



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Diversity is the Future of Research

Making the Case for Equity, Diversity and Inclusion

WHY WE ALL STAND TO BENEFIT

Gary Evans

Chief Science Advisor

Hikina Whakatutuki | Ministry of Business, Innovation & Employment



Overview

- MBIE Chief Science Advisor
- URONZ
- A disclaimer
- Some questions
 - What are science advisors
 - What is the case for equity, diversity, and inclusion



Our first questions for today



WHAT DO SCIENCE ADVISORS
DO?



Science Advisors

- Provide thought leadership
- Ensure that the sector's expertise is captured in the development of policy
- Explain MBIE to the science sector and vice versa
- Build internal capability in Vision Mātauranga
- Support access to science for other parts of MBIE
- Part of Science Advisor Network chaired by PMCSA

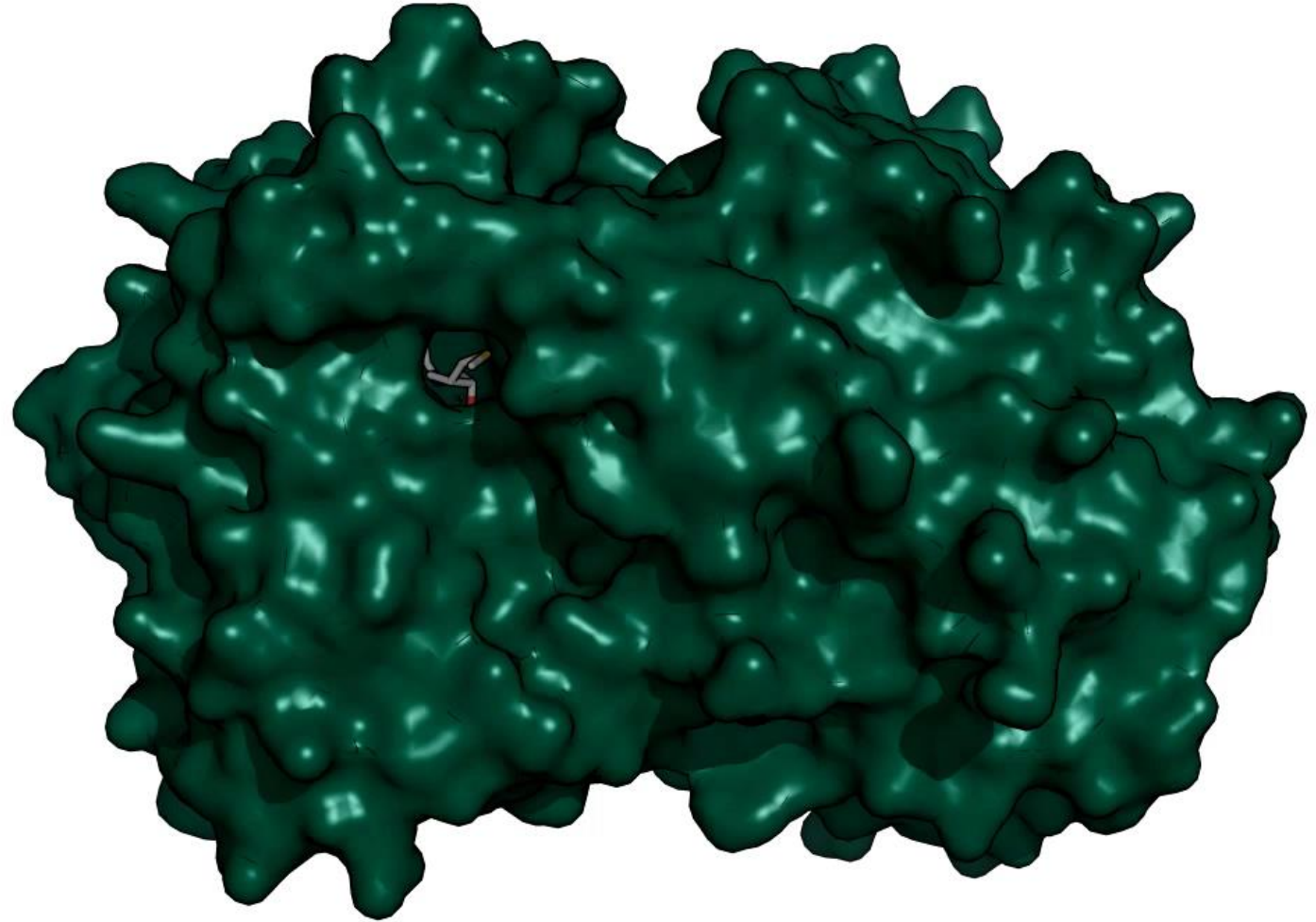


Both Sides

Field Research vs Open Plan Research



Biomedical research



Business as usual?

- Science board meetings
- Research, science and innovation strategy
- Health research strategy
- Infrastructure
- Provincial growth fund
- Strategic science investment fund
- Standards NZ
- Provide science advice across all of MBIE



What science should be funded

A policy perspective

“Research, science and technology is a set of knowledge creation and application activities that address the needs of our nation.”

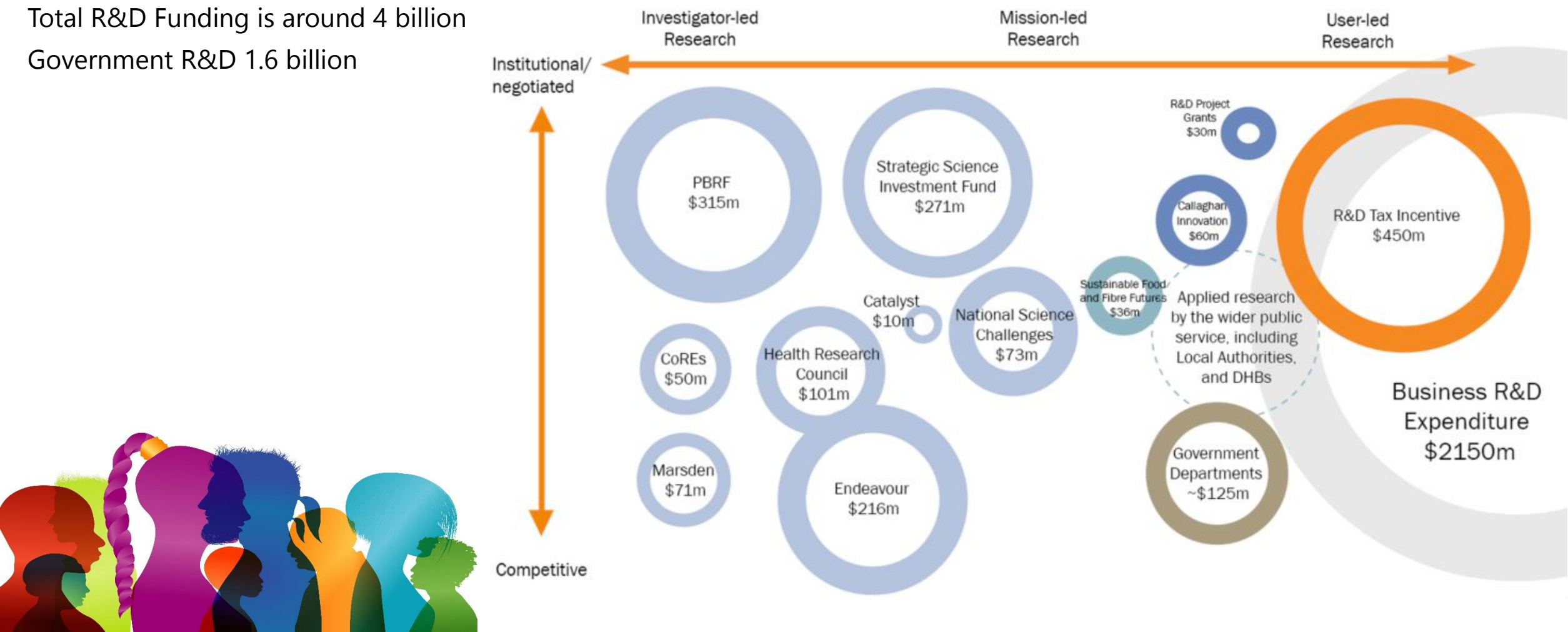
Scientists’ perspective

“Scientific progress on a broad front results from the free play of free intellects, working on subjects of their own choice, in the manner dictated by their curiosity for exploration of the unknown. Freedom of inquiry must be preserved under any plan for Government support of science ...” Vannevar Bush, 1945



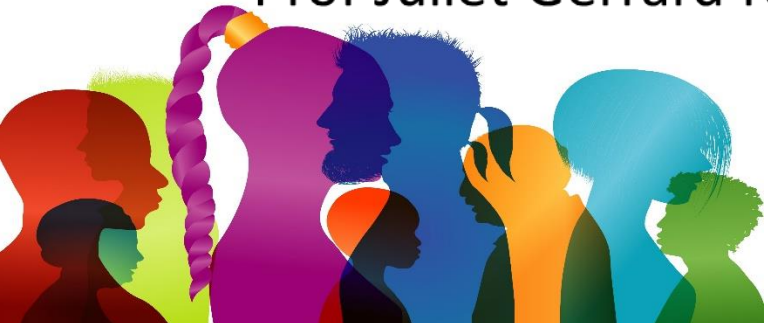
R&D funding

Total R&D Funding is around 4 billion
Government R&D 1.6 billion



PM's chief science advisor

- 2009: PM John Key establishes role
- Senior, practising academic scientist
- Use of science in policy making
 - Scientific advice to PM
 - Public understanding of science
 - Promote NZ's interests through science diplomacy
 - Chair network of science advisors
- Sir Peter Gluckman appointed
- Prof Juliet Gerrard replaces Sir Peter in 2018



NZ departmental science advisors (DSAs)

- Senior, practising scientists, seconded to departments
- Ministry of Business, Innovation & Employment (MBIE)
- Ministries of Social Development, Health, Justice, Education, Environment, Primary industries, Transport,
- Department of Conservation, NZTA, NZ Defence Force



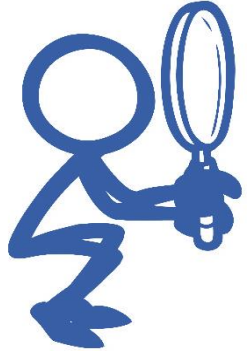
Treasury and appropriations



- The Treasury is the Government's lead economic and financial adviser
 - Minister of Finance Grant Robertson
- Appropriations are the basis on which Parliament authorises the executive government to incur expenses and capital expenditure.
- Each appropriation made to the Crown;
 - is the responsibility of a Minister (the **appropriation Minister**), and
 - must be administered by one department (the **appropriation administrator**) on behalf of the appropriation Minister.
- Vote Business, Science and Innovation
 - APPROPRIATION ADMINISTRATOR: Ministry of Business, Innovation and Employment
 - RESPONSIBLE MINISTER FOR MINISTRY OF BUSINESS, INNOVATION AND EMPLOYMENT: Minister for Economic Development

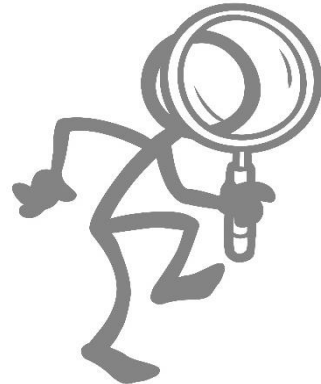


Further questions for today



Why does diversity matter?

WHAT WE STAND TO GAIN?



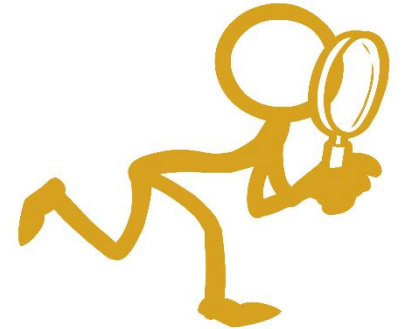
What we can learn from the current data for Women, Maori & Pasifika as students in our TEOs and in the workforce?

WHERE ARE WE NOW?



What are the challenges?

WHAT CAN BE DONE?



