

# RESEARCH & INNOVATION PLAN

## 2018 - 2022

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The University of Canberra acknowledges the Ngunnawal peoples as the traditional custodians of the land upon which the University's main campus sits, and pays respect to all Elders past and present.

The *Research & Innovation Plan* sets out a number of core goals and associated actions that underpin the University's strategic plan; *Distinctive by Design 2018 - 2022*. It includes indicators of success and key performance targets that can be used year on year to track improvement and progress towards the University's research and innovation – related objectives.

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## INTRODUCTION

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Over the last ten years the University has grown its research endeavour, performance has lifted at a very strong pace and it is evident that high quality research and a stronger research culture is now embedded across most areas of the University. Success can be measured in many ways: numerical measures of research activity (e.g. number of publications, number of Higher Degree by Research students, amount of research funding); the academic impact of our research (e.g. citations, Excellence in Research Australia (ERA) ratings; international rankings; competitive grants); the impact of our work for potential social, environmental, cultural and economic benefit (e.g. all categories of research income; engagement and impact measures; media interest).

Many of the measures chosen as targets in 2013, except total research income, have demonstrated significant improvement in the past five years. Total research income has grown at the same rate as the sector, but the targets were intended to see the University perform stronger than the sector growth. The University of Canberra is now ranked in the top 100 young universities by two international ranking agencies, the Times Higher Education (THE) and Quacquerelli-Symonds (QS); a goal set 5 years ago.

The new UC strategic plan 2018-2022, *Distinctive by Design*, sets the goal of being ranked in the top 50 young universities under 50 within a decade. It continues the focus on research excellence and highlights the need for an interdisciplinary team-based approach to delivering societal benefit from our research. There is an added focus on entrepreneurship and innovation and on a stronger integration of the research and teaching missions of the University.

The academic and research staff are at the core of delivering on the dual research and teaching missions of the University and achieving the objectives of the strategic plan. Achievement of the objectives of the plan requires high performing staff, diversity of background and approaches, an environment that values and supports excellence and commitment to a genuine, productive research-teaching nexus. Success requires development and support of a strong cohort of Higher Degree by Research (HDR) students and focus on leadership that enables a culture of high performance, collaboration and inclusion. It is also critical that the University celebrates and communicates its distinctive characteristics and achievements internally and externally to end-users and the broader public.

This Research and Innovation Plan was developed through extensive consultation with the academic, research and professional support staff across the University. It seeks to underpin the new strategic plan and sets out core goals, associated actions, indicators of success and key performance targets that can be used to track improvement year on year. Reaching these targets will see UC build on its achievements to date and be ranked in the top 50 young universities in the world within a decade.

# THE FOUR GOALS OF THE RESEARCH AND INNOVATION PLAN

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## 1. Deliver impact/benefit through strong industry-University partnerships and networks

It is increasingly important that universities deliver research impact through social, economic, environmental and cultural benefit to society. National and international partnerships and networks outside academia, with industry, the public sector and community organisations are the tools by which the University will not only enhance impact but will also develop mission-directed, interdisciplinary research programs. The University will develop strong industry-partnerships that engage researchers and students alike and lead to growth in all categories of research income. To facilitate and support strong partnerships the University will implement strategies and programs that showcase the University's capabilities and provide opportunity for external partners to work with academics to explore challenges. Resources will be directed to support the development of large consortia grant applications and grow partnerships that provide research secondment and internship opportunities for staff and HDR students. As acknowledgment of the importance of such endeavours the University will recognise and celebrate effective engagement and will actively promote and communicate the research impact achievements of our staff and students.

## 2. Deliver distinctive and high-quality research training to a diverse cohort of quality Higher Degree by Research candidates

Graduating HDR candidates who are highly employable in their sector of choice whether that be academia, public sector or business/industry or ready to lead their own business ventures, requires innovation in the way the University delivers research training. To this end the University will develop new ways of research training that will provide HDR students with opportunities to engage with industry, community and public sector to experience and conduct applied research. The University's HDR training will include clear pathways into the PhD including a new Master of Research, embedded coursework, and scaffolded researcher development. In addition, the University will introduce the distinctive UC PhD Plus; a degree structure that features capstone industry-focused coursework and a work placement. The University will strive to attract the highest quality candidates and will provide those candidates with quality supervision. In addition, the University will promote and support diversity and inclusion including training and support programs designed to contribute to Aboriginal and Torres Strait Islander postgraduate student success. The University will recognise and celebrate the contribution of our academic staff to training the next generation of research qualified individuals.

