



Impact report

2023



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Kupu guide

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

Ākonga	Student
Haere rā	Goodbye
Hapori	Community
Kaiako	Teacher
Kete	Basket (knowledge)
Kōrero	Speak/conversation
Kupu	Word
Kura kaupapa	Māori-language immersion school
Mahi	Work
Mātauranga Māori	Māori knowledge

Mīharo	Awesome
Pākehā	Non Māori
Pānuī	Read
Pātai	Question
Rangatahi	Young people
Rōpū	Team
Tamariki	Children
Taonga	Treasure
Te ao Māori	Māori worldview
Whakarongo	Listen



A note from an ambitious doer

Shelley Pearce
Wonder Project Director

2024 marks six years of the Wonder Project. That's six years since we transformed from Futureintech, to our new, impactful industry-led model. Six years of highs, lows and lessons learned; of inspired rangatahi, empowered kaiako, and free kits delivered to Aotearoa kura. Over that time, we've piloted four different challenges – saying haere rā to two that didn't meet our high standards. We've built a dedicated hapori of kaiako and STEM professionals, a depth of knowledge of what works and what doesn't, and a reliable formula for developing successful challenges. 2023 was the year when all that testing, brand awareness building, and focus gaining, meant things really took off.

We hit a massive milestone in our journey – reaching over 100,000 ākonga. Having turned an idea, into a rebrand, into a programme that's literally impacted thousands of lives of rangatahi is an achievement like no other. We're proud to have flown under the radar, gradually building from word-of-mouth, quietly achieving big change. We've been in over 1,200 Kiwi schools – 55% of the schools in our target market for Year 5–8 ākonga and more than halfway to our vision of being in every school across the motu.

A personal highlight of the year was seeing our little rōpū of five be awarded twice at the TVNZ-NZ Marketing Awards. We won excellence in not-for-profit marketing strategy, excellence in purpose driven marketing strategy, and were also recognised as a finalist for best not-for-profit marketing campaign. Our low budget, multi-channel, data-driven approach to drive kaiako and STEM professional registrations saw our strategy win over some pretty big names with hefty marketing budgets!

We're also proud to have introduced our kupu commitment – a set of kupu Māori that we've committed to use exclusively instead of their English counterparts. It's a small step in our journey towards protecting this taonga, but one that uses Wonder Project resources to inspire kaiako, ākonga and STEM professionals to use te reo Māori day to day.

And to go with the highs, there were some unfortunate lows. The Government decided to stop their longstanding investment in STEM promotion, meaning we lost our primary source of funding. We've been working hard to keep delivering our loved and impactful STEM education experiences for 2024 and beyond. A shift to industry backing and partnerships has allowed us to do that this year. We're humbled by the support we've received so far and have never been more driven to support all tamariki with meaningful, accessible, and inclusive STEM experiences at school.

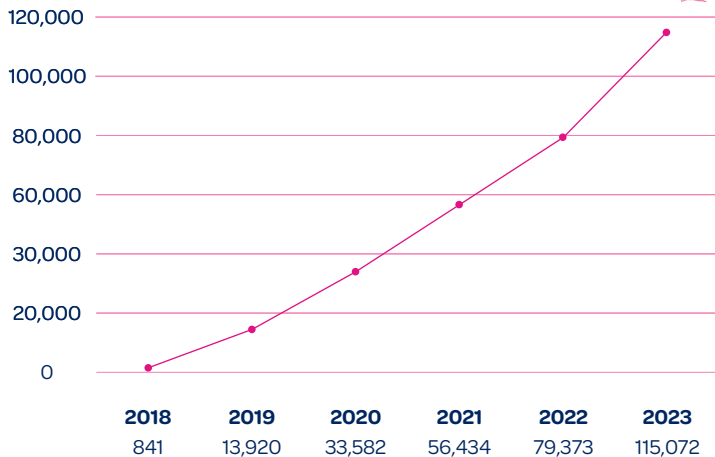
With 80% of future jobs in Aotearoa requiring STEM skills and up to a 20% reduction in ākonga being assessed for NCEA science and maths subjects in the last 10 years, our mission is more important than ever. The wonder rōpū and I are hopefully optimistic for what the future holds.

Hei konā mai

6 years of inspiring STEM wonder

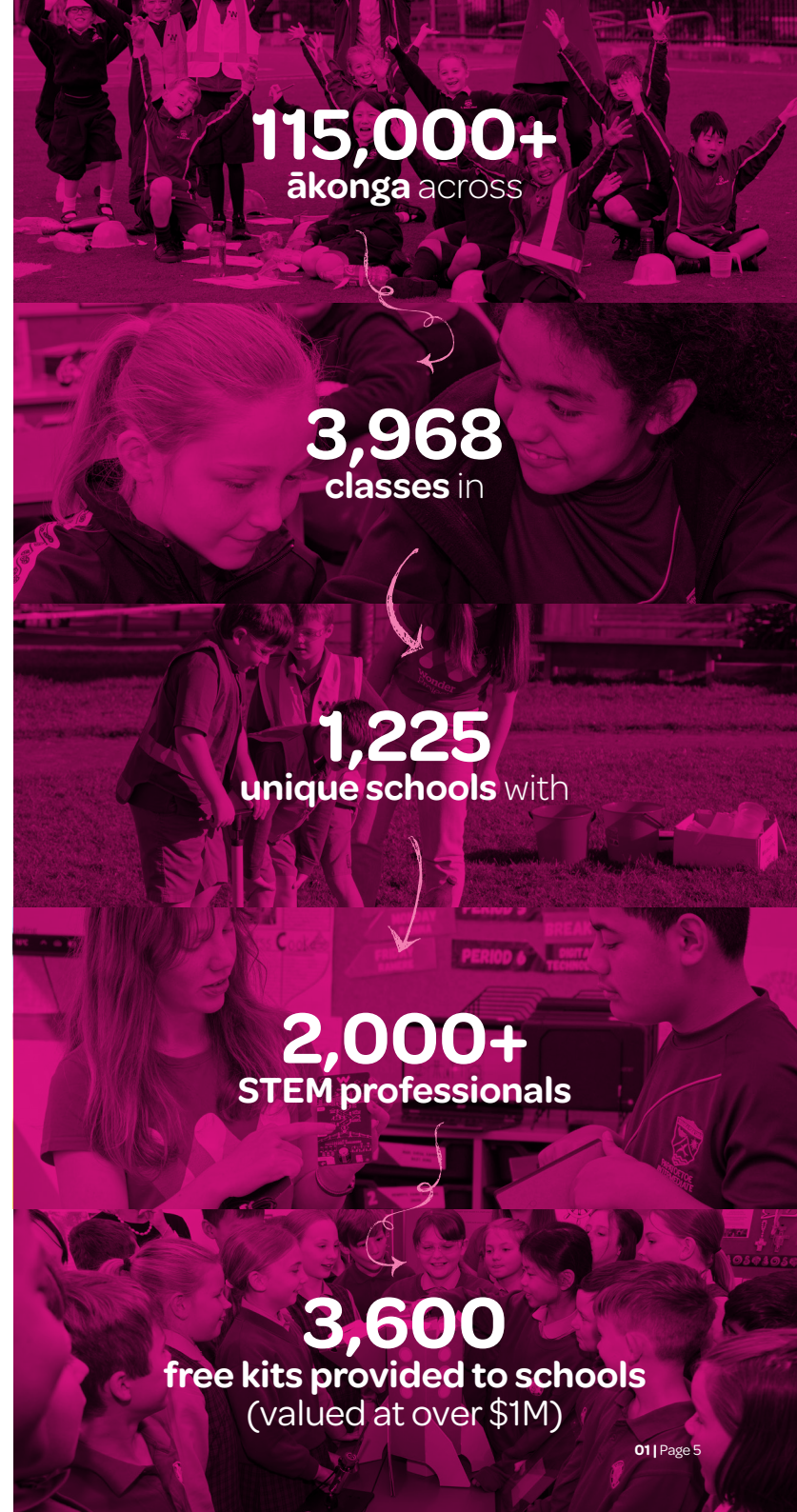
Our mission is to provide fun and impactful STEM experiences for all rangatahi in Aotearoa.