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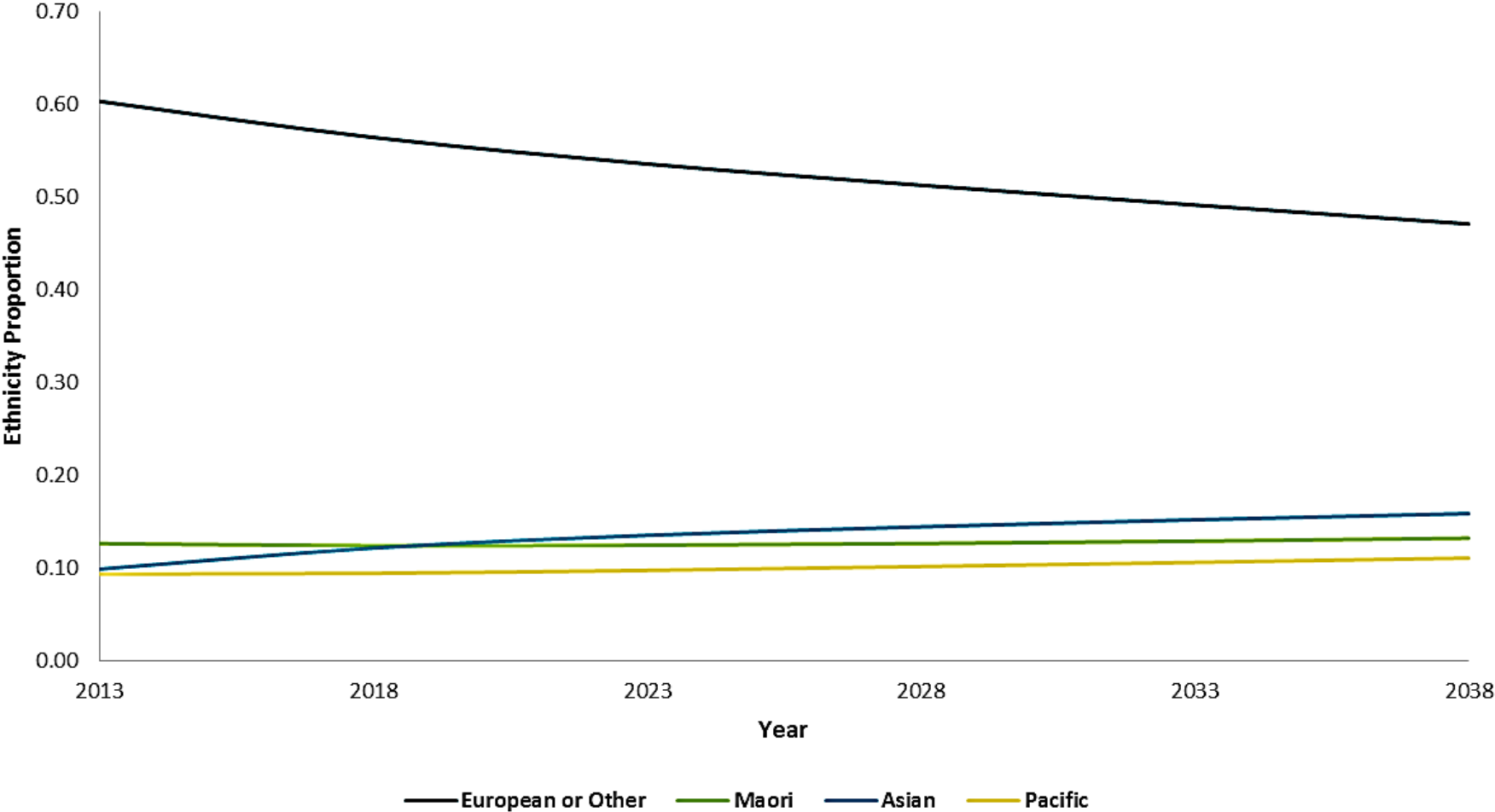
WHAT ARE WE DOING?



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Diversity is the future of research

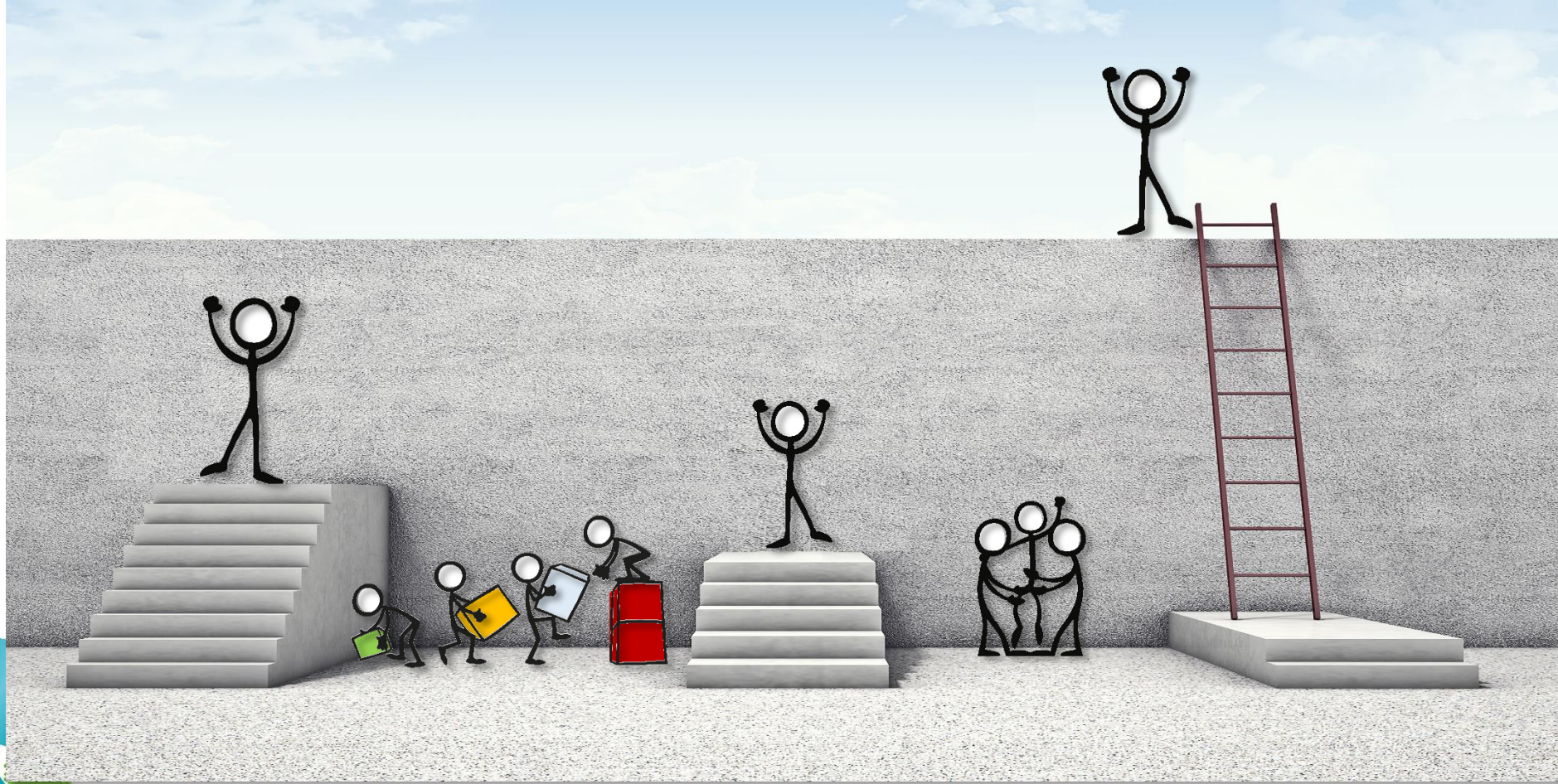
The current population of New Zealand and how this may look in the future



Source: Stats NZ

Equity versus equality

Giving everyone what they need to succeed which may not be the same for everyone



A case for equity, diversity and inclusion

WHY SHOULD WE CARE?



Why should we care?

It makes good economic sense

- Gender equity in leadership could increase our economy by \$881m
- Education and income equity for Māori could see:
 - \$2.6 billion per year back into Māori households.
 - 22,500 Māori moving from low skilled to high skilled jobs



Why should we care?

It drives excellence

Diversity can be an essential ingredient for research excellence leading to:

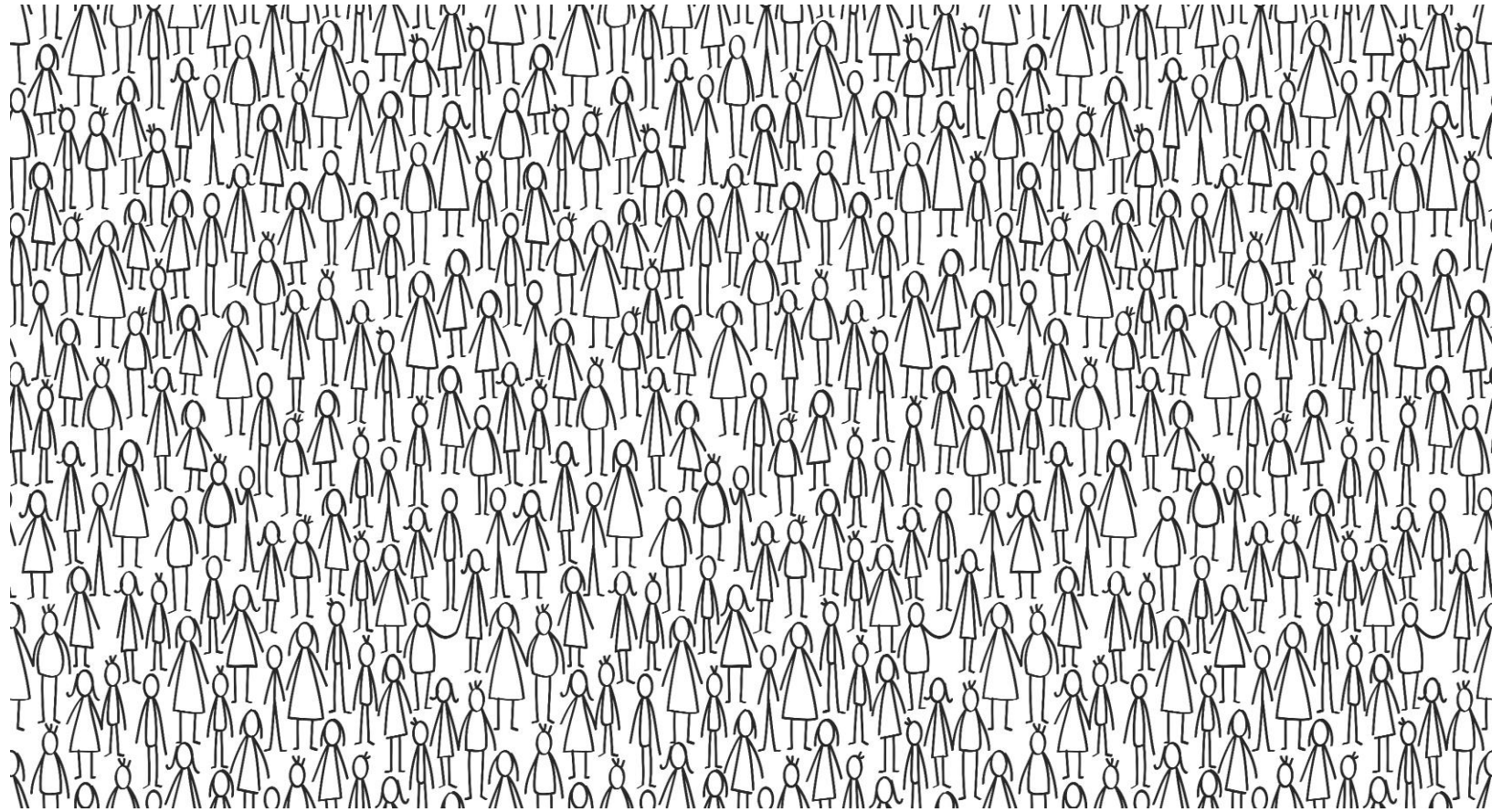
- Biases being overcome
- More equal participation
- Views being challenged
- Enhanced perspectives
- New discoveries



Why should we care?

It benefits society

- Knowledge produced by all parts of society improves its relevance to all society
- Work by Māori and Pasifika Researchers will increase community engagement in RSI leading to more positive outcomes for those communities and all of Aotearoa New Zealand



Why should we care?

