

Impact report 2024



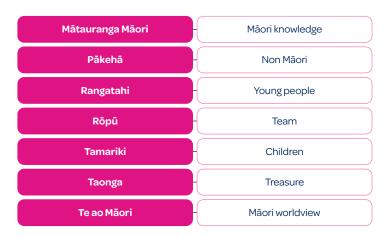




Kupu guide

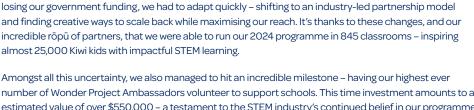
We use kupu Māori throughout this report because it's a smal but important way of encouraging others to do the same, to help keep the language alive. Kia kaha te reo Māori.





A note from a believer and and dreamer

"WE WENT FROM REACHING A RECORD NUMBER OF KIWI **KIDS, 35,000, TO HAVING** TO SCALE BACK THE **PROGRAMME TO OPERATE** WITH LESS FUNDING. OUR HARD MAHI IN BUILDING THE **WONDER PROJECT BRAND** AND REPUTATION SAW OUR **DEMAND EXPLODE AT THE** SAME TIME THAT FUNDING **WAS CUT.**"



When thinking about how to describe this year, the words resilience and perseverance come to mind. After

number of Wonder Project Ambassadors volunteer to support schools. This time investment amounts to an estimated value of over \$550,000 - a testament to the STEM industry's continued belief in our programme and its impact. But despite these wins, the year wasn't without its challenges.

Inspiring 24,000 ākonga was no mean feat, but it's still a significant drop from 2023. We went from reaching a record number of Kiwi kids, 35,000, to having to scale back the programme to operate with less funding. Our hard mahi in building the Wonder Project brand and reputation saw our demand explode at the same time that funding was cut. For the first time ever, we had to turn kaiako away. There were 500 kaiako on our waitlist who we couldn't accept into the programme. We could have surpassed our record number of ākonga participation, but instead, around 14,000 ranagatahi missed out.

To make the most of limited funding, we encouraged kaiako who'd been part of a challenge previously to re-use their old kit. This was enabled by offering refresh packs in our online shop, to help make their old kit as good as new. It was encouraging to have 280 return kaiako use an old kit, to allow other kaiako to experience the Wonder Project. We're launching funded refresh packs for 2025, so schools that can't afford to purchase their own can apply for a funded one.

An undeniable highlight of the year was working with Water NZ to develop the new Water Challenge. Bringing together mātauranga Māori and Western STEM, the challenge has ākonga create their own mini model of Aotearoa New Zealand's water network while learning how STEM is used to collect, clean, connect and care for one of Earth's most precious taonga. The challenge was piloted in 30 classes this year - with a nationwide rollout planned for 2025.

One thing our funding situation didn't change was our commitment to continuous improvement. To help kaiako easily assess the learning of their ākonga against the curriculum, and complete reporting requirements, we added assessment tools to the Rocket and Power Challenges. We also made our repurposed challenge about food sustainability, the Plant Challenge, available for kaiako to download and use whenever suits them.

At times like these, we're grateful for the unwavering support and encouragement from our wonder hapori. Every day, our incredible ākonga, kaiako, STEM professionals and partners remind us why it's crucial that our mission continues. Team Wonder are committed to making that happen.



Shelley Pearce Wonder Project Director



From the food we eat, to travelling around, to keeping in touch with friends and whānau, we experience the magic of science, technology, engineering and maths (STEM) every day. And we know there are some big challenges in this world that STEM professionals will be vital to solving.

But there's a crisis happening in our education system, resulting in a lack of belief, under achievement and negative perceptions towards science and maths subjects.

Just 1.8% of rangatahi aged 7–13 aspire to an engineering career, with 37% of intermediate aged ākonga believing they aren't good enough at science and maths. And research shows this problem starts early: over 80% of Year 4 tamariki achieve at or above the expected level for maths and science, but this drops drastically when they reach Year 8 to 58% and 80% of tamariki being below the expected level, respectively. It's no wonder this has led to a decline in NCEA students doing STEM subjects, with the number of graduates being assessed and achieving for senior maths and physics papers dropping by over 20%.

And yet the demand for STEM skills has never been greater, with 80% of future jobs in Aotearoa needing STEM skills, and over 2,300 engineers required each year to keep supporting our economy.

