

Tian Li

Subject: FW: UQ Media Release - Crowning glory for new UQ engineering facility

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THE UNIVERSITY
OF QUEENSLAND
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UQ News

MEDIA RELEASE

Crowning glory hoisted onto new UQ engineering facility

7 June 2012

A 215-tonne roof has been hoisted atop the new Advanced Engineering Building at the UQ St Lucia Campus, signaling the end of the major structural work.

The crowning glory of the new building's GHD Auditorium is the last of the external construction work, before work can move to the grand façade and indoors for the fitout, as work continues to have the building operational for Semester 2, 2013.

UQ chair of the project David St John said while there was still much work to do before completion, the roof was the most complex and time-consuming phase of the project.

"Getting the roof in place is a key issue, but construction will continue this year and into next year," he said.

"There is still much work to do internally, but that is coming along quickly. Air conditioning ducts are starting to go into the lower areas and we're getting windows into level three. That is all starting to accelerate now the basic structure is in place."

The construction, which began with earthworks in December 2010, has been captured on cameras at up to 10 locations, and photos will be condensed into time-lapse footage, supervised by Ian Cameron of the School of Chemical Engineering.

Coupled with 3D modeling and virtual reality conceptual design, the building has left a lasting learning legacy for engineering and architectural students.

"It has been very interesting for us to capture what has been going on so ultimately the students can use the various systems we have produced to understand how these big structures go together, the complexities and the number of disciplines that go into putting a structure like this in place," said Professor Cameron.

Weighing as much as 10 Mack trucks, the roof was carefully lifted by hydraulic jacks and guided into position with a cradle system and temporary lifting frame, using laser positioning, a task that took about four hours. It was then secured with 30,000 bolts.

Watpac Construction's Rowan Riggall said it was the company's largest heavy lift since the roof lift of the redeveloped Suncorp Stadium in 2001.

"The drafting for the roof was a four month process as both architectural intent and structural design parameters could not be compromised," he said.

The roof was manufactured by Hyne & Sons in Maryborough and fabricated by Mulherin Rigging at their Gold Coast premises.

The trusses are 30 meters long and were split in three sections for transport to the St Lucia site.

“Because everything was built and marked by hand and had to be perfect, we measured everything twice,” said Mr Riggall.

“By constructing a prototype truss, we were able to iron out any potential problems early on.”

In addition to David St John, UQ staff heavily involved in the successful project were Faculty of Engineering, Architecture and Information Technology Executive Dean Graham Schaffer, David Williams of the School of Civil Engineering and Peter Sampson of Properties and Facilities.

From here, construction will move to the façade, which will feature massive timber columns spanning 12 metres and create a support for the glazing system. After this, the internal fit-out can begin.

Joint-venture project architects Richard Kirk Architect and Hassell approached the project as a new benchmark in sustainability. They believe it to be the largest timber-framed auditorium roof in Australia, and it has already been awarded a [Green Star Rating](#).

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