



Rheta Chappell
Data Scientist & Partnerships Lead
Relational Insights Data Lab at Griffith University

Data Skills for the Future: Leveraging University- Industry Collaborations





A bit about me

Rheta Chappell

Data Scientist & Partnerships Lead

Griffith University's Relational Insights Data Lab (RIDL)

r.chappell@griffith.edu.au



■ Agenda

- RIDL's model: Making Data Matter through Collaborations and Partnerships
- The Strategic Need for Data and STEM Skills
- NICD's Model: Skill Transfer for Sustainable Growth
- RIDL's Engagement Model: Connect, Convene, Catalyse, Convert
- Australia's Strategic Imperatives in Data and STEM
- **Case Study 1: Koala Guardians - Using Data to Increase Citizen Science Engagement**
- **Case Study 2: Shining the Light Inward - Partnership Intelligence and AI: Improving Research Efficiency**
- **Case Study 3: Griffith Data Trust - Secure Data Linkage and Sharing Enabling High-Impact Research at Scale**
- RIDL's Practical Impact from eScience
- Conclusion and Call to Action: Aligning with National Priorities for Lasting Impact

■ The Strategic Need for Data & STEM Skills



Projected growth in STEM jobs

14.2%

Projected growth in non-STEM jobs

7.4%

0% 2% 4% 6% 8% 10% 12% 14%

x2

Growth in STEM jobs

In Australia, STEM jobs are predicted to grow at twice the rate compared to non-STEM jobs over the next five years.

Expectations vs. Reality



89%



23%

In Australia and New Zealand, 89% of executives think that staff at all levels are using data to inform their decision making. But in reality only 23% of these employees feel like they have the skills or technology to use data effectively when making business decisions (Qlik & PwC, 2023).



A bit about RIDL

RIDL, part of Griffith University, applies scientific rigour and co-design best practices to deliver impactful, accessible data-driven solutions that align with client goals, while focusing on skill transfer and equipping partners with future-ready data skills.

**Remember Barry's
Presentation
About NICD?**



Same, Same But a Little Bit Different...

The NICD and the RIDL operational model can be broken down into 8 steps. These steps have been adapted from a 2023 paper by Paul Watson & Barry Hodgson from NICD.

1. Introduction & establish mission, vision, and goals
2. Identify challenges & skills gaps
3. Description of the client team composition and skills range
4. Explanation of collaborative & project-based skill transfer and data science processes (managing expectations)
5. Initial engagement through discovery and co-design workshops
6. Project scoping and contract setup
7. Execute & deliver projects including skills transfer sessions & training
8. Post-project support, impact, and outcomes assessment



RIDL's Engagement Model

Connect

Convene

Catalyse

Convert



The Australian Context: It's a bit prickly

How organisations like RIDL can help realise the Universities Accord and Australia's strategic imperatives in data, and STEM more broadly:

- The STEM workforce is key to Australia's future global competitiveness.
- Collaborations between universities, industry, and government that integrate scientific rigour with real-world applications, are essential to equip Queensland and Australia—and for NICD, the United Kingdom (and beyond)—with the data skills needed to lead and innovate in our increasingly digital landscape.
- International student caps, immigration, labour force, and housing pressures.
- Reduced public investment and funding for universities and research.



Australian Universities Accord report recommends sweeping changes to tertiary education

by political reporter Claudia Long, national education and parenting reporter Conor Duffy and Shalailah Medhora

Universities

un 25 Feb

SBS News

Menu

Other ways to listen

News in Depth



Education Minister Jason Clare at the launch of the Universities Accord report Source: SBS News

It's been described as a landmark report into the university sector with a focus on making education fairer and more accessible. The Universities Accord has been a year in the making, outlining huge changes to the sector, including boosting universities enrolments, and filling skills shortages in critical

