

Research and Innovation

# Strategic Plan

2019–2023





## Purpose

Federation University Australia wishes to continue and increase its recognition globally for the quality and impact of its research. The organisation will continue to build innovative and applied research that will help to strengthen, sustain and enhance communities in regional and rural Australia. This will be achieved through targeted investment in current discipline areas that are ranked well above world standard and longer-term investment in disciplines that are emerging, but which will strengthen the impact of our research in the future. Investment will be in people to achieve the following:

1. World class scientists and scholars who will lead key discipline areas and build strength in depth in those areas
2. Effective mentoring and investment in staff to equip them to succeed
3. Through world class research support systems and services to assure that our research is safe, ethical, valuable and of the highest possible quality
4. Enhanced internationalisation of our research outputs and reputation
5. Expanded Higher Degree by Research numbers and timely completions

# 1. Strategy for investment and development of capability and capacity

Federation has been rated at or above world standard in 80% of the Fields of Research (FoR) submitted to the last Excellence in Research Australia (ERA) assessment. Whilst this nicely defines our world standard research capability, our research capacity is often invested in small numbers of academic staff. An in-depth analysis of where contributions to FoR codes originated, shows that publications came from multiple schools, demonstrating our strength in cross-disciplinary research. To continue to build these strengths and capacity across schools through multidisciplinary structures, part 1 of this strategy document seeks to formalise the structures.

## 1a. Current Strengths, Research Priority Areas and Investment in World Class People

Federation University Australia's research in the short term, will be defined by a limited number of cross-disciplinary research priority areas (RPAs), where staff are drawn from multiple schools to combine their efforts and embark upon scaled and world leading projects that identify and solve society's challenges. The areas have been defined by current ERA rankings, where seven areas have been ranked as well above the world standard and through work commissioned through CWTS, a spin-out company from the University of Leiden world ranking system. The areas include:

1. Health and Wellbeing
2. Society and the Environment
3. Virtual, Digital and Computational Environments

Significant investment in these RPAs will provide the capacity for the research teams to succeed.

## 1b. Cross-Cutting Support

Cross cutting support for each of our RPAs at Federation University Australia will deploy two thematic principles to assure the quality and utility of its research.

1. We will apply evidence-based modelling and analysis to ensure optimisation of study design and assurance of the quality and utility of research outputs.
2. We will also embed a culture of "Innovation and Entrepreneurship" in the University, ensuring that where possible the outputs of our research are translated into new products, services and businesses.



## 1c. Research Centres and Groups

Research within RPAs will be clustered within Research Centres and Research Groups. These clusters have been defined in the University's Research Centres and Research Groups policy.<sup>1</sup> The Research Centres and Groups will form the vehicles to:

1. Promote Federation University's research through its web pages and other media
2. Maximise potential for multi-disciplinary and team-based research
3. Develop the potential of Early Career Researchers
4. Enhance the research culture of the University

## 1d. Emerging Research Areas

ERA 2018 highlighted research in Federation University that was well above the world standard. Both ERA 2018 and the CWTS report have also highlighted emerging areas of research strength. These areas could provide cross disciplinary support to RPAs as groups or centres within an RPA. These areas will be nurtured to expand the volume of world class research in broad discipline areas including:

1. Education (13)
2. Engineering (09)
3. History and Archaeology (21)
4. Commerce, Management, Tourism and Services (15)

Investment in these areas will spread risk and allow new areas of strength to emerge as Federation University grows.

1 [http://policy.federation.edu.au/research/general/research\\_centres/ch1.pdf](http://policy.federation.edu.au/research/general/research_centres/ch1.pdf)

## 2. Investment in Early Career Academics

Whilst the research capability in most universities is defined by its professoriate, the future capacity and ongoing success of a university is defined by its effectiveness in developing the potential of its early and mid-career (ECR and MCR) academics. Federation University will promote the careers of its high-performing ECRs and MCRs through a number of vehicles and frameworks to ensure that it has both the capability and the capacity to serve its communities not only through training but also through its research.



### 2a. Early Career Researcher Mentoring Frameworks

A key plank in the development of research capacity in the University will be a framework for ECR mentoring. The framework will be based on the University providing the tools and opportunities for success. A well-regarded framework is Vitae,<sup>2</sup> developed for the UK HEI sector. The Vitae planner tools and resources are now being exported around the world and can be adapted to the current capabilities of an organisation. The Director (Research and Innovation) will be responsible for developing an ECR Mentoring Framework in the organisation and for deploying Vitae effectively as a tool for planning and delivering career long success for our ECRs.

### 2b. National Fellowship Schemes

The best early and mid-career researchers will start and extend their careers via the national fellowship schemes such as Australia Research Council's (ARC) Discovery Early Career Research Awards (DECRA) and Future Fellows Awards (or NHMCR equivalents). The University wishes to promote its best scientists and scholars, including women and Aboriginal and Torres Strait Islanders (as required by ATHENA SAGE and RAP), by supporting their applications for Fellowship Awards. Support will be in two forms:

1. Identifying existing staff members who will be released from teaching duties for three years following successful fellowship applications
2. Advertising for Australian residents and citizens to apply for Fellowships in Association with one of the University's RPAs.

