



WE GO A STEP FURTHER BY TAKING FUNDAMENTAL RESEARCH AND PACKAGING IT TO BENEFIT END-USERS

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



[Q&A] CALUM DRUMMOND

CASTING THE NET WIDER FOR REAL WORLD RESULTS

What does research and innovation mean at RMIT?

RMIT was founded 130 years ago as the Working Men's College. Today, it is an applied university and more than 60% of our research revenue comes from industry sources, rather than competitive government discovery-driven grants. We recognize that we need to continue to advance knowledge, but we go a step further by taking fundamental research and packaging it to benefit end-users.

Why and how did you create the Enabling Capability Platform (ECP) structure?

We felt a new structure outside traditional research institutes could help better deploy our research beyond the university sector. To identify our focus areas we looked at four key criteria: Critical mass — did we have the people and infrastructure to make a difference of world standing? Quality — was our work any good? Differentiation — were

there thousands of other players in that space nationally and globally? And finally, applicability — could it be used by a company, not-for-profit, or government agency? If we got a tick on all of those four questions then that area became an Enabling Capability Platform. They signal to the world that these are where we think we have very strong capabilities on a global scale that will be able to assist external bodies reach business, social, environmental or government objectives.

How do the ECPs maximise RMIT's expertise?

ECPs draw upon capabilities from across the university, whether, for example, it's infrastructure or subject matter experts. Any academic or a PhD student can affiliate with one or more ECPs and, so far, more than 75% of our academics have registered. The funding structure also sets up clear pathways to impact through well-defined steps, called

value milestones. These steps could spell out how to get to, for example, a minimum viable product or a proof-of-concept device. Or spell out the kind of outside buy-in you need from, for example, a government partner, to get real insights into policy areas.

The ECPs are two years old. What has been the response so far?

There is a great appetite to engage with the ECPs and to find out what they can add to other people's operations or activities. And we are bringing whole of university capability into external stakeholder discussions. We are now bolstering this by also developing strategic cross-ECP innovation capabilities to ensure we deploy the best capabilities for high impact, and address complex problems with innovative multi-disciplinary solutions.



PLATFORM PIONEERS

Since 2016, **RMIT UNIVERSITY** in **Melbourne** has pioneered a virtual structure of eight Enabling Capability Platforms to better draw from the university's expertise to address real-world challenges. Here, each director outlines their vision and how it will make an impact locally and globally.



MARK SANDERSON

Director, ECP for Information and Systems (engineering)

My platform informs researchers and the wider community about how to exploit disruptions caused by the steep increase in data, communications and sensors; deep advances in automation; new energy production; and, the challenges of cyber security. Our work covers four key areas. Data and sensors focuses on the capture, communication, collation, and analysis of data. Automation and intelligence concentrates on the understanding and exploitation of data. Energy production and systems examines energy systems, user behaviour and integrated predictive control of networks. And finally, cyber security examines how we can better protect the profusion of computational systems in our society.



MAGDALENA PLEBANSKI

Director, ECP for Biomedical and Health Innovation

The focus of our platform is disease prevention and using holistic health to tackle the needs of growing and aging populations. We engage biomedical scientists and clinicians, as well as materials, chemical and manufacturing engineers, to develop vaccines, drug-delivery systems, diagnostics and bionic innovations. Existing RMIT strengths in traditional Chinese medicine, psychology and musculoskeletal research, among others, supports new drug discovery and healthy living interventions in chronic disease (cancer, inflammatory and infectious diseases), which is a priority area. RMIT's strength in complex systems analysis (including bioinformatics) also enables large-scale data to enhance powerful personalised medicine approaches.



ANNE-LAURE MENTION

Director, ECP for Global Business Innovation

The aim of our platform is to increase the innovation capabilities of private and public-sector firms by looking at the innovation lifecycle. Priority research areas include: collaborative design approaches for innovation; organizational transformation and innovation capabilities enhancement; innovation governance and performance; and, innovation valuation and impact measurement. Existing work with the World Intellectual Capital Initiative and the International Society for Professional Innovation Management Advisory Board, among many others, has already demonstrated how innovation affects many actors, and how essential it is to support informed innovative decision-making by organisations.



JULIAN THOMAS

Director, ECP for Social Change

My platform has a focus on four key areas: health and social policy and practice; mobility, migration and security; digital transformations; and, work. In the social sciences and humanities, impact is best understood as influencing a set of connections that we need to design into research and collaborations from the beginning, by listening to and working with collaborators outside universities. While, for example, working on the beginnings of the Digital Asia Hub, a Hong Kong-based thinktank incubated at Harvard University, we have seen how impact can be built into an international research network from the beginning, by involving a diverse group of academic, civil society, and private sector partners.



RACHEL CARUSO

Director, ECP for Advanced Materials

My platform researches the advanced materials needed by the industries of tomorrow. We will discover and deploy materials in four priority areas.

Sustainable living looks at improving the use, recovery, remediation and recycling of resources. Extreme conditions focuses on improving human health and wellbeing, protection (for example, against heat), and performance, as well as the aerospace, automotive and construction industries. Devices covers sensors, point-of-care diagnostics, (opto) electronics, plasmonics and integrated photonics. Materials on the nanoscale examines applications ranging from biomaterials to multifunctional textiles.



BILLIE GILES-CORTI

Director, ECP for Urban Futures

Given rapid urbanisation and population growth, my platform will assist public and private sectors to transform how cities are planned, built, and governed to achieve healthy sustainable urban development. We will focus on understanding the policy world we are trying to influence, through co-designing research with policy-makers and practitioners, and disseminating our findings through public, private and non-government partners. Working with external stakeholders is key to creating impact in this area. We believe that working with outside partners will build in relevance, whether working on research with local governments or with international organisations, such as the World Health Organisation.



LARISSA HJORTH

Director, ECP for Design and Creative Practice

Our platform asks how design and creative practice can be deployed to reimagine health, resilience and wellbeing; how play can be used as a probe for creative solutions; how to re-imagine a world that has equality, biodiversity and sustainability at its core; and, how to look at the models for conceptualising design and creativity as creating value for industry. Through existing research at the Digital Ethnography Research Centre and the School of Media and Communication, RMIT has highlighted how looking at media practice ethnographically can bring about important and nuanced understandings of today's evolving technology, particularly the underlying motivations around social experiences.



IVAN COLE

Director, ECP for Advanced Manufacturing and Fabrication

Our priority is to work on the manufacturing shift towards customisation, digitisation, international supply chains, and making manufacturing supply chains and components truly multifunctional. We want to get small and medium-sized enterprises up to scale to do customised products. We also want to help link up manufacturing across different scales, such as, the nano-scale, micro-scale and component scale, so we can make a drug, for example, and add a nano-scale anti-inflammatory coating. We want to improve Internet of Things sensing devices, so that they can more accurately monitor the environment and produce intelligent agriculture. We also want to improve Industry 4.0 — the digitisation of the manufacturing process.