

## [ Q&amp;A ] CALUM DRUMMOND

**HOW TO ENABLE INNOVATION IN THE RESEARCH ECOSYSTEM**

The measure of academic achievement is often described as the creation and dissemination of new knowledge. At RMIT University in Melbourne, Australia, success is also strongly defined by positive impact. In January 2016, the university launched eight Enabling Capability Platforms (ECPs). The virtual platforms are built to bring together research staff and students from different backgrounds with people in industry, government and the community to capture opportunities and to address challenges; economic, environmental or societal.

According to Calum Drummond, RMIT's Deputy Vice-Chancellor of Research and Innovation and Vice President, the ECPs present a refined model for universities to innovate, help to unlock value, and, ultimately, become more engaged and relevant to the world beyond academia.

**What led you to develop your ECPs?**

Since it was founded as the Working Men's College in 1887, RMIT has sought ways to engage with and benefit our community. The ECPs bring researchers, including higher-degree students and faculty, together across our three colleges — Science, Engineering and Health; Design and Social Context; and Business — to create enhanced sources of value. All of the ECPs are multi-disciplinary and built to draw in partners from industry, not-for-profits and government. We see the ECPs as a whole-of-university springboard from which we can further advance the delivery

of value to others beyond the university sector.

**How did you develop them?**

In a review of our capabilities, we looked at the number of RMIT researchers, including PhD students, working in different areas to see where we had enough activity to create impact. When we found critical mass in an area we asked if it was any good. If we deemed the work high quality, we incorporated a third dimension: were the capabilities in an area differentiated enough to deliver value that other institutions could not? If they were, then we would ask the most important, question: would anyone actually care? Was it deployable and would a platform actually deliver the benefit we wanted for others?

**Which ECPs did you ultimately establish?**

At the end of that review we decided on eight ECPs. Four broadly in the STEM field — science, technology, engineering, and mathematics — three in the HASS field — humanities, arts, and social science and one in business. We have ECPs on Advanced Manufacturing and Fabrication, Advanced Materials, Biomedical and Health Innovation, which primarily focuses on devices, materials, clinical science and service provisioning, and Information and Systems, which encompasses systems engineering, systems integration, data analytics, and other big data applications. We have a Design and Creative Practice ECP, which emphasizes design thinking and is focused on creative industries, and one

called Social Change, which helps support the creation of good policies, regulations, and programmes through social research. We also have an ECP called Global Business Innovation, where affiliates — what we call researchers that join an ECP — use entrepreneurial and innovative approaches to positively impact business activity. Lastly, we created a platform called Urban Futures to address the megatrend of global urbanization through planning, policy input, infrastructure, data science, and sustainability. This one rings particularly true for us. The university has 87,000 students, major teaching facilities in Ho Chi Minh City, Hanoi, Singapore, Hong Kong, Shanghai and Jakarta, and we're the largest landowner in the Melbourne Central Business District with a 7% holding. We are a large urban university by anyone's standards.

**How do the ECPs work?**

We only kickstarted this year, so we're still in a fairly embryonic stage, but the platforms are virtual. They have a director and centralized support but no hierarchy. We wanted everybody in a platform to be equal, so anyone could contribute. We also encourage flexibility. Researchers can join any platform, and even more than one. The boundaries between the eight platforms are not brick walls. We're encouraging platform directors to collaborate. We don't want the ECPs to be captured by one college or school or specific interest group. We want them to be operating across the university and in the external world.

**THE ENABLING CAPABILITY PLATFORMS BRING TOGETHER STUDENTS AND FACULTY TO CREATE NEW SOURCES OF VALUE**

**CALUM DRUMMOND,**  
Deputy Vice-Chancellor  
Research and Innovation  
and Vice President



### How do you fund the ECPs?

The ECP structure hangs together through the funding model. Funding can be activity-based, so researchers must show that they will grow or nurture internal capabilities and research excellence, or it can be project-based. In that case, the path to impact needs to be outlined. The clearer the articulated path to impact, the better chance a team will get funding. That could mean partnering with the end-users, and others in the value-creation chain to determine where RMIT can best contribute benefit. It will frequently mean finding co-investment, which we find is a good indicator of how others assess our potential contributions. While the ECPs are constructed as a democracy, the funding approach ensures that we also have a meritocracy.