## 3. Support our current areas of disciplinary excellence and develop emerging areas of excellence

To grow research income, continue to improve our research reputation and to achieve the goal of being ranked in the top 50 young universities within a decade the University must continue its emphasis on research excellence. The key measures of research excellence and academic impact (including international

journal publications and conference publications where appropriate; citations; books with reputable publishing houses; non-traditional research outputs; competitive research grant income) will continue to be the primary indicators by which we will measure our success. However, we must also be agile and selective about how and what we measure to ensure we know enough to guide strategic decisions while at the same time freeing up resources to support new activities. The University will continue to focus on areas of disciplinary excellence and will provide opportunities for new disciplinary areas to emerge (Table 2) while at the same time ensuring that resource allocation is clearly aligned with university strategy. The University will recognise and reward individual academic excellence acknowledging that to do so is critical for building an environment that enables and celebrates success.

#### **4. Build an entrepreneurial hub and culture on the UC campus to enhance innovation in research and research training activities**

Over the next five years the University aims to be recognised as a truly innovative and entrepreneurial institution; one that attracts staff and students with an aptitude for innovation, is a leader in social and Indigenous Australian enterprise and has strong integration of research and teaching endeavours. To be successful in this will require a working environment that supports and enables teams to develop new ideas, create innovative solutions and deliver impact in novel ways, leading to diversification of income sources. Supporting innovative research endeavours requires a culture that allows ideas to flourish but also allows failure, recognises effort and rewards achievement. The University will develop programs that build entrepreneurial culture, capacity and leadership and promote the University's entrepreneurial activities including by continuing to support research and innovation by and for Aboriginal and Torres Strait Islander peoples. It is essential to ensure policy and practices including for intellectual property and business support systems are in place at the University to underpin innovation and entrepreneurship in research and research training.

## RESEARCH AND INNOVATION GOALS AND ACTIONS

Goal and Key Actions	Indicators of Success	Key Performance Measures
<b>1. DELIVER IMPACT/BENEFIT THROUGH STRONG INDUSTRY-UNIVERSITY PARTNERSHIPS AND NETWORKS</b>		
<p>a) Implement the Engage UC strategy including the physical and digital “shopfront” and showcase engagement with industry</p> <p>b) Provide central support with clear guiding principles for the development of large consortia grant applications, bids and tenders that lead to increased research income across all categories</p> <p>c) Grow and promote schemes (for example the Innovation Vouchers program), that provide support to researcher/industry partnerships through provision of funds for pilot projects to demonstrate value and further develop the relationship into Australian Research Council Linkage grants (or similar)</p> <p>d) Develop seed funding schemes that grow opportunities for team building and interdisciplinary research</p> <p>e) Develop an engagement program that brings in external partners from the public sector, industry and the community to present their challenges to the University research community</p> <p>f) Develop a means of capturing, documenting and communicating research impact and the benefits of our research to society including social, cultural, environmental and economic benefits</p> <p>g) Ensure policies and processes across the University facilitate partnership development to build mutual benefit</p>	<p>Success in obtaining income from diverse sources including government/public sector, business/industry and private foundations</p> <p>Stronger team-based research activity within and outside the University</p> <p>A systematic and robust means of capturing evidence of research impact and societal benefit has been developed</p> <p>Strong engagement with government and the public sector that ensures policy impact where relevant</p>	<p>Increase Cat 1 income from schemes that require partnerships with external, domestic and international collaborators</p> <p>Increase Cat 2,3,4 income by 25% by 2022 (Table 1)</p> <p>Percentage of indexed publications with external non-academic partners in line with benchmark universities (Tables 1 and 3)</p>