It's the right thing to do

It's the right thing to do



A case for equity, diversity and inclusion

HOW DIVERSE IS OUR RESEARCH WORKFORCE?



Our data is not yet perfect; there are a few gaps so we are focussing for now on the areas where the data is good

How diverse is the New Zealand Research Workforce?

We have made good progress in New Zealand to promote the equality and status of women in research

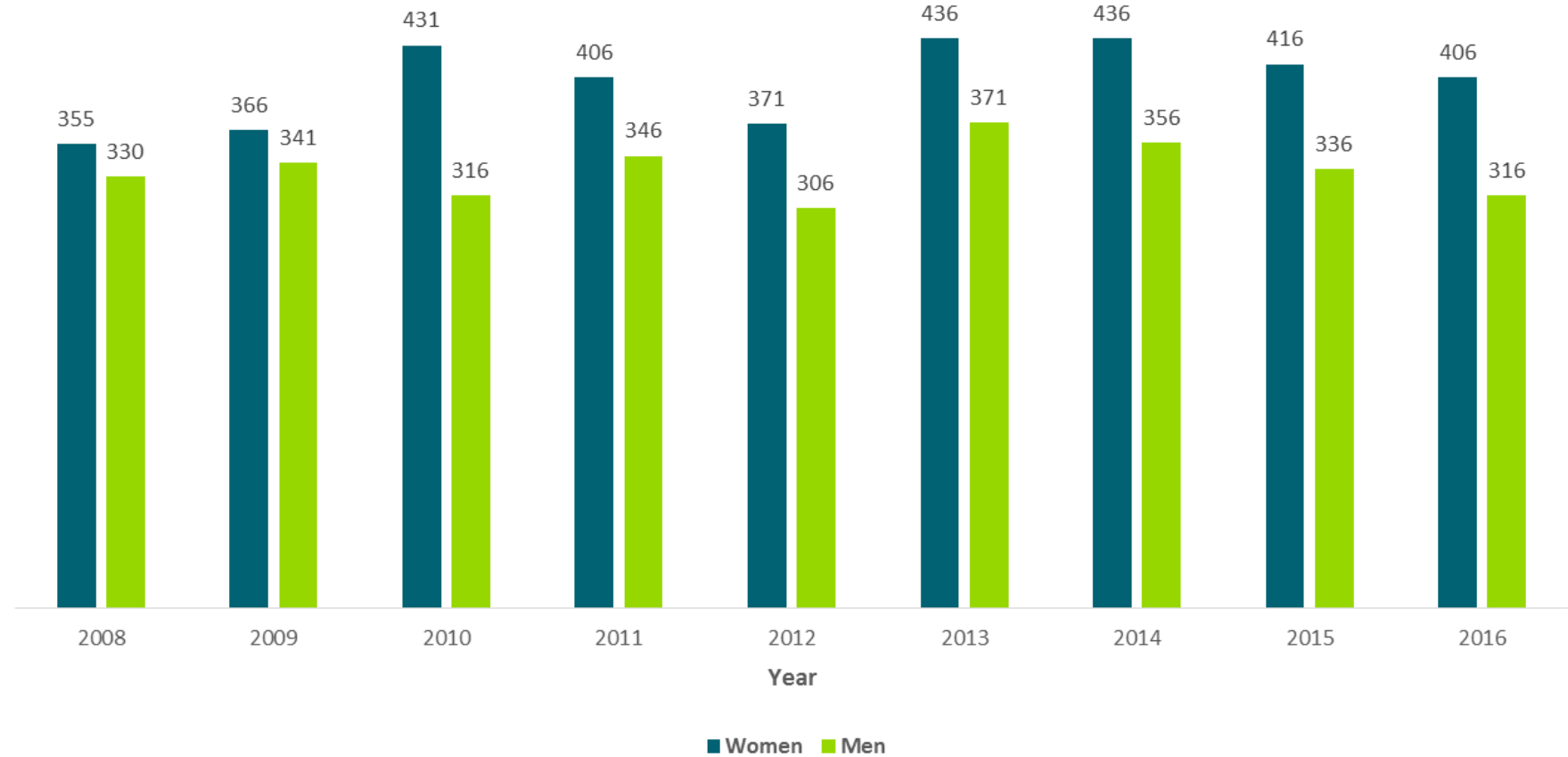


How diverse is the New Zealand Research Workforce?



WOMEN STUDENTS

Beginning in 2008 more than half of all students completing doctoral degrees are women



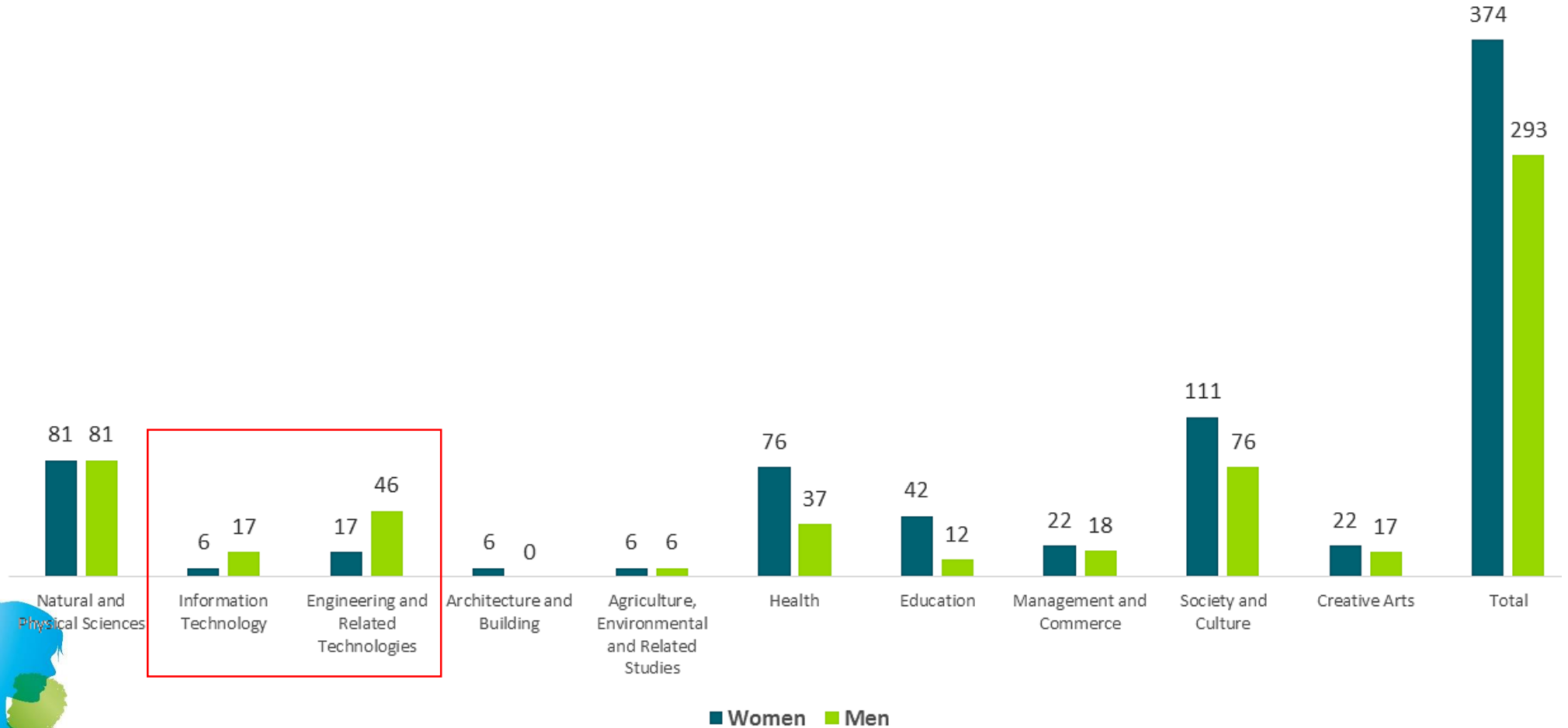
Source: MBIE Research Science and Innovation System Performance Report 2018

How diverse is the New Zealand Research Workforce?



WOMEN STUDENTS

And since 2016 this is true across most subject areas with the exception of IT and engineering



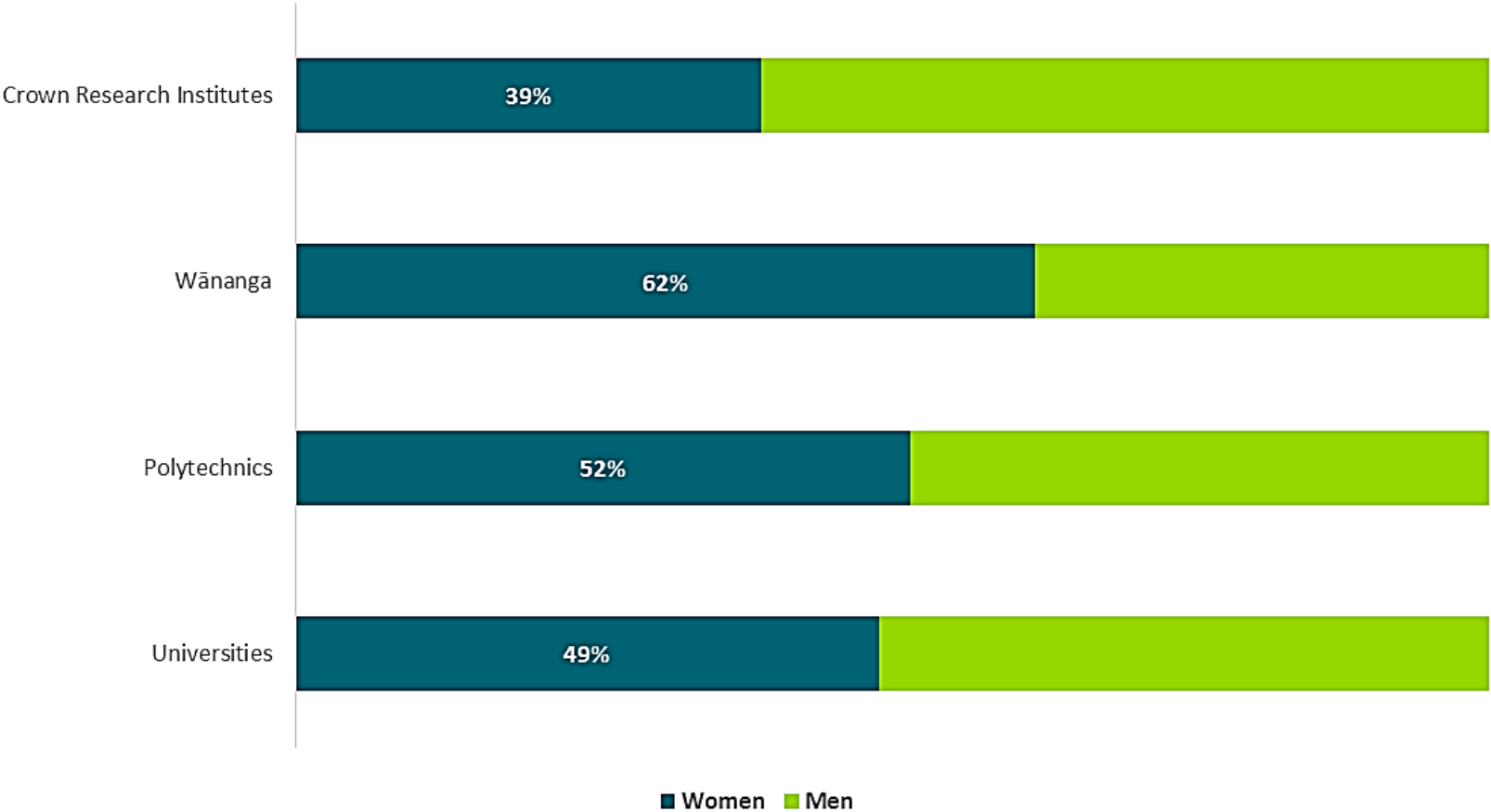
Source: MBIE Research Science and Innovation System Performance Report 2018

How diverse is the New Zealand Research Workforce?



