A social worker, an astrophysicist and an economist walk into a bar…

AES 2026 International Evaluation Conference

Kate Cherry, Jake Clark and David Marchant | 16 September

Australia's National Science Agency



We would like to begin by acknowledging the Larrakia People as the Traditional Owners of the land that we're meeting on today and pay our respects to their Elders past and present.



'Eternal Wisdom, Infinite Innovation'
artwork by Rachael Sarra, working with Gilimbaa.

Who are we?

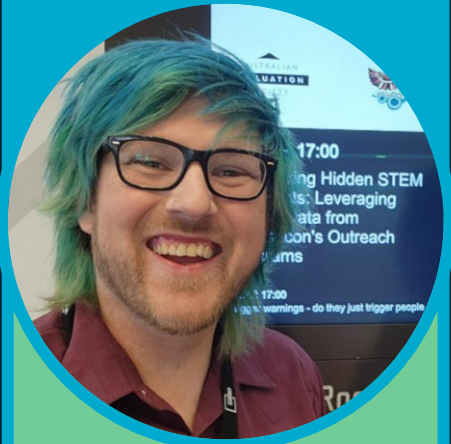
Social Worker



Kate Cherry

Team Leader
Monitoring and Evaluation
CSIRO Education and Outreach

Astrophysicist



Dr Jake Clark

Principal Evaluation Advisor
Monitoring and Evaluation
CSIRO Education and Outreach

Economist



David Marchant

Managing Director
Inform Economics

Not quite a bar, but a virtual meeting…

What we hope you get out of today's talk

1. Share the evaluation journey

2. Discover how we designed and delivered the cost-benefit analysis (CBA)

3. Understand our findings and limitations

4. Benefit from our lessons learned

5. Consider how you could use similar approaches







What is Generation STEM Links?



Internship program **connecting tertiary STEM students with industry** through paid placements across New South Wales.



Focus on **regional and remote** as well as **small and medium businesses** (SMEs)



Recruitment style approach with short listing for industry partners



Support and **mentoring check-ins**



Students receive minimum wage for 200 hours of placement, with a **subsidy given to businesses.**

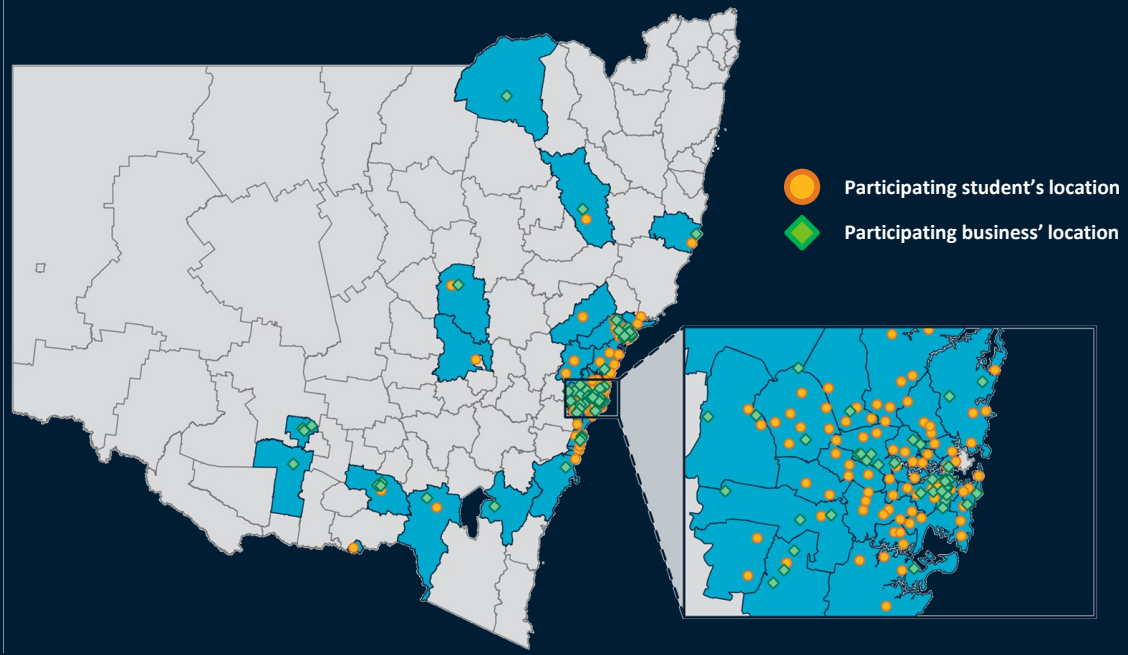
Program reach – industry participation

250 placement contracts across **80** businesses

86% of businesses were small to medium enterprises

23% of placements were in regional or remote NSW

Placements across manufacturing, professional services, agriculture, mining and emerging technology sectors



