



# agenda

## Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	<b>2025-09-11</b>
Scheduled Start:	1300h
Scheduled End:	1500h
Location:	Microsoft Teams

### SECTION 1 NGĀ KUPU ARATAKI | PRELIMINARIES

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1. Karakia Tīmatanga | Opening Prayer
2. Mihi Whakatau | Welcome from the Chair
3. Membership
4. Terms of Reference

### SECTION 2 STANDING ITEMS

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1. Ngā Whakapāha | Attendance, Apologies & Quorate Status
2. Pitopito Kōrero o Ngā Hui | Minutes of the Previous Meetings
3. Mahia Atu | Matters Arising

### SECTION 3 MEA HEI WHAKAAE | ITEMS TO APPROVE

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N/A

### SECTION 4 WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

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1. University Advisory Group Final Report: the future of New Zealand's university system

### SECTION 5 NGĀ TUKUNGA | ITEMS TO RECEIVE

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1. 2025 Early Career Researcher Funding Progress Reports
  - a. Nigel Pizzini
  - b. Sharon Sitters & Kait O'Callaghan
  - c. Dr Soheil Varastehpour
  - d. Dr Sarah Wells
  - e. Dr Masoud Shakiba
  - f. Kate Harder

g. A/P Kristie Cameron

## SECTION 6 KUPU WHAKAMUTUNGA | CLOSING

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1. Ētahi Kaupapa Anō | Any Other Business
2. Komiti Self-Assessment
3. Karakia Whakamutunga | Closing Karakia

## SECTION 1 NGĀ KUPU ARATAKI | PRELIMINARIES

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### Item 1.1 Karakia Tīmatanga | Opening Prayer

<b>KARAKIA TĪMATANGA</b>	<b>OPENING PRAYER</b>
<i>Manawa mai te mauri nuku</i>	<i>Embrace the power of the earth</i>
<i>Manawa mai te mauri rangi</i>	<i>Embrace the power of the sky</i>
<i>Ko te mauri kai au</i>	<i>The power I have</i>
<i>He mauri tipua</i>	<i>Is mystical</i>
<i>Ka pakaru mai te pō</i>	<i>And shatters all darkness</i>
<i>Tau mai te mauri</i>	<i>Cometh the light</i>
<i>Haumi ē, Hui ē, Tāiki ē!</i>	<i>Join it, gather it, it is done!</i>

### Item 1.2 Mihi Whakatau | Welcome from the Chair

### Item 1.3 Te Komiti Rangahau o Unitec Membership

Hadley Brown (Chair)	Nominee of Director Research & Enterprise
Daisy Bentley-Gray (Emerging)	Nominee of Interim Manager Pacific Success
Hinewaimarama Reihana-White (Early Career)	Nominee of Taharangi   Director Māori Success
Dr Helen Gremillion (Professor)	Healthcare and Social Practice
Xinxin Wang	Architecture
Dr Linda Kestle (Associate Professor)	Building Construction
Dr Lian Wu (Associate Professor)	Healthcare and Social Practice
Dr Hamid Sharifzadeh (Professor)	Computing, Electrical and Applied Technology
Dr Leon Tan (Associate Professor)	Creative Industries
Dr Kristie Cameron (Associate Professor/ Early Career)	Environmental & Animal Sciences
Vacant	Applied Business
Sana Saleem (Subject Librarian)	Library
Kathryn George	Student Representative
Arun Deo (Research Advisor)	Tūāpapa Rangahau
<b>In attendance:</b> Brenda Massey (Acting Secretary)	Tūāpapa Rangahau

Up to two members from the MIT Research  
Committee

MIT

## **Item 1.4** **Te Komiti Rangahau o Unitec Terms of Reference**

The powers and functions of Te Komiti Rangahau o Unitec (URC) shall be to:

- a. Foster the conduct of research, and support the achievement of Unitec’s strategic research, enterprise and innovation priorities.
- b. Propose and advise on strategic directions and priorities for research, enterprise, and innovation.
- c. Provide expert advice on institutional policy.
- d. Develop protocols and guidelines and make recommendations in relation to the conduct of research, enterprise, and innovation.
- e. Oversee the Grants Advisory Committee and the reporting of funded projects.
- f. Encourage and enhance the development of the research, enterprise, and innovation culture along with student and staff research capability, with emphasis on the development of Māori and Pacific research capability.
- g. Oversee the monitoring of research outputs and research reporting.
- h. Foster Māori and Pacific, transdisciplinary, collaborative and externally engaged research, enterprise, and innovation.

## **SECTION 2** **STANDING ITEMS**

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### **Section 2.1** **Ngā Whakapāha | Attendance, Apologies & Quorate Status**

#### **RECOMMENDATION**

That the committee accepts the apologies of today’s meeting.

### **Section 2.2** **Pitopito Kōrero o Ngā Hui | Minutes of the Previous Meetings**

*refer to pg5*

#### **RECOMMENDATION**

That the committee approves the minutes of the meeting of 2025-08-14.

### **Section 2.3** **Mahia Atu | Matters Arising**

*refer to pg13*

## **SECTION 3** **MEI HEI WHAKAAE | ITEMS TO APPROVE**

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N/A

## **SECTION 4** **WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION**

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### **Section 4.1** **University Advisory Group Final Report: The future of New Zealand’s university system**

refer to [pg14](#)

## SECTION 5 NGĀ TUKUNGA | ITEMS TO RECEIVE

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### **Section 5.1 2025 Early Career Research Fund Progress Reports**

refer to [pg92](#)

- a) Nigel Pizzini [pg93](#)
- b) Sharon Sitters & Kait O’Callaghan [pg96](#)
- c) Dr Soheil Varastehpour [pg99](#)
- d) Dr Sarah Wells [pg108](#)
- e) Dr Masoud Shakiba [pg111](#)
- f) Kate Harder [pg117](#)
- g) A/P Kristie Cameron [pg121](#)

## SECTION 6 KUPU WHAKAMUTUNGA | CLOSING

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### **Section 6.1 Ētahi Kaupapa Anō | Any Other Business**

### **Section 6.2 Komiti Self-Assessment**

refer to [pg123](#)

### **Section 6.3 Karakia Whakamutunga | Closing Karakia**

TE KARAKIA WHAKAMUTUNGA	CLOSING PRAYER
<i>Ka wehe atu tātou</i>	<i>We are departing</i>
<i>I raro i te rangimārie</i>	<i>Peacefully</i>
<i>Te harikoa</i>	<i>Joyfully</i>
<i>Me te manawanui</i>	<i>And resolute</i>
<i>Haumi ē, Hui ē, Tāiki ē!</i>	<i>We are united, progressing forward!</i>



# minutes

## Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	2025-08-14
Scheduled Start:	1300h
Scheduled End:	1500h
Location:	Microsoft Teams

<b>MEETING OPENED:</b>	1300h
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### SECTION 1 – NGĀ KUPU ARATAKI | PRELIMINARIES

#### **Item 1.1 Karakia Timatanga | Opening Prayer**

#### **Item 1.2 Mihi Whakatau | Welcome from the Chair**

The meeting was chaired today by Leon Tan, who warmly welcomed members of the committee to the meeting including Adrian Jenkins (proxy for Nora Md Amin) and Christina Masae (proxy for MIT's Aiono Manu Fa'aea, MIT Research Committee).

### SECTION 2 – STANDING ITEMS

#### **Item 2.1 Ngā Whakapāha | Attendance, Apologies & Quorate Status**

##### **Members Present**

1. Leon Tan (Acting Chair)
2. Linda Kestle
3. Kristie Cameron
4. Daisy Bentley-Gray
5. Hamid Sharifzadeh
6. Adiran Jenkins (proxy for Nora Md Amin)
7. Helen Gremillion
8. Lian Wu
9. Xinxin Wang
10. Kathryn George
11. Arun Deo (from 1.40pm)
12. Hinewai Reihana-White (from 1.40pm)

Total members represented: 12 members

## Apologies

1. Hadley Brown
2. Nora Md Amin (proxy Adrian Jenkins)
3. Aiono Manu Fa'aea, MIT Research Committee

Total apologies: 2 members + 1 MIT representative

### MOTION

**That the committee accepts the apologies for today's meeting.**

**Moved: Kristie Cameron**

**Seconded: Daisy Bentley-Gray**

**MOTION CARRIED**

### Quorate Status

A minimum of seven representatives is required; the meeting was quorate.

### Hunga Mahi | Staff in Attendance

1. Brenda Massey, Acting Secretary
4. Christina Masae, proxy for Aiono Manu Fa'aea, MIT Research Committee
2. Deb Heke, Ngā Wai a Te Tūi (1-1.20pm)

*Item 4.1 was presented here, see below for a summary of the discussion.*

### **Item 2.2 Pitopito Kōrero o Ngā Hui | Minutes of Previous Meeting**

### MOTION

**That the committee approves the minutes of the 2025-07-10 meeting as a true and accurate record.**

**Moved: Linda Kestle**

**Seconded: Kathryn George**

**MOTION CARRIED**

### **Item 2.3 Mahia Atū | Matters Arising**

Adrian Jenkins advised the committee that Nora Md Amin is leaving Unitec. The new committee representative from the Library will be Sana Saleem.

Agenda Item(s)	Action	Responsible	Outcome
2.3	Martin Carroll has asked that the committee reviews the criteria for setting up a research centre to ensure that resilience is built into their business cases.	Hadley Brown	In progress - on agenda for discussion
2.3	Work with the Head of Applied Business to recruit a new committee	Hadley Brown	In progress

	representative from the school.		
2.3	Present the reviewed and updated Unitec Scholarly Communication Guidelines to the committee's August meeting for approval.	Nora Md Amin	Complete - on agenda for approval
2.3	Update the committee's self-assessment document to include the framework within which committee members can provide feedback on any aspect of the committee's operation and processes confidentially and outside of the live meeting.	Brenda Massey	Complete
3.1	Advise the nominator of the approval of Dr Melissa Vera as a Unitec Honorary Research Fellow.	Brenda Massey	Complete
5.1	Discuss with the new Research Director the possibility of establishing a scheme for projects led by senior researchers that include researchers who need support to achieve research outputs for the RPTL.	Hadley Brown	In progress. This conversation will be held once the new Research Director is on board.
6.1	Invite Deb Heke to the next meeting.	Hadley Brown / Brenda Massey	Complete

### SECTION 3 – MEA HEI WHAKAAE | ITEMS TO APPROVE

#### **Section 3.1 Updated Unitec Scholarly Communication Guidelines**

The Committee reviewed the updated Unitec Scholarly Communication Guidelines. They were particularly impressed with the guidance around open access and predatory publications, and with the new section 4.2 Māori Knowledge Systems and Scholarly Communication.

It was noted that there are a couple of typos in the updated document and Helen Gremillion offered to attend to these before the guidelines are published on Te Aka | The Nest.

The committee thanked the working group of Nora Md Amin, Arun Deo, Hinewai Reihana-White and Hamid Sharifzadeh for their mahi.

#### **MOTION**

**That the committee approves the updated Unitec Scholarly Communication Guidelines, subject to the minor typos in the document being amended prior to their dissemination.**

**Moved: Adrian Jenkins**  
**Seconded: Helen Gremillion**

**MOTION CARRIED**

**Action:** Helen Gremillion to attend to the minor typos in the updated guidelines document and send the final version to Arun Deo. Arun Deo to arrange for the updated guidelines to be published on Te Aka | The Nest.

### **Section 3.2 Updated Pacific Research: Guidelines for Social & Cultural Responsiveness**

The Committee reviewed the updated Pacific Research: Guidelines for Social & Cultural Responsiveness.

The review was undertaken in consultation with the Pacific Research Fono.

The committee thanked Daisy Bentley-Gray and Dion Enari for their mahi.

#### **MOTION**

**That the committee approves the updated Pacific Research: Guidelines for Social & Cultural Responsiveness.**

**Moved: Hinewai Reihana-White**  
**Seconded: Helen Gremillion**

**MOTION CARRIED**

**Action:** Daisy Bentley-Gray to arrange for the updated guidelines to be published on Te Aka | The Nest.

## **SECTION 4 - WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION**

### **Section 4.1 Introducing A/P Deb Heke, Director Ngā Wai a Te Tūī, Māori & Indigenous Research Centre**

This item was addressed between items 2.1 and 2.2.

Deb Heke introduced herself to the committee. Deb joined Unitec and Ngā Wai from AUT where she was a lecturer and senior lecturer in the Faculty of Health & Environmental Sciences, specifically at Taupua Waiora, the Centre for Māori Health Research. Deb has also worked in community mental health and has a background in exercise science and exercise physiology. Most recently Deb's work sits around mana wahine theory and praxis, and what it means to be a Māori woman today. Deb runs MAI (Māori and Indigenous) ki Wairaka, which is part of a doctoral scholar support network funded by Ngā Pae o te Māramatanga.

Ngā Wai researchers include A/P Byron Rangiwai whose research interests lie in the area of neurodiversity and Māori perspectives and approaches to neurodiversity; A/P Dion Enari a Pacific researcher whose research interests include sport and diaspora; and Hinewai Reihana-White. The centre is supported by Hadley Brown and Aki Te'evale.

Ngā Wai is hosting an open day on Wednesday, 27th August, 9:30am – 2:30pm at their base in Building 111, Mt Albert. This will provide an opportunity to meet the team, hear about some of their research, and discuss potential collaborations and partnerships on future projects. Staff can drop in at any time throughout the day. A Strategic Ideation Session will be held from 12:00pm – 1:30pm. This will be a focused session to explore collaborative research ideas and strategic partnerships to advance current and prospective research projects.

It was raised that it would be good if Ngā Wai researchers could attend schools' staff meetings to provide an overview of their research with a potential for identifying potential collaborative research and postgraduate research opportunities.

It was queried what Ngā Wai's relationship is with teaching and supervision. Deb responded that Ngā Wai researchers don't have time allocation for anything other than research. She acknowledged that Ngā Wai staff have a particular set of skills that would be very valuable to the schools, and they are looking at options for making their expertise accessible to Unitec and MIT.

#### **Section 4.2                      Unitec Research Centre Procedure**

The committee discussed research centres at Unitec. A summary of the discussion is as follows:

- A number of important externally funded opportunities have been disestablished that might have once supported the activities of our research centres. Should we be concentrating instead on building up our increasingly robust research groups across Unitec?
- The resilience of research centres is dependent on external funding, and funding is generally allocated to buy out the time of a specific researcher, generally the Research Centre Director.
- The work of centres should be integrated into the work that research groups are doing. Research groups are embedded in schools and in teaching and learning and are therefore likely to be more stable and resistant to the risks of one or two people suddenly leaving Unitec.
- Any discussion about the future of research centres at Unitec will need to be cognisant of the implications on our currently existing and viable centres.
- A successful research group could stand up as a centre, or a centre could devolve into a group.

**Action:** the committee wishes to revisit this matter once the new Research Director has started.

#### **Section 4.3                      What does the Unitec/MIT merger mean for Unitec?**

The committee considered opportunities and concerns about the Unitec/MIT merger in the research space. A summary of the discussion is as follows:

- MIT doesn't have PBRF funding, or research degree completions funding. Unitec's research productivity is good because we utilise this funding to support research. If this resource needs to stretch to another cohort of researchers, Unitec researchers could be disadvantaged.

- With external funding, funds stay with the people that win the grant. In fairness, funding that is earned by a particular cohort of researchers should stay with them. If this is not going to be the case, then people's motivation to undertake research will diminish.
- Transparency is important. Research degree completions funding should benefit the schools who produced the graduates, to keep supervisors and PBRF eligible staff research active.
- We need to invest in growing research culture and invest in research capacity building, particularly in MIT which is in a very different state than Unitec. The Research Office, under Marcus Williams' guidance, has always been very strong around this developmental aspect, e.g. they have identified funding for different levels of researchers and have proactively engaged in supporting people to grow. People who don't already have outputs and research capacity can't really develop that unless they get resourcing and support.
- It everything that Unitec has 'gets spread out over everybody', from Unitec's point of view that would be a negative outcome.
- There is pressure in terms of the direction the government is currently going in, which is to cut anything that looks like developmental funding or grass roots engagement to support researchers.
- There is a tension between caring about the research we're doing and at the same time wanting to support MIT and see them succeed in the research space. There needs to be a balance and some strategic thinking.
- There are indications that the new Research Director is likely to be very focussed on gaining external funding to support research, which is understandable, but we can't rely on winning external funding because the playing field for external funding is not level between different fields and different activities and different ends.
- MIT doesn't have any active postgraduate programmes at the moment, so resources like our postgraduate scholarships and anything else that goes to postgraduate students should remain as it is at Unitec.
- It will be important to ensure that, if research funds are accessible to both MIT and Unitec research staff, that it's an equitable system, whereby the people that are doing the work are being acknowledged for their work and that the funding that is being allocated for their work is targeting them so that they are able to develop.
- It will be important that researchers from MIT are able to access funding the way that staff at Unitec are accessing funding so that they can also develop capability to not only apply for funding but also be successful in gaining funding.
- It was queried what the place of Unitec's partnership agreement, Te Noho Kotahitanga, that currently underpins our research infrastructure and policies etc is. What is the place of Te Noho Kotahitanga as we merge with MIT?
- There could be three categories of funding: some for staff who are exceeding their research outputs, some for staff who are just meeting their research outputs, and some for staff that are not doing any research.

**Action:** the committee wishes to revisit this matter when the new Research Director is in attendance.

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## SECTION 5 - NGĀ TUKUNGA | ITEMS TO RECEIVE

### **Section 5.1      2024 Annual Unitec Research Report**

Arun Deo presented the 2024 Unitec Annual Research Report to the committee, noting that it needs to be approved by Te Komiti Mātauranga before it is distributed.

There are a lot of items in the report that we can celebrate, and the committee congratulated Arun Deo and the Research Office for their work in assembling it.

### **Section 5.2**            **New Director Research & Enterprise**

The committee was advised that Dr Rosanne Ellis will be joining Unitec on Monday, 18 August as the new Director Research & Enterprise, Unitec & MIT.

## **SECTION 6 - KUPU WHAKAMUTUNGA | CLOSING**

### **Section 6.1**            **Ētahi Kaupapa Anō | Any Other Business**

Adrian Jenkins passed on Nora Md Amin's thanks for the committee's support of her role on the committee. Nora is moving on to Massey University.

The committee expressed its appreciation for the work that Nora has done for the committee; she has been a valued member.

### **Section 6.2**            **Komiti Self-Assessment**

Any feedback about this meeting, or about how the committee is operating in general, should be directed to Delphine Gesche [dgesche@unitec.ac.nz](mailto:dgesche@unitec.ac.nz).

General comments or queries are also welcome to be provided to either the Chair or the Secretary, either inside or outside of meetings.

### **Section 6.3**            **Karakia Whakamutunga | Closing Karakia**

<b>MEETING CLOSED:</b> 1430 h
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## **SUMMARY OF ACTIONS**

Agenda Item(s)	Action	Responsible	Outcome
2.3 & 4.2	Martin Carroll has asked that the committee reviews the criteria for setting up a research centre to ensure that resilience is built into their business cases.  Schedule a further discussion of this matter when the new Research Director is in attendance.	Hadley Brown  Brenda Massey	
2.3	Work with the Head of Applied Business to recruit a new committee representative from the school.	Hadley Brown	
2.3	Discuss with the new Research Director the possibility of establishing a	Hadley Brown	

	scheme for projects led by senior researchers that include researchers who need support to achieve research outputs for the RPTL.		
3.1	Attend to amending the minor typos in the updated Scholarly Communication Guidelines and send them to Arun Deo.  Arrange for the updated guidelines to be published on Te Aka   The Nest.	Helen Gremillion  Arun Deo	
3.2	Arrange for the updated Pacific Research: Guidelines for Social & Cultural Responsiveness to be published on Te Aka   The Nest.	Daisy Bentley-Gray	
4.3	Schedule a further discussion of the opportunities/concerns that the Unitec/MIT merger could represent, in the research space when the new Research Director is in attendance.	Brenda Massey	



## Unitec New Zealand Limited

Meeting of Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 11 September 2025

<b>Title</b>	University Advisory Group Final Report: The future of New Zealand’s university system
<b>Provided by:</b>	Brenda Massey, Acting Secretary
<b>For:</b>	<b>DISCUSSION</b>

### Recommendation

That the committee undertakes a SWOT analysis of the final report from the University Advisory Group (UAG) and the changes to the sector that the government has recently announced.