WOMEN IN THE WORKFORCE

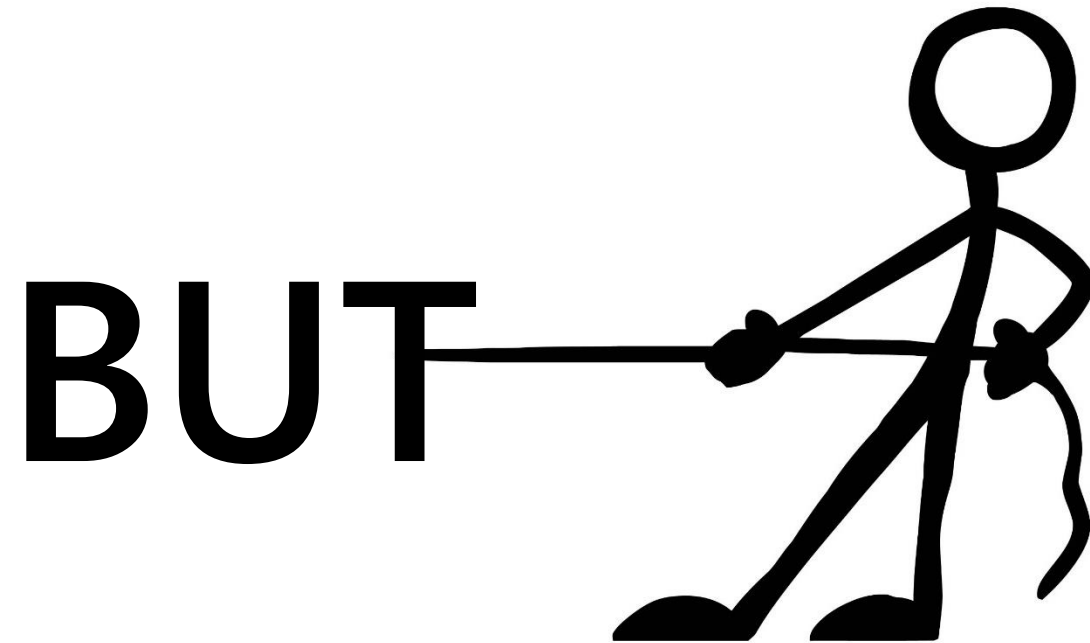
From 2017 nearly half of the government funded research workforce are women



Source: Ministry of Education data for academic staff employed in tertiary organisations 2017. CRI data on 'females in science roles' was obtained separately as part of a work-force planning report to MBIE.



How diverse is the New Zealand Research Workforce?



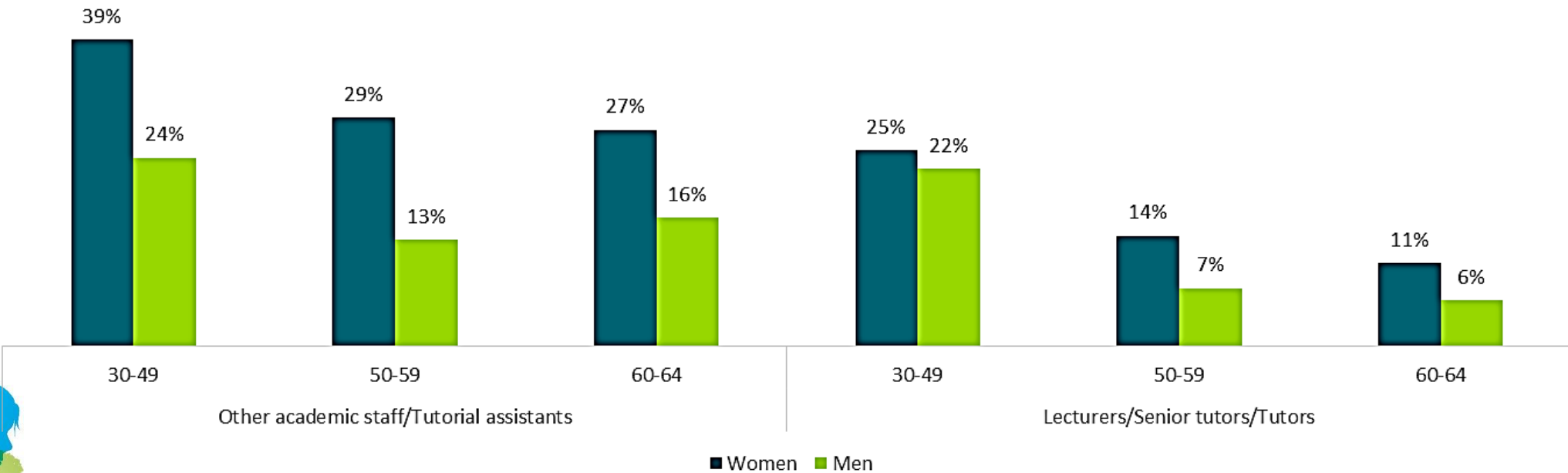
How diverse is the New Zealand Research Workforce?



WOMEN IN THE WORKFORCE

Women are more likely to remain in junior academic positions

Average Percentage of Professionals in Each Age Group, 2012-2017



Source: Ministry of Education Universities Workforce data 2012-2017

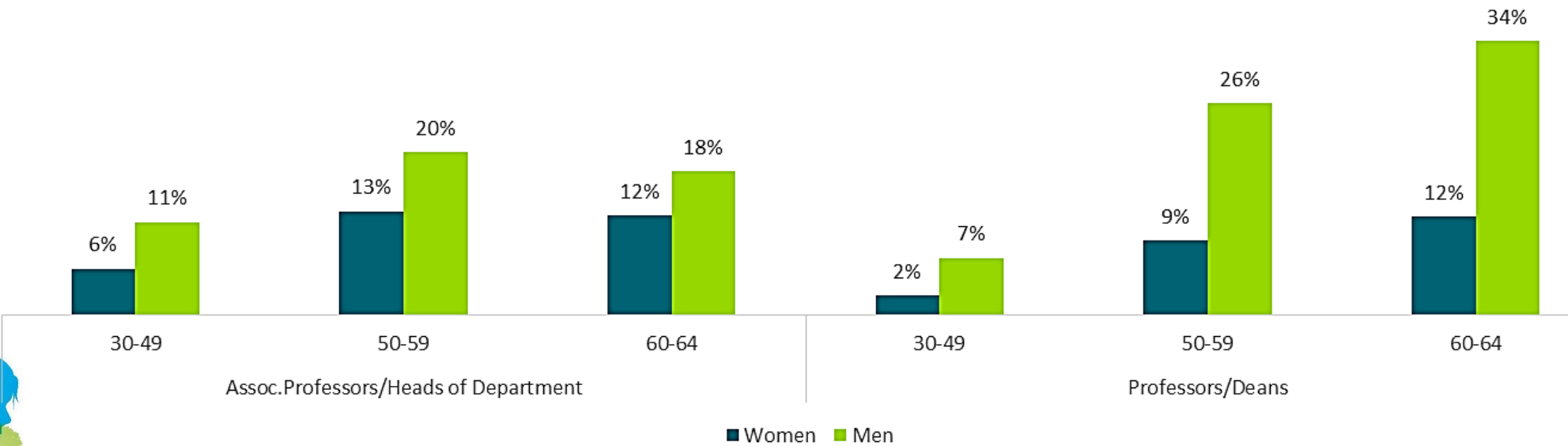
How diverse is the New Zealand Research Workforce?



WOMEN IN THE WORKFORCE

Men tend to advance more rapidly especially in leadership roles

Average Percentage of Professionals in Each Age Group, 2012-2017



Source: Ministry of Education Universities Workforce data 2012-2017

How diverse is the New Zealand Research Workforce?

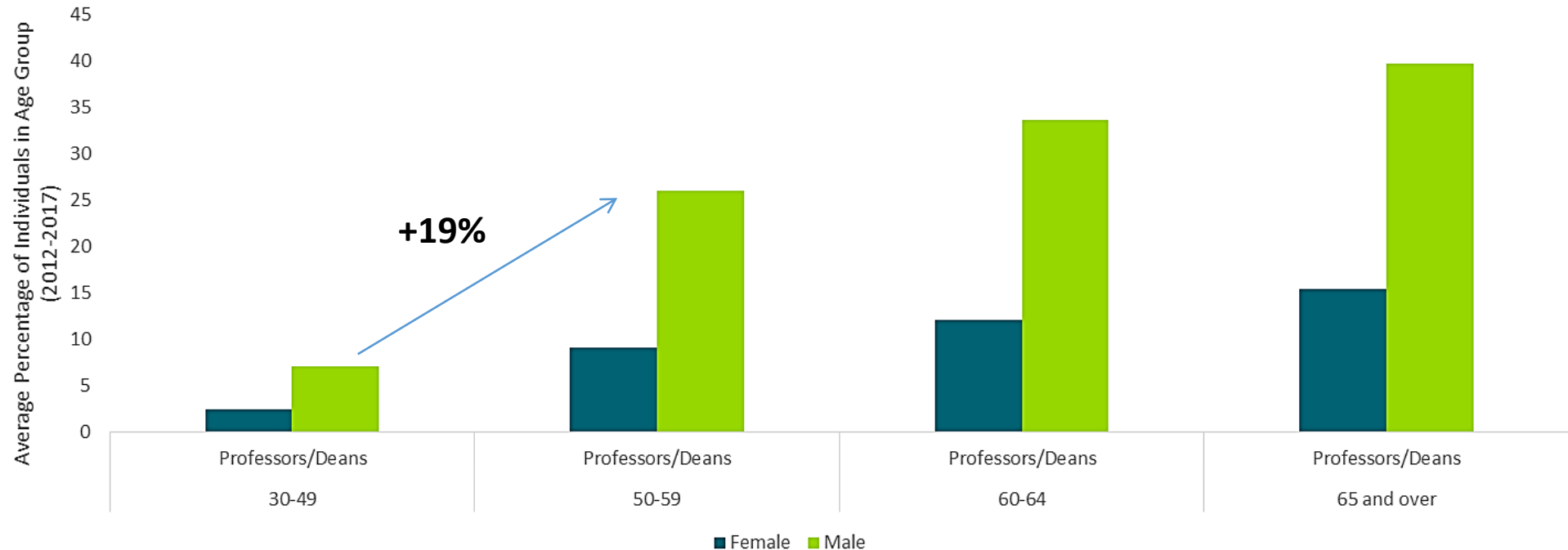


WOMEN IN THE WORKFORCE

Men tend to advance more rapidly especially in Professor/Dean roles

And

We are seeing a large increase in men moving into Professor/Dean roles in the 50-59 age bracket