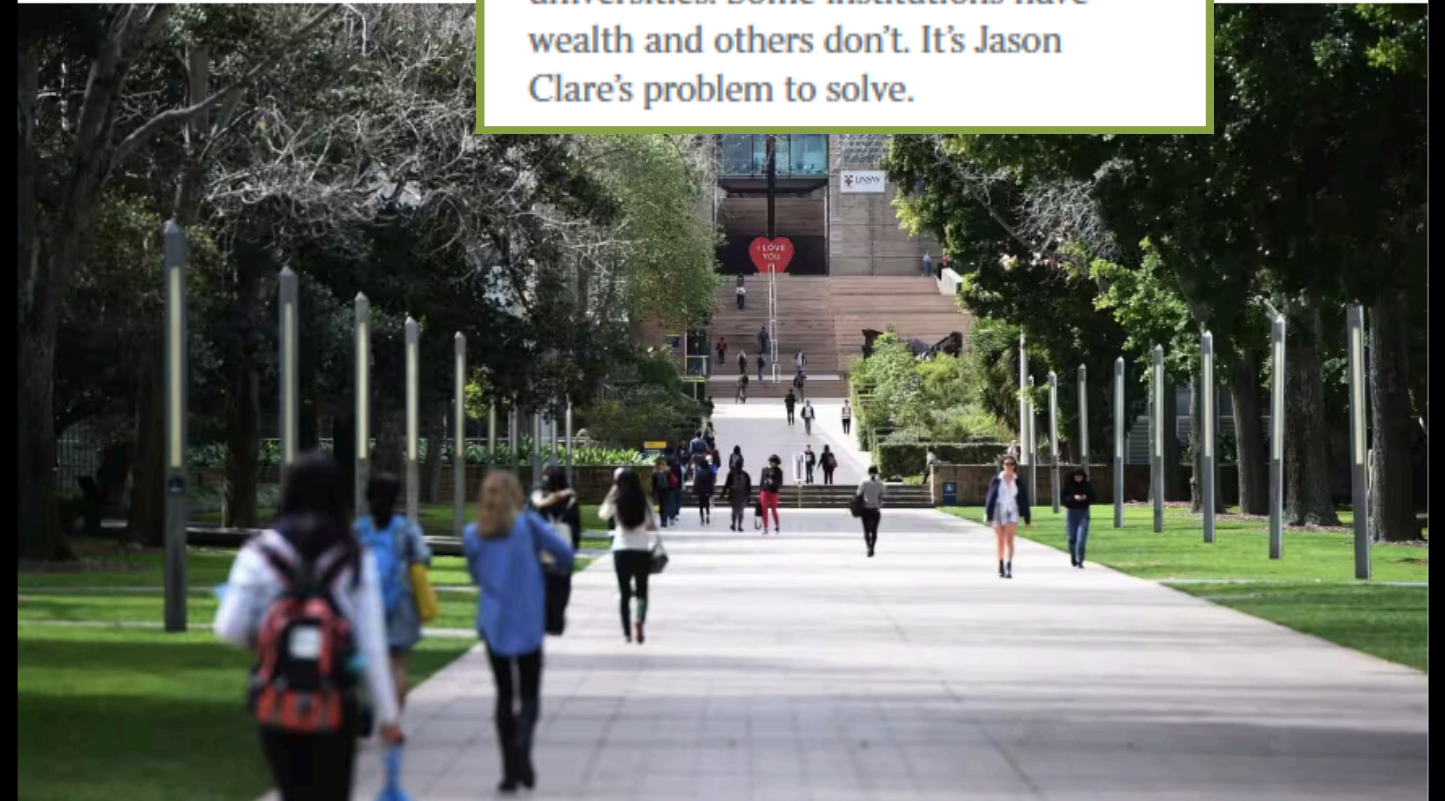


The university divide: the haves and the have nots

A class system has trapped Australia's universities. Some institutions have wealth and others don't. It's Jason Clare's problem to solve.

SBS

SBS News



The education minister says change is needed to remove a "handbrake" from Australia's economy. Source: AAP / AAP

Education

The bold plan to get more than half of young Australians a university education

A sweeping new blueprint could make higher education easier to attain as Australia grapples with demand for skills of the future.



'Shortsighted': Overseas student cap to hit accommodation sector

Property developers say the government's decision to cap the number of international students entering Australia 'makes no sense'.

New figures show the ACT impact of international student cap

■

Case Study 1: Koala Guardians & Citizen Science



Discover koalas nearby
Map & Key statistics

View map →

Report a Koala Sighting
Report here



Become a citizen scientist
How to spot a sick/injured koala



Have questions?
Get in touch!



Map & Key statistics

Learn more about koalas in Brisbane!

Select an LGA to get started

Brisbane

Go

Get to know your community

Latest demographic data from the ABS 2021 Census. Sightings data sourced from: iNaturalist. Last updated 18/07/2024 at 9:00AM AEST



