# Tā te Rangahau, Pūtaiao me te Auahatanga Pūrongo Ohu Mahi o ngā Whakahaere

## Research, Science and Innovation Workforce Survey of Organisations Report

DECEMBER 2022

**MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

## HĪKINA WHAKATUTUKI – LIFTING TO MAKE SUCCESSFUL

MBIE develops and delivers policy, services, advice and regulation to support economic growth and the prosperity and wellbeing of New Zealanders.

MBIE combines the former Ministries of Economic Development, Science and Innovation, and the Departments of Labour, and Building and Housing.

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# 1. Tirohanga whānui Overview

**NGĀ ĀHUATANGA O TE OHU MAHI CHARACTERISTICS OF THE WORKFORCE**

Women are strongly represented in the Research, Science and Innovation (RSI) workforce. Around 58 per cent (n=28,545) of the workforce identified as female, 41 per cent (n=20,117) identified as male and 1 per cent (n=410) identified as another gender. This is mostly driven by higher female representation at Tertiary Education Institutions (TEIs) where they form 60 per cent of the workforce compared to 49 per cent at Research Organisations (ROs).

The RSI workforce is older than the overall workforce of Aotearoa New Zealand. This is due to a lower proportion of the RSI workforce being under the age of 30, with this age category forming 16 per cent of the RSI workforce, compared to 24 per cent of the overall workforce. All other age categories were overrepresented relative to the overall workforce.

The majority of the RSI workforce is New Zealand European, forming 51 per cent of the workforce at TEIs and 68 per cent at ROs. Māori (11 per cent at TEIs, 5 per cent at ROs, 3 per cent at businesses) and Pacific Peoples (4 per cent at TEIs, 1 per cent at ROs, 1 per cent at businesses) are underrepresented among the RSI workforce relative to population share across organisation types.

The majority of role types held by the RSI workforce in ROs are research staff (44 per cent), followed by technical staff (26 per cent) and support staff (16 per cent). Māori (7 per cent), Pacific Peoples (1 per cent), and women (32 per cent) are underrepresented in senior leadership roles at ROs relative to population share.

The use of temporary employment arrangements is particularly high at universities, with temporary contracts forming 49 per cent of employee contracts at universities, compared to 13 per cent at ROs. Early Career Researchers (ECRs) are particularly affected by temporary employment arrangements.

**MANA TAURITE, TE KANORAU ME TE WHAKAURUURU EQUITY, DIVERSITY AND INCLUSION**

Several organisations, mostly Crown Research Institutes (CRIs), universities and independent research organisations (IROs), indicated that they have varied policies and programmes in place to support equity, diversity, and inclusion (EDI) in the workplace, including programmes specifically for women and Māori.

Key areas of support included creating employee networks, targeted recruitment for under-represented groups, and cultural competency training (especially for Māori cultural competency).

Fewer organisations had programmes specifically for Pacific Peoples than for Māori.

Business respondents were less likely to report they had EDI policies and more likely to claim that they hire people based on ability and not on race, gender or ethnicity.

**AHUREA WĀHI MAHI WORKPLACE CULTURE**

RSI organisations, particularly ROs and TEIs, outlined fairly extensive measures to build a positive workplace culture, particularly in the context of COVID-19 which saw increased organisational focus on health and wellbeing. This aligns with findings from the RSI Workforce Survey of Individuals.

As part of their COVID-19 response, many organisations also introduced measures to minimise the financial effects of the pandemic on their employees. Most also implemented COVID-19 protocols and introduced new policies, such as special leave for COVID-related absences.

**HANGA PŪKENGA ME TE PUPURI PŪMANAWA BUILDING SKILLS AND SUSTAINING TALENT**

RSI organisations provide a range of professional development opportunities to improve their workforce's capability. The most common types of support are paying for staff to attend conferences, paying for staff to join professional networks, and providing training opportunities.

Responses highlighted areas which could benefit from more widespread implementation across the sector, notably leadership development programmes and coaching and mentoring programmes.

Some RSI organisations also provide specific support to ECRs, although ECR-specific initiatives were lower in number than initiatives for the general workforce.

**RAPU KAIMAHI I TĀWĀHI OVERSEAS RECRUITMENT**

Over half of RO respondents, including all CRIs, recruit staff from overseas. The dominant reasons for RSI organisations hiring overseas candidates are a lack of domestic candidates with the required skillsets or expertise, to increase international competitiveness, and to complement domestic capability development.

RSI organisations reported that the main barriers to overseas recruitment are immigration processes, uncompetitive salaries and high living costs, and high recruitment and relocation costs.

**MĀTAURANGA MĀORI, NGĀ TŪMANAKOHANGA MĀORI ME TE TIRITI**
**MĀTAURANGA MĀORI, MĀORI ASPIRATIONS AND TE TIRITI**

Most policies outlined by organisations to support their Māori capacity (in Māori and non-Māori employees) and the Vision Mātauranga (VM) policy were concentrated at CRIs and universities.

The given policies were generally linked to broader organisational policies for training staff and addressing inequities.  These include engaging and developing partnerships with Māori, enhancing the representation of Māori employees, organising VM workshops, training and events, and engaging with and training staff about Mātauranga Māori

# 2. Kupu Whakataki Introduction

The RSI Workforce Survey of Organisations is a new survey by MBIE designed to improve our understanding of Aotearoa New Zealand's RSI workforce, and our RSI organisations' workforce policies. The Survey was conducted between November 2021 and March 2022. MBIE collected data on both workforce characteristics and organisational workforce policies in a number of thematic areas.

### MŌ TE RANGAHAU ABOUT THE SURVEY

In November 2021, the Ministry of Business, Innovation and Employment (MBIE) launched Te Rangahau Ohu Mahi a Te Rangahau Pūtaiao me Te Auahatanga | Research, Science, and Innovation (RSI) Workforce Survey (the Survey). The Survey covered a range of areas of interest, to help MBIE better understand the characteristics of the RSI workforce and the key challenges facing the RSI sector. The Survey closed in March 2022.

### TE RĀNGAI RANGAHAU, PŪTAIAO ME TE AUAHATANGA
### THE RESEARCH, SCIENCE AND INNOVATION SECTOR

Aotearoa New Zealand's investment in RSI can help address many of the key challenges facing our country and the world. The Government's aspiration for RSI in Aotearoa New Zealand "is for a research system that is connected, diverse and dynamic, and that attracts and retains excellent talent. As such, we want to ensure the research workforce can be offered attractive and flexible careers and career pathways."[1]

Aotearoa New Zealand's RSI system is comprised of people, institutions, and infrastructure. It includes eight universities, seven CRIs, Te Pūkenga (formed from 16 Institutes of Technology and Polytechnics), three Wānanga, numerous IROs, government agencies, and approximately 2,400 businesses.

### HUARAHI RANGAHAU SURVEY APPROACH

The Survey was designed by the MBIE project team. The Survey questions were also informed by MBIE's Technical Advisory Group (TAG) for this project. The Survey was developed during October-November 2021.

Different organisation types (ROs, TEIs, businesses) were asked different questions. Information on the RSI workforce at TEIs was supplemented by data from the Ministry of

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[1] Te Ara Paerangi Future Pathways Green Paper 2021 (mbie.govt.nz)

Education (MoE) Single Data Return (SDR) workforce questionnaire 2021. A full breakdown of questions asked according to organisation type is provided at Appendix E.

The Survey questions covered a range of areas of interest about the sector to help MBIE better understand the characteristics of and challenges facing the RSI workforce. The questions covered:

- Workforce characteristics, including gender, ethnicity, and age

- Equity, diversity and inclusion

- Building and sustaining talent

- Workplace culture

- Overseas recruitment

- Mātauranga Māori, Māori aspirations, and Te Tiriti

The Survey was launched in November 2021. MBIE sent links to the Survey to a range of RSI organisations and peak bodies (Universities New Zealand, Science New Zealand, Independent Research Association of New Zealand (IRANZ), Callaghan Innovation) to distribute to other organisations. MBIE also provided information about how to complete the Survey and the importance of collecting the data. MBIE regularly engaged with organisations to encourage completion of the Survey, which was live for four months and closed in March 2022.

MBIE received 106 responses to the Survey. Table 1 sets out the types of organisations that responded.

**Table 1: RSI Workforce Survey of Organisation respondent summary according to type**

| Organisation Category | Organisation type | Survey Respondents | Employees Represented |
|---|---|---|---|
| Business (49) | Business | 49 | 434 |
| Research Organisations (46) | Independent Research Organisation | 19 | 4,953 |
| | Crown Research Institute | 7 | |
| | Other | 20 | |
| Tertiary Education Institutions (11) | University | 8 | 43,685* |
| | Wānanga | 2 | |
| | Te Pūkenga | 1 | |
| | **Total** | **106** | **49,072** |

*1. 106 individual organisations responded to this question.*

*2. *This number includes individuals reported in the MoE SDR which includes data from all 27 universities, wānanga and Te Pūkenga.*

*3. Data Sources: Workforce Organisations Survey and MoE Single Data Return.*

This report also uses data from the MoE SDR workforce questionnaire for 2021. This questionnaire is conducted by the MoE and covers data for the 2021 calendar year. It collects data on staff employed in tertiary education providers that receive government funding, consisting of public providers (Te Pūkenga, Universities, and Wānanga), and Private Training Establishments (PTEs).

As we collected data from all the major TEIs and ROs, this data can be treated as representative of the RSI workforce in these organisation types. These organisations represent nearly 50,000 employees within the RSI sector.

However, as shown in Table 1, only 49 businesses responded. Given there are around 2,400 businesses in the RSI sector, the results are not representative of the RSI workforce in the private sector due to the limited data received from businesses.[2]

Therefore, for the purposes of this report, when we reference the 'RSI workforce', we are referring to the workforce at publicly funded research organisations, including TEIs.

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[2] Research and development survey: 2021 | Stats NZ

# 3. Ngā āhuatanga ohu mahi RSI
# RSI Workforce Characteristics

**IRA TANGATA GENDER COMPOSITION**

The gender composition of the RSI workforce is unbalanced compared to the estimated gender composition of Aotearoa New Zealand.[3] Around 58 per cent (n=58,545, see Table 11 – Appendix D) of the RSI workforce identify as female, 41 per cent (n=20,117) identify as male, and 1 per cent (n=410) as another gender. The estimated split in the national population is 50 per cent female and 50 per cent male. This imbalance is driven by greater representation of women at TEIs (see Figure 1).

At ROs, the gender composition of the workforce is relatively balanced. However, as there are far more employees at TEIs than ROs (n=50,540 compared to 4,953), the overall skew of females outnumbering males in the RSI workforce is still present.

**Figure 1: Employee numbers based on gender by headcount**
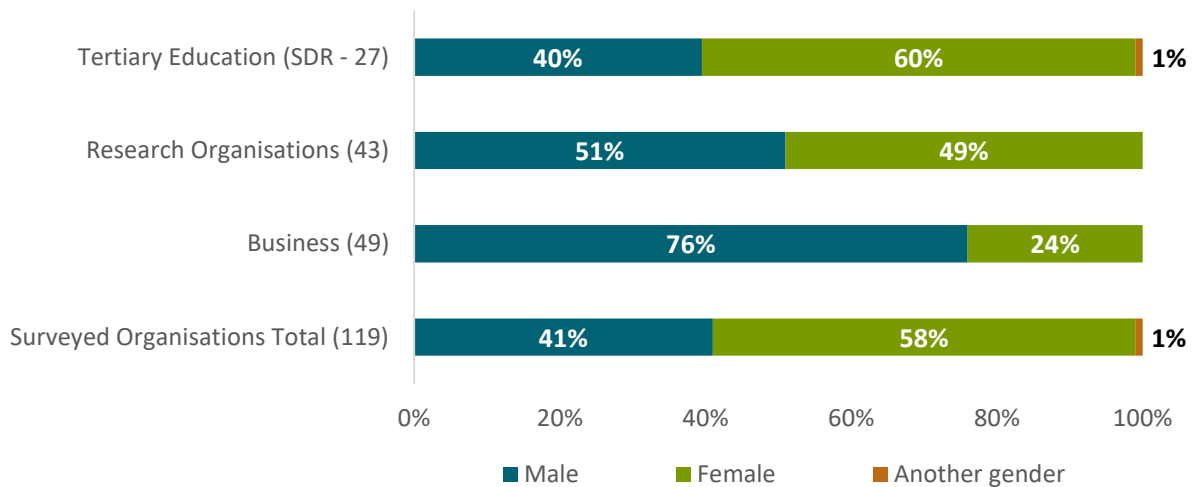


*1. 92 individual organisations responded to this question in the survey and 27 organisations were included in the MoE Single Data Return.*
*2. Data Sources: Workforce Organisations Survey and MoE Single Data Return.*

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[3] Stats NZ National population estimates (at 31 March 2022) https://www.stats.govt.nz/information-releases/national-population-estimates-at-31-march-2022/#:~:text=At%2031%20March%202022%3A,37%20and%2039%20years%20respectively.

**WHĀNUITANGA O NGĀ PAKEKE AGE COMPOSITION**

The age range of the RSI workforce is broad. A large majority of the workforce (66 per cent, see Figure 2) are aged between 30 and 59 years. The RSI workforce is also generally older than the overall New Zealand workforce. This is mostly driven by far lower representation of people under the age of 30 years, who are 24 per cent of the overall NZ workforce but only 16 per cent of the RSI workforce. This difference is more marked at ROs, where employees under 30 years are only 10 per cent of the workforce.

Furthermore, the RSI workforce has higher representation of those in the 30-49, 50-59, and 60-65 age categories versus the overall workforce. This may be partially driven by the higher qualification levels held by the RSI workforce, meaning that a higher proportion join the workforce at an older age after completing these qualifications. It may also be partially attributable to the tenured Professorships and Principal Investigator roles in universities and ROs respectively, which are generally not subject to age-related compulsory retirement.

