



Meso 2 Supporting Research Programs Evaluation Final Report

Advance Queensland | July 2019

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1. Executive summary

Executive Summary

The Queensland Government is committed to building an innovative, diverse and industry focused research sector

Queensland aims to be 'A state made for innovation'.¹ To achieve this goal, the Queensland Government co-designed a series of innovative programs called Advance Queensland (AQ). This includes a suite of programs which support industry focused research and diversity in the research sector in Queensland (called the 'Supporting Research Programs'). The Supporting Research Programs include:

- PhD Scholarships
- Aboriginal and Torres Strait Islander PhD Scholarships
- Research Fellowships (2016 and 2017) and Industry Research Fellowships (2018)
- Aboriginal and Torres Strait Islander Research Fellowships
- The Women's Academic Fund (WAF).

Each of the programs utilise a grant funding mechanism to provide financial support to conduct research in Queensland. Each program, (except for WAF), requires collaboration with an industry partner, thereby forging partnerships and greater understanding between research institutions and industry.

Nous was engaged to conduct a meso evaluation of the supporting research programs

The Department of Innovation, Tourism Industry Development and the Commonwealth Games (DITID) engaged Nous Group to conduct an evaluation at a meso-level across the suite of programs. The common objectives of the programs make them suitable to be evaluated together, as a suite.

The scope of the evaluation covered both the process to implement the programs and the outcomes achieved by the programs since 2015/16. The evaluation was to assess the extent to which the programs achieved their collective objectives, and the extent to which they contribute to the overarching AQ objectives.

Nous' evaluation approach involved significant stakeholder engagement and data analysis across the programs

The evaluation was conducted in three stages. The findings of the evaluation are based on data analysis, a survey of 158 people (including industry partners and program recipients, as well as unsuccessful Fellowship applicants who had received a high application score) and interviews with 37 people (conducted with DITID staff, all Aboriginal and Torres Strait Islander participants, representatives from each university, and researcher and industry partners from each program).

This report presents the evaluation findings

This document forms the Final Report of the evaluation. This report is cumulative, including important aspects from the Evaluation Plan (submitted 4 April 2019) and the Interim Report (submitted 6 June 2019). The report includes the following sections:

- Introduction
- Process evaluation findings
- Outcomes evaluation findings
- Ideas to explore
- Lessons for meso evaluation
- Evaluation methodology

A separate attachment provides all of the raw survey outputs, as well as the deidentified data file.

The programs have achieved almost all of their intended AQ objectives

The programs have been well-designed and well implemented. This has resulted in strong demand and uptake for the programs, and a diversity of applicants and recipients.

The short term objectives of the programs have largely been achieved in terms of catalysing and bringing forward industry focused research that otherwise would not have occurred, and strengthening industry-university research collaboration. These short term outcomes provide a strong indication that longer term objectives are on track to being achieved, such as encouraging innovation in industry.

A summary of these findings is overleaf.

¹Available at <https://advance.qld.gov.au/advance-queensland-initiative>

Executive Summary

The process evaluation made four key findings and two recommendations

Key Finding 1: The programs have evolved over time, and now form a well-designed suite. Several changes have been made to the individual programs to ensure they are meeting stakeholder needs, but the original intent of each is still being met.

Key Finding 2: The guidelines are clear, but recent changes to improve flexibility may need greater promotion to participants and applicants. The recent change to provide longer lead times for applications is welcomed. However, there are a small number of other issues where participants and applicants aren't aware of changes that have improved program flexibility.

Recommendation 1: AQ should highlight the flexibility of Fellowships for part-time work, research focus areas and experience requirements to university stakeholders.

Key Finding 3: There has been strong demand for the programs, largely driven by universities, because they fill gaps in research funding. The programs are now fully subscribed. This strong demand is due to the programs serving a distinct purpose from other funding programs. However, demand is primarily driven by universities rather than industry.

Key Finding 4: The programs have reasonable uptake from regional researchers and women researchers, but low levels of Indigenous researcher participation. There were only three Indigenous participants in the three years, and no WAF participants identified as Indigenous.

Recommendation 2: Specific Aboriginal and/or Torres Strait Islander Fellowship programs should be maintained.

The outcomes evaluation made five key findings

Over the past three years the programs have had a number of direct short term outcomes. They have:

Key Finding 1: Catalysed and expedited research. The programs have catalysed new research that otherwise would not have occurred and brought forward research that was already planned. Fellows (94%) and industry partners (86%) overwhelmingly agreed that the project would not have occurred, would have been de-scoped, or been delayed in the absence of AQ funding.

Key Finding 2: Strengthened academic and industry collaboration. New connections have been formed, the programs are leveraging industry investment and industry-research capability is being developed.

As a result of these short term outcomes, the impacts for Queensland include:

Key Finding 3: Encouraging innovation in industry. The Fellowships and PhD Scholarships, in particular, have enabled exploration of difficult problems with potential commercial outcomes. 92% of industry partner respondents indicated participating in the program enabled them to solve a problem or produce a product they otherwise would not have been able to.

The programs are likely to have an ongoing impact as they are:

Key Finding 4: Enabling researchers to attract funding for additional and follow-on research from industry and the Australian Government. The AQ programs are seen as effective bridging programs to bigger national grants, to extend current industry partnerships and to connect with new, paying industry partners.

Key Finding 5: Contributing to diverse researcher retention in Queensland and potential for ongoing career success. 64% of Fellow and Scholar respondents indicated participating in the programs contributed to their decision to remain in research careers. The funding contribution to Aboriginal and Torres Strait Islander and women researchers is welcomed, but systemic challenges remain.

2. Introduction

This document is the Final Report of the Meso 2 Supporting Research Programs Evaluation

Background to the Supporting Research Programs under Advance Queensland

Advance Queensland (AQ) is a significant Queensland Government investment to enable Queensland to be 'a state made for innovation'.¹ The Queensland Government co-designed AQ with industry, and funds a number of programs to achieve this goal, from small-business innovation grants to mentoring programs. AQ is a whole-of-government initiative, with the Department of Innovation, Tourism Industry Development and the Commonwealth Games (DITID) providing coordination, implementation and monitoring and evaluation oversight and support. Government funding for AQ increased to \$755 million in 2019. To-date, AQ has driven more than 15,200 jobs across Queensland.²

The Supporting Research Programs are a suite of five programs that are being implemented through the Advance Queensland initiative. The program suite includes:

- PhD Scholarships
- Aboriginal and Torres Strait Islander PhD Scholarships
- Research Fellowships (2016 and 2017) and Industry Research Fellowships (2018)
- Aboriginal and Torres Strait Islander Research Fellowships
- The Women's Academic Fund (WAF).

Each of the programs utilise a grant funding mechanism to provide financial support to conduct research in Queensland. Each program, (except for WAF), requires collaboration with an industry partner, thereby forging partnerships and greater understanding between research institutions and industry. The programs, together, aim to attract and retain the best and brightest and support diversity of talent in Queensland research (shown on the right).

Objectives of the evaluation

The Department of Innovation, Tourism Industry Development and the Commonwealth Games (DITID) engaged Nous Group to conduct an evaluation at a meso-level across the suite of programs. The common objectives of the programs make them suitable to be evaluated together, as a suite.

The scope of the evaluation covered both the process to implement the programs and the outcomes achieved by the programs since 2015/16. The evaluation was to assess the extent to which the programs achieved their collective objectives, and the extent to which they contribute to the overarching AQ objectives. The evaluation also provides DITID with a strong evidence base to shape future AQ meso-level evaluations for the remaining program groups.

Purpose of this report

This document forms the Final Report of the evaluation. It brings together the key elements of the Evaluation Plan and Interim Report with the additional analysis conducted in Stage 3.

The Supporting Research Programs have two key aims



¹Available at <https://advance.qld.gov.au/advance-queensland-initiative>

The evaluation took a 'meso' approach

Mixed methods were used to collect both quantitative and qualitative data to collect and aggregate program outcomes

Evaluation process and activities

This evaluation occurred in three stages:

- **Stage 1 (Mar-Apr)** focused on establishing a sound understanding of the Supporting Research Program suite, and confirming the evaluation approach.
- **Stage 2 (Apr-May)** focused on the key evaluation activities:
 - Surveys (sent to all PhD Scholarship, Research and Industry Research Fellowship and WAF participants, as well as unsuccessful Fellowship applicants who had received a high application score), and
 - Interviews (conducted with DITID staff, all Aboriginal and Torres Strait Islander participants, representatives from each university and a random sample of researcher and industry partners from each program)
 - Data analysis to develop and test interim insights with DITID staff.
- **Stage 3 (Jun-Jul)** involved further data analysis to produce this evaluation report.

Survey response rates (a total of 158) and interview numbers (total of 37) are sufficient to provide confidence in the findings presented in this report. Full methodology details are provided in Appendix B.

The evaluation took a meso approach- meaning evaluation findings are reported on an aggregated and individual basis

The similarity between the five program's objectives allows a meso evaluation to occur. This is to assess the extent to which the programs as a suite are achieving the outcomes specified in the AQ Evaluation Framework. A 'meso' program logic was developed, which is supported by more detailed program logics for each program (provided in Appendix C).

The report is structured around themes applicable across all five programs, with additional specific program information provided where required.

Aboriginal and Torres Strait Islander participant views are incorporated into findings against the 'mainstream' PhD and Fellowship programs

References made throughout this document to the PhD Scholarship and Research Fellowship programs also include sentiments from the participants of, and findings relating to, the Aboriginal and Torres Strait Islander PhD Scholarship and Research Fellowship programs.

This is for two reasons:

- 1) most of the input from these participants is pertinent to the 'mainstream' programs, and
- 2) the small sample size of the Aboriginal and Torres Strait Islander programs reduces the confidentiality and validity of findings presented against these programs alone.

Where findings are specific to the Aboriginal and Torres Strait Islander programs, this is made clear.

The programs aim to attract and retain the “best and brightest” researchers through financial support

The programs aim to ensure Queensland is an attractive state for researchers

The AQ initiative contains five programs which make up the Supporting Research Program suite, as listed below. Many of these programs have existed in some form for many years prior to AQ. The evaluation is assessing the programs from 2015-16, when they were formally part of the AQ initiative.

- **PhD Scholarships** - top-up funding of \$45,000 over 3 years to Scholars who have already secured a Research Training Package or similar funding source.
- **Aboriginal and Torres Strait Islander PhD Scholarships** - \$120,000 over 3 years.
- **Research Fellowships (2015/16 – 2016/2017) and Industry Research Fellowships (2018)** - Early career: \$180,000 over 3 years, Mid-career: \$300,000 over 3 years.
- **Aboriginal and Torres Strait Islander Research Fellowships** - \$240,000 over 3 years.
- **The Women’s Academic Fund (WAF) now the Women’s Research Assistance Program (WRAP)** has three components:
 - **Maternity funding:** Up to \$25,000 to hire a research assistant to progress their research during maternity leave, or expedite progress upon return.
 - **Carer funding:** Up to \$1,000 to cover costs of child care associated with attending conferences (no longer continuing under the WRAP).
 - **Women’s lecture funding:** Up to \$2,000 to enable women to present their research (no longer continuing under the WRAP).