### Purpose

The Director Research and Enterprise, Dr Rosanne Ellis, has requested that the committee undertakes a SWOT analysis of the final report from the UAG and the changes to the sector that the government has recently announced. The exercise of undertaking a SWOT analysis will guide the committee to identify the strengths and weaknesses (S-W), as well as broader opportunities and threats (O-T) of the changes.

SWOT provocations:

- *Strengths*: characteristics of the changes that may advantage Unitec.
- *Weaknesses*: characteristics of the changes that may disadvantage Unitec.
- *Opportunities*: elements of the changes that Unitec could take advantage of.
- *Threats*: elements of the changes that could challenge Unitec.

### Information

On Tuesday 2 September, Minister for Universities, Hon Dr Shane Reti, released the final report of the UAG and announced a package of initiatives to modernise the sector. The reforms include five initiatives:

- Replacing the Performance-Based Research Fund (PBRF) with a streamlined, cost-effective Tertiary Research Excellence Fund (TREF).
- A new Tertiary Education Strategy (TES) will be developed, in conjunction with the Minister for Vocational Education, Hon Penny Simmonds, aligning teaching and research with New Zealand’s future skills and innovation needs.
- Establishing a University Strategy Group to strengthen collaboration between universities, government, industry and global experts.

- Strengthening the regulatory system for university quality assurance, programme approval, and student mobility.
- Introducing a code of governance standards and a new monitoring and intervention framework to ensure universities are well-led and uphold academic standards.

The initiatives will be rolled out in consultation with universities, students, industry, and communities. More details will be announced in the coming months.

## **Replacement of the Performance-Based Research Fund**

The Government has announced that the Performance-Based Research Fund (PBRF) will be replaced with the Tertiary Research Excellence Fund (TREF). This will replace the PBRF's Quality Evaluation component with a metric-based assessment of tertiary providers' research performance.

The UAG has recommended that:

- Individual portfolio assessment should be abandoned and the PBRF calculated on the basis of research degree completions, research income and citation rates of the institution noting that any significant changes from the current allocations should not be abrupt.
- NZUC should consider a dashboard approach to assist its strategic analysis and review of the system.

Final decisions on the design of the TREF will be taken in the first half of 2026, following further engagement with the sector and experts.

## **Tertiary Education Strategy**

The new Tertiary Education Strategy (TES) is expected to be issued later in 2025. It will set the long-term vision and priorities for the entire tertiary education system.

Universities, wānanga, polytechnics and private tertiary education providers that seek government funding must develop investment plans that support TES priorities.

### **Priorities of the new strategy**

The draft priorities for the new TES are:

- lifting achievement to ensure that students and trainees achieve qualifications that lead to good careers
- maximising economic impact and innovation, by delivering relevant, adaptable skills and research that drives innovation
- increasing access and participation for people from all backgrounds and regions
- deepening integration and collaboration between tertiary providers, communities and industries
- boosting the international education sector and increasing New Zealand's international connectivity.

## **Attachments**

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- University Advisory Group Final Report: The future of New Zealand's university system

# University Advisory Group Final Report

The future of New Zealand's university system

April 2025

**University  
Advisory Group**



# University Advisory Group



The University Advisory Group (UAG) was established by the Ministry of Education in March 2024 to provide advice to the Government on the needs of the university sector. Group members will consider challenges and aspirations of the many components of the sector, and its structure, efficiency and effectiveness.

This document is the final report and should be read in conjunction with the interim report. Together, the two reports provide recommendations and advice on longer-term changes to ensure the future success of the university system in New Zealand.

## Authors

Sir Peter Gluckman (chair), Alastair MacCormick (deputy chair), John Allen (until February 2025), Arihia Bennett (until October 2024), Phil O'Reilly, Dame Paula Rebstock, Sir David Skegg and Bella Takiari-Brame.

SSAG observers: Tracey MacIntosh, Hamish Spencer.

Project Lead: Hema Sridhar.

## Copyright information

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## Preamble

The University Advisory Group (UAG) provided an interim report to the Minister and Ministry as agreed on a revised timetable in September 2024. Because the report discussed the unpublished Science System Advisory Group (SSAG) report, which was not released until January 23, 2025, the second phase of the UAG's work was also delayed and the panel's work delayed for some months. Concurrent with the release of the SSAG report, a new Minister for Universities was appointed. It was consequently agreed that the final report would be delivered by April 30, 2025. The Government has decided to release both the interim and final reports together.

However, the panel decided not to revise the interim report submitted in September 2024 but to address the outstanding issues, which are primarily related to strategic oversight, governance and fiscal matters. We have also taken into account the responses from officials and the Minister to both our initial report and the first SSAG report (including the subsequent decisions made by the government). This report has benefited considerably from a third round of UAG consultations conducted after the initial report was submitted, as well as from ongoing interactions with the SSAG, which include matters of relevance to this report.

One important clarification is needed in relation to the interim report. Our recommendation to create a Higher Education Council referred to a council that focused on universities alone. We are aware that the term 'higher education' can be either restricted to universities or apply more broadly. The panel has come to the view that the Council should consider the university sector alone. We will now term this entity the 'New Zealand Universities Council' to avoid confusion.

We are also conscious that our report has implications for wānanga, polytechnics and independent providers, as well as for the science and innovation sector. Our terms of reference were specific in that we were to focus on the university sector. Thus, while there are many matters that might impact on vocational education and on wānanga, our reports cannot do more than raise more generic issues, while being conscious of consequential effects on other components of the education system. Issues related to the student loans scheme were defined as being out of scope.<sup>1</sup>

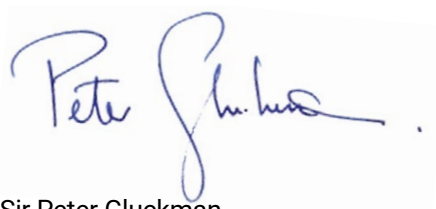
The UAG also sought submissions from the public in three separate rounds of consultations in May 2024, August 2024, and February 2025 to inform the two reports. We received many substantive and valuable contributions. Importantly, the university sector has many stakeholders – the university community itself, comprising councils, academic leaders and administrators, academics, research staff, professional staff, students, employers, government agencies, the science and innovation community, broader community groups and iwi, hapū and whānau. We have met with many of these stakeholders individually and collectively over the last year. The UAG or some of its members also met with a wide variety of other stakeholders, including Universities New Zealand (through monthly engagements with the chancellors, vice-chancellors and research leads), NZQA, students' representatives, representatives of the Tertiary Education Union, government officials, Crown Research Institutes (CRIs), iwi representatives and the private sector. The panel consulted internationally with university system experts, senior officials and higher education experts in Australia, Singapore, Denmark, Norway, Israel, the UK, Ireland and the OECD.

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<sup>1</sup> The panel's terms of reference and ministerial advice also excluded it from considering the question of a third medical school. However, the panel's view is that such substantive matters should be considered as part of a strategic consideration of the whole university system. It is an example of a potential decision that has major ramifications well beyond simply the supply of health professionals. It is of concern this appears to have been a matter for consideration primarily by the Ministry of Health.

Our task has been to provide the government with a set of recommendations for how this critical set of institutions should evolve in a complex world. In our view their contributions will be more critical than ever for New Zealand's future development, but the challenges they face both internally and externally lead to the need for significant change.

What follows in this report must be read in conjunction with the UAG interim report, which focused primarily on the higher-level issues within the sector and critically on the value proposition of universities in a liberal democracy. In the current broader geopolitical context, the importance of universities' roles to a vibrant and pluralistic democratic future cannot be overstated.

A handwritten signature in blue ink that reads "Peter Gluckman". The signature is fluid and cursive, with a prominent initial 'P' and a long, sweeping underline.

Sir Peter Gluckman

UAG Chair

April 2025



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# Recommendations

Noting that:

- The New Zealand universities have served the nation well, but they face significant challenges and uncertainties.
- There is a strong rationale to treat the eight universities as a system and to support greater differentiation between them.
- The lack of effective policy consideration of the universities as a system operating in the national interest is a fundamental weakness.
- There needs to be a closer match between strategic policies for the university system and the funding made available by the Crown: greater investment will likely be needed to ensure New Zealand's universities retain their reputation and quality and meet New Zealand's future needs.
- It is misleading to see the tertiary education sector as a unitary entity. The university component is functionally and operationally distinct and thus requires distinctive policy consideration.
- UAG applauds the decision of government to recognise that the strategic and operational issues for universities are distinctive and to separate ministerial responsibility for universities from other components of the tertiary education sector.

## A strategic approach

1. Develop a National University Strategy, and fund and administer the eight universities as a distinct system.
2. As the highest priority establish a New Zealand Universities Council (NZUC) to (a) set strategy and expectations on the system, (b) provide high-level oversight and policy advice, (c) allocate Crown funding, and (d) monitor performance for the universities that is administratively separate from the rest of the tertiary education sector.
3. Preparatory to the establishment of NZUC, which would require legislative change, at an early date:
  - a. The Minister for Universities should appoint a Ministerial Advisory Committee that could offer advice in relation to some of the functions proposed for NZUC and advise on the establishment of the new entity.
  - b. Planning should commence for NZUC to transform from a Ministerial Advisory Committee to a government agency that will provide strategic oversight for the university sector, assume responsibility for the current functions of TEC in relation to the universities and provide the policy advice for universities that is currently the responsibility of the Ministry of Education.
4. The NZUC (and the prior Ministerial Advisory Committee) should have nine members comprising:
 

Seven appointed members being:

  - i. Chair.
  - ii. Three senior academics in New Zealand universities who do not hold university administrative roles.

- iii. Three independent persons of distinguished standing who understand the university and research sectors.

and two ex officio members being:

- iv. The Secretary of Education or nominee.
- v. A member of the Board of the proposed National Research Council.

Members should be appointed by the Minister for Universities after consultation with Universities New Zealand (UNZ), subject to:

- a. The Chair will not be in the employment of a New Zealand university or a member of a university council.
- b. A minimum of one member to be expert in economics or finance.
- c. A minimum of one member to be Māori.
- d. All members to be appointed in their personal capacities and, amongst their characteristics, to have national and international connectivity, and understandings of universities and research.
- e. Appointments to NZUC should be for terms of five years.
- f. Consideration should be given to making the NZUC chair an executive role that is full or part time.

5. The New Zealand Universities Council's statutory functions should include:

- a. Advising the Minister for Universities on the development of a New Zealand University Strategy to be incorporated alongside other components in the Tertiary Education Strategy (TES) as the core policy document underpinning university education, research and innovation.
- b. Assuming strategic oversight of the evolution of a high-quality but more differentiated system, with focus on:
  - i. the national interest
  - ii. the objectives of whole system
  - iii. high-level objectives and performance measures agreed with each university
- c. Complying with government policies including those in regard to the Te Tiriti/Treaty of Waitangi.
- d. Advancing research and innovation in the universities.
- e. Promoting closer relationships between universities and the research system, in particular the public research organisations.
- f. Allocating government funding for universities from the relevant appropriations.
- g. Monitoring performance of the universities and advising on Interventions.
- h. Preparing nominations for Ministerial appointments to university councils.
- i. Receiving and exercising the delegation from NZQA for the approval of university qualifications, with the power to delegate qualification approval to the universities subject to their compliance with the proposed Code for University Qualifications.
- j. In collaboration with UNZ, exercising oversight of university self-audit processes.

6. To the greatest extent possible, the regulatory structure for universities should be based on shared codes that are developed and regularly reviewed by NZUC and UNZ, with responsibility for overall performance lying with the university councils. The list of codes should include:
  - a. University Governance Protocol
  - b. Financial Management
  - c. Academic Governance
  - d. Quality Assurance
  - e. Qualifications
  - f. Pastoral Care and Student Welfare
7. Compliance with the codes should be based principally on self-audit by the universities, with the self-audit process and outcomes quality assured by NZUC.

## Legislation and regulation

8. As the opportunity arises in the legislative programme, the government should consider consolidating all legislation relating to universities into a new Universities Act.
9. The Education and Training Act (2020) should be amended to:
  - a. rename the Vice-Chancellors Committee as Universities New Zealand.
  - b. amend the functions of Universities New Zealand to reflect the broader roles envisaged for it in this report, which include the generation of codes and protocols for the governance and academic administration of universities and, in conjunction with NZUC, the monitoring of self-compliance.
10. The ETA should be amended to insert provision for monitoring governance, with scaled interventions. Codes for monitoring governance and intervention should be developed by NZUC in consultation with UNZ.

## University governance

11. The Education and Training Act (2020) should be amended to fix the size of a university council at 14 members with membership comprising:
  - a. 4 members appointed by the Minister
  - b. The vice-chancellor
  - c. 1 member of the permanent academic staff elected by the permanent members of the academic staff<sup>2</sup> of the university
  - d. 1 member of the permanent general staff elected by the permanent members of the general staff of the university
  - e. 2 members of the permanent academic staff elected by the senate or academic committee<sup>3</sup> from among its members not holding full-time senior university administrative positions.
  - f. 1 student enrolled in the university elected by the students of the university

2 Permanent academic staff should be defined to include academic researchers paid on research grants or contracts of 3 years or longer or who are employed for three years or more on research grants or contracts.

3 In this report we use the terms senate and academic committee interchangeably.

- g. 1 member who is Māori appointed by council after consultation with local iwi
  - h. 3 members appointed by council
12. The provisions for Ministerial appointments to university councils should be amended to:
    - a. require NZUC to nominate one or more candidates for appointment to each vacancy, having regard to the criteria in the Act and the University Governance Protocol, and having consulted the relevant council.
    - b. Enable the Minister to choose which member to appoint from nominations put forward by NZUC but not substitute another person.
  13. The chancellor should be elected or re-elected only after prior consultation with NZUC.
  14. The University Governance Protocol should contain a section on the role and duties of the chancellor and their significance for the leadership of council.
  15. Councils must formally consult confidentially with the academic community via a senate advisory group on the appointment or reappointment of a vice-chancellor.
  16. UNZ and NZUC should expand support for governance through induction and other education programmes.

## Academic governance

17. Schedule 11 to the Education and Training Act 2020 should be amended so the academic committee (senate) membership comprises academic staff, the university librarian and students.
18. The NZUC and UNZ should ensure the Code of Academic Governance sets out the principles and practice of good academic governance.
19. The Code of Academic Governance should include guidance for the constitution and terms of reference to be adopted by councils for the senate.
20. The senate constitution should include provision for a clear majority of its members not to hold senior academic leadership roles in the university.
21. Provision should be made in the Code of Academic Governance for senate's membership to be expanded to include all professorial staff in exceptional circumstances.

## Qualification approval

22. Legislation should be amended so that approvals for university qualifications are delegated by NZQA to NZUC which in turn delegates this power to the universities with minimal constraints.
23. The Committee on University Academic Programmes (CUAP) process should be replaced with a requirement of universities to satisfy NZUC and UNZ that independent external peer review has been undertaken.
24. UNZ should establish a committee charged with developing the Qualifications Code and reaching agreement on:
  - a. a system that enables students to enrol in more than one university for study leading to undergraduate, graduate and research degree qualifications without barriers to cross-enrolment and at no additional cost to the student.
  - b. improved cross-crediting for undergraduate degrees between institutions.

25. In general, research degrees<sup>4</sup> should be restricted to universities and wānanga, with other tertiary providers approved to offer research degrees only in exceptional circumstances.

## Size and scope of the New Zealand university system

26. The NZUC should regularly review the size and scope of the university system, and each university should consider where course-specific entry limitations based on academic standards should apply so as to advance their standing.
27. Standards for the University Entrance qualification should be set by UNZ and where entry standards and limitations exist, appropriate pathways or support for educationally disadvantaged students must exist.
28. Universities should not become overdependent on international student revenues.
29. The Universities should seek to further collaborate:
- a. to improve access of students at the undergraduate and course-based masters' levels.
  - b. to build effective critical masses of scholars for advanced studies and research.
30. As a means to lift performance and quality, New Zealand's universities should consider seeking formal international partnerships with world-renowned universities in the disciplines where they seek to excel.

## The academic portfolio

31. Universities should be careful to restrict compulsory courses to those required by vocational bodies or to where there is strong disciplinary and pedagogical justification.
32. Universities should expand their graduate degree and diploma programmes, especially in areas where they have existing disciplinary strength, and find ways to enhance the provision of micro-credentials.
33. The qualification approval regulations and the caps on tuition fees should be reviewed to ensure they are not constraining the development of micro-credentials in universities.
34. It needs to be recognised that while the future is not yet clear, the probability is that AI will drastically change the shape and role of many educational institutions including universities. Strategic oversight will be needed to ensure that government and institutional governance is able and ready to adapt as circumstances demand.
35. We recommend a system-wide approach to the development of AI for teaching. Government and universities must be ready to seize technological opportunities to enhance teaching and research.

## Faculty, students and equity

36. University councils and administrations should give more attention to the negative impacts of the expansion of centralised university systems and services on staff welfare and morale and the mitigation of these effects.
37. Universities should create more opportunities for staff to broaden their experience by secondments, rotations, exchanges or part-time appointments in industry and in public service.

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<sup>4</sup> Research degrees are masters' levels degrees and doctorates where a large component of credit for qualification is based on research activity examined by means of a thesis or extended dissertation.

38. Universities should be free to take actions they see fit to address concerns about educational disadvantage.
39. Learner success should be included in the Code for Academic Governance.
40. The separate submission of Learner Success Plans and Disability Action Plans should be discontinued, and sections for learner success and disability action instead included in the universities' Investment/Strategic Plans.

## **Funding**

41. There needs to be a closer alignment between strategic policies for the university system and the funding made available by the Crown. Greater investment will likely be needed to ensure New Zealand's universities retain their reputation and quality and meet New Zealand's future needs.
42. The investment planning system should be changed to align with the funding cycle so review dates and funding periods have the same three-year cycle for all universities.
43. University strategic plans should be used as comprehensive investment plans.
44. Under the provisions of s419 of the ETA the UAG recommends that the Minister for Universities issue a distinct set of Determinations of Design of Funding Mechanisms for Universities, including a Mechanism for Delivery at Level 7 (degree) and above on the New Zealand Qualifications and Credentials Framework.
45. Once the NZUC is established, the allocation of funding to universities and their oversight and accountability should transfer from TEC to NZUC.
46. The design of the funding mechanism should include flexibility for NZUC to adjust funding rates.
47. The NZUC should reserve funds for new developments and to incentivise activities in the national interest.
48. Tuition fees in general should follow movements in course costs and inflation rates.
49. To provide universities with greater revenue stability, consideration should be given to smoothing out funding allocations by adopting techniques such as grants for multiple years and basing them on input data smoothed with weighted averages calculated over several years using both enrolment history and projections.
50. In so far as is possible, simplify reporting and accountability measures to align with the investment plan and reduce duplicative reporting against different frameworks.

## **The Performance-Based Research fund (PBRF)**

51. The PBRF should be continued and the name of the PBRF should be changed to the Research Intensity Component for Universities (RICU) and focused solely on incentivising research intensity.
52. Individual portfolio assessment should be abandoned and the PBRF calculated on the basis of research degree completions, research income and citation rates of the institution noting that any significant changes from the current allocations should not be abrupt.
53. NZUC should consider a dashboard approach to assist its strategic analysis and review of the system.

## Centres of Research Excellence (CoRE)

54. The CoRE Scheme should continue but be enhanced.
55. CoREs should focus on new areas and clusters of activity rather than rewarding well-performing existing activities. These new areas should be investigator-led and align with New Zealand's overall priorities.
56. CoREs should continue to include the collaborative requirement of extending across universities and other research active entities.
57. CoREs should be funded for a maximum of one six-year cycle followed by a possible six-year renewal. CoREs that are terminated after one round should get reduced two-year transitional funding.
58. CoRE review processes should distinguish new applicants from renewing applicants.

