

TEACHING INNOVATION, HEALTH & SUSTAINABILITY BY EXAMPLE

The \$45.2M University of Ballarat project comprises 8,651m² of space over three storeys and brings together under one roof elements of the School of Science, Information Technology and Engineering, and the School of Health Sciences.

MAIN CONSTRUCTION COMPANY : Cockram Constructions
CLIENT : The University of Ballarat
PROJECT END VALUE : \$45.2 Million
COMPLETION : March 2013
ARCHITECTS : S2F Architects
CIVIL/STRUCTURAL ENGINEER : Winward Structures
BUILDING SURVEYOR : McKenzie Group Consulting



Students and staff at the University of Ballarat's new Science and Engineering building at the Mount Helen campus will spend every day surrounded by examples of best practice sustainability and healthy building design.

The \$45.2M project comprises 8,651m² of space over three storeys with an undercroft, and brings together under one roof the main laboratory based elements of the School of Science, Information Technology and Engineering, and the School of Health Sciences. The Science and Engineering building will provide for undergraduate and post graduate courses and research predominantly in Environmental Management, mining engineering, metallurgy, geology, civil engineering and structures, mechanical engineering, biomedical sciences, chemistry and food science and technology as well as housing some school. It is expected a total of around 700 students will be enrolled in the extensive range of courses offered.

The facilities constructed include educational laboratories, biomedical laboratories, workshops, offices, a lecture theatre, a physical containment level 2 space, and a greenhouse. There is also a central atrium which invites interaction between students and staff across disciplines, and breakout spaces.

One of the building's distinctive and unique features is the Aramax external cladding, which aesthetically echoes the practical work spaces associated with the Ballarat region in a more polished and streamlined style. Aramax is traditionally used as a roofing product for large buildings, and the use of it on the precinct's façade is a design first. Aramax will give it a corrugated iron finish on a larger scale.

The sustainability features incorporated into the design, construction and fitout include best-practice examples relevant to many of the precinct's fields of expertise, such as the use of 100% fresh air throughout the building, which is a first for the University and a recognized contributor to workplace effectiveness and healthier indoor environments.

There are numerous passive sustainability measures, including the innovative use of gabion pre-cooling for the air intake. A landscaped slope on the perimeter of the active gabion walls directs the airflow against the 4m high x 3m deep rock walls located

at the basement level. The outside air is cooled as it passes through the gabion matrix structure, providing an excellent example of the talents of structural engineering, civil engineering and design working together to achieve a permanent reduction in energy use.

The buildings are oriented to the north for effective capture of winter's warming sun, with small windows at all on the eastern and western sides. The structural design also features exposed thermal mass, and sun shading on all façade glazing which still permits the extensive use of natural light throughout the building. Double-glazing has been used throughout – another first for a University of Ballarat building.

Active sustainability features include the use of a gas-powered chilled beam system for cooling and heating; solar hot water; low energy lighting, with sensors for many areas; night purge ventilation; and carbon dioxide monitoring. The hydraulics and roofing design incorporates water-efficiency measures such as rainwater harvesting and the use of recycled water for amenities flushing.

The project was predominantly funded by the Federal Government as part of the \$3 billion Education Investment Fund, and the head contract was assigned to Cockram Constructions in May 2011. The works program saw the building substantially complete in March 2013 and ready to welcome students.

Professor David Battersby, University of Ballarat Vice-Chancellor, said the new site would add to University of Ballarat's reputation as one of Australia's leading regional universities. "This new precinct will also contain two research centres - the Centre for Environmental Management and the Victorian Institute for Occupational Safety and Health," Professor Battersby said.

"It will be a vibrant hub for students, staff and those undertaking research.

"The University of Ballarat is Australia's third oldest higher education provider. The new Science and Engineering building will ensure that it continues to produce some of the best research and trained professionals in their field."

For more information contact The University of Ballarat, PO Box 663 Ballarat VIC 3353, Phone 03 5327 9000



SHADING & VENTILATING BALLARAT UNI

EASY LIVING ELEVATORS PROVIDES DEFINITIVE STYLE

Australian-owned and operated Easy Living Home Elevators, is the company chosen to provide its high-end design, custom-made Domus XL lift in the new Science and Engineering Precinct at the University of Ballarat.

Currently being installed, the powerful and hydraulically operated Domus XL lift with swing landing doors, is the company's most popular model in both private residential and commercial applications. Designed, engineered and manufactured in Italy, Easy Living says it promises quality, reliability and safety.

Easy Living Home Elevators were contacted by the architects for the building, SKM-S2F Pty Ltd and asked to specify a lift that would meet the design requirements.

James Weisshardt from Easy Living explained that they won the work because Easy Living has a reputation in the industry for these lifts in these types of projects. "Being a major commercial project, we are setup because we have all the necessary insurances and safety methods that projects of this size are required to have," he said. The company explains its special features of the Domus XL are its range of quality European finishes and 400kg capacity driven by a dual-speed hydraulic valve system. It also has a very shallow pit size of 130mm and low headroom of 2500mm, reducing the costs of engineering the shaft for the client.

The finishes chosen by the University are brushed stainless steel walls, black rubber floors, a panoramic door with glass and aluminium frame anodised plus a white ceiling with halogen spot lights. This particular lift will have a total travel of 2040mm and will be built in a masonry shaft.