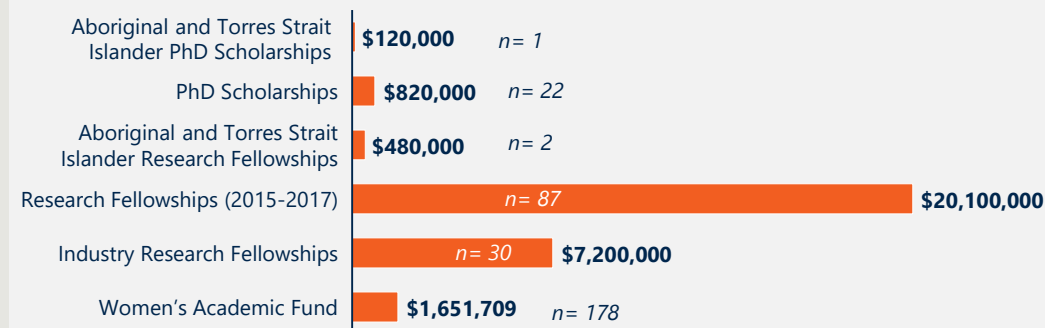
All of the programs utilise a grant funding mechanism to provide a financial incentive to conduct research in Queensland. Each funding mechanism (except for WAF) requires collaboration with an industry partner, thereby forging partnerships and greater understanding between research institutions and industry.

Over \$32 million has been invested in the Supporting Research Program suite from 2015-16 to 2018

Across the five programs over the past three years (since 2015-16), a considerable investment has been made by AQ. As shown in the figure below, the Research Fellowships have accounted for the largest volume of funding.

Across 2016 and 2017, all levels of government contributed a combined \$819 million in research funding to Queensland universities. AQ’s programs represented just under 3% of this funding.* This is a considerable proportion given the constrained funding environment of research grants.

Value of programs 2015/16 – 2017/18, number of participants¹



¹Funding and participant data by DITID, correct as at June 2019.

* DET 2018, Nous analysis. Figure includes only CAT 1, CAT 2, and CRC Australian Government Funding from CAT 4. <https://www.education.gov.au/consolidated-time-series-data>

The programs aim to contribute to each of the AQ objectives

The programs are designed to link with each of the five AQ strategies. These linkages have been mapped in the diagram below. The programs aim to achieve the objectives under the supporting culture, building capability and fostering collaboration strategies in the short-term. Over the long-term, the suite may also contribute to increasing investment through collaborations with industry continuing after the programs finish. They may also contribute to jobs and growth through the potential commercialisation of research.

Each dotted box indicates the way the programs aim to contribute to the AQ Strategy or Objectives. Note: this is a representation of program intent, not the evaluation findings.

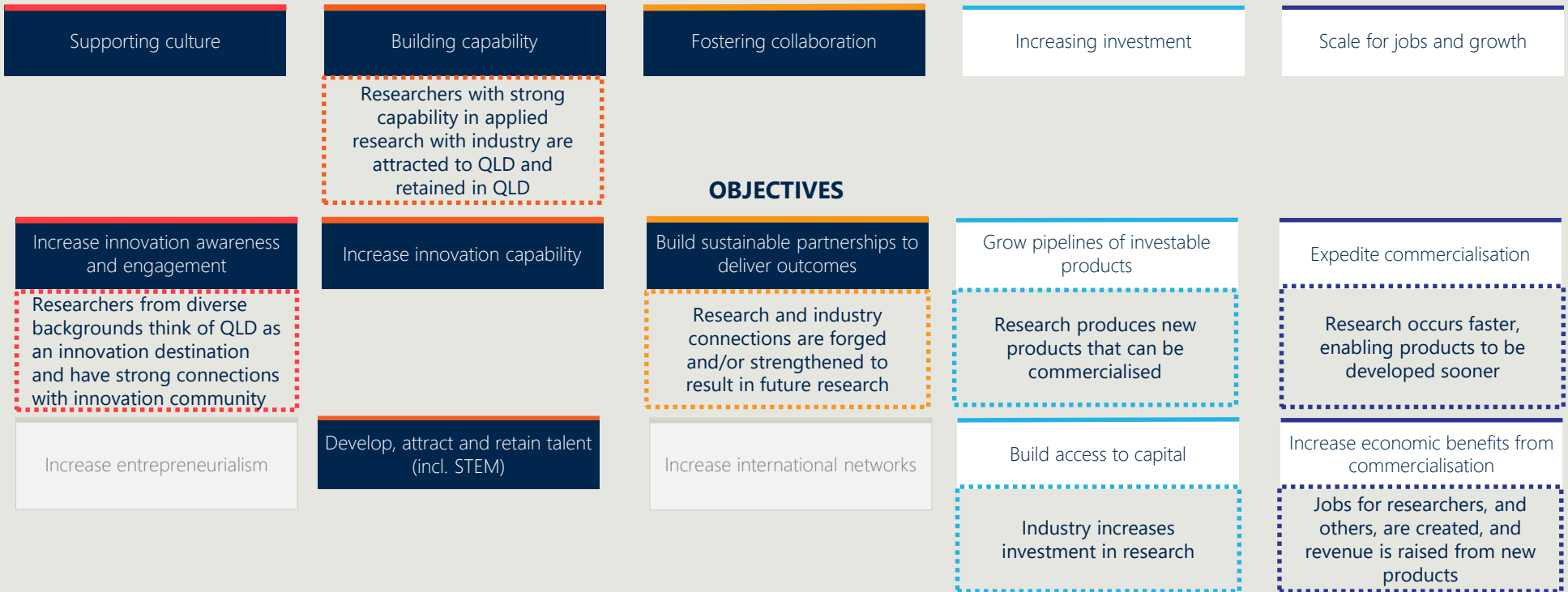
Advance Queensland Framework

VISION

A state made for innovation - where ideas matter, collaboration takes us further faster, and local innovation spurs productivity, creates jobs and builds our quality of life

STRATEGIES

OBJECTIVES



Indicates the extent to which the programs directly relate these objectives:

Short term outcomes
 Longer term outcomes
 No relationship

The programs are also being implemented in the context of a competitive environment for industry-research funding and lagging funding in Queensland

There is an increasing trend toward research-industry partnerships

Australia is looking to increase innovation through closer industry and research partnerships, including through State and Australian Government initiatives. For example, the Australian Government established the National Innovation and Science Agenda in 2015 with \$1.1 billion over four years, which includes a focus on industry collaboration.

At the university level, including in Queensland, institutions are also pushing the university-industry partnership agenda through actionable components of individual university's strategy.

There are several existing industry-university partnership funding sources

There are a number of high-profile funding sources for university-industry partnerships, including:

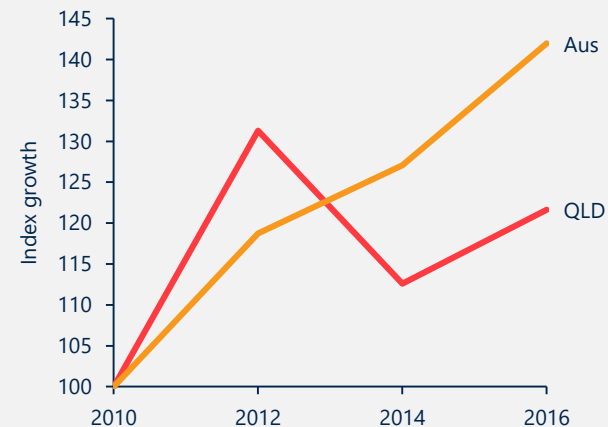
- Australian Research Council (ARC) Linkage grants, which provide project funding for strategic research-industry partnership projects.
- Cooperative Research Centres (CRC) Grants and Programs, which support industry-led collaborations between industry, researchers and the community.
- CSIRO's SME Connect program, which helps any Australian business with a turnover of less than \$100 million access dollar-matched financial assistance to undertake research projects.

Queensland lags behind other states in industry funded research

As shown below, ABS* data indicates the growth in Queensland's business and competitive grants sourced research funding is trailing Australia.

The national growth rate of business-sourced funding for research is twice that of Queensland's. This indicates a need for Queensland to increase the level of private investment in industry research. Private investment increases the sustainability of the sector, reduces reliance on government and potentially enables faster innovation.

Index growth of business-sourced research funding



3. Evaluation findings - process

The process evaluation provides findings on reach, fidelity and governance

Three key questions guided the process evaluation

The process evaluation aims to understand if there is anything that could be done differently in the program implementation to improve outcomes and efficiency. The key questions explored are:

- **Fidelity:** To what extent have the programs been implemented as intended?
- **Reach:** To what extent were the programs taken up by key stakeholders?
- **Governance:** To what extent are the governance arrangements supporting the implementation of the initiatives?

Findings are presented at the meso-level, describing themes across the five programs, and only providing additional detail at the individual program level where required.

A summary of the key findings is provided to the right, with the detailed findings presented in the following pages.

Key findings and recommendations

1 The programs have evolved over time, and now form a well-designed suite. Several changes have been made to the individual programs to ensure they are meeting stakeholder needs, but the original intent of each is still being met.

2 The guidelines are clear, but recent changes to improve flexibility may need greater promotion to participants and applicants. The recent change to provide longer lead times for applications is welcomed. However, there are a small number of other issues where participants and applicants aren't aware of changes that have improved flexibility.

Recommendation: AQ should highlight the flexibility of Fellowships for half-time work, research focus areas and experience requirements to university stakeholders.

3 There has been strong demand for the programs, largely driven by universities, because they fill gaps in research funding. The programs are now fully subscribed. This strong demand is due to the programs serving a distinct purpose from other funding programs. However, demand is primarily driven by universities rather than industry.

4 The programs have reasonable uptake from regional researchers and women researchers, but low levels of Indigenous researcher participation. There were only three Indigenous participants in the three years, and no WAF participants identified as Indigenous.

Recommendation: Specific Aboriginal and/or Torres Strait Islander Fellowship programs should be maintained.

Key Finding 1: The programs have evolved over time, and now form a well-designed suite

Several changes have been made to the individual programs to ensure they are effective and meet stakeholder needs, but the original intent of each is still being met.

The programs have evolved in the three years of implementation

Each of the programs has evolved since their first round following assessment of program uptake and stakeholder feedback. Specific changes include:

- **PhD Scholarships:** PhD Scholarships may not have represented the best value for AQ and therefore, it is appropriate that this program has not been renewed since the 2016-17 round. PhD Scholarships were offered for two rounds, the first in 2015-16 and the second in 2016-17 with no further rounds being offered at this stage. The PhD Scholarship program required students to already have an existing funding source such as the Research Training Program. So while the AQ top-up is welcomed by Scholars, it was not necessarily addressing a funding gap or creating new research. PhD Scholars also need to be very defined in their research which may limit the flexibility that industry requires. Finally, PhD Scholars own the intellectual property their research produces which has caused issues for some Scholars and their industry partner.
- **Research Fellowships:** The Fellowships have evolved to effectively meet the needs of industry and researchers. The program has evolved from legacy programs run under the Queensland Government's former Smart State initiative, which previously funded senior and established researchers. It now focuses on early and mid-career researchers, which is welcomed by the sector. This program has had a name change in 2018 to 'Industry Research Fellowships'. The 2018 program also allows research clusters to apply and has introduced increased flexibility regarding the co-location requirements.
- **Women's Academic Fund:** The Women's Academic Fund is the sole program in the suite to have undergone a formal internal evaluation. Outcomes from the evaluation have been taken on board and played a

role in its evolution to what is now the Women's Research Assistance Program (WRAP). Most notable, was the evaluation recommendation to remove Carer Funding (provision of up to \$1000 for women to find care options for their children while they attend conferences) and the Women's Lecture Funding (up to \$2,000 to cover expenses for women to present their research) from the WAF. This decision was driven by the finding that Maternity Leave funding was highly subscribed and administratively efficient. In contrast, Carer Funding and Women's Lecture Funding was identified to be inefficient, despite funding recipients highlighting its usefulness and value. The programs were valued by women, but it is appropriate for the responsibility for this support to be transferred to research institutions.