Program reach – student participation

202 students completed placements by **December 2025**

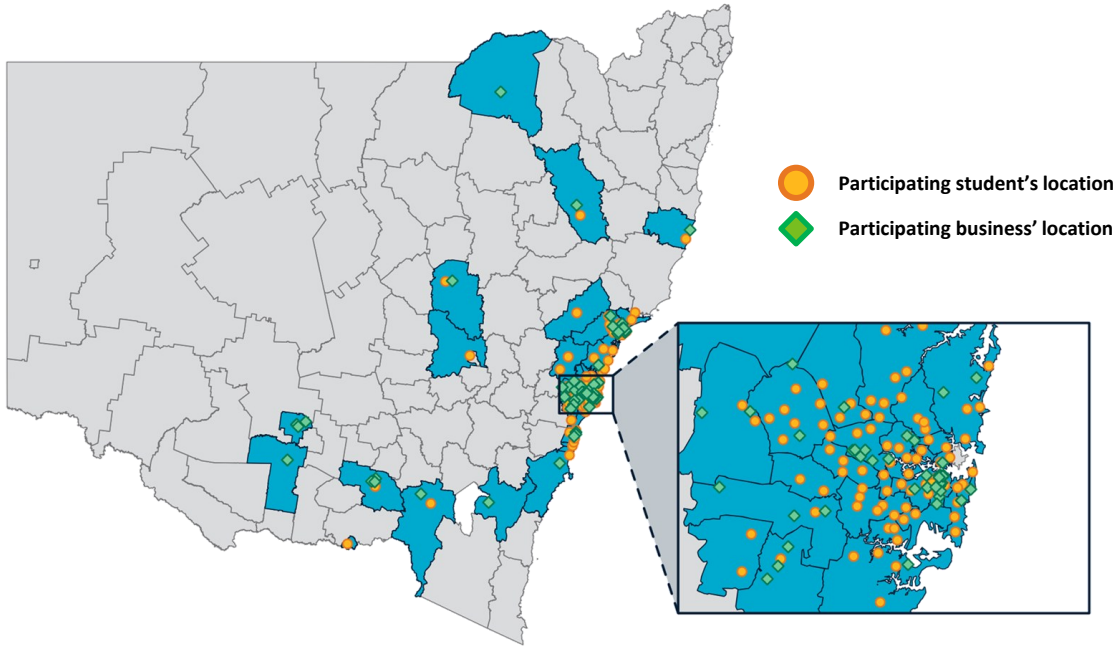
34% from low socioeconomic areas

33% women

9% from regional and remote areas

2% Aboriginal and Torres Strait Islander students

2% students with disability



For every dollar invested, Generation STEM Links

generates $6.10 in economic value



Cost-benefit analysis: monetised findings

$12.3M

Estimated total economic benefit generated by the program



$10.3M

Net Present Value with total operating costs of approximately $2M

$6.10

Benefit Cost ratio of 6.10, meaning for every $1 invested, $6.10 of value was generated by the program.

$11M

Industry received the largest share of benefits primarily through faster hiring, reduced recruitment costs and increased productivity.

$1.3M

Of benefits for students through earlier entry into paid STEM employment and associated income gains



98%

Of benefits came from businesses who would not otherwise have participated in internships

Cost-benefit analysis: qualitative findings

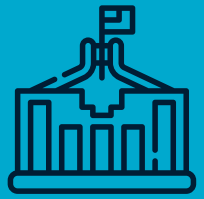
Stronger workforce pathways for STEM tertiary students

Low-risk recruitment approach for businesses



Enhanced productivity and capability for businesses

Improved access and equity for underrepresented groups in STEM and smaller, regional businesses



System-level benefits that **support policy intent**

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How did we do it?

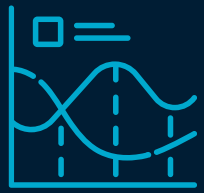
Why a cost benefit analysis?



