



# Business Research Collaboration Create Project



Australian Government  
Department of Industry,  
Innovation and Science

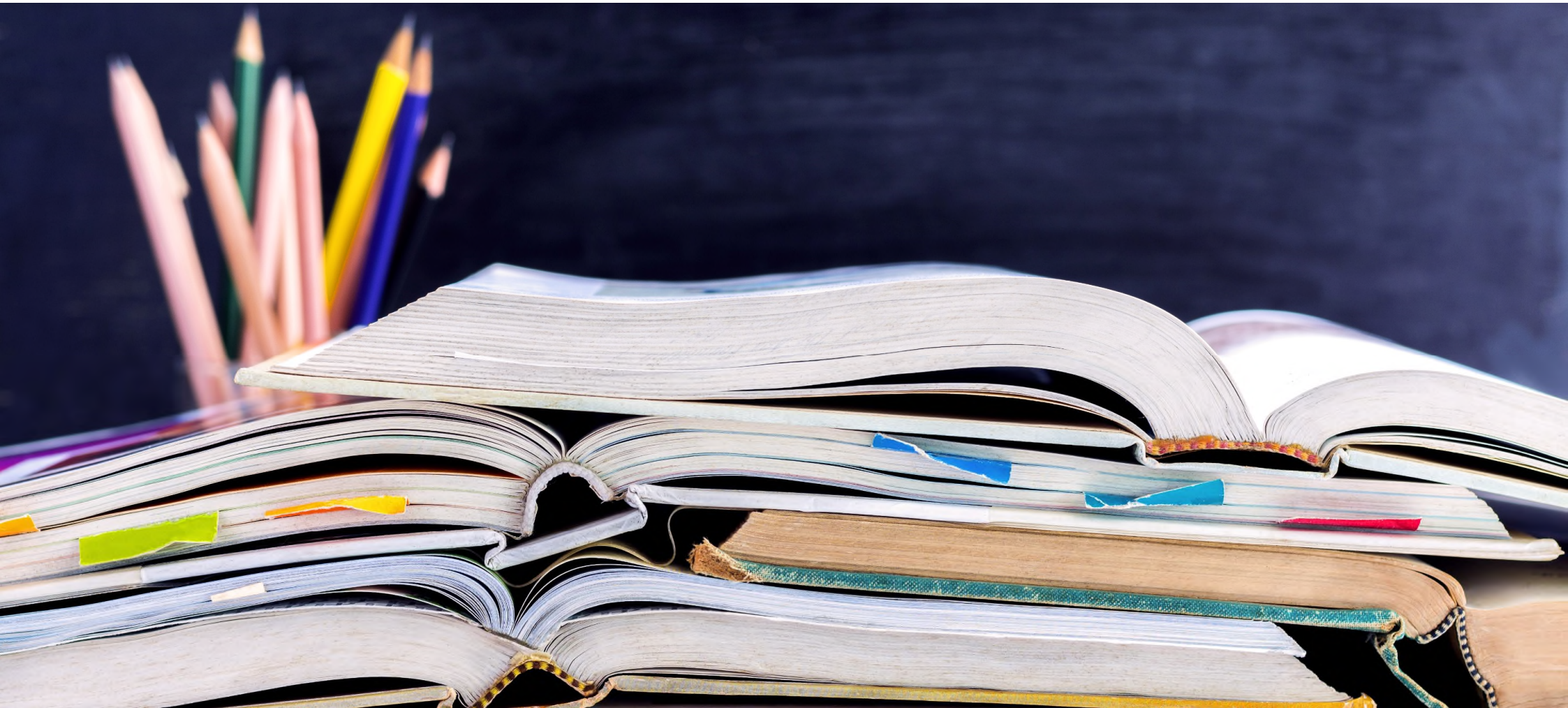


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This is a summary of research findings from the Department of Industry, Innovation, and Science's **Business Research Collaboration Create Project**, conducted between September-December 2017 and March-May 2018. It is provided to support collaborative policy development, and is not intended as a statement of policy.





# Introduction



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## Policy context

Evidence suggests collaboration is important to innovation. Businesses that collaborate and innovate – including those that work with Publicly Funded Research Organisations (PFROs)<sup>1</sup> – are three times as likely to show annual productivity growth than their non-innovative counterparts.<sup>2</sup>

PFROs offer resources and expertise that can be difficult for businesses to generate in-house or otherwise access. PFROs benefit from collaboration through increased research impact and income.

Despite the benefits of collaboration, research suggests that most businesses do not collaborate with PFROs because either they do not perceive it is beneficial, or they are simply unaware of how such collaboration might improve their business performance.<sup>3</sup> This view is supported by findings from the **Discover** phase of this project, completed in 2017.

Building on the Discover phase investigation into the drivers and barriers to business research collaboration, the **Create** phase was conducted in 2017-18. This phase sought to develop ideas and test policy concepts with users and stakeholders to inform future policy development.

<sup>1</sup> Henceforth researchers / research organisations

<sup>2</sup> Australian Innovation System Report 2013, Canberra, p. 53

<sup>3</sup> Australian Innovation System Report 2017, Canberra, p. 17



# Methodology

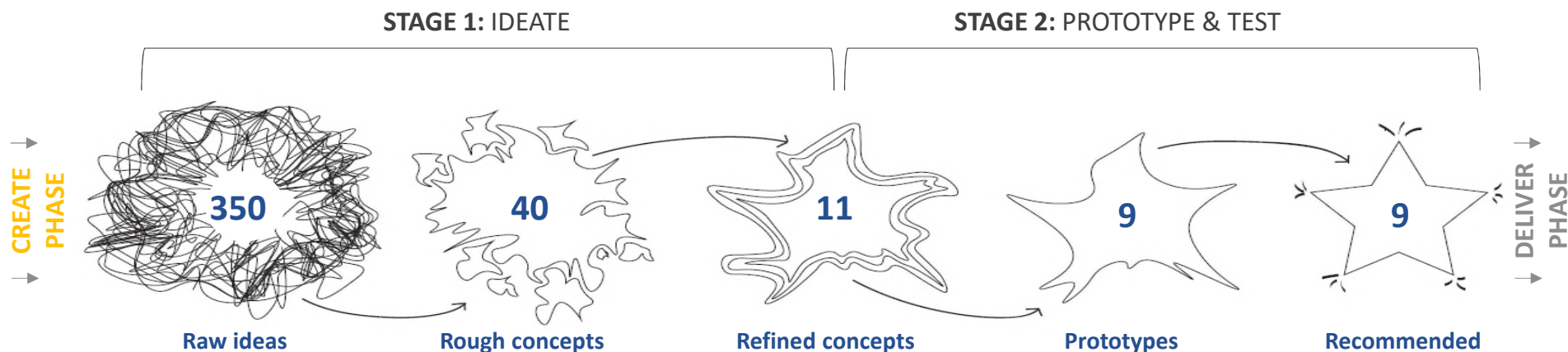
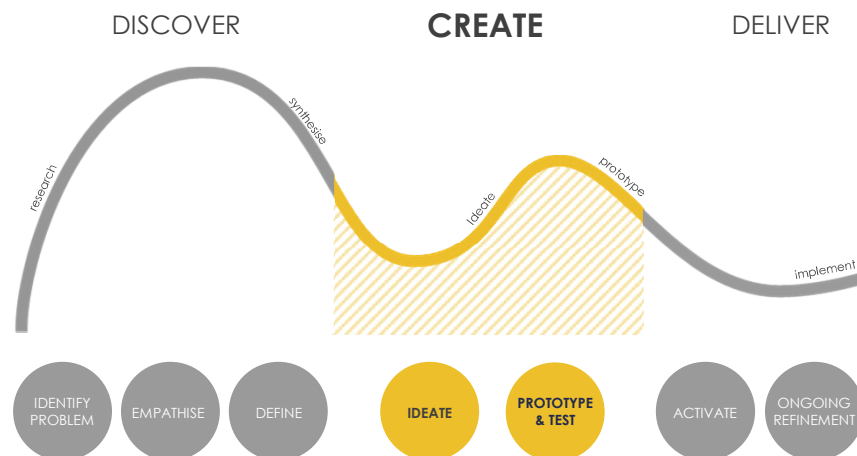
The Business Research Collaboration Create project applied a **Human Centred Design** (HCD) approach incorporating three broad phases: Discover, Create and Deliver.