- **Aboriginal and Torres Strait Islander PhD and Fellowship programs:** The Fellowships program was evolved over time to reduce the prior experience and research focus area requirements in an effort to increase participation rates. No further rounds of the Aboriginal and Torres Strait Islander PhD Scholarships and Research Fellowships are being offered at this stage.

The programs have remained well aligned to their original design through implementation, and are filling a funding gap

The original design intent of driving purposeful and intensive industry collaboration has continued to be met through subsequent funding rounds. Core program components such as institutional and industry partner co-funding and industry co-location are being adhered to.

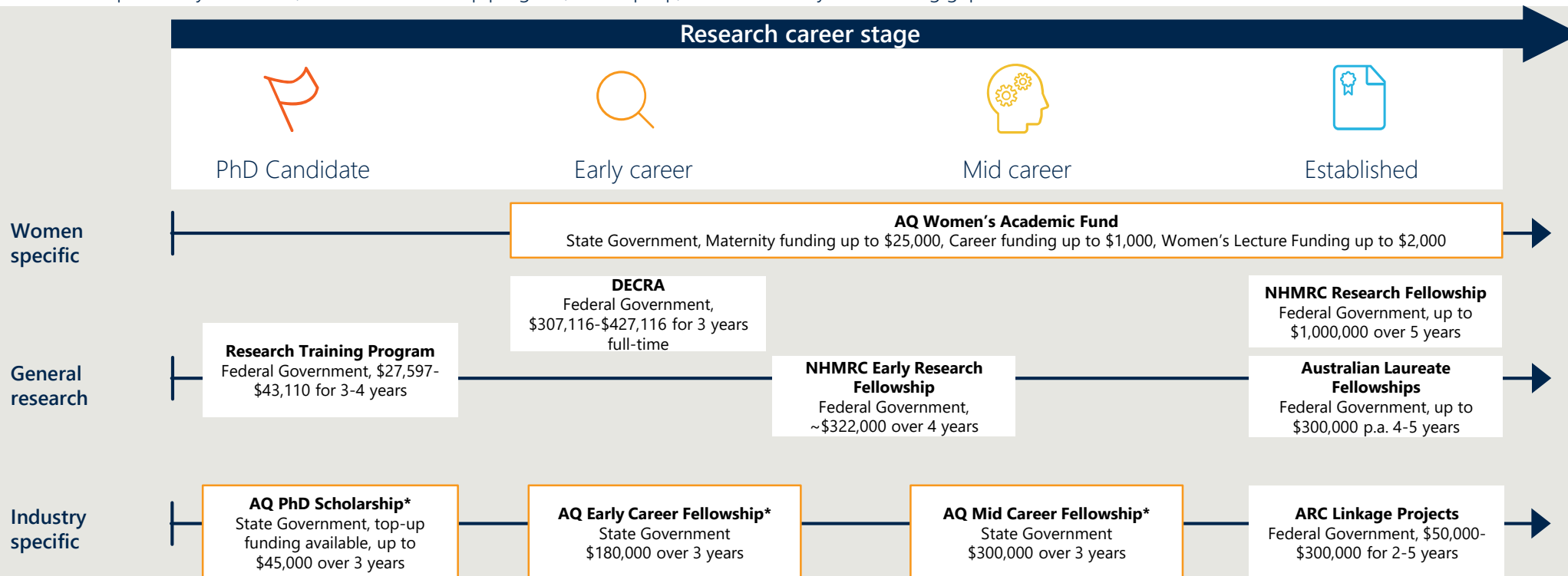
As described, the program suite has evolved over time to most effectively respond to the highest need for funding. As shown in the figure overleaf, the AQ early-career and mid-career Fellowships and WAF are clearly addressing funding gaps, which the suite has moved increasingly to focus on over time.

Key Finding 1: The programs have evolved over time, and now form a well-designed suite

All of the programs included in AQ's Supporting Research Program suite exist in a competitive and dynamic national funding landscape. As shown below, AQ's programs effectively fill three key funding gaps (with the exception of the PhD Scholarship program which has ceased):

- **Career stage**-The Early Career Fellowship Program, in particular, provides researchers with an initial step into competitive grant funding.
- **Research focus**-The AQ Fellowships industry collaboration and applied research requirements differentiate them from other research funding programs, particularly at the early-career stage. As shown in the diagram below, only the ARC Linkage Projects grant has a similar industry focus, and these tend to be more suited to mid-career and established researchers. Other grants tend to have a broader research focus, widening the pool of potential applicants (and thereby increasing competition).
- **External support for women**- Stakeholders commented that there are no equivalent funding schemes for women to access research assistants during maternity leave.

As previously described, the PhD Scholarship program, as a top-up, does not strictly fill a funding gap.



*In this diagram and analysis, the placement and commentary around the PhD Scholarships and the AQ Fellowship programs is also applicable to the Aboriginal and Torres Strait Islander versions of the programs.

Key Finding 2: There has been strong demand for the programs because they fill gaps in research funding and are strongly supported by universities

The programs are now fully subscribed. This strong demand is due to the programs serving a distinct purpose from other funding programs. However, demand is primarily driven by universities rather than industry.

Universities have been active in promoting the programs to high quality applicants and to industry

The programs have become well known amongst Queensland researchers in relevant disciplines. This is largely because Queensland universities and their research offices have been active in encouraging researchers to apply for the programs.

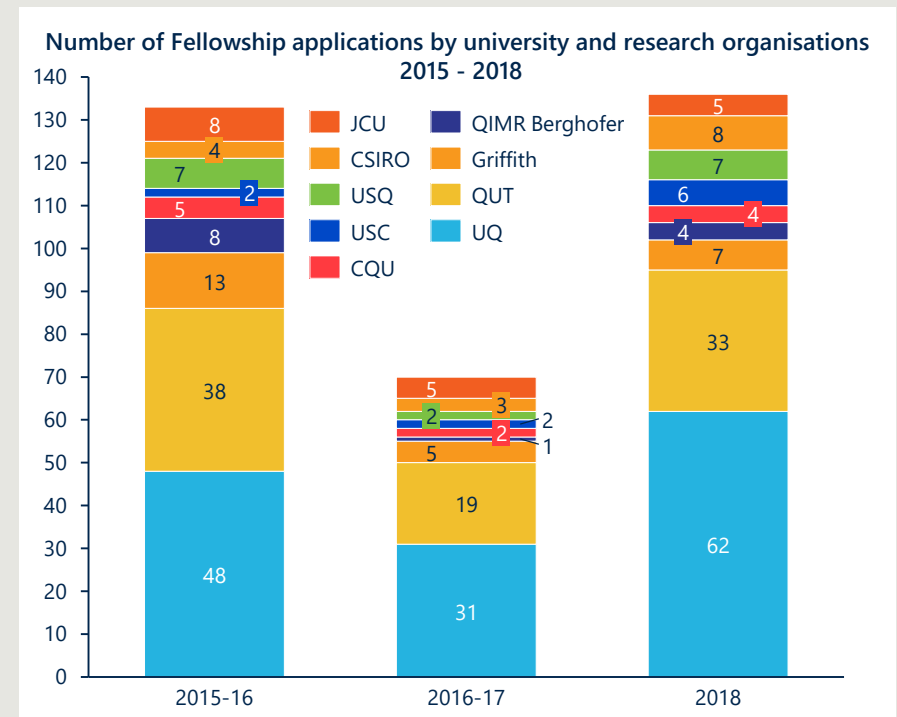
This is particularly the case for the Research Fellowships (where 79% of survey respondents said they found out about them through their institution). To some extent, it is also the case for the maternity leave offered through the WAF where some recipients indicated that their university provided them information on the program when they applied for maternity leave (e.g. Griffith).

Similarly, the majority of industry partners found out about the program after being approached by a research institution. Very few industry partners were the initiating organisation. Promoting the program largely through universities is an effective approach and is more targeted than attempting to promote the program publicly. This being said, there are potential opportunities to promote the program to industry. This could assist universities and researchers in attracting industry partners for their research, and increase industry-led research.

Demand for the programs has been strong from the start

As shown on the chart on the right, the volume of applications received was strong in 2015-16 and 2018, but lower in 2016-17. This dip was likely due to Rounds 1 and 2 being quite close together (6 months). Overall, the numbers reflect a strong awareness of and willingness to engage with the program.

The majority of applications are from UQ (42% of applications in 2018) and QUT (22%)*. This is to be expected given their research intensity and size. It is interesting to see a proportionally lower participation rate from Griffith, but this follows a similar pattern to the distribution of other research funding- in 2017, UQ held 62%, QUT held 17%, and Griffith held 11% of Queensland ARC funding.**



The programs are receiving high quality applications

The applications received are largely eligible and high quality. Stakeholders from universities indicated the institutions themselves have internal processes to check eligibility of applications (particularly for the WAF) and to ensure the quality of applications (particularly for the Research Fellowships). This, combined with the awareness of the program within universities, has led to high quality applications being received.

*This percentage is calculated from the total number of applications, which are not shown in the chart (which only represents university and research organisation applications).

**Source: Department of Education and Training (2019), Nous analysis.

Key Finding 3: The guidelines are clear, but changes to improve flexibility may need to be promoted to participants and applicants

The recent change to provide longer lead times for applications will enable the programs to catalyse new research and form new partnerships. However, there is a lack of awareness amongst some participants of these changes.

Previously, the short application timeframes reduced industry collaboration and attraction potential

University stakeholders commented on the limited amount of time provided to submit applications to the PhD and Fellowship programs. Many interviewees noted that this has a number of impacts, including a reliance on:

- Existing relationships with industry partners, due to a lack of time to cultivate new relationships in time to apply,
- Expanding the scope of current projects, rather than developing brand new ideas, and
- Existing research staff, rather than attracting researchers from interstate or overseas as they are unable to make the necessary connections and agreements in time. It is noted that attracting researchers was a more significant focus under the SmartState version of these programs, compared to AQ. However, if attraction of researchers is intended to be a by-product of AQ, short application timeframes have inhibited this.

DITID has increased the lead time for announcing future rounds, and this should be continued. University stakeholders welcome this change.

Some reports of inflexibility in funding may reflect a lack of awareness amongst participants of recent changes to the programs and some small opportunities for greater flexibility

The vast majority of the university stakeholders and program participants felt the programs were well set up and meet their needs.* However, there were some reports of complications regarding inflexibility. These include:

- **Part-time work:** Women researchers in particular, commented that provision to undertake the Fellowship part-time would increase its inclusivity. They also indicated the ability to move between full-time and part-time throughout the Fellowship would enable them to better meet caring responsibilities. The evaluation understands DITID has enabled this

to some extent, through the ability to undertake the Fellowship in a half-time capacity (where the researcher would employ a research assistant). However, there may be a case for a part-time Fellowship that provides pro-rata funding to allow women to complete a smaller research project.