**Figure 2: Employee numbers based on age by headcount**
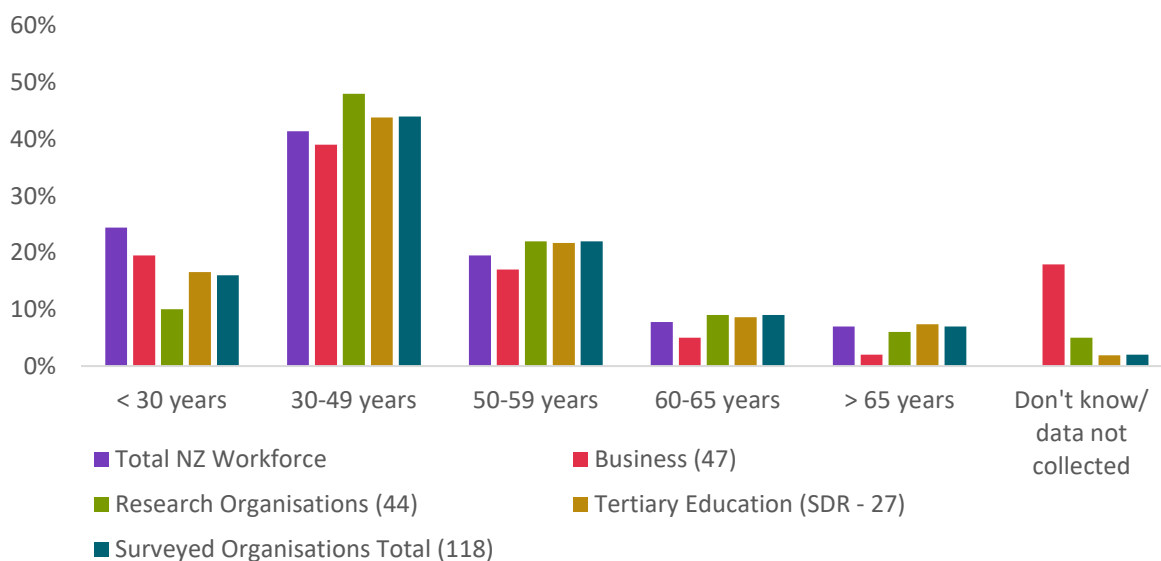


*1. 91 individual organisations responded to this question in the survey and 27 organisations were included in the MoE Single Data Return (SDR).*

*2. The category of 30-49 years is merged to compare with the MoE Single Data Return data.*

*3. Data Sources: Workforce Organisations Survey, MoE Single Data Return, and Stats NZ Household Labour Force Survey.*

**NGĀ MĀTĀWAKA O TE OHU MAHI** ETHNICITY OF WORKFORCE

The RSI workforce is mostly European. Around 68 per cent (n=2,961) of ROs' employees are European, in line with the European population share of Aotearoa New Zealand (70 per cent - figure 3). The representation of Europeans at TEIs appears significantly lower at 51 per cent (n=26,085). However, most organisations reported that they do not know or collect ethnicity data for a significant proportion of their employees (16 per cent (n=8,130) of RSI employees at TEIs, nine per cent (n=407) at ROs). This makes it difficult to make firm conclusions as to ethnicity distribution in the RSI workforce. For example, the proportion of European employees may be higher than just the European percentage suggests, although other ethnic groups may also be represented in "Don't know / data not collected".

Māori are underrepresented in the RSI workforce across institutions, compared to the overall Māori population share of 17 per cent (see Figure 3). Māori form 11 per cent (n=5,620) of the workforce at TEIs. However, this is lower at universities, where Māori hold 6 per cent (n=1,840) of positions. Māori are 5 per cent (n=203) of RO employees and 3 per cent (n=10) of Business employees.

Pacific Peoples are similarly underrepresented among the RSI workforce compared to their overall population share of eight per cent. Pacific Peoples hold 4 per cent (n=2,090) of positions at TEIs, including 3 per cent (n=915) of positions at universities, and just 1 per cent of positions in both ROs (n=40) and Businesses (n=4).

**NGĀ TAUWĀHI O TE OHU MAHI** LOCATION OF THE WORKFORCE

The RSI workforce is concentrated in the main urban centres: Auckland (21 per cent, n=3,830), Wellington (22 per cent, n=4,110), and Canterbury (22 per cent, n=3,961) (see Table 2). Wellington and Canterbury are overrepresented in comparison to their shares of the overall population, while Auckland is underrepresented. This is due to the concentration of universities and CRIs in these cities. Institutions with a strong workforce presence[4] in Wellington include Victoria University of Wellington (VUW), University of Otago, Massey University, the Institute of Geological and Nuclear Science (GNS) and the National Institute of Water and Atmospheric Research (NIWA). Institutions with a large workforce presence in Canterbury include the University of Canterbury, the University of Otago, Manaaki Whenua – Landcare Research and the New Zealand Institute for Plant and Food Research Limited (PFR) (all seven CRIs have some staff in Canterbury). Auckland has significant numbers of staff from the University of Auckland, Auckland University of Technology (AUT), and PFR.

The large majority of RSI employees work in the North Island. Around 60 per cent of RSI employees are located across the nine regions of the North Island, compared to 40 per cent across the seven regions of the South Island. Therefore, a greater proportion of the RSI workforce work in the South Island when compared to the geographical location of the overall

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[4] Over 150 employees working on research activities

population, with 78 per cent of the overall population living in the North Island, and 22 per cent in the South Island.

**Figure 3: Employee numbers based on ethnicity by headcount**
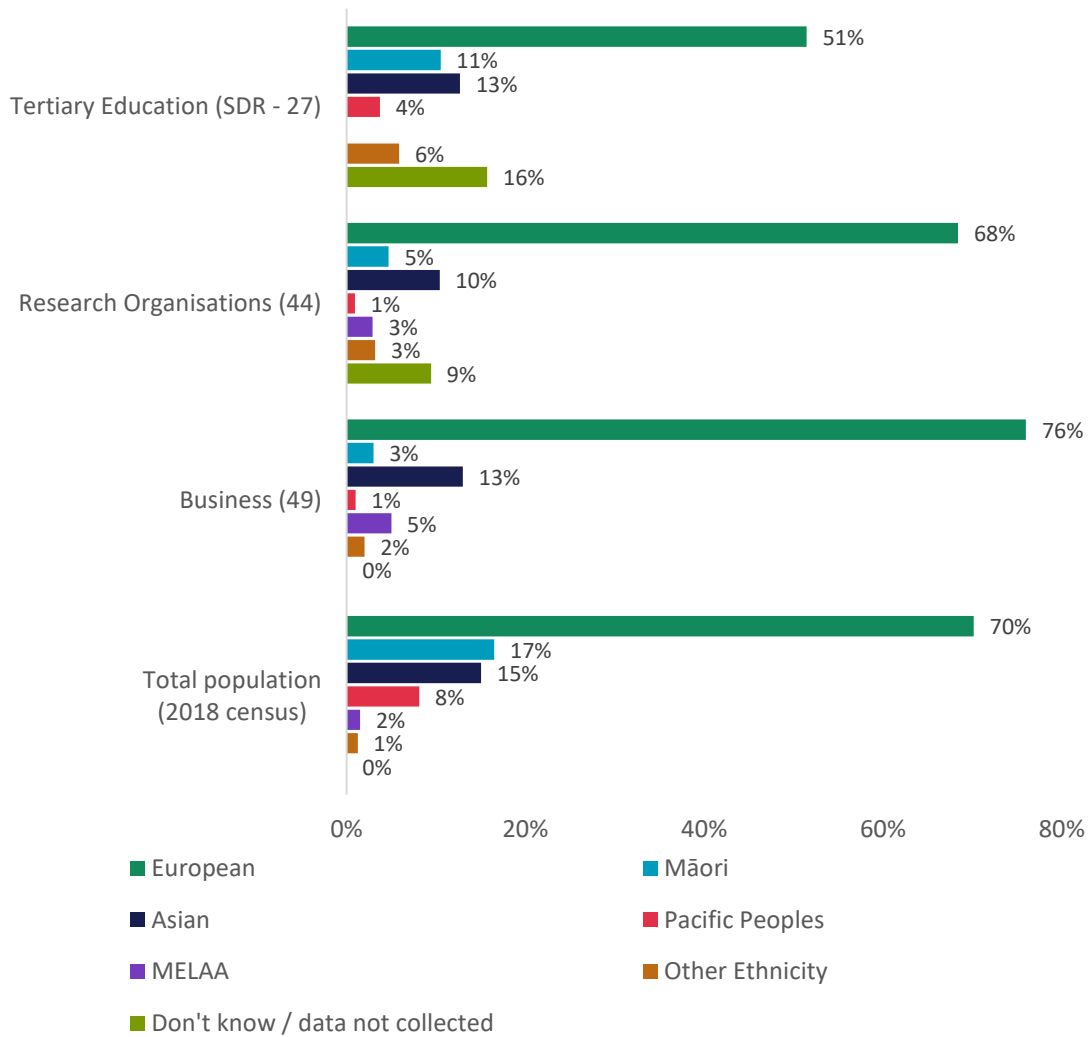


1. 94 individual organisations responded to this question in the survey and 27 organisations were included in the MoE Single Data Return (SDR).
2. Tertiary Education (SDR) MELAA included under 'Other Ethnicity'.
3. Total Population for 2018 Census is calculated as 4,699,755 and this number is used when calculating percentages. As individuals can self-identify as more than one ethnicity, percentage adds up to more than 100 per cent.
4. Data Source: Workforce Organisations Survey, MoE Single Data Return, and 2018 New Zealand Census data.

**Table 2: Employee numbers regional distribution by headcount**

| Regions | RSI Workforce | | Total NZ Population | |
|---|---|---|---|---|
| | Count | % | Count | % |
| Te Whanganui-a-Tara / Wellington | 4,110 | 22% | 506,814 | 11% |
| Waitaha / Canterbury | 3,961 | 22% | 599,694 | 13% |
| Tāmaki Makaurau / Auckland | 3,830 | 21% | 1,571,718 | 33% |
| Ōtākou / Otago | 2,871 | 16% | 225,186 | 5% |
| Manawatū-Whanganui | 1,449 | 8% | 238,797 | 5% |
| Waikato | 1,086 | 6% | 458,202 | 10% |
| Te Moana-a-Toi / Bay of Plenty | 492 | 3% | 308,499 | 7% |
| Whakatū / Nelson | 288 | 2% | 50,880 | 1% |
| Te Matau-a-Māui / Hawke's Bay | 88 | 0% | 166,368 | 4% |
| Te Tai-o-Aorere / Tasman | 52 | 0% | 52,389 | 1% |
| Te Tai Tokerau / Northland | 49 | 0% | 179,076 | 4% |
| Taranaki | 33 | 0% | 117,561 | 3% |
| Wairau / Marlborough | 33 | 0% | 47,340 | 1% |
| Murihiku / Southland | 8 | 0% | 97,467 | 2% |
| Tūranganui-a-Kiwa / Gisborne | 6 | 0% | 47,517 | 1% |
| Te Tai Poutini / West Coast | 5 | 0% | 31575 | 1% |
| Ahitereiria / Australia | 22 | 0% | N/A | N/A |
| Ngā Moutere o te Moananui-a-Kiwa / Pacific Islands | 0 | 0% | N/A | N/A |
| I tāwāhi (hāunga a Ahitereiria me ngā Moutere o te Moananui-a-Kiwa) / Outside New Zealand (not Australia or the Pacific) | 30 | 0% | N/A | N/A |
| **Total** | **18,413** | **100%** | **4,699,755** | **100%** |

*1. 99 organisations responded to this question.*

*2. Data Sources: Workforce Organisations Survey and NZ Census 2018.*

*3. Total Population for 2018 Census is calculated as 4,699,755 and this number is used when calculating percentages. The sum of NZ population across regional areas do not equal this value as the total includes population for areas outside region.*

**NGĀ MOMO TŪRANGA ROLE TYPES**

The largest category of RSI employees at ROs is research staff, forming 44 per cent of RSI employees (n=2,227, see Table 3). Only a small number of RSI employees at ROs work in Commercialisation roles, forming 7 per cent (n=356) of RSI employees.

Data on role types from TEIs was collected through the MoE SDR, so the same level of detail is not available for these institutions. The number of staff focussed specifically on research at TEIs is relatively small, compared with the total number of employees at these institutions. Research staff hold 9 per cent (n=4,320) of roles at TEIs, compared to 45 per cent of roles at ROs.[5]

**Table 3: Employee by role type in research organisations**

| Role type | Research Organisations | |
| --- | --- | --- |
| | **Count** | **%** |
| Senior leadership/Management | 219 | 4% |
| Research staff | 2,227 | 44% |
| Technical staff | 1,307 | 26% |
| Support staff | 813 | 16% |
| Commercialisation staff | 356 | 7% |
| Other | 47 | 1% |
| Don't know / data not collected | 130 | 3% |
| **Total** | **5,099** | **100%** |

*1. 41 research organisations responded to this question.*

*2. Data Source: Workforce Organisations Survey.*

However, the total number of research staff at TEIs is greater than the total number of research staff at ROs by 2,093 employees. Additionally, university academic staff normally commit some of their time to research activities, typically 40 per cent. Therefore, we can assume that around 2,950 FTE of university academic staff is committed to research activities.[6] This figure does not include contributions from non-academic staff, under which important research roles, such as technicians, are categorised. Additionally, due to lack of information, we have not made any assumptions about the proportion of time spent on research activities by academic staff at other TEI types.

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[5] 'Research staff' includes research-only staff, research fellows, post-doctoral research fellows and other research support staff.

[6] Total university academic staff FTE is 7,380.

Women are underrepresented in senior leadership, research staff, and commercialisation staff roles at ROs relative to population share (see Table 5). Māori and Pacific Peoples are underrepresented across all role types at ROs relative to population share.