When it comes to diversity, the stats are even more disheartening. Women make up just 17% of engineers, 29% of technology professionals and 40% of scientists in Aotearoa; and Māori and Pacific Peoples make up around 6% of engineers, and just 2% of science and technology professionals.

So, it's become our mission to provide fun and impactful STEM experiences for all rangatahi in Aotearoa, so they can believe in themselves and become our future STEM superstars.

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The Wonder Project is Engineering New Zealand's free nationwide schools programme, designed to inspire rangatahi with STEM. We exist to champion a diverse and thriving future STEM industry. That means making STEM learning relevant, accessible, and understandable for all rangatahi, and especially girls, Māori and Pacific Peoples.

Our programmes are carefully curated to do just that – delivering hands-on, engaging learning experiences aligned to the New Zealand Curriculum.



Level 3, Year 5-6

Rocket Challenge Powe



Power Challenge Water
Level 4, Year 7–8 Level



Water Challenge Level 4, Year 7–8



STEM Careers Year 7–13

Research shows that Year 5–8 is when kids are making decisions on which subjects they're interested in and good at. It also shows that positive, sustained engagement with STEM is more impactful than one-off talks or experiences. So, our challenges cater to Year 5–6 and Year 7–8, and are run across the duration of a school term. This ensures kids have consistent access to Wonder Project challenges during their most impressionable stages of life. Our STEM careers programme is then available to kids from Year 7–13 to open their eyes to the many incredible STEM career opportunities available to them.

Challenges are fully supported with a high-value kit, online learning modules, videos, and challenge guides – all free for Aotearoa kaiako. We connect classrooms with volunteer industry professionals who work alongside kaiako and ākonga as Wonder Project Ambassadors – sharing their wisdom, knowledge and passion for STEM and raising confidence along the way.

Fun

Hands-on, project-based learning, competitior

Accessible

nclusive design free for schools, available nationwild

Confidence

Kajako support, STEM professional volunteers, ākonga work in rōpū

How our challenges work









Plan

Design or refine challenge materials based on research and feedback from kaiako, ākonga and STEM professionals.

Recruit

Advertise to kaiako and STEM professionals across the country and encourage them to register to be part of the challenge.

Match

nterview all registered STEM professionals and then match them with a class in their local area, to be their Wonder Project Ambassador

Send

Send out free challenge kits to participating classes, and training and teaching materials to support kaiako and Wonder Project Ambassadors.

Run

Kaiako and Wonder Project Ambassadors deliver the challenge to the classroom, over the specified school term.

Review

Survey participants to find out how the challenge impacted them, and what they liked or didn't like

Repeat

Do it all again the next year!





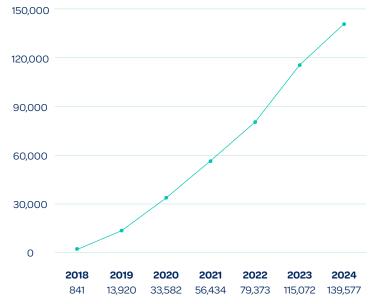








Ākonga who've experienced the wonder



139,000+ ākonga across **4,813** classes in 1,400 unique schools with

2,000+
STEM professionals



4,148
free kits provided
to schools
(valued at over \$1.3M)



24,505 ākonga





464 unique schools

27%
with high
socio-economic
barriers

845 classes

546 free kits given to schools

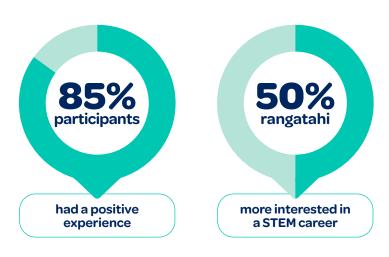


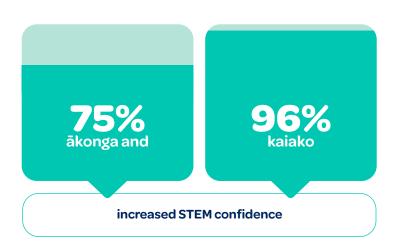
\$193,000 invested directly into schools

