Australia's National
Science Agency

Generation STEM

2025 Annual Review

Acknowledgement of Country

CSIRO recognises that Aboriginal and Torres Strait Islander peoples have made and will continue to make extraordinary contributions to Australian culture, economy and science and we aim to promote and support the vision of 'A science landscape in respectful partnership with Indigenous Australia delivering innovative, sustainable, holistic solutions to meet our greatest national challenges'.

Generation STEM is managed by CSIRO and made possible by the NSW Government's $25 million endowment to the Science and Industry Endowment Fund (SIEF).

SCIENCE AND INDUSTRY ENDOWMENT FUND

NSW GOVERNMENT

Contents

Executive summary

In 2025, Generation STEM made significant progress impacting the STEM education system by deliberately aligning program delivery with targeted systemic initiatives. Efforts focused on addressing persistent misconceptions about STEM, strengthening the capability of industry and educators to engage meaningfully in STEM education, and connect parents and families as critical influencers in young people's subject selection and career decisions. STEM-INSIGHTS contributed to these efforts by providing tools, frameworks, and a networked approach to evidence use, enabling the program and its partners to share learnings, monitor impact, and refine practice.

Alongside these targeted initiatives, Generation STEM continued to deliver its 3 core programs to reach students, educators and industry partners across NSW, the STEM Community Partnerships Program (STEM CPP), Deadly in Generation STEM and Generation STEM Links. Program delivery remained strong and increasingly focused on deepening engagement, sustainability and capability building.

Programs were intentionally used as testing grounds to trial, refine, and embed delivery and engagement approaches aligned to the targeted initiatives. This included the development of evidence-based resources, capability-building tools, and structured engagement models that support long-term change across schools, industry, and communities. A growing proportion of effort was directed toward initiatives operating across and outside program delivery, reflecting a clear shift from outputs to outcomes and system-level impact.

A focus on parent and family engagement across activities was embedded, with targeted communications, community events, and inclusive strategies designed to build understanding of STEM pathways and their relevance to future careers. Parents and carers were the primary audience for the successful #WithSTEMYouCan campaign, which focused on demystifying STEM and equipping families to confidently support their children's subject selection and career decisions. Industry partners were supported to move from transactional participation to confident, independent engagement through workshops, toolkits, and practical guidance, enabling high-quality, equitable STEM experiences for students.

Educator capability remained central to Generation STEM's approach. Teachers were supported with curriculum-aligned resources, professional learning opportunities, and communities of practice that enable sustained delivery and local adaptation. Work also commenced on the development of Indigenous STEM resources in close collaboration with partners and community, strengthening the integration of cultural context and STEM while ensuring alignment with curriculum and departmental priorities.

This integrated approach reflects Generation STEM's shift from a focus on individual activities to embedding practices, partnerships, and capabilities that support enduring systemic change. By leveraging program delivery as a platform for learning and impact, Generation STEM is strengthening the foundations for continued influence on the STEM education ecosystem well beyond the life of the program.

Generation STEM
2025 year in review

2,800 engagements between schools and industry through STEM CPP

736 students and 39 industry exhibitors at the Careers Expo

Largest #WithSTEMYouCan campaign to date receiving more than 791k campaign video views

50K+ webpage views

98 tertiary placements completed in 2025 with a further 36 underway

34 Aboriginal and Torres Strait Islander students attended Deadly in Generation STEM camps

48 educators participated in Deadly in Generation STEM Teacher Professional Learning

STEM Conversation Compass developed for parents and families

What program participants are saying about Generation STEM

"As their teacher with over 20 years of experience, I have had the privilege of guiding and supporting young minds as we collaboratively tackle enquiry questions and develop meaningful solutions. The Generation STEM program not only deepens their understanding of STEM but also empowers them to make a positive impact in their local community."

– STEM CPP teacher participant

"The [#WithSTEMYouCan Careers Expo] event was really great for people who might not be aware of what's on offer for their future careers. It helped with my upcoming subject selection; I was able to talk to universities and businesses. It showed me a wide range of sciences, and I was able to get a greater understanding of what is on offer."

– #WithSTEMYouCan Careers Expo student attendee

"[Generation STEM Links] was efficient, cost-effective, accessible and well-received. Wagga Wagga City Council will build this program into our workforce recruitment and resourcing strategy and to gain further successful project outcome"

– Generation STEM Links employer participant

"They [experienced camp leaders] made the space there for us if we were wanting to do anything within the programme, they really did open up that space for us, they said – do you have a contribution to this or did you want to help out with this? But then they knew when to direct us when we needed it and give us guidance when we needed it."

– Deadly in Generation STEM Camp leader

Our impact

Monitoring and evaluation of the initiative shows that Generation STEM is...

Increasing the awareness of STEM careers and how it impacts their everyday lives

Increasing student self-efficacy around STEM skills

Improving educator capability to link Indigenous Knowledges to the curriculum and teach within this context

Building the confidence and work readiness of tertiary STEM students to continue a STEM career after graduation

Creating systemic change

In 2025, Generation STEM continued to embed program learnings and deepen impact, using its programs as a platform for systemic initiatives and to create a legacy.

A key indicator of this strategic shift is the growth in projects designed to operate across and beyond program delivery, leveraging programs as a space to test, refine, and learn. In addition to the existing activities to engage parents and families, build industry capability to engage in STEM education and address misconceptions of STEM, 3 new projects were approved in 2025. These projects include:

- the expansion of Indigenous STEM resources to support more educators in NSW
- an enhanced suite of initiatives to build industry capability
- the use of artificial intelligence to improve access to resources, reinforcing Generation STEM's focus on driving systemic change in STEM education.

Engaging parents and families

Supporting parents to talk about STEM

In 2025, Generation STEM partnered with the Behavioural Insights Team to understand how best to support parents to have meaningful STEM conversations with their children.

The research identified 8 key factors influencing this behaviour, mapped to the COM-B model[1]:

- **Capability:** Parents' STEM knowledge, familiarity with teaching methods, and confidence in conversation skills shape how easily they can talk about STEM.
- **Opportunity:** School communication and the time and resources available to families, influence parents' ability to engage.
- **Motivation:** Parents' belief in the value of STEM, children's interest, and broader norms affect how parents approach STEM discussions.