**Table 4: Employee by role type in tertiary education institutions**

| Role type | Tertiary Education (Headcount) | | Tertiary Education (FTE) | |
|---|---|---|---|---|
| | n | % | n | % |
| Total academic staff | 17,385 | 40% | 12,460 | 40% |
| Total research staff | 4,320 | 10% | 2,645 | 8% |
| Total non-academic staff | 21,980 | 50% | 16,280 | 52% |
| **Total** | **43,685** | **100%** | **31,385** | **100%** |

*1. 27 tertiary education institutions responded to this question via the SDR.*
*2. Academic staff includes deans, heads of department, professors, associate professors, senior lecturers, principal lecturers, lecturers, senior tutors, tutors, tutorial assistants, teaching staff and other academic staff. Note that academic designations vary by provider type.*
*3. Non-academic staff includes executives, advisors, technicians, librarians, administrators and general services staff.*
*4. Data Source: MoE Single Data Return.*

### NGĀ WĀHI RANGAHAU RESEARCH AREAS

We collected information on research areas for female, Māori, and Pacific members of the RSI workforce.[7] Research at ROs is more focussed on science than at TEIs. This is unsurprising given the wider scope of TEIs and the more targeted interests of CRIs. See glossary of terms at Appendix B for definitions of research areas.

Female researchers are focussed on science research (65 per cent, n=1,349) at ROs, compared to at TEIs where they are focused in Arts and Social Sciences (25 per cent, n=1,647), Health Sciences (29 per cent, n=1,849), and Science (20 per cent, n=1,324) (see Table 6).

As with female researchers, the majority of Māori researchers at ROs are focussed on science research (63 per cent, n=114). Māori researchers at TEIs are focussed on Arts and Social Sciences (36 per cent, n=283) and Health Sciences (23 per cent, n=181).

Pacific researchers at ROs are focussed on Health Sciences (25 per cent, n=10) and Science research (40 per cent, n=16). Pacific researchers at TEIs are focussed on Arts and Social Sciences (39 per cent, n=103) and Health Sciences (29 per cent, n=77).

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[7] This data was not collected for the overall RSI workforce.

**Table 5: Key interest groups by role type at ROs, including comparison to population share**

| Role type | RSI Workforce | Female | | | Māori | | | Pacific Peoples | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | n | % | Variation | n | % | Variation | n | % | Variation |
| Senior Leadership/ Management | 219 | 71 | 32% | -19% | 15 | 7% | -10% | 3 | 1% | -7% |
| Research staff | 2,227 | 957 | 43% | -7% | 69 | 3% | -14% | 18 | 1% | -7% |
| Technical staff | 1,307 | 707 | 54% | 3% | 54 | 4% | -13% | 13 | 1% | -7% |
| Support staff | 813 | 515 | 63% | 13% | 53 | 7% | -10% | 12 | 1% | -7% |
| Commercialisation staff | 356 | 107 | 30% | -5% | 6 | 2% | -14% | 3 | 1% | -7% |
| Other | 47 | 17 | 36% | -10% | 0 | 0% | -17% | 0 | 0% | -8% |
| Don't know / data not collected | 130 | 85 | 65% | 14% | 0 | 0% | -17% | 0 | 0% | -8% |
| **Total** | **5,099** | **2,459** | | | **197** | | | **49** | | |

*1. 108 organisations responded to this question.*
*2. Note: Variations are calculated by comparing with the proportion of New Zealand population according to Stats NZ 2018 Census Data (Female = 51 per cent, Māori = 17 per cent, Pacific Peoples = 8 per cent).*
*3. Data Source: Workforce Organisations Survey.*

**Table 6: Employees from key interest groups working in research areas by organisation type**

| Research Areas | Female | | Māori | | Pacific Peoples | |
|---|---|---|---|---|---|---|
| | RO | TEI | RO | TEI | RO | TEI |
| Arts and Social Sciences | 53 | 1,647 | 17 | 283 | 5 | 103 |
| Engineering and Computing | 73 | 401 | 6 | 66 | 2 | 8 |
| Health Sciences | 244 | 1,859 | 13 | 181 | 10 | 77 |
| Law and Business | 76 | 718 | 8 | 72 | 0 | 37 |
| Science | 1,349 | 1,324 | 114 | 111 | 16 | 21 |
| Other | 290 | 538 | 24 | 86 | 7 | 17 |
| **Total** | **2,085** | **6,487** | **182** | **799** | **40** | **263** |

*1. 59 organisations responded to this question.*
*2. Data Source: Workforce Organisations Survey.*

**NGĀ WHAKARITERITENGA TUKUMAHI EMPLOYMENT ARRANGEMENTS**

Organisations were asked to provide information on employment arrangements for their employees. Additional information on the different forms of employment arrangement can be found at Appendix B. The majority of contracts are permanent across the RSI system (57 per cent, n=10,240), with temporary contracts (fixed-term and casual) forming 41 per cent (n=7,415) of total contracts.

The difference in the makeup of employment arrangements between organisation types is marked. The proportion of permanent contracts across the RSI workforce is driven by employment arrangements at TEIs where 45 per cent (n=3,703) of RSI employees are on permanent contracts (see Figure 4).

Temporary (fixed-term/casual) employment arrangements are more concentrated for ECRs at research organisations, and for women, Pacific and ECRs at TEIs (see Table 7).

**Figure 4: Employment agreement types by organisation type**
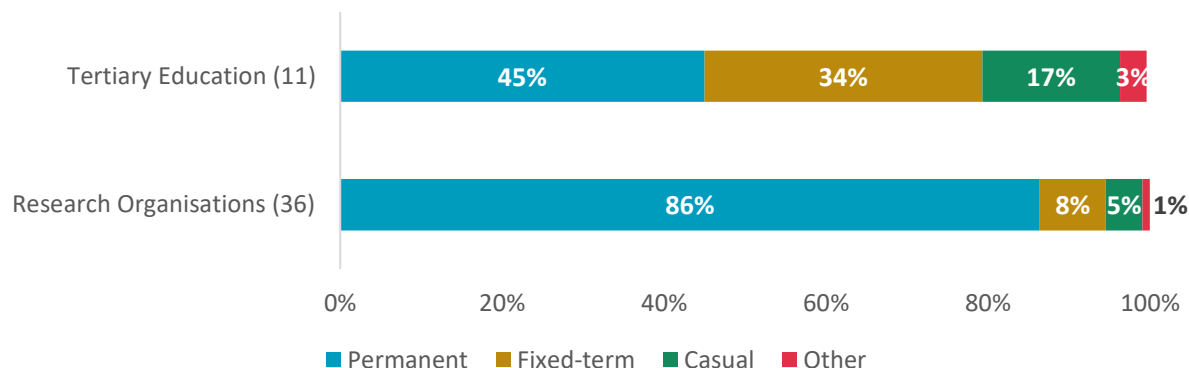


*1. 47 organisations responded to this question.*

*2. Data Source: Workforce Organisations Survey.*

**Table 7: Employment agreement types for key interest groups by organisation type**

| Research Areas | Female | | Māori | | Pacific Peoples | | Early Career Researchers | |
|---|---|---|---|---|---|---|---|---|
| | RO | TEI | RO | TEI | RO | TEI | RO | TEI |
| Permanent | 84% | 42% | 85% | 46% | 85% | 37% | 80% | 41% |
| Fixed-term | 10% | 37% | 10% | 37% | 15% | 34% | 17% | 38% |
| Casual | 5% | 19% | 5% | 16% | 0% | 27% | 3% | 20% |
| Other | 1% | 2% | 0% | 1% | 0% | 2% | 1% | 1% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |

*1. 80 organisations responded to this question.*

*2. Data Source: Workforce Organisations Survey.*

# 4. Mana Taurite, Kanorau, me te Whakauruuru
## Equity, Diversity, and Inclusion

Equity, diversity and inclusion are important to create and sustain a fit-for-purpose research system. We need a system which has no barriers to entry, retention or advancement for women, Māori, Pacific Peoples and other under-represented communities. We want a system where these groups hold jobs proportional to their population share across institutions, role types and research areas.

We asked RSI organisations what they do to support equity, diversity, and inclusion (EDI) in their workplace, to support Māori and Pacific employees, and to grow their Māori cultural capability. Many organisations – mostly CRIs, universities and independent research organisations – indicated they have policies and programmes to support EDI, Māori and women in the workplace. However, fewer outlined specific support for Pacific Peoples in the workplace.

Several RSI organisations recognised the need to have a diverse workforce and to create sustainable pathways for individuals to progress through the system. However, they also noted difficulties hiring Māori and Pacific Peoples due to their under-representation in PhD student cohorts and low representation in the workforce generally.

For an employee perspective of organisational EDI policies, please see pages 28-36 of the report on the RSI Workforce Survey of Individuals. The findings from both surveys are not aligned. There seems to be a clear disconnect with how many organisations outlined that they are supporting EDI in the Survey of Organisations and the much lower proportion of respondents to the Survey of Individuals who said their organisation had EDI policies and supported Māori, Pacific Peoples, and women.

## TE WHAKAPAI AKE I TE WHAKAKANOHITANGA O NGĀ RŌPŪ I TE OHU MAHI RSI KUA MAHUE KI TE TAHA IMPROVING REPRESENTATION OF MARGINALISED GROUPS IN THE RSI WORKFORCE

Many organisations indicated they have policies and programmes in place to improve EDI in their workforce. In particular, CRIs, universities and IROs have developed strategies and initiatives to support and improve representation of Māori, Pacific Peoples and women.

Almost all organisations claimed they are committed to providing equality of opportunity for their staff no matter their identity or background, value diversity and promote a culture of inclusion. Some commonly mentioned examples were equal employment opportunity (EEO) and open hiring policies, staff programmes to support Māori capability, Māori and Pacific support and engagement policies; rainbow tick training, and pay equity practices.

For business respondents that do not have specific programmes in place to support diversity and inclusion, they claim that they are an "equal opportunities employer" and hire people based on ability rather than race, gender or ethnicity.

However, we heard through the Workforce Survey of Individuals that 42 per cent of total respondents were unsure whether their organisation has a formal diversity and inclusion policy. This indicates that there may be issues with the reach and impact of organisations' EDI policies.

Respondents to the Survey of Individuals also told us that a key opportunity to provide better support to Pacific Peoples and Māori was to focus more on recruiting each group into the sector. Some Māori and Pacific respondents value hiring that specifically seeks out Māori and Pacific Peoples. However, in their responses to the Survey of Organisations, some organisations claim not to consider race, ethnicity or gender in their hiring decisions.

**TE TAUTOKO ME TE WHAKATIPU I TE ĀHEINGA Ā-AHUREA**

**SUPPORTING AND GROWING MĀORI CULTURAL CAPABILITY**

We know from the workforce characteristics outlined above that Māori are underrepresented in the RSI sector.

When asked about what they do to support and grow Māori cultural capability, organisations outlined different types of policies, programmes and/or initiatives that address different reasons for why Māori are underrepresented in the RSI sector, including:

- Māori are not able to progress sufficiently far through the tertiary education system to a point where they can subsequently embark on a research career

- Māori cannot access or are not attracted to meaningful and sustainable RSI careers after reaching the required level of tertiary education to embark on a research career

- Māori cannot access viable pathways into research careers across a range of research areas.

Therefore, respondent organisations outlined a range of policies, programmes and/or initiatives to overcome these different drivers of Māori underrepresentation.

Engage with students to increase the number of Māori scientists and researchers both now and in the future. This includes through summer programmes that provide Māori students with opportunities to work and learn in an area of science, sometimes with mentoring and leadership support. Other organisations also recruit Māori graduates to retain them in STEMM.

> *"ESR is striving to be an employer of choice for Māori scientists and professionals. Through our investment in and support of the Pūhoro [STEMM] academy, we have an internship programme to attract young Māori science students to grow and advance Māori science leadership and capability." - CRI*

Establish dedicated roles and leadership positions whose core responsibilities are developing, reinvigorating or strengthening cultural capability and capacity of their organisation and enabling staff to engage with hapū, iwi, Māori communities and Māori businesses with confidence. Please see the "Mātauranga Māori, Māori Aspirations and Te Tiriti" section on page 33 for relevant examples.

Form dedicated teams or employee networks. Some organisations have formed teams to progress their Māori strategies, lead events and activities, or create a support network.

> *"PFR has a Māori Strategy and Engagement team, supported by a network of Māori staff Te Raranga Ahumara Network to progress key Maori events and activities that contribute to Tono."* – CRI
>
> *"A network of Māori academic staff, that contributes towards creating a culturally stimulating environment for Māori academics at Otago..."* – University

Build tools to enable employees to improve their cultural capabilities. Different tools and mechanisms have been developed and/or introduced by respondents to build their Māori cultural capability and capacity.

> *"Taihoro Nukurangi – NIWA cultural intelligence app...[includes] information on te reo Māori (the Māori language), tikanga (customs), mātāpono me ngā ūaratanga (principles and values), pronunciation of Māori words, maps with Māori names and iwi groups, mihimihi / pēpeha (introductions), waiata (songs) etc."* - CRI
>
> *"Free online resources to increase everyday use of Te Reo."* – Business

The focus on Māori in EDI policies may align with the results in the Workforce Survey of Individuals, where 57 per cent (n=39) of Māori respondents agreed that their organisation is committed to improving staff diversity, compared to 49 per cent (n=702) of total respondents.

### TE TAUTOKO ME TE WHAKANUI AKE I TE WHAKAKANOHITANGA O NGĀ TĀNGATA MOANANUI-A-KIWA
### SUPPORTING AND IMPROVING REPRESENTATION OF PACIFIC PEOPLES

While most support programmes and actions are focussed on Māori, far fewer organisations (mostly universities) have specified support that extends to or is focussed on Pacific Peoples, which could be explained by the small number of Pacific researchers in the sector (see workforce characteristics outlined earlier in the report on pages 9-16).