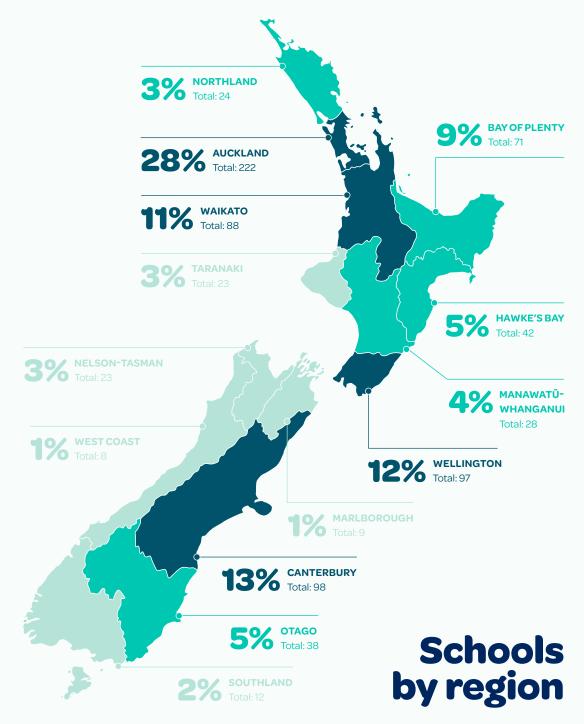


\$33 per ākonga programme cost









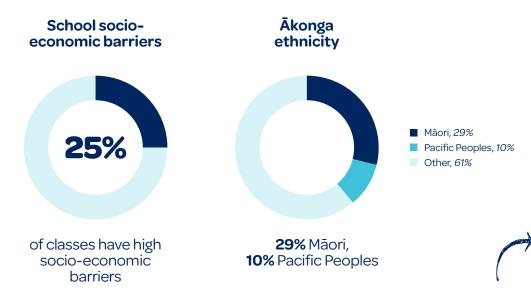


Product

Houston, we have lift off! Ākonga blast off into STEM by designing, building and launching their own water rocket. While the rockets are flying, they learn about Newton's laws, the engineering design process, and working as a rōpū.

Year 5-6, Level 3 NZ curriculum

Reach	Total (since 2018)	In 2024
Ākonga	112,000+	18,183
Classes	3,874	627
Free kits	3,277	407
Schools	1,300	383
STEM professionals	2,000+	274



"Such a cool resource! So professional and easy to run – Hoved feeling like my students had access to something fancy and proper instead of a resource cobbled together by me. Hoved it!!! My students loved it!!!"

Anna-Sofia Filer,Kaiako – Onewhero Area School

Click here to view full Rocket Challenge

impact

report

Ākonga impact

79% of ākonga

said the Rocket Challenge made them feel more confident in STEM subjects

56% of ākonga

were more **interested in STEM jobs** after the challenge

87% of kaiako

noticed a positive shift in ākonga perceptions of STEM

74% of kaiako

believed their **ākonga were more curious about STEM career opportunities**

93% of kaiako

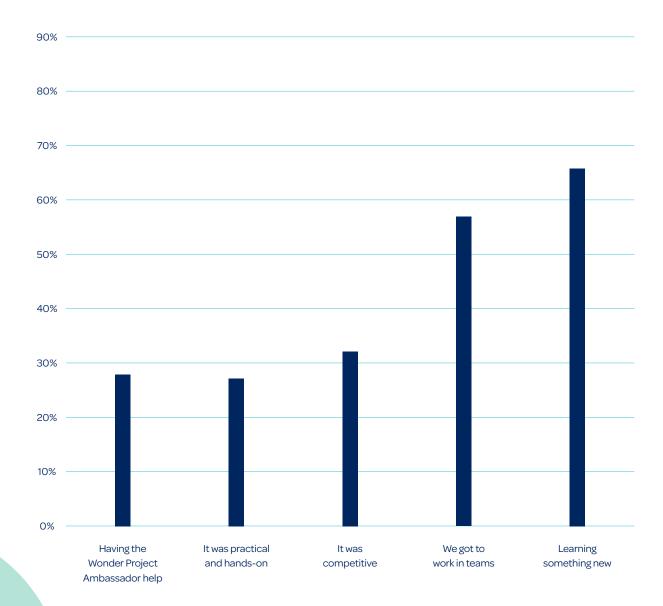
said their **ākonga** were engaged with the learning journey

80% of ākonga

said they would do it again

What ākonga liked

From their Wonder Project experience., ākonga mostly valued learning something new and working in rōpū, when asked what they enjoyed about the challenge.