## Capital expenditure

59. All capital projects over \$75 million should have business cases and their sources of funding approved by the NZUC.
60. Universities should be required to comply with Cabinet rules and Treasury processes for the management of large capital projects.
61. Universities should continue to seek approval for debt financing and the divestment of significant assets (>\$15million), but this approval should be given by the NZUC rather than from the Secretary of Education as is presently required.

## Interactions between the university sector and the research and innovation sector

62. There should be cross-appointments between NZUC and the proposed National Research Council, and both should be represented on the proposed Research Infrastructure Advisory Committee.
63. Universities and PROs should increase the number of joint and cross appointments of research-active staff.

## Executive summary

1. This is the second component of the University Advisory Group's report, and it should be read in conjunction with the Group's initial (interim) report.
2. The university sector is vital to the country's future, whether examined through an economic or social lens. It produces well-trained graduates who enter vocations and business, it is the largest provider of publicly funded research, and it plays a critical role in a democracy as a critic and conscience of society. However, the sector faces many challenges, of which the most acute are growing fiscal pressures. But beyond that the report lists many other challenges our university system will have to face.
3. Firstly, we note with concern the relative lack of strategic thinking about how the universities are to develop and serve New Zealand into the future. The claim that it is essential that universities are better managed within a singular system with all tertiary education institutions is not compelling, indeed it is weakly founded. In reality, the various institutions, students and end users see universities quite separately. This perception is rational, given the broader and essential roles of universities discussed in our first report.
4. We are pleased the Crown has recognised this distinction by establishing a separate Minister for Universities and more closely linking universities to the research, science and innovation sector through the same minister holding the Science, Innovation and Technology portfolio. This report builds on that decision to recommend separation of strategy (which is currently largely missing), funding, allocation, and oversight so the universities sector can better contribute to lifting New Zealand's place in the world.
5. New Zealand must take a more strategic view of the eight universities that comprise the sector. Unfortunately, current arrangements mean that the university sector does not receive dedicated consideration, and the panel is firmly of the view that New Zealand must develop mechanisms to treat the universities as a system rather than eight poorly integrated institutions. But in doing so it must protect the principles of institutional autonomy and academic freedom that define a university in a liberal democracy.
6. To achieve this, we recommend a fundamental change in how policy is developed for the sector. We recommend the creation of a New Zealand Universities Council (NZUC) with responsibility on behalf of the Crown for strategic policy development and oversight of the sector. The membership and proposed terms of reference for that Council are described. The NZUC would have amongst its functions that of recommending on the funding mechanisms and incentives to manage the system within the available funding provided by the Crown.
7. University funding should be distinct from that of other components of the tertiary sector.
8. Until legislative change is possible, a Ministerial Advisory Committee could take on some of the non-statutory functions of the proposed NZUC and advise on the transition. TEC should reconstruct its operations to separate university funding and accountability from those of other tertiary institutions. When legislative change is achieved, then those university-related functions now conducted by TEC could be administered by the NZUC.
9. The panel has identified many ways the system could respond to New Zealand's needs into the future and address the many changes that are coming. Artificial intelligence (AI) may have major impact on universities worldwide and fundamentally change pedagogy and who provides it. This alone is a reason for a much more strategic oversight of the system.

10. The panel notes that while the universities are somewhat differentiated, incentives should be put in place to encourage further differentiation, so universities compete on areas of excellence rather than the current dynamic of competing for student numbers. Information technologies would allow the New Zealand universities to collaborate better to ensure access of students to courses in a more differentiated system. It would also allow clusters of research excellence to develop.
11. It is important that our universities continue to build their international reputation. In most cases it means identifying areas of strength and reinforcing these. The University of Auckland must do the same, but it is also important to New Zealand that Auckland employs strategies to ensure that it is more highly ranked within Australasia. Limiting entry more broadly is one mechanism, provided equity considerations are taken into account. International partnerships are one possible mechanism.
12. The size of the system needs reflection; there is a case for limiting growth and encouraging more students in alternative educational paths. The system contains some unnecessary and expensive duplications. Demographic change will have significant effects on the system – overall there is a falling birth rate, but the relative proportion of Māori and Pacific students will grow over the next two decades. Universities are well positioned to respond and assist the nation's need for more equitable educational outcomes for all.
13. International students are an important element of the New Zealand university system, but given geopolitical instability, precaution and international experience would suggest they should not be an excessive component of the student body. The panel endorses continuation of funding policies that give particular incentives to attract international PhD students.
14. The UAG identifies a number of concerns about university governance. It makes recommendations to improve the quality of governance and to protect the distinctive nature of universities as communities of scholars. In particular, it recommends an increase in academic representation on council, a formal mechanism for appointment of chancellors to ensure the skills mix is appropriate, and a mechanism to make nominations for Ministerial appointments.
15. The panel makes recommendations to protect and enhance academic governance, including advising on the appointment and reappointment of vice chancellors, given their role as head of the academic community, and to ensure that the academic voice in universities is strengthened and protected.
16. The constraints on universities as a result of system growth and funding not matching costs has led to increased instability in the academic and research workforce. Given international events, it would be desirable to achieve more stability. The workforce is further compromised by excessive internal bureaucracy which is related both to internal processes and requirements from TEC, NZQA and other agencies; these can be addressed.
17. The student body is significantly burdened by the cost-of-living issues and by high rates of mental morbidity in this age group. It is inevitable that student fees will remain part of the funding of universities. The student loan scheme was outside the panel's terms of reference.
18. Universities are critical to achieving equitable outcomes for all New Zealanders and universities must continue to focus on groups including Māori and Pacific people who have been underserved by the compulsory education system. Indeed, repeatedly in our consultations we identified concerns over the level of preparation of students to enter university. However, the UAG also recommends that it should be universities acting through UNZ that should determine entry standards, not NZQA.

19. Indeed, the panel believes many aspects of university process could be collectively developed through UNZ, such as codes for student welfare, codes for academic governance and codes for approval of academic qualifications, assured by appropriate peer review.
20. The panel recommends that CUAP cease and be replaced by a code for academic qualifications developed between UNZ and NZUC, recognising that with good academic governance and given the maturity of the universities, they should be largely responsible for their own development of academic programmes.
21. Universities should be careful to restrict compulsory courses to those required by vocational bodies or to where there is strong disciplinary and pedagogical justification.
22. The funding system is too focused on student volume capture, so the panel has laid out a number of principles to inform a revised funding system for the university sector. These principles include incentives for collaboration, provision to support needed high-cost, low-volume courses, and provision for new developments of national need.
23. The role of universities in micro-credentials and in lifelong learning is rather limited in New Zealand and has largely been taken up by independent providers both onshore and offshore. International evidence suggests an important and growing role for research universities to offer such services.
24. The panel supports continuation of the Centres of Research Excellence scheme with some modifications to ensure refreshment.
25. The panel considered the PBRF system; it agreed the funding should continue but it should be seen as core funding within the university system linked only to research intensity. PBRF would exist as a metrics-only based system, thus simplifying it, reducing costs and allowing more frequent adjustments. The PBRF should be renamed as the current term is a misnomer.
26. The panel recommends that universities' investment plans should be aligned on a 3- to 5-year cycle to allow NZUC to take a strategic view of the whole system. Performance and accountability measures should link directly to these investment plans, thus simplifying a bureaucratic situation that is driving significant cost.
27. The NZUC should use a dashboard to evaluate the system and its components. Elements of the dashboard could assist students in their choices.
28. Universities invest much in capital. The business case for capital investments should follow the same procedures as elsewhere in Crown entities. The current approvals needed for disposal of assets should remain, and formal business cases and approvals from NZUC should be sought for capital expenditures over \$75 million.
29. Universities, public research organisations, business and the policy community should look to enhance their interactions. There are many ways they can do so including shared staff and infrastructure. There may be opportunities for capital rationalisation over time. The parallel SSAG report makes additional recommendations towards such greater interaction.
30. The UAG supports creating a more seamless boundary for commercial developments but notes that the SSAG report emphasises that it is counterproductive to expect universities to gain incomes from IP development.
31. Finally, the panel wishes to emphasise the critical value of high-quality universities to New Zealand's future. While internationally there has been questioning of the role and positioning of universities, as our first report made clear, they are essential tools of a liberal democracy. Institutional autonomy and academic freedom must be protected, but universities must also

be conscious that they depend on social licence to have these privileges. Thus, universities have a responsibility to continually self-reflect and consider how they conduct themselves to ensure that their social licence is sustained and minimize the risk of political interference. As New Zealand faces the future, the universities' roles in producing graduates and exploitable knowledge and acting as a critic and conscience of society must be protected.

32. But major change in how universities function is inevitable, and we need a system that is responsive and adaptive. That has been the core driver underpinning this report.

## Introduction

1. The overall standing of the New Zealand universities is high, and New Zealand graduates are well respected globally. The universities collectively are the largest providers to the public research system. It is a sector that is now facing increasing challenges which will affect its future on multiple fronts. To the greatest extent possible, it is important and unequivocally in the national interest that the system is protected and supported.
2. The eight New Zealand universities have served New Zealand well since the University of Otago was started in 1869. The first female graduate and only the second in the British Empire, Kate Edgar, graduated in 1877; the first Māori graduate, Apirana Ngata, graduated in 1893; the first PhD was awarded in 1927. The PhD degree was abandoned but reintroduced after the Second World War when the concept of a research university became generally understood as a strategic priority for any advanced nation. The University of New Zealand was replaced by five autonomous universities in 1961. The system then grew with Waikato having its first students in 1964, Lincoln becoming an independent university rather than a college of Canterbury in 1990, and AUT becoming a university in 2000, having previously been a polytechnic. Over that time, the universities' research intensity has grown progressively, as has the size of the student body, particularly since policy changes across the democratic world in the 1990s encouraged more students to enter higher education.
3. The universities point to fiscal pressures they are under; faculty point to increasing workloads and expectations, some arising from growing bureaucracy; the research community point to low levels of investment by global standards in public research; students point to the cost of living and mental wellbeing challenges they face; and employers wonder about the vocational readiness of many graduates. These are but some of the perspectives that need consideration.
4. The positioning of universities and their role has come under question across the democratic world in recent times, and universities are increasingly criticised by some for going beyond their core mission and for being too isolated from the communities they serve. Their social licence to operate under the principles of institutional autonomy and academic freedom is being put at risk, and overt and problematic political interference has occurred in some jurisdictions.
5. As we discuss, the future holds more uncertainty and challenges. Indeed, technology may change the whole profile of higher education. Yet even while the positioning of universities may become more questioned by some, the importance of this sector to national development is unquestionable.
6. This report focuses on the steps the panel sees as desirable so the universities can optimally contribute to national interests by developing future workforces and citizens, growing our social, economic, environmental and geopolitical wellbeing, and performing their critical role in sustaining a healthy democracy.
7. Changes are needed in the strategic management and oversight of the sector so that it is treated more as a system than as eight potentially competing entities. Smarter and increased support from the Crown will be necessary over time for the system to optimally contribute to our national standing and global competitiveness.
8. Across the democratic world, universities are facing challenges and change. What have been relatively stable organisations over the period since the Second World War are now confronting multiple realities. While the focus varies, across jurisdictions the major factors that affect the sector include:

- a. Governments are increasingly seeing universities in a utilitarian mindset and are focused on graduate outcomes and transfer of knowledge to the private sector. These views place the broader and essential roles of universities at risk.
- b. Universities face fiscal issues as costs have risen faster than inflation and above levels that governments appear willing to fund.
- c. As universities become more vocationally focused, the importance of broader university education focused on critical thinking is placed at risk.
- d. Research income in many institutions and some disciplines is placed at risk by the declining and more utilitarian focus of public research funding.<sup>5</sup>
- e. Universities have become more complex organisations with growing managerial complexity and cost, and less academic satisfaction. Concerns about university governance and oversight are growing.
- f. Technologies (especially AI) and the experiences of distance learning emerging after the pandemic are impacting on what universities do and what students expect. The campus experience is in many cases no longer given as much priority by students. Fundamental changes will be needed in pedagogy. These developments may lead to very different choices as to how students seek their post-compulsory education.
- g. Issues of mental health in young people are impacting on the university community.
- h. As birth rates continue to fall significantly, universities face challenges in attracting students from a decreasing pool that might be addressed either by changing entry standards or by strategic change.<sup>6</sup> However, although New Zealand has an ageing population, there is an opportunity for the universities to reap the demographic dividends of a young age profile amongst Māori and Pacific.
- i. The value of some forms of university education is questioned by some commentators (and this is exacerbated by issues of student fees), with a greater proportion of students in the future potentially choosing alternative paths to career development.
- j. Employers are expressing more concern over the quality and employment readiness of graduates and the utility of the university qualification.
- k. Micro-credentials and lifelong learning have been provided variably by universities and are now being provided by a much broader range of providers.
- l. International education is too often seen as an income stream by institutions and would benefit from more focus on quality for these students.
- m. There is growing recognition of the multiple actual and probable impacts of artificial intelligence on learners, teaching and knowledge production.
- n. While rankings are an important part of evaluating aspects of university quality, they can also distort the focus of institutional leadership away from the many other components of providing a high-performance institution with multiple functions.

5 The SSAG has made specific reference to the need to support discovery research and research in the social sciences and humanities, and it discussed how criteria can be employed to avoid blunt political decision-making over fundable research domains. The panel strongly supports the protection of social sciences and humanities as core components of a research university's profile.

6 While the population is ageing, a growing proportion of young people of the age to enter university will be either Māori or Pacific – reaching ~40% of the entry cohort by 2040. Māori and Pacific populations have a younger age structure. Māori and Pacific peoples have a relatively high percentage of their population under 15 years of age. In 2023, 29.6% of Māori and 30.7% of Pacific peoples were aged 0–14 years old.

- o. In some countries, universities have become the subject of political attack. The value of research and broad disciplinary engagement has been questioned, and the global research endeavour is compromised.
  - p. The role of universities as critics and consciences of society is put at risk in such circumstances.
  - q. Debate about the role of free speech in a liberal democracy has emerged and been linked to matters of academic freedom and the role of universities.<sup>7</sup>
  - r. There is a potential for there to be loss of social licence for universities to have both institutional autonomy and academic freedom protected, due to perceptions held by some politicians and sectors of the public.
9. To a greater or lesser extent, New Zealand universities are affected by many of these changes, and this and the interim report confront these issues. What is clear is that our universities will have to adapt to these real and perceived challenges. It would be unfortunate if the Crown does not ensure these adaptations are made in the national interest.

## The New Zealand university system

10. New Zealand has eight institutions recognised as universities.<sup>8</sup> They are all Crown entities, but they are given a greater autonomy than many other Crown entities. This autonomy is reflected in their governance, the commitment to institutional autonomy and academic freedom – all concepts that depend to some extent on having social licence which is seen as inherent, given the important broader roles of universities in a liberal democracy.
11. But, as discussed in our interim report and above, universities have multiple roles and face multiple challenges both now and into the future. This review must focus on advising on what a robust university sector serving New Zealand's national interests should look like. Our overall conclusion is that strategically driven change is inevitable. The changes should reflect both the special character of universities with their institutional autonomy and the reality that the Crown has a vital interest in how the system as a whole performs for the national interest.
12. New Zealand is a small, geographically complex country with most of the population living in seven urban centres, all of which have university campuses and, in some cases, multiple campuses and universities. Demographic predictions suggest most future population growth will be north of Taupo.
13. The financial incentives currently imposed upon universities by the Crown mean they are compelled to compete to maximise their student numbers. This funding arrangement, combined with the high level of institutional autonomy and lack of strategic Crown oversight, has led to investments designed to maximise student numbers rather than maximise the quality of education – despite quality mattering greatly to staff, students, employers and the nation. This volume funding strategy may not be optimal in terms of meeting the national interest or that of stakeholders including students and employers.
14. There has been inadequate consideration of what the nation's needs are and of how the system and its components should focus on high quality in disciplines of national importance. The current system leads to inefficiency as well as less than optimal effectiveness. The current approach to strategic management of the sector is insufficient. Our earlier report makes the

<sup>7</sup> The panel notes these matters are subject of a Bill currently before the New Zealand parliament.

<sup>8</sup> The term 'university' is protected in New Zealand's legislation.

strong case for this gap to be remedied, preferably by forming a New Zealand Universities Council (NZUC)<sup>9</sup> which would have responsibility for providing strategic oversight, allocating funding and providing quality assurance over the whole system.

15. Because of legislative needs and consequent impacts on the Ministry of Education and the Tertiary Education Commission (TEC), an interim solution might be the establishment of a Ministerial Advisory Council and reorganisation within TEC to serve universities distinctly from other parts of the system.
16. The objectives of the NZUC would be to ensure the university system meets its objectives through (a) promoting collaboration (rather than competition) between the institutions for student access; (b) enhancing the quality of the research and teaching through greater differentiation of the current eight institutions; (c) oversight on the overall performance of the system and its components; and (d) advising on any reconstruction of the range of public universities, including providing advice in the event of any proposal coming forward for additional public or private universities.
17. The NZUC would achieve changes in the system in multiple ways, including:
  - Coordinated review of university investment plans, which would be linked to accountability measures and reporting.
  - Smart contracting, including the use of appropriate incentives in teaching and research.
  - Overseeing university governance.
  - Ensuring coordinated developments with the research and innovation system and with the vocational training sector.
  - Providing advice on investment in new initiatives and capital expenditure.
18. Except where the qualifications options are limited to provision by few or one institution(s) (e.g. medicine, dentistry, engineering, architecture, veterinary), many students choose their undergraduate institution based on issues of a personal nature such as closeness to (or distance from) family, student culture and facilities, and cost. For these reasons, it is important that the civic universities provide a broad range of courses. But digital techniques will make the potential for cooperation more possible and more efficient, provided course cross accreditation is made easier.<sup>10</sup>
19. At the graduate level, differentiation of programme offerings becomes essential for reasons of quality and efficiency, especially where practicums and research are involved. Quality is more likely to be assured where a critical mass of academics and researchers are co-located. If that cannot be achieved in one institution, collaboration in graduate training, as has been developed in many areas in Norway, offers a solution.
20. Graduate students should be encouraged to make their choices based on quality of the offerings.
21. The relative lack of strategic oversight at the national level has led to some less-than-optimal outcomes when viewed by the national lens rather than by institution. For example, there is little logic in two universities in Auckland offering professional entry-level courses in physiotherapy,

<sup>9</sup> Higher Education Council was the term used in the interim report but is intended to refer solely to universities.

<sup>10</sup> There are too few examples of inter-university cooperation in undergraduate education across the New Zealand system. There are many operational issues such as how student-associated income is dealt with, and the different course structures across universities create academic barriers. Institutional and academic egos and the incentives to maximise student numbers are the underlying issues. The collaborations between Otago and Victoria are an early and important example of collaborations in disciplines with low volumes.

which is an intensive practicum-based programme. Similarly, there are no compelling reasons for Wellington to have two expensive campuses of two different universities offering numerous overlapping courses.