Some of the specific support programmes and actions focussed on supporting Pacific Peoples are:

- developing pathways of success for Pacific learners, staff, families and communities, including opportunities in research before employment and improving Pacific staff recruitment, development and retention

- forming Pacific staff teams to mentor, lead and support Pacific programmes and initiatives

- partnering with other universities and academics in the Pacific Region for research and collaborating to build post-graduate capacity in the Pacific Region.

Some organisations are also taking action to address pay gaps and to accelerate the growth of Pacific Peoples' research capability.

> *"We are building the Pacific Research and Innovation Hub - a place where we grow Pacific research, researchers and research excellence through an expanded model of linked innovation where we bring diverse stakeholders including Pacific organisations and communities to the table at the outset of research to work together on transformative research that results in innovative outcomes for researchers and, especially, communities." – University*

The key area identified in the report on the Workforce Survey of Individuals to support Pacific Peoples in the sector was to have an increased focus on "recruiting Pacific Peoples into the sector".

### TE TAUTOKO ME TE WHAKAPIKI I TE WHAKAKANOHITANGA O NGĀ WĀHINE
#### SUPPORTING AND IMPROVING WOMEN'S REPRESENTATION

Some organisations have specific programmes to improve the participation and leadership of women in the RSI workforce, which we know is a concern from the workforce characteristics outlined earlier in the report. These programmes include:

- building support groups for female students and staff, such as the Women Professors' Network, Women's Gender Research Network and the Women in Science network

- running leadership programmes and workshops on empowering women in STEM and academia

- providing post parental leave grants to help academics returning from maternity leave to restart their research.

> *"We have a formal commitment to the UN Sustainable development (sic) goal #5 (Gender Equality) and support this…by sponsoring the Global Women in Food and Ag Survey, promoting the public reporting from that survey, and sponsoring a global mentorship programme for women in food and agriculture."* - IRO

The main way respondents to the Workforce Survey of Individuals thought the sector could help women in the workforce is to support women to progress into senior roles.

## NGĀ ĀPUTA UTU KAIMAHI PAY GAPS

As mentioned above, some organisations record pay parity and work to address their ethnic and gender pay gaps.

> *"Annual production of a Gender and Ethnic Pay Equity Report, with an action plan to address key issues…We recently engaged the services of an external consultant to review our gender practices and provide recommendations to address our Gender Pay Gap."* - CRI

## NGĀ WERO KI TE WHAKATINANA I NGĀ KŌKIRI EDI
## CHALLENGES IN IMPLEMENTING EDI INITIATIVES

Over the years, RSI organisations have encountered various challenges in building an equitable, diverse, and inclusive RSI workforce. This comment from a university respondent describes one of the key issues they experience.

> *"There is a significant shortage of Māori and Pacific PhD graduates in a number of discipline areas (e.g. STEM) which makes building a diverse research workforce challenging. While 'cluster hiring' has been recommended as way of improving job satisfaction of Māori and Pacific academics and avoid putting pressure put on a singular Māori scientist within a faculty or team, the sheer lack of Māori and Pacific academics in certain areas makes this difficult to achieve."* – University

# 5. Ahurea Wāhi Mahi
## Workplace Culture

Workplace culture has an important influence on the RSI workforce's wellbeing and productivity. To better understand the nature of workplace culture in the RSI system, we asked RSI organisations about what they do to support employee wellbeing, alongside how they supported their employees in response to COVID-19.

**TOIORA KAIMAHI EMPLOYEE WELLBEING**

We asked RSI organisations what policies and programmes they have to support employee wellbeing. Common types of policies and programmes provided across institutions included mental health and wellbeing programmes, flexible working arrangements, and support for parents.

Please see pages 24-27 of the report on the RSI Workforce Survey of Individuals for an employee perspective of workplace culture. The findings from both surveys are broadly aligned. For example, respondents to the Workforce Survey of Individuals noted that a major way in which they were supported during COVID-19 was an increased organisational focus on health.

**NGĀ HŌTAKA HAUORA HINENGARO ME TE TOIORA**
**MENTAL HEALTH AND WELLBEING PROGRAMMES**

Organisations support their staff through the provision of mental health and wellbeing programmes, including mental health first aid courses, counselling and EAP services, and online social events for those working from home.

> *"We have set up support groups for people originally from overseas, and for Auckland based staff; EAP support, online courses available to those leading in wellbeing offered during Covid-19 lockdown Aug 2021; guidance on wellbeing while working at home." – CRI*

**NGĀ WHAKARITENGA MAHI NGĀWARI FLEXIBLE WORKING ARRANGEMENTS**

Respondents noted that they support their employees by allowing flexible working arrangements, including flexible hours and working from home.

> *"Flexible working arrangements (hours, time of day, working from home, distributed locations, etc) allow non-conventional (e.g. not 9-5) employees to thrive in the workplace while balancing family or cultural needs." - IRO*
>
> *"Our 'MetFlex' flexible working policy encourages job design or hours to be worked to suit lifestyles." – Other*

**TAUTOKO KOWHEORI-19 COVID-19 SUPPORT**

The COVID-19 pandemic has had significant economic and social impacts on the RSI sector, both nationally and globally. Some of the effects identified by an earlier MBIE study[8] include financial challenges, disruption to international connectivity and mobility, and increased inequities for Māori and Pacific communities, including members of the RSI workforce.

RSI organisations outlined several ways in which they provided support for employees in response to COVID-19. The most common types of support offered were work flexibility, financial support, and wellbeing and mental health support.

Other notable types of support included allowing extra leave for vaccination, providing Personal Protective Equipment (PPE), and regular communications with employees.

**TAUTOKO Ā-PŪTEA FINANCIAL SUPPORT**

Organisations provided financial support to alleviate the burden caused by interrupted external project funding. This included:

- reprioritising contestable research funding to support staff affected by COVID-19

- extending deadlines for completion of research projects

- full payment of salaries or wage subsidies during lockdowns

- payment of other costs incurred by staff when required to isolate

- providing grocery vouchers / care packages to employees experiencing extended lockdowns.

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[8] https://www.mbie.govt.nz/dmsdocument/11628-a-resilient-research-science-and-innovation-sector-enabilng-post-pandemic-economic-transformation

Some organisations stated that their employees were assured of their job and salary, no one experienced a reduction in earnings or threat to their livelihood, and nobody was disadvantaged because of the lockdowns.

> *"The University introduced the COVID-19 Hardship Allocation for Research in late 2021 to support researchers for up to 12 months. A key aim of this fund was to reduce the financial burden of externally funded projects that had experienced interruption caused by COVID-19, including enabling Principal Investigators to provide targeted support to ECRs." - University*
>
> *"For periods of lockdown, all waged workers, either on fixed term or casual contracts, who would have normally been scheduled to work but were unable to, were paid for their expected hours." – CRI*

**TAUTOKO HAUORA HINENGARO ME TE TOIORA MENTAL HEALTH AND WELLBEING SUPPORT**

Respondents offered mental health and wellbeing support by running Mental Health First Aid programmes for staff, offering counselling and Employee Assistance Programme (EAP) services, providing well-being calls to determine if staff needed targeted support, organising online social events for those working from home, and running welfare surveys.

> *"…we have supported staff to work from home wherever possible - and have made sure staff understood (especially during lockdowns) that family and health come before work." - Business*
>
> *"We maintain close contact with all employees on a daily basis to ensure their needs are met - working from home requires a different mindset and doesn't work for all, so other options are available." – IRO*

**WHAKAMATUATANGA MOTUHAKE SPECIAL LEAVE**

Respondents offered various types of leave for their employees, including leave for staff to get vaccinated, post-vaccination leave for those who developed severe reactions to the vaccine, extended special leave, and well-being leave. Some respondents also set up special or new leave codes for COVID-19-related absences.

> *"We have been offering Covid leave to all staff to take as required to ensure that staff are not worse off when they have been required to isolate, get vaccinated, or to recover."* - University
>
> *"We top up employees' sick leave by 5 days if their balance reaches 0. We are allowing employees to work reduced hours where required to ensure they are looking after their mental health and wellbeing."* - Other

**NGĀ KAUPAPAHERE KOWHEORI-19 ME NGĀ KAWA COVID-19 POLICIES AND PROTOCOLS**

Respondents introduced COVID-19 strategies, protocols and guidelines to allow staff to work safely during the pandemic, including providing extra personal protective equipment and Rapid Antigen Testing (RAT) kits. Some respondents pointed out that their COVID-19 response policies and support mechanisms are regularly updated with the full involvement of staff.

> *"We have clearly defined protocols and policies re COVID-19. We actively support all of our people in respect of vaccinations, time off required if having to self-isolate etc. All of our staff are given the best possible masks for their given roles."* – Business
>
> *"Protocols and practices to keep our staff safe at work were developed for those performing essential work during essential work eg, additional personal protective equipment, cleaning protocols and team 'bubbles' that did not mix."* – CRI

**NGĀ WHAKAWHITIWHITINGA KAIMAHI STAFF COMMUNICATIONS**

Many respondents told us that they focussed on maintaining open and clear communications within their workforce through various means, including regular online meetings, weekly updates, and virtual coffee catchups.

> *"We have been focused on providing clear communications and support to staff and line managers throughout the pandemic and there have been regular and frequent communications from the top to the staff throughout the period." - University*
>
> *"Very consistent and regular updates. All our R&D activities have continued. All our team are equipped to work from home." – Business*

**MANAAKI KAIMAHI PASTORAL CARE**

Several respondents offered pastoral care and support for vulnerable staff, including those from abroad, those stuck overseas, and team members who were identified as "at risk" and vulnerable, such as those living alone or separated from their families.

> *"Vulnerable team members were identified e.g., those that live alone – and support networks were created to help them connect with colleagues… Employees stuck overseas were supported to work remotely so that they retained their employment." - CRI*

# 6. Hanga me te Pupuri Pūmanawa
# Building and Sustaining Talent

It is important that the RSI workforce has the right skills to deliver excellent and impactful research across Aotearoa New Zealand. Institutions have a key role in supporting the RSI workforce's development. Therefore, we asked RSI organisations about different types of developmental support they offer, including for Early Career Researchers and research students.

We asked organisations what programmes they operate to develop their workforce. We provided a number of options that organisations had the option to select. We also provided an option for organisations to provide more detail on schemes they provide to their workforce. The most common support types provided by respondents were paying for staff to attend conferences (n=68, 70 per cent), providing training opportunities (n=65, 67 per cent), and paying for staff to join professional networks (n=57, 59 per cent) (see Figure 5).

All seven CRIs and all eight universities provide these types of support. The types of support offered by the least number of respondents are coaching and mentoring programmes (n=50, 52 per cent), and leadership development programmes (n=43, 44 per cent), and study/sabbatical leave (n=32, 33 per cent).

Across organisation types, TEIs provide the most comprehensive developmental support to their workforce (see Figure 5).

A large majority of ROs pay for staff to attend conferences (76 per cent) and join professional networks (71 per cent), and fund training opportunities (71 per cent). Areas lacking support are leadership development training and coaching and mentoring programmes, which only 55 per cent of ROs provide (see Figure 5). However, six out of seven CRIs do provide these types of schemes, indicating the greatest opportunities for improvement are at other types of RO.

This data is not a reflection of the quality of these schemes or how they are experienced by the RSI workforce. Please see pages 17-21 of the report on the RSI Workforce Survey of Individuals for an employee perspective of development opportunities offered by RSI institutions.

**Figure 5: Types of support for staff professional development by organisation type**
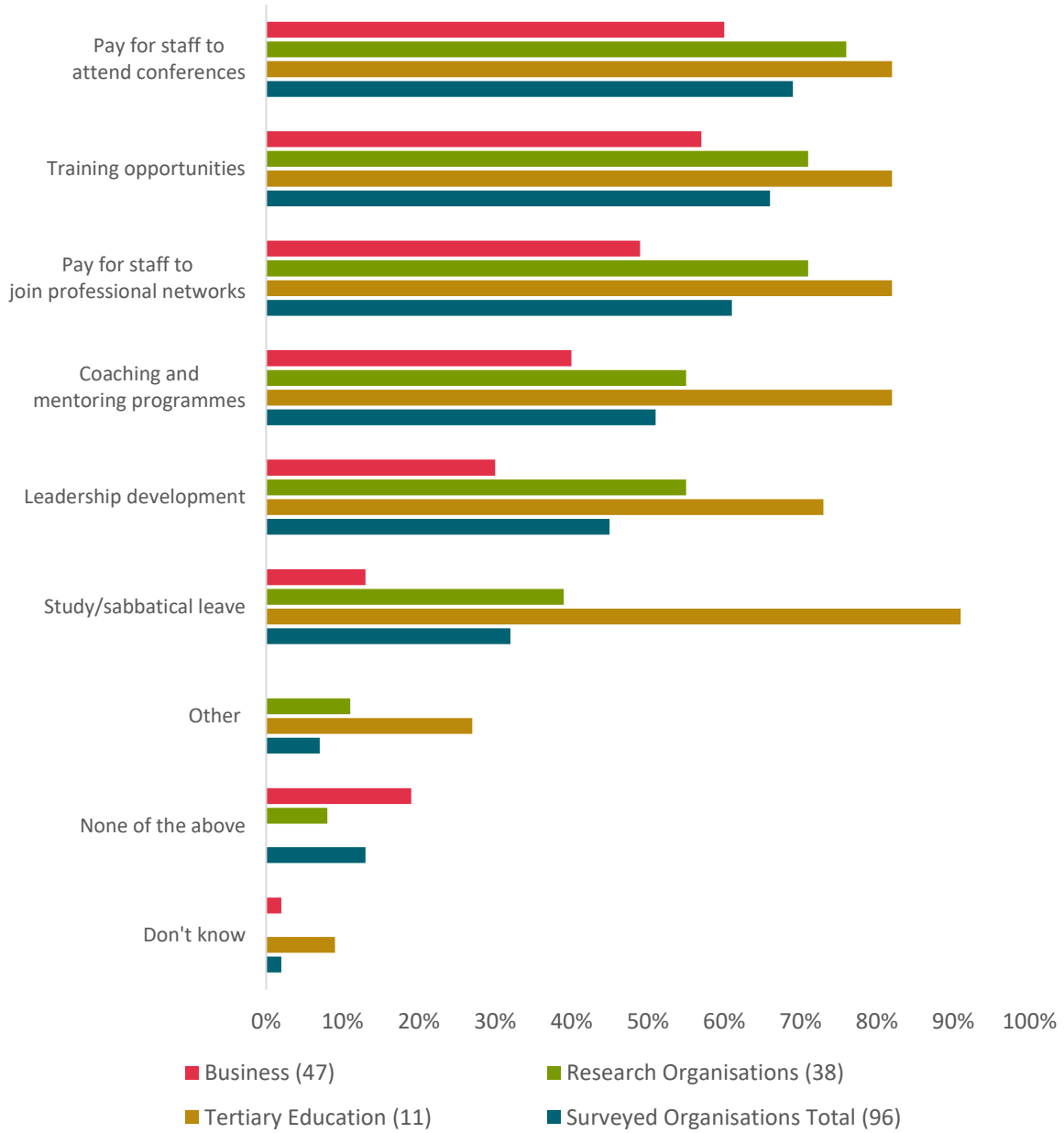