Goal and Key Actions	Indicators of Success	Key Performance Measures
<b>2. DELIVER DISTINCTIVE, HIGH-QUALITY RESEARCH TRAINING TO A DIVERSE COHORT OF QUALITY HDR STUDENTS</b>		
<p>a) Revise and renew Higher Degree by Research (HDR) offerings; PhD, Professional Doctorate and research Masters degrees, and pathways into these programs to improve thesis quality, employment outcomes, completion rates, time to completion and satisfaction outcomes</p> <p>b) Develop and implement a suite of HDR offerings to educate and prepare globally-relevant graduates for future careers in a variety of settings including academia, industry, public/community sector</p> <p>c) Design and implement the UC PhD Plus, a degree structure that features capstone industry-focused coursework and a work placement that provides students with a distinctive PhD experience that focuses on entrepreneurship, innovation and societal benefit</p> <p>d) Offer professional development programs for HDR candidates and supervisors aligned with the Researcher Development (ReD) Skills Framework</p> <p>e) Implement a university-wide Teaching Fellowship Scheme to encourage HDR students to contribute to teaching activities</p> <p>f) Develop and implement a university-wide workload model that recognises and acknowledges HDR supervision and support</p> <p>g) Build a diverse HDR student cohort that values diverse disciplinary approaches and perspectives including providing tailored scholarships designed to best contribute to Aboriginal and Torres Strait Islander postgraduate student success</p> <p>h) Develop opportunities for HDR candidates to engage with industry, community and public sector including award of training scholarships from these sources</p> <p>i) Promote the inclusion of partner representatives (industry/public sector) on HDR supervisory panels</p>	<p>A suite of HDR offerings that lead to graduates with strong employability skills for a variety of careers</p> <p>A culture of excellence and best practice in HDR supervision</p> <p>Increase in the number of Aboriginal and Torres Strait Islander HDR candidates enrolling and graduating from the University</p>	<p>HDR completions per academic FTE;</p> <p>Ratio of HDR completions:total completions in line with benchmark universities (Tables 1 and 3)</p> <p>80% of HDR candidates complete within allocated time (Table 1)</p> <p>At least 85% of HDR students are satisfied with the overall quality of their experience</p>

Goal and Key Actions	Indicators of Success	Key Performance Measures
<b>3. SUPPORT OUR CURRENT AREAS OF DISCIPLINARY EXCELLENCE AND DEVELOP EMERGING AREAS OF EXCELLENCE</b>		
<p>a) Provide strategic funding for focus areas of excellence through University Research Institutes and Research Centres</p> <p>b) Identify and support emerging areas of excellence that have strong alignment with the University strategic objectives</p> <p>c) Have in place a policy that clearly articulates the role of, and establishment and review criteria for, Institutes and Centres within university faculties</p> <p>d) Assess performance of Institutes and Centres on a 5- or 3- year cycle respectively through external peer review</p> <p>e) Develop 5-year plans for ERA outcomes for each Field of Research (FoR) of current and emerging excellence</p> <p>f) Develop an improved strategic approach and provide targeted support for applications to the major Australian and international competitive grant schemes including for fellowship applications at all levels</p> <p>g) Develop support mechanisms, in addition to the Distinguished International Visitors Program, to foster and deepen international research collaboration</p> <p>h) Provide professional development programs and opportunities for academic staff and leaders aligned with the ReD Skills Framework</p>	<p>Improvement in national and international measures of research excellence (ERA, international rankings, subject rankings, competitive grant income, citation indices) in current and emerging areas of excellence</p>	<p>Increase competitive grant (Cat 1) income by 25% by 2022 (Table 1)</p> <p>In ERA 2021, achieve a rating of 4 or 5 in each current area of excellence and at least 3 in all other areas where we make an ERA submission (Table 2)</p> <p>The following all in line with benchmark universities (Tables 1 and 3)</p> <ul style="list-style-type: none"> <li>• Indexed journal articles per FTE</li> <li>• Percentage of publications with international co-authors</li> <li>• Field Weighted Citation Impact</li> <li>• Citations per paper</li> <li>• Percentage of publications in top quartile journals (in discipline)</li> </ul>