This process led to the development of the STEM Conversation Compass, a parent-facing toolkit that helps families spark and sustain everyday STEM conversations. It addresses:

- capability, by offering clear explanations, examples, and prompts
- opportunity, by embedding STEM into daily routines
- motivation, by positioning STEM as relevant and accessible to all families.

The resource will be disseminated widely in 2026 via CSIRO's education programs and the #WithSTEMYouCan campaign. It will be continuously iterated and improved based on user feedback.

1 The COM-B model (Capability, Opportunity, Motivation – Behaviour) is a theoretical framework in behavioural science that posits three necessary components for any given behaviour to occur. The model suggests that to change a behaviour, one or more of these three interactive components must be addressed.

Parent engagement in programs

Generation STEM significantly increased parent and family engagement in 2025 through STEM CPP and Deadly in Generation STEM, recognising their critical influence on student subject selection and career decision-making. Attendance by parents and family members represented 60 per cent of total adult guests at STEM CPP showcase events and the program team was invited to attend 12 in-school community events (up from 8 in 2024).

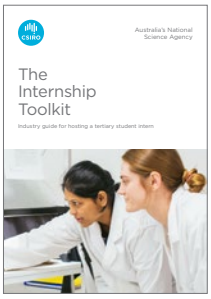
> "I had the pleasure of attending the Generation STEM Showcase in Bankstown and thoroughly enjoyed viewing the students' projects and engaging with them about their ideas. As a mother, I was genuinely impressed by the thoughtfulness behind each project and felt proud of the innovative solutions they presented".
>
> – Parent of a student involved in STEM CPP

Parent and family engagement was embedded as a core component of each Deadly in Generation STEM camp in 2025. Dedicated engagement sessions were held at the commencement of each camp to outline objectives, explain planned activities, and create opportunities for parents, carers, students, and camp leaders to connect. These sessions helped build trust and shared understanding as students began forming relationships with peers and mentors.

Families were also invited to attend camp closing ceremonies, where students shared their experiences and learnings. This provided parents and carers with firsthand insight into students' growth in confidence and capability. Anecdotal feedback highlighted positive outcomes, including strengthened cultural identity, personal development, and a deeper appreciation of the connection between Culture and STEM.

Building industry and community capability to engage in STEM education

Toolkits and resources



Industry engagement also shifted from participation to capability building. An industry toolkit for hosting tertiary STEM student interns was finalised in 2025. Developed by the Generation STEM Links team – who have facilitated more than 200 student placements since 2022 – the Internship Toolkit supports businesses to design and deliver high-quality, equitable internship programs that benefit both students and employers. Informed by program outcomes, participant feedback, and direct experience supporting industry-led internships, it consolidates best-practice guidance, practical templates, and resources spanning the full internship cycle, from recruitment to completion.

The rollout of this toolkit represents a key legacy initiative, providing industry with enduring access to evidence-based approaches for engaging in STEM education through tertiary internships. Early feedback from businesses highlights the toolkit as a practical, valuable resource that supports effective recruitment and successful placement of tertiary student interns. Businesses particularly appreciate its hands-on nature, with examples and templates identified as the most useful components.

To further strengthen industry capability, an industry site-visit planning pack was developed. This resource supports organisations to deliver impactful student site visits and equips them with tools to sustain meaningful engagement into the future. Capability building was further reinforced through a series of targeted workshops delivered throughout the year. These sessions supported industry partners to more effectively engage young people in STEM and to build strong, mutually beneficial partnerships. Across Generation STEM programs, 47 industry participants attended workshops and adopted strategies that will strengthen future STEM engagement.

> "The industry links, outreach excursions have made an impressive impact on my school students. These students feel disadvantaged, forgotten and not capable for these types of fields, visiting these excursions and funding transport/organisation through the STEM CPP Program has been inspiring and amazing for them."
>
> – STEM CPP teacher participant

Building sustainable relationships

Through long-term, place-based engagement, Generation STEM has established strong and enduring relationships between schools, industry and local communities. The longevity and ongoing support of these partnerships enables a deeper shared understanding of school and community needs, supporting more intentional, relevant, and impactful STEM learning experiences. This approach strengthens student outcomes while building industry capability to engage meaningfully in STEM education.

Other relationships were strengthened in the Illawarra, where teacher reflection sessions were hosted, bringing together 24 primary and secondary teachers to reconnect and share how Indigenous STEM investigations were embedded in their schools. Through these practical sessions, educators strengthen their community of practice, exchange ideas, learnings across schools and year levels, and how they can support each other in working together on the Indigenous STEM activities.

Participants also engaged in cultural workshops on ochre and artefact (primary schools) with local Cultural Knowledge Holder Richard Campbell, and on dyes and raffia weaving with Indigenous University of Wollongong Academic Stephanie Beaupark (secondary school). These experiences help schools build authentic relationships with local community members. The sessions concluded with a guided tour of the centre, gaining insight into local research hubs and STEM career opportunities, and reinforcing connections between classroom learning, industry, and place.

Likewise, relationships between businesses and the tertiary sector continue to solidify via Generation STEM Links, with 57 per cent of industry partners requesting a second intern and 4 businesses that have hosted more than 10 interns each over the last 2 years.

These enduring partnerships have become more than just placements, but the mechanism for an understanding of industry needs, identifying capability gaps, and understanding industry readiness to take the next steps toward a self-delivery model, where businesses independently engage with tertiary student interns. This shift not only empowers industry partners but also ensures the program's sustainability by recognising the value and benefits of integrating internships within business operations.