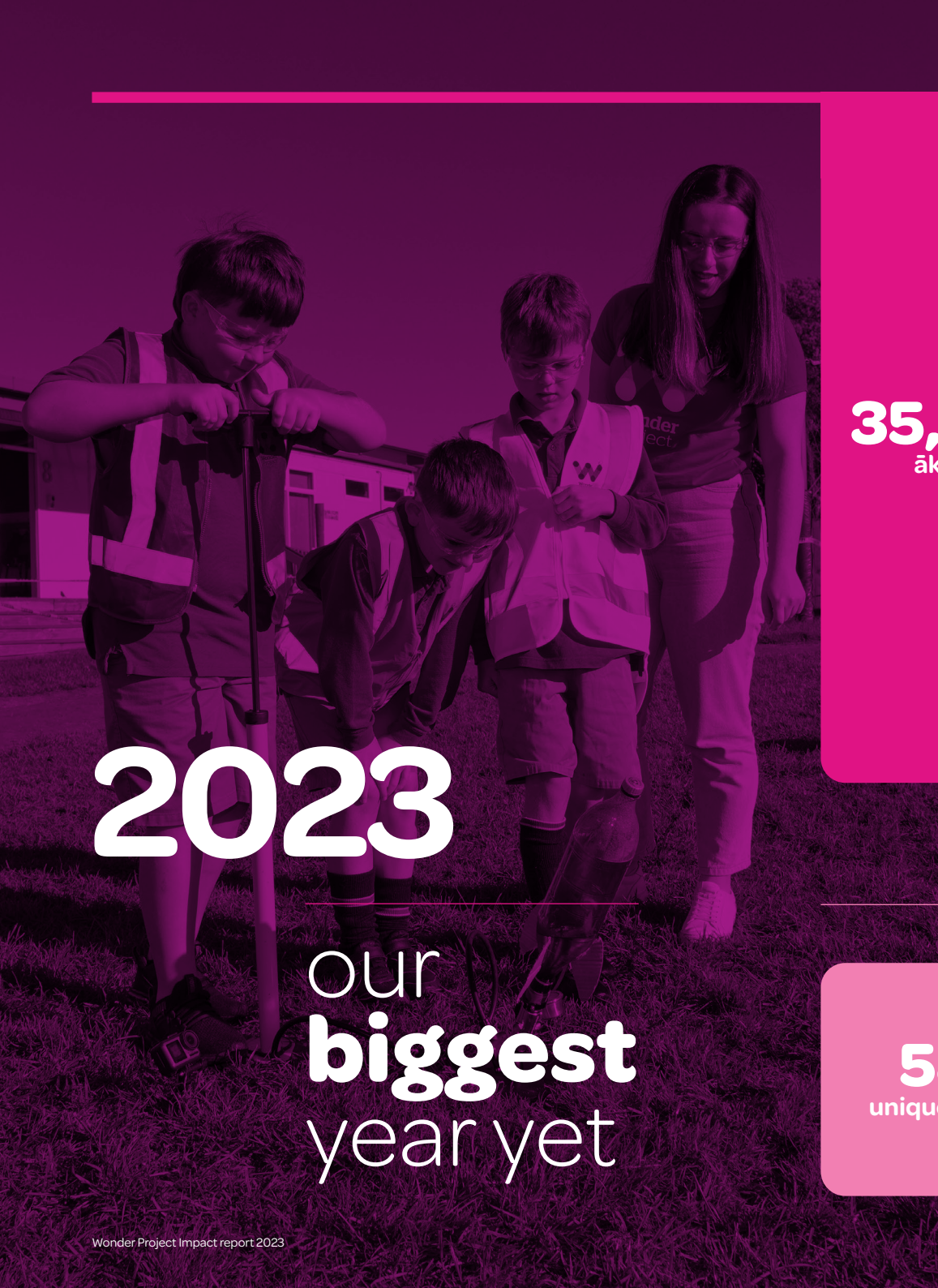
Ākonga who've experienced the wonder



Milestone achieved:

100,000
ākonga reached!