Kaiako impact

91% of kajako

enjoyed teaching the Rocket Challenge

96% of kaiako

increased their confidence in teaching STEM

(a 99% increase in kaiako feeling fairly or completely confident teaching STEM subjects)

87% of kaiako

were fairly or completely satisfied with the teaching content

90% of kajako

were fairly or completely satisfied with the ākonga module content

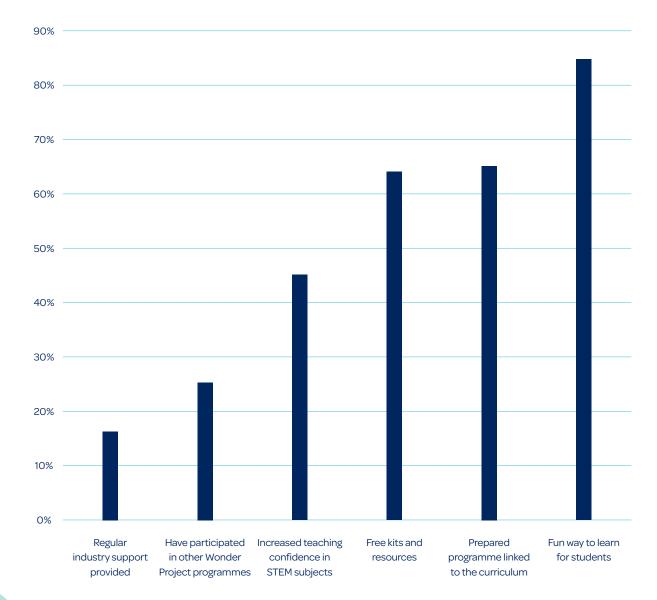
99% of kaiako

would recommend the programme to others

98% of kajako said they would do it again

Motivations to sign up

Kaiako primarily registered for the Rocket Challenge because it looked like a fun way for their ākonga to learn. Having a prepared programme linked to the curriculum, the free kit and resources, and increasing their confidence teaching STEM were also predominant reasons they signed up.



The first spark of wonder in the unconfident akonga

The Wonder Project
Rocket Challenge has an astronomical impact on Kiwi kids' perceptions of STEM – able to convert even the most disengaged into lovers of science, technology and maths subjects.
And that's exactly what happened when Pukerua Bay school took on the challenge this year.

Gideon Barnard, a kaiako at Pukerua Bay School, was motivated to register for the Rocket Challenge thanks to the enthusiasm of his syndicate leader. With excitement on his face, his colleague talked through the engaging activities and the great-looking cardboard rocket. Mr Barnard knew at that moment the Rocket Challenge would offer a unique opportunity for ākonga to experience STEM in a practical hands-on way. Even the ones that usually shy away from the learning.

"I think many of my students find STEM subjects interesting, but the thought of studying them might make some feel anxious or overwhelmed. Abstract concepts can seem intimidating, and this sometimes leads students to disengage or doubt their abilities" says Mr Barnard.

Before they took on the Rocket Challenge, Mr Barnard's ākonga were meeting his expectations, with many recognising the importance of science and maths subjects but finding them boring, too hard and only for people with "big brains".

Kaiako Gideon Barnard, takes Pukerua Bay School ākonga through the Rocket Challenge



"I'm not very confident with maths or science. I don't like to get things wrong. It can be a bit scary and hard sometimes" – Isabel, wonder ākonga.

"I think STEM subjects can help when we're older in our jobs but I find them boring" – Ally, wonder ākonga.

That was until they participated in the Rocket Challenge. Ākonga were tasked with designing, building and launching a water rocket – competing in rōpū to see who could make theirs launch the most effectively. The class was supported with resources to make the STEM learning experience fun and engaging, including a free rocket kit, activities, videos, a challenge guide, and a volunteer STEM professional, NIWA's Phil Wiles, to build confidence in kaiako and rangatahi alike.

To help ākonga apply their knowledge, key concepts were paired with hands-on activities – cementing the learning as the challenge progressed. After learning about Newton's laws of motion or aerodynamics, they'd put these concepts into practice – designing fins to reduce drag, adding air pressure to increase thrust, and testing their rocket's performance. This learning method worked wonders for knowledge understanding, retention and confidence – with the thrill of the rocket launches helping showcase just how fun STEM learning can be.

"I didn't think STEM was fun at first but when I did the Wonder Project, it was really enjoyable" – Isabel, wonder ākonga.

