

Conversations: TEMC 2019

Slattery Conference Insight: 01

University of Melbourne Arts West Designed by ARM Architecture & Architectus Photo courtesy Warwick Baker

Distilling ideas, transforming futures

An insight into TEMC 2019

In 2018, there were over 12 million square metres of useable floor area in the tertiary education sector in Australia. In 2018 alone, the sector grew by 307,000m² with 27,600 more students than in the previous year. Tertiary building operating costs were \$1.08 billion, representing an increase of 5.9% and there was a significant increase (46%) in onsite renewable energy (TEFMA, 2018). Operating within this dynamic sector, it is imperative to have a finger on the pulse, to understand the trends and to know which direction the sector is moving in. Slattery again attended TEMC 2019 this year to fine-tune our position in the higher-education sector and had the opportunity to attend and chair multiple sessions.

As part of our commitment and involvement within the highereducation sector in Australia, Slattery has been a participant at TEMC for the past 9 consecutive years. This year, attendees of the conference were Sarah Slattery, Tom Dean, Belinda Coates, Lisa Phoa, Sushma Suresh, David Parry and Runil Ganoo.

Over the course of the conference, the team chaired six insightful presentations with themes relating to the Built Environment: Movers and Shapers, 21st Century Service, Beyond the Physical Environment, Distilling BIG Ideas, and HEd Talks. In this paper, Slattery has summarised the highlights from a selection of sessions.

Innovation hubs – the new black, but what are they?

Presented by: Victor Ballester, Development Manager at The University of Melbourne and Marina Carroll, Principal at Architectus.

Chaired by: Naomi Barun, Manager Campus Design & Planning at The University of Melbourne.

Innovation hubs bring together a critical mass of people to access expertise and facilities to make better use of technology and talent.

Innovation hubs are centres of entrepreneurs, spaces that help people translate an idea into reality. Huge successful cooperations like Google and Apple started in a garage only holding the key ingredients which is an idea, extra brains and access to resources.



Innovation hubs are flexible spaces (not just a 3D printer and beanbag) with access to amenities but most importantly 24 hour access and low rent.

Innovation is the outcome shaped by interactions and the environment, with each innovation space being different depending on the industry focus.

Case Studies for innovation hubs:

- University of Melbourne Entrepreneurial Centre
- State Library of Victoria: Start Space
- Macquarie University Incubator

Key Lessons

- Context is everything and it needs to be designed for the community
- Dialogue rather than monologue, building trust within the community
- Create a space that moves you, flexibility is key
- Importance of showcasing a pitch and presentation space

Co-create and humanise the campus

Presented by: Samantha Hall, Managing Director at Spaces Alive and Trevor Humphreys, Director at The University of Western Australia.

Chaired by: Lucy O'Driscoll, Principal at Hassell.

The University of Western Australia needed to contemporise their physical and digital environment.

Starting from the ground up – by understanding the student experience, they discovered that to achieve this, no new buildings needed to be built. Students didn't want to come to campus, UoWA needed to discover how to get them there and keep them there. They explored numerous options including setting up a new campus in the CBD.

The methodology UoWA used was to understand the existing experience as much as possible, to not focus on unknowns and to try not to predict future behaviour. Avoiding assumptions was also an important factor.

Slow design pays off – a day is made up of micro moments and it is important to understand these moments and the spaces in which they occur. The spaces amplify your feelings. All the micro moments through a student's day add up which is what needs to be considered. A number of surveys were conducted to discover a deeper sense about what the students were thinking. The results showed that only half the students had a sense of belonging. Some of the issues students were facing were;

- Lack of diversity
- Bad rooms (poor lighting, bad desks)
- Feeling unsafe on campus
- Long commute times
- Difficulty finding parking
- Unreliable data, AV connectivity

The most popular spaces on campus had the following:

- Spaciousness
- Daylight
- Comfortable chairs
- Connection with nature

In summary, results revealed that sustainability and a connection with nature is very important to the students as they felt more relaxed in places with daylight and valued demonstrations of sustainability.

Libraries are still the hearts of universities and there is still a demand for quiet study spaces as well as collaboration spaces. The first 6 months of a students time at university are imperative in their feeling of belonging, with those active in clubs feeling more belonging.

Transitioning to 100% renewable electricity and a low carbon future

Healthy Futures People & Planet

Presented by: Daan Schiebaan, Environmental Manager, Infrastructure and Facilities Services, University of Newcastle **Chaired by:** Allan Green

Australian Universities continuously endeavour for ambitious renewable energy targets. As an industry leader, New South Wales' University of Newcastle announced their commitment to transitioning to 100% renewable energy.

This presentation focused on the University of Newcastle's vision to achieve a 100% renewable campus from the start of January 2020, and carbon neutrality by 2025 - while highlighting steps, key deliverables and outcomes of this project. UoN is a major University with 14 campuses and afiliated centres containing 275+ buildings throughout. There are over 37,000 students, and a turnover of \$781 million. Daan Schiebaan talked about the University's current electricity profile with an electricity use of 40GWh, equivalent to an electricity usage for 5,000 households, producing 48,000t of CO2-e emissions.