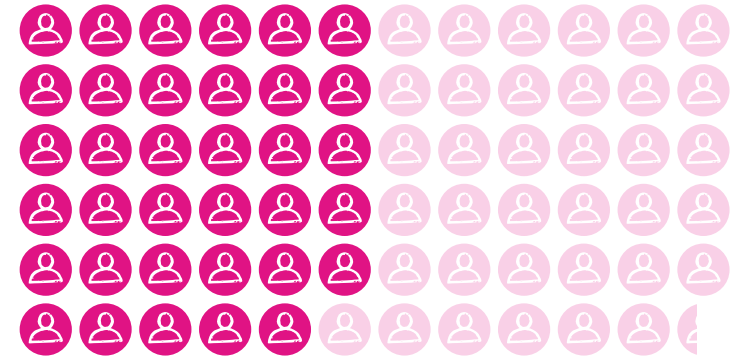




2023

our biggest year yet

35,699
ākonga



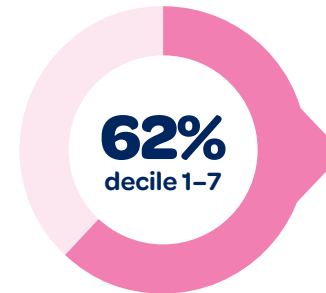
49% were girls



34% were Māori or Pacific Peoples

 = 500 ākonga

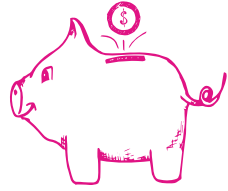
583
unique schools



62%
decile 1-7

1,231
classes

1,098
free kits given
to schools



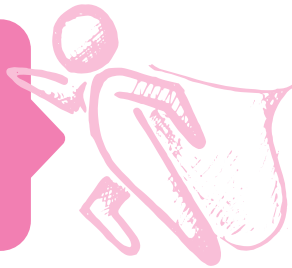
\$360,000
invested directly
into schools



\$40
per ākongā
programme cost



456
STEM Professionals



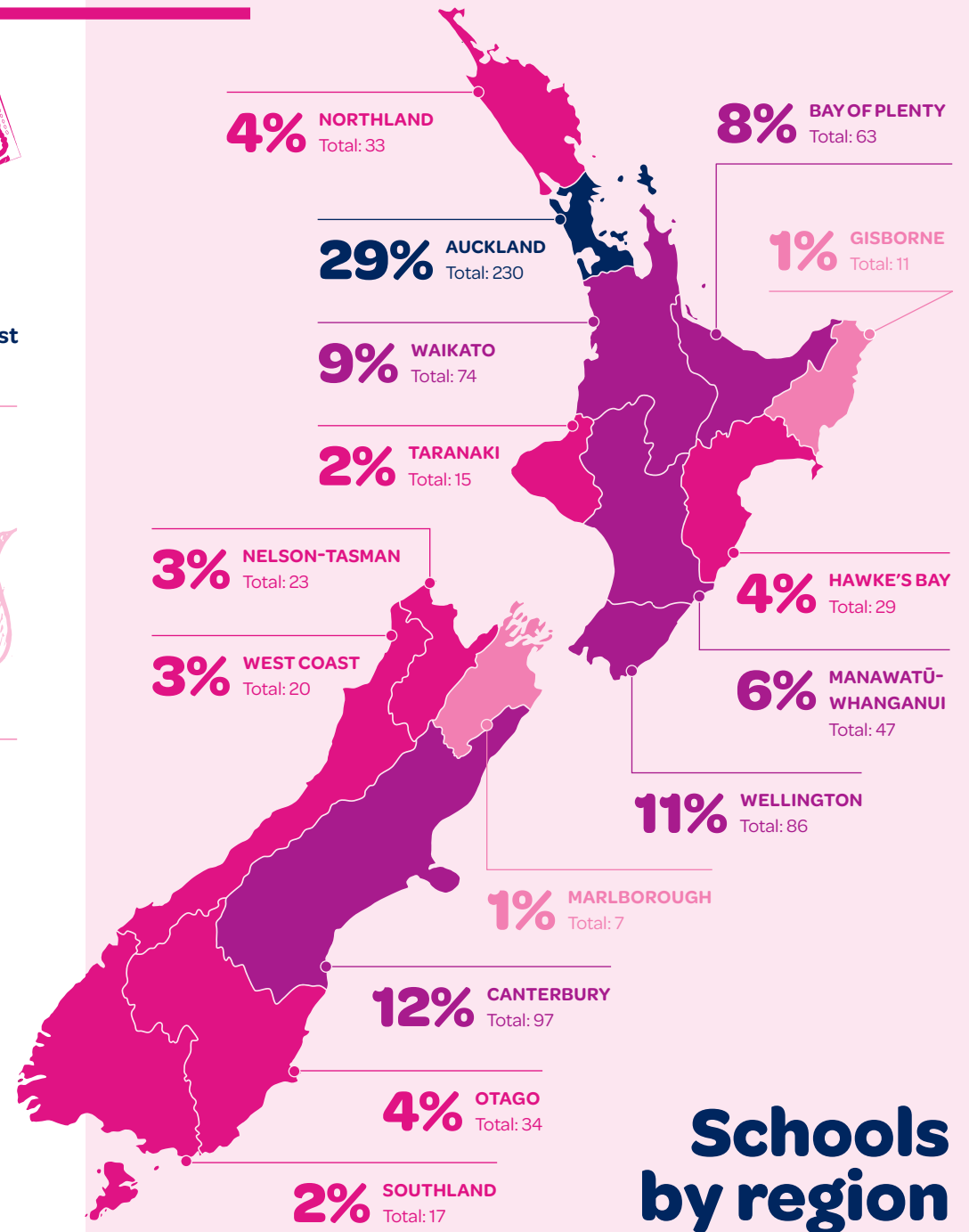
74%
ākongā and

96%
kaiako

increased
STEM confidence

48%
rangatahi

more interested in
a STEM career



Schools by region

A STEM crisis forming

Aotearoa is facing a skills and diversity shortfall across science, technology, engineering and mathematics (STEM).

We simply don't have enough young people pursuing careers in these fields.

Over the past 10 years, there's been up to a 20% reduction in ākonga being assessed for NCEA science and maths subjects. But the demand for STEM skills has never been greater, with 80% of future jobs in Aotearoa needing STEM skills, and an additional 2,500 engineers required each year to keep supporting our economy.

And 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.

And yet, STEM professionals will be vital to solving many of the world's pressing issues – from energy, transport and communications to medical advancement and feeding our ever-growing population. If we want innovative solutions that work for everyone, then we need diversity of thought – we need our STEM professionals to represent the communities they serve. And to protect our future we need more of them.

