Case Study

University of Queensland, Gatton Campus

Dexion delivers a storage solution that passes with honours.

DEXION®

"Once we agreed on what was needed, our designers looked to similar projects for inspiration, including the Queensland State Archives and the National Archives in Canberra. In this instance, Dexion's solution stood out as the best available."

Founded in 1910, the University of Queensland now accommodates 47,000 students, including over 11,000 international students from more than 142 countries. With its main campuses located in St Lucia, Ipswich, Gatton, and Herston, the university comprises 750 buildings and 15 libraries, housing more than two million volumes of books.

Storing over a century's worth of literature, journals and magazines, the university's space is at a premium. By 2011, it was in such urgent need of additional storage space that the university resorted to leasing a warehouse in the suburb of Milton to help cope with its overflowing archive needs. This temporary solution was less than ideal – the facility wasn't climate controlled, which meant that precious volumes were at risk of being damaged. The cost of leasing the warehouse was also considerable.

The university decided it was time to invest in a purpose-built storage solution, so Construction Manager, Bill Boyd-Law began discussions with the library team to determine the university's requirements.

"Once we agreed on what was needed, our designers looked to similar projects for inspiration, including the Queensland State Archives and the National Archives in Canberra. In this instance, Dexion's solution stood out as the best available," said Boyd-Law.

Dexion was engaged to work collaboratively with the university in mapping out the full scope of the project. According to Dexion's National Sales Manager, Michael Cumner

The university eventually selected a Dexion Eclipse Powered Compactus system that would be the largest ever installed in Australia. Once completed, it would comprise 3,456 shelving bays – enough to safely house over 33 kilometres of books!

the university required high-density archive storage to help maximise the use of the floor area.

"The university's key requirement was a safe, reliable and user-friendly storage facility that could accommodate the humidity-controlled environment, which was essential to protecting the stored contents," noted Cumner.

Achieving the storage volume requirements in the limited space available presented a host of challenges for the team. Together with the university's Project Architect, Dexion's lead consultant and Queensland State Sales Manager, Justin Evans, and Design Manager, Wei-Hoe Kim explored numerous layout options before presenting two recommended designs to the university.

The specifications of the new storage solution would ultimately drive the design of the new facility, so the right layout decision was vital. So vital, in fact, that the university eventually selected a Dexion Eclipse Powered Compactus system that would be the largest ever installed in Australia. Once completed, it would comprise 3,456 shelving bays – enough to safely house over 33 kilometres of books!

Once the solution was finalised, work commenced on the university's new purpose-built, climate-controlled warehouse. Being a Greenfield project site, hurdles were inevitable. Due to the weight of the books being stored, a heavy-duty, reinforced concrete slab was required. With the amount of capacity needed, six Compactus units were installed, each 15.3 metres and