Daan mentioned that the decision was mainly underpinned by feedback from students, staff and University stakeholders who stand in support of climate action.

However there were major challenges including a lack of space for installation of PV panels, which only accounted for 10% of electricity production.

UoN established a clear strategy to achieve their vision. Their main steps included a detailed energy and carbon management strategy, an 8-month procurement process, a competitive dialogue process, and shortlisting 3 energy retailers.

Key lessons:

- Collaborative approach (engagement from all levels including the environmental management and operations management team)
- Right leadership: The vision was strongly supported by the Chancellery
- Right investment: Importance of understanding the market viability
- Right industry partnership with providers. A deal was inked with Snowy Hydros' subsidiary Red Energy for its new 100% renewable package – solar and wind energy, underpinned by hydro



Monash University Gillies Hall- Setting the benchmark for the next generation of sustainable buildings

Built Environment: Movers & Shapers

Presented by: Adrian Daniels, Asset Planning Engineer Mechanical Services, Engineering and Sustainability, Monash University Clare Parry, Director, Grun Consulting Nick Bamford, Associate Director, AECOM

Chaired by: James Bowman, Lucid Consulting

Project details:

Building: University Gillies Hall
Client: Monash University
Location: Monash University,
Peninsula Campus
Area: 6,500m² GFA

150 No. single-occupancy units, 2 No. Support Staff Residencies, Floor Lounges for building residents **Consultant team**: Jackson Clements Burrows Architects, AECOM Engineering, Grun Consulting

Builder: Multiplex

Monash University's Gillies Hall sets a new benchmark for sustainable design and construction. It is Australia's first commercial scale building to achieve a passive house certification, combined with a CLT (Cross Laminated Timber) structure.

Adrian Daniels discussed the Monash Net Zero Initative which is defined as "a range of interrelated initiatives facilitating the transition to 100% renewable energy by 2030 for the University." The Monash Net Zero Initiative comprises a set of distinct elements surrounding energy efficiency, campus electrification and thermal upgrades, on-site renewables, off-site renewables, net zero ready buildings, intelligent energy network, and offset residual emissions.

The brief set by the University for the project was a target passive house certification, a CLT construction, and an end-to-end delivery timeframe of 20 months. Nick Bamford spoke about the design challenges associated with tackling the brief including the lack of engineering precedent and the requirement for high levels of occupant comfort.

He touched on the benefits of CLT in its application in the Gillies Hall project, and mentioned that the use of CLT is expected to have halved the carbon emissions associated with construction relative to a concrete structure and will remain as a carbon store for the life of the building.

Clare Parry from Grun Consulting explained that "Passive House is simple, but not easy". She discussed the challenges associated with building a commercial scale passive house building, including the impacts of late changes to detailing, and the importance of constant site inspections.

Clare emphasised that the achievement of a passive house certified building is closely linked to the building envelope performance.

Aligned with Monash's Net Zero Initiative, the new residential accommodation also incorporates a rooftop solar panel system, all-electric building services, and a rainwater harvesting system. The Gillies Hall building has recently won Victorian Premier's Sustainability Award.



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Academic health centres: a win-winwin-win situation

Presented by: Shane Wood, Associate Director at Billard Leece Partnership

Chaired by: Lisa Phoa, Associate at Slattery

The Susan Wakil Health Building at The University of Sydney, adjacent to the Prince Alfred Hospital, will collocate multiple health disciplines and bring together 5 existing health buildings in their new Health Precinct.

This provides a single precinct for teaching, collaboration, industry and research and gives students an unparalleled opportunity for practical experience.

Rather than separating a student's years of study into academic and clinical years, students can step away from the classroom right into the middle of a working hospital or research lab. However, in such a shared environment, it is not guaranteed that all stakeholders will use the space as intended.

The keys for successful Academic Health Centres are:

- The provision of an appropriate scale that will be attractive to good people, funding and industry partnership
- Practical opportunities for innovation
- Diverse contributors
- Shared goals, corporate values and vision

The result is moving beyond collocation into collaboration.



Chaired by: Sushma Suresh, Associate at Slattery

Bringing technology

to the forefront -

creating a secure

Nicholas presented on the creation of safer environments for students through CCTV with an AI backbone.

This declassified military technology can be implemented across all sectors. This includes extensive use in Hospitals and Defence but is also applicable in Universities.

Technology includes:

- Behaviour abnormality detection
- Facial recognition and tracking
 - Body recognition

The software is able to identify specific individuals based on body, face or number plate recognition who may pose a threat or may be in need of assistance. The software can predict clashes between vehicles and people and can alert people in the vechicles proximity if a collision is imminent. It is cost effective and has received very positive uptake from clients.