Goal and Key Actions	Indicators of Success	Key Performance Measures <sup>1</sup>
<b>4. BUILD AN ENTREPRENEURIAL HUB AND CULTURE ON THE UC CAMPUS TO ENHANCE INNOVATION IN RESEARCH AND RESEARCH TRAINING ACTIVITIES</b>		
<ul style="list-style-type: none"> <li>a) Review IP policy and procedures to ensure it is sector-leading and attractive for academic staff and potential partners</li> <li>b) Promote entrepreneurship in its various forms internally and externally through access to current schemes and programs (Discovery Translation Fund, Significant Capital Ventures, and Innovation Vouchers)</li> <li>c) Continue to support existing and new initiatives, including the Collaborative Indigenous Research Initiative (CIRI), that build Aboriginal and Torres Strait Islander research capacity and outcomes</li> <li>d) Continue to grow the University’s social enterprise activities including incubation and acceleration</li> <li>e) Promote innovation and entrepreneurial activities with the public sector to influence policy and practice in our areas of excellence</li> <li>f) Continue active membership of the Canberra Innovation Network (CBRIN) and promote opportunities that arise from such membership</li> <li>g) Continued promotion and support of programs to encourage and develop engagement and entrepreneurial skills, including Pitch4Funds and 3MT for staff and students</li> <li>h) Continued engagement with activities including curriculum review and development of new courses as a critical step towards full integration of teaching, research, innovation and entrepreneurship</li> </ul>	<p>Operate an IP policy environment that is attractive to industry partners and that supports and facilitates entrepreneurship</p> <p>Demonstrated commitment to programs that assist HDR candidates to develop and demonstrate entrepreneurial activities, for example, Innovation ACT and CBRIN workshops</p> <p>Access to funding pipelines that support the translation of research into commercial opportunity whether by licencing or start-up companies developed with external partners</p> <p>Operational and well-utilised co-working spaces for staff and students and the broader external community</p>	

<sup>1</sup> Key performance measures for engagement and impact goals and actions to be developed

# KEY PERFORMANCE INDICATORS

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## Primary Indicators

Two primary Key Performance Indicators will be used to monitor progress towards meeting *Distinctive by Design* goals and will be reported to VCG and Council on an annual basis.

1. **ERA score:** As a measure of excellence in research, ERA 2021 targets have been established for each Field of Research (FoR) where the University met the threshold for submission to ERA 2018. Achievement of all FoR targets will result in a 100% ERA score.
2. **Total Research Income:** Increasing research income is not only essential for the delivery of excellent research programs but is also a measure of the success of actions taken to support the University's strategic objectives. The plan targets a 25% increase in external research funding across all categories of Higher Education Research Data Collection (HERDC) reportable income.

In addition, the University will monitor and report on international university rankings, including the THE Young University ranking and others as relevant to track progress toward achieving a position among the top 50 universities globally under the age of 50 within the next decade. The analysis of results and findings will be used to inform decision making where appropriate.

## Secondary Indicators

The secondary Key Performance Indicators for activities that will contribute to the University level goals and the objectives of the Research and Innovation Plan are broken into four types; research income by category; academic staff profile; publications and citations; and higher degree by research measures.

**Research income by category:** The groupings chosen for this measure are Category 1, and Categories 2 – 4 research income. In setting targets it was important to consider previous trajectory, current funding environment and scale compared with benchmark universities. The target that has been set to keep UC in touch with benchmark universities is a 25% increase in each of the two groupings.

**Publications and citations:** These measures are sourced from Elsevier via SciVal where data for the benchmark group is publicly available. The targets aim to maintain the quantity (per FTE) and quality of publications while growth in international collaboration and collaboration outside the University will maintain parity with our benchmark group. Significant changes in these measures for the benchmark group will trigger revisions of targets relative to the group as a whole.

**Research training:** All measures use publicly available data from the annual Higher Education Student Data Collection (HESDC) submission to the Department of Education. These targets are aimed at holding the HDR load relatively steady while increasing completion rates and timely completions as well as improving satisfaction ratings.

Targets for each of the primary and secondary indicators are shown in Table 1. ERA scores are shown in Table 2.