> "The ability for students to actually speak to industry experts was the most beneficial aspect of the Careers Expo. A lot of our students have limited exposure to what to do after high school, so this was extremely beneficial for them."
>
> – #WithSTEMYouCan Careers Expo teacher attendee

> "Through STEM CPP, we established meaningful connections with industry partners, which added real-world relevance and significance to our students' projects. STEM CPP has not only expanded their awareness of new career possibilities but has also equipped them with the essential skills needed to pursue those opportunities confidently."
>
> – STEM CPP teacher participant

Addressing misconceptions of STEM

Building on previous years, the 2025 #WithSTEMYouCan campaign aimed to inspire young people to pursue STEM by showcasing the diversity of STEM professionals and highlighting the breadth and transferability of STEM skills. A refreshed campaign message, '#WithSTEMYouCan… have a career that evolves with you and our world', reinforced the relevance of STEM for students' futures.

The campaign ran from June to August 2025, coinciding with Year 10 subject selection. Parents and families of NSW high-school students were the primary audience, supported by targeted outreach to students aged 13–16. The campaign addressed misconceptions about STEM by providing audiences with useful articles, helpful resources and videos to demystify what STEM is and provide insights to pathways on offer. A feedback form was introduced for this year's campaign via the website, with 92 per cent of respondents rating the campaign content as useful.

The 2025 campaign pivoted to place a stronger focus on engaging parents and families due to their role as key influencers in student subject and career decisions. Advertising platforms and updated messaging were strategically considered to ensure content resonated and was understood by the audience. Creative content included 3 videos featuring diverse CSIRO staff across STEM specialties, demonstrating varied career pathways and opportunities. Complementary static and carousel ads reinforced messaging around diversity, STEM skills, and career possibilities, ensuring a consistent and engaging campaign experience.

Campaign highlights

>791k campaign video views
across audiences and platforms and >2 million impressions

>667k YouTube campaign views

>224k parents reached
through social media (IG and Facebook)

>11k campaign webpage views
during the campaign period up 570 per cent from the previous quarter

9.6k website visits
up 2,733 per cent from the previous quarter

Deepening program impact

In 2025 programs continued to deepen their impact through targeted strategies across schools, students, and industry. Targets include regional areas and students not previously engaged in STEM.

Generation STEM Links focused on regional engagement, with 43 of 89 internships placed in regional NSW. Approximately 80 per cent of interns placed in regional businesses were offered ongoing employment; higher than the 70 per cent average across the program; highlighting the role of these placements in retaining STEM talent and supporting long-term economic resilience.

> "As a Local Government organisation, we need to be strategic with our time and resources. Having an intern through Generation STEM Links has allowed us to pro-actively work on an important project that we would not have had the time and resources to do so otherwise. Being regional, we would not normally have access to interns in this particular field, so it was beneficial in showcasing the work we do regionally and giving a 'city' student that type of opportunity."
>
> – Generation STEM Links employer participant

Within schools, programs continued to target students not previously engaged in STEM but identified as having strong potential, as recommended in Generation STEM's 2019–2022 Evaluation Report. Across 3 pilot schools in Western Sydney, Queanbeyan and the Central West, STEM CPP Project Officers worked with teachers to develop bespoke resources, project templates and lesson plans, strengthening teacher capability and enabling students to develop and showcase high-quality STEM solutions. Learnings from this pilot will be integrated into normal program delivery from 2026 to support sustained impact and scalability.

Teachers across all experience levels were supported with tailored resources, including guidance on embedding Indigenous Research Methodology into units of work and preparing students to present and reflect on their projects. These resources provide a foundation for continued program delivery beyond the funding period.

Industry mentor-teacher partnerships were also strengthened through a collaboratively developed roadmap between project officers, teachers, and STEM mentors, ensuring ongoing engagement and building lasting connections within schools.

Deadly in Generation STEM continued to build teacher capability through Teacher Professional Learning sessions held at locations such as the University of Sydney Plant Breeding Institute in Narrabri. These sessions allowed teachers to localise Indigenous STEM resources, connect Indigenous knowledge to classroom practice, and model these approaches for their students.

Building on the success of the Educator component, a major project was launched in 2025 to develop and embed Indigenous STEM resources across NSW schools. Aligned with the NSW curriculum, these resources are designed to ensure sustained use beyond the program's funding period. To enhance these resources, the project partnered with Indigenous media companies Saltwater People and BlackFisch to produce artwork and video content.

In November 2025, CSIRO invited NSW-based primary and secondary schools and educators to express interest in participating in Indigenous STEM professional learning in new NSW regions commencing in 2026. This initial call out received 80 responses from schools, along with several enquiries, highlighting the growing interest and need for support in integrating Aboriginal and Torres Strait Islander knowledges into STEM education. The responses will be used to inform future delivery locations for the professional learning sessions.

Creating more opportunities for businesses and tertiary students

The scalability and replicability of Generation STEM Links was again demonstrated by the fast ramp up of a spin off initiative, funded by NSW Department of Climate Change, Energy, the Environment and Water. The legacy of this program will be a model that can endure.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CASE STUDY

#WithSTEMYouCan Careers Expo

The #WithSTEMYouCan Careers Expo continued its strong upward trajectory in 2025, doubling the number of students in attendance and attracting a more diverse range of schools than ever before, including several regional schools that travelled significant distances to participate. More than 730 students from 18 schools engaged directly with 115 STEM professionals from 39 organisations.

A whole-of-program planning approach brought together schools from both Deadly in Generation STEM and the STEM CPP, creating a richer, more inclusive experience for participants. Expanded industry engagement broadened the range of careers and pathways showcased, including representation from 2 Indigenous businesses, helping to challenge misconceptions about STEM and highlight the diversity of opportunities available.

"They [students] were very impressed by the workshops and expo, both providing career opportunities to the students that they had not thought and/or known about."

– #WithSTEMYouCan Careers Expo educator attendee

"Our students were younger than most present on the day. We decided to bring this group to target them before they choose electives. The hands-on activities both in the workshops and at the stalls were by far the most engaging aspects of the day for them."

– #WithSTEMYouCan Careers Expo educator attendee

"I enjoyed walking through the expo and taking my time talking with the different industries and exhibitors."

– #WithSTEMYouCan Careers Expo student attendee

"By attending the Expo we are really hoping to inspire students into science. The event was flooded with students wanting to ask all sorts of questions, particularly those who are just starting to think about science. We can guide them about what they need to do to have science career."