- **Focus of research and experience requirements:** There is a small pipeline of Aboriginal and/or Torres Strait Islander STEM researchers. Therefore, the requirement for a PhD and the STEM-heavy focus investment areas may limit the number of Indigenous researchers applying. Later rounds of the Aboriginal and Torres Strait Islander programs removed these requirements.
- **Hiring of research assistants:** Several free text responses in the Women's Academic Fund survey indicated they were unable to utilise the funds prior to going on maternity leave, reducing the ability to provide a sufficient handover. This is compounded by not allowing researchers already associated with the project to be paid with the funds. The rationale for this is to reduce the risk of displacing university funding, however some consideration should be given to ensuring researchers can provide adequate handover.
- **Longer PhD timeframes:** The AQ PhD Scholarship is offered for three years, where the industry standard is generally three-and-a-half to four years. Stakeholders felt this should be considered if a similar program is offered again in the future.

Some of this feedback is from program participants from early rounds, further indicating the programs have evolved in response to feedback. However, some is also from university stakeholders, indicating a need for clear communication around the changes to guidelines over time.

Recommendation: AQ should highlight the flexibility of Fellowships for half-time work, research focus areas and experience requirements to stakeholders.

*It should be noted that several university stakeholders commented on the openness, availability and responsiveness of the DITID program staff, which is to be commended.

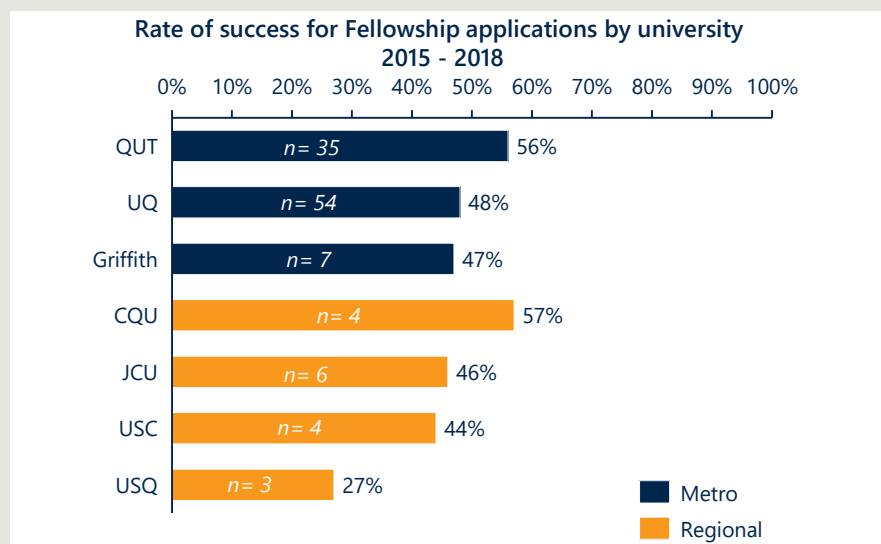
Key Finding 4: The programs have reasonable uptake from regional and women researchers, but low levels of Indigenous researcher participation

Almost 37% of Scholarship and Fellowship participants are from regional universities and 42% are women.

Regional universities appear to have reasonable representation

37% of PhD Scholarship and Research Fellowship participants were from regional universities. In the Fellowships program, metro universities submitted many more applications than regional universities. This is to be expected as it is commensurate with their larger academic staff size, and is in line with the broader funding landscape. For example, in 2017 metro universities held 90% of the ARC funding amongst Queensland universities¹.

Despite application volume differences, the success rate for applications is approximately the same between regional and metro universities (as shown below).



Women are underrepresented in the programs, but better represented than in other research funding schemes

Across the PhD and Fellowships programs, 42% were women:

- 59% of participants in the PhD Scholarships program were women. This mirrors the overrepresentation of women in PhD programs in Australia.
- The Fellowships program had an overall female participation rate of 39% (women mid-career researchers 41% of participants, and 38% in early-career Fellowships).

The Fellowship figures are roughly double the proportion of senior researchers in Australian academic institutions² and ARC Linkage Grant participants³ who are women. It is important to note that Linkage Grants typically go to senior researchers, where women are considerably less represented.

This means AQ's representation is likely to be in line with the broader early-to-mid career research population. The WAF was well-subscribed, providing support to 178 women.

There were relatively low levels of Indigenous researcher participation

Specific programs were offered for Aboriginal and Torres Strait Islander PhD Scholarships and Fellowships. There was one PhD Scholar and two Fellows who participated in these programs. Beyond the specific programs, no Aboriginal and Torres Strait Islanders were represented across Scholarships, Fellowships or the WAF. Views on the benefit of having standalone programs for Aboriginal and Torres Strait Islander researchers were somewhat mixed. On balance they appear to be necessary, from a design flexibility point of view, and to highlight career pathway options for Indigenous researchers.

Recommendation: AQ should consider retaining Aboriginal and Torres Strait Islander-specific programs.

¹DET 2018, Nous analysis. <https://www.education.gov.au/consolidated-time-series-data>

²DIIS 2017. <https://www.minister.industry.gov.au/ministers/sinodinos/media-releases/women-science-superstars-set-inspire-girls-study-stem>

³ABC 2017. <https://www.abc.net.au/news/science/2017-11-24/australian-research-has-a-daversity-problem/9178786>

Note: Scholarship and Fellowship numbers for proportions of women excluded cases where the gender item in the application was not answered

4. Evaluation findings - outcomes

The outcomes evaluation focused on what has been achieved by the programs

The outcomes evaluation focused on the following questions on effectiveness and impact:

- **Catalysing research:** To what extent did the programs stimulate research that otherwise would not have occurred?
- **Retaining and attracting talent:** To what extent did the programs retain researchers in their career, and in Queensland who otherwise may have left? To what extent did the programs attract new researchers to Queensland? Have the programs led to participants continuing in their academic career? What did the program allow them to do that contributed to this outcome?
- **Fostering industry collaboration:** To what extent did the programs create partnerships between researchers and industry that would not have otherwise occurred? Has the collaborative research work been useful for the businesses involved? Have the programs led to participants undertaking joint research work or exploring other collaborations outside of the program?
- **Contributing to diversity in research and the innovation ecosystem:** Has the set of programs changed attitudes toward the potential for women and Indigenous Australians to pursue successful research careers in Queensland? Has the set of programs enabled greater participation in academic careers for women and Aboriginal and/or Torres Strait Islander people?

SHORT TERM
OUTCOMES

1

Catalysed and expedited research. The programs have catalysed new research that otherwise would not have occurred and brought forward research that was already planned.

2

Strengthened academic and industry collaboration. New connections have been formed, the programs are leveraging industry investment and industry-research capability is being developed.

3

Encouraging innovation in industry. The Fellowships and PhD Scholarships, in particular, have enabled exploration of difficult problems with potential commercial outcomes.

SHORT TERM
IMPACTS

4

Enabling researchers to attract funding for additional and follow on research from industry and the Australian Government. The AQ programs are seen as effective bridging programs to bigger national grants, to extend current industry partnerships and to connect with new, paying industry partners.

5

Contributing to diverse researcher retention in Queensland and potential for ongoing career success. Researchers are more likely to stay in research careers following participation in the program. The funding contribution to Aboriginal and Torres Strait Islander and women researchers is welcomed, but systemic challenges remain.

LIKELY ONGOING
IMPACTS

Key Findings

Over the past three years the programs have had a number of direct short term outcomes. They have:

As a result of these short term outcomes, the impacts for Queensland include:

The programs are likely to have an ongoing impact as they are:

Key Finding 1: The programs have catalysed and expedited research in Queensland

The programs have catalysed new research that otherwise would not have occurred, and brought forward research that was already planned.

The Fellowships are catalysing and expediting research

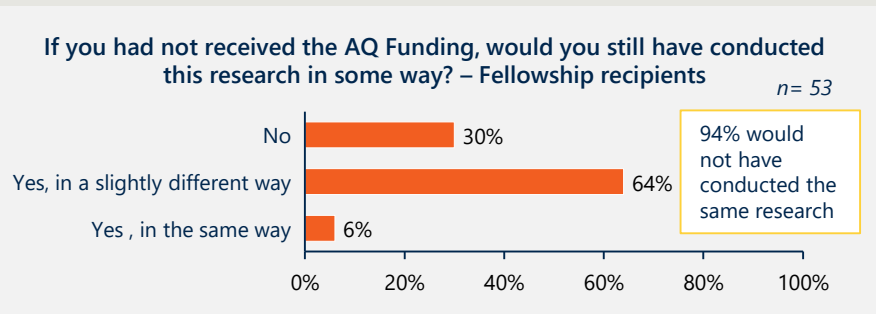
The programs have increased the volume of industry-focused research occurring in Queensland. As shown in the top-right figure, almost one-third of Fellowship survey respondents would not have undertaken their research in the absence of AQ funding. Industry partner respondents had a similar reaction, with 41% also indicating the research would not have gone ahead (shown middle-right). Of those researchers who would have gone ahead with their research in a slightly different way, over 80% would have conducted the research at a later date (bottom-right figure). This is also supported by 'merited unsuccessful' applicants to the Industry Research Fellowships. Of the survey respondents (n=18), 44% have not gone on to undertake their research.

This means at least one-third of the investment in Fellowships (\$8.19 million) has funded research that otherwise would not have occurred. Therefore, the government is effectively catalysing research that otherwise is unlikely to have occurred, and expediting research that may have taken place later.

In contrast, PhD Scholarships are only provided to Scholars with an existing funding source. Due to this requirement, AQ is supporting PhD candidates to complete their research and encouraging industry collaboration, but not necessarily catalysing new research.

Women participating in maternity funding part of WAF were able to publish sooner

Women accessing research assistant funding through the WAF were able to reduce the slowdown in their research progression during maternity leave. 98% of survey respondents said the WAF enabled progress on their research to a great extent (76%) or to some extent (23%) either while they were on maternity leave or when they came back.



*30% of \$27.3 million contractually committed in Research Fellowships and Industry Research Fellowships

Key Finding 2: The programs have strengthened academic and industry collaboration

Develop, attract and retain talent (incl. STEM)

Build sustainable partnerships to deliver outcomes

New connections have been formed, the programs are leveraging industry investment and researcher capability is being developed.

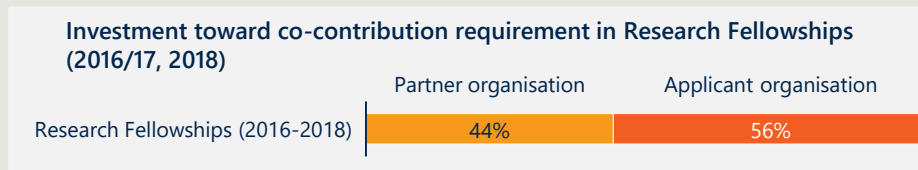
New industry collaborations have been formed

Data for the 2016-17 Research Fellowships and the 2018 Industry Research Fellowships show that approximately 40% of the academic and industry connections were new, and a direct result from AQ funding. In interviews, Fellows spoke of having had ideas and conversations with industry, but not being able to progress ideas until the AQ funding became available.