22. Remodelling other aspects of the tertiary sector might make the university system more efficient and better able to meet societal needs. One limitation is the state of the polytechnic sector. The current Education and Training Act 2020 (ETA) has obscured the distinction between universities and polytechnics. The ETA could usefully be made clearer so that universities undertake the primary responsibility for postgraduate and research-based education and training.<sup>11</sup> International experience shows that excellent undergraduate education is possible in a scholarship-informed rather than in a research-intensive environment. But however education is provided, its quality depends on multiple factors including the staff-student ratio, the pedagogic approach (which can vary enormously), the size of the student body, the quality of faculty and the selectivity of the institution.
23. Universities have multiple roles that are distinct from the rest of the tertiary sector. The lack of a distinct funding stream from the Crown to universities limits policies being formed that are specific to the sector. Such policies could consider their broader roles beyond the education of students.
24. Despite our reservations over university rankings, they are informative and widely used globally. Auckland is clearly different to the other seven universities in its size, range of offerings and international ranking. There is a national need for at least one university to be of sufficient standing and reputation to reduce 'brain drain' to offshore, even at the undergraduate level. As mentioned in our initial report, it is worrisome that Auckland does not have a higher ranking in Australasia, and there is anecdotal evidence that high school students with high academic standing are preferring Australian to New Zealand universities (acknowledging there are also other reasons for doing so).
25. Regarding differentiation, AUT and Lincoln have clearly defined and differentiating strategies. The other five universities all have recognised or potential domains of excellence that need to be reinforced and promoted. And there will be emergent areas where it is logical that decisions as to location are needed; not every institute should duplicate its offerings. Rather, we need to ensure centres of depth and excellence in needed areas, and access at the undergraduate level can be assured in other ways (e.g. virtually).
26. A deeper issue is what should be the volume of students within the university system (see below). Quality protection and open entry are antithetical, but there are underlying issues of equity. There has also been a tendency to qualification inflation by some vocational sectors, which have their own regulatory frameworks: that may be unnecessary. Universities should focus on areas that require education in a research-active environment; this is not the case in every vocation, especially those requiring a three-year education or less.
27. These issues are just examples of where a lack of strategic thinking in how the sector operates for New Zealand's interests is obvious. And even when individual institutions are examined (which is largely beyond our brief), they too make decisions that may lead to short term advantage in fiscal terms (and respond to current incentives) but may not be either in their own long-term interests or that of the nation.

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<sup>11</sup> See ETA 2020 clause 268 (2)(d)(i)(B) and 315.

### **Recommendations**

- 1. Develop a new National University Strategy, and fund and administer the eight universities as a distinct system.**
- 2. As the highest priority establish a New Zealand Universities Council (NZUC) to (a) set strategy and expectations on the system, (b) provide high-level oversight and policy advice, (c) allocate Crown funding, and (d) monitor performance for the universities that is separated from the rest of the tertiary education sector.**
- 3. Preparatory to the establishment of NZUC, which would require legislative change, at an early date:**
  - a. the Minister for Universities should appoint a Ministerial Advisory Committee that could offer advice in relation to some of the functions proposed for NZUC and advise on the establishment of the new entity.**
  - b. Planning should commence for NZUC to transform from a Ministerial Advisory Committee to a government agency that will provide strategic oversight for the university sector, assume responsibility for the current functions of TEC in relation to the universities and provide the policy advice for universities that is currently the responsibility of the Ministry of Education.**

## Institutional and governance matters

28. The current legislation requires the Minister for Universities and the Minister for Vocational Education and Skills to issue the Government's Tertiary Education Strategy (TES).<sup>12</sup> The TES is revised periodically, although the current version provides little effective guidance for the university sector.
29. Acting through the education agencies within the public service, the Ministers implement the policies of the government of the day for the tertiary education sector. The Ministry of Education and the Tertiary Education Commission are the principal agencies of government for the universities. The appointment of a separate Minister for Universities is welcomed but to be fully effective will require separation of functions and agencies as recommended elsewhere in this report.

### The Ministry of Education

30. The Ministry of Education has responsibility for tertiary education policy advice. This places the tertiary education policy group and its policy formation in an all-of-education setting. In recent years, necessarily in response to successive governments' priorities, the tertiary policy group has focused on reforms for institutes of technology and polytechnics, and wānanga, with less attention being given to university issues. As our interim report highlights, we see an urgent need for greater policy development focused on universities. We made very specific recommendations related to addressing this gap, which we now reinforce in this second report.

### The Tertiary Education Commission (TEC)

31. The Tertiary Education Commission allocates government funding and monitors the performance, principally the investment plans, of New Zealand's tertiary education sector. The chief executive of the TEC is responsible for advising the Minister on the viability (primarily the financial viability) of tertiary educational institutions including universities.
32. The Education and Training Act (ETA) sets out the funding process, the requirements for financial monitoring and the forms of intervention when needed. Funding is determined through an investment system prescribed in the ETA. When allocating funding to providers, the TEC is required to give effect to the TES and utilise funding mechanisms issued by the Minister.
33. From the TES and a broad range of sources of intelligence about the demand and supply of university teaching and research, the TEC annually develops and publishes investment guidance, setting out priorities and what it expects to see in providers' investment plans.
34. TEC staff, having assessed the investment plans, recommend grant funding allocations for approval by the TEC Board. The TEC can decide whether or not to fund new programmes, although providers have autonomy in their internal resourcing decisions.

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<sup>12</sup> Tertiary education strategy [ETA s.7(1)]

The Minister must, by notice in the Gazette, issue a tertiary education strategy that sets out the Government's—

- a) long-term strategic direction for tertiary education, which must include—
  - i) economic goals:
  - ii) social goals:
  - iii) environmental goals:
- b) the development aspirations of Māori and other population groups; and
- c) current and medium-term priorities for tertiary education.

35. The funding process is relatively uniform across the entire sector. Given this vanilla methodology, it is unsurprising that TEC has organised itself with a single Delivery Directorate that administers funding and monitoring across the tertiary sector. This includes eight universities, 15 polytechnics, three wānanga and about 200 private training establishments, for education and training both on campus and in the workplace. The processes used for universities, wānanga and polytechnics are broadly similar.
36. TEC has also absorbed the former government agency, Careers NZ, and taken on an all-of-government responsibility for New Zealand's careers system, providing advice and coordination of agencies providing careers services. TEC responsibilities include the development of the national careers strategy and the careers information platform.
37. The eight universities receive approximately half of TEC grant funding that is allocated to the tertiary sector via the budget for teaching and research. From the university perspective, this funding provides 37-48% of their annual revenue.<sup>13</sup>

## UAG conclusion

38. There is a need to distinguish the universities from the other components of the tertiary sector in policy development, funding and oversight. Their needs are distinct, and it is misleading to suggest that they are closely integrated with other components of post-primary education. Their missions are distinct. The Government has recognised this distinction in establishing a separate minister who, as we have previously recommended is also minister for science, innovation and technology, a forerunner perhaps of an integrated ministry. Our report builds off that decision and the compelling logic behind it to separate strategic and policy development in the sector, its oversight and funding.
39. The New Zealand's Tertiary Education Strategy (TES) is intended to drive the TEC's decision-making and provider investment plans. It is not clear that it does so effectively or with sufficient granularity. The TES is comparatively very high level and focussed on setting out high-level shared goals for the sector. It does not provide a clear sense of the Government's specific aspirations for the tertiary sector, let alone for universities (e.g. a vision for what the sector will look like in the future) or any detailed direction on the priorities that it expects the TEC or providers to pursue.
40. The UAG has identified that the university system has insufficient strategic oversight, leading to a lack of:
  - a. appropriate differentiation and collaboration in the sector
  - b. focus on long-term issues and trends, including demographic trends, affecting the sector
  - c. proactive work to identify and address New Zealand's future skills needs
  - d. focus on the role that university education can play in strengthening civic participation and in improving New Zealand's economic productivity
41. The SSAG has also identified the need for greater integration and linkages between the university system and the rest of the research, science and innovation system, possibly cemented by overlapping appointments to peak bodies and reducing the operational barriers that impede greater collaboration. The UAG agrees with this conclusion.

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<sup>13</sup> This includes all teaching and research funding through Vote Tertiary Education. It does not include funding through research grants via MBIE. The differing numbers in places in this report reflect whether we are discussing total Vote Education Funding or the differing elements within it; DQ7+, PBRF, CoRES.

42. The UAG has concluded that the current arrangements for the government funding and administration of the eight universities can be improved in a number of ways. In the next sections we focus on system changes that could enhance strategic oversight and build university cooperation in funding and decision-making for the universities. They include proposals designed to diminish the regulatory burden by relying more on mutually agreed codes and, for compliance by the universities, to promote a significant shift towards self-audit.
43. The UAG has noted that appointments to the TEC Board of Commissioners properly reflect the multiple facets of tertiary education as well as membership diversity. This may be appropriate given current policy settings and the TEC's current mandate. But the thrust of this report implies a greater distinction for the policy settings and strategic oversight of universities. The current TEC model is not well suited for the future, and we conclude that fundamental change is needed.
44. By way of contrast, the former University Grants Committee, disestablished in the 1989 reforms, focused on the universities and was valued by the universities for its membership structure, which included three active senior university academics, and the appointment process. All eight members, including the UGC Chairman, were appointed by the Minister from a panel of nominations agreed by a conference of all university chancellors and vice-chancellors.
45. The UAG concludes that a strong case exists for establishing a separate agency to provide strategic oversight and policy advice for the university sector and to allocate government funding for the universities. To this end, in its interim report, the UAG recommended:

*"That urgency is given to addressing gaps in effective strategic governance and policy development in the university sector. The UAG recommends establishing a Higher Education Council [renamed in this report New Zealand Universities Council] to undertake those roles and to develop the appropriate oversight and funding mechanisms for the sector."*

After further considering a range of indicative structural options for strengthening strategic direction for the universities, UAG strongly reaffirms that recommendation, with a name change to reflect a focus on the university sector alone.

## **A New Zealand Universities Council (NZUC)**

46. Here we outline in more detail the purpose, functions and membership of a New Zealand Universities Council (NZUC), which will be a Crown entity responsible to the Minister for Universities.

### **NZUC membership**

47. The UAG envisages a small council of seven appointed members appointed in their personal capacities, plus two ex officio members. Collectively the group will have a deep understanding of the purpose and operations of universities; their value to New Zealand and its communities, including Māori and immigrant communities; and their international connections that are so vital to New Zealand. They will be aware of the international best standards and practices for research universities, and of trends in university education and research. For these aims to be realised, it is essential for the membership to include active senior academics from the universities who are familiar with the universities' major issues and opportunities and hold to the international values for university autonomy and academic freedom. These values, which extend to freedom from political interference in teaching and research, are enshrined in the ETA. It must also have external members with experience in strategic oversight of complex systems.

Expertise in economics and finance will be valuable. It would also enhance the committee's capability to have an international member familiar with the New Zealand system, most likely from Australia.

48. The NZUC must have regard to broader educational policy which is best met through the Secretary of Education being an ex officio appointment. The goal of the reforms underway is to bring the university and research systems closer together. Universities as a group are the largest recipients of public research funding and provide much of the nation's core research capacity. The SSAG has recommended the establishment of a National Research Council (NRC) and a cross appointment between the NZUC and NRC seems logical.

#### **Recommendation**

- 4. The NZUC (and the prior Ministerial Advisory Committee) should have nine members comprising:**

**Seven appointed members being:**

- i. Chair.**
- ii. Three senior academics in New Zealand universities who do not hold university administrative roles.**
- iii. Three independent persons of distinguished standing who understand the university and research sectors.**

**and two ex officio members being:**

- iv. The Secretary of Education (ex officio) or nominee.**
- v. A member of the Board of the proposed National Research Council.**

**Members shall be appointed by the Minister for Universities after consultation with Universities New Zealand (UNZ), subject to:**

- a. The Chair will not be in the employment of a New Zealand university or a member of a university council.**
- b. A minimum of one member to be expert in economics or finance.**
- c. A minimum of one member to be Māori.**
- d. All members to be appointed in their personal capacities. and, amongst their characteristics, to have national and international connectivity, and understandings of universities and research.**
- e. Appointments to NZUC should be for terms of five years.**
- f. Consideration should be given to making the NZUC chair an executive role that is full or part time.**

## **NZUC functions**

49. Establishment of the New Zealand Universities Council must await legislative change. The Council's principal functions should be defined in statute and are suggested in Recommendation 5. However, in undertaking its responsibilities NZUC must have due regard to international developments in higher education, domestic developments in education and other elements of tertiary education, the evolution of the research and innovation sector with which it is expected to have close liaison and, importantly, understandings of workforce needs as seen by both government and the private sector.

## Recommendation

### 5. *The New Zealand Universities Council's statutory functions should include:*

- a. *Advising the Minister for Universities on the development of a New Zealand University Strategy to be incorporated alongside other components in the Tertiary Education Strategy (TES) as the core policy document underpinning university education, research and innovation.*
- b. *Assuming strategic oversight of the evolution of a quality but more differentiated system, with focus on:*
  - i. *the national interest*
  - ii. *the objectives of whole system*
  - iii. *high-level objectives and performance measures agreed with each university*
- c. *Complying with government policies including those in regard to the Te Tiriti/Treaty of Waitangi.*
- d. *Advancing research and innovation in the universities.*
- e. *Promoting closer relationships between universities and the research system, in particular the Public Research Organisations.*
- f. *Allocating government funding for universities from the relevant appropriations.*
- g. *Monitoring performance of the universities and advising on Interventions.*
- h. *Preparing nominations for Ministerial appointments to university councils.*
- i. *Receiving and exercising the delegation from NZQA for the approval of university qualifications, with the power to delegate qualification approval to the universities subject to their compliance with the proposed Code for University Qualifications.*
- j. *In collaboration with UNZ, exercising oversight of university self-audit processes.*

50. While undertaking the above functions the New Zealand Universities Council must respect the institutional autonomy of the eight universities and in general avoid extending its roles beyond strategy, funding and oversight. However, its oversight function requires it to have comfort as to university governance, academic governance, financial management, qualifications, quality assurance, and student support and welfare. The panel concludes this would be best achieved by codes to cover these and perhaps other issues, the codes being jointly developed by the universities collectively via Universities New Zealand (UNZ), in partnership with the NZUC. In general, the universities should be responsible through their Councils for self-compliance with NZUC being assured on the processes of self-audit.

## Recommendations

6. *To the greatest extent possible, the regulatory structure for universities should be based on shared codes, developed and regularly reviewed by NZUC and UNZ, with responsibility for overall performance lying with the university councils. The list of codes should include:*
  - a. *University Governance Protocol<sup>14</sup>*
  - b. *Financial Management*

14 Meredith Edwards: *Review of New Zealand Tertiary Education Institution Governance*, Ministry of Education, May 2003. Recommendations 1-3.

c. *Academic Governance*<sup>15</sup>

d. *Quality Assurance*

e. *Qualifications*

f. *Pastoral Care and Student Welfare*

7. *Compliance with the codes should be based principally on self-audit by the universities, with the self-audit process and outcomes quality assured by NZUC.*

In subsequent sections the UAG amplifies on these recommendations and functions.

51. The Ministerial Advisory Group, proposed for the interim until NZUC is established, will offer advice on these matters to the Minister but not exercise the funding, monitoring and other functions that currently lie with TEC or other government entities.

## NZUC staff

52. In the system being proposed, it is envisaged that NZUC will be supported by a small staff. It is further envisaged that added responsibility will be devolved to the universities and Universities New Zealand (UNZ). For the interim, the Ministerial Advisory Group can be serviced from within the resources of the Ministry of Education and the TEC.

## Relationships

53. NZUC will be expected to work in close cooperation with the universities and Universities New Zealand. It will form close relationships with other government agencies that have responsibilities in the tertiary sector, notably TEC, NZQA and Education New Zealand. This will ensure appropriate relationships are protected or developed with other classes of tertiary educational providers.
54. The TEC in its current form and structure could not take on the roles suggested for the NZUC. If our recommendation for a separate funding stream for universities is accepted, it would be a matter for later consideration of how administrative and accountability functions were distributed between NZUC and a restructured TEC, but logic would suggest that this role ultimately lies with the NZUC.
55. It will be of crucial value to university research for NZUC to establish and maintain close relationships with the proposed PMSTIAC. Possible mechanisms include membership cross-representation and formal linkages between their support staff.
56. Both domestically and internationally, NZUC can promote greater cooperation between universities and the public and private sectors. A particular challenge is identifying future workforce needs and adjusting signals within the system to try and match these.

## Monitoring and intervention

57. Parliament, recognising that the Crown makes substantial investments in the funding of tertiary institutions and stands as the funder of last resort, has inserted in the Education and Training Act sections for the monitoring of TEI financial performance and for scaled interventions to remedy defects in performance. As is discussed elsewhere in this report, the panel suggests that the criteria and processes for intervention require better definition.

<sup>15</sup> Edwards op.cit.: Recommendation 7 proposed the formation of an Association of TEI Chancellors and Chairs. The UAG considers the intent of this recommendation can be achieved through the restructure it proposes for Universities New Zealand.

58. From their foundation, the growth and development of New Zealand universities have benefitted greatly from good governance and leadership, leading to international recognition for the quality of university research and education in New Zealand. The UAG also notes that the history of our tertiary institutions shows there is a significant risk that performance and reputation can be negatively impacted when an institution's governance falls short of the standards for good governance. This risk is not confined to the financial risks, for which there are explicit monitoring and intervention provisions in the ETA.
59. The UAG has concluded the financial performance provisions in the ETA can be supplemented by clauses enabling monitoring and scaled interventions for institutional governance, and that the exercise of all these provisions be safeguarded by codes for monitoring and intervention.
60. In a subsequent section, the UAG makes recommendations aimed at reducing the overall compliance burdens that universities currently associate with monitoring and intervention.

## A Universities Act

61. The Education and Training Act 2020 is overly complex, with sections relevant to universities scattered throughout. For university staff or other persons involved in university governance who are required to be familiar with the legislation, it is a morass.

### *Recommendation*

8. *As the opportunity arises in the legislative programme, the government should consider consolidating all legislation relating to universities into a new Universities Act.*

## Defining a university

62. The Education and Training Act 2022 has a rather limited definition of a university. While the future cannot be foreseen, given the shape of New Zealand's tertiary sector, a more robust definition might be desirable given other actors might wish to enter New Zealand. This is not to say the sector should not evolve, but we believe that the definition of a university and the protection of the term likely needs strengthening, as do the processes of approval. This is not urgent, but we see it as desirable the next time the Act is revised, and a number of our other recommendations do suggest the need for legislative revision, particularly if a New Zealand Universities Council is to be established.
63. The role of TEC does need to be considered in any legislative review. The factors driving this need are outlined elsewhere in this report.

## Universities New Zealand

64. In this report the UAG proposes considerably wider roles for Universities New Zealand and increased participation in its affairs by the chancellors and university councils. The changes are designed to promote greater collaboration between the universities and encourage the system to assume increased responsibility. They are also intended to reduce burden of compliance for the universities by increasing autonomy in governance and administration.
65. In recognition of the significance of the proposed changes, the UAG proposes that in the ETA the name of the New Zealand Vice-Chancellors Committee is changed to "Universities New Zealand". This change acknowledges that "Universities New Zealand" has become well-established as the organisation's brand, with good public recognition.

66. In Recommendation 22, the UAG proposes that NZUC receive and exercise full delegation from NZQA for the approval of university qualifications. NZUC would be given the power to delegate qualification approval to the universities subject to their compliance with the proposed Code for University Qualifications. A consequence of this recommendation is removal of the NZQA delegation of qualifications approval to the Vice-Chancellors Committee by deletion of ETA s.312(b).

### **Recommendations**

- 9. The Education and Training Act (2020) should be amended to:**
- a. rename the Vice-Chancellors Committee as Universities New Zealand.**
  - b. amend the functions of Universities New Zealand to reflect the broader roles envisaged for it in this report, which include the generation of codes and protocols for the governance<sup>16</sup> and academic administration of universities and, in conjunction with NZUC, the monitoring of self-compliance.**
- 10. The ETA should be amended to insert provision for monitoring governance, with scaled interventions. Codes for monitoring governance and intervention should be developed by NZUC in consultation with UNZ.<sup>17</sup>**

## **University governance**

67. The quality of the governance of universities by councils and of the academic and administrative leadership is pivotal to high performance of the universities. Councils and the vice-chancellor have a joint responsibility to ensure the university is a vibrant community of scholars serving the needs of teaching, research, outreach and engagement.
68. The UAG received feedback from submissions and from its university visits that governance arrangements could be improved. In particular that:
- University council membership and appointment processes could be reviewed to ensure the appropriate mix of skills-based and stakeholder membership for a modern university in our distinctive national context.
  - The roles and responsibilities of the council and chancellor could be clarified and/or strengthened to ensure appropriate levels of accountability both to the institutions they govern and to central government.
  - The role and remit of the academic committee (or senate) could be clarified and/or strengthened to ensure there is appropriate academic input into relevant matters.
69. The UAG has had discussions with offshore university governance experts in the UK, Australia and Ireland, and referred to the comprehensive *Review of New Zealand Tertiary Institution Governance* (2003) by Professor Meredith Edwards.<sup>18</sup> While many recommendations in that report have been implemented, the UAG considers there are others remaining to be implemented that will materially assist to provide more clarity, consistency and accountability for councils and

16 The UAG is aware that there are many precedents available, both in New Zealand and internationally, to assist NZUC and UNZ work with the universities to generate codes and protocols. The New Zealand Institute of Directors is an excellent source for good governance practice.