Transitioning from average buildings to smart buildings

Presented by: Nicholas Lianos, Managing Director at Grosvenor Engineering Group

Chaired by: Lisa Phoa, Associate at Slattery

Education facilities are a mix of old university buildings and new technology. The key in creating Smart buildings is capturing data. But why does a building need to be smart?

A smart building is more sustainable, cheaper to operate and has a reduction in risk. Although it is easy to be seduced by the technology, it is about the business outcomes, not the technology itself. Smart buildings will automatically adapt to the occupants' needs, however, for smart buildings to work, proactive action is required. In the past, when parties don't take responsibility for the proactive action, the technology will not deliver the beneficial outcomes. Contractual mechanisms need to be established in order to reap the benefits of the technology.

Susan Wakil Health Building The University of Sydney Designed by Billard Leece Partnership Image courtesy of The University of Sydney





A new heart of the London School of Economics: delivering a flexible and sustainable academic building in the heart of London

Presented by: Avtar Lotay, Rogers Stirk Harbour and Partners

Chaired by: Runil Ganoo, Quantity Surveyor at Slattery

Project details:

Building: LSE Centre Building, London UK

Client: London School of Economics, Political Science

Cost: Construction Cost £78M **Area:** 17,500m²

The London School of Economics and Political Science (LSE) has recently opened its latest building to students, staff and alumni. The Centre Building, which has a £78m construction cost as part of an overall investment of £125m in developing the centre of LSE's campus, was designed by internationally renowned architects Rogers Stirk Harbour + Partners and delivered by international consultancy and construction company Mace. In his presentation, Avtar Lotay discussed various aspects of the design and construction of this landmark project, built in a dense city, campus and site. The building is squeezed between the semi-circle of Aldwych, the rectangle of Lincoln's Inn Fields and the ramrod of Kingsway.

Avtar Lotay discussed how the features of the design evolved throughout design stages. Spaces throughout the building aim to foster peer-to-peer interactions and cross departmental collaborations. The building also features a dramatic staircase. Moving diagonally across the façade of the building in a series of double height spaces, Avtar explained how the staircase was designed to encourage collaboration between departments, institutes and research centres and to provide additional informal areas for students and staff to interact. The Centre Building hosts a number of academic departments, more than a dozen seminar rooms, hundreds

of study spaces and four lecture theatres, including an innovative 'LSE style theatre' designed to allow for both traditional style teaching and collaborative group work.

In discussing the challenges of this build, Avtar commented on the implications of Brexit and the impact of rising cost of construction materials on the project. In his address to audience questions, he listed changes made to the design and spaces as part of the value management process

Education projects designed by RSHP include the Mossbourne Community Academy in London, the Thames Valley University in Slough and the Minami Yamashiro Elementary School in Kyoto.



Are you listening? Understanding your clients' academic workplace requirements

Presented by: Liam Short, Senior Associate from Hassell and Russell Buzby, Executive Officer from Australian National University

Chaired by: David Parry, Quantity Surveyor at Slattery

Building: Research School of Social Sciences

Client: Research School of Social Sciences, Australian National University

Architect: HASSELL

The Academic workplace today is constantly evolving and shifting away from cellular office design towards open plan, flexible spaces for collaboration. But is there still a time and place for the cellular office in today's academic workplace? In 2015, ANU tendered a new building and fitout for the Research School of Social Sciences, a world leading research facility which had a requirement of over 400 individual offices. Hassell were encouraged to challenge the brief, to optimise the areas and reduce the number of individual offices spaces.

Through engagement with stakeholders, Hassell discovered much to ANU's initial dismay that there was a fundamental requirement for the cellular offices to remain, in order to maintain ANU's world class research. Though the process was long and challenging, it showcased the importance of truly understanding the client's requirements, despite the current workplace trends.





About Slattery

Founded more than 40 years ago, our dedicated and experienced team is focused on delivering the most efficient solutions for our clients. Slattery is a property and construction advisory firm with offices in Brisbane, Melbourne, Sydney and Perth providing end-to-end property and construction cost management services.

A commitment to excellence and innovation, and an ability to become an integral part of the project team has earned Slattery the trust and respect of clients and project teams alike. Slattery will add value to the project by taking control and ownership of the cost management process from the outset.



Education

At Slattery, we believe in creating education precincts that facilitate positive learning outcomes for students and staff. While aesthetic and functional design is vitally important, it is also essential that projects deliver value for money through quality construction and cost management.

Slattery is passionate about education projects, with a total portfolio now comprising over 400 education projects delivered since 2000. In fact it has been a core focus of our business for more than 40 years. We have worked with 24 of the 43 registered universities in Australia, including 6 of the Group of 8 and fully understand the challenges facing tertiary institutions. Our expertise is unrivalled and ensures our tertiary clients receive accurate, reliable and tested data.

For more information about Slattery and our Education team, please contact National Education Sector Lead, Tom Dean at tom.dean@slattery.com.au