Legend:
- Business (47)
- Research Organisations (38)
- Tertiary Education (11)
- Surveyed Organisations Total (96)

1. 96 organisations responded to this question

2. Data Source: Workforce Organisations Survey

## NGĀ HŌTAKA WHAKAWHANAKE DEVELOPMENT PROGRAMMES

Professional development programmes outlined by respondents focus on progressing high performing staff and making sure that women, Māori, Pacific and ECRs have opportunities to be promoted and are supported in seeking them. Types of initiatives highlighted by respondents were development programmes focussed on enhancing management/leadership skills, support targeted for women, including workshops, leadership networks and mentoring programmes, and training courses and workshops.

> *"We have initiatives designed to support female academics, including… networking for women postgraduate students with senior academic women, workshops on empowering women in STEM and academia … [and a] Women in Leadership mentoring program…"* – University
>
> *"We have training in prevention/understanding of Bullying and Harassment, Coaching, Courageous conversations and ... and Diversity Works training."* – University
>
> *"We contract a consultant to provide cultural competency support and professional development to all staff."* – Business

## TE TAUTOKO I NGĀ KAIRANGAHAU PŪHOU ME TE PAETAHI
## SUPPORT FOR EARLY CAREER RESEARCHERS AND GRADUATES

ECRs are crucial to the health and success of our RSI workforce and system. We asked ROs whether they offer any specific development opportunities to ECRs. The three most common areas of support for ECRs were paying to attend conferences (77 per cent of respondents), career development support (71 per cent), and coaching and mentoring programmes (60 per cent) (see Table 8). All CRIs pay for their ECRs to attend conferences and offer coaching and mentoring programmes.

The least common area of support was fellowship positions, with only seven organisations, including one CRI, providing them. There is an opportunity to provide ECRs with greater industry engagement opportunities, with only eight ROs, including three CRIs, providing industry training grants/support.

**Table 8: Development support for early career researchers in research organisations**

| Types of Development Support | Research Organisations | |
| --- | --- | --- |
| | n | % |
| Pay to attend conferences | 27 | 77% |
| Career development support | 25 | 71% |
| Coaching and mentoring programmes | 21 | 60% |
| Industry training grants/support | 8 | 23% |
| Fellowship positions | 7 | 20% |
| Other | 9 | 26% |
| None of the above | 4 | 11% |

*1. 35 research organisations responded to this question.*

*2. Data Source: Workforce Organisations Survey.*

ROs stressed their support for ECRs in a number of areas:

- Facilitating access to networking opportunities/providing support in building relationships with the national and international research community. Some IROs have built their own consultation and engagement networks.

- Supporting professional and career development. One CRI is running a project focussed on supporting more Māori in the science system.  The project adopts a pan-CRI approach to developing Māori graduates, including enhancing their networks and providing mentoring across the CRI system.

- Promoting and celebrating the research contributions of ECRs. One university talked about how they invest in their ECRs, support the development of their teaching skills and ensure workloads allowed for development of their research careers.

**TE TAUTOKO MŌ NGĀ ĀKONGA RANGAHAU SUPPORT FOR RESEARCH STUDENTS**

We also asked ROs whether they mentor or co-supervise any research students and if so, how many. 23 of the 46 RO respondents mentor or co-supervise a total of 358 research students. Most of these research students are mentored/co-supervised by CRIs, with six of the seven CRIs mentoring or co-supervising 290 (or 80 per cent of the total) research students. Aotearoa New Zealand had 10,150 students enrolled in doctoral degrees in 2020.

**Table 9: Number of research students mentored or co-supervised in research organisations**

| Organisation Type | Research students |
|---|---|
| Crown Research Institute (6) | 290 |
| Independent research organisation (9) | 42 |
| Other (8) | 26 |
| **Total** | **358** |

*1. 23 organisations responded to this question.*

*2. Data Source: Workforce Organisations Survey.*

We also asked businesses whether they employ graduate students (Masters/PhD) to perform R&D activities in their business. 54 per cent of the businesses who responded to the Survey confirmed that they employ graduate students, compared to 45 per cent who don't (see Table 10).

**Table 10: Organisations that employ graduate students to perform R&D activities**

| Organisation Type | Business (49) | | Tertiary Education Institution (2) | | Other (2) | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| Yes | 26 | 53% | 1 | 50% | 1 | 50% |
| No | 22 | 45% | 1 | 50% | 1 | 50% |
| Unsure | 1 | 2% | 0 | 0% | 0 | 0% |
| **Total** | **49** | **100%** | **2** | **100%** | **2** | **100%** |

*1. 53 organisations responded to this question.*

*2. Data Source: Workforce Organisations Survey.*

**NGĀ HŌTAKA KARAHIPI SCHOLARSHIP PROGRAMMES**

Some ROs highlighted scholarship programmes that they offer for research students, both at undergraduate and postgraduate level.

> *"GNS Science has partnered with Victoria University of Wellington (VUW) to deliver the Ahunuku Māori Summer Scholarship programme for Māori undergraduate students studying physical / earth sciences. This programme has been running for three years now with a total of 9 scholarships being awarded. The Ahunuku Scholarships follow a structured programme, including opportunities for learning and development." - CRI*

Other organisations also run projects focussed on attracting and retaining more Māori in the science system.

> *"PFR runs an annual summer student programme, (up to 50 places per year) with a Te Rito intake for Rangitahi (up to 25 places across PFR). The summer student programme provides students the opportunity to work and learn in an area of science, with further support through mentoring and leadership. The summer student programme provides a pathway for increasing the number of Māori scientists at PFR. A Waiata group of 20 plus staff provides cultural support for key Māori engagements, including pōwhiri for new staff or ceremonial events." – CRI*

# 7. Rapu Kaimahi i Tāwāhi
## Overseas Recruitment

*International connections, including the movement of individuals, play a key role in Aotearoa New Zealand's RSI system. To help better understand this aspect of the system, we asked RSI organisations about their reasons for hiring members of the RSI workforce from abroad and the barriers to doing so.*

We asked organisations whether they recruit people from overseas. This varies substantially across organisation types. Most (73 per cent) TEI respondents, including all universities, recruit staff from overseas. This falls to 57 per cent of ROs and only 30 per cent of business respondents who recruit staff from overseas (see Figure 6).

**Figure 6: Organisations that recruit staff from overseas**
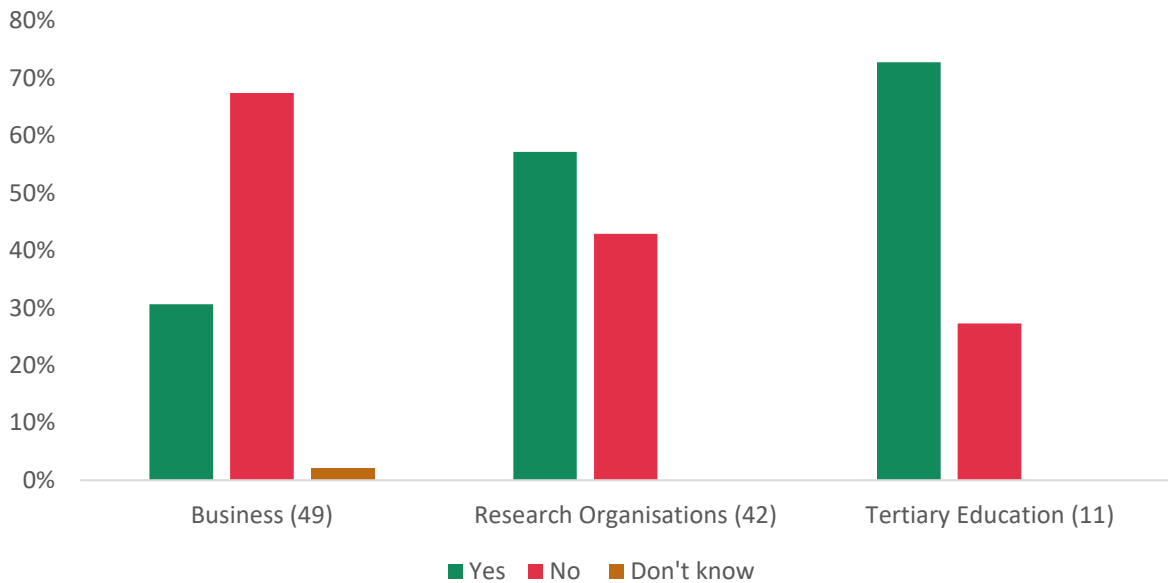


1. *102 organisations responded to this question.*
2. *Data Source: Workforce Organisations Survey.*

Respondents provided consistent reasons for hiring staff from overseas. These were to address a lack of domestic candidates with required skills and experience, bring new knowledge and build NZ capability, and to enhance international connection and competitiveness.

Other reasons identified included to explore new markets and to increase productivity.

### HE ITI RAWA NGĀ KAITONO O TE MOTU ME NGĀ HUINGA PŪKENGA, MĀKOHAKOHA RĀNEI E HIAHIATIA ANA A LACK OF DOMESTIC CANDIDATES WITH REQUIRED SKILLSETS OR EXPERTISE

The most common given reason for RSI organisations hiring staff from overseas is that they cannot find candidates with the required skillsets and expertise within New Zealand.

> *"When looking for the best candidates for a role, it is necessary to look overseas as well as locally in Aotearoa because the pool of potential candidates for specialist roles is narrow in Aotearoa. For example, conservators are specialists in their field and there is no training available in Aotearoa for this role. Curators are predominantly recruited from overseas, unless there is a kiwi who is trained overseas in this field."* – Other

### TE MAU MAI I TE MŌHOTANGA KANORAU ME TE HANGA I TE RAUKAHA O AOTEAROA TO BRING DIVERSE KNOWLEDGE AND BUILD NEW ZEALAND CAPABILITY

Organisations believe international candidates can bring new and diverse knowledge to build and complement Aotearoa New Zealand's capability.

> *"Hiring overseas staff brings different people with various experiences onto the same research, which extends varied approaches to research based on their background or experience. Diversified views can help mitigate the roadblocks encountered locally. It can also help with educating the entire team to think strategically and emerge with alternative solutions."* – University

### TE WHAKAREI I NGĀ HONONGA Ā-AO ME TE WAIRUA WHAKATAETAE TO ENHANCE INTERNATIONAL CONNECTIONS AND COMPETITIVENESS

Another important influence on international hiring decisions for RSI organisations, particularly universities, is to enhance their international connections and competitiveness.

> *"International collaboration and an internationalised RSI system is vital to our future success in addressing local, regional, and global challenges. Recruiting staff from overseas is critical to fostering and supporting our international competitiveness and collaborative linkages."* - University

## NGĀ TAUĀRAI KI TE RAPU KAIMAHI I TĀWĀHI BARRIERS TO OVERSEAS RECRUITMENT

Responses to the Survey indicate the three main barriers to RSI organisations recruiting and retaining international talent are complex immigration processes, uncompetitive salaries and high living costs, and high recruitment and relocation costs.

## TUKANGA HEKENGA MATATINI COMPLEX IMMIGRATION PROCESS

The dominant barrier for RSI organisations to recruit overseas staff is the immigration and visa application process. Respondents indicated that the COVID-19 border and travel restrictions exacerbated this barrier.

> *"Presently the challenges with the borders being closed, Immigration NZ limitations to obtaining work visas. Prior to that, it is more costly to bring employees in from overseas due to relocation costs, immigration costs, travel costs."* - Business
>
> *"Immigration – the uncertainty of visa longevity; slow processing times; getting visa or variations approved."*- IRO

## NGĀ UTU Ā-TAU WHAKATAETAE KORE ME NGĀ UTU NOHO NUNUI
## UNCOMPETITIVE SALARIES AND HIGH LIVING COSTS

Respondents said salaries for RSI roles in Aotearoa New Zealand are not internationally competitive, especially given Aotearoa New Zealand's high living costs. These two factors combined make it difficult to attract and retain overseas candidates.

> *"Salaries are often not competitive compared to international markets."* - CRI
>
> *"It is difficult to offer competitive salaries against similar institutions or organisations based overseas. This can hinder the candidate pool at the application stage and can cause us to lose ideal candidates."* - Other
>
> *"Depending on applicants' current locations, NZ salary levels and housing prices can be a deterrent."* – University

**RAPU KAIMAHI I TĀWĀHI ME NGA UTU HŪNUKU MAI**

**OVERSEAS RECRUITMENT AND RELOCATION COSTS**

The costs of recruiting and relocating international candidates are high for many organisations. The process is also complex and time-consuming, which stops many organisations from recruiting overseas staff. However, many of these costs appear to be linked to the COVID-19 border measures, indicating that this barrier to overseas recruitment may reduce with the reduction or removal of COVID-19 border restrictions.