**Table 1: Primary and Secondary Research and Innovation Performance Indicators**

PERFORMANCE INDICATOR	Actual	Target				Target
	2017 <sup>2</sup>	2018	2019	2020	2021	2022
<b>PRIMARY</b>						
ERA score (% progress toward 2021 target)	38 (2015)	74	-----	-----	100	-----
Total Research Income (\$m)	16.350	17.177	17.993	18.809	19.624	<b>20.440</b>
<b>SECONDARY</b>						
<b>Research income</b>						
Cat 1 Income (\$m)	4.794	5.040	5.280	5.520	5.760	<b>6.000</b>
Cat 2,3,4 income (\$m)	11.556	12.130	12.710	13.290	13.860	<b>14.440</b>
<b>Publications</b>						
Indexed journal articles per FTE	1.6	1.7	1.8	1.8	1.9	<b>2.0</b>
% Publications with international co-authors	40.0	43.0	46.0	49.0	52.0	<b>55.0</b>
% publications with non-academic co-authors	0.6	2.0	2.1	2.3	2.4	<b>2.5</b>
Field Weighted Citation Impact (at least)	1.6	1.7	1.7	1.7	1.7	<b>1.7</b>
Citations per Paper (as at June each year)	1.4	1.4	1.4	1.4	1.5	<b>1.5</b>
% Publications in top quartile journals (in discipline)	57.3	59.4	61.6	63.7	65.9	<b>68.0</b>
<b>Research training</b>						
HDR load per FTE	1.1	1.1	1.2	1.2	1.2	<b>1.2</b>
HDR completions per FTE	0.2	0.2	0.2	0.3	0.3	<b>0.3</b>
% HDR completions within allocated time	67.6	70.1	72.6	75.0	77.5	<b>80</b>
% Satisfied with overall quality of experience	68 (2016)	75	-	80	-	<b>85</b>
% HDR completions: total completions	2.3	2.4	2.5	2.7	2.8	<b>2.9</b>

This Research & Innovation Plan also includes Indicators of Success for those actions that have a long lag and/or deliver qualitative, not quantitative outcomes. This includes actions undertaken to support the University's engagement, impact and entrepreneurship goals and for the new Engagement and Impact Assessment (EIA). Key Performance Measures will be developed for these actions during late 2018/early 2019.

#### Excellence in Research for Australia (ERA)

- STAFF CENSUS date is 31<sup>st</sup> March the previous year.
- RESEARCH OUTPUTS include book chapters, journal articles, conference publications and non-traditional research outputs. The ERA 2018 reference period for research outputs was 2011 – 2016. The assessment period for ERA 2021 will be 2014 – 2019.
- The ERA 2018 reference period for RESEARCH INCOME was 2014 – 2016. For ERA 2021 it will be 2017 – 2019.

#### Times Higher Education (THE)

Student data submitted for the THE rankings are lagged – for the 2018 rankings 2015 data were used. THE Young University Ranking uses five component indicators: Teaching 30%; Research 30%; Citations 30%, International outlook 7.5% and Industry income 2.5%.

#### Quacquerelli-Symonds (QS) University Ranking

QS ranking uses six component indicators: Academic reputations from global survey 40%; Faculty-Student ratio 20%; Citations per academic staff from Scopus (Elsevier) 20%; Employer reputation from global survey 10%; Proportion of international students 5% and proportion of international academic staff 5%.

<sup>2</sup> As at June 2018

**Table 2: ERA Scores**

The following sets out the ERA performance objectives under this plan and includes all Fields of Research (FoR) where the University had sufficient scale for submission to ERA 2018. Current Areas of Disciplinary Excellence are those where the University has invested significant strategic funds, including Centenary Professor salaries and support, in the period 2013 – 2017. Significant is defined as >\$200k per annum. Emerging Areas are those where activity meets the ERA reporting threshold but where little or no strategic investment has been made in the period to end 2017. The Faculty and Institute or Centre through which strategic funding is provided for each area is indicated.