The **Discover** phase was completed in 2017. The report is available [here](#).

The **Create** phase (highlighted to the right) began with ideation in September-December 2017, and concluded with prototyping and testing from March-May 2018.

The entire **Create** project involved continual refinement: from ideas to concepts, to prototypes, and finally to validated policy concepts with delivery potential.

Direct engagement with business, research and government stakeholders was a key feature of the policy concept development process (see next slide).



# Key findings from Discovery

The **Create** project builds upon the **Discovery** research conducted in 2017. This research examined the drivers for and barriers against business-research collaboration through the challenge statement: *What inhibits 'collaboration ready'<sup>1</sup> businesses from collaborating with publicly funded research organisations?*

The key findings from **Discovery** include:

- **5 key needs** drive a business' collaboration behaviour:
  - Financial stability and cash flow
  - Access to skills
  - Management capability and leadership
  - Networks and connections
  - Access to information
- Businesses have a very **broad understanding of collaboration** and many aren't aware of the benefits.
- Most of the businesses interviewed have undertaken **some form of engagement with research organisations** including supplying goods and services, recruitment, networking, advice/consultancy, fee for service research contracts, joint research collaborations, and postgraduate student placements.
- Some government **collaboration programs are not marketed effectively** to businesses. Some measures lack coordination and would benefit from policy cohesion.

- Businesses have **difficulty finding a collaboration partner**, and rely on existing networks or internet searches. They **value trusted relationships** and often prefer connecting with individual researchers rather than going through formal research organisation channels.
- An **innovation mindset supports successful collaborations**. Some businesses need to build management capability and upskill on innovation/'21st century' skills.
- **Researchers need upskilling on business acumen** and could be more responsive to business needs.

Personas



Doing Just Fine, Thanks!



Not Ready Yet



Salespeople



Learning the Ropes



Ground Breakers



Navigators

←----- NON-COLLABORATORS ----->

←----- COLLABORATORS ----->



## Challenge Statement

*What inhibits 'collaboration ready' businesses from collaborating with publicly funded research organisations?*

<sup>1</sup> Businesses deemed capable of collaboration based on key characteristics such as size, sector and maturity/turnover

# From Design Questions to Policy Concepts

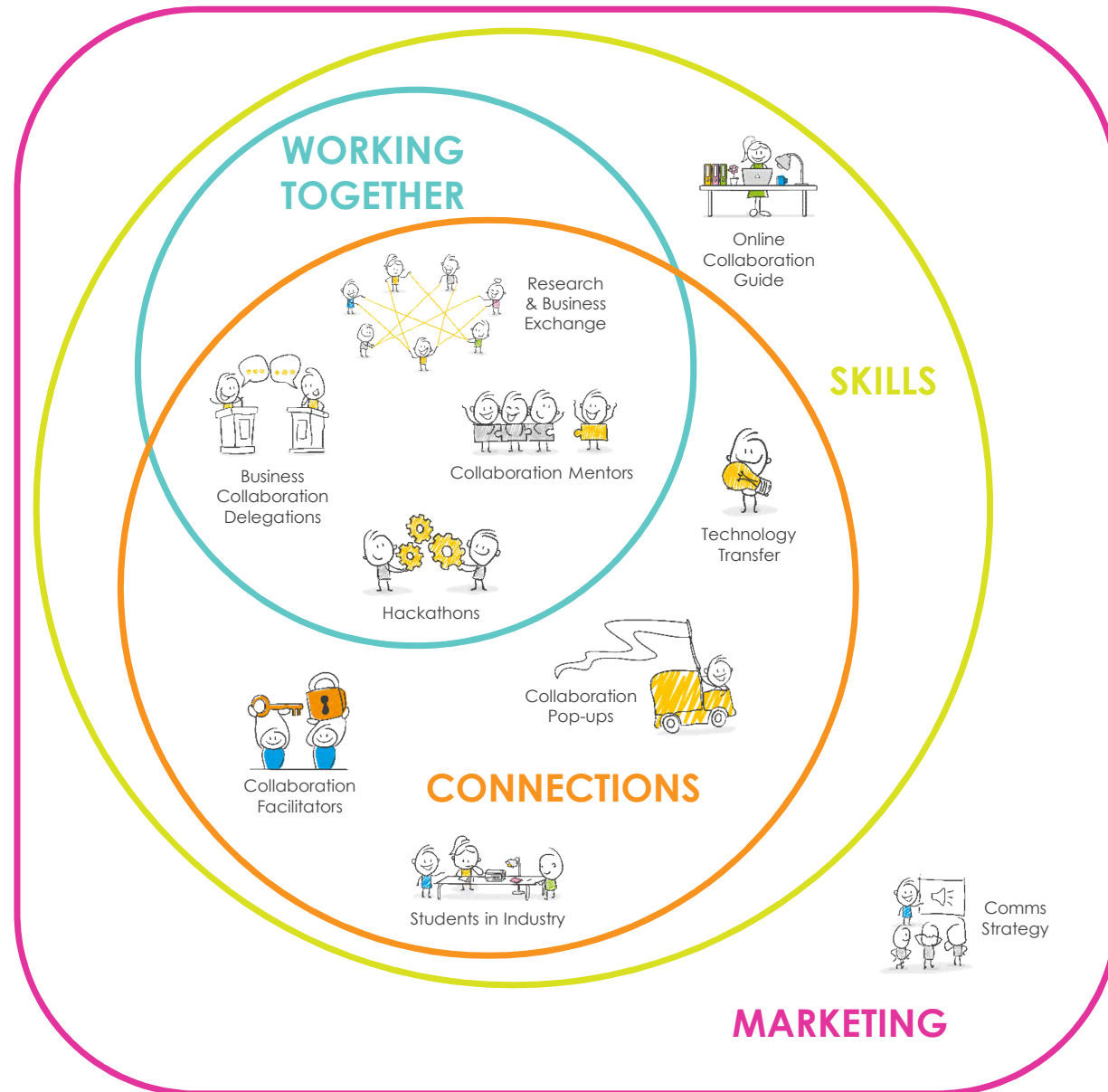
The 2017 **Discovery** research identified **four key design questions** for solution development:

1. How might we **market** the benefits of collaboration and government collaboration programs already available to businesses?
2. How might we **connect** businesses with research opportunities?
3. How might we provide innovation **skills** development options for businesses?
4. In what ways could we encourage businesses to **work together** with researchers to solve shared problems?

**The purpose of the Create** research was to work with end-users to develop potential solutions to these challenges.

Industry, research, and other stakeholders helped us develop ideas, refine them into policy concepts, and then test the concepts.

To the right, our final concepts are shown intersecting these design questions. While all concepts have a marketing element, a broader *Comms Strategy* is progressing separately to the **Create** project.





# Assessment criteria

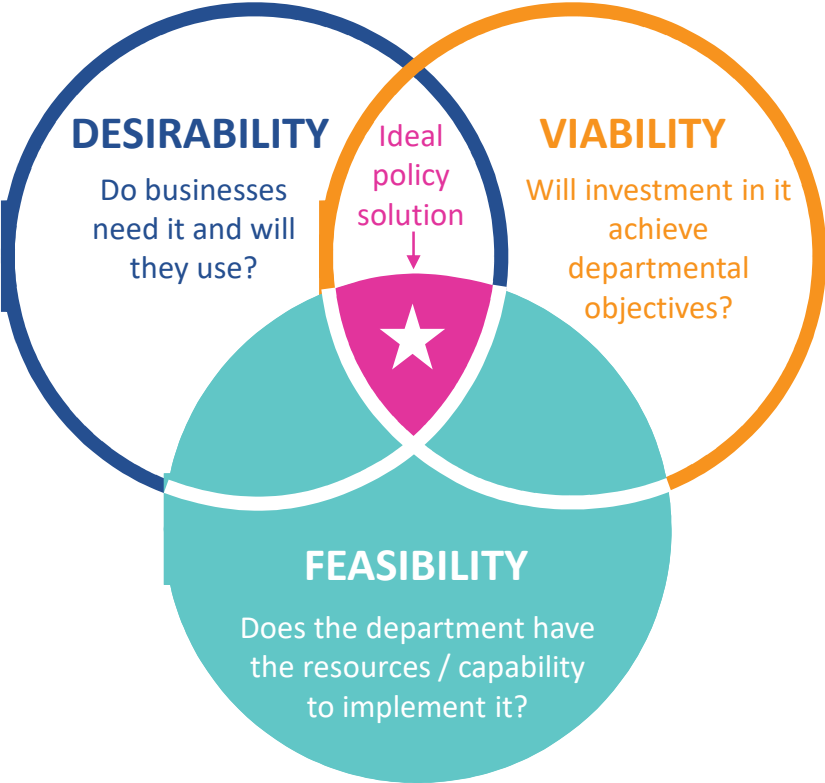
Three main criteria underpinned the iterative process, from idea generation to ultimate assessment of each concept potential for delivery.

These criteria are **(user) desirability**, **feasibility** and **viability**.

Ideation and user testing sought to inform our understanding of each concept's desirability. Feasibility involved consultation and research within our department, with potential collaborators, and other stakeholders. Viability aimed to gauge how well the concept achieves policy objectives (including 'bang for buck').

This approach provides a framework which supports policy development to adjust settings along each criteria with the distinct objectives in mind, while re-assessing how well the concept might provide an ideal policy solution.

Key benefits of the approach and Create research include the engagement (and better understanding) of our end-users and direct integration of user views into concept design. This provides a solid foundation for development of potential new policy options, trials, or program enhancements.







# Create Phase: Engagement snapshot

## 188+ Total Participants

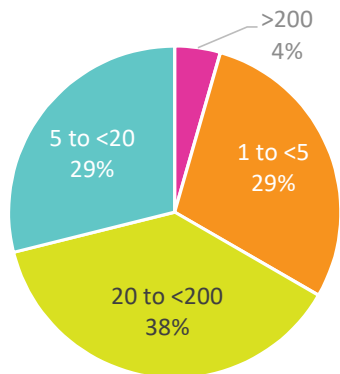
Includes business, research & government stakeholders

81 Ideation 97 Testing

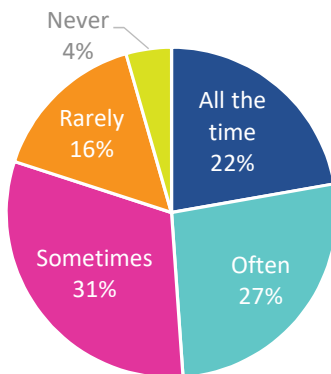
10+ Other consultations

### 45 Businesses involved in testing

SIZE BY EMPLOYEE NO.