– #WithSTEMYouCan Careers Expo industry participant

In preparation for the event, the team strengthened industry capability by offering practical support to presenters, including a dedicated workshop on designing engaging STEM activities for young people, tools and resources and tailored one-on-one guidance. This investment contributed to highly effective and well-received sessions on the day.

Feedback confirmed that interacting with STEM professionals on the expo floor was the biggest driver of student enjoyment and increased career awareness, reinforcing the value of the event as a key pathway-building initiative.

Key highlights

Majority of students left knowing more about their potential STEM career and education options

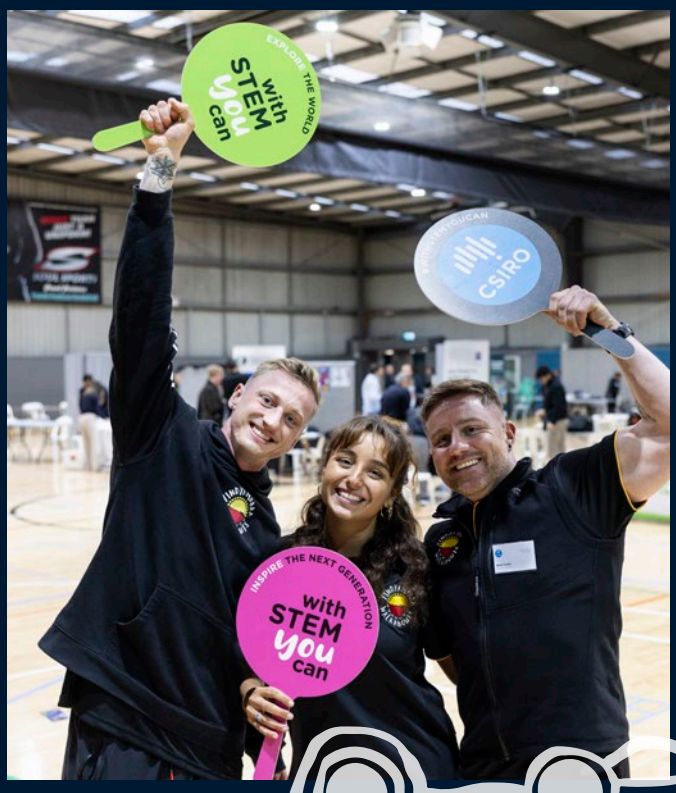
9 in 10 teachers increased their knowledge on potential STEM jobs their students can work in

8 in 10 STEM professionals valued promoting careers in their specific industry and strengthening community awareness of their organisation

Building industry capability and sustainable relationships across programs

The Deadly in Generation STEM team partnered with Yindyamarra Walkabouts, an Illawarra-based Aboriginal organisation, to deliver a fire-starting investigation at the #WithSTEMYouCan Careers Expo. Generation STEM supported Yindyamarra by building their capability in using explicit science language, facilitating inquiry-based learning, and integrating Indigenous science examples. The team also provided access to an Impact and Evaluation tool for ongoing feedback and covered the costs of equipment and resources for the workshop.

These efforts strengthened Yindyamarra's ability to engage schools, teachers, and students through localised Indigenous STEM investigations, resulting in sustainable regional relationships. Additionally, Yindyamarra team members participated in the Illawarra camp, shadowing experienced camp leaders and the program team to learn and apply elements of the model in their own programs.



CASE STUDY

Deadly in Generation STEM camps

The Deadly in Generation STEM camps have become more than just a learning experience for student participants; they are a powerful platform for building the confidence and capability of camp leaders (young Aboriginal STEM professionals and undergraduate students) while strengthening connections with local communities across regions. These camps are not only about STEM learning; they are about creating sustainable relationships and weaving culture into science.

These gatherings bring together young Aboriginal STEM professionals, undergraduate students, community Knowledge Holders, and local families to create something powerful: a shared journey of discovery, connections and understanding of what STEM really means; demystifying STEM through cultural integration.

What camp leaders said about the camps

"You don't really think about your own learnings and growth and development. A few years down the track you've got more of it homed in, more skills and really adapted to more camps in different environments and different situations. You focus on the kids, but I also enjoy focusing on the camp leaders and bringing the leaders up as well as the kids and seeing them change."

"The program gets the participants' brains thinking, it brings them out of the classroom, into an environment they might thrive in, and I think that's really important. Every child deserves that."

"I'm only [young], so I'm not that much older than the students and I don't like talking in front of other people. So it was like a big push for me to actually get there and talk to the kids and get out and say stuff to them. But I connected with them."

"The experienced leaders did a really good job of supporting us new ones on the camp...with continual prompting to share my opinion or knowledge at certain points. It wasn't done in a forceful way, it was encouraging me to share more, it made me feel a bit more like a leader."

In 2025, the focus shifted to empowering camp leaders to deliver STEM workshops that intertwine traditional knowledge with modern science. For example:

- **Boomerang physics activity:** Camp leader and engineer Zac guided students through a physics boomerang activity embedded with cultural meaning, culminating in art and storytelling to express identity, culture, and connection to Country.
- **Native bee hotels:** Martin Jnr. led students in building bee habitats, combining hands-on science with lessons on biodiversity and caring for Country.
- **Observational science/walking Country activity:** Clia guided students to identify plants on a bushwalk, contributing to citizen science while deepening cultural connections.

Throughout the camps, Knowledge Holders reinforced that STEM and Culture are inseparable. Students engaged in sky stories, animal tracking, and native plant identification, discovering how traditional knowledge enriches scientific inquiry.

> "The program helps with growth and development which is important because in 20 years time they are going to be the one making decisions for our communities. Having multiple leaders gives you exposure to more passions and more possibilities."
>
> – Uncle Len, Knowledge Holder

The camps also fostered relationship and mentoring networks across regions: experienced leaders from Illawarra supported new leaders in Moree/Narrabri, creating a web of connections that will sustain the program's impact and legacy – a foundation for future and stronger connections across communities.