Field of Research (FoR)	2015 Actual	2018 Expected	2021 Goal	Faculty and Institute/Centre
<b>Current Areas of Disciplinary Excellence</b>				
<b>Environmental Sciences (05)</b>				
Ecological Applications (0501)	5	5	5	S&T - IAE
Environmental Science and Management (0502)	5	5	5	S&T - IAE
<b>Biological Sciences (06)</b>				
Ecology (0602)	-	4	4	S&T - IAE
Genetics (0604)	4	4	4	S&T - IAE, CResTS, MSMTC
<b>Medical and Health Sciences (11)</b>				
Human Movement and Sports Science (1106)	4	4	5	FoH – HRI/RISE
Public Health and Health Services (1117)	4	4	5	FoH – HRI/CeRAPH)
<b>Education (13)</b>				
Curriculum and Pedagogy (1302)	2	3	4	Education - SERC
Specialist Studies in Education (1303)	3	4	4	Education - CAPSCA
<b>Studies in Human Society (16)</b>				
Policy & Administration (1605)	3	4	5	BGL - IGPA
Political Science (1606)	3	4	5	BGL - IGPA
<b>Studies in Creative Arts and Writing (19)</b>				
Performing Arts & Creative Writing (1904)	3	4	4	FAD - CCCR
<b>Language, Communication and Culture (20)</b>				
Communication & Media Studies (2001)	3	3	4	FAD - N&MRC
<b>Emerging Areas of Disciplinary Excellence</b>				
<b>Information and Computing Sciences (08)</b>				
Artificial Intelligence & Image Processing (0801)	2	3	3	S&T - HCTRC
Information Systems (0806)	3	3	3	S&T - HCTRC
<b>Medical and Health Sciences (11)</b>				
Nursing (1110)	4	3	3	Health
<b>Education (13)</b>				
Education Systems (1301)	2	3	3	Education - CAPSCA
<b>Economics (14)</b>				
Applied Economics (1402)	2	2	3	BGL - IGPA
<b>Commerce, Management, Tourism and Services (15)</b>				
Accounting, Auditing and Accountability (1501)	-	3	3	BGL
Business & Management (1503)	-	2	3	BGL
Commercial Services (1504)	2	-	-	BGL
Tourism (1506)	2	-	-	BGL
<b>Psychology and Cognitive Sciences (17)</b>				
Psychology (1701)	-	3	3	Health
<b>Law and Legal Studies (18)</b>				
Law (1801)	3	3	3	BGL

### Faculties, Institutes and Centres

BGL	Faculty of Business, Government & Law	HRI	Health Research Institute
CAPSCA	Centre for Asia Pacific School and Community Advancement	IAE	Institute for Applied Ecology
CCCR	Centre for Creative and Cultural Research	IGPA	Institute for Governance and Policy Analysis
CeRAPH	Centre for Research & Action in Public Health	MSMTC	Melanie Swan Memorial Translational Centre
CResTS	Centre for Research in Therapeutic Solutions	NMRC	News and Media Research Centre
Education	Faculty of Education	RISE	Research Institute for Sport & Exercise
FAD	Faculty of Arts & /Design	SERC	STEM Education Research Centre
HCTRC	Human Centred Technology Research Centre	S&T	Faculty of Science & Technology
Health	Faculty of Health		

# METHODOLOGY

## Benchmark Universities

Benchmark universities were selected based on publicly available data including: ranking in the top 50 young universities, overall world ranking (within THE top 400), Higher Education Research Data Collection (HERDC), Higher Education Student Data Collection (HESDC) and Scival (Elsevier).

**Table 3: Benchmark Universities**

AUSTRALIAN UNIVERSITIES IN THE 2017 THE TOP 50 YOUNG UNIVERSITIES	
Charles Darwin University	University of South Australia
Deakin University	University of Technology Sydney
Griffith University	University of Wollongong
James Cook University	Victoria University
Queensland University of Technology	

## Key Performance Indicators

Details on the Key Performance Indicators, the rationale behind the setting of each target and the data source for each is detailed below.

**TABLE 4: Performance Indicators Methodology**

KEY PERFORMANCE INDICATORS		
Indicator	Measure	Rationale
ERA	ERA score	<ul style="list-style-type: none"> <li>2021 ERA target is set as all FoR with strong investment during the period 2012 - 2018 being rated 4 or 5 (i.e. above or well above world standard). All other areas should strive for an ERA rating of 3 (at world standard) at a minimum. These will be monitored.</li> <li>% progress towards that goal is calculated.</li> <li>ERA occurs every three years. The next result for this metric will be late 2018/early 2019 with the release of ERA 2018 results.</li> </ul>
Income	Cat 1 income Cats 2-4 income	<ul style="list-style-type: none"> <li>Data is taken from the University's audited HERDC submission to the Department of Education</li> <li>The target for research income was set as increasing by 25% from the 2016 HERDC report</li> <li>The increase was evenly profiled across the years.</li> </ul>
THE Young University Rank (and others as relevant) <sup>3</sup>	Ranking	<ul style="list-style-type: none"> <li>The THE Young University ranking is announced in June of each year. In 2017 the University was ranked 91, rising to 58 in 2018.</li> <li>The University aims to be ranked in the top 50 Young Universities within the decade.</li> <li>Results will be monitored and analysed however no rankings target has been set for each year for the reference period.</li> </ul>