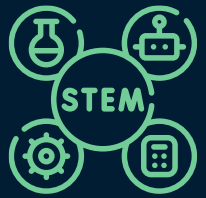
Discovering new evaluation learnings – saturation of qualitative findings and minimal opportunities for further program improvement



A baseline cost per placement ratio was reported in a 2023 evaluation report and called for more investigation.



A new type of evidence to describe the program's impact



Evidence that funders want to make investment decisions

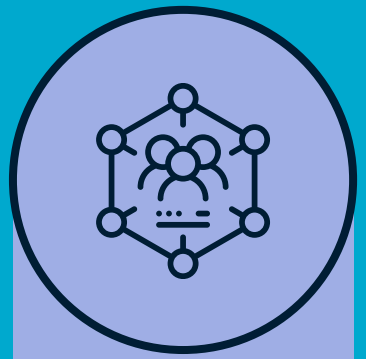
Pre-work – the very beginning



Check our thinking with a CSIRO lead economist



Engage a critical friend through a procurement process – Inform economics



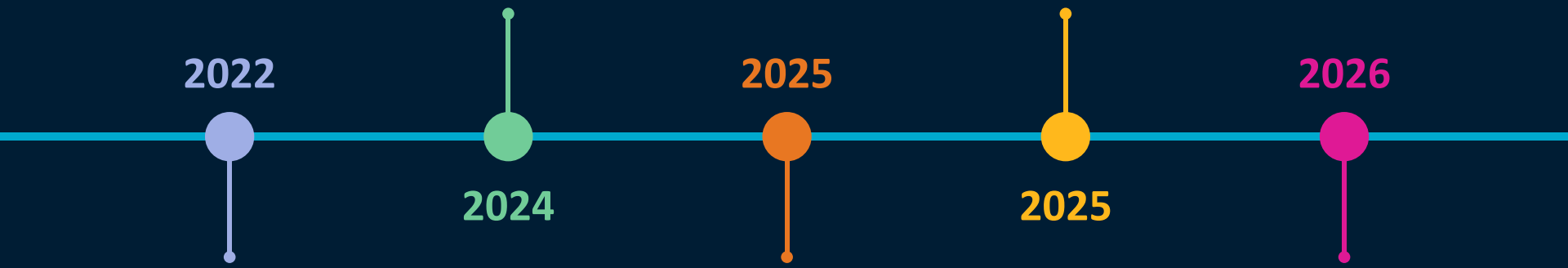
Engage the program delivery team



Finalise an evaluation Plan including capability building component

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The cost-benefit journey



Program data
Start to collate programmatic data including business and student applications, demographics etc.

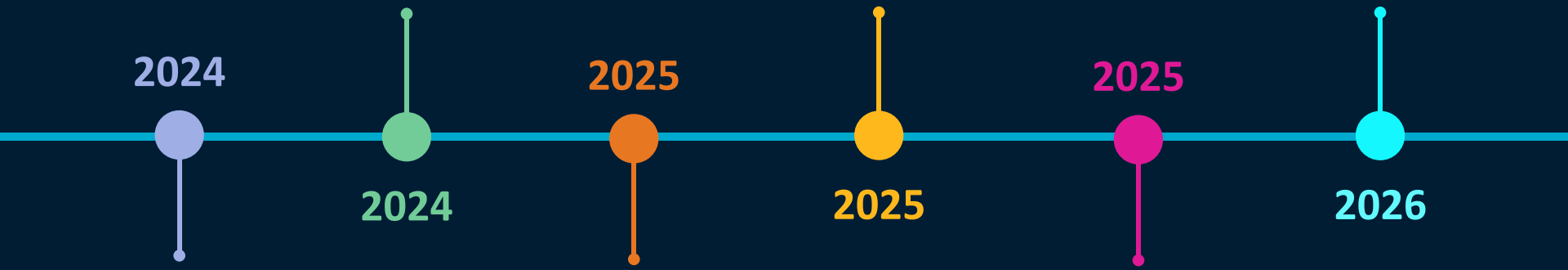
Engage Inform Economics
David comes onboard to work with CSIRO on the CBA

Capability building and data collection
David delivered 2 workshops with CSIRO staff around economic evaluations
Additional data collection specifically for the cost benefit analysis

Quantitative analysis
Jake joins the project team to determine the quantitative benefits of Generation STEM Links

Finalise and share the CBA
CBA is published with a focus on sharing the findings internally and externally

The critical friend journey



Inform Economics engaged
Document sharing, review CBA plan

Half-day workshop
Impact pathway, monetisable outcomes, and data needs

1-day workshop
Intro to CBA, revisit impact pathway

Data & counterfactual
Review emerging outcomes, challenge counterfactual

Quantification and valuation of costs/benefits
Challenge assumptions and calculations

CBA Report
Review and comment on drafts



What did we learn?