In the event that applicants are successful under scheme 1, staff will return to their ongoing academic positions at the end of the fellowship.

In the event that applicants under scheme 2 are successful, fellowships will be extended for an additional year from funds in the DVCR&I portfolio. During this one-year extension key performance indicators (KPIs) will be agreed with the fellow and upon meeting these KPIs the fellow will be appointed to an ongoing teaching and research position within a school.



## 2c. Visiting Distinguished Collaborators

To enhance the research culture in the University, a national/international distinguished collaborator scheme will be launched. This will provide the capacity to bring distinguished collaborators (either from academia or industry) to the University for periods of four to six weeks each year. Two distinguished collaborators will be associated with each RPA and one with the emerging research areas. Whilst the collaborator will be associated with a leading Federation academic and will work on identified projects to generate research inputs and outputs, they will also be responsible for delivering master classes to ECRS and MCRs including feedback on presentations, posters and draft manuscripts along with the senior leaders of each RPA.

## 2d. Overseas Scholarships

To further enhance and promote our ECRS the University will engage with both overseas and mobility schemes such as the Fulbright Commission (US) and the Marie Curie mobility fund (EU) to encourage researchers to spend periods of study from 4 months to three years as PhD or visiting scholars to the USA or the European Union. In the case of PhD scholars, upon completion of their PhDs, individuals will be encouraged to return to Federation University, either through successful application for Commonwealth scholarships or through partner awards with industry collaborators<sup>3</sup>. In the case of staff winning Fulbright fellowships, the University will continue to provide salary during the period of their fellowships.

3 <https://www.business.gov.au/Assistance/Entrepreneurs-Programme/Innovation-Connections>  
<https://www.business.vic.gov.au/support-for-your-business/grants-and-assistance/Boost-Your-Business>  
<https://aprintern.org.au/>

## 3. World Class Research Systems and Support

Enhancement of Research Support Services at Federation University to grant applications and post-award management of grants and contracts will be achieved by a mentoring framework in the University to help researchers:

1. Enhance the quality of applications for category 1 opportunities
2. To mentor researchers in publication quality and impact
3. In invention disclosure, IP protection and exploitation
4. In building large scale research partnerships with category 2 & 3 funders
5. To manage activities that support pre and post-award processes efficiently and effectively

To address these issues the University has made two strategic appointments and developed enhanced underlying support systems and processes as outlined below.

### 3a. Director of Research and Innovation

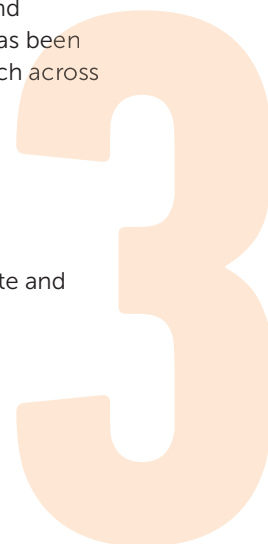
Historically, the position of Director of Research Support Services has been funded as a HEW 9/10 which has limited the leadership capacity of the role. This has naturally lead to a service delivery which concentrates on risk mitigation rather than adding significant value to research inputs and outputs. The job description of the Director has been redesigned so that the Director will now have strategic responsibility for:

1. Developing an ECR mentoring framework that will enhance the quality and success of research grant applications
2. Improve the quality and impact of research publications
3. Developing a culture of invention disclosure, Intellectual Property (IP) protection and exploitation
4. Re-structuring the research office so that it is capable of delivering enhanced services

### 3b. PVC Enterprise

Federation University Research has led programs of research of national significance. For example, in the generation of data platforms for national agencies such as the Grains Research Development Corporation (GRDC). More Federation University researchers should expect to lead large projects and programs. To assure the success of large projects and programs, through the RPAs, the position of Pro Vice-Chancellor Enterprise (PVCE) has been created. The PVCE will be responsible for identifying investors for programs of research across our campus locations<sup>4</sup> the results of which will:

1. Transform research income to the University.
2. Significantly improve our engagement activities with Industry partners..
3. Generate evidence-based impact case studies.
4. Promote Federation University as the research provider of choice for regional, State and Federal governments in eastern and western Victoria.





### 3c. Research Management & Support Systems

A key factor for improving research performance at Federation University is deployment of efficient research management systems and the associated ability of the academy to use them. A critical development and key responsibility for the research office, in collaboration with IT services and the Library Services, will be successful deployment of enhanced research management and support systems as follows:

1. IRMA is capable of integrating all information necessary for successful end-to end management of research projects from application to publication and reporting to government. Successful deployment and uptake of the system by the academy will be achieved by 2020.
2. Federation Figshare, One Drive and SharePoint are data repositories that are capable of curating and archiving all of Federation University's research (published and live) data using FAIR principles. The University aims to be fully compliant with data storage and management according to the Australian Code for the Responsible Conduct of Research by 2021.
3. Clarivate and Dimensions are examples of tools that generate reports on research performance within a research organisation. These tools provide immediate and contemporary information for university leaders from quality and citation of research outputs relative to other organisations, to inputs (grants) leading to those outputs and impacts (patents, policies and clinical trials) arising from those outputs. Deployment of such tools will allow the university to effectively promote its research not only in ERA but also in University world ranking systems.