### What results have you seen so far?

Just by setting up forums for people to gather it was as if we gave researchers from different colleges and schools permission to explore beyond their walls. We're excited to find that people with different areas of expertise have rapidly come together around new ideas for delivering enhanced impact.

### What would you like to see in five years?

Neither myself nor RMIT's Vice-Chancellor and President Martin Bean are career academics. Martin worked for Microsoft and other big firms, and I came from CSIRO, where I helped Australia's national labs translate research and advised government to create policy and programmes that benefit industry. We bring external customer-focused backgrounds to RMIT. So, in five years I would like to see more of that. When I ask researchers what they're working on, I'd like them to be able to describe the externally relevant need or requirement they're focused on, how their work might address it, and what value they will create if their work is successful. If I have a lot of partner success stories to tell, we'll have done our job.

## THE PLATFORM APPROACH

**RMIT UNIVERSITY** has taken a whole-of-university approach to building multi-disciplinary centres of excellence, called Enabling Capability Platforms (ECPs), to deliver enhanced value for others at local, regional, national, and global levels.

### ADVANCED MANUFACTURING & FABRICATION

The manufacturing industry is a cornerstone of most developed economies. In Australia it employs 8% of the workforce and contributes 26% of exports. RMIT's advanced manufacturing capabilities include design, additive manufacturing, micro-nano-fabrication and automation, and they have applications in defence, aerospace, and biomedical devices, among others.



RMIT University

### DESIGN & CREATIVE PRACTICE

RMIT is a pioneer in 'design through practice'. This platform brings together strengths in architecture, art, business, design, digital media, engineering and fashion to bridge the gap between academia and industry and create design solutions for real-world problems at local and global levels.



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### ADVANCED MATERIALS

Complementing advanced manufacturing, advanced materials refer to the modification of existing materials or the creation of new ones to obtain superior performance. The materials can be structural and functional; inorganic, organic or inorganic-organic hybrids; and classified as either soft matter or hard matter.



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### GLOBAL BUSINESS INNOVATION

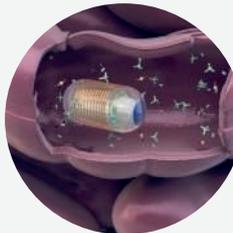
Globalisation has increased the speed and scope of change in all aspects of business. Affiliates within this ECP use entrepreneurial and innovative approaches to address challenges in corporate governance and accountability; global supply chains; Asian development and business models; crisis mapping and analysis; and urban and regional transitions.



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### BIOMEDICAL & HEALTH INNOVATION

RMIT is committed to addressing the challenges of a rapidly ageing population and the escalating burden of disease. This ECP brings together the university's expertise in prognostics, diagnostics and clinical science, along with technology in e-health, biophysics and medical imaging, and health education and healthcare models.



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### SOCIAL CHANGE

RMIT's history is rooted in social research, equal opportunities, and tackling disadvantage, and this ECP looks to draw opportunities from human progress. It seeks to engage communities, governments, organizations, and industries to make evidence-based contributions to new policies, regulations, and programmes.



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### INFORMATION & SYSTEMS

Drawing on RMIT's core capabilities in data analytics, complex cyber-physical systems, mobile and pervasive environments, automation, bioinformatics, and information management, affiliates within this engineering-focused ECP employ a whole-of-system approach to develop and securely deliver targeted information, services and products anywhere.



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### URBAN FUTURES

More than 50% of the world's population lives in cities, increasing to more than 70% in the next 30 years. RMIT harnesses its expertise across social science, humanities, design, engineering and environmental studies to develop solutions to the practical problems of urban change, including sustainability, resilience, and inclusion.



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