Learnings: Impact pathway development



Understanding the language of a cost-benefit analysis



Thinking in economic terms instead of just educational and social concepts



Using this phase to identify all potential outcomes regardless of the data available



Engaging the program team to understand the expected outcomes

Learnings: Building capability



Engaging the broader program team early supported the impact pathway development and expectation management



Workshop highlighted how little economic evaluation expertise we had as an evaluation unit



Capability was most effectively built through the whole evaluation project, by learning by doing and with David as our critical friend.

Learnings: Identifying and measuring the counterfactuals



Most critical (and challenging) technical work that underpinned the analysis



Iterations driven by exploring program data, intel from the program tea and external data access



Required a strong economic lens to frame the counterfactual



Counterfactual data requirements were not fully considered early on

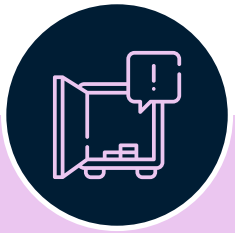
Learnings: Data availability and collection



Identified the need to collect new data sets to support the cost-benefit analysis



This was achievable, but there were learnings about how best to collect this information



Lack of data – sample sizes, longitudinal and standardisation



Counterfactual data impacted what we could monetise



Strong qualitative data

Learnings: monetising outcomes



Set up your counterfactual pathways first



There is a lot of data out there to use – if you can't find it, ask!



Find the right balance between good enough and thorough



Having others to sense check your results is extremely valuable

In hindsight…

What would we do again?

Engage an external consultant as a critical friend

Capability building workshop early on with the broader teams

Impact pathway focused on the cost-benefit analysis

‘Learn as we go’ attitude and be prepared to fail

Chose a program with existing strong and positive evaluation findings







In hindsight…

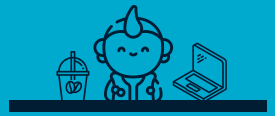
What would we do differently?

A more comprehensive feasibility assessment stage to scope out all project elements early on