80%

future jobs will require STEM skills

20%

reduction in NCEA assessed science and maths

Enter the Wonder Project.

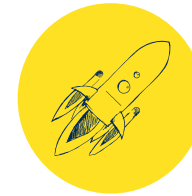


Proven impact to create change

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 designed to do just that – delivering hands-on, engaging learning experiences aligned to the New Zealand Curriculum.



Rocket Challenge
Level 3, Year 5–6



Power 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, competition

Accessible

Inclusive design, free for schools, available nationwide

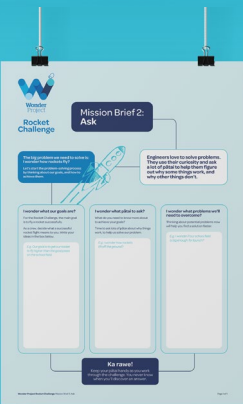
Confidence

Kaiako 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

Interview 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 and kaiako were all equally inspired, excited and totally engaged in such rich learning experiences that literally blew our minds – mīharo!

Rachael Tangneg, Kaiako – Bankwood School

Rocket Challenge

2,870 Rocket Challenge kits provided free to schools and counting!

Product

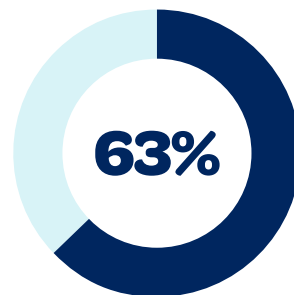
Houston, we have lift off! Ākonga blast off into STEM by designing, building and launching their own water rocket. While the rockets are flying, they learn about Newton's laws, the engineering design process, and working as a rōpū.

Year 5–6, Level 3 NZ Curriculum

Reach

	Total (since 2018)	In 2023
Ākonga	94,000+	27,202
Classes	3,247	938
Free kits	2,870	800
Schools	1,133	499
STEM professionals	1,900+	271

School deciles



of classes
decile 1–7

Ākonga ethnicity



24% Māori,
9% Pacific Peoples

■ Māori, 24%
■ Pacific Peoples, 9%
■ Other, 67%

“
It is actually impossible to summarise the love, the passion, and the collaboration my ākonga showed for the Wonder Project Challenge. All the learning definitely aided my learners' kete – massive thank you!
”

Bhavana Mehta,
Kaiako – Balmoral School

Ākonga impact

77% of ākonga said the Rocket Challenge **made them feel more confident in STEM subjects**

53% of ākonga were more **interested in STEM jobs** after the challenge

87% of kaiako noticed a **positive shift in ākonga perceptions of STEM**

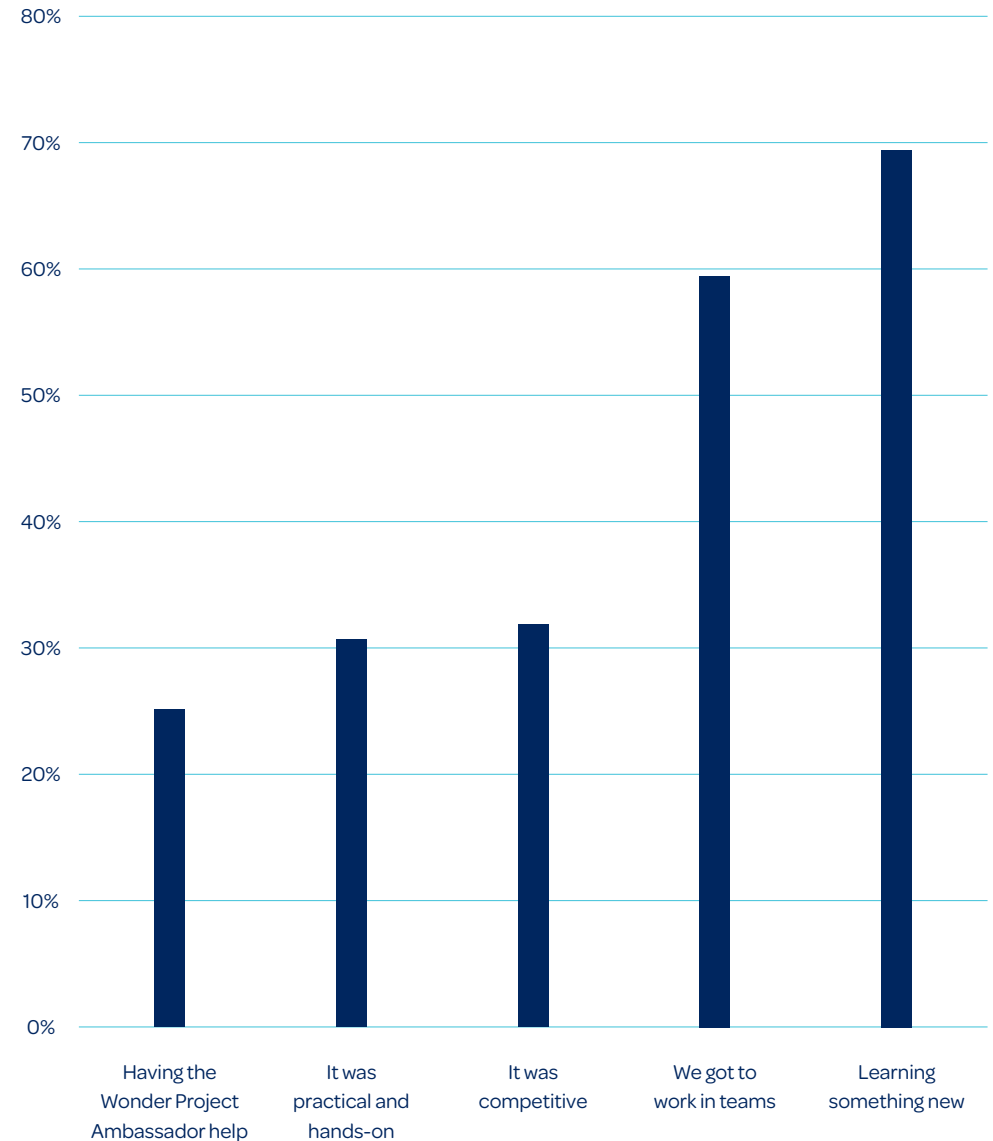
79% of kaiako believed their **ākonga were more curious about STEM career opportunities**