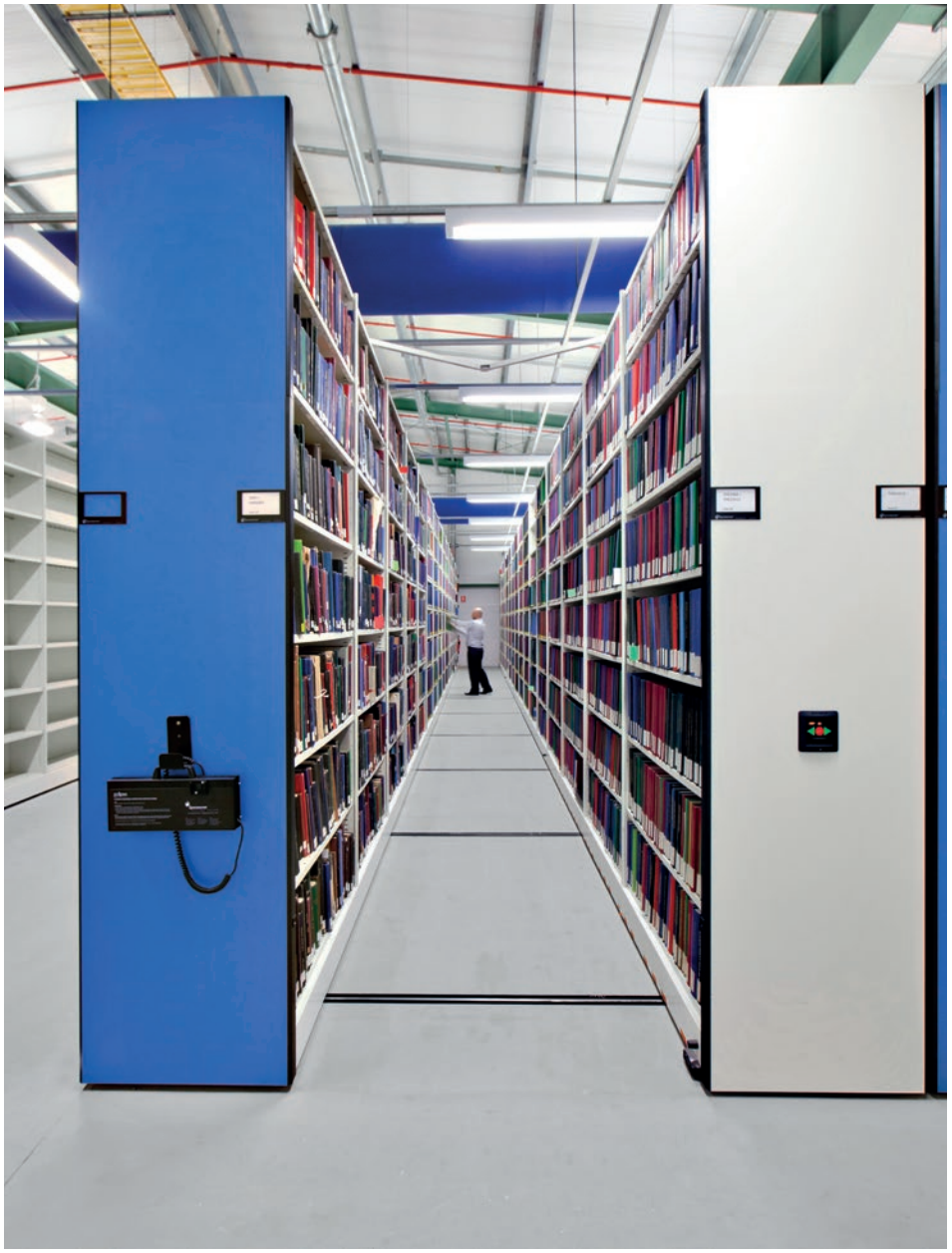
The units also feature Dexion's Building Interface Module, which is connected to the building's fire system. This means the Compactus can be programmed to either open or close if a fire alarm is triggered, protecting against water or smoke damage to the books.

comprising 19.3 metre deep mobile carriages. To put this into perspective, most units in Australia commonly carry a maximum depth of 6.6 metres. Each of the 576 shelving bays installed were 1,200mm wide with a heavy-duty carriage capacity of 1,500 kg per metre (rather than the standard 1,000 kg). Ultimately, the units would provide 33,000 lineal metres of storage.

Befitting an institute of higher learning, Dexion's system is very intelligent. For example, its unique anti-tilt mechanism designed for seismic conditions is housed in the floor track rather than overhead. This design eliminates wasted space and also significantly reduces the gap on the track, so that trolleys and order pickers can be moved within the Compactus with greater ease than a conventional system.

Regardless of how smart the solution is, it must still be user-friendly. Operating the Eclipse could not be easier – all that's used is a green and red start and stop button. Despite its simplicity, the Eclipse Compactus still enables a high level of flexibility. As storage requirements change, the Dexion technical support team can reprogram the movement speed of the Compactus, altering the distance between closed carriages, as well as switching carriage movement.

The units also feature Dexion's Building Interface Module, which is connected to the building's fire system. This means the Compactus can be programmed to either open or close if a fire alarm is triggered, protecting against water or smoke damage to the books.



In the first instance, Dexion's storage solution has freed up valuable on-campus space, with some of the reclaimed areas being adapted to much needed student learning areas.

The safety of the archive staff accessing the books was also imperative. The Eclipse offers world-class user safety with light immune infra-red photo-sweeps. These project a beam along the carriage length of the Eclipse, detecting whether a person or object is in a closing aisle before automatically stopping and retreating the closing carriages.

According to Boyd-Law, safety was also the driving force behind the customised shelving height.

"We wanted to avoid any safety risks to staff retrieving books from high shelving. With the Dexion system, staff utilise a step ladder and platform with built-in safety rails to a height of only 1.3 metres," said Boyd-Law.

As Australia's largest-ever Eclipse installation, this was a mighty project, which is already delivering considerable benefits to the university. In the first instance, Dexion's storage solution has freed up valuable on-campus space, with some of the reclaimed areas being adapted to much needed student learning areas. Further, the current load of archive materials consumes only 80% of the storage capacity, which means that the university's future archiving requirements will be satisfied for another 10-15 years. Finally, the university has enjoyed significant cost savings as a result of no longer allocating budget to the leasing of sub-standard warehousing space.

All of which goes to show that sometimes, good things come in very large packages.