17 International examples of such clauses can be found in Government of Ireland: Higher Education Authority Act 2022; and Ireland HEA: *Governance Oversight – Higher Education Institutions*.

18 Association of Tertiary Education Management. (n.d.). Review of New Zealand tertiary education institution governance. ATEM eKnowledge Repository. [https://www.atem.org.au/eknowledge-repository/command/download\\_file/id/44/filename/Review\\_of\\_NZ\\_Tertiary\\_Education\\_Institution\\_Governance.pdf](https://www.atem.org.au/eknowledge-repository/command/download_file/id/44/filename/Review_of_NZ_Tertiary_Education_Institution_Governance.pdf)

academic committees. The UAG makes recommendations to effectively implement principles and processes recommended by Professor Edwards.

## University councils

70. While the duties and roles of university councils will continue to be defined in the Act, the University Governance Protocol will be able to expand and clarify them to encompass all aspects of governance for the universities. The council holds full responsibility for the performance of its university.

## Council membership

71. The following three paragraphs set out in full the current ETA provisions for the membership of councils. If the varying terms and dates of appointment and termination are also considered, it becomes clear that achieving the appropriate balance in membership is a recurrent problem, with gaps in the skill mix negatively affecting the quality of governance.
72. A university must have a constitution, which currently provides for between 8 and 12 members of council. The ETA<sup>19</sup> requires three or four appointments to be made by the Minister; either one permanent staff member elected by all the permanent academic and general staff or one academic staff member and one general staff member appointed by election from constituencies of permanent members of each of the academic and general staff; and one enrolled student by election from a student constituency. A council can by statute specify how the remaining members are to be appointed. All universities choose to make the vice-chancellor a member of council.
73. The Act requires that when making appointments, the Minister and councils must ensure there is at least one Māori member, a condition usually met by specifying that one member be appointed after consultation with by local iwi. The Minister and councils must appoint people who:
- i. have relevant knowledge, skills or experience; and
  - ii. are likely to be able to fulfil their individual duties to the council; and
  - iii. together with the other members of the council, are capable of undertaking its responsibilities, duties and functions.
74. The Act also provides that:
- An institution's council should, as far as is reasonably practicable, reflect:
- i. the ethnic and socio-economic diversity of the communities served by the institution; and
  - ii. the fact that approximately half the population of New Zealand is male and half the population is female.
75. The UAG has considered whether the council's size and membership mix remains appropriate. It has concluded that it supports continuation of the ETA membership provisions in that they provide for a broad combination of members, with representation for the university staff and students, and the balance being independent members drawn from the community.
76. However, the UAG has identified the following proposals for improvement of the appointment processes and quality of university governance. It perceives a need for the academic governance of universities to be rejuvenated, supported and strengthened, in some cases significantly. In this report the UAG recommends changes that extend the responsibilities of each university for its quality assurance and qualification approval.

<sup>19</sup> ETA clause 276 (membership of council) and 278 (matters to be considered when appointing council members).

77. With this factor in mind, the UAG has concluded that council deliberations and decisions relating to the core academic functions of research and knowledge transmission through teaching and outreach would be enhanced by expanding council membership to include two additional senior academic staff, elected by the senate from its members who do not hold a university administrative position.<sup>20</sup>
78. The UAG has also considered how to relieve the difficulties in achieving balance in the selection and nomination of council members. It proposes that all university councils have 14 members, being two more than the current maximum of 12 prescribed in the ETA. Of these 14 members, eight will be independent, being the four Ministerial appointments and four members appointed under the council statute. At least one must be Maori, generally appointed by council after consultation with local iwi.
79. Internationally, some university governing bodies have the same term and commencement date for all independent members. Setting the term of office at six years, with half the appointees rotating every three years, and permitting reappointment for a second term, would preserve considerable continuity. If implemented the measures the panel proposes would also assist with achieving a more balanced membership.

### **Recommendation**

**11. *The Education and Training Act (2020) should be amended to fix the size of a university council at 14 members with membership comprising:***

- a. 4 members appointed by the Minister***
- b. The vice-chancellor***
- c. 1 member of the permanent academic staff elected by the permanent members of the academic staff of the university***
- d. 1 member of the permanent general staff elected by the permanent members of the general staff of the university***
- e. 2 members of the permanent academic staff elected by the senate or academic committee<sup>21</sup> from among its members not holding full-time senior university administrative position.***
- f. 1 student enrolled in the university elected by the students of the university***
- g. 1 member who is Māori appointed by council after consultation with local iwi***
- h. 3 members appointed by council***

80. From submissions and consultation with the universities, the UAG has noted that the process of Ministerial appointments to councils has been the cause of some dissatisfaction. In the universities' experience, the persons appointed do not always reflect the particular requirements of a university council when a vacancy needs to be filled. These changes occur despite the council having agreed with TEC a list of nominations meeting the council's identified need for particular attributes or skills. The appointment(s) ultimately announced by the Minister are not always chosen from the agreed nominees. They reflect consultations at Cabinet, with caucus, and with coalition partners if the Government is in a coalition. The appointments do not always reflect the needs of the institution or the skillset appropriate for governance of what are complex bodies. Indeed, we have argued strongly in Report 1 that universities should be politically neutral.

<sup>20</sup> For clarification, a senior academic administrator could be defined as any academic who is a Deputy Vice-Chancellor, Pro Vice-Chancellor or other Senate member holding an appointment in the central administration of the university.

<sup>21</sup> In this report we use the terms senate and academic committee interchangeably.

81. The UAG has concluded that it would be in the interests of better governance and protecting university autonomy in the manner Parliament has enshrined in the ETA, to have (a) a more informed review of the nominations before making an appointment and (b) a higher level of independence from political considerations. It proposes the NZUC shall submit a nominee or a panel of nominations to the Minister from which the Minister may select an appointee or alternatively reject the nomination(s) and seek new nominations from NZUC.

### **Recommendation**

12. *The provisions for Ministerial appointments to councils should be amended to*
- a. *require NZUC to nominate one or more candidates for appointment to each vacancy, having regard to the criteria in the Act and the University Governance Protocol, and having consulted the relevant council.*
  - b. *Enable the Minister to choose which member to appoint from nominations put forward by NZUC but not substitute another person.*

## **Chancellor**

82. The chancellor is the chairperson of a university's council, elected by the council for a term not exceeding the remaining term of office of the nominee. The vice-chancellor, staff and student members shall not be appointed chancellor.
83. The chancellor is not only a figurehead and external advocate for the university. The role of chair demands experience and skill in good governance. The UAG has noted that some universities prefer to select as chancellor an outstanding New Zealander who can bring their distinguished status and connections to benefit the profile and development of the university, but that person may not be experienced in leading and managing the governance of large, complex and polyvalent academic organisations. While council as a whole has responsibility for the hiring and performance of a vice-chancellor, as in any governance board, the chair has the primary role in managing and advising the vice-chancellor. The chancellor must have the time, skills and experience to do this.
84. There must also be appropriate constructive relationships and clarity of the relative roles of the chancellor and vice-chancellor. Problems can arise when performance management is avoided. Further, given the representative nature of university councils, it is tempting for them to engage in operational rather than strategic and performance matters. The chair must have the skills to focus the council membership.
85. When developing the University Governance Protocol, it will be important for UNZ to recognize that it is essential for councils to be chaired by someone who has the skills and experience necessary for the chair role in a complex public business, including that of the interface with the vice-chancellor as both chief executive and academic head of the university.
86. Succession planning for the role of chancellor should commence well in advance of the end of the chancellor's term of office, and the appointee should have had prior exposure to the council before taking up their role. The UAG has noted some instances of professional external search for the next chancellor and considers this option should be included in the Protocol.
87. In view of the overall significance for good governance of the chancellor's role as council chair, the UAG considered recommending that the chancellor be appointed by the Minister on the recommendation of NZUC, but concluded it is more important for its cohesion and effectiveness that council continue to elect the chancellor from among its independent members. As a prudent check on the appointment, we recommend prior consultation with NZUC is required for their endorsement.

### **Recommendations**

13. *The chancellor should be elected or re-elected only after consultation with NZUC.*
14. *The University Governance Protocol should contain a section on the role and duties of the chancellor and their significance for leadership of the council.*

### **Vice-Chancellor**

88. The vice-chancellor is both the chief executive of the university and head of the academic staff. These are not identical roles. As chief executive, the vice-chancellor is responsible for the operations of the institution in all respects and is the employer of all staff, including academic staff. As the head of academic community, they are responsible for maintaining academic freedom, academic quality and sustaining the community of scholars that comprises the university. These roles can be in conflict and, in some jurisdictions and prior to 1989 in New Zealand, academic staff are employed by the council, not by the vice-chancellor, to avoid the potential conflicts or fears that can emerge when academics might be seen as criticizing their employer. While we do not propose any changes to this dual role, it is important that the chancellor and council must be willing to receive advice from senate and its members independently of the vice-chancellor if concerns arise.
89. However, while the appointment or renewal of the vice-chancellor as chief executive is the sole responsibility of the council, given that dual role, council must take formal advice from the academic community before the appointment or renewal of a vice-chancellor. Because of the sensitivity of these matters and confidentiality, the council should establish a confidential advisory group from the senate to be consulted on the vice-chancellor's appointment or renewal. In the case of renewals, this group should not include direct reports to the vice-chancellor.
90. Although there are academic representatives on council, in the interests of maintaining the community of scholars it would be prudent that in the event of any concerns about academic leadership arising, councils could take soundings from senate using a similar process.

### **Recommendation**

15. *Councils must formally consult confidentially with the academic community via a senate advisory group on the appointment or reappointment of a vice-chancellor.*

### **Induction and governance education**

91. Good governance practices include systematic reviews of performance, induction programmes, and planned professional development. Enhancement of university governance and administration practices through educational programmes is recommended as a high priority for NZUC, UNZ and university councils.<sup>22</sup>

### **Recommendation**

16. *That UNZ and NZUC expand support for governance through induction and other education programmes.*

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<sup>22</sup> The New Zealand Institute of Directors has comprehensive resources for the governance of a wide variety of organisations.

## Academic governance

92. Good academic governance is essential and is at the heart of a thriving university. That the world's great universities have been and remain enduring institutions is inextricably connected to the collegial processes that deeply involve academic staff, led by the professors, in their governance.
93. Wise institutional leadership of New Zealand universities by their councils and vice-chancellors would ensure that the academic voice is properly and appropriately heard and guides their decision-making, and that overriding that advice would undermine the integrity of what ultimately is a community of scholars.
94. The UAG received many submissions that worried about the state of academic governance, given expanding central executive teams and centralised administrative systems that impose bureaucratic constraints on academics' time for research and outreach. The trend is described as excessive managerialism and it has both external and internal causes. Internally, centralisation has apparently increased not decreased the administrative burden on academic staff. Externally, TEC and NZQA processes and other governmental requirements place a significant burden on the institutions.
95. The Code of Academic Governance that we propose to be prepared by UNZ and approved by NZUC should set the principles and practice that will lead to reviving good academic governance and ensure it endures in New Zealand universities. It should serve as a handbook for the senate and its committees.
96. The devolution of responsibility for quality assurance, and programme and course approval, will succeed only in the presence of alert, involved and collegial academic governance.
97. The UAG has noted that some academic committees include general staff as full members. The UAG considers that the pinnacle academic committee (senate) and its subcommittees concerned with academic matters should have their membership drawn only from academic staff, the university librarian and students, with professional administrative staff in attendance as necessary to assist.

### *Recommendations*

17. *Schedule 11 to the Education and Training Act 2020 should be amended so the academic committee (senate) membership comprises academic staff, the university librarian and students.*
18. *NZUC and UNZ should ensure the Code of Academic Governance sets out the principles and practice of good academic governance.*
98. The majority of universities have recognised that, with the growth in the professoriate, including all professors as senate members has led to an unwieldy body, potentially numbering many hundreds. In response, some councils have reconstituted senate to be representative of the faculties in the university while also including the senior university academic leaders.
99. The UAG considers that it is important for senate to enjoy a measure of independent consideration by ensuring faculty representation that is sufficient to bring broad knowledge and skill to the work of the committee and avoid administrative dominance.

### *Recommendations*

19. *The Code of Academic Governance should include guidance for the constitution and terms of reference to be adopted by councils for the senate.*

20. *The senate constitution should include provision for a clear majority of its members not to hold senior academic leadership roles in the university.*

100. An unfortunate outcome of senate restructuring to be less unwieldy has been an effective loss of the collective voice for academic staff. This defect could be rectified in the Code for Academic Governance by making provision<sup>23</sup> for that voice to be heard and counted on the rare occasions that substantial numbers of academic staff have significant concerns about the academic leadership and direction of the university, or shaken confidence in its governance and administration.

#### **Recommendation**

21. *Provision is made in the Code of Academic Governance for senate's membership to be expanded to include all professorial staff in exceptional circumstances.*

## **Qualifications and qualification approval**

101. Internationally it is highly unusual for universities to be subject to the extent of oversight and approval processes required of the Vice-Chancellors' Committee under delegation from NZQA.

102. The primary needs in qualifications approval are for the Government to be assured that the university system is of high quality, that there is a strategic understanding and oversight of the range of programmes available within the nation's university system, and that it evolves to meet future national needs. This higher level for consideration of programmes is not met by the Committee on University Academic Programmes (CUAP), which has a role that may now no longer be needed.

103. In the decades since CUAP was established, New Zealand universities have developed strong internal procedures for qualification approval and external testing of them against international best practice. Certification by professional bodies and accreditation reviews by international discipline bodies have become widespread.

104. Currently virtually every significant change in a university's offerings goes to CUAP for approval. In practice, CUAP does not provide a strategic analysis of need for a programme, rather it provides a quality assurance on content. We heard both positive and negative comments on this process. It is said to be slow and inefficient, making adaptive change difficult and opportunities difficult to exploit. The CUAP processes are episodic and requires that every university comment on other universities' initiatives. This, it is claimed, inhibits healthy competition. On the other hand, it has provided valuable peer review.

105. Good internal processes in any university would require that any new programme is subject to internal and external peer review. The panel concludes that these processes could be left largely, if not entirely, to the institution to manage and assure UNZ and NZUC that processes are in place to do so. It may often be that international peer review is more relevant than domestic review.

106. The UAG has concluded that internal approval practices within the universities meet international standards adequately enough for the universities themselves to be delegated the power to approve their qualifications with only a minimum of oversight from NZUC. The proposed Qualifications Code should contain broad principles governing structure and standards for university qualifications. The existing Handbook provides a good starting point.

107. Sometimes CUAP approvals have been obtained before agreement has been reached over funding. When new developments occur within current qualification structures, there should be

<sup>23</sup> A meeting of the expanded senate would be called if, for example 30 permanent academic staff signed a notice to the chair.

no need for CUAP or NZUC /TEC approval. If new programmes are proposed that would require additional resources from the Crown, these should be approved in principle by NZUC/TEC prior to their extensive development.

### **Recommendations**

22. ***Legislation should be amended so that approvals for university qualification are delegated by NZQA to NZUC which in turn delegates this power to the universities with minimal constraints.***
  23. ***That the Committee on University Academic Programme (CUAP) process be replaced with a requirement of universities to satisfy NZUC and UNZ that independent external peer review has been undertaken.***
  24. ***UNZ should establish a committee charged with developing the Qualifications Code and reaching agreement on:***
    - a. ***a system that enables students to enrol in more than one university for study leading to undergraduate, graduate and research degree qualifications without barriers to cross-enrolment and at no additional cost to the student***
    - b. ***improved cross-crediting for undergraduate degrees between institutions***
108. Over the decades there are many examples of qualification requirements for professional registration being upgraded. For example, undergraduate and postgraduate diploma qualifications have been expanded by including more advanced study, changing them to degree status. The UAG is wary of upgrades that have the same educational outcome but attract higher DQ7+<sup>24</sup> funding rates with the qualification being changed, for example, from bachelor's to master's level. Well known examples from the past have been proposals, not approved, to follow American practice, changing the medical qualification from the MB ChB to MD and the law degree from LLB to JD. In this context, the UAG noted two recent instances of upwards creep in qualifications, replacing bachelor's degrees as the standard for qualification for admission to health professions with new master's degrees designed to achieve the same professional registration. The policy implications of upwards creep in qualifications deserve broad national consideration.
109. Research-based degrees (i.e. those involving theses at master's or doctorate level) should in general only be offered by universities, allowing other tertiary sector providers to focus on vocational education and allowing costs for different forms of tertiary education to be better assessed. It is not a quality experience for a student to get a research-based qualification in a non-research-intensive institution. There would need to be some exceptions. Wānanga need to be able to provide for research-based degrees in the matakāwhiri knowledge-based system and in areas where they can support advancement of Māori aspirations and priorities. Other tertiary providers should be limited to very narrow exceptions where the depth of expertise and critical mass can be demonstrated. Such restrictions would ensure the continuing quality of New Zealand-based research qualifications.

### **Recommendation**

25. ***In general, research degrees be restricted to universities and wānanga, with other tertiary providers be approved to offer research degrees only in exceptional circumstances.***

<sup>24</sup> DQ7+ is the acronym used to define the funding stream for students enrolled at universities for diplomas and degrees.

## Size and scope of the New Zealand university system

110. Over recent decades, all liberal democracies have encouraged a greater number of school leavers into tertiary education with a view to the economic and social benefits that come from it. This includes entry into institutions that are scholarship or vocationally focused, even if called universities.
111. New Zealand has also seen over time greater numbers of school leavers and mature entrants engaging with universities, wānanga, polytechnics and private providers. But direct comparisons with other jurisdictions are hard to make given the variable definition of universities globally and the lack of clear differentiation within the polytechnic sector, which in many other countries is more clearly defined, even where polytechnics are called universities.
112. There is no agreed optimal percentage of students that should go to the different types of tertiary education. But globally there is some questioning of whether unlimited entry to research-intensive universities is desirable for both country and student. The value of research-based postgraduate education as a path to employment is less clear. In New Zealand, a postgraduate qualification does not provide a high value premium in most fields. While for some students there would be a negative private financial return, there are many non-material benefits of higher research-based education to a knowledge-orientated economy. There is also a risk of qualification inflation (when those industries regulating vocations require higher qualifications than traditionally required) and/or because institutions see that as providing a competitive advantage to students.
113. We have received comment that having eight research-based universities in a country of five million may be inefficient. We are not convinced by this argument but rather suggest that the eight universities look to gain efficiencies and quality through collaboration and differentiation in areas of identified strength. There may be a case, however, to reduce geographical competition in some cities. But such analyses require much more intensive analysis and evaluation, which is beyond our brief.
114. Clearly research university education is more expensive, given the broader obligations on staff, than polytechnic education.<sup>25</sup> More work is needed to define what might be the optimal size of each of these sectors. Doing so is difficult, given the current uncertain state of the polytechnic sector.
115. Other countries incentivise selected areas of research-based education, particularly in strategically desired areas such as engineering. New Zealand universities are cross subsidising from both low-cost courses and overseas fee-paying students to cover high-cost courses, perhaps most evidently in veterinary science. Our largely volume-based system for funding universities obscures some of these issues.
116. It is generally in the students' interests that research-based degrees should be restricted to universities, except in very specific situations such as in wānanga. This change would give students clearer vocationally directed paths. The caveat must be that these educational paths provide for better interchange for students between polytechnic and university educational paths as career intentions of individual students evolve.<sup>26</sup>

<sup>25</sup> Liberal studies colleges in the USA typically have much higher staff-student ratios and smaller class sizes, the Oxford and Cambridge system in the UK relies much more heavily on small college-based tutorials, etc.