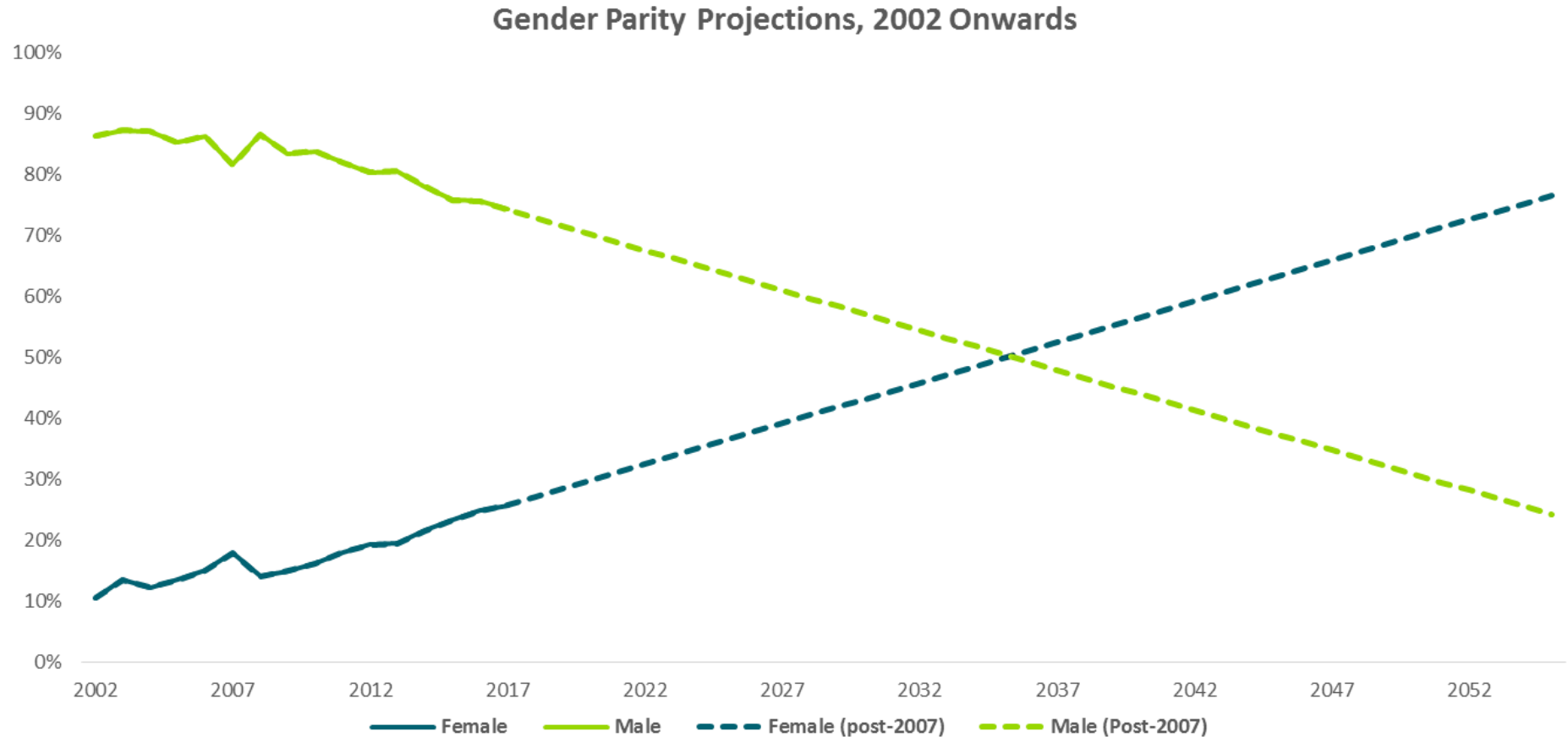
Source: Ministry of Education Universities Workforce data 2012-2017

How diverse is the New Zealand Research Workforce?



WOMEN IN THE WORKFORCE

We project that 2035 is the earliest that women will make-up 50% of Professor and Dean roles



Source: Ministry of Education Universities Workforce data 2012-2017

How diverse is the New Zealand Research Workforce?

There has been an increase in
Māori obtaining bachelors and
doctorates

BUT

We have a long way to go to make
the research workforce more
representative, particularly in STEM
subjects...

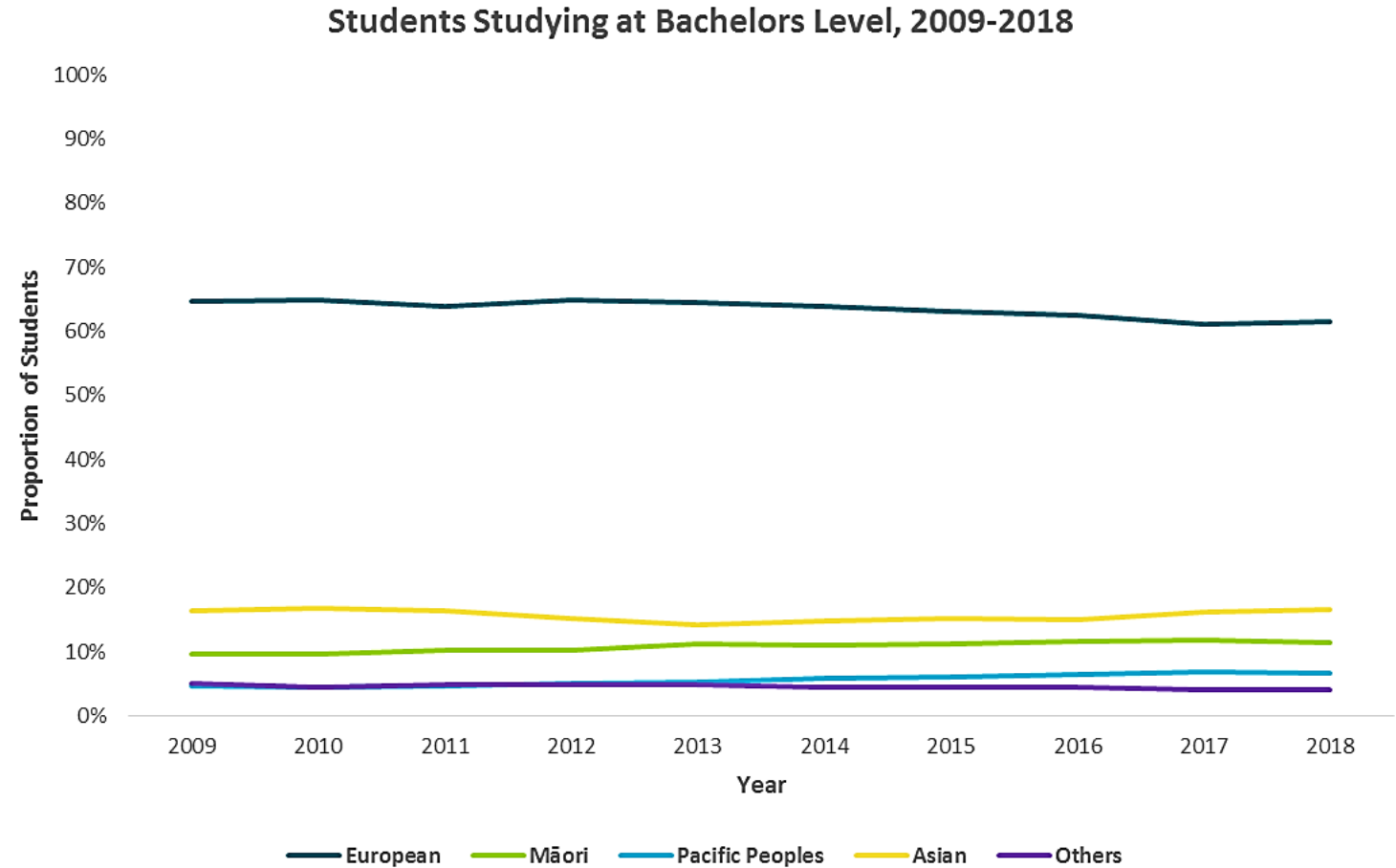


How diverse is the New Zealand Research Workforce?



MĀORI STUDENTS

Over the last 9 years,
Māori average 11% of
all Bachelors students
(Māori make-up 15% of
the population)



Source: Education Counts



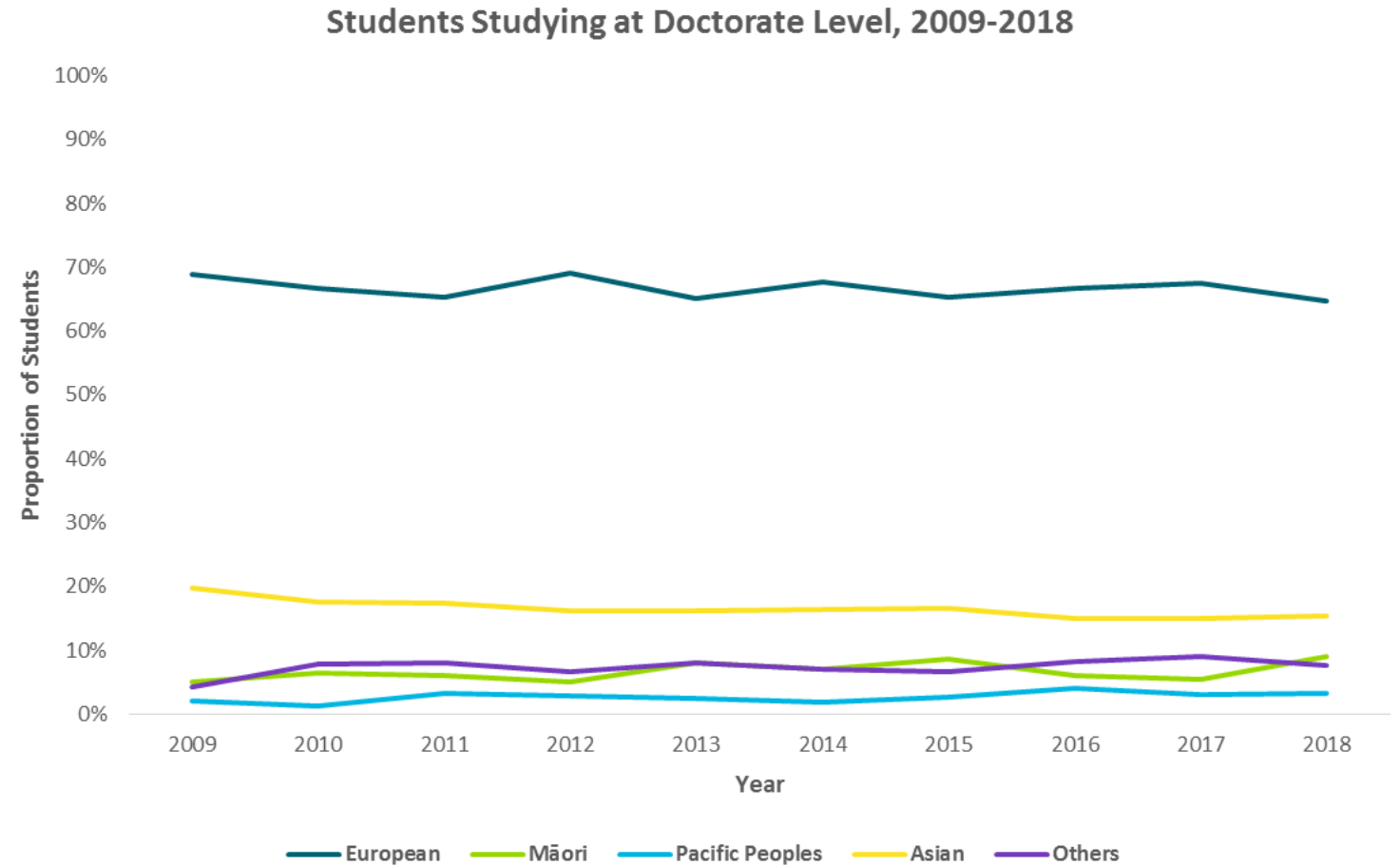
How diverse is the New Zealand Research Workforce?



MĀORI STUDENTS

Over the last 9 years,
Māori average 11% of
all Bachelors students

And 7% of Doctoral
students



Source: Education Counts



How diverse is the New Zealand Research Workforce?