> *"It is more costly to bring employees in from overseas due to relocation costs, immigration costs, travel costs." - Business*
>
> *"Some of the prominent disadvantages of recruiting from overseas include the legislative requirements, administrative procedures and recruitment costs (especially if unsuccessful) and time delays can be barriers." - University*

# 8. Mātauranga Māori, ngā Tūmanakohanga Māori me te Tiriti
## Mātauranga Māori, Māori Aspirations and Te Tiriti

MBIE is interested in exploring sustainable Te Tiriti-led RSI pathways, giving life to Māori research aspirations, and better enabling Mātauranga Māori in our research system, including improving the interface between Mātauranga Māori and other RSI activities. We were interested to hear what different organisations do to support this.

MBIE wants to achieve equitable representation of Māori in the RSI system, with Māori being represented in line with their population share across research areas and role types. We want to avoid Māori being limited to roles where they are solely providing cultural expertise. To understand how RSI organisations are helping to achieve this vision, we asked them what they do to support their Māori cultural capability and staff, and about any policies or programmes that help staff understand and give effect to MBIE's VM policy. Many organisations outlined specific actions that they take to support their Māori and non-Māori workforce and the VM policy. These actions were broad and covered:

- engagement and partnership with Māori

- encouraging Māori participation and enhancing the representativeness of Māori employees

- running Māori researcher support programmes to enhance their research capacity

- organising VM workshops, training and events

- engaging with Mātauranga Māori and training staff about it.

Most of the policies, programmes, and actions outlined were concentrated at CRIs and universities, as well as some IROs, which may reflect the difference in question sets for each organisation type.[9]

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[9] MBIE asked Businesses "Does your business have knowledge of MBIE's Vision Mātauranga Capability Fund?" but asked Research Organisations and Tertiary Education Institutions to "Please outline any policies/practices in your organisation that help staff understand and give effect to MBIE's Vision Mātauranga policy".

## HOW ARE ORGANISATIONS SUPPORTING MĀORI STAFF TO FLOURISH IN THE RSI SYSTEM AND HOW ARE THEY SUPPORTING MBIE'S VISION MĀTAURANGA POLICY?

Different types of support for Māori staff and VM were identified across most CRIs and TEIs. In contrast, most business respondents did not outline specific support for Māori staff and VM.

The responses to questions about supporting Māori cultural capability and VM often converged on building organisational Māori capability, partnering with Māori, and embracing Mātauranga/Mātauraka Māori, which indicates that organisations may believe these are interrelated and mutually interdependent. Several organisations mentioned one in their response to the question about the other.

Beyond their general EDI policies, organisations have provided the following types of support for Māori researchers and MBIE's VM policy.

### WHAI WĀHI ME NGĀ RANGAPŪTANGA KI TE MĀORI
### ENGAGEMENT AND PARTNERSHIP WITH MĀORI

Organisations highlighted their engagement and collaborations with iwi, hapū, and Māori communities to build connections and partnership in research. This can help to enhance staff's Māori cultural capability, and also provide collaboration opportunities to build research capacity.

> *"We prioritise research that works in partnership with Māori/iwi/hapū [sic]. An important component of this is building long-term, high-trust, sustaining relationships with iwi partners. This allows opportunity to work together to undertake research but also to support capability and capacity building."* - Other
>
> *"All plans, projects, events have a kaupapa so they are framed within a Māori framework. For example, our partnership with Ngāti Kuri is guided by a cultural safety document, Puu Kaiao. This document was co-developed by Ngāti Kuri and Auckland Museum and is updated for each research project that is undertaken together. This document is also the structure used to bring in partners to the collaboration."* - Other

However, respondents to the Workforce Survey of Individuals highlighted the need for more engagement with iwi and Māori communities (see page 30 of report on Workforce Survey of Individuals).

**WHAKAHAERE AWHEAWHE, WHAKANGUNGU ME NGĀ HUI MŌ TE MATAWHĀNUI MĀTAURANGA**

**ORGANISING VISION MĀTAURANGA-RELATED WORKSHOPS, TRAINING AND EVENTS**

Many organisations reported that MBIE's VM policy has led them to organise different workshops, training, and events to enhance their employees' Māori cultural capability and encourage researchers to relate their research to Māori.

> *"We have a focus to increase internal knowledge and skills which is provided to staff through a range of workshops and courses. We provide courses and workshops covering te reo Māori lessons, Te Tiriti workshops and 'Wall Walk', an interactive workshop designed to raise collective awareness of key events in New Zealand's bicultural relations history. Staff are also encouraged to participate in waiata and karakia meetings when these are run during the year." - CRI*
>
> *"Targeted workshops and seminars – We also facilitate workshops and seminars for staff which cover key topics such as Vision Mātauranga, Te Reo Māori, effective engagement, partnering with Māori, working at the interface of knowledge systems." - CRI*

However, respondents to the Workforce Survey of Individuals believe the RSI sector should increase cultural training for non-Māori members of the RSI workforce (see page 30 of report on Workforce Survey of Individuals). Additional training and general awareness and appreciation for te ao Māori, including tikanga, mātauranga Māori, and correct pronunciation of te reo, were seen as important.

**TE WHAKATENATENA I TE WHAI WĀHI A TE MĀORI ME TE WHAKAREI AKE I TE WHAKAKANOHITANGA O NGĀ KAIMAHI MĀORI**

**ENCOURAGING MĀORI PARTICIPATION AND ENHANCING THE REPRESENTATIVENESS OF MĀORI EMPLOYEES**

There are several programmes and strategies within RSI organisations that encourage Māori staff participation, inclusion and belonging in the workforce, for example, involving Māori employees in developing funding proposals.

Many respondent organisations also highlighted their work to increase the representation of Māori employees in their organisation and support the voice of Māori in the workforce. In particular, several organisations have created senior Māori leadership roles to represent the community and provide support about the VM policy and Māori research.

> *"NIWA has a National Centre of Māori Environmental Research with a dedicated team of Māori researchers, whose vision is to work in partnership with others to enable complementary knowledge systems to support kaitiakitanga and provide environmental research excellence that enhances the social, environmental and economic aspirations of whānau, hapū and iwi, Māori (sic) communities and Māori (sic) business." - CRI*
>
> *"IRANZ members have identified two integrated steps to significantly increase Māori participation in our workforces:  We will engage with rangatahi in this values-based career matching project to assist them map their core values in a te ao Māori context to potential STEMM careers, and to choose subject options which will support that choice.  We want to assist rangatahi better understand IRANZ partners as future employers." - IRO*

However, respondents to the Workforce Survey of Individuals indicated that their preferred way to improve diversity and inclusion for Māori would be to increase the effort in the sector to recruit Māori researchers to increase the overall representation of Māori across different research areas, roles and levels of seniority (see page 31 of report on Workforce Survey of Individuals). Respondents to the Workforce Survey of Individuals also highlighted a desire to see the sector doing more to support and encourage Māori into leadership roles.

### NGĀ TŪRANGA PŪMAU HEI WHAKAWHANAKE I TE RAUKAHA MĀORI I ROTO I TE OHU MAHI
### DEDICATED POSITIONS TO DEVELOP MĀORI CAPABILITY IN ORGANISATIONS

Several organisations outlined that they have dedicated positions to develop their Māori capability. Across organisations generally, the focus and scope of these roles vary. CRIs and universities generally seem to have dedicated positions that are more focussed on developing employees' Māori capability. Independent and other types of research organisation seem to have roles with a focus on both internal Māori capability and engagement with Māori partners and stakeholders.

Across organisations, responses indicate that these dedicated Māori capability roles/units are relatively new.

> *"We established a new business unit at the senior leadership team level. The Māori Impact Unit focuses on our Māori impact strategy, He Pūtaiao, He Tāngata, and provides leadership and support across ESR to show us the way to achieve greater benefits for and encourage engagement with and from tāngata whenua."* - CRI
>
> *"Supporting and growing Māori cultural capability is a key focus of the Office of the Pro Vice Chancellor…The University's Kaikōkiri Rautaki Māori and Kaiārahi, Human Resources are currently developing a Māori staffing plan which includes a focus on Māori cultural capability as part of the growth, development of our academic workforce."* - University
>
> *"Cawthron has established Te Kāhui Āio which currently comprises established and emerging Māori and indigenous researchers who work alongside whānau, hapū, Iwi, Māori enterprises and Pasifika to assist them to meet their kaitiakitanga and developmental aspirations through kaupapa Māori and multi-disciplinary research."* - IRO

These initiatives are supported by findings from the Workforce Survey of Individuals where respondents called for the RSI sector to increase cultural training for non-Māori members of the RSI workforce (see page 30 of report on Workforce Survey of Individuals). However, respondents also highlighted a desire to see the sector doing more to recruit Māori researchers to increase the overall representation of Māori across different research areas, roles and levels of seniority, rather than just in Māori-specific roles providing cultural expertise.

## TAUTOKO MŌ TE MATAWHĀNUI MĀTAURANGA
### SUPPORT FOR VISION MĀTAURANGA

Several organisations claimed that they have policies and practices focused on helping staff to understand and give effect to MBIE's VM policy. As mentioned above, some organisations have introduced dedicated roles and units to support the building of Māori capability, some of which also address VM. Those that outlined specific support for VM generally claimed they instituted this support so that VM is considered authentically and genuinely given effect to.

> *"People capability and support for Vision Māturanga is enabled through a number of groups with specific responsibilities. [For example] the Pou Takawenga group is made up of science staff who have significant experience working with Māori in research. The group reviews research proposals and provides advice on Māori engagement and the effect to which the bid could deliver to Vision Māturanga." - CRI*
>
> *To further support and give effect to Vision Mātauranga and adopt the principles of Ruika, a new 'Vision Matauraka at Lincoln' Committee was established in 2020." - University*

### TE TŪHONO I TE MATAWHĀNUI MĀTAURANGA ME TE WHAKAPIKI I TE KAHA AHUREA MĀORI O TE OHU MAHI WHĀNUI CONNECTING VISION MĀTAURANGA AND RAISING GENERAL WORKFORCE MĀORI CULTURAL CAPABILITY

As mentioned above, the content of answers to questions about supporting Māori cultural capability and VM overlapped, which may indicate that organisations believe these are related. Several organisations explicitly made a link between growing Māori cultural capability and policies/programmes in their organisation that help staff understand and give effect to MBIE's VM policy. This may indicate that MBIE's communications and expectations about VM may need to be clarified and explained better.

> *"THW-VUW is dedicated to creating and maintaining policies and programmes that give effect to Te Tiriti o Waitangi, Māori outcomes, and te reo Māori. There is no policy or programme focused specifically on MBIE's Vision Mātauranga policy. However, the Rangahau Māori team, within the Research Office, is currently leading a project to develop a strategic plan focused to support THW-VUW researcher's engagement with rangahau Māori (Māori research practices), mātauranga Māori (Māori knowledge), taonga Māori (Māori resources), iwi Māori (Māori peoples), tikanga Māori (Māori protocol) and kaupapa Māori (Māori led research)." - University – answer to question about MBIE's Vision Mātauranga policy.*
>
> *"Targeted workshops and seminars – We also facilitate workshops and seminars for staff which cover key topics such as Vision Matauranga, Te Reo Māori, effective engagement, partnering with Māori, working at the interface of knowledge systems etc." – CRI – answer to question about Māori cultural capability.*

**TE WHAI WĀHI KI TE MĀTAURANGA MĀORI ME TE WHAKANGUNGU KAIMAHI KI TE MĀTAURANGA MĀORI**

**ENGAGING WITH MĀTAURANGA MĀORI AND TRAINING STAFF ABOUT MĀTAURANGA MĀORI**

More than engaging with general Māori cultural capability training, various universities and CRIs have also invested in their workforces' understanding of Mātauranga Māori, including how to engage with it appropriately. Organisations are at different stages of capability and programme development.

*"Various initiatives have been established to build our staff's understanding, engagement and capability in te ao Māori, including our professional development programme Te Hāpai, our internal grant the Mātauranga Māori Research Fund and dedicated support for rangahau Māori, mātauranga Māori and kaupapa Māori research in the Research Office." - University*

*"He Wai Māpuna is enabling our iwi partners to define and lead programmes of work that will benefit their whānau, hapū and .... Harnessing both mātauranga Māori and Western science, He Wai Māpuna is demonstrating how dual knowledges can positively impact Aotearoa New Zealand communities. Central to our programme is strong, enduring relationships with Māori. By placing a key focus on the relationship, this programme supports all parties to develop their capability…" - CRI*

# 9. Ngā Hātepe e Whāi Nei Next steps

This report and the data collected through the survey will inform MBIE's work on Te Ara Paerangi Future Pathways.

Te Ara Paerangi Future Pathways is a multi-year programme focused on the future of New Zealand's research system. It is about identifying opportunities for change in the RSI system and devising solutions to these, including those related to the RSI workforce.

The workforce is key to the success of the RSI system, so we want to ensure the RSI system attracts, retains and develops an excellent and diverse workforce at all levels.

This data will play an important role in supporting our work to do this, by helping us to understand the opportunities for greater diversity at all levels of the workforce, to better support our workforce to have the skills it will need in the future, to facilitate better connections across the RSI system and to better enable the workforce to focus on research.

MBIE would like to thank all those that worked on responses to the RSI workforce survey of organisations for their contributions.