<sup>26</sup> In countries such as Germany and Switzerland where the technical paths are much better developed and have higher status, the interchange is not difficult.

117. There needs to be closer examination of the qualification paths for several vocations, especially those where there is a large workforce requirement. For example, what is the role of university versus polytechnic training for nurses? Several caring professions and their professional bodies are requiring university graduates when shorter forms of education may be more appropriate.
118. The role for universities in micro-credentials and in lifelong learning is rather limited in New Zealand and has largely been taken up by independent providers both onshore and offshore, but international evidence suggests an important and growing role for research universities.
119. One relatively compelling argument is that the easiest way for universities to advance their standards and reputation is to limit their entry. The higher the entry standard, the more likely that the university's reputation is enhanced, with flow-on effects for the marketability of graduates, the retention of high-quality faculty, and research intensity. The issue for New Zealand is compounded by the quality of compulsory education, evidence of educational disadvantage for some societal groups, and growing issues of youth mental wellbeing.
120. The highest ranked research universities internationally generally achieve that quality by limiting student enrolment based on pre-entry academic success. The concerns regarding equity are generally addressed in such universities by scholarship provision.<sup>27</sup>
121. Downsizing universities would be expensive (staff loss, closure, excess capital), but at the very least consideration should be given to limiting the overall size of the system. And there are further considerations. First, the funding model for universities would need to be considered, perhaps shifting incentives from student volume to staff-student ratio. Second, it requires that the polytechnic sector is of high quality and itself has some differentiation. There is much to learn from larger systems and European systems in that regard. Third, it assumes the quality and suitability of high school education and there are clearly issues with this. Fourth, there are obvious equity issues that would need to be addressed.
122. Educational disadvantage and socioeconomic disadvantage are closely linked and still disproportionately affect components of our society, especially Māori and Pacific. The obvious response is improving the education system so that all students have the potential to demonstrate excellence. There are many inequities in high school education provision, which are reflected in the universities' provision of scholarships, pathway programmes and affirmative-action programmes for educationally disadvantaged and educationally underserved students. Demographic realities mean that the future of New Zealand depends on today's school cohorts, which have a large component of young Māori and Pacific people, having opportunities to contribute across every domain of society. The outcome for any individual is strongly influenced by their entire education journey including that through tertiary education. This demographic shift is a particular opportunity for universities.
123. Auckland sits in a different category of institution than the other seven universities with its potential to be higher ranked as a comprehensive research university within Australasia and the Asia-Pacific region. Some limitation of student volume based on entry standards to all of its courses may be advantageous to its reputation and thus ultimately to New Zealand's advantage. Otago similarly has a degree of effective limitation on growth given its focus and that it is a largely residential university. Other universities in New Zealand might see value in limiting entry to courses they offer in several areas to sustain quality.

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<sup>27</sup> This can drive debate about preferential entry and affirmative action.

124. The universities are best placed to make academic judgement as to entry standard for their institutions. We therefore recommend that UNZ should be the agency to collectively set the standard for the University Entrance qualification and this should be the minimum entry entrance standard for school leavers in all universities. However individual universities might set higher entry standards for some or all courses.

## The demographic and student realities

125. As pointed out in our initial report, major demographic changes will affect the university sector. Birth rates are declining, and the ethnic and cultural mix of students is changing. The risk is the universities will spend considerable resource in trying to maintain the status quo from a static or even decreasing pool of school leavers by competing in a tightening domestic market. However, unlike other countries with ageing populations, New Zealand has a distinctive opportunity due to the younger age structure of the Māori and Pacific population. Moreover, this critical sector for future leadership, including research leadership, is more likely to be committed to remain in New Zealand.
126. Sadly, the compulsory education sector is being slow to adjust and address the manifest issues in terms of student achievement, especially for those of lower socioeconomic background.
127. The mental health issues discussed in our first report combine with educational underachievement to put unrealistic challenges on universities.
128. Indeed, a significant part of the growing costs on universities, in particular the growth of non-academic staff numbers associated with managerial and compliance processes that has been the subject of public comment and controversy, is a direct consequence of this added burden.

### Recommendations

26. *The NZUC should regularly review the size and scope of the university system, and each university should consider where course-specific entry limitations based on academic standards should apply so as to advance their standing.*
27. *Standards for university entrance should be set by UNZ and where entry standards and limitations exist, appropriate pathways or support for educationally disadvantaged students must exist.*

## International students

129. The role of international students has been the subject of much international discussion and controversy in recent times. Both the UK and Australia have effectively constrained or reversed the growth of international students, for non-academic reasons. Generally, the university sector has become financially dependent on overseas fee-paying students. In some overseas institutions, the proportion of international undergraduate students is much higher than in any New Zealand institution. All the New Zealand universities put effort into attracting international students as a revenue stream. In practice the three universities with Auckland campuses and Waikato attract the bulk of these students.
130. But the value of these students is more than revenue – it helps New Zealand’s position in the world. The current model recognises the particular value of attracting research graduate students in that international PhD students are treated fiscally as if they were domestic PhD students. The panel applauds this recognition by the Crown. It highlights the reality that New Zealand universities play a key role in New Zealand’s broader international strategy.

131. But history has also shown that externalities and the broader geostrategic environment can acutely affect international student numbers, with adverse consequences. The approach taken to date by the New Zealand universities is to be applauded, but it would be a prudent component of risk management if the universities avoided becoming overdependent on international student revenue.
132. Higher entry standards that limit institutional size might have short-term effects on international student volumes, but it is likely that the ensuing enhanced reputation and rankings would be attractive and valuable to New Zealand's interests.<sup>28</sup>

### **Recommendation**

**28. Universities should not become overdependent on international student revenues.**

## **Domestic and international partnerships**

133. A recurrent theme in our report is the need for our eight universities to seek efficiency and quality through partnerships, both domestic and international.
134. The growing use of online approaches to teaching offers opportunities and competition. To a limited extent some cooperation already exists in low-volume courses where critical academic mass is limited in any one centre. But the potential is much greater and would allow students in one centre to also receive instruction from leading academics in other centres. This form of cooperation has been developed extensively overseas, for example in Norway at the graduate level. Some level of virtual critical mass can be created and potentially allows students in one centre to receive access to academics and sub-domains of disciplines that they otherwise would not have. There are practical and financial issues to resolve, but UNZ should be encouraged to do. The financial model we propose would provide incentives to make this happen.
135. In emergent areas or disciplines such as synthetic biology, AI or quantum computing, such a solution might ensure we have the capability in the future to take advantage of these technologies.
136. The restructuring of the CRIs into PROs, which is now underway, offers additional choices for greater student exposure, research degree opportunities and greater integration between these two components of the research system.

### **Recommendation**

**29. The universities should further collaborate to:**

- a. improve access of students at the undergraduate and course-based masters' levels**
- b. build effective critical masses of scholars for advanced studies and research**

137. Reputation also matters to academics, students and vice-chancellors. Universities and international students rightly or wrongly look to various ranking systems, both globally and by discipline, to indicate the institution's quality. Other small, advanced economies (most notably Singapore) and a number of developing countries (e.g. Rwanda) have used international strategic partnerships with leading universities in defined disciplines to accelerate their standing and give students exposure to a broader range of instructors (and potential opportunities) and provide a broader set of potential collaborators. These must be strategically driven partnerships but in an increasingly digitally connected world could offer broad advantage to New Zealand.

<sup>28</sup> History shows the value of attracting high-quality international students. The Colombo plan of the 1960s attracted many high-quality students to New Zealand from Asia, and many of those became civic and political leaders upon return to their countries of origin. New Zealand was able to benefit from these relationships for many decades.

### Recommendation

30. *As a means to lift performance and quality, New Zealand's universities should consider seeking formal international partnerships with world-renowned universities in the disciplines where they seek to excel.*

## The academic portfolio

138. At the heart of a university is the range of disciplines taught. Most teaching and research occur within clusters of academic units or departments termed faculties or schools. These are also the structures around which internal budgeting is allocated and managed. In turn these faculties largely reflect the shape of the qualifications offered. Hence the generic basic degrees such as a BA, BCom or BSc, the vocational bachelor's degrees such as MB ChB, BPharm or LLB. Postgraduate master's and doctoral programmes generally follow the same disciplinary or domain boundaries. Some students undertake conjoint degrees (e.g. two bachelor's degrees in parallel, with some cross-accreditation). Research-intensive degrees occur at master's and doctoral levels.
139. There are several trends in academe that will likely require changes within the portfolio of each university. An increasing number of vocationally focused students may not seek a traditional three-year degree. Technology may mean that some students have partial education from international sources. Universities globally are increasingly involved in providing micro-credentials, especially where retraining, or lifelong learning is the driver.
140. As governments expect universities to become more outward facing, they expect students and researchers to be more engaged with society and with industry. This engagement can include so-called co-operative education (or co-op programmes) whereby students get credit for activities undertaken in the private sector, and it may be that DQ7+ rates need to take this modality into account.<sup>29</sup>
141. Increasingly, intellectual innovation occurs at the margins and interfaces between such units. Many students now want training that crosses disciplinary boundaries, and that may not be met by the traditional conjoint degree. How academic programmes develop is primarily for each university to consider. The panel would merely note that internal administrative structures can inhibit developments, especially when academic programmes cross faculties.
142. There is growing demand for researchers and academics who have capacities in transdisciplinary methods of research and analysis – this is a distinct group of methodologies involving end-users as stakeholders, be they business, policy, NGO, community or iwi groups, alongside academics. Transdisciplinary research is seen by OECD and others<sup>30,31</sup> as central to addressing many of the 'wicked' problems in social and environmental spaces. Thus, universities globally are looking to produce scholars and graduates trained and skilled in these methodologies. It is generally accepted that this focus is not one for the undergraduate but should be built on in graduate research-based education. Transdisciplinarity, as particularly developed by the CoREs in their research, has played a major role in engaging Māori communities more in the life of universities and in their research.

29 A somewhat related issue is the cost to students in some vocational training courses when placements disrupt domestic arrangements.

30 OECD. (2020). Addressing societal challenges using transdisciplinary research. OECD Science, Technology and Industry Policy Papers, No. 88. OECD Publishing. <https://doi.org/10.1787/0ca0ca45-en>

31 International Science Council. (2023). Looking at the future of transdisciplinary research. ISC Centre for Science Futures. <https://council.science/publications/future-transdisciplinary-research/>

143. However, the promotion of transdisciplinarity raises the question of how to give a broader underpinning to undergraduates, and universities are looking to how to address that question.
144. In turn this question raises the issue of what in non-vocational courses should be considered as core competencies. For example, should all science graduates have some exposure to scientific ethics? These are academic questions that are better dealt with by the universities themselves but require adaptive thinking within funding structures and course approval structures. When core courses are introduced, the rationale for doing so must be qualification and pedagogically based. This has become a matter of some controversy within academic communities in several New Zealand universities.

### **Recommendation**

- 31. *Universities should be careful to restrict compulsory courses to those required by vocational bodies or to where there is strong disciplinary and pedagogical justification.***

## **The universities and lifelong education**

145. The universities will need agility to respond increasingly quickly to changes in employment. The AI revolution that is gathering speed will make many people in white-collar and blue-collar jobs who already hold degrees that specifically prepared them for those jobs, and who have never before contemplated that their work would be taken over by AI agents, suddenly finding themselves needing upskilling and retraining. Many will look to the universities to assist them with learning new knowledge and skills to fit them for alternative employment.
146. Courses for lifelong education have not always fitted easily with the cadence of universities, with their structured qualifications, mainly degrees, serving as the cornerstone of university education. There is evidence that New Zealand's universities are expanding their capability to deliver education for mature students in many forms, from micro-credentials and short courses to graduate diplomas and degrees, using multiple modes of delivery. This education can be scheduled day or night, weekdays or weekends and for durations that are concentrated in time or spread out over weeks, months, or even years. By growing online and distance education offerings, universities can meet the needs of students who prefer to study anytime, anywhere.
147. Regulators of qualifications and their processes will need to be considerably more flexible to adapt to constant change and to give providers the agility they will need to respond to changes in demand. Experimentation should be encouraged in every aspect of lifelong learning.
148. The proportion of the New Zealand population with master's degrees is well below the OECD average.<sup>32</sup> This area for expansion sits well with the universities and existing degree structures for master's degrees and graduate diplomas that are fully taught within the university or come in new formats, for example, a mix of on-campus courses integrated with commercial, industrial or professional experience.
149. Investment in lifelong learning could help universities to diversify their income streams. However, the UAG has noted that micro-credentials are subject to qualification approval regulations that may be inhibiting their development and promotion in universities. Another constraint is the cap on the tuition fee that universities can charge for a micro-credential course, which may be unrealistically low for some disciplines, especially in professional fields.

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<sup>32</sup> The OECD adult educational attainment distribution data for 2023 shows that in New Zealand 5.9% of the working age population has a master's degree, compared with the OECD average of 14.7%. Note that this discrepancy is in part a function of the New Zealand Honours degree (level 8), which is the first postgraduate degree available, whereas in most other OECD systems, the Master's degree is the first postgraduate degree.

### Recommendations

32. *Universities should expand their graduate degree and diploma programmes, especially in areas where they have existing disciplinary strength, and find ways to offer more short courses leading to micro-credentials.*
33. *The qualification approval regulations and the caps on tuition fees should be reviewed to ensure they are not constraining the development of micro-credentials in universities.*

## The impact of AI

150. AI is the most fundamental technological change in decades and will impact every aspect of university activity, from how it operates to how knowledge is produced.
151. AI is already having profound effects on the operations of many business and professional organisations, and the eight universities should be exploring how they can work together to develop more efficient administrative and reporting systems. This exploration should include UNZ, NZUC and TEC so that integrated developments occur.
152. Given that most students now entering university are using generative AI including large language models and this is now a norm within society, universities will have no choice but to accept that reality and consider how that affects teaching and assessment. Again, the universities will need to share developments.
153. AI is already changing many professions and the demands for graduates in these professions may rapidly change. Internationally, law and accounting are already being impacted, and this will affect offerings across the system and may need system management to ensure optimal evolution of the graduate mix.
154. There is now a realistic possibility that AI-based personalised education will replace many courses as currently taught at university. International consortia of prominent universities are forming to use AI-based education as the basis of global penetration. It is not unrealistic to imagine that over the next decade the fiscal viability of civic universities may be compromised by changes to the delivery of the volume-based undergraduate courses and the cross-subsidisation that lies at the heart of their business model. This trend may further accelerate the shift away from campus-based education (which would be unfortunate) and indeed away from traditional undergraduate degrees and towards new forms of shorter education. It may also mean that more New Zealand students seek offshore credentials, in this case without leaving New Zealand. If this type of scenario evolves then universities of the future may become more focused on courses with practicums, and the research intensity in their offerings will be even more critical. It may reduce the volume of students going to university as school leavers.
155. The production and reporting of scientific knowledge is being greatly changed by AI, and this will likely affect faculty, the research mix and the needed skills. Many staff may need upskilling in this environment to stay competitive, and academia will need to provide short sabbaticals and courses for staff to gain skills.
156. In a country that does not have the scale to be fully technologically sovereign, and one that has been rather slow to embrace advanced digital technologies, universities must look through multiple lenses at the potential and risks AI poses to them. The SSAG report highlights the need to have focused centres of excellence in advanced technologies. But beyond that, the universities need to work together to ensure the next generation of students get world-class education, both in traditional but increasingly in new ways. Smart partnerships within and beyond New Zealand will be needed.

## Recommendations

34. *It needs to be recognised that while the future is not yet clear, the probability is that AI will drastically change the shape and role of many educational institutions including universities. Strategic oversight will be needed to ensure that government and institutional governance is able and ready to adapt as circumstances demand.*
35. *The UAG recommends a system-wide approach to the development of AI for teaching. Government and universities must be ready to seize technological opportunities to enhance teaching and research.*

## Quality assurance

157. The UAG notes that UNZ intends to disestablish the Academic Quality Agency (AQA) for New Zealand universities after its current round of institutional audits. This move is consistent with the direction of travel in this report, which is to encourage the universities to take even more individual responsibility for quality assurance through a shared Code for University Quality Assurance and self-audit for compliance with the code. Universities New Zealand would coordinate with the universities in the development and regular review of the shared code, and NZUC would periodically review for each university the process of self-compliance and its outcomes for excellence in teaching, research and knowledge transmission.
158. The joint publication by UNZ and AQA of the publication Academic Quality Assurance of New Zealand Universities is a good starting point for the production of the proposed Code for New Zealand University Quality Assurance. There are also many international codes from which to draw precedents.<sup>33</sup>

## Faculty

159. Our first report highlighted issues related to the state of academic faculty in New Zealand. Here we reiterate our concerns.
160. Faculty face a number of burdens that could be significantly lightened. In some institutions we became aware of high teaching loads being imposed on staff because of fiscal restraints. This imbalance suggests fundamental issues in such institutions, which require strategic consideration. In all institutions we heard of the burden of administration being placed on academic staff, ironically often in the name of efficiency but frequently producing inefficiency and low morale. An additional burden on teaching staff is that of combining online and in-person teaching. It will take time to establish effective processes that allow staff to both teach and research. The SSAG report raised the burden of research grant applications in an underfunded system. University staff face the same burden when pursuing research funding, placing large real costs on staff and the institutions. SSAG will be recommending simplified application systems.
161. Issues extend across the life cycle of academic staff. Many young academics have highly precarious careers based on short-term teaching contracts or short-term fellowships and research grants. In mid and late career, some staff burn out as researchers but must continue to be seen as researchers rather than being able to or encouraged to focus on teaching. Changes to the PBRF may make it easier to shift expectations for such staff between teaching and research.
162. Different universities have widely variable promotion and tenure criteria. Some focus their weighting almost entirely on teaching and academic research, whereas others give some

<sup>33</sup> An example is *The UK Quality Code for Higher Education*, UK Quality Agency for Higher Education 2024.

emphasis to the “third mission” of outreach engagement, policy relationships, etc. Given that it is important that universities are part of society and the community, university academic staff policies should reflect these components and allow that over a career, the balance might change between teaching, research, administration and the third mission. It can be counterproductive if there is a very formulaic approach that treats all staff the same even though they may have different attributes and skills.<sup>34</sup>

163. While employment is primarily a matter for the vice-chancellor, it is the university council that must ensure that the university is at its heart a vibrant community of scholars. Councils should be expected to review the employment mix within their university periodically to ensure there are opportunities for early career academics and researchers; that very recurrent short-term employment is avoided where possible as that makes research career and academic development difficult; that processes exist to rebalance workloads as careers evolve; and that efforts are made to reduce administrative burdens on academic staff.

#### **Recommendation**

36. *University councils and administrations should give more attention to the negative impacts of the expansion of centralised university systems and services on staff welfare and morale and invest in mitigation of these effects.*
37. *Universities should create more opportunities for staff to broaden their experience by secondments, rotations, exchanges or parttime appointments in industry and in public service.*

## **Student wellbeing and other student matters**

164. A central role of universities is to provide research-based undergraduate and postgraduate education to the student body, of which the largest component are school leavers directly entering university life in late adolescence. In the socioeconomic, demographic and technological contexts of today there are increasing challenges for these students and the universities.
165. Students face real cost-of-living issues. The emergence of online teaching, especially after Covid, has meant that many students are forgoing campus life and experiences for online learning so that they can take jobs in normal teaching hours. The combination of working and learning produces enormous pressures. The student loan system is designed to help reduce these pressures – but there is great temptation to earn rather than attend in person. Campus life is an important element of the university experience, and while the trend away from it is perhaps inevitable, it will come at a cost.
166. The current cohorts of adolescents are facing much higher rates of mental morbidity than past generations. The causes are multiple but reflect the very changed world young people grow up in. Some surveys suggest more than 30% of young people may currently have challenges to their mental wellbeing, and this disproportionately affects some groups including Māori, Pacific and the rainbow community, placing burdens on both them and the universities. The solutions are not obvious but the cost to universities is large.
167. It is becoming clear that significant numbers of school-leaver students are poorly prepared educationally for university, placing a burden on fellow students and faculty. This matter is largely beyond our ability to comment, but that persistent educational disadvantage is in conflict with the key role of universities in achieving equality of opportunity.