The flipside of this is that 60% are existing industry connections. This is not entirely surprising, and is due in part to the short application lead times reducing the ability of researchers to make new connections, as previously mentioned. Stakeholders also indicated that it is particularly the case for PhD Scholars, who are generally more reliant on existing university relationships due to a lack of personal networks.

The AQ Funding has leveraged university and industry investment

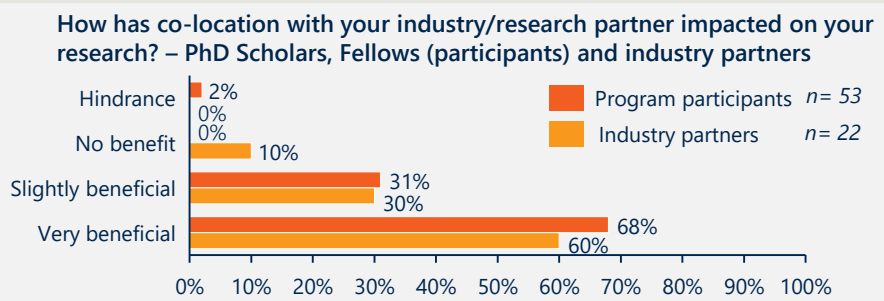
The split in co-contribution toward the Fellowships is close to even between the applicant organisation and the industry partner (shown below). This is leveraging significant investment from industry for research (approx. \$16.6 million in the 2016/17 and 2018 rounds).



Industry collaboration requirements, particularly co-location, are assisting researchers to build industry research skills

The most commonly cited barrier to industry participation in research was differing motives and approaches to the research. The AQ programs are

useful to reduce this barrier. In fact, the focus on industry research and the co-location requirement in the AQ programs were consistently called out as beneficial to all parties and the research (see figure and quotes below). The evaluation heard that co-location improved participants' ability to network and communicate with industry, and this experience has been invaluable in understanding how to work effectively with industry. Interviewees often commented that the industry-focus of the AQ programs is distinctive to other funding options, and several commented that the co-location requirements may discourage some researchers from applying. Even though this sentiment exists, those who have experienced the co-location, particularly earlier-career researchers, have found it very beneficial.



“The fusion of our experiences allowed us to explore wider horizons and get to robust solutions quicker. – *Industry Partner*”

“It is good to have a person doing the research experience how things are implemented in the field and what is practical on a larger scale. – *Industry Partner*”

“It took some time for the Fellow to get their head around the commercial perspective, priorities etc. He has picked up a lot from that exposure. We've built that with the team in the university. Co-location was critical. – *Industry Partner*”

Key Finding 3: The programs have encouraged innovation in industry

Grow pipelines of investable products

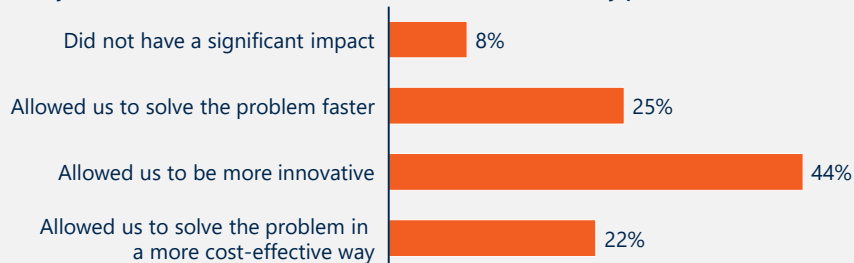
Increase economic benefits from commercialisation

The Fellowships and PhD Scholarships, in particular, have enabled exploration of difficult problems with potential commercial outcomes.

The AQ programs have enabled industry partners to be more innovative

The injection of funding for a dedicated researcher has allowed problems to be solved that otherwise would not have been addressed for many years, if at all. 92% of industry partner respondents indicated participating in the program enabled them to solve a problem or produce a product they otherwise would not have been able to. Almost half of all industry partner respondents indicated they were able to be more innovative due to the program, and a further 25% said they could solve the problem faster (as shown below).

To what extent has participating in the program allowed you to solve a problem or produce a product you otherwise would not have been able to do? – Industry partners *n= 22*



Interviews with industry partners and researchers confirmed this view, as shown in the quotes to the right. Generally, industry partners found that with the additional funding they could pursue ideas that were on the 'nice to have' list, which they felt is where the true innovation could occur.

What did the research partnership enable you to do?

“There is no way we would have done this research otherwise. We would not have experimented with this new technology”
– PhD industry partner

“We would have continued with our inefficient practices. The new modelling will drastically increase efficiency of our trials, which will have commercial outcomes”
– PhD industry partner

“The AQ funding allows for translation of research. Interstate researchers are very jealous of this- they aren't funded to implement the work. Interstate researchers can't work with the companies to make the products commercially viable, they have to stop at the publication point – meaning potentially prevention/life-saving products don't get to people”
– Research fellow

*WAF was excluded from this analysis due to a lack of an industry component. PhD Scholarships were also excluded as PhD Scholars are already receiving funding prior to AQ's top-up Scholarship, which makes their projects not new catalysed research.

¹Deloitte Access Economics (2015). <https://www2.deloitte.com/au/en/pages/economics/articles/economic-contributions-australias-research-universities-unsw.html>

²London Economics (2017). <https://russellgroup.ac.uk/media/5608/the-economic-impact-of-russell-group-universities.pdf>

Key Finding 4: The programs enable researchers to attract funding from industry and the Australian Government

Build access to capital

The AQ programs are seen as effective bridging programs to bigger national grants, to extend current industry partnerships and to connect with new, paying industry partners.

The AQ programs are effective stepping stones to larger investment

The AQ Research Fellowships fill a critical funding gap (as described on Page 15). This means they provide early career Fellows the opportunity to lead industry research for the first time, when they may not have otherwise. The programs have also provided mid-career Fellows the opportunity to build upon their early career experience and lead a research team for the first time.

Being able to lead innovative research and build a profile within industry strengthens future grant applications and increases the likelihood of industry investing in the research. Several Fellows went on to successfully apply for additional grants or receive industry funding, and attribute this success in part to the AQ Fellowship. This is an important and valuable outcome for the Queensland Government, as it demonstrates a clear return on investment.

“ I’ve received funding from ARC since receiving the [AQ] Fellowship, as well as a large grant from Defence (\$2 million/2 years). The Fellowship has had a large impact.” - Fellow ”

“ The industry actually promotes my work to other businesses- I have become ‘the person that does that’ which has provided more opportunities for my research. - Fellow ”

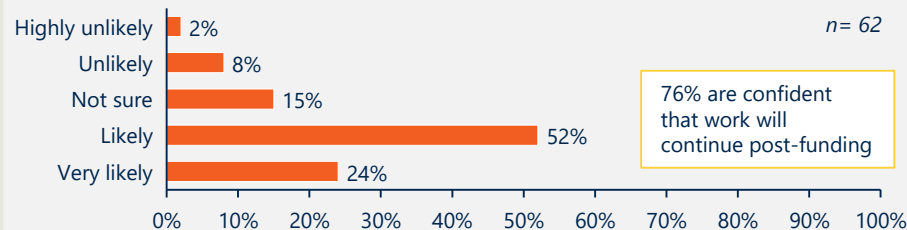
“ [The WAF enabled me] to complete a pilot study during my maternity leave which provided important pilot data used for a large NHMRC project grant.- WAF maternity leave recipient ”

“ At the start, [the Fellowship] provided prestige - so that gives your research airtime in the media (which helps a lot) and helps also connect with other industry partners. I’m now on a large national project with 18 industry partners. - Fellow ”

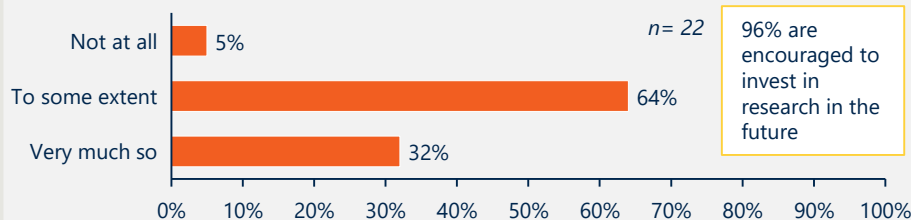
Many participants are confident their collaboration with, and investment from, industry will continue

Over three-quarters of researcher survey respondents believe their industry partner is likely, or very likely, to fund additional research work (shown below). Industry is just as positive, with 96% of respondents indicating the AQ program has encouraged them to consider investing in research in the future (shown bottom). In interviews, Fellows commented on their future plans with their industry partner. Some were looking to apply for additional funding such as ARC linkage grants together, and others were already discussing the next research phase which would be funded by the industry partner.

How likely do you think it is that your industry partner would fund additional research following the end of this project? – PhD and Fellowship participants



To what extent has participating in the AQ program encouraged your organisation to consider investing in research in the future? –Industry partners



Key Finding 5: The programs contributed to diverse researcher retention in Queensland

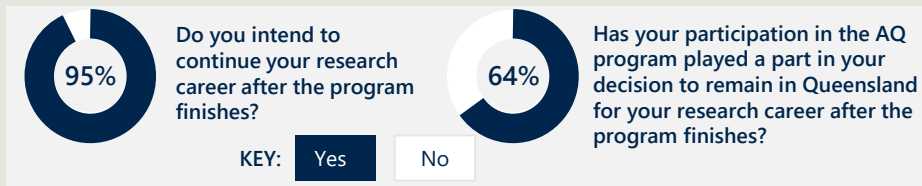
Increase innovation awareness and engagement

Develop, attract and retain talent (incl. STEM)

Researchers are more likely to stay in research careers following participation in the program. The funding contribution to Aboriginal and Torres Strait Islander and women researchers is welcomed, but systemic challenges remain.

Access to funding is a key determinant to staying in research

PhD Scholars and Fellows both commented on the benefit of the AQ funding to remain in research careers in Queensland. Across the PhD Scholarships, Research Fellowships and Industry Research Fellowship survey respondents, 95% intend to continue their research career post-AQ funding. Of those who intend to continue, 64% indicated that participating in an AQ program played a part in their decision to remain in research.



PhD students, while likely to have undertaken their PhD anyway, may be more likely to complete their PhD due to the AQ funding. This is because the PhD Scholarships make life more comfortable for researchers, and the prospect of completing a PhD more realistic (particularly those commencing their PhD following full-time work).

The AQ programs are viewed as prestigious and help create research career pathways

The impact for Fellows on their careers came through to a greater extent. It was common to hear that without the AQ funding, Fellows may have left research or would have faced an uncertain future of casual academic work. Due to the Fellowship covering staff costs, rather than just project costs, Fellows have three years of job certainty.

Additionally, through the 'Amplify' program, AQ Fellows at UQ are guaranteed an additional two years at the university. Amplify provides bridging funding to those who have secured competitive grants (incl. AQ and ARC funding).

A similar scheme is run through QUT. This highlights the prestige attached to the AQ programs, and the willingness of universities to support AQ Fellows beyond the life of the program, in a similar capacity to those who have attracted federal funding. The prestige of the Fellowships in particular raise the profile of the researcher within academia and industry. This is a significant flow-on impact from the initial Queensland Government investment. It will not only support more researchers to stay in research and in Queensland, but will likely generate more industry-focused research.