And the ripple effect continues. One of the most experienced camp leaders was invited to deliver a workshop as an Indigenous STEM professional at the *Living STEM Showcase* in Western Australia, extending the program's influence across states, inspiring and building educators capabilities nationwide.

The camps are more than events; they are catalysts for building confidence, capability, and connection/sustainable relationships.

> "It's good for kids to get these opportunities on Country, I think kids get a lot out of it. I think they will gain confidence and skills they can take home and open their eyes to different opportunities. These kids can make a deadly impact on the community on themselves and their families."
>
> – Clinton Lamb, Knowledge Holder

Learnings from program delivery

What we learnt in 2025	How we will improve in 2026
Teachers reflected and provided insights on how to improve a possible Communities of Practice for teachers, challenges and what's needed. We could have a session of What we learnt and how we will improve in 2026.	Test/pilot a Department of Education based MS Teams channel led by educators/champions in the region. Program team to be invited as collaborators to provide oversight and initial guidance. Support teachers in the development of Terms of Reference template for the sustainable use of the platform and other resources.
Recruiting students for camps requires significant time and effort. While participants consistently report that the experience is valuable and rewarding, families and children are often hesitant to commit at the outset, making initial sign-ups a challenge.	Leverage regional networks and communications to showcase the impact of the camp experience to teachers, schools, and families, ensuring the value is visible and compelling. Targeted roles within CSIRO Education to focus efforts and recruitment strategies.
There is currently no assessment tool to evaluate the readiness of industry partners for transitioning to self-delivery of internships or independently hosting interns, and to assess what support industry partners may need to build their capability in independently recruiting and hosting tertiary student interns.	Develop an internship readiness survey to identify industry partners' readiness for self-delivery of internships and independent hosting. This tool could identify preparedness levels, highlight areas for improvement, and support required to ensure successful transitions.
Teacher feedback suggests an increased appetite for bespoke professional learning opportunities at a faculty level. This level of support will ensure the longevity of the program and increase teacher confidence in delivery of content and creating connections with local STEM professionals.	Continue to strengthen relationships between STEM professionals and schools by developing a timeline of engagement in collaboration with both participants, which will serve as a structure that can be continued into future years. Creating a network of champion teachers within LGAs who are interested in connecting and supporting neighbouring schools with the delivery of projects and facilitating in-school Showcase opportunities.

CASE STUDY

STEM-INSIGHTS

Project background

The STEM-INSIGHTS initiative was designed to strengthen the STEM education ecosystem by building capability to generate, use, and share evidence for greater impact.

In 2025, STEM-INSIGHTS moved from concept to action, delivering significant progress across its 3 core components: Capability Enhancer (CE), STEM-INSIGHTS Network (S-IN), and Trellis (formerly the Student Longitudinal Data System).

The year saw a shift from isolated capability-building efforts to a more connected, system-level approach. Capability Enhancer piloted intensive collaborations with 3 leading STEM education program providers, producing practical tools and frameworks for monitoring, evaluation, and learning (MEL), while also building the capability of the organisations.

The STEM-INSIGHTS Network was launched and grew to an engaged community of over 100 organisations, transforming from a by-product of early collaborations into a key driver of collective problem-solving and knowledge sharing. Trellis advanced foundational research and design for a data platform to capture young people's STEM attitudes, setting the stage for proof-of-concept implementation.

Together, these developments mark a transition toward integrated, scalable solutions that enable evidence-informed decisions and stronger outcomes across the STEM education landscape.

Capability Enhancer

The Capability Enhancer (CE) project began in early 2025 with an open expression of interest process to identify collaborators across the STEM education ecosystem.

Three organisations were selected – Australian Mathematical Sciences Institute (AMSI), the Australian Academy of Science, and UNSW CURIOUS. Each partnership commenced with a discovery phase to understand priorities, existing practices, and needs relating to MEL. These insights shaped a program of codesign, supported implementation and capability building.

Throughout the year, the team led an iterative design process to develop MEL resources for shared use, while also establishing repeatable methods to strengthen organisations' evidence use capability. Fortnightly collaborative sessions combined joint refinement of MEL resources, practical application of evidence to live programs, and structured reflection to build shared understanding and confidence. This integrated approach enabled resource development, implementation support, and capability uplift to occur simultaneously.

The project produced practical MEL tools, including a generic MEL plan template and an outcomes framework, along with reusable capability building methods such as a MEL capability learning series, an indicator development series, and structured facilitation approaches to support diverse organisational contexts. These outputs aim to support both *what* organisations use and *how* they are supported to use evidence effectively.

As collaborations progressed, the team observed improvements in partners' understanding and practice, including independent use of shared frameworks, more coherent evaluation design, and greater integration of evidence informed principles into planning. Feedback also indicated shifts in strategic framing and evaluation approaches. Seeing how partners adapted resources to different contexts reinforced the value of supports that balance flexibility with conceptual clarity.

Building on this foundation, the team will focus on scaling the model by translating the co-designed resources and capability-building methods into accessible formats for a broader range of organisations, strengthening evidence-use capability across the STEM education sector.

STEM-INSIGHTS Network (S-IN)

The STEM-INSIGHTS Network (S-IN) has strengthened connections across STEM education program providers and partners committed to improving the use and generation of evidence in inclusive, effective STEM education. Following its formal launch in mid-2025, the network has grown rapidly, expanding from 64 contacts to 182 by December.

Engagement has been strong across key activities, including a well-attended launch event, a framework working group, a rural working group, monthly Lunchtime Learn sessions, and cross-organisation 'Coffee Roulette' conversations. This steady and organic growth highlights a clear demand for social learning spaces that distil best practice, share strategies for measuring impact, and build collective capability through shared frameworks, tools, and evidence.

Network activities throughout 2025 also generated important insights to guide future development. Participation patterns indicate a core cohort of highly engaged practitioners who benefit most from deeper, more focused learning opportunities, informing a shift of the monthly 'Lunchtime Learns' toward sessions aligned with key network outputs. Strong interest across working groups points to shared goals and an appetite for collaboration, while rapid expansion of membership underscores the need to streamline onboarding and establish a shared online space – now under active investigation. These learnings position the network for strong growth, shared learning, and impact in 2026.