<sup>34</sup> There are many examples internationally of good practice, and some universities in New Zealand have already adopted the approach recommended.

168. In recessionary times, students will tend to choose university and loans over the challenges of seeking employment. This choice is understandable and is responsible for the upturn in student enrolments in 2025, which is putting further fiscal pressure on the system. In many cases such students might be better placed in alternative vocational training paths, but the lack of status for such qualifications and the need for clearer differentiation within the polytechnic sector may be affecting student choice.
169. As noted elsewhere in this report, students at the undergraduate level tend to choose their university on a variety of social, personal and vocational grounds. But the system is small and much promotional material from universities is largely aimed at student capture for economic reasons rather than providing informative information about particular areas of expertise. While not perfect, there is sufficient information for students to be provided with better indicators of the strengths of each university – this may be a role for NZUC. The promotion of collaboration in teaching may be a further solution to ensure all students get high-quality teaching, particularly so postgraduate education, in both course-based and research-based programmes.
170. International students are a distinct cohort which are of immense value to the university environment (as well as economically). They have distinct needs but the universities in general service this cohort well.
171. Given these various factors, universities will continue to have to invest in student support and in enhancing the value of both campus life and the online space. Collaboration between the universities will assist the latter. The issues of mental wellbeing for this and future cohorts require greater attention from earlier in life within the compulsory education and public health sectors.

## Equity

172. Universities are crucial institutions in ensuring equality of opportunity for young people. Achieving excellence and ensuring equity outcomes are not at cross purposes. New Zealand's universities have recognised their obligations as agents in achieving equity of outcomes and have used multiple initiatives to enhance access for educationally disadvantaged students. However there remain course completion, continuation and progression gaps between Māori, Pacific and non-Māori students, reflecting in no small part disadvantages earlier in the educational journey. This issue has been poorly understood and has been confused and politicised in ways that are not useful to ensuring that universities are able to draw excellent students from the growing proportion of the entry cohort who have been underserved in the education system – a reality that often gets aligned with ethnicity. Universities should be congratulated for their efforts, and the panel makes no recommendation for change.
173. We support actions taken in the universities in professional training programmes for the vocations to ensure the mix of graduates reflects population needs, be it on an ethnic, rural (in the case of medicine) or disability basis.
174. The UAG considers learner success is a vital consideration for the equitable provision of university education in New Zealand and proposes merging learner success into the investment plans. Similar considerations apply to the Disability Action Plan.

### Recommendations

- 38. *Universities should be free to take actions they see fit to address concerns about educational disadvantage.***

39. *Learner success should be included in the Code for Academic Governance.*
40. *The separate submission of Learner Success Plans and Disability Action Plans should be discontinued and sections for learner success and disability action instead included in the universities' Investment/Strategic Plans.*

## Funding

### University finances

175. All New Zealand universities have been individually adjusting to significant revenue decline across the board in real terms since 2016, from government, private and international sources. During the same period, they have experienced major cost pressures, from salary and wages, imported inflation, and declining NZ Dollar exchange rates. Revenue declines and cost pressures were exacerbated by the Covid crisis, from which there has been partial financial recovery. Some of the changes from the Covid years have persisted, such as accelerated change in students' learning behaviour to accommodate their need to work for income support; increasing adoption of distance learning; and the continuing shifts in educational preferences towards disciplines with employment prospects. All these factors require continuing adaptation by universities.
176. The continuing fiscal pressures on the universities cannot be ignored and are also present in other jurisdictions, reflecting the need for revised policy positions on the role of the research university sector.
177. Globally, government and public support for university research and teaching are being significantly questioned and challenged across many liberal advanced economies. The impact of policy changes and funding constraints is seen in continental Europe, the UK and Australia as well as in the USA (although other factors are in play there as well).
178. In the absence of a strategic view of the whole system, the extremely constrained environment can motivate counterproductive and undesirable behaviours. We have seen this in other jurisdictions, and the evidence is that universities here are also making decisions that may not be in the national interest although are logical from their own perspective. These compromises affect the quality of some courses; drive greater career precarity and affect staff morale, recruitment and retention; lead to the reduction in the provision of vital high-cost, low volume courses (independent of national need); and drive curriculum provision based on student capture rather than on pedagogical need. It has driven unnecessary competition between the universities for domestic students and over-investment in marketing and non-core activities.
179. In the current climate for university education, diversification by duplication may not be a good response to revenue decline. The UAG has noted that some universities, acting with the high degree of autonomy to which they been accustomed since the 1989 reforms, have been diversifying into areas which are already well provided for and not fully utilised, nationally and even locally.
180. There are some fundamental questions. Are the system's current incentives aligned to promoting the national interest and need? Can the Crown's purchase of services from universities be smarter and more strategic? What should the balance be between public investment in students' education and investment by the students themselves? This is a question to be considered in policy choices about student fees and student loans.

181. Universities each get between 32% (Lincoln University) and 43% (Auckland University of Technology) of their overall income from the Crown through bulk funding which is comprised of two main components: a contribution<sup>35</sup> based on student volume and course type (which is set for each university by TEC) and a contribution related to research intensity (the PBRF). On top of that, universities compete for research funds either in the form of Centres of Research Excellence funded by the TEC or in the contested research-funding mechanisms conducted via MBIE. They also receive student fees, philanthropic donations and commercial research contracts. Linking the largest income component to student volume incentivises the universities to primarily compete on volume.
182. If NZUC were to conclude that aspects of university teaching and learning other than student numbers need to be incentivised and more flexibility introduced to accommodate or incentivise those changes, then the quantum of DQ7+ and the PBRF may need to change. We would envisage a component from either or both of these funds could be held back to incentivise approved collaboration to ensure student access or to encourage research student exposure to excellence beyond a single institution. The issues of ensuring easy cross crediting are also relevant.
183. There is evidence of increasing competition between universities for domestic student enrolments. Some universities have been competing to hold on to local students and attract the mobile students seeking an away-from-home campus experience elsewhere in the country. These universities have been experiencing corresponding sharp fluctuations in their revenues, with some experiencing financial stress from shifts in student preferences. Simultaneously, some universities have excess capacity that was built in times of strong student demand driven by population growth and incentivised by a funding system that has encouraged competition.
184. There is now a significant mismatch between the size of the system, what it offers and the way it is currently funded and how the system might evolve. Hence our argument for more strategic oversight of the system. In this report the UAG is encouraging Government and universities to focus more on a strategy of quality improvement, to build disciplinary strength on existing bases, without losing competitive stimulus. This strategy requires a supportive Government strategy for its university administration and funding framework.
185. The UAG is advocating revenue protection and growth by increasing system-wide cooperation, with more specialisation, enabling the overall system to concentrate resources, grow existing strengths and expand into the new areas of research and development where New Zealand is currently lagging behind international progress. Such fields include artificial intelligence, quantum computing and synthetic biology, all vital to the current and future economy.
186. The nature, scope and quality of what are largely autonomous decisions by universities, through their strategic and capital plans, and their future development in relation to national priorities and the university system seen in its entirety, is central to the future of university development in New Zealand.
187. In the time provided for this review and with the limited resources made available, the panel can only recommend principles to drive the funding mechanism, but the detail requires considerable work by officials before it can be operationalised. The recommended principles also assume a move to a more strategic oversight of the system.

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35 The vast majority of this funding comes from the Delivery at Levels 7 (degree) to 10 on the New Zealand Qualifications and Credentials Framework funding mechanism (DQ7+) which sets 18 bands for different groups of disciplines and within each band four weights according to the level of education. The TEC then uses that to define the teaching grant to each tertiary institution including universities. Universities also receive a small amount of subsidy funding for sub-degree delivery.

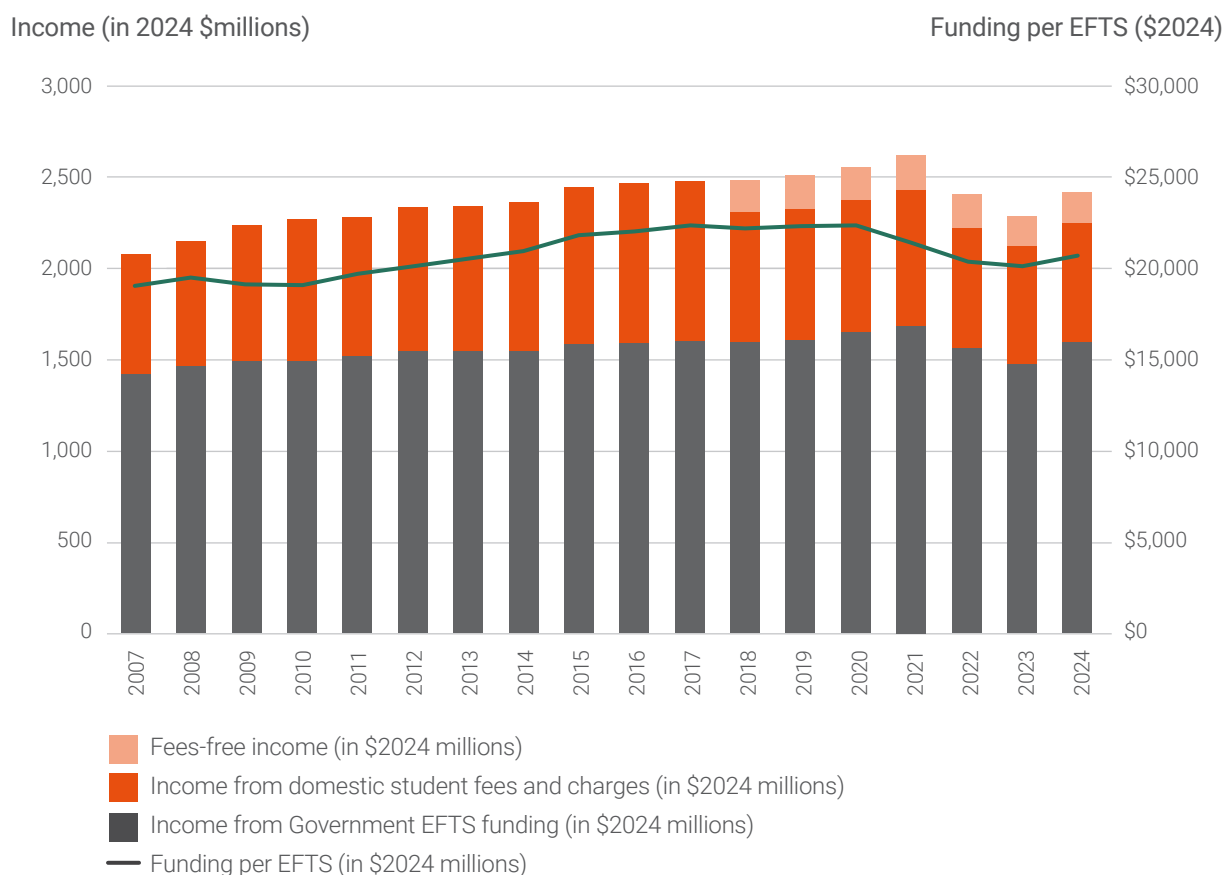


Figure 1: Teaching related income from government and students to the university sector 2004-2024. Government funding used here includes EFTS Related TEC Funding ie SAC./DQ7+, Adult and Community Education and Youth Guarantee funding, plus EFTS related non TEC Crown Funding, plus other non-research on (implementation) plan TEC Funding. It excludes research funding and off plan funding from TEC and other non-TEC government funding. Research funding was not fully separated from government tuition subsidy funding until 2007. To provide a fairer comparisons with later years, income from Government EFTS funding has been estimated for the years 2004 to 2006 excluding this research component. Source: Ministry of Education.

### Box 1: The 2025 student enrolment upturn

Domestic student enrolments in the universities have jumped in 2025, exceeding predictions, and providing a challenge to the government, TEC and the universities in that the growth exceeds the ability of the system to fund it under current provisions. With the economy in recession, the jump in enrolments should be expected, and this upwards influence on demand is likely to reverse as the economy recovers and students switch out of tertiary education to take advantage of expanding employment opportunities.

The increase in enrolments can also be explained by the cohort of final-year secondary students reaching a peak in 2028, from which projections for outer years show a long declining trend.

In their future planning, universities will be looking for ways to accommodate this temporary peak, while preparing for the coming decline in undergraduate domestic student numbers.

## Recommendation

41. *There needs to be a closer alignment between strategic policies for the university system and the funding made available by the Crown. Greater investment will likely be needed to ensure New Zealand's universities retain their reputation and quality and meet New Zealand's future needs.*

## Revenues

### Teaching and learning revenues from Vote Tertiary Education

188. The universities receive an average of 38% of their funding from the three main components of TEC funding: EFTS funding for teaching and learning; the PBRF to support research activity in all disciplines; and funding for the CoREs to incentivise the universities to collectively invest in centres of research excellence. Funding for PBRF and CoREs declined in real terms between 2016 and 2025.
189. Domestic student income, shown in Figure 1, declined between 2021 and 2023, increasing again in 2024. Part of the 2024 increase was due to a time-limited funding rate increase which will expire after 2025 unless extended by Government. The Minister permitted universities to increase student fees by up to 2.8% in 2024 and up to 6% for 2025.

### Research revenues from Vote Tertiary Education

190. PBRF funding has remained unchanged since 2017 (a decline in real terms of 22.3%) while CoRE funding was last adjusted in 2016 (a decline in real terms of 23.9%). These reductions have effects on all university research, with a more severe impact on disciplines such as the humanities and creative arts that are expected to have a strong presence in a university system, but which cannot easily find alternative sources for funding their research other than from internal university decisions.<sup>36</sup>
191. Cuts in the value of government contract research funding have also depleted university research revenues. The end of the National Science Challenges (NSCs) in 2023, without any new programme emerging, left a significant hole yet to be plugged. Universities recruited to New Zealand a number of international experts for the NSCs who work in fields highly relevant to New Zealand, and universities note that without replacement funding, some of these researchers have left the country, while some remaining are unlikely to be able to be supported to stay.

### International student revenues

192. International student enrolments, measured in EFTS, have been recovering substantially towards pre-Covid levels, especially in Auckland and Waikato. There has been a pattern shift from undergraduate degrees to one-year master's degrees, which will potentially result in less stable revenue than when there is the flow-on of enrolment over three years with undergraduate programmes.
193. Globally, major shifts are taking place in demand and supply for international student places.<sup>37</sup> Destination nations for international students are cutting back on student visas and restricting international enrolments. Simultaneously, students' home nations are expanding the supply of university education. These changes are pervasive and will have significant implications for many universities that rely on international student fees to bolster their income.

<sup>36</sup> We note the SSAG is recommending distinct pillar for humanities and creative arts research via the proposed National Research Council.

<sup>37</sup> See for example *University World News*, 23 March 2025 Issue No 824, which contains reports that UK international students are down 7% in the first fall in 10 years; interest in studying in the US dropped 42% in January 2025; and Indian students abroad have fallen by 15%, in Canada by 41%.

194. Generally, Asian countries with rapidly developing economies and rising affluence in middle classes have ambitious plans and programmes to build and enlarge their university systems to provide the same innovative engines for development of their societies and economies as advanced western nations.
195. China and India, the two countries that in recent decades have between them provided the greater share of international students, have well-funded government programmes to build up university research and teaching. China continues to build “100 great universities” in its drive to match the well-established premier universities in western nations. Their climbing international rankings confirm that Chinese universities are achieving top-rank global status for their research and teaching. As these universities strengthen further and become more numerous, it will be inevitable that students will be enrolling more often in their home nation.
196. Closer to home, the Australian government has cut back significantly on international student visas. The major research universities in the Group of Eight that expanded their international student numbers to as high as 50% of total enrolments are now losing some of that high-margin revenue, which has been supporting their large research programmes.
197. When the councils of New Zealand universities adopt their international student strategies and policies, they will need to continue to be wary of risks inherent in these observed trends and the unpredictable sudden changes in the demand which can occur, such as with pandemics and political restrictions.

#### **Other revenues**

198. Research grant and contract revenue is increasingly constrained as New Zealand continues to be a relatively low public and private investor in research and development. University staff spend a disproportionate amount of time seeking research grants and this inefficiency has a high cost. This cost is discussed at length in the SSAG report.
199. The SSAG report also focuses on universities as important sources of intellectual property. Commercialisation of IP must be supported by universities, but it is not a driver of university income anywhere in New Zealand or, with rare exceptions internationally. Rather, universities promote private sector-driven innovation by generating well-trained graduates and know-how, and by enabling the exit of IP from the universities to the private sector. The SSAG report makes clear recommendations, which are aligned with announced government policy, to promote transfer of intellectual property to the private sector rather than universities trying to make a return on it.
200. The universities receive some philanthropic support and put considerable effort into promoting and obtaining this funding, which provides for scholarships, endowed academic and research appointments, infrastructure and research support.

#### **Operating expenditures**

201. At the same time as universities have been experiencing revenue decline in real terms, they are experiencing significant operating cost pressures. There are many sources,<sup>38</sup> including:
- inflation and adverse exchange rates
  - restructuring costs as disciplines are expanded or contracted

<sup>38</sup> A recent survey of financial pressures on Australian universities is the *KordaMentha Higher Education Annual Report*, KordaMentha, December 2024. The report’s headline is that “Australia’s higher education sector is experiencing its most significant shake-up and greatest challenges in 30 years”, an observation that could equally apply to New Zealand’s higher education sector.

- essential investment in systems for teaching and learning
- investment in modernised administrative systems
- expensive research infrastructure

202. The expansion of non-academic staff in universities is the subject of much comment in submissions to the UAG, has been a topic for commentary,<sup>39</sup> and has received media coverage in many other countries. It is difficult to get a firm picture of the realities because of the way such data are collected, and staff roles are characterised. An increasing number of academics also appear to be diverted to administrative leadership roles. But factors that appear to be changing the perceived distribution of staff roles and the size of the overall workforce, however it is characterised, include:

- Growing imposition of requirements for compliance with regulations and the demands of central government agencies
- Expansion of media communications and marketing
- Expanded university development divisions, which is understandable given the incentives in play
- Essential support for new teaching and learning technologies, with their sophisticated requirements for content and its presentation
- Growth in support for student welfare and accommodation
- The increasing cost of targeted programmes, and added compliance requirements, for learning success of students likely to need more support to cope with university study
- More complex managerial processes

203. But the UAG received a substantial weight of staff submissions and comment on growing bureaucratic practices and the centralisation of administrative decisions that many see as excessive managerialism in a low-trust environment. This trend is claimed to have driven both increased general staff numbers as well as putting increased burdens on academic staff. These claims must be addressed by university councils. Academic morale is clearly affected.

204. There has been a growth in expenditure on promotion and marketing, for example in sporting sponsorships, that may need councils to reflect on value and whether marketing is better built around reputation and service provision.

## Non-capital investment

205. A feature raised by more than one university is a trend for more of a university's investment and innovation in its administrative systems, teaching and research capability to be classified as an operating expense rather than being capitalised and depreciated over subsequent years. There is a widespread move of administrative systems to 'cloud' services. As an example, the UAG noted that the University of Canterbury has been following a growth strategy, using cash reserves to make substantial investments in new discipline areas with payback expected over an extended timeframe. These investments have been categorised as operating expenses and have resulted in substantial operating deficits for the university.

