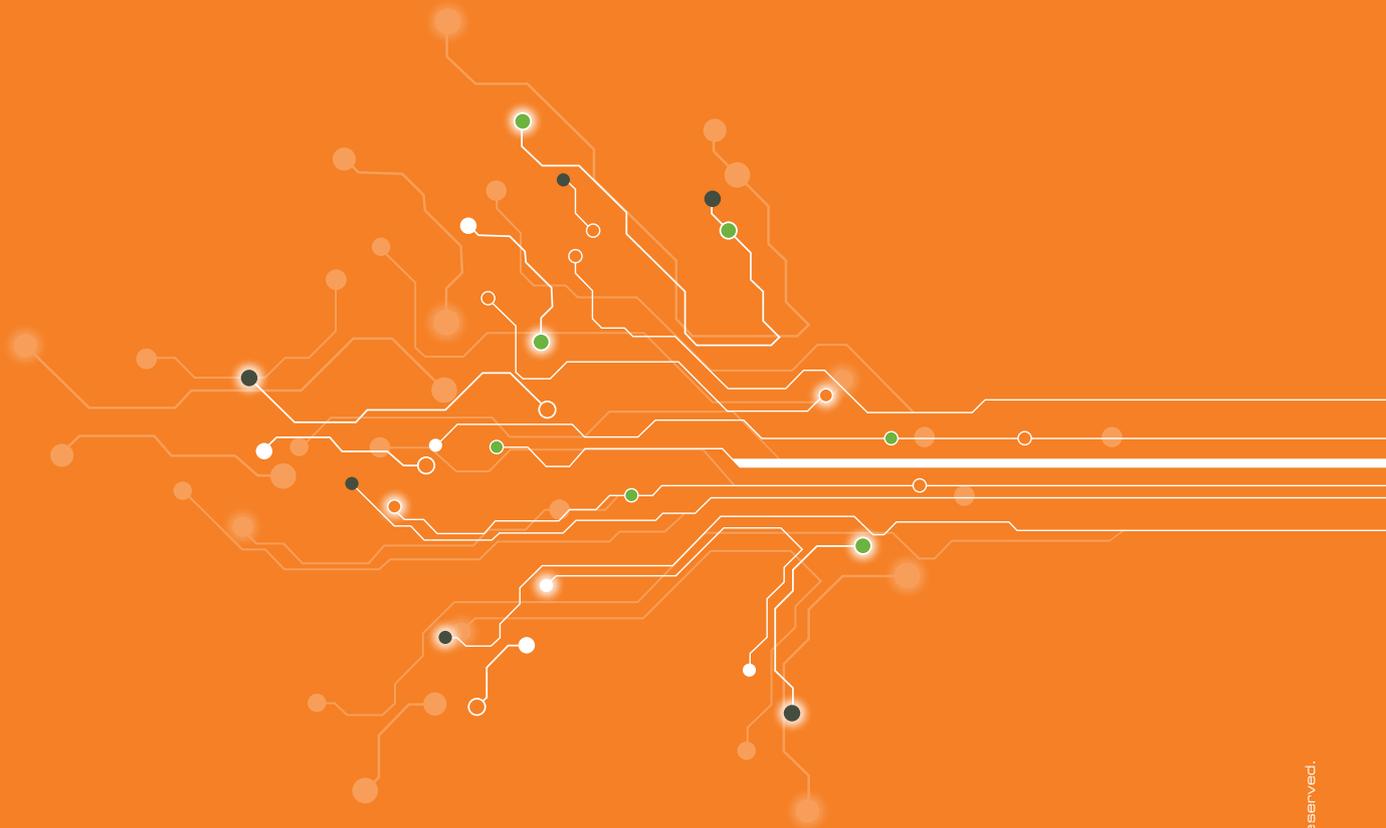
mySmartCTI is an Australian company that prides itself on making a positive difference for its customers, their employees and the environment. **mySmartCTI** helps to create the most energy and resource-efficient environments possible.

Using the latest technologies with highly trained consultants and service technicians, **mySmartCTI** is able to optimize buildings and outdoor built environments so they are more comfortable and use less energy and resources with a resulting reduction in ongoing operational costs.

Established, originally as Complete Technology Integrations (CTI), in Sydney in 2001 before being rebranded in 2011, **mySmartCTI** remains wholly Australian owned. With almost 50 staff it has offices in Sydney, Melbourne, Brisbane, Canberra and Perth. The company operates across a range of markets, including hospitality, education, health services, aged care, retail, residential, defence and Industrial.

mySmartCTI's solutions include:

- › Lighting control solutions which provide daylight harvesting and timed control
- › Basic and high performance metering and reporting solutions for energy, solar, water and gas usage
- › enGauge behavioural change displays for showing energy usage and savings
- › Fully integrated building automation systems providing lighting and façade management control, audio-visual interfacing, HVAC control, reporting and central control.
- › Hotel room control systems for controlling lighting, HVAC and blinds with full integration to the hotel check-in system
- › Stand-alone intelligent motion sensors
- › Unique custom solutions



mySmartCTI™

ABN: 85 097 753 458

1300 697 627

www.mySmartCTI.com.au

SYDNEY | MELBOURNE | BRISBANE | CANBERRA | PERTH