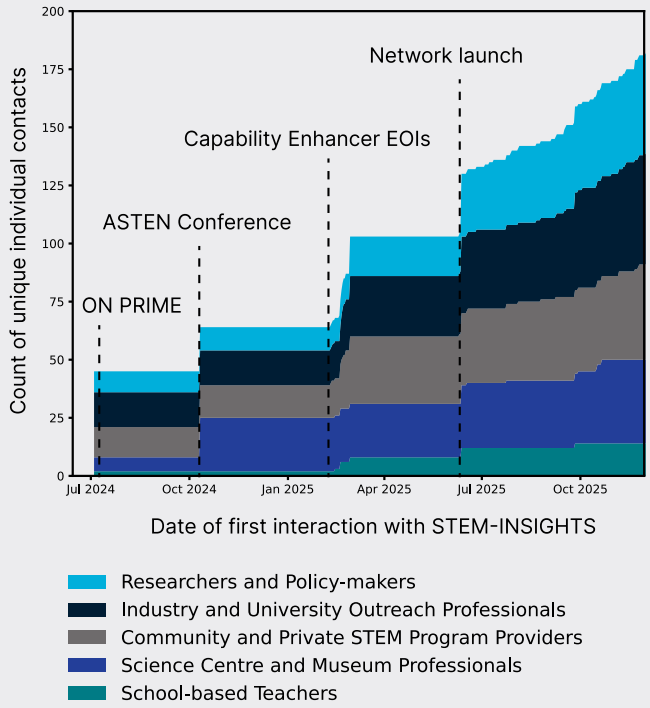


Figure 1. Growth and Composition of the S-IN Network.

Cumulative unique contacts from July 2024 to December 2025

Trellis

In 2025, the Student Longitudinal Data System was officially launched and rebranded as Trellis. Co-design activities were conducted with a range of STEM program representatives to establish its mission of helping STEM education program providers understand what educational experiences make an impact on student attitudes. A vision was established of a digital tool that makes it easier to gather student perspectives and feedback, store this data safely and securely, and turn it into actionable insights for decision makers.

Trellis is being developed to help STEM education program providers and decision-makers better understand what influences young people's attitudes toward STEM and STEM careers, enabling more effective program design, funding decisions, and evaluation. By capturing longitudinal insights, Trellis aims to shift the focus from one-off participation measures to a deeper understanding of how experiences, motivations, and perceptions evolve over time and contribute to career pathways. The 2025 proof-of-concept phase focused on establishing the foundations required to begin capturing consistent, comparable data on student attitudes, reactions to STEM programs, and the types and structures of interventions being delivered across the system.

During 2025, Trellis progressed through an intensive discovery and co-design phase to ensure the approach is evidence-informed, youth-centred, and fit for purpose across diverse program contexts. This included 5 consultation and discovery interviews with program providers, evaluators, and academics, alongside 19 collaborative workshops to define the vision, explore program design journeys, incorporate youth perspectives, and clarify the scope of a proof-of-concept. Multiple literature reviews were also undertaken, examining existing student survey instruments, the relationship between student attitudes and STEM career outcomes, and best practice approaches to working with young people.

STEM-INSIGHTS also collaborated with leading STEM education researchers to produce a forthcoming white paper outlining the theoretical foundations of the Trellis survey instrument. This work established a strong foundation for piloting Trellis in 2026 as a system-level tool to support learning, improvement, and evidence-based decision-making across STEM education.

Learnings from STEM-INSIGHTS

What we learnt in 2025	How we will improve in 2026
Sustained, collaborative environments build the strongest capability.	The Capability Enhancer team will build collaboration into their tools, for example, designing small workshops for two-way engagement and learning. The STEM-INSIGHTS Network will expand to additional working groups, creating more spaces for organisations to collaborate.
Every organisational context is different and no one tool will fit everyone's context.	Tools developed by the Capability Enhancer team will be flexible and adaptable to different contexts. The STEM-INSIGHTS Network will connect organisations with a range of tools, enabling them to find what best fits their needs, as well as link organisations with peers to share tools and approaches that work for them.
The STEM education ecosystem requires substantial connection and coherence. Having a shared language of evidence-informed practice and impact is powerful.	The STEM-INSIGHTS Network will help bridge this gap by providing pathways for organisations to connect via a collaboration space. It will also develop a knowledge hub to increase the availability and accessibility of evidence, tools, and resources.
Engagement across diverse partners surfaces different needs and approaches.	STEM-INSIGHTS will continue working with a wide range of organisations to ensure tools and resources remain relevant and responsive to these varied needs.
There is no existing fit-for-purpose survey instrument capable of capturing longitudinal student attitudes relating to STEM careers.	Rather than utilising an existing survey scale, the Trellis team will continue co-designing and validating a novel evidence-informed instrument in 2026.

Program insights

STEM CPP

Outcomes

STEM CPP employs a robust monitoring plan to track progress and generate insights, including from students, educators, and STEM mentors.

Students

122 students were surveyed:

Most reported a stronger understanding of STEM pathways

86% know more about STEM education options

83% have a clearer sense of potential STEM jobs

Students showed statistically significant improvements in their attitudes towards the everyday relevance of STEM, their excitement for STEM subjects, and their awareness of STEM career opportunities. These shifts were most pronounced among students from high socioeconomic and non-culturally and linguistically diverse backgrounds, as well as female-identifying students.

Attending CSIRO showcase events and students' interactions with STEM role models – both in and out of school – **had the greatest impact on students' interest in STEM.**

3 in 5 students expected to work in a job that directly uses STEM knowledge and skills.

The most popular intended fields were:

23% Health

21% Engineering and Related Technologies

15% Natural and Physical Sciences

Educators

50 educators were surveyed in 2025:

7 out of 8 schools were likely to continue with the program

89% of educators agreed that STEM CPP was likely contributing to students choosing STEM subjects in their senior years

Delivering an inquiry-based learning project and attending a teacher networking event had the greatest positive impact on educators' STEM pedagogical practice. Educators reported that STEM work experience, the CSIRO showcase, and the Careers Expo generated the largest increases in student interest.