<sup>3</sup> For monitoring only

Publications	Indexed journal articles per FTE % Publications with international co-authors % publications with non-academic co-authors	<ul style="list-style-type: none"> <li>Includes journal articles only, from SciVal (Elsevier) for the specified year</li> <li>FTE includes Education-Research and Research-Focused.</li> <li>FTE data is from the HERDC submission to the Department of Education.</li> </ul>
		<ul style="list-style-type: none"> <li>Includes journal articles, conference papers and reviews from SciVal (Elsevier) for the specified year. Publication types have been varied in comparison to the <i>Indexed journal articles per FTE</i> to encourage greater collaboration.</li> <li>The target is the average performance for the benchmark group and the increase was evenly profiled across years.</li> </ul>
	% Publications in top quartile journals (in discipline)	<ul style="list-style-type: none"> <li>Includes journal articles only from Scival (Elsevier).</li> <li>Top 25% (quartile) is calculated using SCImago Journal Rank (SJR) and is normalised by discipline.</li> <li>The target is the average performance for the benchmark group.</li> </ul>
	Citations per paper	<ul style="list-style-type: none"> <li>Includes journal articles, conference papers and reviews from SciVal (Elsevier) as at the first week of June each year (point in time).</li> <li>The UC performance had some anomalous years compared to the benchmark group using SciVal (Elsevier) data due to a few very highly cited papers skewing the metric. This is unlikely to be maintained in the future.</li> <li>Only a small increase was set in citations per paper to allow for this correction.</li> <li>The increase was evenly profiled across years.</li> <li>The target was set to align with Field Weighted Citation Impact.</li> <li>Comparison from year to year can be done in June only.</li> </ul>
	Field Weighted Citation Impact	<ul style="list-style-type: none"> <li>Includes journal articles, conference papers and reviews from SciVal (Elsevier).</li> <li>The Field Weighted Citation Impact (FWCI - average citations in that discipline, year of publication and publication type) target was set below the current rate due to the skewing mentioned above. It was set at a constant 1.7 – which is above world average and competitive against benchmark partners.</li> </ul>
Research Training	HDR completions per FTE HDR load per FTE	<ul style="list-style-type: none"> <li>Benchmarking was undertaken against other universities using the HESDC student and staff dataset reported to the Department of Education.</li> <li>The target was set based on achieving an average completion of 4 years.</li> <li>FTE includes Education-Research and Research-Focused positions.</li> <li>The increases necessary to achieve this target were set evenly across the years.</li> </ul>
	% on time Completions	<ul style="list-style-type: none"> <li>Using Callista data, the % of on time completions (1460 days) rate for UC is at 70.8% in 2016 and 67.6% in 2017.</li> <li>A reasonable increase to 80% was set as the target with the increase spread evenly across the intervening years.</li> </ul>
	% satisfied with overall quality of experience	<ul style="list-style-type: none"> <li>The overall satisfaction score comes from the UC Research Student Satisfaction Survey (RSSS) administered biennially to the entire HDR cohort.</li> </ul>

# RESOURCING THE RESEARCH AND INNOVATION PLAN

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**Carefully directing resources to support the research plan is critical to success.** Securing these resources requires effort from our academic and professional support staff in securing external income; commitment to supporting research from University leadership through strategic funding; and effective collaboration and a “can do” attitude across support areas of the University.