92% of kaiako said their **ākonga were engaged** with the learning journey

81% 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 Rocket Challenge

94% of kaiako increased their confidence in teaching STEM (a 109% increase in kaiako feeling fairly or completely confident teaching STEM subjects)

92% of kaiako were fairly or completely satisfied with the teaching content

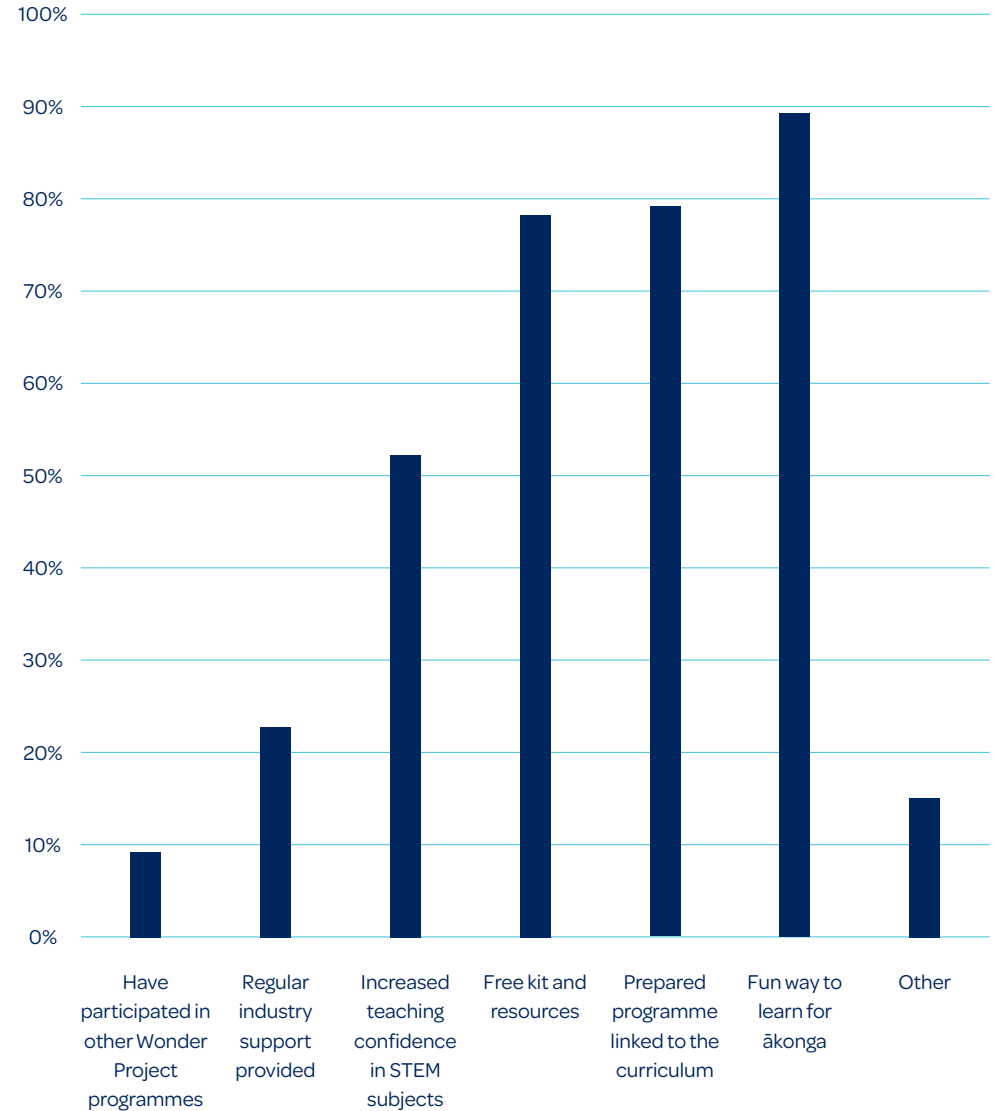
91% of kaiako were fairly or completely satisfied with the ākongā module content

99% of kaiako would recommend the programme to others

98% of kaiako 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 ākongā 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.



This has been the best STEM that we have taken part in. The resources were amazing, the children were engaged and our wonderful ambassador brought it alive. A fantastic programme all round.

Julie Jones, Kaiako – Southend School

Power Challenge

570 Power Challenge kits provided free to schools and counting!



Product

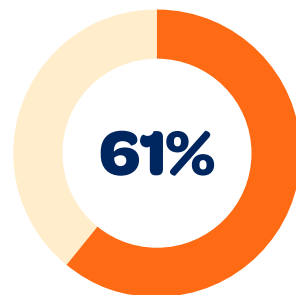
Power up! Ākonga design and build a wind turbine and light up a mini town. Along the way they discover the amazing phenomenon of electricity and renewable energy, and learn how teamwork can keep the lights on.

Year 7–8, Level 4 NZ Curriculum

Reach

	Total (since 2021)	In 2023
Ākonga	16,000+	8,497
Classes	559	293
Free kits	570	298
Schools	290	195
STEM professionals	400+	185

School deciles



of classes
decile 1–7

Ākonga ethnicity



26% Māori,
8% Pacific Peoples

■ Māori, 26%
■ Pacific Peoples, 8%
■ Other, 66%

“
I was inspired by seeing the lights come on, metaphorically and literally, as students started to identify the challenges ahead to get to 100% renewables and how they might play a part in solving them.
”