38

Median age



50%

Identify as male



\$1,000

Median weekly income



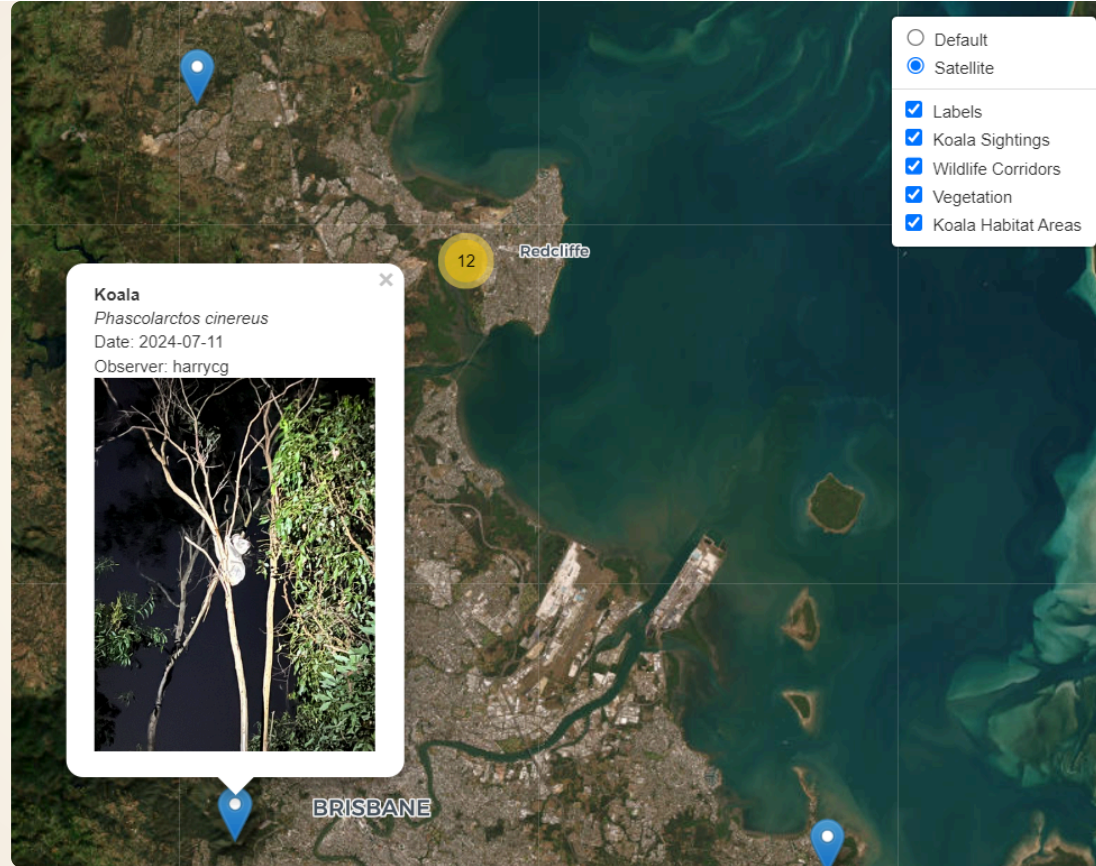
4%

Are unemployed



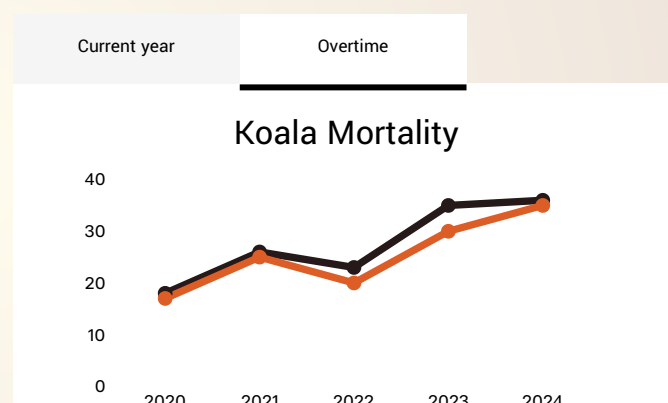
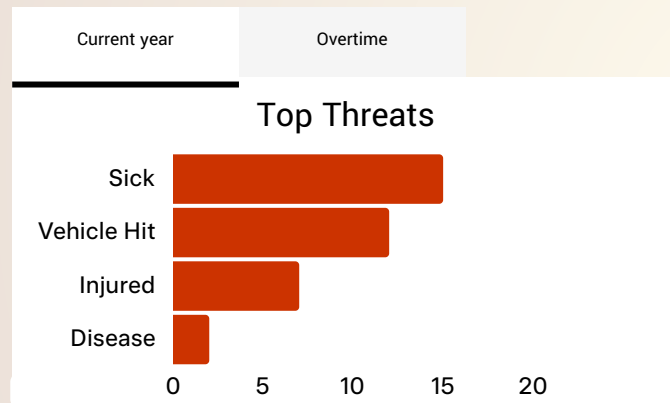
21%

Have a bachelors degree



What are the top threats to koalas and in your area?