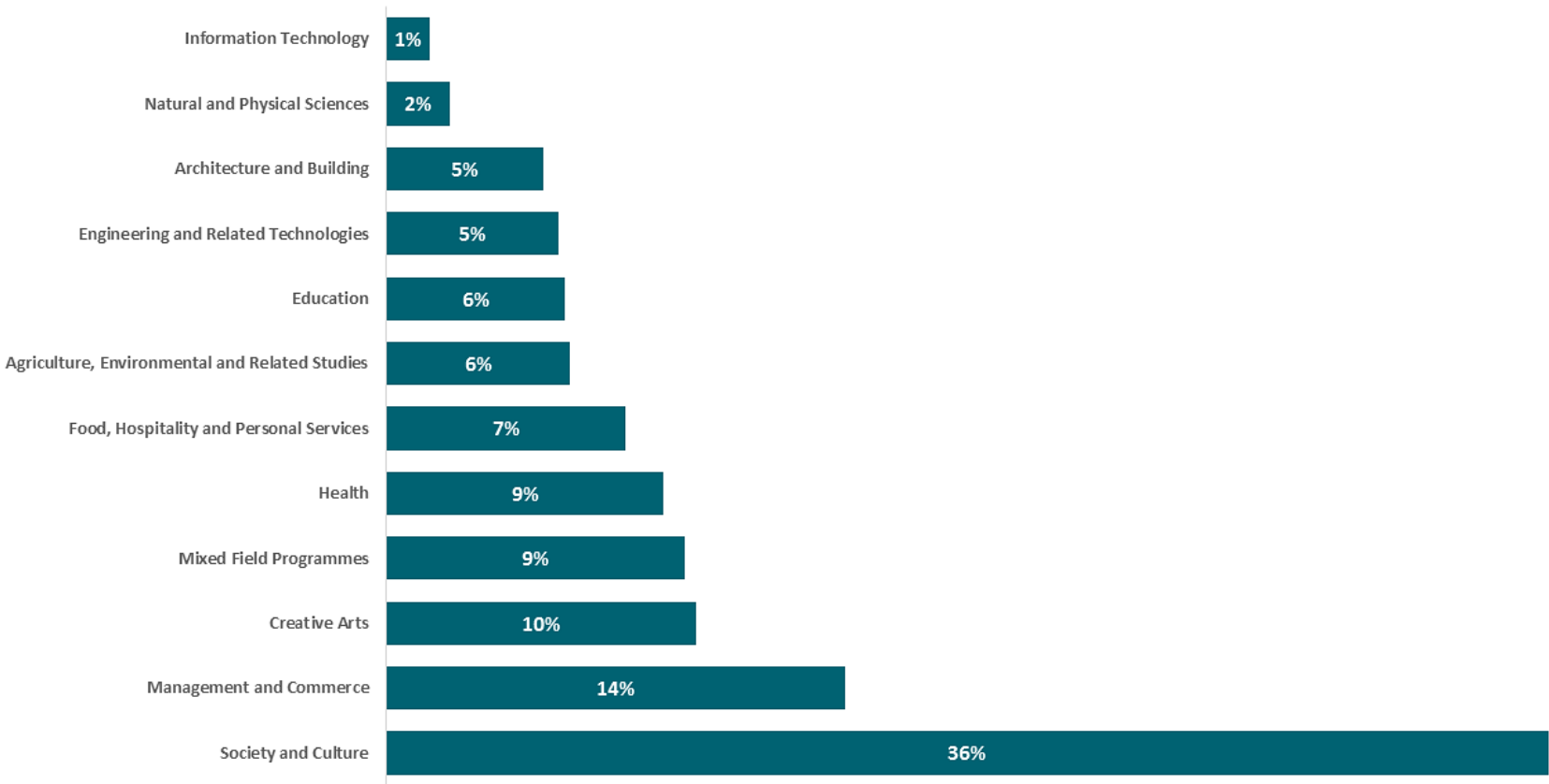


MĀORI STUDENTS

However fewer Māori students are pursuing STEM subjects



Maori Bachelors and Doctorates By Subject, 2018



Source: Education Counts

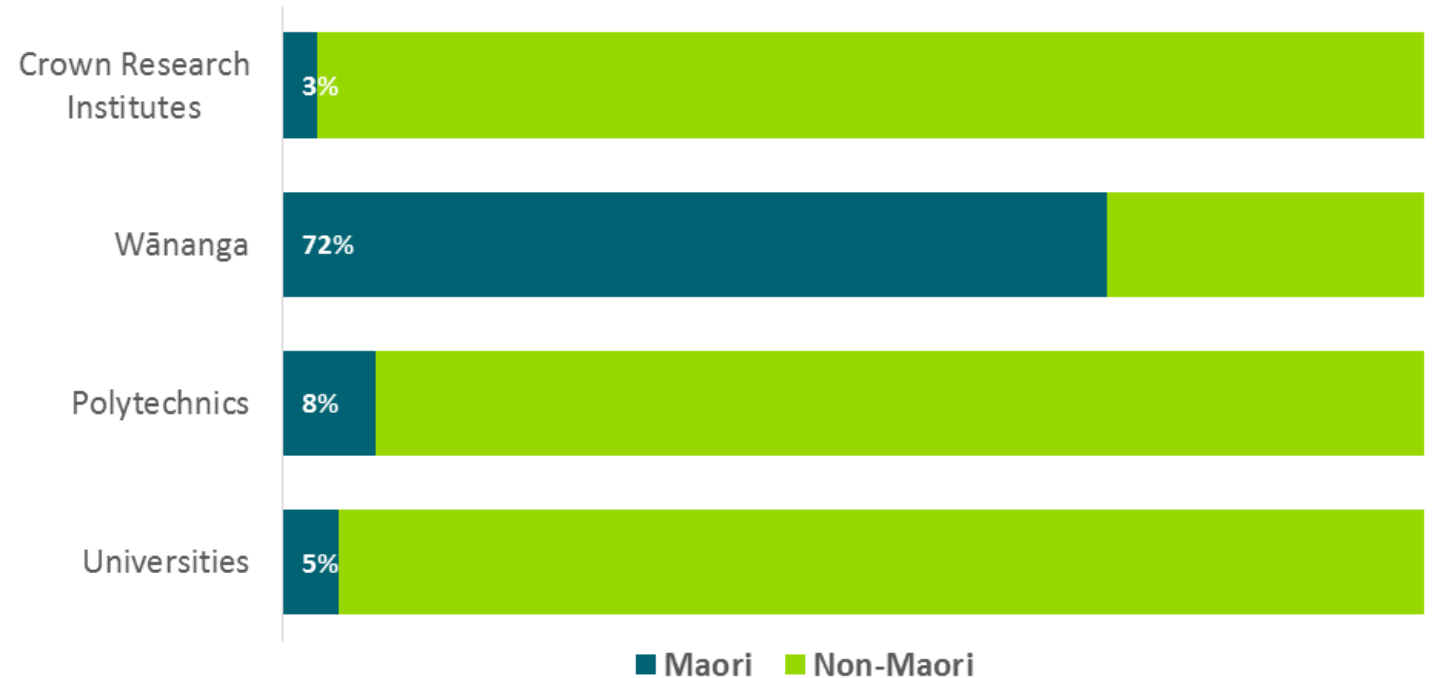
How diverse is the New Zealand Research Workforce?



MĀORI IN THE WORKFORCE

Less than 5% of researchers in universities and CRIs are Māori

Māori Representation in New Zealand Crown Research Institutes



Source: Ministry of Education data for academic staff employed in tertiary organisations 2017. CRI data on 'Māori in science roles' was obtained separately as part of a work-force planning report to MBIE

How diverse is the New Zealand Research Workforce?

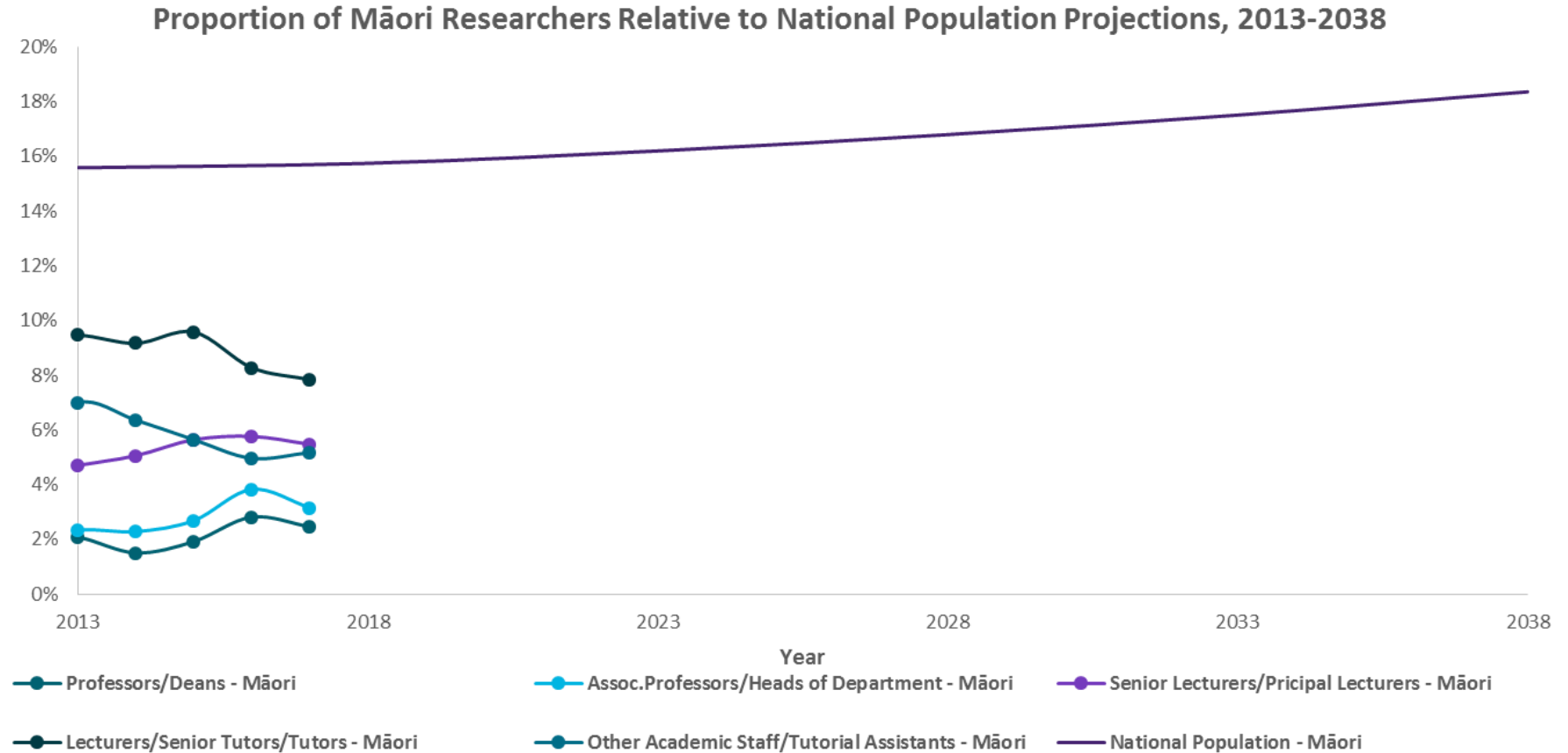


MĀORI IN THE WORKFORCE

Less than 5% of researchers in universities and CRIs are Māori

And there has been no change to this number of Maori academic staff over the last 6 years

The percentage of Maori academic staff does not reflect our population



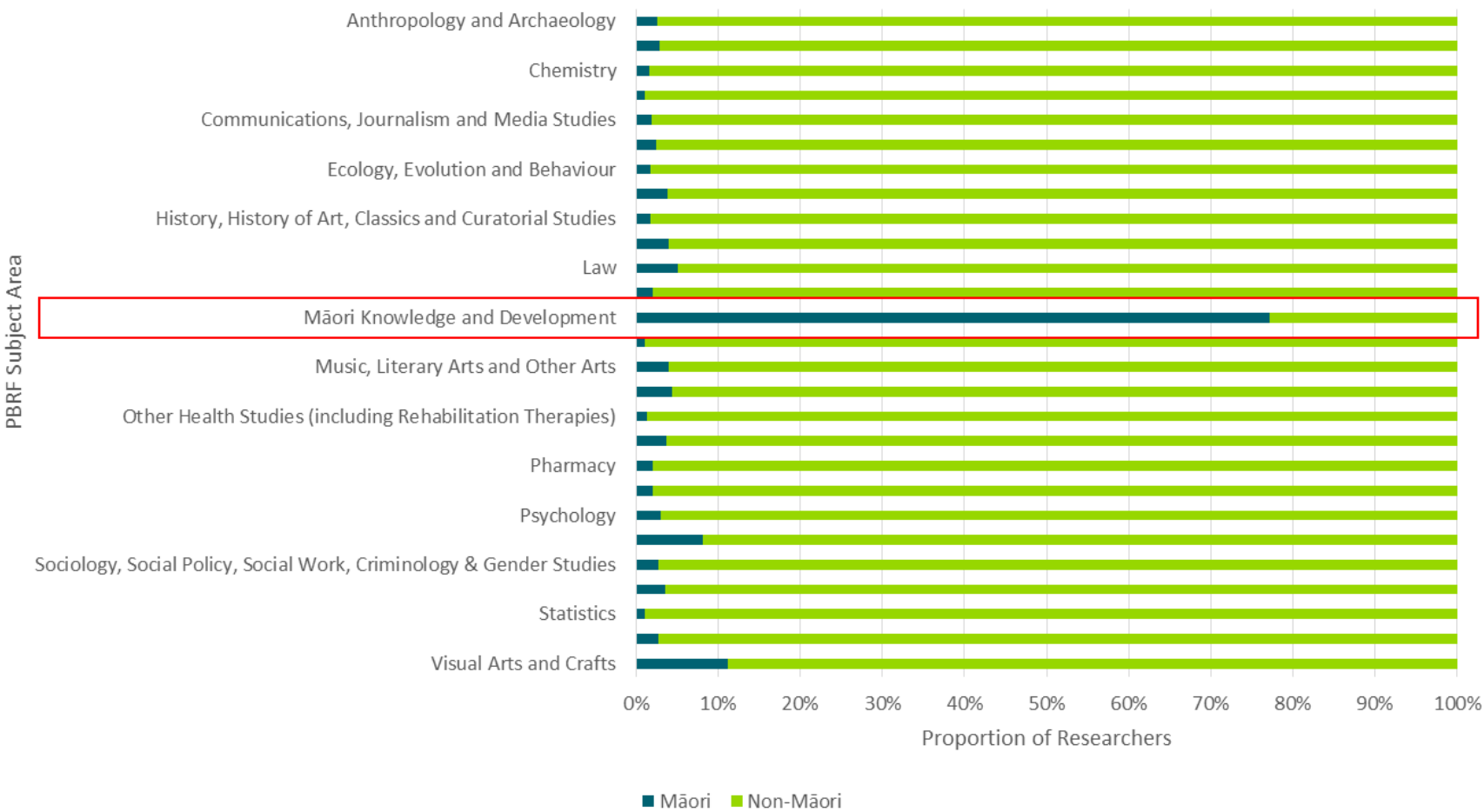
Source: Ministry of Education workforce data 2012-2017

How diverse is the New Zealand Research Workforce?