COLLABORATION FREQUENCY



INDUSTRY SECTORS SAMPLED



3 Concept testing workshops

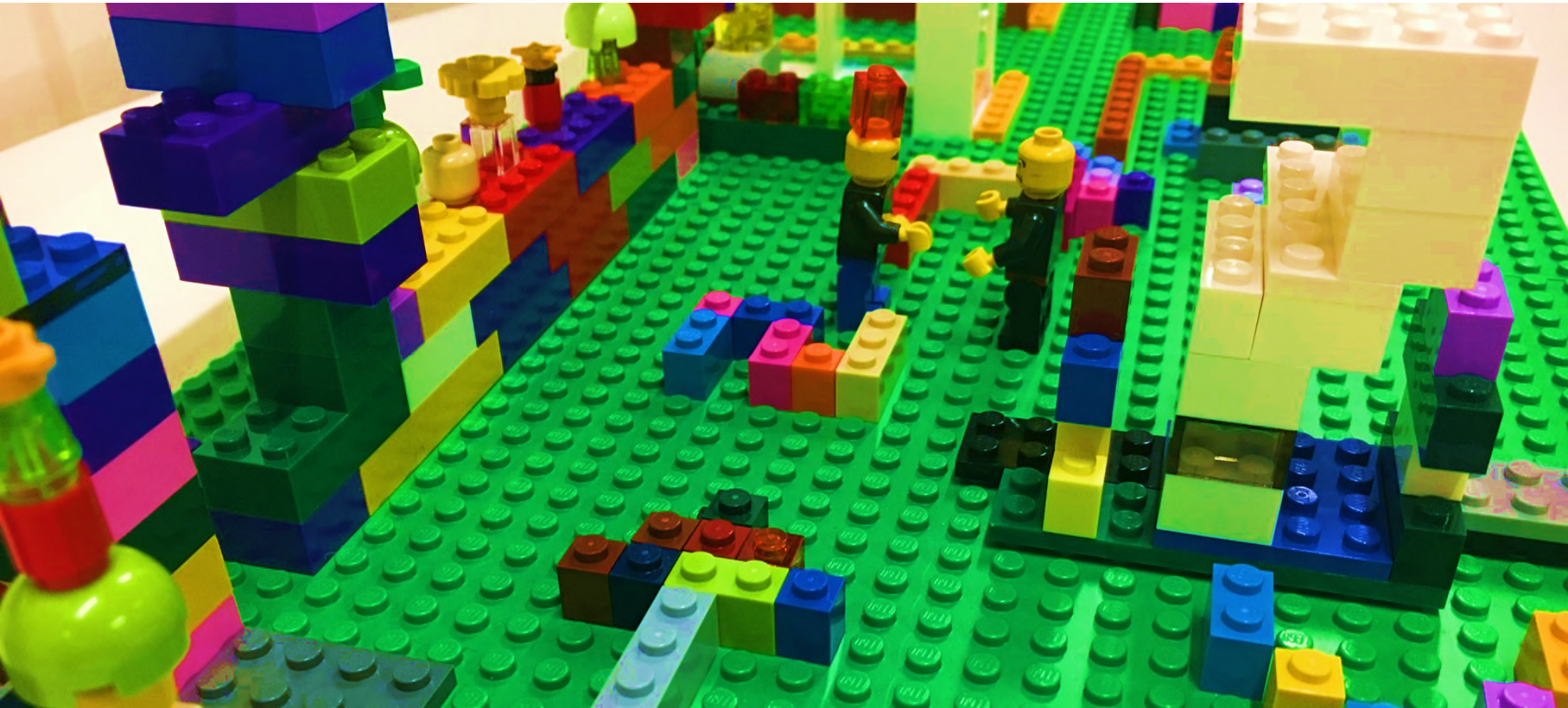
6 Ideation workshops

14 1-on-1 Prototype testing

3 Feasibility & viability workshops

+ Other consultations





# Personas



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# Business personas

The 2017 **Discovery** phase research and user engagement identified six business personas. The personas help policy makers make sense of how different businesses may have different needs, and accordingly different interventions may have differing levels of impact.

## NON-COLLABORATORS



### Not Ready Yet

focused on the 'here and now' and believe they need to stabilise their business before they collaborate. May consider it in the future.



### Salespeople

Believe they are collaborating with PFRs but are in fact selling to them.



### Doing Just Fine, thanks!

No burning need to collaborate with PFRs; may collaborate outside these institutions. PFR collaboration is simply not on their radar.



## COLLABORATORS



### Navigators

Experienced, networked and savvy at collaborating with PFRs.



### Ground Breakers

More technical than business skills in contrast to Navigators. Fewer connections, however working on potentially large, disruptive opportunities.



### Learning the Ropes

Either new to collaborating or had past experience, but now applying it to a new venture. Fewer connections and lower business acumen than the Navigators and Ground Breakers.

# Persona pain points and needs

Not Ready Yet



Salespeople



Doing Just Fine, Thanks!



NON-COLLABORATORS

COLLABORATORS



**This diagram shows business participant self-assessment of where pain points might be hindering collaboration, and what might help overcome them.**

**PAIN POINTS**

**NEEDS** Big need / could do with a bit more

- \$** Financial stability and cash flow
- i** Accessible and streamlined information and services
- Connections and trusted networks
- Skilled staff
- Management and business capability

Starting at the bottom:

- The circles show steps along the collaboration journey
- Each coloured bar shows where that persona has indicated pain points
- The black and grey symbols are needs each persona has indicated may help.

**SETTING UP THE BUSINESS**

Building capability in the business or individual

**IDENTIFY AN OPPORTUNITY**

Identifying a business need that requires innovation or new technology

**AWARENESS**

Identifying collaboration as an option to address the business need, and available collaboration support

**PREPARING TO COLLABORATE**

Establishing a collaboration strategy

**FINDING A RESEARCH PARTNER**

Understanding who to best collaborate with

**MAKING IT HAPPEN**

Financing collaboration, organising agreement & project planning

**WORKING TOGETHER**

Collaborating with a research partner to address the business need, managing expectations

**INTEGRATION**

Commercialising or integrating collaboration outcomes into the business

**EXPANSION**

Moving on to the next collaboration venture, or business growth achieved through collaboration