Most educators observed improvements in students' STEM skills and awareness:

84% improved communication

72% improved creative problem solving

STEM Mentors

51 STEM mentors were surveyed:

2 in 3 found it easy to participate as an industry partner

85% felt involved to the extent they wanted

Based on the survey results, industry relationships strengthened as a result of the program, with 67 per cent of mentors reporting improved engagement with schools and 60 per cent reporting improved engagement with community members.

84% felt they were able to meaningfully share their experiences navigating a STEM career with young people

What worked

Educators reported high levels of student engagement, particularly during hands-on, inquiry-based community projects. Teachers also observed strong engagement when students interacted with STEM role models during industry visits, a finding echoed in student survey responses.

Satisfaction with STEM CPP was high:

95% of educators and **79%** of STEM mentors likely to recommend the program to colleagues

This may support further industry involvement, with nearly half of current mentors (46 per cent) having been referred by friends or colleagues.

Students highlighted the real-world relevance of STEM as a key motivator. The community challenge project helped them see how STEM applies to real problems, which increased their interest and helped them discover new career paths and STEM roles.

Challenges

Forty per cent of educators expressed some challenges embedding the inquiry-based projects into their classrooms.

Four themes emerged from their feedback:

- **Curriculum:** Overlapping priorities (22 per cent) and timetabling conflicts (14 per cent)
- **Access:** Limited class time to complete the project (22 per cent) and a lack of trained STEM teachers to support delivery (8 per cent)
- **School Culture:** Limited existing culture around STEM or inquiry-based learning (10 per cent)
- **Industry:** Difficulty connecting effectively with STEM industry partners (3 per cent)

Educators also identified barriers that students raised about continuing in STEM, grouped into 4 categories:

- **Educational and Systemic:** Resource gaps (12 per cent), limited real-world application (6 per cent), and STEM subjects not being available in senior years (5 per cent)
- **Individual and Psychological:** Perceived difficulty of STEM subjects (9 per cent), fragile STEM identity (8 per cent), and low confidence or self-efficacy (8 per cent)
- **Career:** Limited knowledge of STEM careers (15 per cent) and unclear pathways (8 per cent)
- **Social and Cultural:** Socioeconomic factors, family influence and cultural attitudes towards STEM (9 per cent)

Educators also noted the need for more lead time to plan out-of-school events, with relief teacher availability and excursion planning posing significant challenges. Teachers suggested updating project topics, as siblings were completing the same projects across years, and requested formal recognition for participating students, such as certificates or awards for outstanding inquiry-based project work.

Deadly in Generation STEM

Outcomes

In 2025, 34 Aboriginal and/or Torres Strait Islander students in years 8 to 10 engaged in a STEM camp in their local area (across 2 camps). Thirty-three students completed the camps and participated in post camp surveys. They were asked about their perspectives at the end of camp compared to before camp. The areas with the highest amount of self-reported change for all students (across both camps) was:

Increased awareness of **Indigenous STEM knowledges** and **different STEM subjects to study**

The next most highly rated areas of change for students differed across the 2 camps and included:

- interest in taking part in traditional and cultural activities in the future
- interest in working in a STEM career in the future.

Students that engaged in the 2 camps self-reported new interests in the following areas (from most to least frequent responses):

- Environmental conservation and/or engineering including water management
- Cultural activities and knowledges such as boomerang throwing, dancing, plant medicine
- Biology
- Chemistry
- Astronomy

In 2025, 48 educators completed surveys at the conclusion of professional learning sessions. 96 per cent of survey respondents were very (42 per cent) or extremely (54 per cent) satisfied with the session. Two educators were moderately satisfied.

Educators' top 3 most valued elements of the session were:

1. **Linking** Indigenous Knowledges to the curriculum
2. **Learning** about cultural considerations in the classroom
3. **Planning** the inquiry project for the classroom

Educators self-reported their capability improvements in the following areas (from most to least significant amount of improvement:

1. teaching with traditional context
2. implementing an inquiry lesson with my class
3. inquiry based learning methods.

What worked

For STEM camps, students valued:

Connecting to culture

Learning cultural knowledges

Meeting new people

Listening to local Elders and Indigenous Knowledge Holders share their knowledge, and 'seeing' STEM career pathways was also valued by students. Experiencing this with their peers and camp leaders enhanced their experience.

In 2025, improvements to the camp model derived from 2024 evaluation learnings included a more comprehensive pre-camp meeting and formalised daily debriefing for camp leaders and staff. A student-led behaviour expectation session was also introduced to increase student engagement in the discussion. These model enhancements supported new and returning camp leaders in their roles during camp.

For educators participating in the Teacher Professional Learning, most participants reported highly valuing:

Networking with presenters and other schools, including the opportunity to **share knowledge**, and **generate ideas** for applying inquiries across their key learning areas.

The **hands-on learning approach** and time for **classroom planning** was also appreciated.

In 2025, a sample of educators participated in program co-design discussions focused on sustaining the program's impact past its funding term. This occurred as part of the program's end of year reflection day and provided valuable insights from educators to effectively focus future program activities to increase longer term impacts.

Challenges

Every camp experience provides rich learning experiences for camp leaders and CSIRO staff, as they engage with the young people and delivery camp activities. This results in the need to be flexible, adaptable, and to communicate clearly and consistently across the camp leadership team. This can be challenging in a fast paced and dynamic environment.

Introducing new camp leaders into this complex environment can be challenging and required **additional planning** and supports in place to support a smooth transition into the role of camp leader.

In 2025, educators engaging in Teacher Professional Learning sessions recommended some improvements, including more simplified versions of the resources; facilitating links between educators and Aboriginal Knowledge Holders; more practical information to support the implementation of the lessons such as where to access items on the resource list. The new curriculum was also highlighted by educators and that having access to resources that aligned with the updated curriculum was important.