### 3d. Federation University Business Parks

Federation University has the largest collection of business parks in the Australian University sector. With tenants including IBM, St John of God and Runway, this provides the University with capacity to provide an extraordinary set of opportunities for its students, staff and regional communities. Tenancy comes with opportunities for both the tenants and the University as follows:

1. Work Place Learning (WIL) opportunities for students that allows the businesses to pre-select and train their future employees and for our students to gain skills that will give them a competitive advantage in the work-place.
2. Internship opportunities for HDR students who may become future employees of the business tenant or in a related industry.
3. Co-funded industry sponsored HDR scholarships providing business tenants with the opportunity to have access to highly skilled individuals to solve problems restricting market access or product development/uptake and for HDR supervisors to understand the needs and operation of commercial entities.
4. For the University to build partnerships that are capable of delivering flagship projects through Commonwealth schemes including ARC linkage or CRC-Ps.
5. To provide a nurturing environment with access to high quality real estate for university and student lead spin-out companies.

In future, tenancy agreements will include one or more of the following clauses: (1) WIL experience; (2) HDR internships; (3) co-funded Industry HDR scholarships. The most valuable tenants will agree to 1 – 3 but as relationships mature will act as university partners in ARC-linkage or CRC-P applications.<sup>5</sup> Ideally this will lay the foundations for future success (post 2023) in Industry Transformation Research Partnerships (ITRP) schemes or the equivalent.

5 <https://www.arc.gov.au/grants/linkage-program>  
<https://www.business.gov.au/assistance/cooperative-research-centres-programme>  
<https://www.arc.gov.au/grants/linkage-program/industrial-transformation-research-program/industrial-transformation-research-hubs>

## 4. Internationalisation of Federation University Research

As the research culture in the University matures, the University will increasingly focus on its role globally. Research which serves regional and rural communities can be applied internationally. To expand its influence Federation University will seek international partners to globalise the impact of its research by:

1. Partnering with leading global University/Industry partners that are aligned with its Research Priority Areas.
2. Developing Joint (co-tutel) PhD programs with select University partners.
3. Promoting academic exchange programs with its partners.

### 4a. Global Partners

Between 2020 and 2022 Federation will develop affiliation agreements with ranked international partners, with at least one in each of its RPAs. These partnerships will be based upon common research programs funded by international research organisations.

### 4b. Common PhD Programs

For each global partner we will attempt to develop co-tutel agreements to pump-prime joint research programs through recruitment of jointly sponsored PhD students. These students will conduct cutting edge and globally relevant research projects that are scalable and industry relevant.

### 4c. Academic Exchange

To maximise the engagement of our academic community internationally, we will establish an exchange program with our global partners to expose our emerging academic leaders to international research standards and opportunities. Selection for these opportunities will be competitive and relevant to national research priorities.



## 5. Higher Degree Research Students (HDR)

Strategically, Federation University will increase enrolment of HDR students by ~100 per annum with the aim of successfully completing ~120 students per annum by 2023. A separate strategy to achieve this is being developed by the Dean of Graduate studies.

### 5a. Become a Popular Student Destination

- Articulating and promoting the Federation University Graduate Research experience and enhancing our reputation as an HDR provider of choice
- Promoting and enabling relevant internal and flexible, alternate external pathways into graduate research at Federation University
- Through partnerships with overseas universities create a sustainable recruitment pipeline of international HDR enrolments
- Through partnerships with government and industry create an expanded pipeline of home HDR enrolments
- Developing and enacting an international HDR strategy for Federation University
- Increase numbers of HDR student completions and qualified supervisors

### 5b. Offer a High Quality Student Experience

- Establishing a strong research training culture across the university
- Promoting shared ownership of the research training experience by articulating and monitoring the rights and responsibilities of all stakeholder groups (including students, supervisors, graduate research leaders and academic and administrative units)
- Monitoring, supporting and reporting on the progress and graduation rates of our HDR candidates

### 5c. Make a Positive Impact

- Recognising the value of our HDR programs and students and understanding their contributions to our research outputs and the reputation of our university
- Connecting with our local communities and the broader networks to provide real world research opportunities and engagement for our candidates and innovation capability for our partners

### 5d. Become a Workplace of Choice

- Recognising, supporting and rewarding high quality research supervision
- Expanding our research supervision strengths, diversity and capacity
- Building strong and effective supervisory teams
- Matching candidates, supervisors and research projects for mutual benefit

### 5e. Build an Efficient Organisation

Improving the efficiency and effectiveness of HDR program delivery, support and administration through:

- Clear policy and procedural guidelines
- Streamlined candidature management processes and systems
- Timely and responsive skills training and support provision
- Equitable access to facilities and resources regardless of mode of enrolment or location