Data from KoalaBASE (Koala Hospital Data)



Seen a koala? Download the iNaturalist App to report your sightings!

Report here [→](#)

Together we're using data to:

- **Track & Protect Koalas:** Use Bluetooth tracking to check in and monitor koalas you've spotted in real-time and check-in on them at a later time.
- **Personalised Alerts:** Receive location-based notifications like, "Rhetta, keep your dog inside tonight—mother koala and joey spotted in your neighbourhood."
- **Earn Rewards:** Collect points and prizes, like naming the next joey, by reporting koalas, completing koala safe checks and modifications on your property and identifying tree or wildlife species.
- **Tourist Engagement:** Encourage visitors to participate in koala conservation through citizen science features tailored to tourists.
- **Educational Content:** Provide schools with materials specifically designed for educators and student mentors.
- **Koala Sponsorship:** Adopt and sponsor local koalas or donate to koala-related charities.
- **Join Community Groups:** Connect with local conservation groups, attend events, and join bushwalking groups both online and in person.



Case study 2: Research Link Australia

Lead by Griffith University's RIDL and funded by the ARDC the Research Link Australia graph will be enhanced with data from internal and external sources, with shared methods and non-proprietary data being made available to the ARDC and the broader community.

- Knowledge graphs augmented with additional data
- LLMs and NLP
- AI powered dashboard and insights to foster stronger partnerships and high impact collaborations

Brisbane 2032

Measuring the impact and legacy of the olympics



Case study 3: Griffith Data Trust

A Switzerland for Data



GDT / SAL Facility

The Social Analytics Lab (SAL)

is a **Secure Air-gapped Data Facility**, custom-built, secure research facility housed at Griffith University. SAL has been operating for nearly 10 years now.

SAL provides the infrastructure necessary to store, manage & analyse highly **sensitive administrative data** of **Queensland Police, Queensland Corrective Services** and many more for research & teaching purposes.

The facility is split into 3 zones

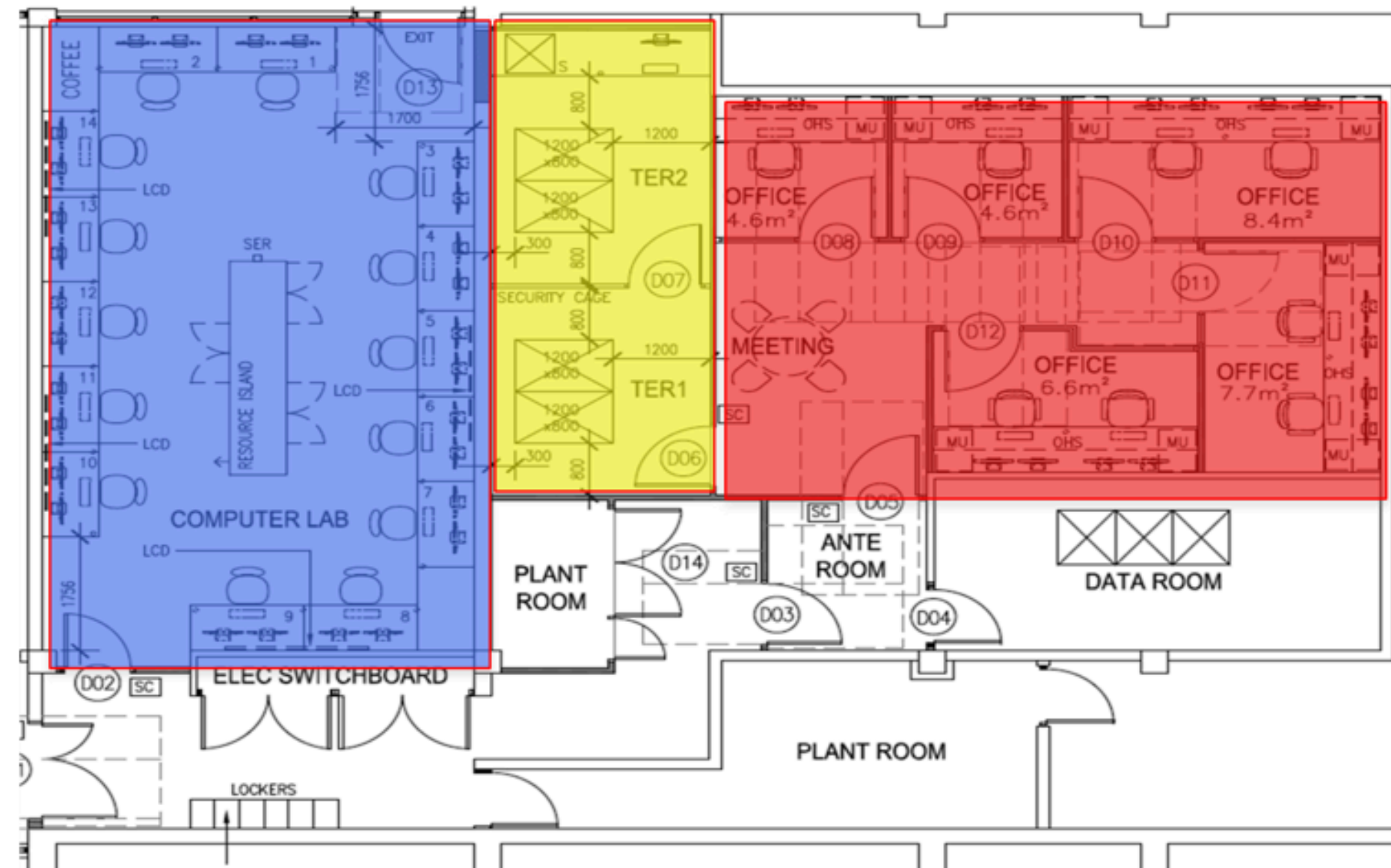
- Yellow Zone – Administrative Staff only
- Red Zone – Researching zone
- Blue Zone – Teaching zone