"I am interested in a STEM job now. Something that involves building things like we did in the challenge" – Ally, wonder ākonga.

Having had their confidence and perceptions lifted at this critical age, Pukerua Bay School ākonga are much less likely to feel they're not smart enough for STEM subjects, or that STEM careers are boring. This intervention is crucial to strengthening the future STEM work force and ensuring rangatahi go through school believing they can do anything they set their mind to.

"I AM INTERESTED IN A STEM JOB NOW.
SOMETHING THAT INVOLVES BUILDING
THINGS LIKE WE DID IN THE CHALLENGE"

Ally, Wonder Akonga – Pukerua Bay School

Right: Ākonga work on their rocket designs

Below: Excitement levels hit an all time high as ākonga launch their water rockets



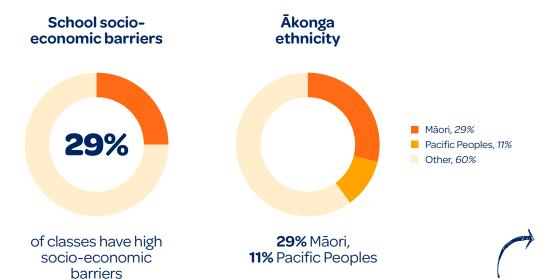


Product

Power up! Ākonga design and build a wind turbine and light up a mini town. Along the way they discover the amazing phenomenon of electricity and renewable energy, and learn how teamwork can keep the lights on.

Year 7-8, Level 4 NZ curriculum

Reach	Total (since 2018)	In 2024
Ākonga	21,000+	5,452
Classes	747	188
Free kits	679	109
Schools	356	113
STEM professionals	600+	208



"I went into this hoping to help those who were already curious about STEM, but I was surprised by all those who started off not so interested, and were by the end really engrossed in the Power Challenge!"

Mark Struthers, Ambassador – Transpower

Click here to view full Power Challenge

impact

report

Ākonga impact

71% of ākonga

said the Power Challenge made them feel more confident in STEM subjects

43% of ākonga

were more **interested in STEM jobs** after the challenge

90% of kajako

noticed a **positive shift in ākonga perceptions of STEM**

77%

believed their **ākonga were more curious about STEM career opportunities**

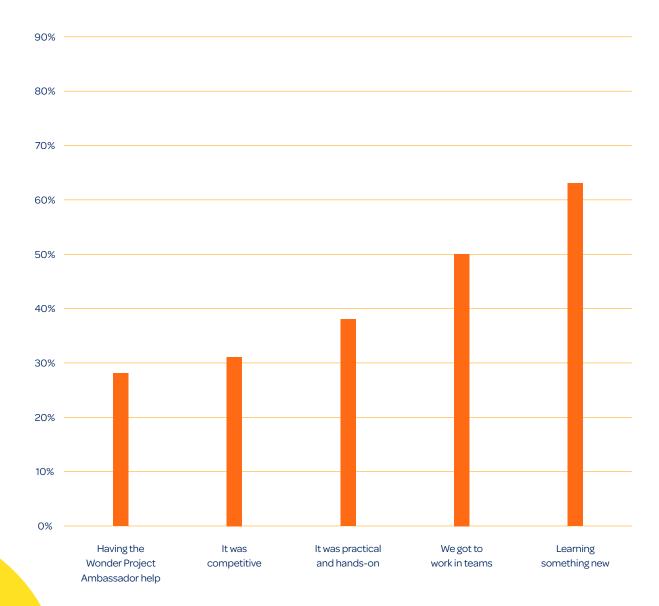
90% of kaiako said their **ākonga** were engaged with the learning journey

70% of ākonga

said they would do it again

What ākonga liked

From their Wonder Project experience, ākonga mostly valued learning something new and working in rōpū, when asked what they enjoyed about the challenge.