Samantha Harrild,
Ambassador – Transpower

Ākonga impact

70% 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

89% of kaiako noticed a **positive shift in ākonga perceptions of STEM**

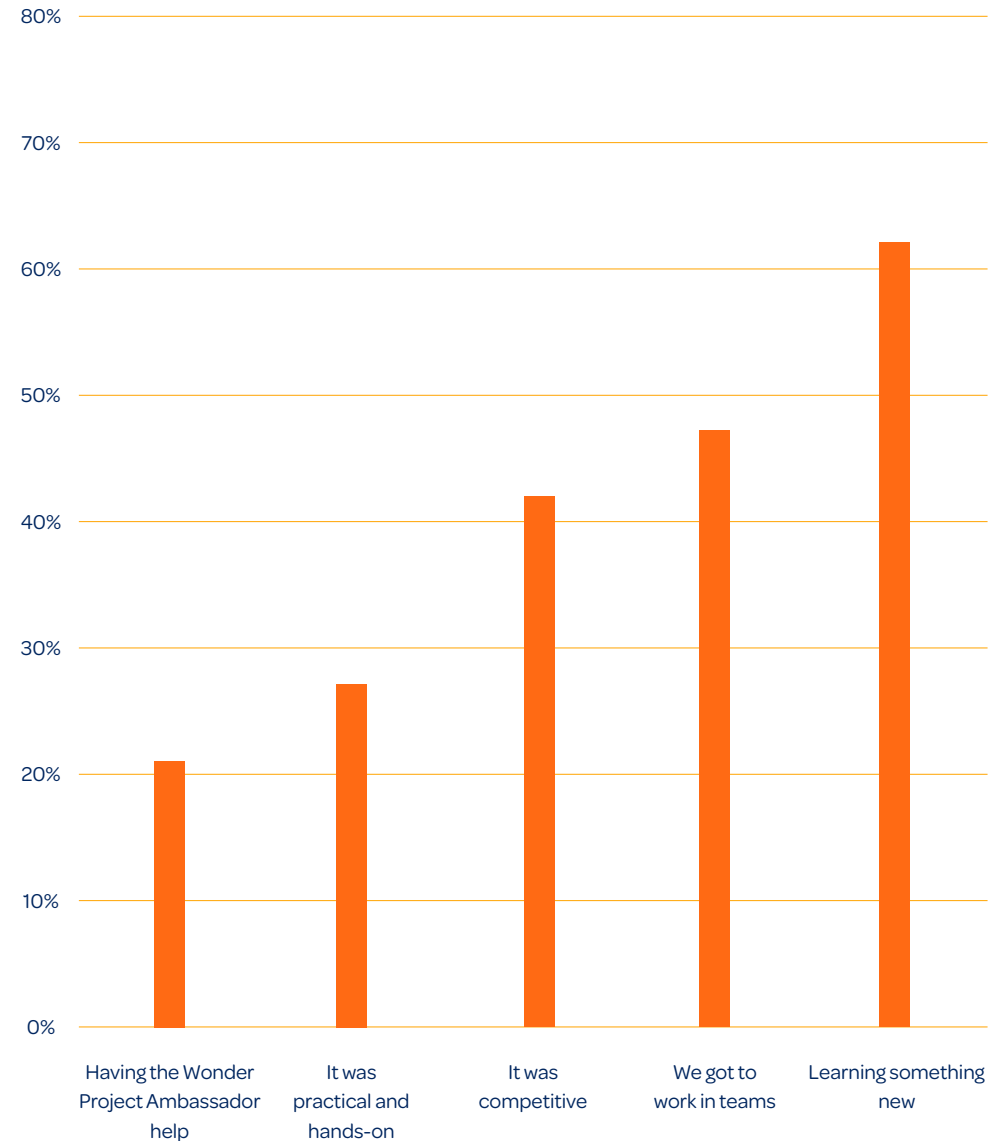
68% of kaiako believed their **ākonga were more curious about STEM career opportunities**

91% of kaiako said their **ākonga were engaged** with the learning journey

67% 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

92% of kaiako enjoyed teaching the Power Challenge

98% of kaiako increased their confidence in teaching STEM (a 53% increase in kaiako feeling fairly or completely confident teaching STEM subjects)

94% of kaiako were fairly or completely satisfied with the teaching content

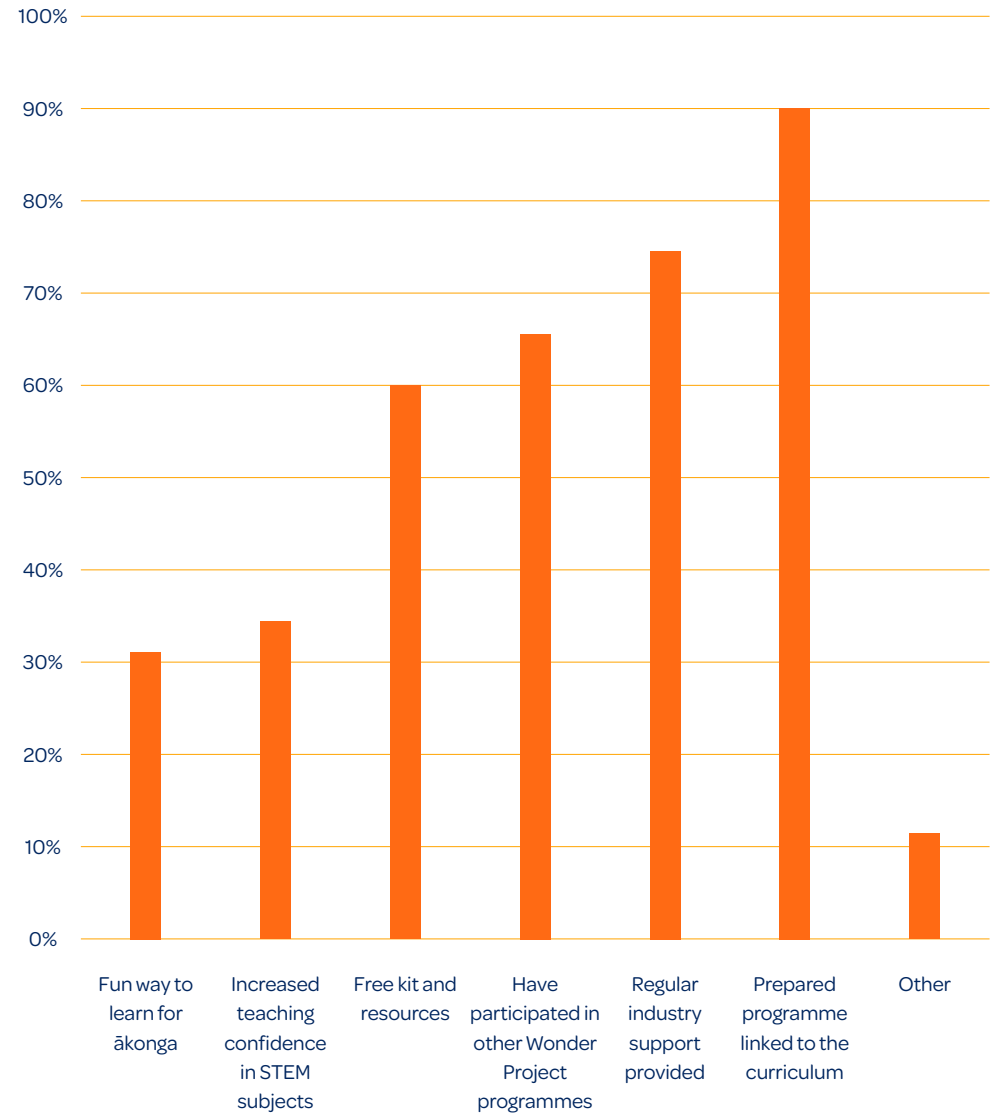
98% of kaiako were fairly or completely satisfied with the ākongā module content