The programs are not a pull factor for interstate and overseas researchers- though this was not the primary goal of the programs

Generally, the PhD Scholarships, Research Fellowships and WAF were seen as a tool to retain talent, rather than to attract it. Only 12% of the PhD Scholarship applications came from interstate, and only one survey respondent indicated they were drawn to QLD from another state because of AQ funding. It is noted by the evaluation that attraction of researchers was not the primary goal of these programs, but a broader goal of the AQ programs. However, as previously described, longer application lead times may increase the programs ability to attract talent to Queensland.

There have only been a small number of Aboriginal and/or Torres Strait Islander participants- reflecting the small pipeline

Across the three years of the programs, there was one Indigenous PhD Scholar and two Indigenous Research Fellows. This is partly a reflection of the small number of Aboriginal and/or Torres Strait Islander higher degree research candidates and postdoctoral researchers. With a small pipeline, there is a limit to the impact the AQ programs can have on improving the number of Aboriginal and Torres Strait Islander researchers in Queensland. There is a strong role for universities, and perhaps other programs under AQ, for developing the pipeline of Aboriginal and Torres Strait Islander researchers.

Key Finding 5: The programs contributed to diverse researcher retention in Queensland

Increase innovation awareness and engagement

Develop, attract and retain talent (incl. STEM)

Researchers are more likely to stay in research careers following participation in the program. The funding contribution to Aboriginal and Torres Strait Islander and women researchers is welcomed, but systemic challenges remain.

The WAF contributed to women having more immediate success in their research careers, which may indirectly lead to retention

Participation in aspects of the WAF alone did not appear to be a deciding factor for women choosing to remain in research. However, participants all commented on the value of each of the program's components to their research career success, which may indirectly affect retention:

- Maternity leave funding (for a research assistant) is recognised as the biggest gap (and is now the focus of the relaunched Women's Research Assistance Program). Quick resumption of research to publish sooner is a key factor in career progress.
- Carer's and Women's Lecture funding was also highlighted (by both those who had and had not accessed them) to be critical to 'stay in the game'. Networking was raised as being essential for all researchers, and women commented they are less likely to attend important conferences without financial assistance, as the cost for childcare is prohibitive.

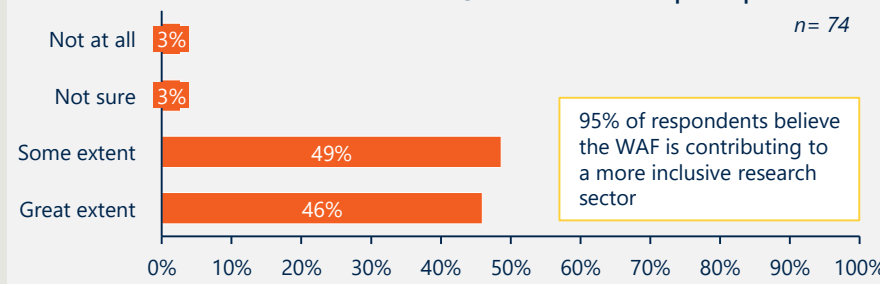
The Carer's and Women's Lecture funding has been ceased in the WRAP, due to the relatively high level of administration and lower level of impact compared to the Maternity Leave funding. The evaluation found women saw value in these programs to support the success of their career. However, it is appropriate for the Queensland Government to reduce this funding, and encourage universities to take on the responsibility for creating these opportunities, as discussed further on the right.

WAF plays an important role, but must be complemented by efforts of the universities themselves

The barriers identified and addressed by the WAF were confirmed as highly important by participants, with 95% indicating the WAF contributes to a more inclusive research sector (shown below). However, interviewees continue to feel they are less credible than men in research. Many spoke of systemic issues facing them within their institutions – from having research proposals knocked back despite securing grant funding, to being viewed as less able to manage large projects.

These issues, it was recognised, cannot be changed by AQ. The Queensland Government appears to be leading the way in what should become standard practice across universities to fund women's research to continue whilst they are on maternity leave, and to find effective ways to promote the credibility of women in research. Under the WRAP, this responsibility will be transitioned to the universities, which is appropriate.

To what extent do you believe that the Women's Academic Fund has enabled a more inclusive research sector in Queensland? – WAF participants



5. Outcomes against the AQ Framework

The programs have achieved almost all of their intended AQ objectives

The short term objectives have largely been achieved, and there is strong indication the longer term objectives are on track to being achieved.

AQ STRATEGIES	AQ OBJECTIVES	PROGRAM INTENT	EVALUATION FINDINGS
Supporting culture	Increase innovation awareness and engagement	Researchers from diverse backgrounds think of QLD as an innovation destination and have strong connections with innovation community	Stakeholders feel the QLD Govt is supportive of industry research, compared to other states. However, connections with the AQ innovation community could be increased.
Building capability	Increase innovation capability	Researchers with strong capability in applied research with industry are attracted to QLD and retained in QLD	The programs had an impact on retaining researchers in research careers, in QLD, and increasing capability in industry research. The programs have not had a significant impact on attracting talent, reflecting the relevant emphasis of the programs on retention.
	Develop, attract and retain talent (incl. STEM)		
Fostering collaboration	Build sustainable partnerships to deliver outcomes	Research and industry connections are forged and/or strengthened to result in future research	The programs generated new, and strengthened existing, industry relationships. Most industry partners indicated they would look to continue the arrangement in the future.
Increasing investment	Grow pipelines of investable products	Research produces new products that can be commercialised	The Fellowships, in particular, have the potential to contribute to the development of new, commercialisable ideas, however most are still in research phase.
	Build access to capital	Industry increases investment in research	The programs have already leveraged at least \$16.6 million in industry investment, and 95% of industry partners indicated they would consider investing in research in the future.
Scale for jobs and growth	Expedite commercialisation	Research occurs faster, enabling products to be developed sooner	The WAF and Fellowships have brought forward research that otherwise would have been delayed, or not occurred.
	Increase economic benefits from commercialisation	Jobs for researchers, and others, are created, and revenue is raised from new products	It is too early for evidence of revenue from the research output, but there is evidence of increased employment for the researchers.

Indicates the extent to which the programs directly relate these objectives:

■ Short term outcomes □ Longer term outcomes

6. Ideas to explore

There are opportunities to build on the existing success of the programs

Innovation and industry collaboration can be further encouraged by promotion to industry and cultivating an AQ community

As already detailed, the programs have already achieved considerable success in supporting research-industry collaboration. Nous' analysis and stakeholder consultations have identified a small number of future opportunities which could build on this success, as detailed below.

- **Promoting to industry:** There is an opportunity to promote the programs to industry. This could have a number of benefits; it could assist universities in attracting industry partners; and it could encourage industry to identify research opportunities themselves and approach universities to partner.
- **Creating an AQ community:** Several interviewees from earlier Fellowship and PhD rounds felt the correspondence and invitations to AQ events had dropped off over the past 18 months. All commented that they had really enjoyed being part of the AQ community, and hoped that aspect could be strengthened again.

Diversity in the research sector could be encouraged through greater flexibility in programs






The experiences of participants suggest there are opportunities for greater flexibility to be embedded in some of the programs. This is particularly to ensure Aboriginal and/or Torres Strait Islander people and women with caring responsibilities receive the support they require.

- **Communicating flexibility in timeframes and working arrangements:** Both Aboriginal and/or Torres Strait Islander researchers and women researchers commented on the need for flexibility in the timeframes for the funding. This largely was to enable researchers to work part-time so that they can manage their responsibilities outside of work, particularly caring responsibilities. It is understood there is significant flexibility built into these programs, which may need to be more widely communicated. Part-time, rather than half-time, arrangements may also warrant consideration, such as funding on a pro-rata basis.
- **Maintaining Aboriginal and/or Torres Straits Islander-specific programs:** On balance, stakeholders saw value in standalone programs for Aboriginal and/or Torres Strait Islander researchers, to provide a clear career pathway option, and to ensure the required flexibility can be designed into the program.

Appendix A – Learnings for meso evaluation

Meso evaluation is a useful tool to assess programs with similar intended outcomes and interventions

Evaluating several programs at a meso, or aggregated, level can provide many benefits. It allows a bigger-picture view of how several programs work together within an ecosystem to affect outcomes.

When to use meso evaluation	Is meso appropriate?	Comments
The programs are designed as a suite.		If the programs have been designed to work together, they are likely to be well suited to being evaluated together. Ideally, they will be collecting similar outcome data for ease of aggregation.
The programs are aiming to achieve similar objectives.		If the programs have not necessarily been designed together, but have similar intended outcomes and interventions, they may be suitable to be evaluated together. The test is the ability to develop a cohesive and meaningful program logic.
The programs have similar target audiences and interventions.		Programs targeting similar groups are more likely to be effectively evaluated at a meso level than programs looking to influence significantly different groups, in different ways. This is because it is harder to aggregate outcomes and create consistent Key Lines of Enquiry where there is too great a difference in the programs.
The programs are a reasonable size as a suite.		Meso evaluation is a particularly effective tool to evaluate programs that on their own may not warrant a full scale evaluation. By grouping several smaller program evaluations together, there are efficiencies to be gained, and the evaluation can provide enough detail to understand how the programs are tracking. The closer the programs are in terms of investment and recipient numbers, the easier it is to conduct an effective meso-evaluation.
The evaluation outcome needs to provide significant detail to allow for redesign.		Meso evaluation findings and recommendations are, by design, high-level and applicable across programs. If a program is particularly high value, highly sensitive and/or is known to have problems in delivery or outcomes, a meso-evaluation may not be appropriate. A micro-evaluation, that can fully explore all of the details, is likely to be more suitable.

Meso evaluation can be a useful tool to assess programs with similar intended outcomes and interventions (contd.)

Program outcomes can be effectively aggregated by maintaining a meso view throughout design, conducting the activities and in reporting

Considerations in meso evaluation design

The design of a meso evaluation is different from a macro evaluation. Attempting to aggregate several micro evaluations will not result in an effective meso evaluation. Instead, the evaluation design must take a meso-view from the start, including through:

1. **Developing a program logic to show how the programs collectively work towards the same outcomes.** It is important to show how each of the programs being evaluated fit together, preferably on one page. Grouping programs by their intended short and long-term outcomes, rather than by their target group, intervention type or mode of delivery is most meaningful. This allows the evaluation to demonstrate how the programs work together, and enables the exploration of synergies. Individual, detailed program logics should also be developed, that link clearly to the overarching meso program logic.
2. **Ensuring Key Lines of Enquiry are, as far as possible, applicable across programs.** Specific issues to be explored within programs should be the exception, and only included following careful consideration that they will produce valuable information outside of the meso-view. There must be comfort with the fact that the answers to the questions are likely to be quite varied between programs, but with broadly-applicable KLEs, the information is more easily aggregated.
3. **Design the surveys and interviews as consistently as possible.** It may be tempting to lose the connection to the meso KLEs when collecting data, through increasingly specific research questions. It is important to ensure the data collection will yield results that are able to be easily and meaningfully aggregated. This means, for example, ensuring survey and interview questions are as consistent as possible across programs.

Considerations in meso evaluation analysis and reporting

1. **Be explicit regarding representativeness of the sample.** It is highly unlikely the evaluation will receive equal input across all programs. It is important that any biases in the data sample is quantified, and accounted for in the interpretation of results.
2. **Report themes across programs.** The report should be structured around the answers to the most pertinent evaluation questions. As far as possible, this should be as themes that are applicable across programs. The report should be clear regarding the extent to which the programs have similar or mixed findings within the theme. Where one program has a disproportionate level of funding, it may be reasonable to provide additional reporting space to the program.
3. **Provide specific detail where required.** There may be specific issues that arise for individual programs which may be helpful for the audience to know. Where these details are not exactly aligned to the meso KLEs, these may be collated in an Appendix.