Kaiako impact

95% of kaiako

enjoyed teaching the Power Challenge

95% of kaiako

increased their confidence in teaching STEM (a 23% increase in kaiako feelin

(a 23% increase in kaiako feeling fairly or completely confident teaching STEM subjects)

95% of kaiako

were fairly or completely satisfied with the teaching content

93% of kaiako

were fairly or completely satisfied with the ākonga module content

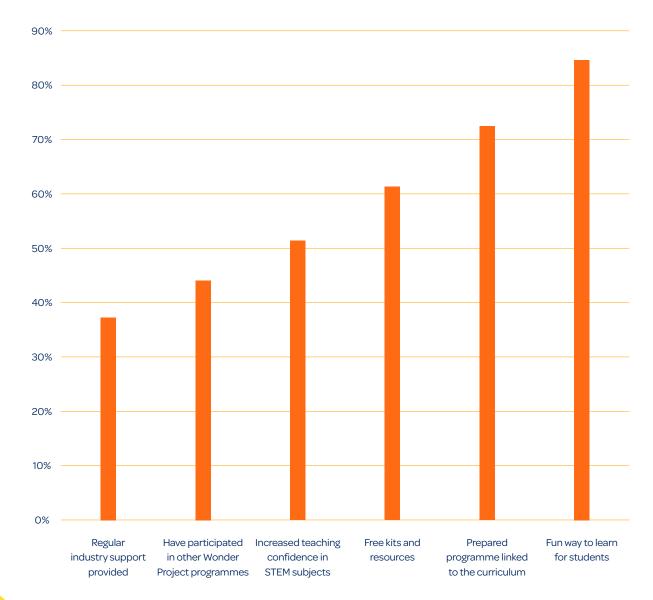
99% of kaiako would recommend the programme to others

98% of kajako

said they would do it again

Motivations to sign up

Kaiako primarily registered for the Power Challenge because it looked like a fun way for their ākonga to learn. Having a prepared programme linked to the curriculum, the free kit and resources, and increasing their confidence teaching STEM were also predominant reasons they signed up.



The volunteer that illuminated STEM career pathways

When STEM professionals volunteer for the Wonder Project, they add magic to the challenges – showcasing the possibilities of STEM careers, uplifting kaiako and ākonga confidence and providing a source of meaningful representation for rangatahi.

Mark Struthers' experience on the Power Challenge was no different.

Aotearoa needs thousands more STEM professionals in the energy sector to create a low-carbon future. And inspiring rangatahi with energy careers is an important step to meet these lofty goals. That's why Transpower New Zealand became a founding sponsor of the Wonder Project Power Challenge – supporting its creation and supplying hundreds of STEM professionals, like Mark Struthers, to inspire the next generation into bright futures.

It was a no-brainer for Struthers to become a Wonder Project Ambassador. Having had limited STEM education experiences when he was younger, he saw the Power Challenge as an opportunity to ensure the next generation knew what opportunities were available to them, and foster early passions for STEM.

"I would've loved to learn more about STEM at a young age, so being involved in the Power Challenge [was] my way of helping our tamariki who may feel the same way" says Struthers.

He joined a class at Maidstone Intermediate, where he encountered some ākonga like him with an existing interest for STEM, others who had already decided STEM was too hard or boring, and some that didn't understand what STEM careers involved at all.

Ākonga at Maidstone Intermediate work on their turbine blade design



"I don't really get involved in [STEM] cause it's not really my favourite subject. I'm not interested in a STEM career. When I get older, I want to be a Marine Biologist or a Chemist" – Lucy, wonder ākonga.

After a series of classroom visits where Struthers shared his career story, explained the ins and outs of New Zealand's National Grid, expertly reassured ākonga who were worried about energy sustainability, supported the kaiako to explain STEM concepts, and helped ākonga find their confidence, he discovered his support had reached beyond the already engaged.

"I went into this hoping to help those who were already curious about STEM, but I was surprised by those who started off not so interested and were by the end really engrossed in the Power Challenge."

Future Marine Biologist/Chemist Lucy said, "At the start [of the challenge] I wasn't that confident because I didn't think it would be the fun-est. Now I think STEM is fun and exciting and it will definitely be helpful with jobs you want to do."

"It was awesome having Mark as an ambassador. He gave the whole programme a real depth and had a wealth of experience for the students and me to draw from" – Matt Molloy, wonder kaiako.

It's safe to say, the hours Struthers volunteered at Maidstone Intermediate made a lifelong impact – not just on ākonga perceptions of STEM and their abilities, but on Transpower's talent pipeline, and the future of the industry.

"I find STEM careers in NZ are typically stumbled into, rather than sought after. So, it was super rewarding to think the next generation of STEM professionals may not be the same after seeing students light up at how cool these challenges and opportunities are!"