MĀORI IN THE WORKFORCE

Māori tend to be concentrated in more junior roles and in Māori studies



Source: PBRF 2018 Quality Evaluation

How diverse is the New Zealand Research Workforce?

The numbers are worse still for Pacific Peoples who are one of the least represented groups in the research workforce.



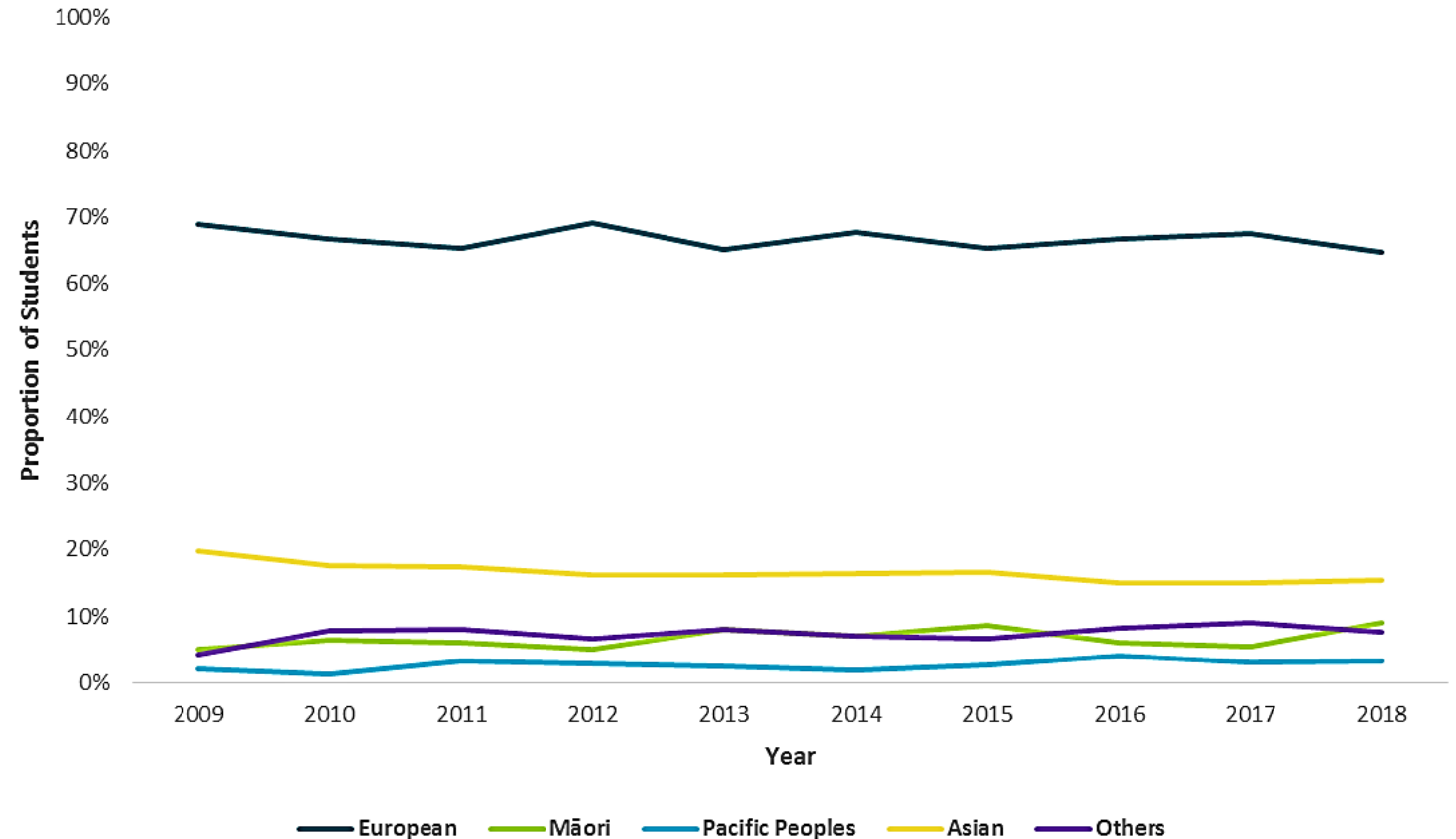
How diverse is the New Zealand Research Workforce?



PASIFIKA STUDENTS

Over the last 9 years,
Pasifika average 3% of
all Doctoral students

Students Studying at Doctorate Level, 2009-2018



Source: Education Counts



How diverse is the New Zealand Research Workforce?



PASIFIKA IN THE WORKFORCE

And only 1% of researchers in universities are Pasifika

Pasifika Representation in New Zealand Crown Research Institutes



Source: Education Counts

How diverse is the New Zealand Research Workforce?

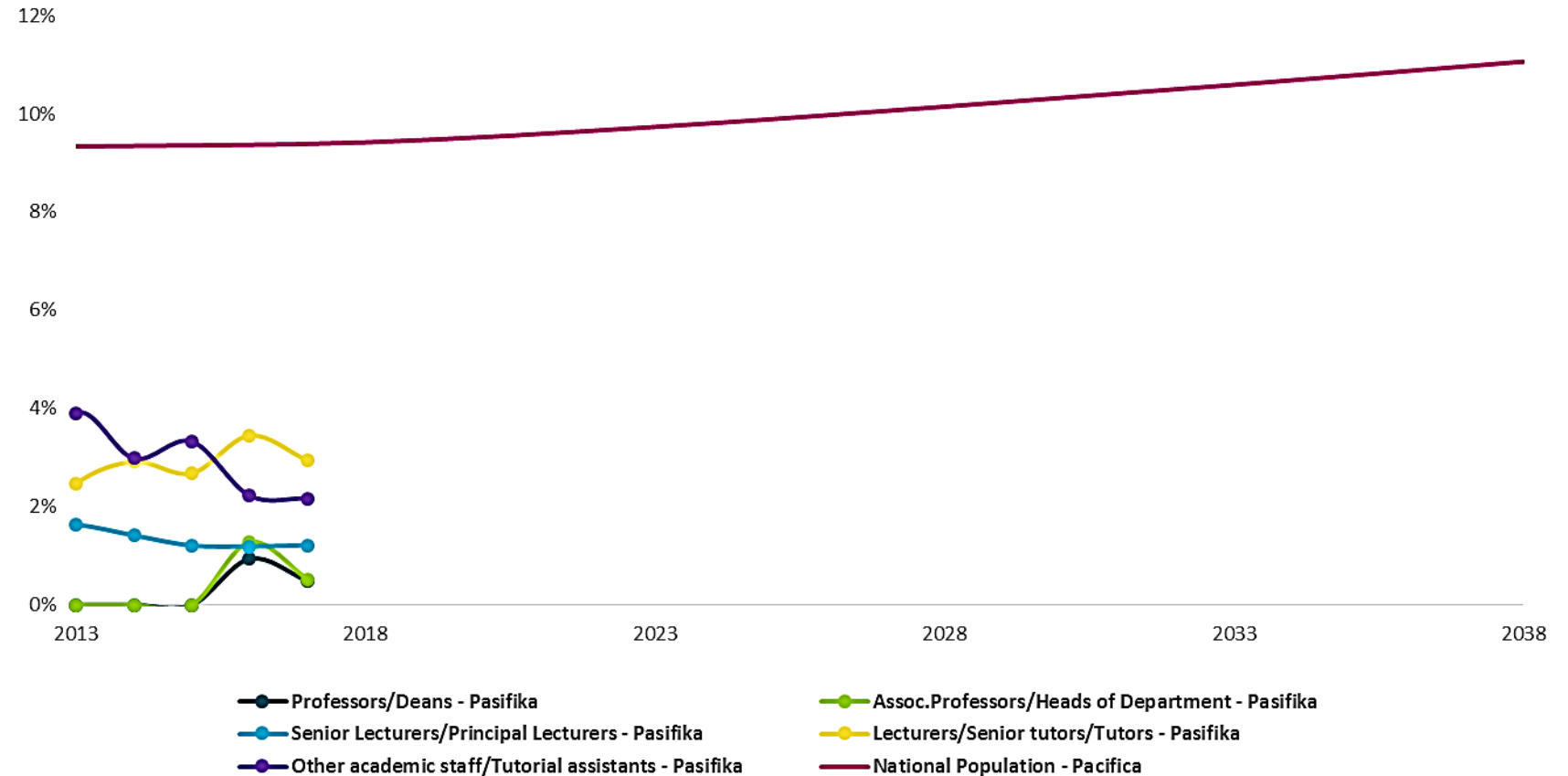


PASIFIKA IN THE WORKFORCE

There has been little change to this 1% Pasifika workforce over the last 6 years

The percentage of Pasifika academic staff does not reflect our population

Proportion of Pasifika Researchers Relative to National Population Projections, 2013-2038



Source: Ministry of Education workforce data 2012-2017

How diverse is the New Zealand Research Workforce?



PASIFIKA IN THE WORKFORCE

Pasifika tend to be concentrated in more junior roles and in Pacific research

Proportion of Pasifika Researchers in PBRF Subjects



Source: PBRF 2018 Quality Evaluation

A case for equity, diversity and inclusion

WHAT ARE THE CHALLENGES AND WHAT CAN BE DONE?



What are the challenges and what can be done?

Highly complex & different for different groups
Exclusion
Inadequate paid parental leave
Gendering of subjects
Lack of role models
Stereotype threat
Gendered division of labour
Power imbalance
Isolation
Bias
Microaggressions
Caregiving responsibilities
Pay gap
Sexual Harassment
Racism
Bullying
Lack of affordable childcare
Marginalisation
Lack of available talent perception
Deficit theorising
Hierarchy
Undervaluing work

Environment



So what is our focus today?

- Unconscious bias
- Research environment



Won't the pipeline sort itself out?

NO

- The increase in the number of woman doctorates has little impact on the number of woman in leadership roles
- There has been little to no growth in the numbers of Māori and Pasifika Researchers



Research Environment

Isn't it just about merit?