Who has access to the Facility?

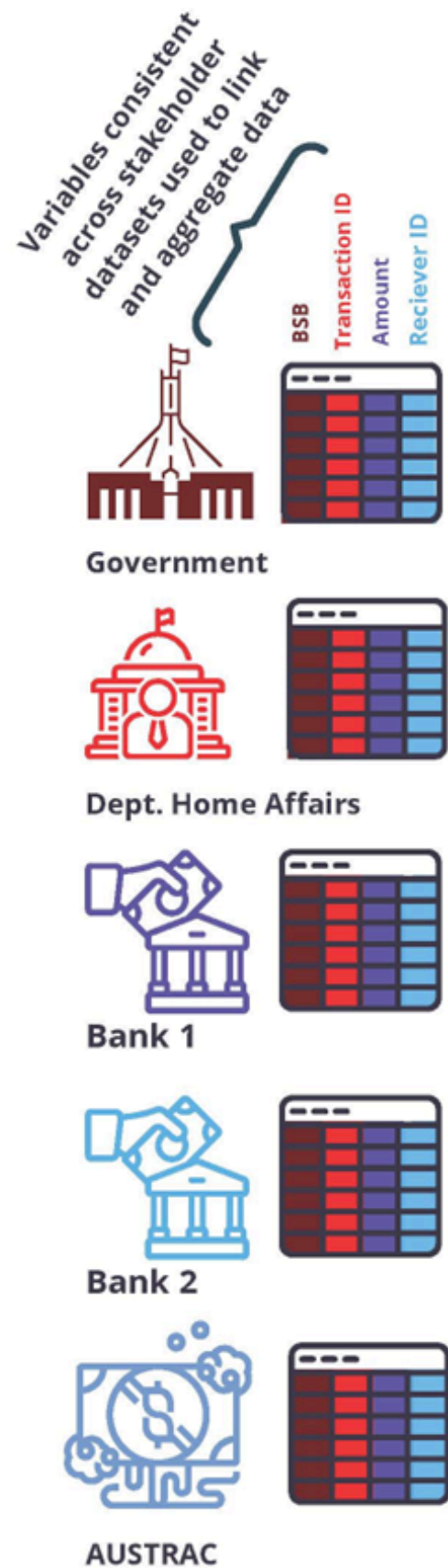
Only approved persons are allowed to access the facility unsupervised (red and yellow card holders)

Off the Grid

Mobile Phones, Laptops, and any electronic devices are not allowed



Academy of Excellence in Financial Crime Investigation and Compliance



Identifiable data never leave secure data collaborative environment.

Data from stakeholders are linked using common identifiers, then identifiable data and unique IDs are removed and new securely anonymised and randomised IDs are created for the new linked dataset.

[Secure & Actionable] [Financial Crime Data Collaborative]

Only de-identified data leave the secure Financial Crime Data Collaborative environment for further analysis & insight generation.

Linked data = ability to unlock wholistic & actionable insights to benefit all stakeholders, and advance ever evolving typologies of financial crime and quantify the risk profile:

1. Quantification of money mulling & money laundering by international students and student accounts, Griffith can advise whether students are on shore or not.
2. Modelling development and evaluation
3. Other hypothesis testing
4. Aggregation methods for AUSTRAC reporting, reducing the numbers of report but increasing the depth and quality of the reports

Linked data contain no identifiable information, only new randomised and anonymised IDs.

anonymised and randomised ID

[Value of the financial crime data collaborative is a secure space where financial data can be linked to identify patterns in the Australian banking system. Quantify the scope of financial crimes and develop or evaluate novel models.]