"AT THE START [OF THE CHALLENGE] I WASN'T THAT CONFIDENT BECAUSE I DIDN'T THINK IT WOULD BE THE FUN-EST. NOW I THINK STEM IS FUN AND EXCITING AND IT WILL DEFINITELY BE HELPFUL WITH JOBS YOU WANT TO DO."

Lucy Wonder Ākonga – Maidstone Intermediate

Right: Wonder Project Ambassador and Transpower kaimahi, Mark Struthers, assists a budding engineer

Below: Maidstone Intermediate ākonga test if their turbine design will light up a 'town'





Product

Ready, set, flow! Akonga construct and test a mini model of Aotearoa New Zealand's water network. They explore the journey of wai and how STEM is used to collect, clean, connect and care for one of Earth's most precious taonga.

Year 7-8, Level 4 NZ curriculum

Pilot

We are proud to have developed and piloted this new challenge with a strong connection between mātauranga Māori and Western STEM. The pilot ran in 30 classes across 15 schools, in Term 3 2024.

Initial feedback suggests this will be a popular programme for kaiako to run in their classes.

71% 82% of ākonga

said the Water Challenge increased their confidence in STEM

100% said ākonga were engaged with the programme

noticed a positive shift in ākonga perceptions of STEM

enjoyed teaching the Water Challenge "Taking part in the challenge has been the most influential aspect of our water inquiry unit, both in terms of the actual content and the STEAM skills they have developed through it."

Andy Swan, Kajako – Wajkowhaj Intermediate



We have over 2,000 STEM professionals in our hapori. And in 2024, they contributed an estimated \$550,000 in volunteer time. Backing these volunteers is a network of committed employers who see the importance of giving back to their local schools, promoting the profession for future generations, and supporting their people to have enriching experiences.

Ambassador impact

said their ambassador's involvement and real-world of kaiako experience made a big difference

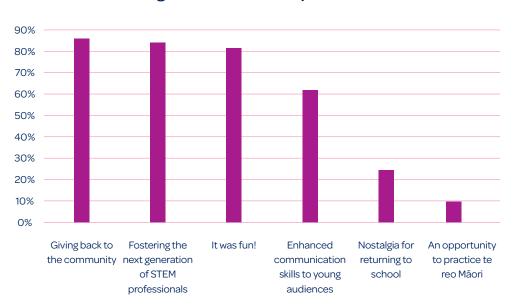
of ambassadors Ambassadors

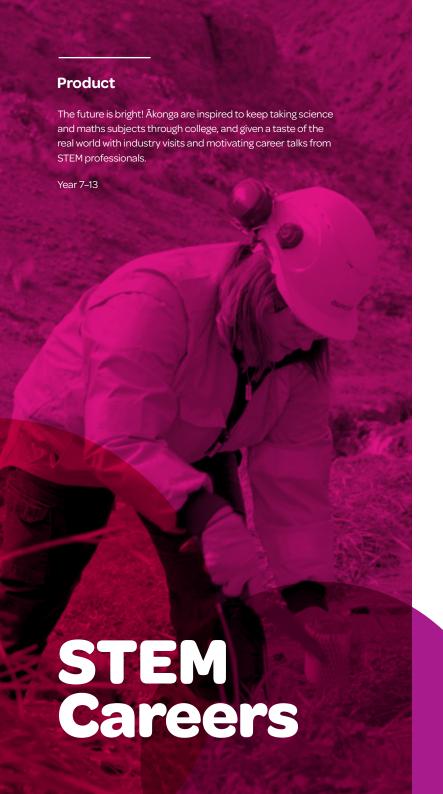
would recommend others become Wonder Project

of ambassadors involved again

said they'd like to be

What ambassadors gained from their experience





STEM stories

SYTSE & MICHI

Mechanical Engineering Wisk



WENDY, KOTISI & DARIASoftware Engineering
Serato



CAMERONConservation Technology
Envico



CHARLOTTE

Civil Engineering

<u>Tonkin + Taylor</u>



TAYLAEngineering Geology
Aurecon



JEREMYSoftware Development
Plink



JOSH Video Game Development <u>PikPok</u>



KANE & RACHELFood Technology
Fonterra





Wonder Experiences

Our Wonder Experiences give Year 11–13 ākonga the opportunity to visit inspiring Kiwi STEM companies to get a taste of the real-world, and help make informed career decisions for their future. In 2024, we facilitated bespoke experiences with support from AECOM, Auckland Transport, GHD, Pattle Delamore Partners, and Tonkin + Taylor.