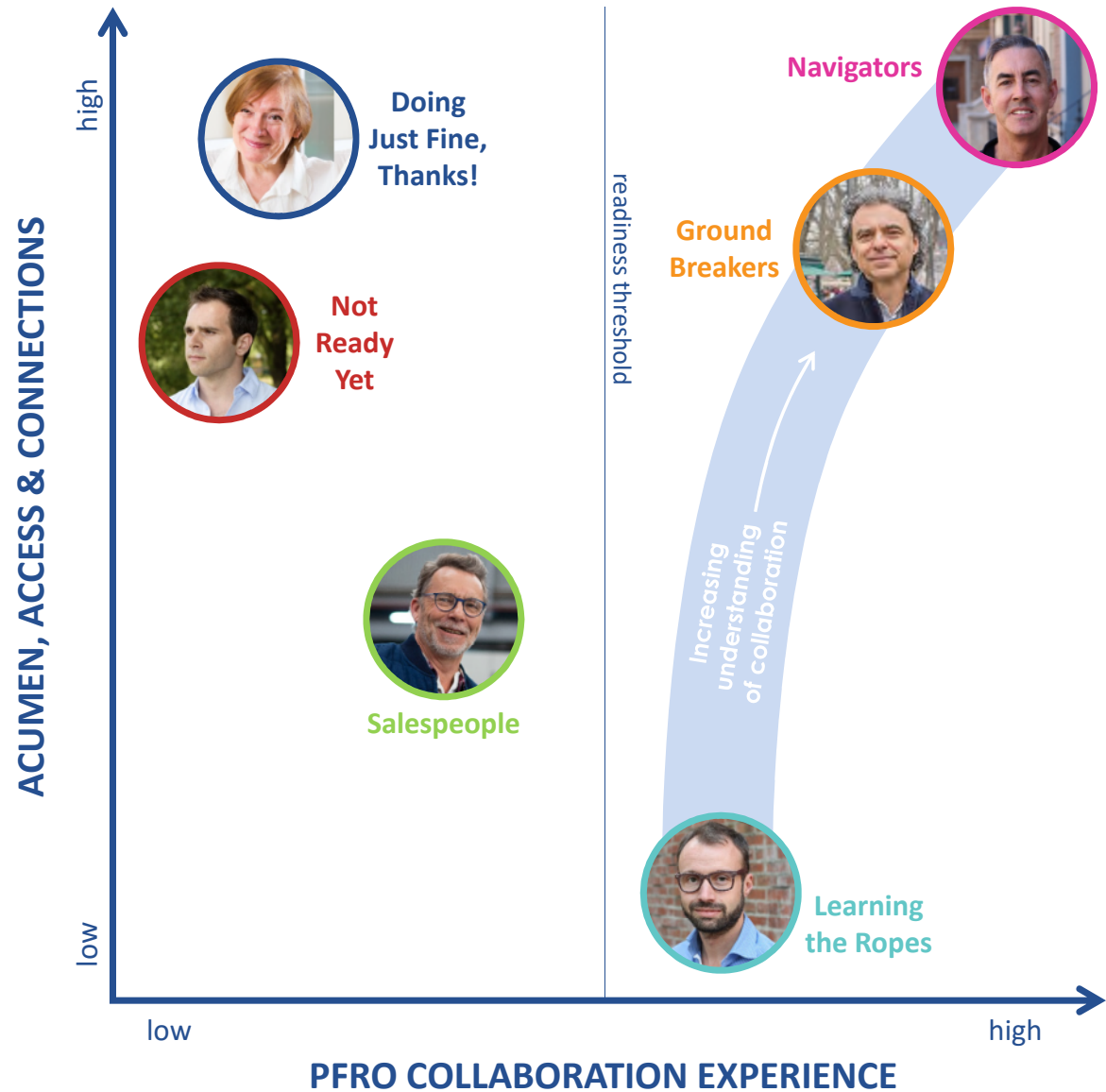
**BUSINESS COLLABORATION JOURNEY**

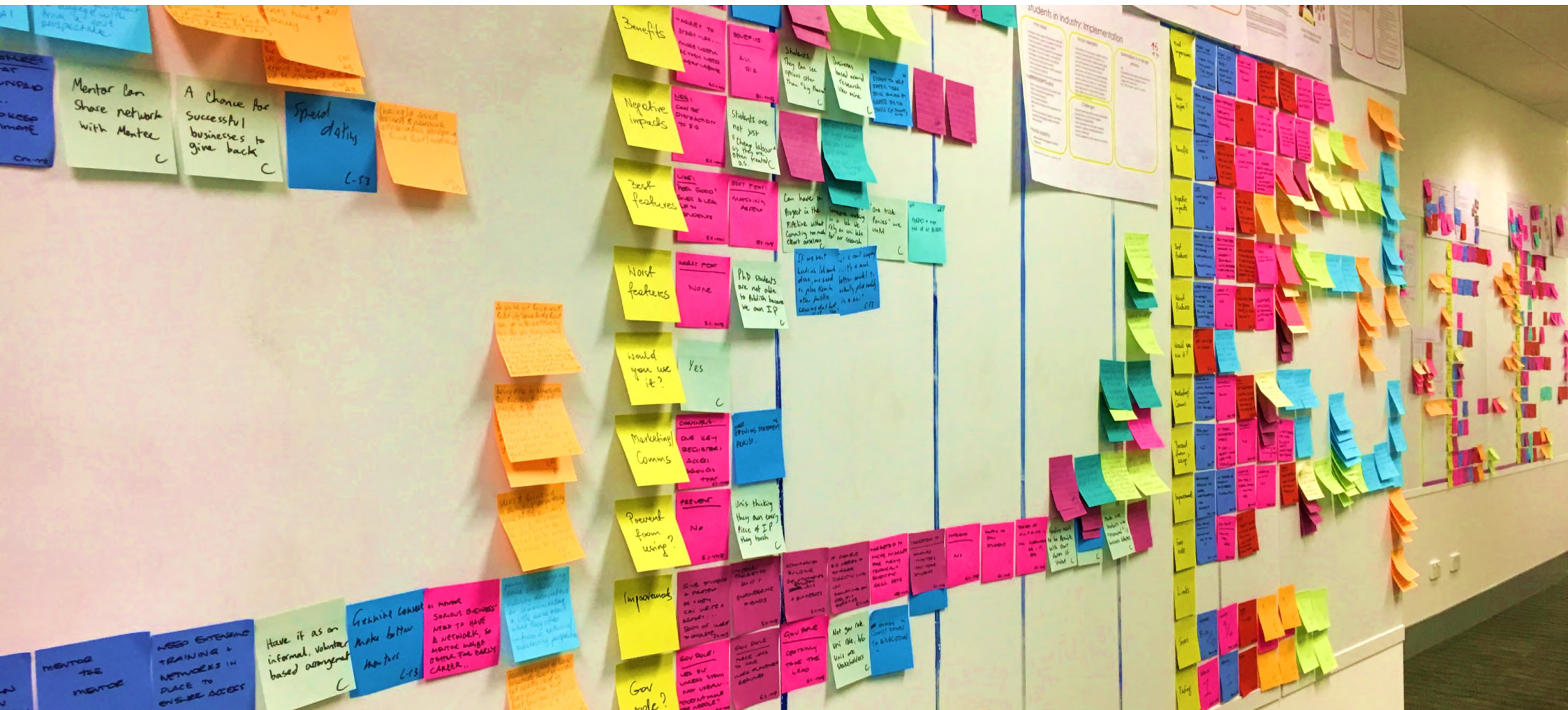


# Insights into readiness

User interviews and engagement provided insights when considering each persona's business acumen, access to networks and connections versus their collaboration experience with research organisations:

- The transition from a non-collaborator to a collaborator comes down to 'collaboration readiness': a business' capability and interest in or intent to collaborate.
- Capability may be determined by business characteristics such as business size, sector, and maturity or turnover.
- However, non-collaborating but capable businesses may only need to be made aware of the potential benefits from collaborating with a researcher to cross the readiness threshold.
- Among collaborating businesses, the main difference between them is their understanding of why, how, when, where, and with whom to collaborate.
- The three collaborating personas exist on a spectrum of this understanding: *Learning the Ropes* is positioned at the lower end of understanding, followed by *Ground Breakers* and ending with the *Navigators*, who have the greatest level of understanding.
- Good targets for policy intervention may well be *Learning the Ropes* and *Not Ready Yet*, yet each may require different kinds of support to build acumen or connections (the former) or cross the threshold (the latter). On the other hand, *Doing Just Fine, Thanks!* may only need awareness of the benefits of collaboration. This illustrates the differing capacities for policy measures to impact specific user targets.





# Concepts



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# Concept evolution

During the **Create** project, ideas and concepts were progressively refined taking into account feedback from business, research and government stakeholders.

First, in *ideation*, users and other stakeholders generated over 350 ideas. Through prioritisation and refinement, these then became eleven concepts for *user testing*.