The only company to provide this lift in Australia, Easy Living Home Elevators have been operating since 1998 and now has over 110 employees and showrooms across Australia. They currently have over 5000 lifts in their maintenance system around Australia. The company has a team of experienced technical sales consultants, project managers, installers and service and maintenance administrators supplying Australia wide.

For more information contact Easy Living Home Elevators, website www.easyliving.com.au **NSW** 64 Penshurst St Willoughby, NSW 2068 PH: (02) 8116 1500 FAX: (02) 8116 1511, **VIC - TAS** 7 Hoddle St Collingwood, VIC 3066 PH: (03) 9094 8600 FAX: (03) 9094 8611, **QLD** 17 Campbell St Bowen Hills, QLD 4006 PH: (07) 3851 7500 FAX: (07) 3851 7511, **WA** 6/347-351 Great Eastern Highway Redcliffe, WA 6104 PH: (08) 9322 4688 FAX: (08) 9322 4655, **SA** Home Ideas Centre 113 Anzac Hwy Adelaide, SA 5035 PH: (08) 9322 4688 FAX: (08) 9322 4655, email sales@easy-living.com.au, website www.easylivinglifts.com.au



Science and Engineering is about solving problems, like, how to achieve a high level of natural airflow ventilation, without letting in the glare of the sun or the odd storm. For the University of Ballarat's new home for their Engineering and Science faculties (UBSE), Metanovus Teasco provided an evidence-based solution, with their high-quality Australian-designed louvre systems.

Metanovus' MLS090 profile system was installed on the exterior of the mechanical plant rooms, substation rooms, and used as part of the feature sunshading on the building façade. This fixed louvre system provides excellent ventilation, while also reducing the thermal load within. The louvers were supplied with a black anodised finish, which protects the aluminium for weather-corrosion and adds to the building's distinctive aesthetic.

Behind this external skin, Metanovus installed their MLO100 operable louvre system. These have a motorised operating system activated either by a switch, or the building's BMS system. At UBSE, half of the louvers are manually-switched, and half are linked to the BMS system. The louvers can be completely closed to provide protection, opened fully to the horizontal position, or moved to a 45 degrees open position to allow good airflow without ingress of rain if required.

All of the fabrication for Metanovus louvre systems is undertaken in-house, and certified to meet all applicable Australian standards. The installation for UBSE was carried out by a team of up to six of Metanovus' skilled installation people in various stages over a four month period. "We are based in Braeside, so distance from the site was our biggest challenge," said Metanovus Teasco Project Manager,

Ermin Hadzic. "We had to take a lot of care with the management of the project, ensuring all the items required for a particular load were accounted for, and ensuring we allocated the appropriate amount of time for deliveries to meet program. "Because the installation requires us to work in with other trades, we also had to make sure everything worked in with them in terms of our program."

Metanovus was established in 2005, with the goal of bringing to the market products which provide a winning combination of aesthetics and functionality. Their range of purpose-specific designs includes sunshading, ventilation screens, privacy screening, acoustic protection, balustrades, skylights and commercial window systems.

Metanovus also provides a CAD design-drafting service, which enables them to work with clients on bespoke designs and products for external skins and curtain walls for major commercial or industrial projects. This also includes designs and fabrication of aluminium cladding, panels, and substructures for external façades. Other major projects include Freshwater Place (Melbourne), Crown Casino (Melbourne), Geelong Stadium, Waterfront City, and the Australian Embassy in Beijing, China.

With their range of capabilities and products, Metanovus offer architects, designers and builders solutions which are logically sound, lovely to behold and contribute significantly to a project's long-term sustainability.

For more information contact Metanovus Teasco, PO Box 553 Braeside 3195, phone 03 9580 0970, fax 03 9580 0980, email sales@metanovus.com.au, website www.metanovus.com.au



RELATIONSHIP WITH BALLARAT UNIVERSITY CONTINUES TO GROW

Continuing to foster a strong and ongoing relationship with Ballarat University, local electrical contractors TJ Coutts Pty Ltd, have done the complete electrical installation for the University's new Science and Engineering Precinct.

The University of Ballarat has been a client of TJ Coutts for about 35 years now. They currently look after the University's day to day needs in electrical repairs, working on just about every building on site. TJ Coutts specialise in medium to large commercial and industrial installations for manufacturing, hospital and educational projects. With a solid reputation in the local market, they were appointed by the main builder, The Cockram Corporation, to supply and install all facets of the electrical installation on this project.

One of the interesting features of the electrical system is that the building uses a lighting control system to harvest and utilise the natural light where possible via movement sensors. It also uses a cost effective system in terms of energy management, as lighting is only called for when required, when external lighting levels drop below a certain point. "The new building is quite different to others as there are not many ceilings installed, requiring

the electrical infrastructure to be exposed and having to be installed in a way that is aesthetically pleasing," said Managing Director, Michael Coutts.

This actually suits the nature of the building. "It has an industrial feel towards it. Due to the use of the building being for Science & Engineering, it is similar in design to the Building and Construction Training Centre located at their city campus. The students can see visually what makes up the fabric of the building electrically," said Mr Coutts.

Completed in March 2013, TJ Coutts also installed, in conjunction with other sub-contractors, a communications system, fire detection system and security system.

TJ Coutts P/L are proud to be associated with the University for such a long time, the company has also been successful in becoming the electrical contractor for the new Ballarat Regional Cancer Centre for the Ballarat Base Hospital (Approx.\$50M).

For more information contact TJ Coutts, 4 Production Drive Ballarat 3350, phone 03 5334 3444, website www.tjcoutts.com.au