Living in Aotearoa, we are in a unique and fortunate position to have two rich knowledge sources to draw from when it comes to STEM – mātauranga Māori and Western knowledge.

Unfortunately, this is not represented in our STEM industry, and let down by the lack of diversity in the profession. Māori make up just 7% of engineers, 2% of science and technology professionals, and only 8% of Māori are going into academic STEM related pathways at schools.

We envision a future where Western knowledge systems and mātauranga Māori are celebrated alongside each other, where our STEM industry is made up of diverse perspectives, identities, and lived experiences and represents the hapori it serves. That's why we are committed to strengthening our offering for both Pākehā and Māori ākonga.

We're on a journey towards developing challenges that incorporate mātauranga and te ao Māori, and increasing and strengthening the resources we offer in te reo Māori. We're also working to recruit more Māori ambassadors, as a source of meaningful representation for our rangatahi.

In 2024 we had 23 classes from 23 kura kaupapa take part, and 31 Māori immersion classes across 9 schools. After the challenges, 94% of kaiako agreed they were appropriate for ākonga from different cultures and backgrounds.

Challenge resources

Since 2021, we've offered our Rocket Challenge ākonga resources in te reo Māori. This made the challenge more accessible to kura kaupapa that exclusively teach their ākonga in te reo Māori and saw our Māori participation rate climb from 9% in 2020 to 29% in 2024. Our new Water Challenge has been built with a strong connection between mātauranga Māori and Western STEM, helping educate ākonga further about te ao Māori and making the learning appropriate for different cultures and backgrounds. We hope in developing future challenges with mātauranga Māori embedded throughout, our accessibility will improve further, and more ākonga Māori will see themselves represented in STEM.

Commitment to te reo and te ao Māori

In 2024 we supplied over 500 free kits to schools across Aotearoa, to support them in teaching STEM in a fun and engaging way for ākonga. This is a direct investment of \$193,000 into classrooms.

How we invest in rangatahi

Income



Expenses



The end of our longstanding partnership with Callaghan Innovation in 2023 and resulting loss of 93% of our funding means we've been working hard to build new relationships and move to a fully industry funded model.

Our 2024 programme was delivered at a reduced scale, meaning we had around 500 kaiako on our waitlist who we were unable to accept into a challenge. The current economic environment means finding new industry funding for 2025 has been challenging.

Keep the wonder alive

We've launched a fundraising page where individuals and organisations can donate, to help keep the wonder alive. We're also actively looking for organisations who share our passion for STEM education and are in a position to help fund the programme through sponsorship. It's a crucial time to foster the next generation of STEM professionals with the Wonder Project. And by backing the programme, businesses:

- · Support thousands of ākonga each year to learn about and love STEM.
- · Are recognised as a partner of an established, recognised, valued and impactful STEM education brand.
- · Support kaiako to build confidence teaching STEM.
- · Build purpose and engagement with kaimahi.
- Create social good in hapori across Aotearoa.
- · Secure the future pipeline of STEM professionals.

We're excited to be developing a new challenge to pilot in Term 4 2025, in partnership with Fonterra. It will focus on food science and target Year 5–6 ākonga working at Level 3 of the NZ curriculum (Phase 2 in the refreshed curriculum). We're always on the lookout for partnerships that enable new challenge development so we can expand our product offerings for kaiako, ākonga and Wonder Project ambassadors.



Read more here on partnership options

Click here to donate to our fundraising campaign





2024 partners Power Challenge

Partner:



Supporter: Downer

Water **Challenge**

Partner:



Gold supporters



Tonkin+Taylor

Silver supporters





115[)

Bronze supporters





Jacobs

McCONNELL DOWELL

TEKTØN

2025* partners

* Current at time of publishing

Power Challenge

Partner:



Supporter:

OMEXOM

Water Challenge

Supporter:

Fulton Hogan

New Challenge

Partner:



Gold supporters







Silver supporters





Bronze supporters



















Thank you to everyone who's been involved with the Wonder Project so far. Our incredible hapori of businesses, STEM professionals, kaiako, ākonga and kaimahi inspires us every day.

Poipoia te kākano kia puāwai.

Nurture the seed and it will bloom.

Ngā mihi nui ki a koutou



WHERE SCIENCE TECHNOLOGY ENGINEERING AND MATHS COME ALIVE.