NO

- Merit is judged by people and people have biases
- Not everyone has had the same opportunities



Tackling unconscious bias and inequities in our research environment

- Tackle structural and cultural barriers
- Support organisations to be more inclusive



Tackling unconscious bias and inequities in our research environment

- Tackle structural and cultural barriers
- Support organisations to be more inclusive
- Support early career Māori doctoral scholars
 - Financial support
 - Creation of culturally safe spaces
 - Culturally responsive relationships



Tackling unconscious bias and inequities in our research environment

- Tackle structural and cultural barriers
- Support organisations to be more inclusive
- Support early career Māori doctoral scholars
 - Financial support
 - Creation of culturally safe spaces
 - Culturally responsive relationships
- Continue to improve our data

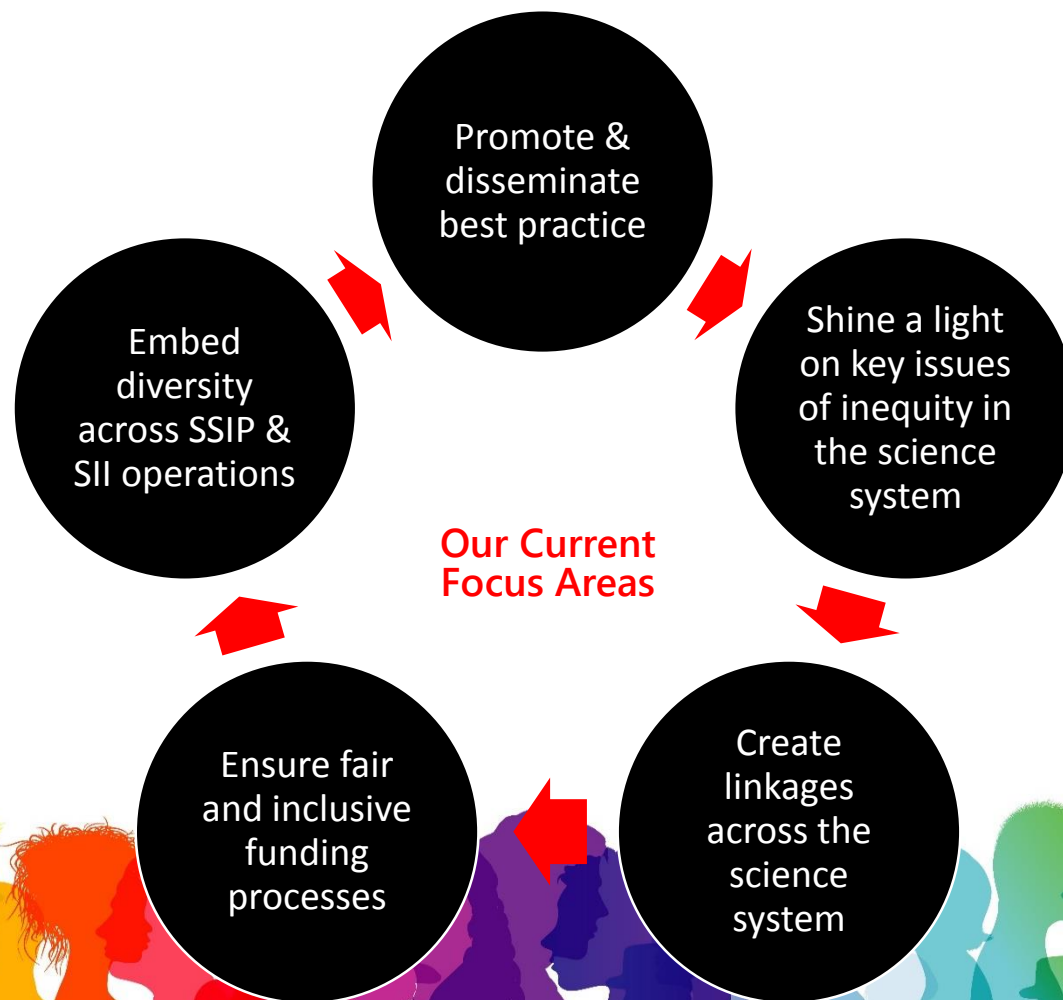


A case for equity, diversity and inclusion

WHAT ARE WE CURRENTLY DOING IN THE DIVERSITY SPACE?



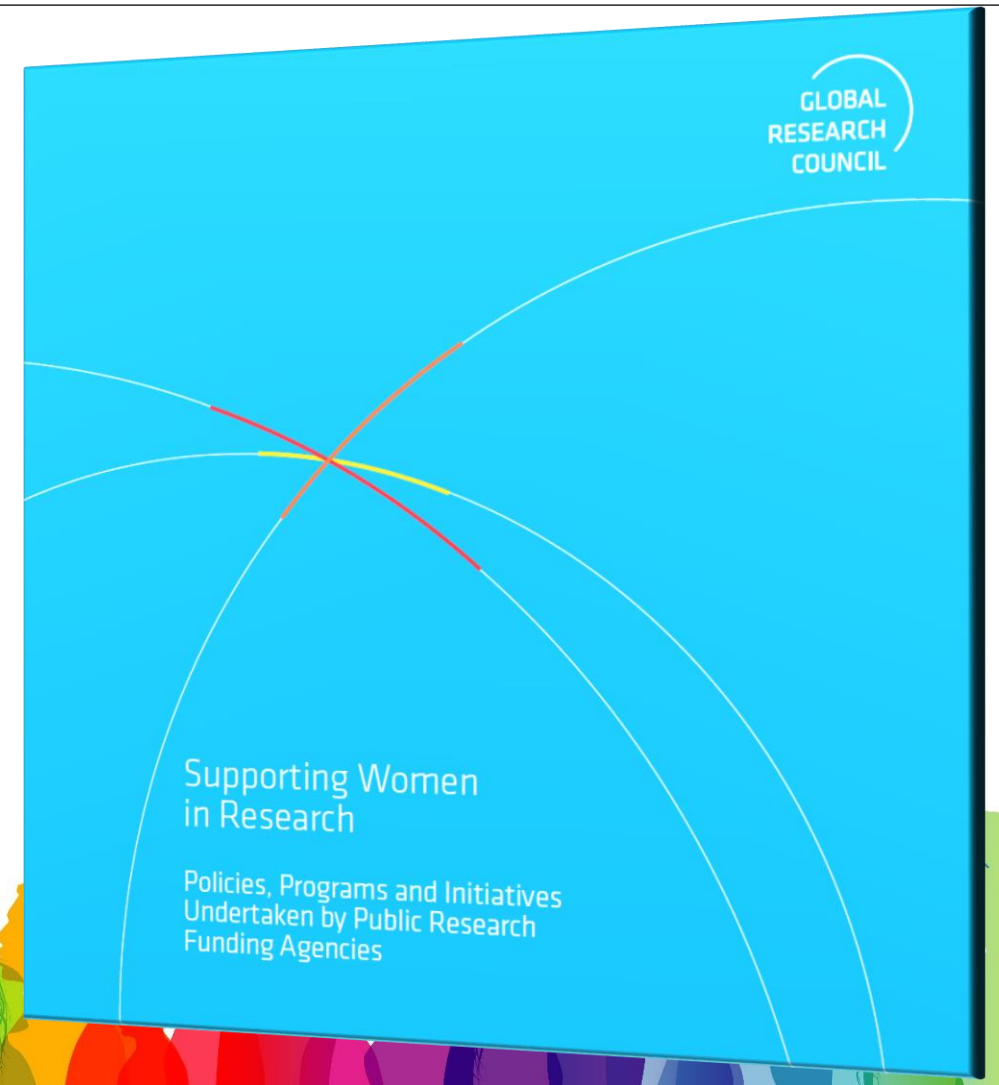
What are we currently doing in the Diversity space?



What are we currently doing in the Diversity space?

Identifying, promoting and disseminating examples of best practice across the science system which advances equity, diversity and inclusion

Publication of the
GRC Supporting Women in Research
booklet



What are we currently doing in the Diversity space?

We are asking Researchers ...

- What progress do you think has been made to increase equity, diversity and inclusion
- What more needs to be done!



What are we currently doing in the Diversity space?

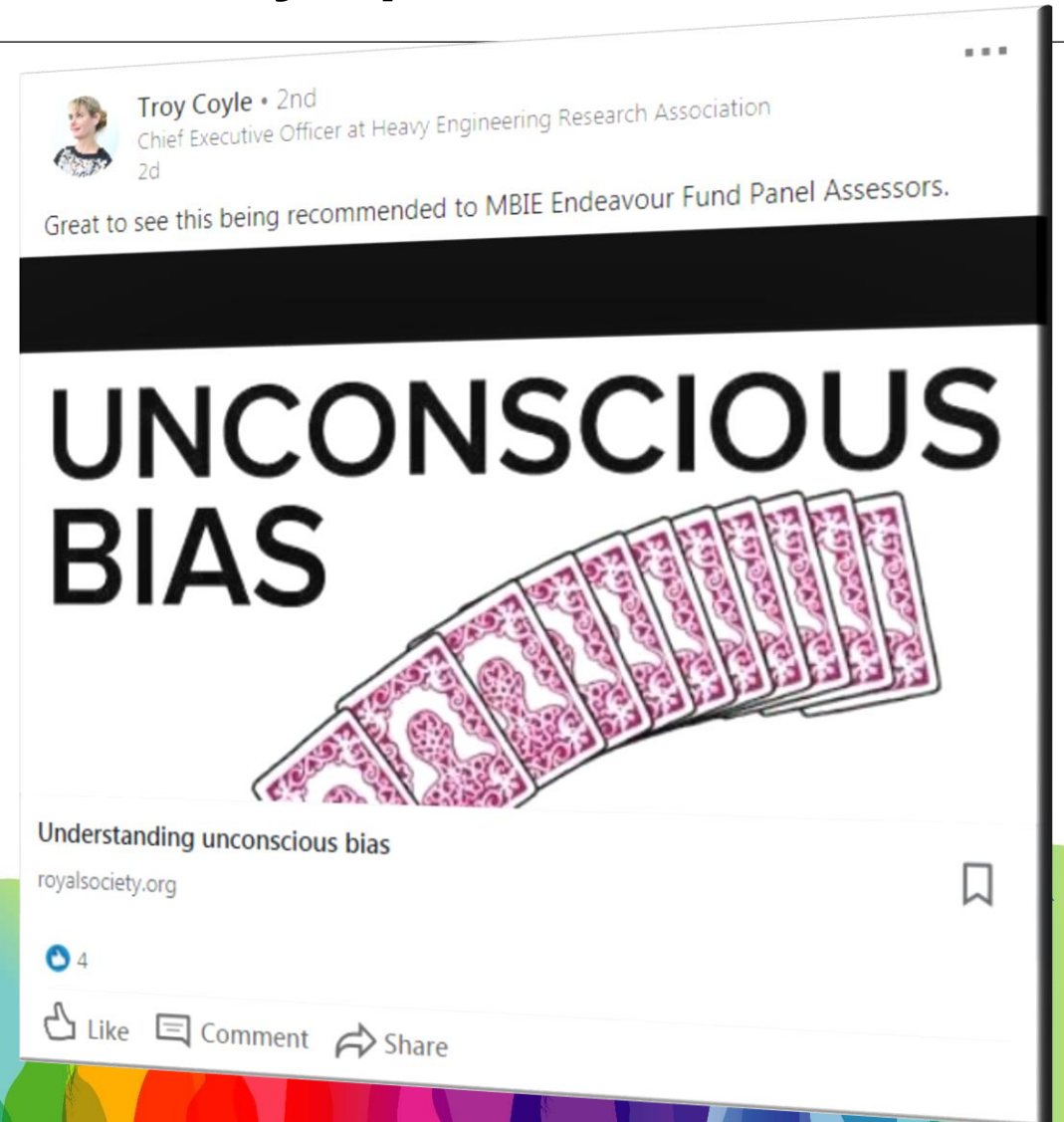
Connect with other parts of the science system to identify collective goals, promote existing initiatives and identify gaps

- GRC Gender Working Group
- APEC & ANZERICA
- Cross agency/Ministry Working group



What are we currently doing in the Diversity space?

- Challenge bias and ensure fair and inclusive funding processes
- Started collecting diversity data for MBIE funds
- Fund documentation linking to Diversity Statement
- Unconscious bias video provided to Endeavour Assessors



What are we currently doing in the Diversity space?

Embed diversity across internal operations by placing a diversity lens across everything we say and do

Diversity criteria added to the MBIE science sponsorship process



What are we currently doing in the Diversity space?

And we are excited to now have two Interns to help us on the next steps



Ankita Gangotra

Ankita's project is looking at policy options for increasing diversity and equity in science in New Zealand.



Dr Tara McAllister

Tara's project will help build a clearer picture of how the Māori science workforce is structured and shed light on potential inequities and barriers for Māori researchers.



AND WHAT'S NEXT FOR US?

- We are now collecting diversity data from our Funding processes: *We can't fix what is not measured*
- Collating the Diversity data (both qualitative and quantitative) from the wider Research system
- Better understanding the problem: *Finding the root causes*
- Looking at international practice
- Supporting areas where we can make the most difference
- RSI strategy
- Institutional change
- Funding