Generation STEM Links

Outcomes

In 2025, 55 students responded to the end of placement survey, of these:

90% agreed the internship met or exceeded their expectations

98% were likely or extremely like to recommend the program to others

Students rated their top 3 most valued placement experiences as:

1. Knowing the work they did **contributed** to the wider team
2. Feeling like they were given **meaningful** work
3. Being given appropriate levels of **responsibility**

In 2025, tertiary students were asked their perspectives at the end of the internship compared to before the internship. The areas with the highest amount of self-reported change for all students was in:

Building professional **working relationships**

Increased knowledge about the realities of working in STEM

Increased confidence in their core work-readiness skills, such as communication skills, working in a team, project and task management

91% of students who were surveyed agreed the internship had **influenced future decisions about their careers**

Of these:

- The majority described different ways their placement broadened their awareness and interests within STEM, and for some, it ignited passions in new areas.
- A smaller number confirmed the placement reinforced their STEM career pathway and provided them with deeper insights into their chosen field.
- Some students also commented that it increased their preparedness for the workforce

In 2025, 38 industry partners responded to the end of placement survey. The findings indicated that:

- 100 per cent of supervisors who were new to the program reported their expectations were met (26 per cent), exceeded (61 per cent) or greatly exceeded (13 per cent).
- For 21 new industry partners, becoming an industry supervisor for the first time was easy (n=10) or very easy (n=11).
- 85 per cent of 33 supervisors were very (33 per cent) or extremely (52 per cent) satisfied with the performance of their student intern. Four supervisors were moderately or slightly satisfied and 1 supervisor not satisfied. Reduced industry partner satisfaction was related to students not communicating adequately, or a lack of attention to detail.

For 22 industry partners that were new to the program:

100% wanted to continue with the program

96% would recommend Generation STEM Links to other businesses

What worked

Overall, student feedback indicated they **appreciated support and feedback from their industry supervisor**, whereas industry supervisors valued the **support of the CSIRO program delivery team**.

The program provided direct support to industry partners in the form of student position description development, recruitment and shortlisting of students and support for the duration of the placement. This allowed industry partners to use their time connecting directly with students in a mentoring and supervisory capacity. This approach builds industry partner capabilities to support student interns, reflected in their improved confidence to supervise students, reported by 73 per cent of supervisors surveyed.

Challenges

In 2025, **9% of students** surveyed reported the internship didn't meet their expectations.

In these cases, there were varied reasons including: unrealistic expectations; the work not aligning with the role interviewed for; and lack of oversight or supervision.

The challenges raised by some industry partners included:

- having an understanding about how to support tertiary students, as junior staff, to build up their confidence slowly during placement
- finding the right time for student placements to ensure they line up with available project work and supervisor availability
- taking the time to ensure a smooth handover process from CSIRO to support a successful start to the internship.

Program management

Governance

The Generation STEM Consultative Council was appointed in April 2018.

The current membership is (as of 31 December 2025):

- Ms Elanor Huntington, Executive Director, CSIRO Digital, National Facilities and Collections
- Ms Gail Fulton, Director, CSIRO Science Connect
- Ms Gabrielle Trainor AO, Chair of the Construction Industry Culture Taskforce
- Mr Martin Graham, Deputy Secretary of Teaching, Learning and Student Wellbeing, NSW Department of Education.

The team would like to thank Dr Ian Oppermann who stepped down as Chair of the Council in December 2025. An additional NSW Government nominee to the Council is being identified and will be confirmed and onboarded in due course.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Appendices

This section details the characteristics of the student/schools that participated in Generation STEM in 2025.

STEM Community Partnerships Program

Number of students participated by year

	YEAR 7	YEAR 8	YEAR 9	YEAR 10	TOTAL
2019–20			358	91	449
2021			757	365	1122
2022			1171	1150	2321
2023	278	818	1407	1136	3639
2024	670	1113	1560	1251	4594
2025	**483**	**644**	**1004**	**876**	**3007**

Number of schools participated by sector and year

	GOVERNMENT	CATHOLIC	INDEPENDENT	TOTAL
2019–20	15	1	6	22
2021	27	12	8	47
2022	43	19	16	78
2023	44	22	19	85
2024	46	20	20	86
2025	**32**	**17**	**13**	**62**

Number of schools participated by LGA/region and sector

	GOVERNMENT	CATHOLIC	INDEPENDENT	TOTAL
Albury	2		2	4
Blacktown	4		2	6
Blue Mountains		1		1
Camden	2			2
Campbelltown	3		1	4
Canterbury Bankstown	3	2	2	7
Cumberland	3		1	4
Central Coast	3	2		5
Central West		2		2
Dubbo				0
Fairfield	2	1	1	4
Hawkesbury	1			1
Liverpool	2	2	3	7
Parramatta	1			1
Penrith	6	1	1	8
Queanbeyan/Yass	3			3
The Hills Shire	1	2		3
Total	**32**	**17**	**13**	**62**

Deadly in Generation STEM

Number of students participated by year and region

	ILLAWARRA	MOREE	TOTAL
2022	11	16	27
2023	22	66	88
2024	16	10	26
2025	**17**	**17**	**34**

Number of teachers and support staff participated by year and region

	ILLAWARRA	MOREE	TOTAL
2023	38	13	51
2024	45	18	63
2025	**37**	**11**	**48**

Generation STEM Links

	2023	2024	2025	PERCENTAGE DIFFERENCE FROM PREVIOUS YEAR (2024)
Number of placements confirmed	62	80	98	22.5%
Number of placement requests	103	112	108	-3.6%
Number of new industry collaborators applied	43	40	27	-32.5%
Percentage of repeat industry collaborators (out of total)	24%	30%	49%	19.0%
Number of student applications	709	1,971	2,629	33.4%
Percentage of student interns from underrepresented groups placed	71%*	65%*	64%	-1.0%

* The percentage of student interns from underrepresented groups for 2023 and 2024 was reviewed in 2025, and an error in the original calculations was identified. As a result, previously reported percentages have been updated. The figures for the past 3 years now accurately reflect the correct data.

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