RIDL's Practical Impact: Measurable Results that Matter

60

Collaborative data
projects

1,500+

Mentoring & eScience
skill transfer hours

28

Student interns
trained

216+

Pro-bono hours
donated

Thank You!



Contact Us

Rheta Chappell

Data Scientist & Partnerships Lead

Relational Insights Data Lab at Griffith University

www.ridl.com.au

ridl@griffith.edu.au



Australian Universities Accord

Final Report



<https://www.education.gov.au/australian-universities-accord/resources/final-report>

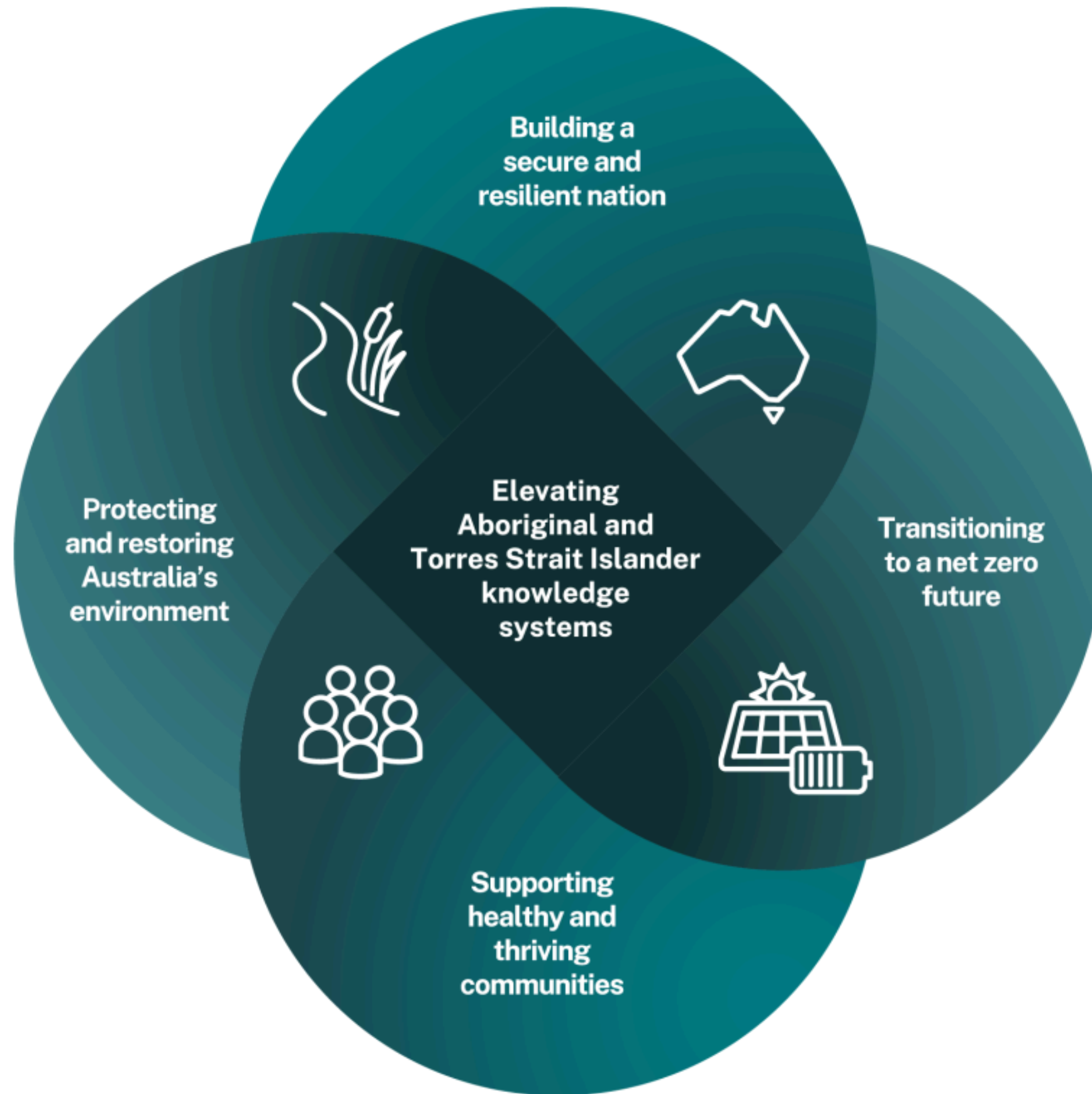


Australian Government
Department of Education

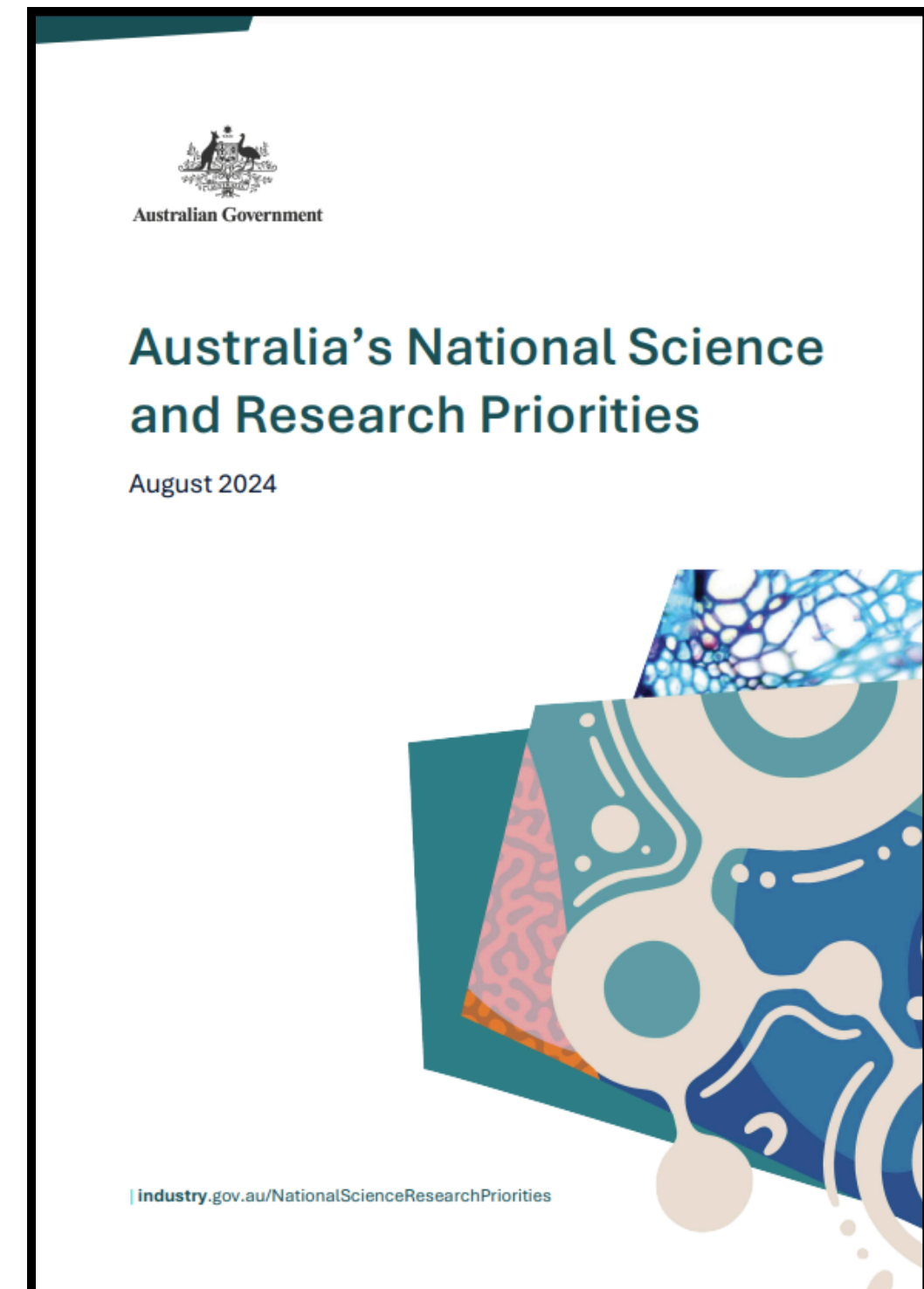
Australian Universities Accord Final Report Document

On 25 February 2024, the Hon Jason Clare MP, Minister for Education, released the Australian Universities Accord Final Report.