Consider this earlier in the funding contract

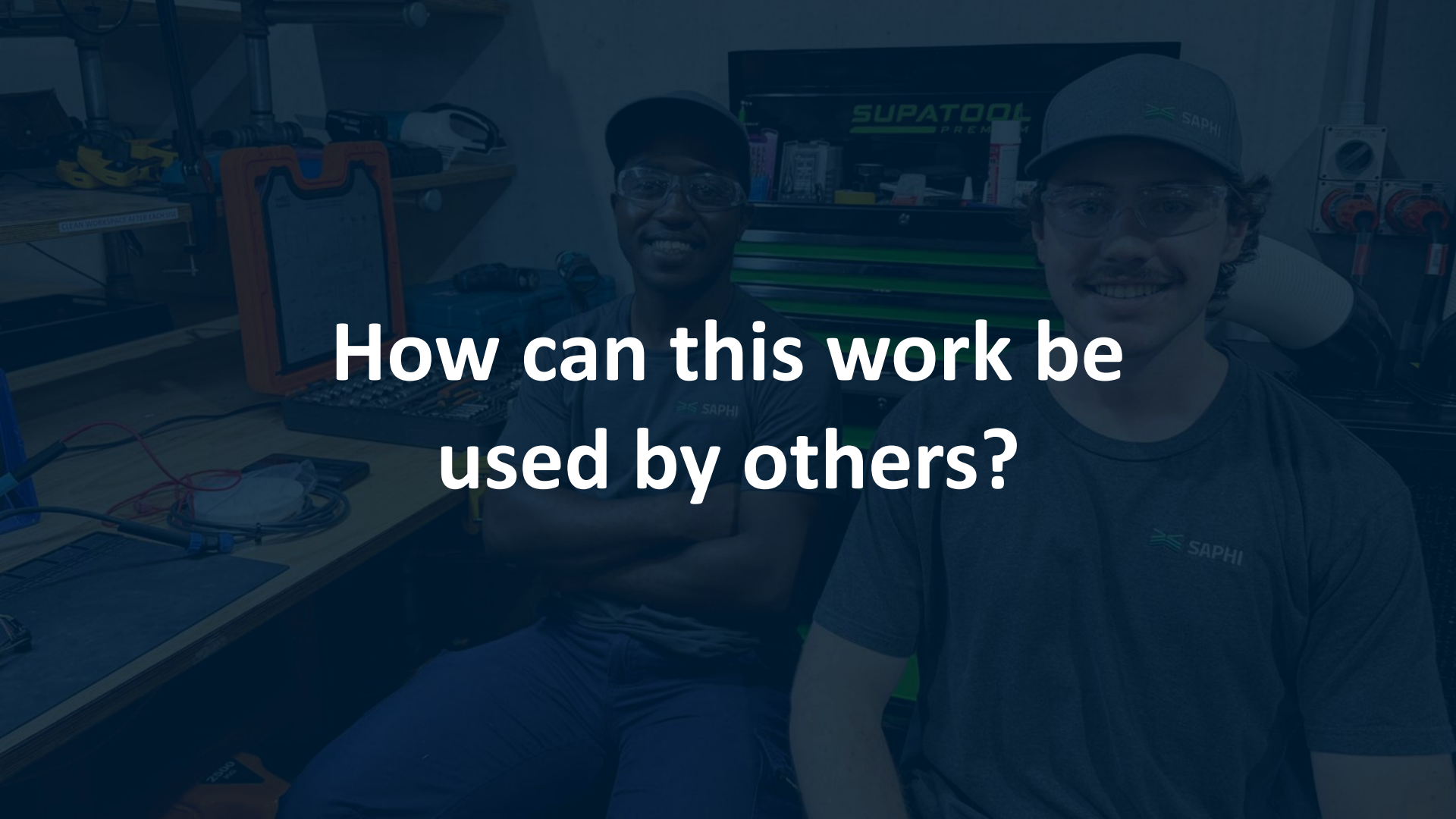
Be realistic about the skillsets required – one person can't do it all!





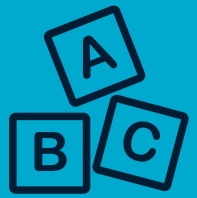


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How can this work be used by others?

How can this work be used by – evaluators?



Example of applying a CBA to an education program



Demonstrates **combining qualitative and economic** methods



Provides a **transferrable approach** and method



Identifies evidence gaps for future studies

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How can this work be used by – program designers and policy makers?



Identifies high-value program components



Supports investment decisions



Demonstrates economic returns



Highlights policy solutions for regional, SME industry and workplace diversity

At the end of the day…

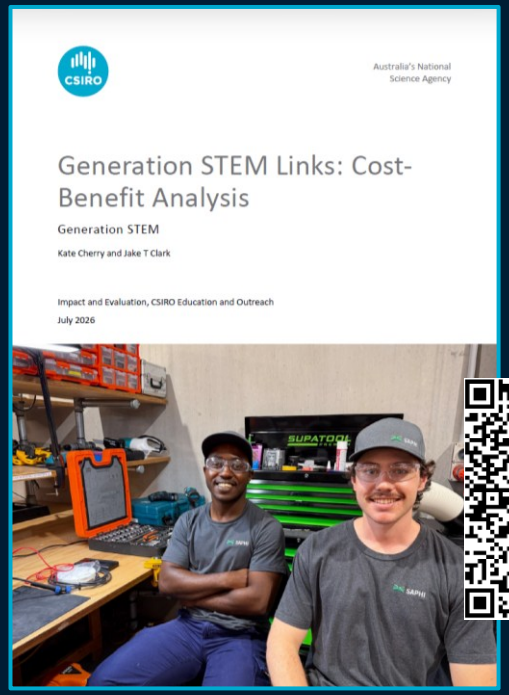
It takes time and resources to undertake an economic evaluation for the first time

Set yourself up and plan for success – skills, timeframe, feasibility and a good sense of why the program is successful

Attempting one in a **supportive workplace** is a good way to learn

It's worth it!

Question and Answer Session







Thank you

Education and Outreach
Kate Cherry
Principal Advisor

Kate.cherry@csiro.au
csiro.au/education

Inform Economics
David Marchant
Managing Director

david@informeconomics.com
www.informeconomics.com

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