100% of kaiako would recommend the programme to others

93% of kaiako said they would do it again

Motivations to sign up

Kaiako primarily registered for the Power Challenge because it's a prepared programme linked to the curriculum. Having regular industry support was also a key reason for kaiako to sign up.



Partnership lighting the way to a sustainable STEM workforce

Aotearoa has big energy goals. We rank amongst the top percentile for renewable energy use across the world. But there's still work to be done.

To continue building towards a low carbon, sustainable energy future, we need a strong, dynamic and diverse STEM workforce. That's why Transpower New Zealand teamed up with the Wonder Project to help develop and sponsor our most electrifying programme – the Power Challenge.

energising
almost
9,000
ākonga
across
298
schools
in 2023.

The power of collaboration

To build the challenge concept, Transpower and the Wonder Project rōpū followed a collaborative, knowledge-sharing approach. Transpower harnessed their staff's expertise to support the development of hands-on learning activities that partially model their National Grid; while the Wonder Project rōpū leveraged their expertise on creating successful, impactful STEM education programmes.

Transpower Chief Executive, Alison Andrew, says she's proud to partner with Engineering New Zealand and of the shared commitment to inspire children to pursue STEM careers:

"The Wonder Project is a great way to build curiosity, confidence and a commitment to STEM. We are highly impressed with how Engineering New Zealand curates innovative and interactive learning materials, and how the Wonder Project supports teachers to provide students the best STEM experience they can.

**The Wonder Project
is a great way to build
curiosity, confidence and
a commitment to STEM.**

Alison Andrew, Transpower Chief Executive

"We have our own Transpower people signing up as Ambassadors to work in classrooms with teachers and students and are keen to encourage more of the sector to join us. It's a great way to share knowledge and pay it forward."

Of his experience as an ambassador, Transpower staff member Samuel Whitaker-Mills said, "To be able to give back to schools and the education sector has been very rewarding for me. I also find it incredibly enjoyable talking about what I do, how it applies to the real world, and getting kids interested in STEM."

A small but successful pilot was run in 2021, and since then the challenge has only become brighter, energising almost 9,000 ākonga across 298 schools in 2023. With demand for the Power Challenge consistently exceeding capacity, we're now looking at partnership opportunities with the wider power industry. We're confident that with the right support, the Power Challenge can spark as many minds as our flagship Rocket Challenge.

A haponi of volunteers

Bringing the magic to the classroom is our hapori of Wonder Project Ambassadors – an ever-growing group of passionate STEM professional volunteers.

They inspire with their career story, share their expertise, build confidence in kaiako, and act as a meaningful source of representation for rangatahi. This link between industry and schools is what makes the Wonder Project different.

We have over 2,000 STEM professionals in our hapori. And in 2023, they contributed an estimated \$500,000 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.

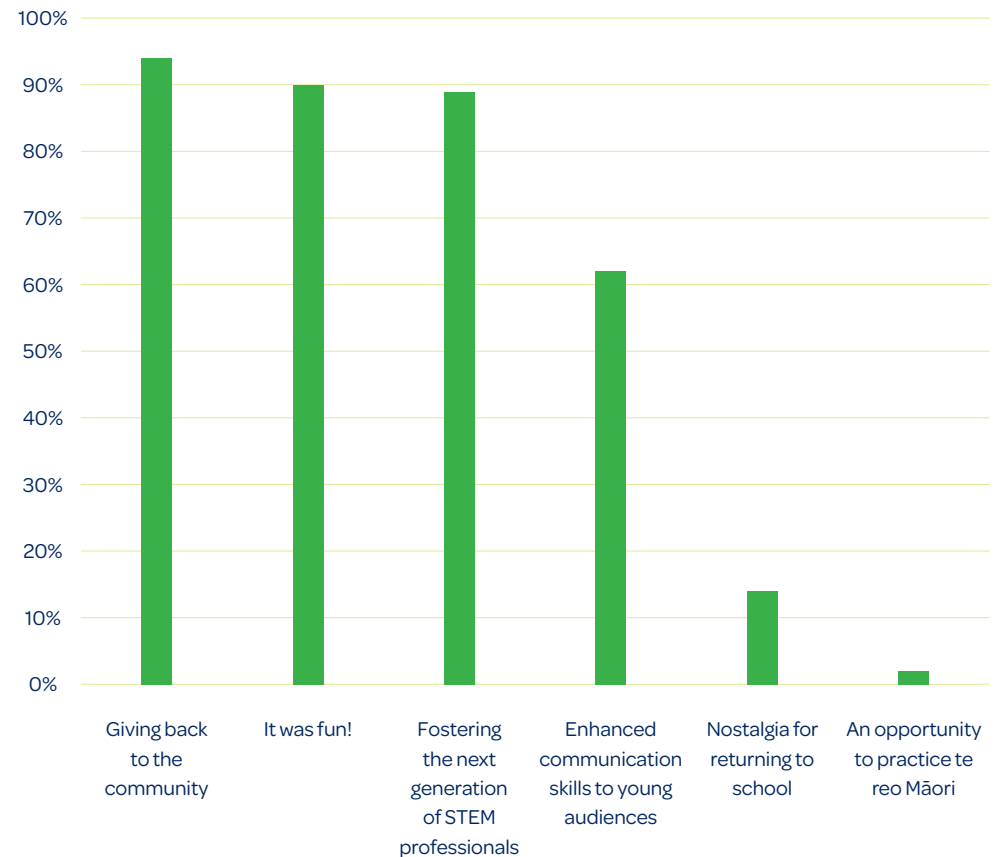
Ambassador impact

84% of kaiako said their **ambassador's involvement and real-world experience made a big difference**

94% of ambassadors **would recommend** others become Wonder Project Ambassadors

89% of ambassadors said they'd **like to be involved again**

What ambassadors gained from their experience



STEM Careers

STEM stories

In 2023, we launched a series of STEM career story videos, featuring professionals in a range of exciting science, technology and engineering roles.