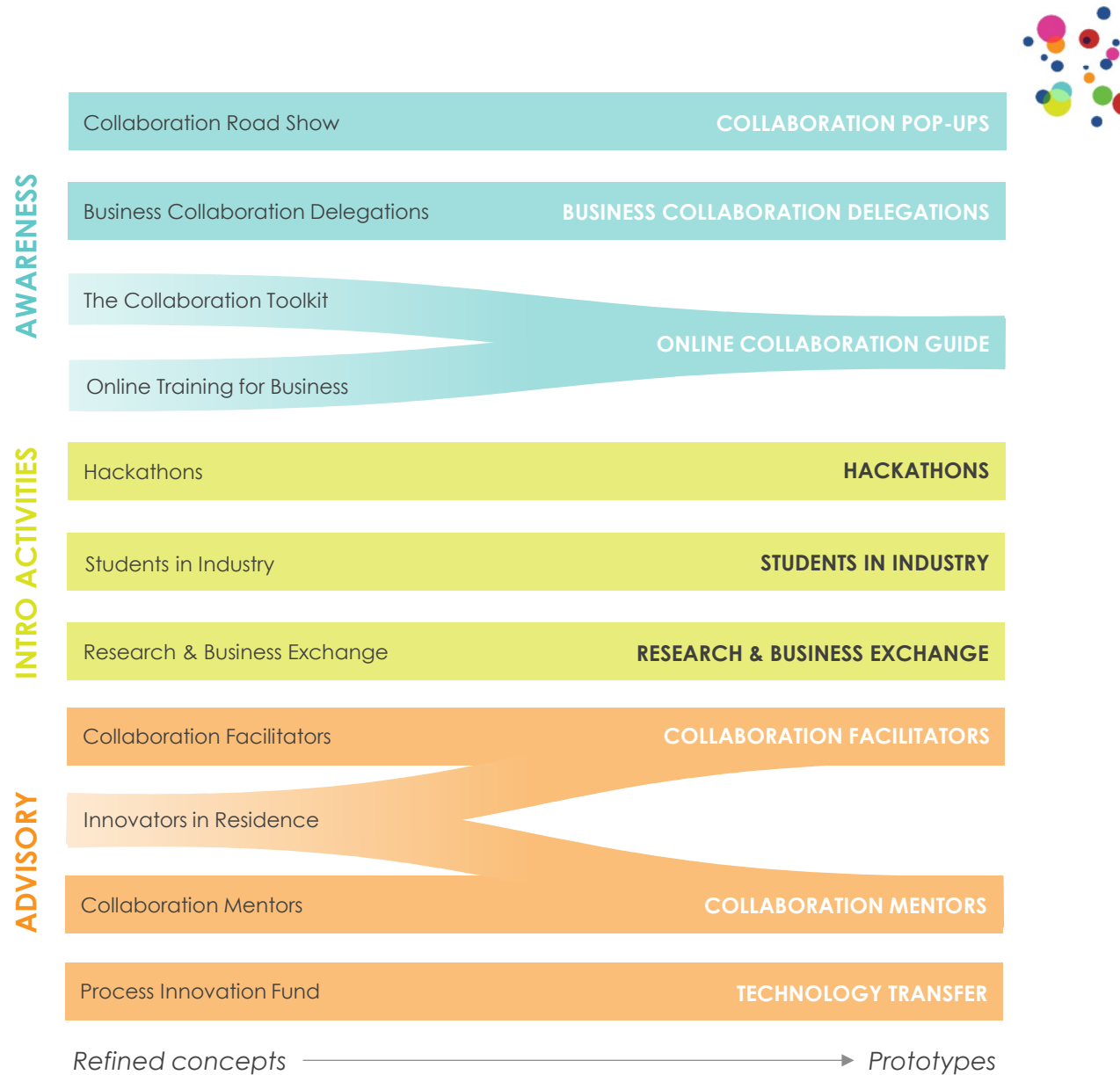
The second *user testing* phase tested the eleven *refined concepts* with user's desirability by asking 'What works?', 'What doesn't?' and if there are any desired improvements. Participants then scored and ranked the concepts. Incorporating the feedback whittled our set down to nine *prototypes* before *re-testing* with users and policy stakeholders to assess desirability, feasibility and viability. This informs the research findings presented here and its implications for future policy development work.

Based on type of offering, concepts are now introduced in three categories:

**Awareness** – increases understanding of collaboration opportunities, processes and its benefits

**Intro Activities** – introduces businesses to collaboration and research partner identification

**Advisory** – support and guidance for businesses along their collaboration journey





## Darwinism...?

The transformative evolution of hundreds of ideas into a manageable set of concepts requires tough (and sometimes easy) decisions.

Throughout concept refinement and prioritisation, some ideas didn't make it to user-testing. Their stories vary, some falling beyond the project scope. Others found more appropriate channels to have greater impact. Some may have been just plain no-good. Of those:

- Marketing and awareness focused ideas are informing the *Comms Strategy* project to improve promotion and awareness of business-research collaboration and related programs and/or services.
- Online platform ideas tended to fall out of scope, though we are using the input in our work with CSIRO Data61 supporting its [Expert Connect](#) platform. Here, concepts and user ideas helped Data61 refine the platform and test the desirability of features.
- Some ideas fell out of immediate scope, though may be worth exploring in a cross-agency sense. Such concepts are being considered with relevant agencies (for example, education-centred concepts have been shared with the Department of Education and Training).
- Ideas outside of scope, but related to existing portfolio initiatives, have been shared with relevant policy and program teams.





# Awareness

Increases understanding of collaboration benefits, opportunities and processes

## ONLINE COLLABORATION GUIDE

Collaboration information in one easy to navigate online platform

### Key offerings

1. Brings together all the information needed to kick-off a collaboration
2. Helps resolve key learning and awareness difficulties
3. Low risk and minimal time investment required



**Appeals to**



*"online repository where you can go and at least receive some guidance on direction and how to get there, how to start the process, I think it's a great idea."*

*"...the case studies that would be the icing on the cake, for sure."*



**Appeals to**



*"We'd definitely be interested in the informal and formal, little get-togethers like these definitely."*

*"you would feel like you got to meet everybody in the room in a way [through a pop-up speed dating event], which would be a really good outcome."*

## COLLABORATION POP-UPS

Information booths/workshops as convenient add-ons to industry and PFRo events

### Key offerings

1. Raises awareness of collaboration benefits and opportunities
2. Targeted at events already attended by target businesses
3. Helps business make connections through both set-time and unstructured events



**Appeals to**



*"an excellent way of bringing like-minded people together, networking and getting in touch with people who are going down the same path that you are."*

*"... which makes something like this more appealing because it's an opportunity to break out of [our client] bubble."*

## BUSINESS COLLABORATION DELEGATIONS

Coordinated excursions to PFRo and networking events for businesses

### Key offerings

1. Short, actively facilitated and tailored to business needs
2. Building understanding between researchers and businesses
3. Targeted attendance of participants to maximise collaboration potential