Appendix B – Evaluation methodology

Evaluation methodology

Surveys and interviews

Survey reach, response rates, and final sample sizes were adequate across all of the programs for all target groups

A total of seven surveys were designed and administered for the evaluation, to meet the needs of seven discrete stakeholder groups, as shown in the table to the right. Each survey displayed strong response rates when compared to the total number of program participants.

There are some points to note for three of the surveys:

- Industry Research Fellowships were issued a separate survey to the Research Fellowships, to account for the shorter timeframe for Industry Research Fellowships which may affect the results.
- 'Merited unsuccessful' refers to a sample of Research Fellowship applicants who received an average application score of 5 or above (out of 7) but were unsuccessful. This generated a pool of 59 (out of 122 total declines) for the Industry Research Fellowships and 7 (out of total 25) for the Research Fellowships. Of these applicants, 27% completed the survey, enabling a substantial pseudo-counterfactual group to be established.
- Due to the large number of total participants in the program, respondents for the WAF constituted the majority of final total survey respondents, after removing incomplete and test responses (see figure to right). WAF respondents are not included in industry-focused analyses, given the lack of an industry component to the program design.

Program	Number of respondents	Response rate
PhD Scholarship	9	41%
Research Fellowships	34	37%
Industry Research Fellowships	19	63%
Women's Academic Fund	74	40%
Merited unsuccessful	18	27%
Industry partners	22	12%

A representative sample of program participants (universities, Scholars, Fellows and industry partners) were interviewed

The evaluation team engaged with representatives from each of the parties involved with the AQ programs. Interviewees spanned each of the funding rounds to ensure the sample was representative of the overall cohort.

- **DITID Staff:** 6 participants
- **PhD Scholarships:** 4 participants + 1 Indigenous Scholar
- **Research Fellowships:** 6 participants + 2 Indigenous Fellows
- **WAF:** 6 participants
- **Research institutions:** 9 institutional contacts
- **Industry partners:** 3 partners (1 for PhD Scholarships, 2 for Fellowships)

*This figure is 12% of all industry partners, noting that numerous projects listed multiple industry partners. All industry partners with an email address that were listed for each successful application were contacted for the survey. If each project was assumed to have only one primary partner, 22 respondents would represent 17%.

Evaluation methodology

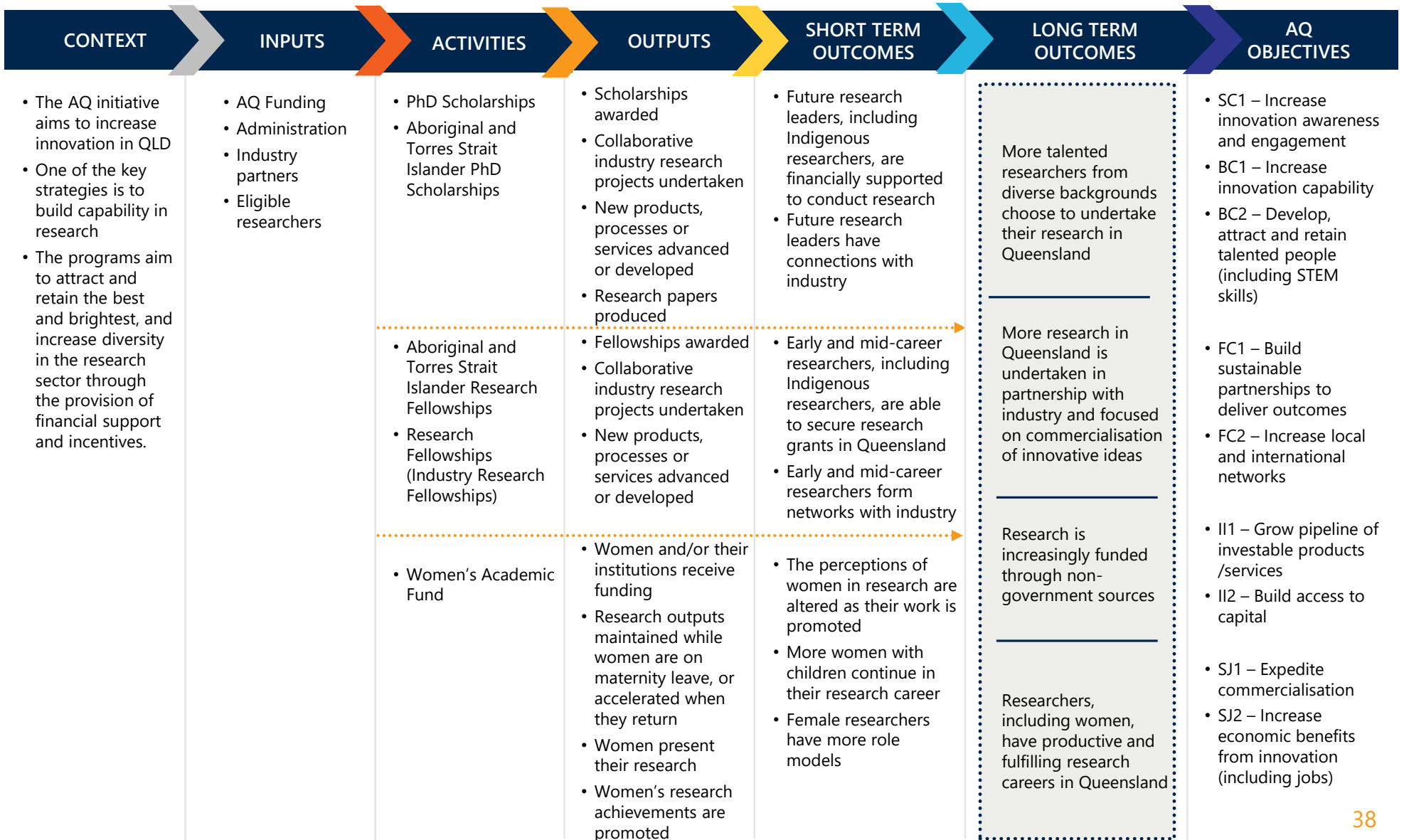
Document and data review

Nous reviewed the following documents and data, provided by DITID:

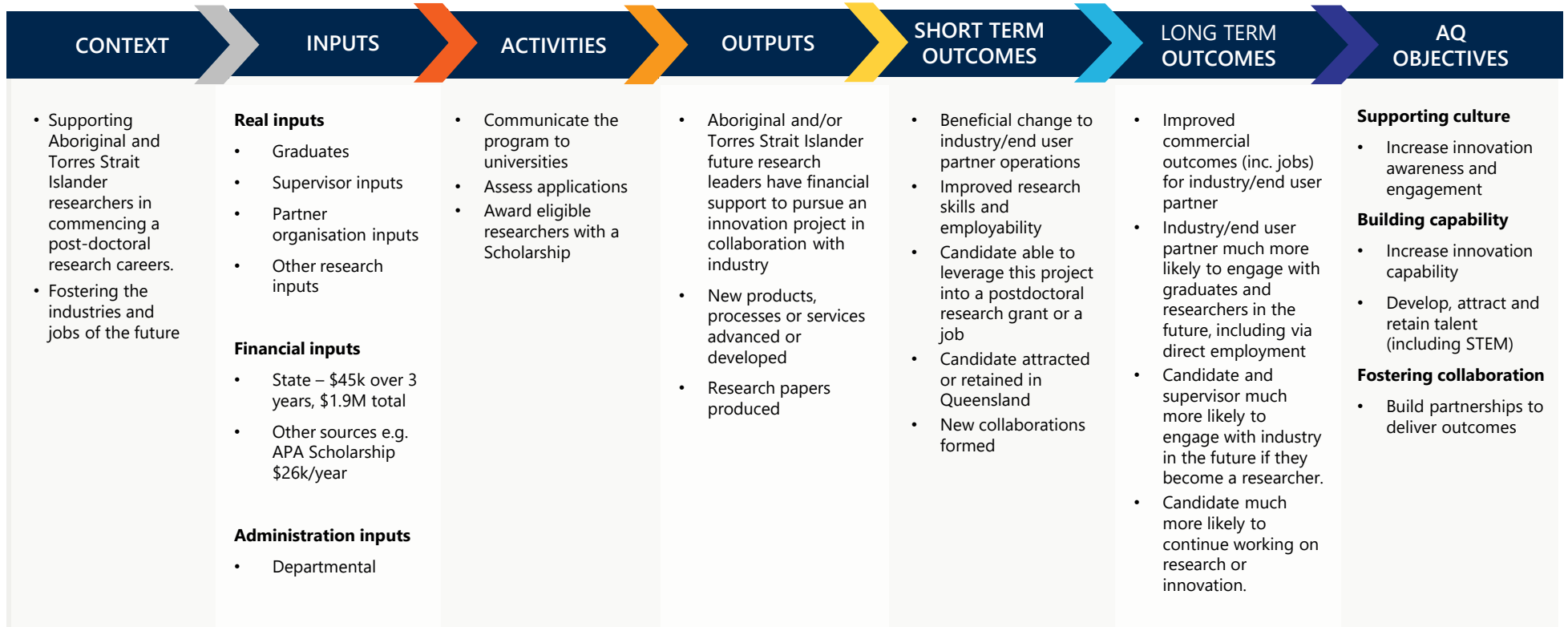
Document name	Data source name
AQ Evaluation Framework	Women's Academic Fund 2015-16 Round 1 all applications submitted
Evaluation Measures and KPIs – Research Fellowships	Women's Academic Fund 2016-17 Round 1 all applications submitted
Evaluation Plan – Aboriginal and Torres Strait Islander PhD Scholarships	Women's Academic Fund 2016-17 Round 2 all applications submitted
Evaluation Plan – Aboriginal and Torres Strait Islander Research Fellowships	Aboriginal and Torres Strait Islander PhD Scholarships 2015-16 all applications submitted
Evaluation Plan – PhD Scholarships	Aboriginal and Torres Strait Islander PhD Scholarships 2018-19 all applications submitted
Evaluation Plan – Research Fellowships (revised)	Aboriginal and Torres Strait Islander Research Fellowships 2015-16 Round 1 all applications submitted
Evaluation Plan – Women's Academic Fund	Aboriginal and Torres Strait Islander Research Fellowships 2017-18 Round 3 all applications submitted
Aboriginal and Torres Strait Islander PhD Scholarships Guidelines	PhD Scholarships 2015-16 Round 1 all applications submitted
Aboriginal and Torres Strait Islander Research Fellowships Guidelines	PhD Scholarships 2016-17 Round 2 all applications submitted
Research Fellowships Guidelines	Research Fellowships 2015-16 Round 1 all applications submitted
Industry Research Fellowships Guidelines	Research Fellowships 2016-17 Round 2 all applications submitted
PhD Scholarships Guidelines (final)	Industry Research Fellowships 2018 Round 1 all applications submitted
Women's Academic Fund Guidelines	
Women's Academic Fund Evaluation (final)	