# Āpitihanga A: Ngā Tikanga me ngā Kupu Karo

## Appendix A: Methodology and Caveats

### KAUPAPA PURPOSE

The purpose of the Research, Science and Innovation (RSI) Workforce Survey of Organisation (the Survey) was to gather insights and data about the RSI workforce to inform key policies around opportunities and priorities for building, strengthening and helping to shape a future RSI workforce that is dynamic, adaptable, agile, connected and reflective of future needs. Furthermore, the Survey findings will inform a wider programme of work that includes Te Ara Paerangi Future Pathways, Vision Mātauranga and Equity, Diversity, and Inclusion.

It is known that the RSI workforce faces a number of challenges. In early career stages, employment is precarious and highly competitive. At later stages, there are gaps in skills and knowledge as researchers retire from the system. There is also significant under-representation of Māori and Pacific researchers and, at higher levels, women. Currently, we don't know enough about the scale and scope of these issues.

Therefore, in addition to providing information and evidence to help understand and identify the current attributes and characteristics of the RSI workforce, the survey also covered key areas within the workforce including early career researchers (ECR), Māori, Pacific and female researchers.

The RSI Workforce Survey of Organisations is the first of two surveys of the RSI workforce. The second, explored the experiences, opportunities, and barriers of individuals within the workforce. The findings of which can be found here.

### NGĀ WHĀINGA RANGAHAU SURVEY AIMS

- Create a survey to collect data that would fill the gaps in our knowledge and give us a clear picture of the valuable RSI workforce.

- Involve the sector in the design of the surveys to make sure the information asked for is reasonable and complements rather than repeats other collections.

- Access all parts of the research, science and innovation sector to ensure good representation of the system.

**HOAHOA RANGAHAU SURVEY DESIGN**

Figure 7 summarises the process followed for designing the RSI Workforce Survey of Organisations.

**Figure 7: Overview of survey design process**

**1. Preparation**
- Established advisory and governance groups
- Defined purpose and objectives

**2. Engagement**
- Concepts socialised with stakeholders
- Information needs identified and input sought

**3. Survey Development**
- Initial survey developed
- Feedback from stakeholders and refinement of survey
- Survey reviewed by MBIE Technical Advisory Group

**4. Information Collection**
- Pilot testing
- Refinement of survey
- Full survey launch

**5. Analysis**
- Data cleaned
- Summary analysis

**6. Learning and data sharing**
- Identification of themes and trends
- Publication of RSI Workforce Survey of Organisation report

**7. Next steps**
- Identifying lessons learned from the RSI Workforce Project
- Consider whether the survey should be conducted again in the future

**WHAKARURUHAU ME NGĀ TOHUTOHU MĀTANGA GOVERNANCE AND EXPERT ADVICE**

The project was governed by an internal MBIE Steering Group chaired by the project sponsor and provided guidance during the RSI Workforce Project. The steering group was responsible for setting the strategic direction, priorities and focus of the wider RSI Workforce Project, and approving the project outputs.

Many agencies and peak bodies provided advice to the RSI workforce project team, including:

| | |
|---|---|
| AUT | Science New Zealand |
| ESR | Tertiary Education Commission |
| Independent Research Association of NZ | Universities New Zealand |
| Ministry of Education | University of Auckland |
| New Zealand Association of Scientists | University of Otago |
| Royal Society Te Apārangi | University of Waikato |

**NGĀ PUNA RARAUNGA ME NGĀ KUPU KARO DATA SOURCES AND CAVEATS**

The findings described in this report reflect data from four sources – the Research, Science and Innovation Workforce Survey of Organisations (2022), Ministry of Education (MoE) Single Data Return, Stats NZ 2018 Census, and Stats NZ Household Labour Force Survey.

The ***Research, Science and Innovation Workforce Survey of Organisations (2022)***. An optional survey conducted by MBIE and sent to a range of organisations within the RSI sector, including, but not limited to, Crown Research Institutes (CRIs), Independent Research Organisations (IROs), museums, and trusts, 14 tertiary institutions (Te Pūkenga, Wānanga, and Universities), and businesses.

The ***Ministry of Education (MoE) Single Data Return***[10] (SDR) workforce questionnaire (2021). This questionnaire is conducted by the MoE and covers data for the 2021 calendar year. MoE collects data on staff employed in tertiary education providers that receive government funding including Te Pūkenga, Universities, and Wānanga. The data is collected for funding, monitoring performance against Investment Plans, publishing performance information, and for statistical reporting purposes.

The ***Stats NZ 2018 Census***[11]. Topics include population, ethnicity, religion, health, employment, income, education, and housing.

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[10] Ministry of Education Single Data Return https://applications.education.govt.nz/services-tertiary-education-organisations-steo/how-use-steo/single-data-return-manuals
[11] Stats NZ 2018 New Zealand Census https://www.stats.govt.nz/2018-census

The Stats NZ Household Labour Force Survey[12] (HLFS) statistics include detailed descriptions of people by categories like employment, unemployment, underutilisation, and outside the labour force.

The following caveats should be considered when reviewing the data in this report.

Research, Science and Innovation Workforce Survey of Organisations (2022)

- Due to the number of respondents for businesses, the results are not representative of the RSI workforce in the private sector. This data is indicative only.

- Individuals were able to be grouped into multiple ethnicities, resulting in the total being greater than 100 per cent.

Ministry of Education Single Data Return (SDR) workforce questionnaire (2021)

- All values for headcount are rounded up to the nearest whole number.

- Each value in the dataset is separately rounded to the nearest 5.

- Individuals were able to be grouped into multiple ethnicities, resulting in the total being greater than 100 per cent.

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[12] Stats NZ Household Labour Force Survey https://www.stats.govt.nz/topics/labour-market

# Tāpiritanga B: He Rārangi Kupu
## Appendix B: Glossary of Terms

For the purpose of the Research, Science and Innovation Workforce Survey of Organisations, the following definitions were used.

| TERM | DEFINITION |
|---|---|
| Cultural capability | Courses, workshops or seminars to build competency to reflect on intercultural interactions, creating awareness about the differences in perspectives and expectations that can occur when working with people from different backgrounds. |
| Early Career Researchers | Early Career Researchers are defined as being within 10 years of completing their highest research qualification, normally (but not necessarily) a PhD, who can demonstrate research independence. Parental and other forms of leave can be deducted from the 10-year post-qualification time limit[13]. |
| Employee | Employee refers to a person employed to do any work for hire or reward under an employment agreement. The hire or reward is almost always a wage or salary. Employees have all minimum employment rights under employment laws. |
| Employment arrangement types | • **Permanent employees** – Permanent employees have the full set of employment rights and responsibilities. Employees have to meet certain criteria to qualify for some employment entitlements, such as parental leave, parental leave payments, annual holidays, sick leave and bereavement leave. There may be small differences between full-time or part-time employees because of their work patterns[14].<br>• **Fixed term** – A fixed-term (temporary) employee's employment will end on a specified date or when a particular event occurs. A fixed-term employee might be someone who is brought in to replace another employee on parental leave, to cover a seasonal peak or to complete a project. Fixed-term employees have the same employment rights and responsibilities as permanent employees, except that their jobs will finish at the end of the fixed term (and sometimes the way in which they receive their annual holiday entitlement may be different)[15].<br>• **Casual** – 'Casual employee' isn't defined in employment legislation, but the term is usually used to refer to a situation where the employee has no guaranteed hours of work, no regular pattern of work, and no ongoing expectation of employment. The employer doesn't have to offer work to the employee, and the employee doesn't have to accept work if it's offered. The employee works as and when it suits both them and the employer. This can sometimes happen because it's hard for the employer to predict when the work needs to be done, or when the work needs to be done quickly. |

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[13] Royal Society Te Apārangi
[14] Employment NZ
[15] Employment NZ

| TERM | DEFINITION |
|------|------------|
| | Each time the employee accepts an offer of work it is treated as a new period of employment[16]. |
| Ethnicity | Ethnicity is the ethnic group or groups a person identifies with or has a sense of belonging to. It is a measure of cultural affiliation (in contrast to race, ancestry, nationality, or citizenship). Each ethnic group includes all those who have identified with it, so people may be counted in more than one group[17]. The New Zealand census recognises six major ethnic groups: European, Māori, Pacific Peoples, Asian, Middle Eastern/Latin American/African (MEELA) and Other Ethnicity. |
| Full Time | Working 30 hours or more per week[18] |
| Full-time equivalent (FTE) | A unit of measurement that indicates a workload of an individual employed worker. For the full-time equivalent metric, an employee is assigned an FTE value between 0 and 1 depending on the proportion of full-time hours (however defined by each department) worked. For example, an employee working full-time equals 1 FTE while an employee working 60 per cent of full-time hours equals 0.6 of an FTE. The FTE values of all employees are added up to give the total number of FTE employees in an organisation[19]. |
| Gender | Refers to a person's social and personal identity as male, female, or another gender such as non-binary. Gender may include the gender that a person internally feels ('gender identity'), and/or the gender a person publicly expresses ('gender expression') in their daily life. A person's current gender may differ from the sex recorded at their birth and may differ from what is indicated on their current legal documents. A person's gender may change over time. Some people may not identify with any gender[20]. People can also identify with more than one gender. |
| Headcount | For the headcount metric, each employee is counted as one[21]. |
| Immigration New Zealand Accredited employer | Employers wanting to hire any number of migrants on the new Accredited Employer Work Visa (AEWV) must gain employer accreditation. All employers who intend to hire migrants on AEWVs must meet the standard accreditation requirements. These requirements are intended to ensure all employers hiring migrants meet minimum requirements to support and settle migrants and comply with employment and immigration laws. |
| Mātauranga Māori | Mātauranga Māori - the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices. (Note: this is provided as a general description and not as an authoritative Crown position or definition.) |
| Part Time | Working less than 30 hours per week[22] |

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[16] Employment NZ

[17] Stats NZ

[18] Stats NZ

[19] Public Service Commission

[20] Stats NZ

[21] Public Service Commission

[22] Stats NZ

| TERM | DEFINITION |
|---|---|
| **Research** | For the purposes of this survey, when we refer to 'research' we are referring to activities for gathering, organising, generating, understanding or recording knowledge. We intend this definition to be read in its broadest sense, to include science, social research, research into the arts and humanities, and any other activities that may be commonly understood under the term. |
| **Research areas** | • **Arts and Social Sciences**: e.g. humanities, culture and society, design, psychology, creative arts, Māori and indigenous studies, architecture, education, social work.<br>• **Business and Law**: e.g. economics, law, commerce, management, government.<br>• **Engineering and Computing**: e.g. electronics, aerospace, nanotech, information technologies, artificial intelligence, information systems.<br>• **Health**: e.g. health sciences, medicine, medical sciences.<br>• **Science**: e.g. life sciences, natural sciences, chemistry, physics, mathematics, agriculture, environmental sciences. |
| **Research students** | Research students or postgraduate researchers or graduate students are not considered employees for the purpose of this survey. They are usually completing a Masters or a PhD. However, if your organisation is receiving a Callaghan Innovation R&D Career or Fellowship Grant for the student you can count them as an employee. [23] |
| **Role types** | • **Senior leadership/Management –** Senior leadership/Management represents the highest level of management in an organisation/department responsible for planning, leading and controlling an institution. E.g. Executive Director, Chief Executive Officer, Chief Financial Officer, Chief Information Officer, Chief Scientist, General Manager, Manager, Pou Ārahi, etc.<br>• **Research staff –** Research staff are those engaged in the conception and/or creation of new knowledge or products, involved in the planning or management of scientific and technical aspects of R&D projects. E.g. researcher, science leader, scientist, senior scientist, research associate, research fellow, postdoctoral researcher.<br>• **Technical staff –** Technical staff are persons who undertake technical or professional tasks in support of research and whose salaries are related to technical salaries. E.g. laboratory technicians, librarians.<br>• **Support staff –** Support staff refers to administrative and general service employees whose work supports research. E.g. office staff, administration officers.<br>• **Commercialisation staff –** Commercialisation staff refer to those who promote and support the marketing and commercialisation of R&D outputs. E.g. business development managers, business consultants, commercialisation managers, marketing and communication specialists, sales executives. |
| **Wellbeing** | A health and wellbeing programme involves investing time and resources in supporting employees' physical and mental health. |

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[23] Student Grants | Callaghan Innovation

# Tāpiritanga C: Ngā kupu rāpoto
## Appendix C: Acronyms

AUT – Auckland University of Technology

CRI – Crown Research Institute

EAP – Employee Assistance Programme

ECR – Early Career Researcher

EDI – Equity, Diversity, and Inclusion

GNS – Institute of Geological and Nuclear Science

IRO – Independent Research Organisation

MBIE – Ministry of Business, Innovation, and Employment

MOE – Ministry of Education

NIWA – National Institute of Water and Atmospheric Research

NZ – New Zealand

PFR – New Zealand Institute for Plant and Food Research Limited

PPE – Personal Protective Equipment

RAT – Rapid Antigen Testing

RO – Research Organisation

RSI – Research, Science, and Innovation

SDR – Single Data Return

STEM – Science, Technology, Engineering and Math

TEI – Tertiary Education Institutions

VM – Vision Mātauranga

VUW – Victoria University of Wellington

# Tāpiritanga D: Ngā Tūtohi Tāpiri
# Appendix D: Additional Tables

**Table 11:** Employee numbers based on gender in organisations by headcount

| Gender | Business (49) | | Research Organisations (43) | | Tertiary Education (SDR - 27) | | Total (119) | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Male | 332 | 76% | 2,525 | 51% | 17,260 | 40% | 20,117 | 41% |
| Female | 102 | 24% | 2,428 | 49% | 26,015 | 60% | 28,545 | 58% |
| Another gender | 0 | 0% | 0 | 0% | 410 | 1% | 410 | 1% |
| Don't know/data not collected | 0 | 0% | 6 | 0% | 0 | 0% | 6 | 0% |
| **Total** | **434** | **100%** | **4,959** | **100%** | **43,685** | **100%** | **49,078** | **100%** |

*1. 92 individual organisations responded to this question in the survey and 27 organisations were included in the MoE Single Data Return*