 Department of Education /



<https://www.industry.gov.au/sites/default/files/2024-08/australias-national-science-and-research-priorities-2024.pdf>



Partnerships Intelligence

ConvergePoint

Customer Service Management (CSM)

- Contract name
- Person's name
- Department
- Other party name
- Contract Value

Research Experts

Researcher database

- Researcher name
- Tags
- ORCID
- Professional memberships

**Insights
Engine**

RIMS

Contract management system

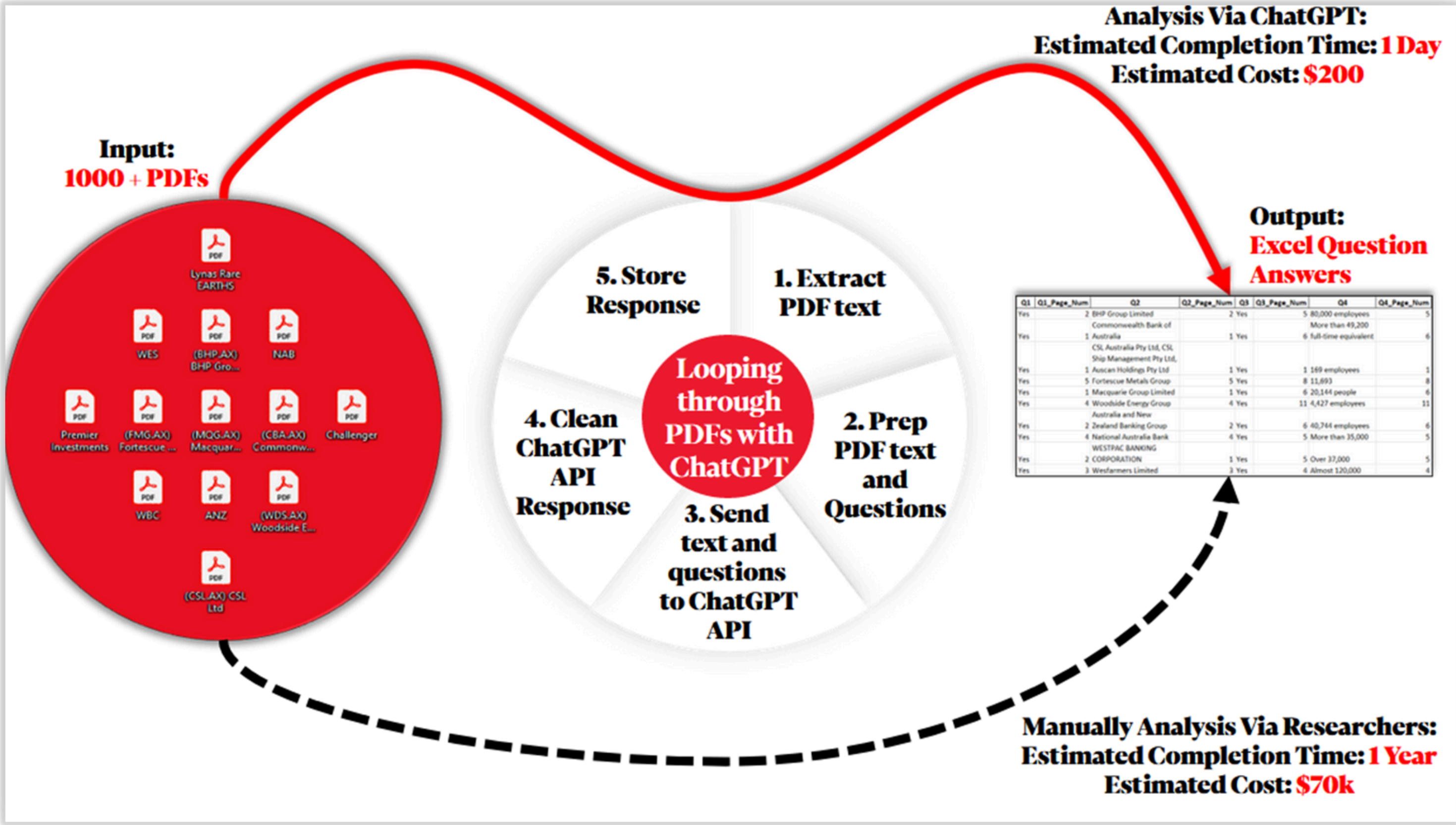
- Person's name
- Department
- Primary funds provider
- Project title
- Total cash awarded

National Graph

Researcher database

- Researcher name
- Research data
- Publications
- Grants

Modern Slavery ChatGPT API



NICD client stories



Infotel UK Consulting

Discover how Infotel UK Consulting partnered with NICD to enhance GDPR compliance using advanced NLP models, improving PII detection accuracy and...

 nicd.org.uk



Port of Tyne

Discover how Port of Tyne are working to reach Net Zero carbon emissions by 2030 through a strategic partnership with the National Innovation Centre fo...

 nicd.org.uk