## 1. Funding

- a. **External research income.** The goal for 2022 is to increase external research income by 25% from 2017 levels, across all income categories. This will, in turn, lead to an increase in block grant income. However, the level of this increase will depend not only on our absolute performance but also on our performance relative to other universities because of the fixed quantum of the research block grant.
- b. **Discretionary University expenditure for research.** In 2016 expenditure from general University revenue (GUR) on research-related activities was ~\$26.7m (total R&D expenditure reported to ABS for 2016 (~\$52.3m) minus external research income including block grant income). The % GUR expenditure on research relative to total University expenditure in that year was approximately 9% representing less than half the national average (18.9%; 2014 ABS data). On the other hand, the ratio of external research income to GUR spend was approximately equal to the national average. As revenue (research and other) increases, the University aims to lift its investment in research and innovation to the sector average.
- c. **Strategic funding for areas of focus and emerging areas.** The University directly funds four research institutes and three research centres to provide secure base funding for the more established areas of excellence, and funds specific activities and academic positions in a further two research centres and in the faculties. The annual strategic funding allocation has increased to approximately \$11m in 2018. The University will continue its program of funding strategically important activities and programs and will support this through evidence-based decision making and rigorous review and feedback.

## 2. Facilities and Equipment

- a. The University has developed a mechanism (Capital Planning & Expenditure Committee (CPEC)) to assess capital spend against strategy. It is essential that CPEC understand the research plan and make decisions on capital expenditure aligned with this plan. This includes funding research equipment and making contributions to external bids for research equipment and/or facilities.
- b. The availability of appropriate facilities is critical to attracting talented academics as well as research students. The University has invested to some degree in research facilities over the past five years, although gaps remain in both the extent and quality of such facilities. The amount and quality of research equipment has also improved. However, maintaining these facilities and equipment remains a challenge and requires attention to ensure we do not waste investment.
- c. Australia has built its national research infrastructure in recent years and it is imperative that our researchers are aware of and have appropriate access to relevant facilities and infrastructure. The University has many agreements in place to facilitate access and will add to this as necessary/appropriate.
- d. Digital infrastructure is becoming more important for research across all domains and the availability of local services as well as access to national resources is critical. Such resources include compute power, data storage and digital library resources. While inroads have been made in the provisioning of data storage and digital solutions through the availability of eResearch services, an area that is lagging and requires attention in 2018 is library resources to enable curatorship and discoverability of data. This will require a consideration of the changing role of the library in a digital age and a review of current resources.

### 3. Support Services

- a. Meeting the objectives outlined in this plan requires effective business support systems for activities including research management, finance, HDR candidature management, people management and others. The Research & Innovation portfolio will work with all areas of the University as it continues its program of Business Process Improvement to simplify and streamline processes and improve efficiencies wherever possible.
- b. Resources for promoting our work and our people – digital and physical including websites and printed material.

### 4. People

- a. A talented **Research and Innovation portfolio professional support workforce** who understand the business of research and innovation and the how these activities contribute to research-lead teaching is critical for success. The University currently has an excellent but small team who support the research endeavour from building business opportunities, providing support for grant applications, research integrity, supporting graduate research and researcher development. This team will continue to be supported, acknowledged and rewarded for their high-quality work.
- b. Other portfolio **professional support staff** must also be considered as a core part of the research and innovation enterprise. This includes, as an example, library, which needs to be able to operate effectively in a digital age.
- c. The **academic staffing profile** and an effective and transparent university-wide **workload model** are both critical components that will influence the achievement of the research targets. A close working relationship between the DVCR&I, the DVCA, and People & Diversity is important to ensure that an appropriate academic staff profile and workload model can be achieved.

## DEVELOPMENT OF THE RESEARCH AND INNOVATION PLAN

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Consultation forums were held with the University community to seek input on what has worked well and what needs more attention, ideas on activities to improve research performance and impact across the various areas and disciplines, and to identify what the academic community sees as being the priority activities for 2018 – 2022. Attendees included Deans/Deputy Deans, Institute Directors/Deputy Directors, Centre Directors, Centenary and Distinguished Professors, Research Fellows, Research Academics, HDR Convenors, ADRs, Directors and senior managers from Finance, People and Diversity, Students and Partnerships and other support areas, and all staff of the Research and Innovation portfolio. In all, more than 170 people participated in the forums and/or provided written comment.

Input provided at each of the forums was considered along with all written input provided to the Office of the DVCR&I. A draft plan was circulated for further input and the final draft developed for endorsement by VCG. Suggestions not explicitly captured in this research plan have been recorded for reference as we proceed to developing the annual operational plan for the portfolio.