*2. Data Source: Workforce Organisations Survey*

**Table 12:** Employee numbers based on age by headcount

| Age Group | Business (47) | | Research Organisations (44) | | Tertiary Education (SDR - 27) | | Survey and SDR Organisations Total (118) | | Total NZ Workforce | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % |
| < 30 years | 84 | 20% | 490 | 10% | 7,240 | 17% | 7,730 | 16% | 681,400 | 24% |
| 30-49 years | 168 | 39% | 2,277 | 48% | 19,140 | 44% | 21,417 | 44% | 1,155,200 | 41% |
| 50-59 years | 72 | 17% | 1,074 | 22% | 9,475 | 22% | 10,549 | 22% | 543,900 | 19% |
| 60-65 years | 22 | 5% | 443 | 9% | 3,770 | 9% | 4,213 | 9% | 217,400 | 8% |
| > 65 years | 7 | 2% | 276 | 6% | 3,220 | 7% | 3,496 | 7% | 194,400 | 7% |
| Don't know/data not collected | 77 | 18% | 215 | 5% | 840 | 2% | 1,055 | 2% | N/A | N/A |
| **Total** | **430** | **100%** | **4,775** | **100%** | **43,685** | **100%** | **48,460** | **100%** | **2,792,300** | **100%** |

*1. 91 individual organisations responded to this question in the survey and 27 organisations were included in the MoE Single Data Return*

*2. * The category of 30-49 years is merged to compare with the MoE SDR data*

*3. Data Sources: Workforce Organisations Survey, MoE Single Data Return, and Stats NZ Household Labour Force Survey*

**Table 13:** Employee numbers based on ethnicity by headcount

| Ethnicity | Total population (2018 census) | | Business (49) | | Research Organisations (45) | | Tertiary Education (SDR - 27) | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| European | 3,297,864 | 70% | 253 | 76% | 2,950 | 68.40% | 22,485 | 51% |
| Māori | 775,836 | 17% | 10 | 3% | 203 | 4.71% | 4,595 | 11% |
| Asian | 707,598 | 15% | 42 | 13% | 449 | 10.41% | 5,545 | 13% |
| Pacific Peoples | 381,642 | 8% | 4 | 1% | 40 | 0.93% | 1,620 | 4% |
| MELAA | 70,332 | 2% | 15 | 5% | 126 | 2.92% | * | 0% |
| Other Ethnicity | 58,053 | 1% | 8 | 2% | 138 | 3.20% | 2,570 | 6% |
| Don't know / data not collected | N/A | N/A | 0 | 0% | 407 | 9.44% | 6,870 | 16% |
| **Total** | **4,699,755** | **113%** | **332** | **100%** | **4,313** | **100.01%** | **43,685** | **100%** |

*1. 94 individual organisations responded to this question in the survey and 27 organisations were included in the MoE Single Data Return*

*2. * Included under 'Other Ethnicity'*

*3. Note: Total Population for 2018 Census is calculated as 4,699,755 and this number is used when calculating percentages. As individuals can self identify as more than one ethnicity percentage adds up to more than 100 per cent.*

*4. Data Source: Workforce Organisations Survey, MoE Single Data Return, and 2018 New Zealand Census data*

**Table 14:** Employment arrangements by organisation type

| Employment Arrangement | Research organisation (36) | | Tertiary Education (11) | | University (8) | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| Permanent | 4,223 | 86% | 6,017 | 45% | 5,733 | 46% |
| Fixed-term | 397 | 8% | 4,482 | 34% | 4,378 | 35% |
| Casual | 223 | 5% | 2,313 | 17% | 1,965 | 16% |
| Other | 45 | 1% | 420 | 3% | 420 | 3% |
| **Total** | **4,888** | **100%** | **13,232** | **100%** | **12,496** | **100%** |

*1. 47 organisations responded to this question*

*2. Data Source: Workforce Organisations Survey*

**Table 15:** Overseas recruitment by organisation type

| Overseas Recruitment | Business (49) | | Research Organisations (42) | | Tertiary Organisations (11) | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| Yes | 15 | 31% | 24 | 57% | 8 | 73% |
| No | 33 | 67% | 18 | 43% | 3 | 27% |
| Unsure | 1 | 2% | 0 | 0% | 0 | 0% |
| **Total** | **49** | **100%** | **42** | **100%** | **11** | **100%** |

*1. 102 organisations responded to this question*

*2. Data Source: Workforce Organisations Survey*

**Table 16**: Business knowledge of MBIE's Vision Mātauranga Capability Fund

| | Business (44) | Tertiary Education (2) | Other (2) |
|---|---|---|---|
| Yes - We applied for funding | 2 | 1 | 0 |
| Yes - We have not applied for funding | 19 | 0 | 2 |
| No | 22 | 0 | 0 |
| Unsure | 1 | 1 | 0 |

*1. 48 organisations responded to this question*

*2. Data Source: Workforce Organisations Survey*

**Table 17**: Support for staff professional development by organisation type

| Professional Development Support Types | Business (47) | | Research Organisation (38) | | Tertiary Education (11) | | Total (96) | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Pay for staff to attend conferences | 28 | 60% | 29 | 76% | 9 | 82% | 66 | 69% |
| Training opportunities | 27 | 57% | 27 | 71% | 9 | 82% | 63 | 66% |
| Pay for staff to join professional networks | 23 | 49% | 27 | 71% | 9 | 82% | 59 | 61% |
| Coaching and mentoring programmes | 19 | 40% | 21 | 55% | 9 | 82% | 49 | 51% |
| Leadership development | 14 | 30% | 21 | 55% | 8 | 73% | 43 | 45% |
| Study/sabbatical leave | 6 | 13% | 15 | 39% | 10 | 91% | 31 | 32% |
| Other | 0 | 0% | 4 | 11% | 3 | 27% | 7 | 7% |
| None of the above | 9 | 19% | 3 | 8% | 0 | 0% | 12 | 13% |
| Don't know | 1 | 2% | 0 | 0% | 1 | 9% | 2 | 2% |

*1. 96 organisations responded to this question*

*2. Data Source: Workforce Organisations Survey*

# Tāpiritanga E: Ngā Pātai kei roto i te Rangahau Ohu Mahi RSI o ngā Whakahaere Appendix E: Questions included in RSI Workforce Survey of Organisations

**Table 18:** RSI Workforce Survey of Organisations questions

| Question | Type | Business | RO | TEI |
|---|---|---|---|---|
| What is the name of your organisation? | Qual | X | X | X |
| What type of organisation do you work in? (Business, Crown Research Institute, Independent research organisation, Te Pūkenga, University, Wānanga, Other (specify)) | Quant | X | X | X |
| Are there any additional comments you would like to make about the research, science and innovation workforce? | Qual | X | X | X |
| Are you happy for us to contact you if we need to clarify or follow up any of your responses? If yes, please provide your contact details below. | Qual | X | X | X |
| Do you employ graduate students (Masters/PhD) to perform R&D activities in your business? (yes/no/unsure) | Quant | X | | |
| Does your business have knowledge of MBIE's Vision Mātauranga Capability Fund? (Yes – we have applied for funding, Yes – we have not applied for funding, No, Unsure, None of the above) | Quant | X | | |
| Does your institution have any of the following policies/programmes/initiatives to support staff professional development involved in research activities? Please select all that apply (Leadership development, Study/sabbatical leave, Training opportunities, Pay for staff to attend conferences, Coaching and mentoring programmes, Pay for staff to join professional networks, Don't know, None of the above, Other (please specify)) | Quant | | X | X |
| Does your organisation have any of the following policies/programmes/initiatives to support the professional development of your R&D staff? Please select all that apply | Quant | X | | |
| Does your institution recruit or employ people from overseas to perform research activities? (Yes, No, Don't know) | Quant | X | X | X |

| Question | Type | Business | RO | TEI |
|---|---|---|---|---|
| From your institution's perspective, what are the reasons for employing staff from overseas to perform research activities? | Qual | | X | X |
| From your organisation's perspective, what are the reasons for employing staff from overseas to perform R&D activities? | Qual | X | | |
| How does your organisation support and grow its Māori cultural capability? | Qual | | X | X |
| How does your organisation support or grow its Māori workforce's cultural capability? | Qual | X | | |
| How many early career researchers have the following types of employment arrangements in your organisation? | Quant | | X | X |
| How many employees in your organisation working on research activities, by headcount, belong to the following ethnic groups? (European, Māori, Pacific Peoples, Asian, Middle Eastern/Latin American/African, Other Ethnicity, Don't know/data not collected) | Quant | | X | |
| How many employees in your organisation working on research activities, by headcount, identify as: (Male, Female, Another gender, Don't know/data not collected | Quant | | X | |
| How many employees performing R&D in your organisation, by headcount, are based in the following regions? (Northland, Auckland, Waikato, Bay of Plenty, Gisborne, Hawke's Bay, Taranaki, Manawatū-Whanganui, Wellington, Tasman, Nelson, Marlborough, West Cost, Canterbury, Otago, Southland, Australia, Pacific, Outside New Zealand (not Australia or the Pacific), Don't know/data not collected) | Quant | X | | |
| How many employees performing R&D in your organisation, by headcount, belong to each of the following age groups? (< 30 years, 30-39 years, 40-49 years, 50-59 years, 60-65 years, > 65 years) | Quant | X | | |
| How many employees performing R&D in your organisation, by headcount, belong to the following ethnic groups? (European, Māori, Pacific Peoples, Asian, Middle Eastern/Latin American/African, Other Ethnicity, Don't know/data not collected) | Quant | X | | |
| How many employees performing R&D in your organisation, by headcount, identify as: (Male, Female, Another gender, Don't know/data not collected) | Quant | X | | |
| How many employees performing R&D in your organisation, by headcount, work in each of the following roles in your department? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | X | | |
| How many employees working as commercialisation staff, by headcount, work in your organisation? (Total number, Female, Māori, Pacific Peoples, Don't know/data not collected) | Quant | | | X |

| Question | Type | Business | RO | TEI |
|---|---|---|---|---|
| How many employees working on research activities have the following types of employment arrangements in your institution? (Permanent, Fixed-term, Casual, Other) | Quant | | X | X |
| How many employees working on research activities in your organisation, by headcount, belong to each of the following age groups? (< 30 years, 30-39 years, 40-49 years, 50-59 years, 60-65 years, > 65 years) | Quant | | X | |
| How many employees working on research activities who identify as female have the following types of employment arrangements in your institution? (Permanent, Fixed-term, Casual, Other) | Quant | | X | X |
| How many employees working on research activities who identify as female, by FTE, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | |
| How many employees working on research activities who identify as female, by headcount, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | |
| How many employees working on research activities who identify as Māori have the following types of employment agreements in your institution? (Permanent, Fixed-term, Casual, Other) | Quant | | X | X |
| How many employees working on research activities who identify as Māori, by FTE, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | |
| How many employees working on research activities who identify as Māori, by headcount, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | |
| How many employees working on research activities who identify as Pacific Peoples have the following types of employment agreements in your institution? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | X |
| How many employees working on research activities who identify as Pacific Peoples, by FTE, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, | Quant | | X | |

| Question | Type | Business | RO | TEI |
|---|---|---|---|---|
| Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | | | | |
| How many employees working on research activities who identify as Pacific Peoples, by headcount, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | |
| How many employees working on research activities, by headcount, work in each of the following roles in your organisation? (Senior leadership/ Management, Research staff, Technical staff, Support staff, Research commercialisation staff, Other, Don't know/data not collected) | Quant | | X | |
| How many research staff who identify as female, by headcount, work in the following areas? (Arts and Social Sciences, Engineering and Computing, Health sciences, Law and Business, Science, Other) | Quant | | X | X |
| How many research staff who identify as Māori, by headcount, work in the following areas? (Arts and Social Sciences, Engineering and Computing, Health sciences, Law and Business, Science, Other) | Quant | | X | X |
| How many research staff who identify as Pacific Peoples, by headcount, work in the following areas? (Arts and Social Sciences, Engineering and Computing, Health sciences, Law and Business, Science, Other) | Quant | | X | X |
| Please indicate the number of research students (either Masters or PhD) being mentored/co-supervised in your organisation | Quant | | X | |
| Please outline any policies/practices in your organisation that help staff understand and give effect to MBIE's Vision Mātauranga policy | Qual | | X | X |
| Please outline any policies/programmes in your organisation that support equity, diversity and inclusion in the workplace | Qual | X | X | X |
| What are the barriers for your organisation to recruiting and retaining domestic staff to perform R&D activities? | Qual | X | | |
| What are the barriers to recruiting and retaining domestic staff involved in research activities for your institution? | Qual | | X | X |
| What are the barriers to recruiting and retaining overseas staff to perform R&D activities for your organisation? | Qual | X | | |
| What are the barriers to recruiting and retaining overseas staff to perform research activities for your institution? | Qual | | X | X |
| What opportunities does your institution offer to support early career researchers? Please select all that apply (Pay to attend relevant conferences, Fellowship positions, Coaching and mentoring programmes, Industry training grants/support, Career development support, Don't know/data not collected, None of the above, Other (please specify). | Quant | | X | X |

| Question | Type | Business | RO | TEI |
|---|---|---|---|---|
| What opportunities does your organisation offer to support graduate students? Please select all that apply. (Payment to attend conferences, Fellowship positions, Coaching and mentoring programmes, Industry training grants/support, Career development support, Opportunities for permanent employment, Don't know/data not collected, None of the above) | Quant | X | | |
| What policies/programmes in your organisation support employee wellbeing? | Qual | X | X | X |
| What policies/programmes in your organisation support employees identifying as Pacific Peoples? | Qual | X | X | X |
| What support has been provided by your organisation for its employees in response to COVID-19? | Qual | X | X | X |
| Which of the following best describes your business? (Small business – 0 to 19 FTE employees, Medium business – 20 to 49 FTE employees, Large business – 50 or more FTE employees) | Quant | X | | |