SYTSE & MICHI
Mechanical Engineering
[Wisk](#)



WENDY, KOTISI & DARIA
Software Engineering
[Serato](#)



CAMERON
Conservation Technology
[Envico](#)



Product

The future is bright! Ākonga are inspired to keep taking science and maths subjects through college, and given a taste of the real world with industry visits and motivating career talks from STEM professionals.

Year 7–13

CHARLOTTE
Civil Engineering
[Tonkin + Taylor](#)



TAYLA
Engineering Geology
[Aurecon](#)



JEREMY
Software Development
[Plink](#)



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 2023, we facilitated 17 bespoke experiences with support from Aecom, Aurecon, Beca, Egis, Rileys, Stantec and WSP.

JOSH
Video Game Development
[PikPok](#)



KANE & RACHEL
Food Technology
[Fonterra](#)



1000
views

Kupu commitment

Our commitment to te reo and te ao Māori

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 2023 we had 25 classes from 13 kura kaupapa take part, and 74 Māori immersion classes across 39 schools. After the challenges, 91% of kaiako agreed they were appropriate for ākonga from different cultures and backgrounds.

To recognise Te Wiki o te Reo Māori in 2023, we made a commitment to use a set of kupu exclusively instead of their English counterparts. This list will accompany many other kupu we already use predominantly in te reo Māori, as well as other kupu we introduce for specific challenges.

Ākonga	Student
Hapori	Community
Kaiako	Teacher
Kōrero	Speak
Kupu	Word
Mahi	Work
Pānui	Read
Pātai	Question
Rōpū	Team
Whakarongo	Listen

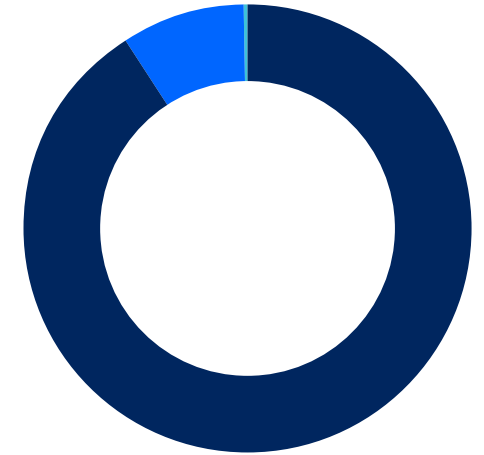
Challenge resources

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 24% in 2023. 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.

How we invest in rangatahi

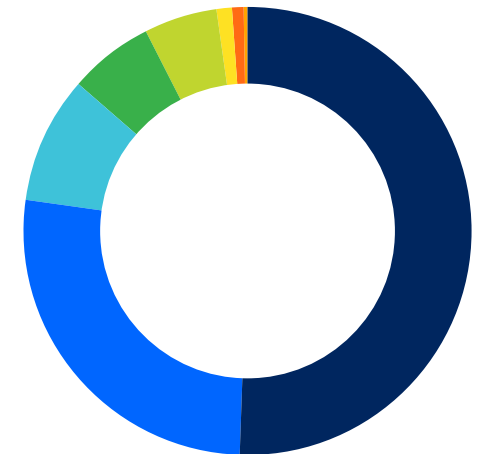
In 2023 we supplied over 1,000 free kits to schools across Aotearoa, to support them in teaching STEM in a fun and engaging way for ākonga. This is a direct investment of \$360,000 into classrooms.

Income



- Callaghan Innovation funding, \$1,244,000, 90.8%
- Sponsorship, \$122,600, 9%
- Shop sales, \$2,200, 0.2%

Expenses



- Staff, \$538,900, 50.7%
- Teaching resources, \$284,600, 26.8%
- Marketing and communications, \$96,800, 9.1%
- Digital platforms, \$66,300, 6.2%
- Programme design, \$55,100, 5.2%
- Team travel and expenses, \$13,000, 1.2%
- Events, \$7,000, 0.7%
- Consultants, \$2,000, 0.2%

Continuing the wonder

The end of our longstanding partnership with Callaghan Innovation and loss of funding means we're delivering our 2024 programme at a reduced scale, with less free kits available for schools.

Meanwhile, we're working to build back up with a new partnership model and some lofty goals. And we need support from industry to make it happen.

It's an equally exciting and 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 employees.*
- *Create social good in communities across Aotearoa.*
- *Secure the future pipeline of STEM professionals.*

We're excited to be developing a new challenge to pilot in 2024, in partnership with Water NZ. Ākonga will construct and test a mini model of Aotearoa New Zealand's water system. They'll explore the world of wai and how STEM is used to collect, clean, distribute and protect one of Earth's most precious resources. 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.

We'd like to say a special thanks to the organisations who are supporting us for the 2024 programme¹:

Challenge partners



Challenge supporters



Gold supporters



Silver supporters



Bronze supporters



¹ Current at time of publishing

Ngā mihi nui ki a koutou

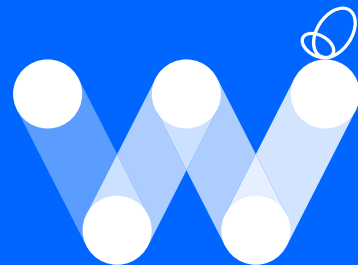
Thank you to everyone
who's been involved with
the Wonder Project so far.

Our incredible hapori of businesses, STEM
professionals, kaiako, ākongā and kaimahi
inspires us every day.

*He iti te mokoroa,
nāna i kati te
kahikatea.*

*The mokoroa may be small, but
it cuts through the kahikatea.*

The small can have a great impact.



Wonder
Project

**WHERE SCIENCE
TECHNOLOGY
ENGINEERING AND
MATHS COME ALIVE.**



engineering
new zealand
te ao rangahau