Appendix C - Program logics

Meso program logic



Program Logic – PhD Scholarships



Program information

Timeframe: January 2016, February 2017

Contractual commitment: \$826,847

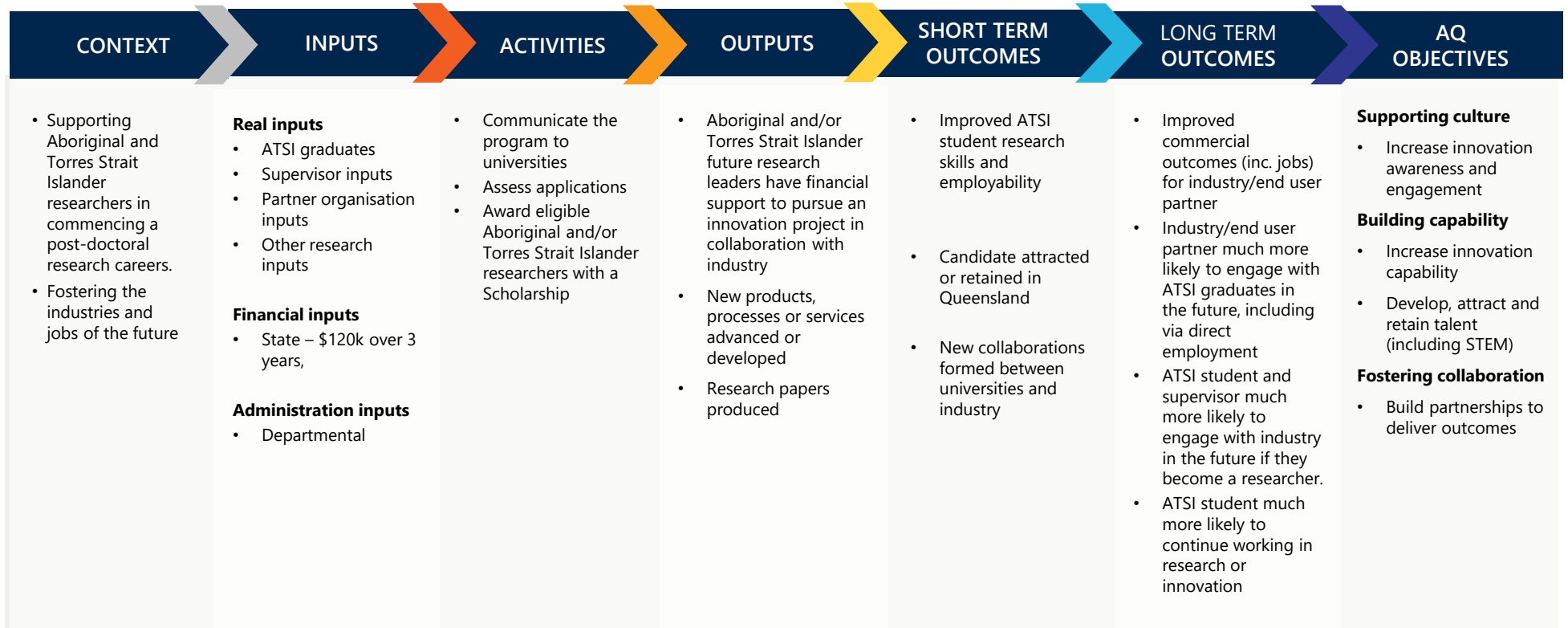
Number of participants: 22

Target cohort: PhD candidates

AQ Theme: Discover

AQ Strategy/ies: Supporting Culture, Building Capability, Fostering Collaboration

Program Logic – Aboriginal and Torres Strait Islander PhD Scholarships



Program information

Timeframe: January 2016

Contractual commitment: \$120,000

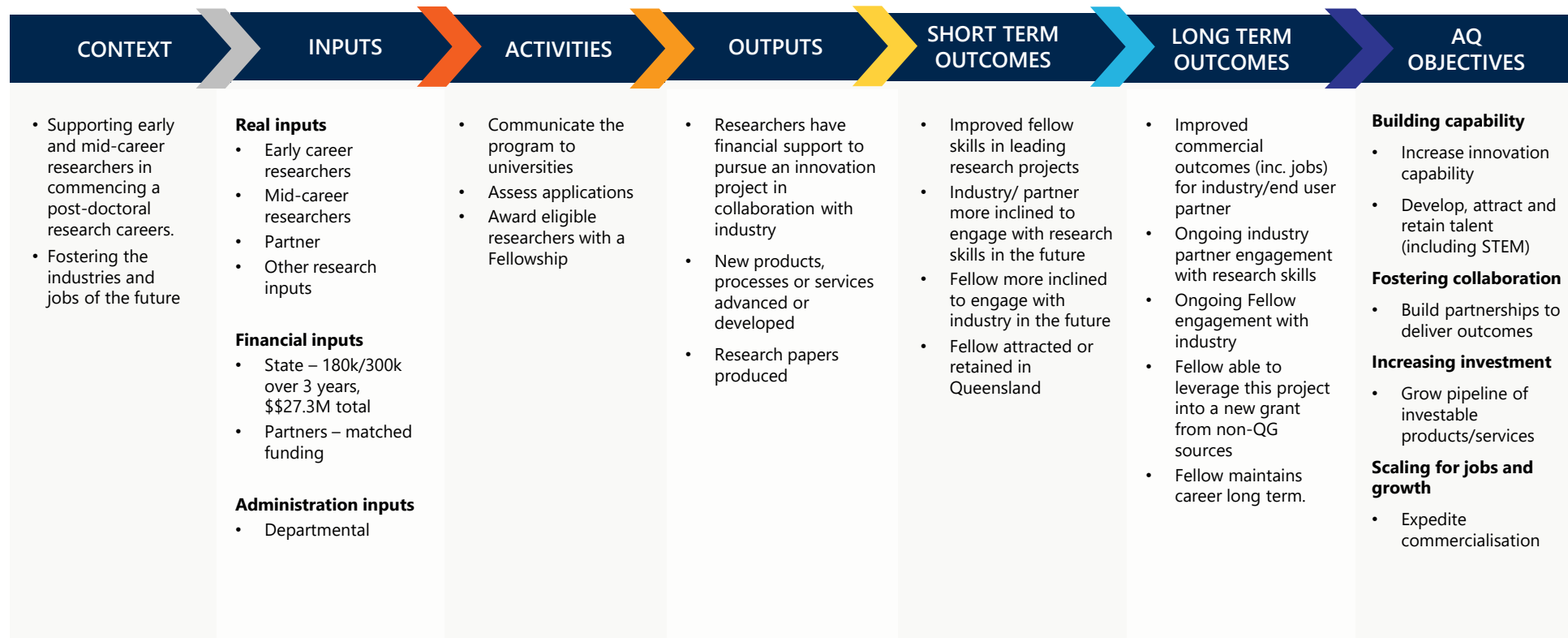
Number of participants: 1

Target cohort: Aboriginal and Torres Strait Islander PhD candidates

AQ Theme: Discover

AQ Strategy/ies: Supporting Culture, Building Capability, Fostering Collaboration

Program Logic – Advance Queensland Research Fellowships



Program information

Timeframe: Round 1, 2, 3 from 2016 - 2018

Contractual commitment: \$27,300,000

Number of participants: 127

Target cohort: Early and Mid-career researchers

AQ Theme: Discover

AQ Strategy/ies: Building Capability, Fostering Collaboration, Increasing Investment, Scaling for Jobs and Growth

Program Logic – Aboriginal and Torres Strait Islander Research Fellowships



Program information

Timeframe: Round 1 – January 2016, Round 2 – August 2018

Contractual commitment: \$480,000

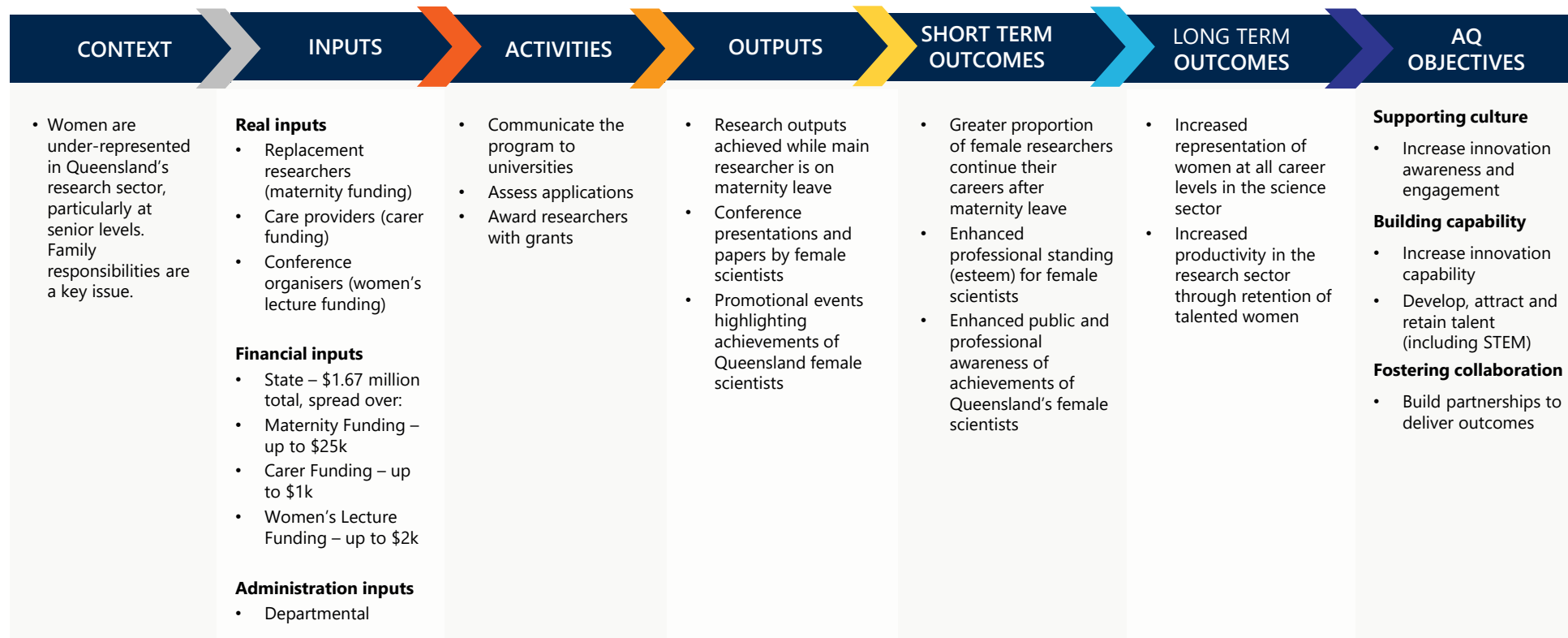
Number of participants: 2

Target cohort: Aboriginal and Torres Strait Islander early and mid-career

AQ Theme: Discover

AQ Strategy/ies: Supporting Culture, Building Capability, Fostering collaboration, Increasing investment, Scaling for jobs and growth

Program Logic – Women’s Academic Fund



Program information

Timeframe: Round 1 – 2015 & 2016, Round 2 – 2016 & 2017

Contractual commitment: \$1,651,709

Number of participants: 191

Target cohort: Female researchers

AQ Theme: Discover

AQ Strategy/ies: Supporting Culture, Building Capability, Fostering Collaboration