# Intro Activities

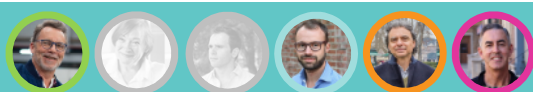
Introduces businesses to lower risk forms of collaboration and research partner identification

## RESEARCH & BUSINESS EXCHANGE

Government supported work exchange program for businesses/ researchers

### Key offerings

1. Researchers can see problems or opportunities not identified by business
2. Broadens researchers' understanding of industry and how they can contribute
3. Enables a close connection before a potential collaboration



### Appeals to



*"People are the most expensive aspect of running a business and if there was some kind of way to offset that, absolutely, that's very interesting."*

*"I can't see any negative in having that particular research partner... in-house or working much more closely with us."*



*"For us, they're a useful recruiting tool."*

*"I don't know if I've actually heard of a hackathon based around researchers. It's a really interesting idea because you can come up with some really cracking ideas."*

### Appeals to



## HACKATHONS

Collaboration events to solve relevant business challenges

### Key offerings

1. Brings together businesses and researchers on collaboration focused challenges
2. Work with potential collaborators and explore opportunities
3. Participants will be targeted from similar regions and/or industry sectors

## STUDENTS IN INDUSTRY

Post-graduate student placement in a business

### Key offerings

1. Provides businesses access to current university research, knowledge and expertise
2. Introduces businesses to the value of collaboration with researchers to address business needs
3. Appropriate matching and no employment costs - students to receive course work credit



### Appeals to



*"You have access to a whole world of expertise and not just the one student you have there."*

*"I really feel the importance of paying the students... and it brings a business relationship between the two."*



# Advisory

Support and guidance for businesses along their collaboration journey

## TECHNOLOGY TRANSFER

Licensing of existing IP held by PFROs to implement in a business

### Key offerings

- 1. Helps businesses find existing university IP to fit their business need fast
- 2. Offers advice and assistance to negotiate IP arrangements
- 3. Provides funding to help businesses adapt and implement new technology



### Appeals to



*"Negotiating on your behalf – I think that's a big one! We don't have all those skills about IP, how it works, IP law, legal jargon."*

*"Having someone who doesn't necessarily have all that (IP) know how, but can put you in touch with the right people."*



*"Every meeting [with a facilitator], I leave there with something new... The facilitators, from my experience, have been essential."*

*"I met [the facilitator] and within 24 hours, they had turned up meetings with [a PFRO]. It was all almost too easy."*

### Appeals to



### Appeals to



*"Network of business people who've kind of been through that experience before, who can provide guidance on how they've done it, and kind of share that wisdom."*

*"Have somebody that you can get really close to, that you can trust, that you can just pick up the phone and say – you know, I am having real problems with getting this through."*

## COLLABORATION FACILITATORS

Face to face, independent advisory service

### Key offerings

- 1. Advice from a person experienced in both research and business reality
- 2. Connecting businesses to the right research partners
- 3. Tailored support for businesses throughout their collaboration journey

## COLLABORATION MENTORS

Expert guidance from an experienced business person

### Key offerings

- 1. Access to an established network of business people experienced in research collaboration
- 2. A trusted source of collaboration advice that is volunteer-based and independent
- 3. Flexible mentorship facilitated by matching and no eligibility criteria



# Concept mapping



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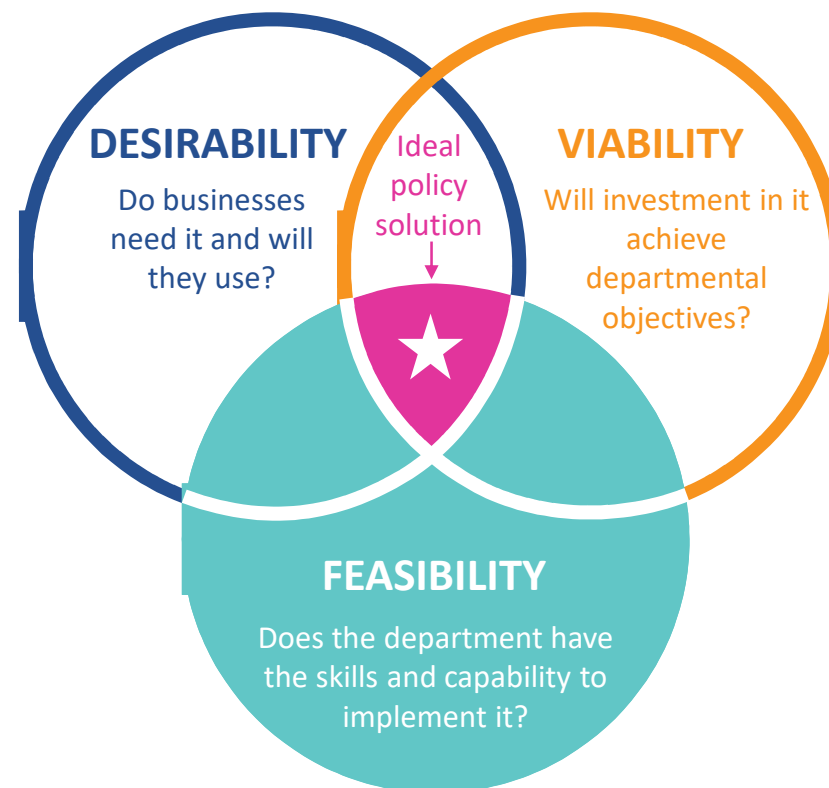


# Taking in different views

The breadth of data collected in our research and user testing allows us to view the concepts in many ways. Each vantage point prompts different considerations. This section shows three useful ways to identify areas in which some concepts might succeed, and where others do not. The three maps include:

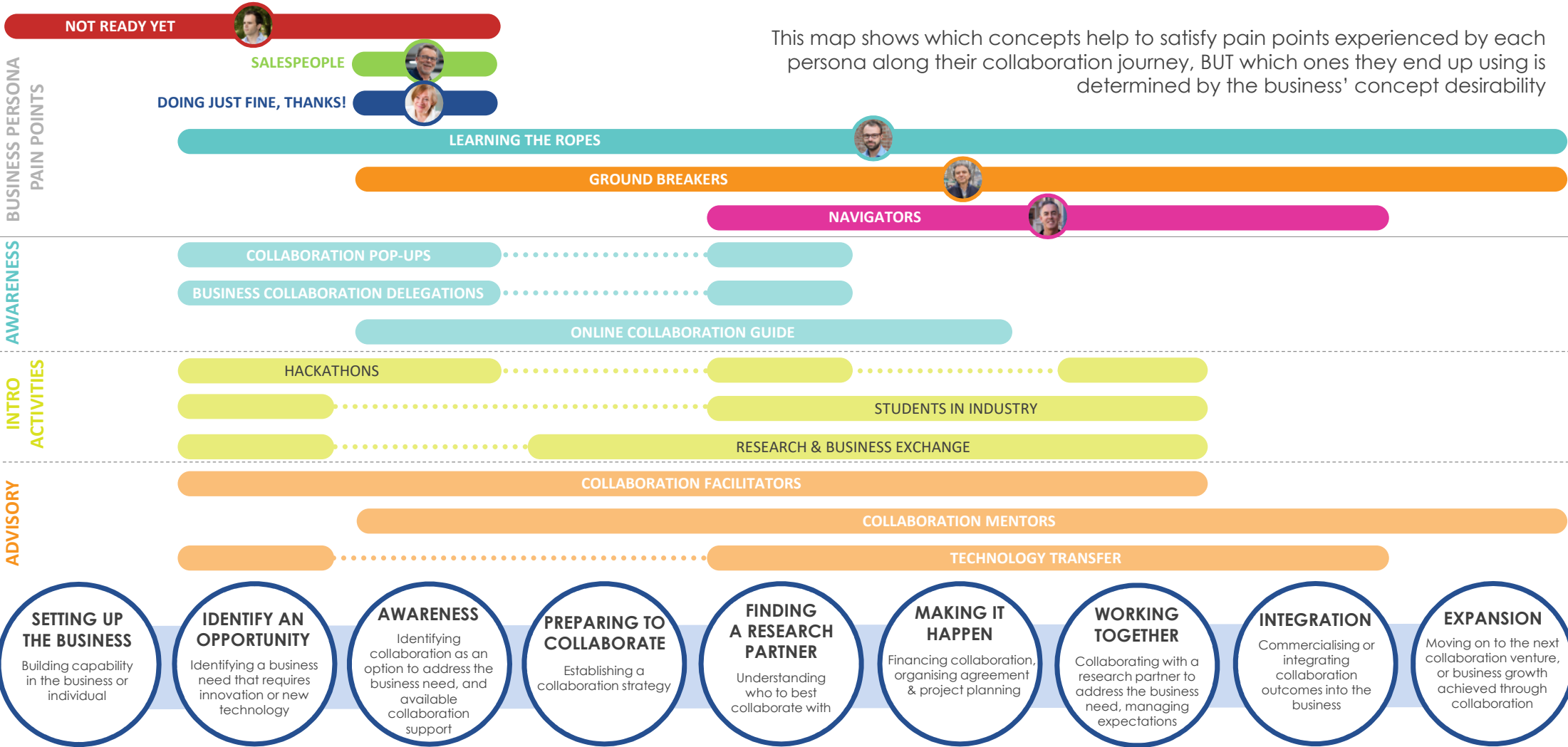
1. **Concept satisfaction of business pain points:** shows which concepts are available to help overcome pain points experienced by each persona along their collaboration journey
2. **Business concept desirability overview:** shows which concepts are more or less desirable by each business persona
3. **Combined desirability, feasibility and viability:** a snap shot into how each concept performs across key variables within each three categories

Each of these maps helps estimate each concept's likelihood of success. As noted previously, fundamental to our present assessment is how each concept rates according to *business desirability* and *departmental feasibility* and *viability*. As the diagram suggests, ideal policy solutions sit at the 'sweet spot' intersecting the three categories.



# Concept satisfaction of business pain points

This map shows which concepts help to satisfy pain points experienced by each persona along their collaboration journey, BUT which ones they end up using is determined by the business' concept desirability



## BUSINESS COLLABORATION JOURNEY





# Business concept desirability overview







The nine tested concepts are not a one-size fits all approach

The level of desirability is different across personas

The key **target personas** for each concept are 'collaboration ready'. **Learning the Ropes** and **Ground Breakers** as they are the most likely to benefit from these concepts

The **Salespeople** and **Doing Just Fine, Thanks!** will likely find some benefit from the concepts, providing they are aware of the opportunities and benefits that exist (increasing their intent to collaborate)

Benefits may be harder to find for the **Navigators** and **Not Ready Yet** – for very different reasons. **Navigators** may have been there done that. **Not Ready Yet** may not be prepared (not yet 'collaboration ready') to take on research collaboration opportunities right now.

Concepts \ Personas	 Learning the Ropes	 Ground breakers	 Salespeople	 Doing Just Fine, Thanks!	 Navigators	 Not Ready Yet
	Collaboration Pop-ups	✓	✓	△	△	△
Business Collaboration Delegations	✓	✓	✓	△	△	△
Online Collaboration Guide	✓	△	△	△	✗	✓
Hackathons	△	✓	△	✗	△	✗
Students in Industry	△	✓	✓	✓	✓	△
Research & Business Exchange	✓	△	△	✗	△	✗
Collaboration Facilitators	✓	△	△	△	✗	✗
Collaboration Mentors	✓	△	△	✗	✗	△
Technology Transfer	✓	✓	△	△	✓	✗

ADVISORY INTRO ACTIVITIES AWARENESS

✓ Will use    
 △ Might use    
 ✗ Will not use

# Combined desirability, feasibility and viability



**Satisfying multiple DFV variables will lead to concepts with a broad appeal and will increase their likelihood of success**

This table shows the tested concepts' appeal (business desirability), alongside views on Departmental feasibility and viability. Areas partially meeting the criteria ('somewhat') indicate potential areas of higher complexity or risk for implementation. Concepts that better fulfil more areas may be less complex in successful implementation.

This assessment, and the user insights obtained throughout the Create project, is informing more detailed development of concepts for Government consideration.

Concept	Desirability			Feasibility			Viability		
	Does it address multiple business needs?	Does it satisfy businesses' pain points?	Will businesses use it?	Does the department have the skills and capability?	Is it scalable to accommodate growing demand?	Do existing initiatives exist that can be leveraged?	Does it align with the department's goals and objectives?	Is it sustainable now and in the future, leading to long term growth?	Will it result in a return on investment (ROI) for the department?
Collaboration Pop-ups	✓	✓	△	✓	△	△	✓	△	✓
Business Collaboration Delegations	✓	✓	✓	✓	△	△	✓	✓	✓
Online Collaboration Guide	✓	✓	△	△	△	△	✓	△	△
Hackathons	✓	✓	△	△	△	△	✓	△	△
Students in Industry	✓	✓	✓	△	△	△	✓	△	△
Research & Business Exchange	✓	✓	△	△	△	✓	✓	✓	△
Collaboration Facilitators	✓	✓	✓	△	△	✓	✓	✓	△
Collaboration Mentors	✓	✓	△	△	△	△	△	△	△
Technology Transfer	✓	✓	✓	△	△	✓	△	△	△

✓ Yes      △ Somewhat      ✗ No





# Acknowledgements

## Further information

For more information on other department initiatives please visit the department's website at: [www.industry.gov.au](http://www.industry.gov.au)

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