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39 Kierstead, J., & Johnston, M. (2023). *Blessing or bloat? Non-academic staffing in New Zealand universities in comparative perspective*. The New Zealand Initiative. <https://www.nzinitiative.org.nz/reports-and-media/reports/blessing-or-bloat-non-academic-staffing-in-new-zealand-universities-in-comparative-perspective/>

206. Other universities without the same level of cash reserves are not prepared to incur operating losses to make non-capital investments, as these would result in a downgrade of the university's financial ratings by TEC's Monitoring and Control Group.
207. The conclusion is that the combination of Accounting Standards and TEC rules for financial compliance incentivise capital investment over non-capital investment through operating expenditure. In general, New Zealand's universities run small surpluses and incur large depreciation, generating cash which cannot be applied to large operating expense investments, as this would force an institution into deficit and a downgrade of TEC's financial rating.
208. Treasury acknowledges this issue also arises for government entities and is giving consideration to how to fund non-capital investment that is classified as an operating expense.
209. Other ideas put forward in submissions to the UAG for ways to overcome these issues include equity injections and loans as a means of funding large capital and operating cost innovation, and options for ongoing or time-limited underwrites to support high-cost, uncertain-demand programmes in areas of high strategic value.
210. Another way to alleviate cost pressures, already in use for insurance, some library subscriptions and some software, is to expand the use of joint purchasing arrangements. Libraries are a likely fruitful area for increasing cooperation. This might extend further with common developments in areas that use SaaS<sup>40</sup> software (e.g. student management, people management, asset management, learning systems, library services).

## The funding of New Zealand's universities

211. Since the 1989/90 reforms, the regulatory and funding system, which incentivises universities to compete more than to collaborate, has served New Zealand well in many respects, with expansions in the numbers of graduates and advances in the quantity and quality of research outputs. A feature has been relatively open entry to the general faculties of the universities for students who have achieved a university entrance qualification.
212. This review provides an opportunity to reconsider the regulatory and funding systems in order to strike a more appropriate balance between incentivising healthy competition on quality rather than volume, and collaboration for service delivery in a national system.
213. In earlier sections, the UAG has made recommendations for structural changes which would help enable government agencies and the universities to increase focus on system-wide changes to enhance specialisation and system efficiencies. The UAG has identified changes to the funding process which should materially assist with reaching these objectives.
214. In following sections, the UAG also proposes some streamlining of the university funding process to increase its efficiency and reduce compliance costs.

## The investment plan system

215. The investment plan system is mandated by the ETA and implemented by TEC.
216. The investment planning system does not have the same horizons and review dates for all the universities. Nor does it integrate all aspects of the Crown funding of universities (DQ7+, PBRF, CoREs). TEC approves funding for terms varying from one to three years before a new investment plan is required, with the effect that plans are considered individually and not then used as an accountability and reporting framework. In this respect TEC processes are

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<sup>40</sup> SaaS: software as a service.

less effective than they could be if the universities' plans were considered simultaneously and were also the basis of accountability and reporting. The UAG proposes aligning the investment process so that all university investment plans are reviewed simultaneously and funding approval given for identical duration, preferably three to five years. This change should not significantly affect the administrative burden on the TEC given what they already require annually from institutions. Improved data collection and standardisation across the system would assist significantly.

217. There would be some risk that this change would make it easier for inappropriate lobbying or political interference given that a synchronised system would be “up in lights”, but the upsides of proper systems oversight and coherent understanding via the proposed NZUC to the Minister would ensure more effective strategic planning and policy development.

#### **Recommendation**

**42. *The investment planning system should be changed to align the funding cycle so review dates and funding periods have the same three-to five-year cycle for all universities.***

218. NZUC would need to have funding flexibility to consider proposals for new developments outside of this cycle so that the overall university system is agile enough to respond to unpredicted changes in the demand for research and teaching programmes that cannot be accommodated by universities utilising the flexibility they have within their block grants.
219. The UAG notes above that the current separation of qualification approval from funding approval has meant that proposals for new degrees and courses can and do slip through the approval systems of CUAP and TEC without consideration for their effect on other universities. In Recommendations 5j and 22, the UAG proposes that the ultimate responsibility for university qualification approval and monitoring be changed from UNZ to NZUC, and for NZUC to have the power to delegate qualification approval to the universities subject to their compliance with the proposed Code for University Qualifications. The UAG noted that it would have the advantage of ensuring qualifications will not be approved without also obtaining formal prior approval that they can be funded.
220. Submissions and university visits informed the UAG that the universities regard the investment plans, which recently have had added requirements for separate learner success plans and disability action plans, and the accompanying compliance as burdensome and unnecessarily disconnected from their overall investment/strategic plans. These should be integrated and aligned.
221. The UAG has concluded that every effort should be made to reduce the duplication of effort by the universities in producing multiple plans.

#### **Recommendation**

**43. *University strategic plans should be used as comprehensive investment plans.***

## **Vote Tertiary Education Funding for the Universities**

222. A key feature of the funding allocated by TEC from Vote Tertiary Education is that the funds to support teaching and learning (DQ7+) and the PBRF allocations in support of research are block grants, which give the universities full discretion over internal allocation of the funding. The UAG strongly supports retention of the principle of block grant allocation and the operating discretion they place in the hands of universities. It is designed to safeguard university autonomy and academic freedom and to avoid political interference.

223. The TEC monitors the use of the funds through the universities' annual reports, which are tabled in Parliament, data returns on student enrolments, and key performance statistics for course completions, progression rates and qualification completion.
224. The largest component, DQ7+, is volume driven by student enrolments. The revenue from tuition fees levied directly by the universities is equally volume driven. Because these two revenues are highly responsive to student demand, at least 50% of university income fluctuates with the economic cycle and other perturbations such as the Covid epidemic.
225. Tuition fees, even though they are set by university councils, are also tightly regulated, with the Minister annually setting a maximum fee increase percentage. It is general practice for councils to apply this maximum increase to the fees set every year. To avoid revenue falling in real terms, the Minister should permit fees to rise in accord with inflation and to be adjusted for cost changes. The current system of control has persisted for more than two decades and in some cases has resulted in the tuition fee structure falling significantly behind movements in the delivery cost of courses and degree programmes.
226. The formulas used to calculate each university's DQ7+ and PBRF allocations are tightly prescribed and unable to be changed except with Ministerial approval. A consequence of the tight control of funding by the Minister is that the TEC has little discretion over much of the funding it allocates to universities. The UAG has concluded that the system needs greater flexibility to respond to a variety of pressures other than changes in student demand.
227. The annual Ministerial directive, Determination of Funding Mechanism: Delivery at Level 7 (degree) and above on the NZQA Qualifications and Credentials Framework, includes a funding-rate table that is identical for all DQ7+ delivery other than work-based learning. Versions of this table have been in use for universities, polytechnics, wānanga and PTEs since the 1989 reforms. The rates were designed to include support enabling research activity by all staff engaged in teaching at degree level but ignore the distinctive nature of universities which is only partially addressed via the PBRF.
228. The UAG considers that the funding support for teaching and learning in the universities could be more flexible were there to be funding mechanisms specifically for the universities, permitting NZUC and the Minister to respond better to needs arising from both national priorities and university priorities that are specific to their provision of teaching and learning. Separation of university funding mechanisms from those for other tertiary providers could be an advantage for the other sectors, allowing new models of provision to emerge in those sectors.
229. Level DQ7+ funding uses a table of rates per EFTS (Equivalent Full-Time Student) issued annually by the Minister in the Funding Mechanism Determination. The table has 18 categories for study discipline and four categories for level of study (essentially non-degree, undergraduate, taught postgraduate and research postgraduate). The rates in the table are intended to reflect the cost of delivery in each category, with medicine and dentistry being the highest cost and humanities, business and law falling into the lowest cost category. Rates have not been adjusted over time to reflect changed delivery costs, except to apply an across-the-board increase to compensate for price inflation. But there have been cost adjustments made in some cases to reflect changed delivery costs or to reflect government's priorities. For example, there was an increase in rates for computing and engineering in 2014, which was followed by significant expansion in computing and engineering enrolments. Other examples include targeted adjustments were made to sciences in 2015, medicine in 2017, initial teacher education in 2020, veterinary science in 2022, te reo in 2023, medical radiation therapy in 2024.

230. However, it is not clear that the rates accurately reflect delivery costs. For one example, the rate for veterinary education may have fallen behind increasing costs of delivery. In other subjects, the cost of delivery can decline with deployment of new teaching technologies. The NZUC may need more flexibility to adjust rates as required. Otherwise, perverse incentives creep into the system that encourage providers to expand higher margin subjects to enable cross-subsidisation.
231. The UAG has noted that other jurisdictions (e.g. Israel) use changes in the funding rates to incentivise universities to respond more quickly to changing requirements of the workforce, changing needs for advanced knowledge and expertise, and other national objectives.
232. One purpose for giving NZUC flexibility to adjust rates might be to incentivise collaboration or to incentivise developments in needed domains. For example, the DQ7+ might have a 5% upside for jointly delivered programmes meeting defined criteria to support access and enhance quality, especially at the graduate level. Only the PBRF allows for continued inter-institutional competition to enhance research quality.
233. The NZUC also needs to be able to incentivise emerging new disciplines. It might for example identify an advanced technology as requiring development of a new focus in teaching and research, which should be done by issuing an RFP to the universities. The funding might be for a defined period to allow staff to be recruited, courses developed, and a market created.
234. Similarly, if lifelong learning is to be encouraged within universities, the rates for micro-credentials may need frequent reconsideration.
235. The panel also explored alternative funding systems, including the question of whether part of the DQ7+ allocation might be compartmentalised to include a base grant to reduce year-to-year variation. However, the panel concluded that such a change would achieve little that cannot be achieved through a smoothed system as suggested elsewhere in this report.

### **Recommendations**

44. *Under the provisions of s419 of the ETA the UAG recommends that the Minister for Universities issue a distinct set of Determinations of Design of Funding Mechanisms for Universities, including a Mechanism for Delivery at Level 7 (degree) and above on the New Zealand Qualifications and Credentials Framework.*
45. *Once the NZUC is established this function, and the associated funding and their oversight and accountability, should transfer from the TEC to the NZUC.*
46. *The design of the funding mechanisms should include flexibility for NZUC to adjust funding rates.*
47. *The NZUC should reserve funds for new developments and to incentivise activities in the national interest.*
48. *Tuition fees in general should follow movements in course costs and inflation rates.*
236. PBRF funding is also allocated using a Ministerial directive setting a similarly tightly prescribed formula. CoREs are funded at a fixed rate per entity. For the UAG's recommendations for the future of the PBRF and CoREs, see the later sections in this report dealing with these programmes. However, the UAG believes that the NZUC should have oversight of all of these and be able to vary investment within the overall allocation to meet New Zealand's needs.
237. Some submissions and information received from the universities during site visits advocate changes to the planning and funding cycle and process in order to smooth fluctuations in

government support. It is argued that smoothing out revenue grants would allow the universities lead times they need to adjust their cost structures to revenue changes. Under the current system, as explained in the next paragraphs, university tuition revenues vary directly with swings in student demand from year to year.

238. Within any year, TEC DQ7+ funding rules differ for upside and downside swings. With a downside fluctuation, a university is required to refund funding if it delivers less than 99% of the approved funding allocation.
239. On the upside, if a university's enrolments exceed the projected enrolments funded by the grant, TEC will increase the grant to fund the extra enrolments up to 102% of the original grant. Providers can choose to take unsubsidised enrolments above this level (for whom they will only receive domestic tuition fees), up to 105% of their approved allocation, after which point they require TEC approval to enrol unsubsidised students. These upside constraints limit Treasury and TEC exposure to unbudgeted increases in tuition grants and the student loan costs associated with tuition fees.
240. The cost structure of universities includes substantial fixed costs, putting universities in a financial category similar to other highly capital-intensive industries. In the universities, these inflexible costs arise firstly from long-term employment of academic staff, highly specialised in their discipline over long years of preparation to be qualified for appointment, with little alternative employment available if their position is disestablished, and secondly from a capital-intensive asset portfolio comprising land, buildings and equipment configured specifically to research and teaching. These features of their cost structure make it challenging for universities to adjust their finances in response to shifting demand and remain compliant with the norms for profitability, liquidity and debt affordability set by TEC's Financial Monitoring Framework (FMF). Non-compliance with the FMF can result in graduated interventions by TEC and the Minister.

### **Recommendation**

- 49. To provide universities with greater revenue stability, consideration should be given to smoothing out funding allocations by adopting techniques such as grants for multiple years and basing them on input data smoothed with weighted averages calculated over several years using both enrolment history and projections.**

## **Research overheads**

241. Research funded by the Crown is fully funded, including indirect costs and overheads. The level of these costs is seen as somewhat inhibitory by the private sector and was further discussed in the SSAG report. Indeed, both the UAG and SSAG have explored whether indirect costs and overheads can be reduced. Generally, university overhead rates are less in universities than those in CRIs, but this difference relates to the broader set of incomes available to universities.<sup>41</sup> But the reality is that overheads can only be reduced by either cost reductions or by replacing that income in some other way.
242. Other jurisdictions may constrain overheads by way of infrastructure grants. However, it is not easy to see a way to transform the current system, and the panel therefore makes no recommendation for change, other than periodic external review by the proposed National Research Fund to assure the overhead rates are fairly set.

<sup>41</sup> However, universities also receive considerable philanthropic support for research which is generally not accompanied by overheads and which the universities effectively cross subsidise.

## Accountability and compliance

243. The UAG has noted that the Government's Letter of Expectations 2025 for the TEC includes Ministers' expectation for "TEC to increase efforts to reduce compliance costs for providers."
244. Many universities, in their submissions or during the UAG visits, expressed concern about the compliance burdens being imposed by government and its agencies. These requirements have steadily expanded over the decades, with the most recent example being rather intensive government regulation of pastoral care and students' welfare.
245. The UAG has focussed on possibilities for simplification of the government's administrative processes relating to the universities and reducing the compliance burden.
246. To achieve positive change by reducing the costs of compliance and focus on improvements in university governance and management, the UAG proposes the universities be given greater responsibility for collectively establishing codes for their performance and relying on self-monitoring and self-audit for compliance.
247. We agree with Edwards that development and approval of the University Governance Protocol should be required in the ETA (see page 25, *Review of New Zealand Tertiary Education Institution Governance*).
248. Adoption of a Code for Pastoral Care and Student Welfare by the UNZ and approved by NZUC would remove the need for the Education (Pastoral Care of Tertiary and International Learners) Code of Practice 2021 to apply to universities, allowing universities to replace the current costly and bureaucratic system for compliance with self-audit. NZUC, with UNZ, would be responsible for monitoring the universities self-audit processes.
249. The recent requirements for Learner Success Plans have added further compliance costs for universities. All parties agree that success for all learners, regardless of their demographic group, is mission-critical and must be included in strategic plans as a high priority for the achievement of equity and workforce development. But the universities regard the current requirement for separate Learner Success Plans and the accompanying monitoring as imposing excessive compliance costs. It also creates dangers of grade inflation.
250. Between them, the Codes for Academic Governance, Quality Assurance and Pastoral Care and Student Welfare should set standards and processes for Learner Success and for the support of Students with Disabilities, with compliance by self-monitoring and self-audit.
251. As the umbrella body for the universities, UNZ can materially assist with the development, review and maintenance of the codes and the sharing of advances in best practice.
252. Universities must currently report under a number of different frameworks to TEC and others, which adds greatly to their administrative burden without much logic. Administrators feel strongly that the system can be made more efficient and focused and should align with the investment plans. Their reporting burden should be lessened by following this report's recommendations for a clear line of accountability to the NZUC, and greater institutional self-audit and compliance through UNZ. This change will be assisted by prioritising a review of what data are collected by which organisation for what purpose, and to promote appropriate data sharing where appropriate. This review would be a matter for NZUC and UNZ.

### **Recommendation**

50. *In so far as is possible, simplify reporting and accountability measures to align with the investment plan and reduce duplicative reporting against different frameworks.*

## Funding for equity

253. Over recent decades, New Zealand's universities have all developed programmes to assist the educationally disadvantaged. Long-standing examples include the schemes with preferential entry for educationally disadvantaged or underserved groups for courses with limitations on enrolment. The reality is however that despite these efforts there are still large course completion, qualification completion and progression outcomes for Māori and Pacific students likely reflecting factors that are largely beyond the universities' ability to change: for example, the prior education journey, the socioeconomic challenges that impact on the student's time, etc. The panel sees merit in these programmes continuing, especially in vocational domains such as medicine where there is evidence that alignment of group identity is valuable for patients. However, the panel believes the choice to do so lies with the autonomy of the institution and may not require a separate funding stream.
254. More recently the universities have established focussed programmes for disadvantaged students, notably Māori, Pacific and Students with Disabilities.

## The Performance-Based Research fund (PBRF)

255. The PBRF is a misnomer. It is not research funding but a core funding mechanism to universities (and other parts of the tertiary sector) that recognises that research intensity comes with different cost structures. It was introduced in 2003 following a similar scheme in the UK, and its general approach was initially somewhat similar. When it was introduced, its funding came partly from diverting funding previously given to universities for graduate students. The intent was to incentivise more intensive research. Certainly, with its introduction the number of published papers grew. But it is unclear whether that directly related to the PBRF, because similar growth in publication volume and quality<sup>42</sup> occurred in other small, advanced countries which did not have similar incentive schemes. It may simply be that the culture of universities had changed worldwide, and academic staff performance was more of a focus.
256. Globally there is little use of research assessment to allocate university funding. Research assessments are instead used primarily for strategic purposes. The UK and New Zealand both use complex and expensive portfolio assessments, but elsewhere there is a trend towards assessing research by using dashboards or metrics. Dashboards that can cover both quantifiable and qualitative measures are increasingly used.<sup>43</sup> It is desirable that the NZUC develop a dashboard approach to assist its strategic purposes.
257. The purpose of the linkage needs to be clear and should determine the process of assessment. When that process extends beyond research intensity and quality to proxies that are not agreed upon, complexity becomes inevitable. In the UAG's view, the PBRF should focus on supporting the research intensity of the universities and that by frequent recalculation it can effectively create incentives to improve research culture and create a forward focus.
258. The UK system (now called REF) and the New Zealand system differ somewhat. Both are used to distribute funds to the higher education sector and rely on highly complex assessments of research performance using portfolio assessments. The New Zealand system assesses the research portfolio of every faculty member, whereas in the UK it is done at departmental or higher group level. These intensive peer-reviewed assessments drive a lot of bureaucratic behaviours within institutions and are very expensive on both faculty and administrative time. The New Zealand process of individual assessment is seen as unnecessarily complex and expensive.

42 As measured by field weighted citation index.

43 Currently Australia is developing such an approach.

259. There are two questions about the PBRF. The first is simple to answer – do we need to incentivise the research intensity of universities? It is clear that if research intensity defines a research university, there needs to be a funding mechanism to support that purpose. While some jurisdictions do that simply by increasing the value of the state subsidy for teaching in research universities compared to other institutions, this does not encourage continuous improvement. Research is always driven by healthy inter-institutional competition and that helps ensure quality (even while we promote cooperation in teaching).
260. The second question is whether complex peer-review assessments at individual or group level are needed. The appropriate answer relates to what is the purpose of the PBRF. If it is to incentivise research intensity and to recognise the costs of research, then a simpler system is possible. The UK system has gone through a period when the purpose has extended beyond funding distribution to incentives aimed at trying to change institutional culture. But when any incentive scheme has multiple underlying purposes, it tends to become problematic.
261. There are issues in research culture, but these should not need complex incentives to improve. Too many researchers have precarious appointments, there are still issues in recruiting research-active staff from some sectors of the population, and transdisciplinary approaches are weak and need specific funding schemes as discussed in the SSAG report and in relation to CoREs (see below). Research infrastructure is largely discussed in the SSAG report.
262. Linking funding to anything other than a metrics-based approach leads to expectations of a precision in assessment that is unrealistic. Words like ‘impact’, ‘excellence’ and ‘quality’ are inherently subjective and mean different things in different contexts and at different times in relationship to research funding. Trying to make a subjective process become pseudo-objective because money is involved has created the elaborate bureaucratic processes in play. Indeed, the UK has recently indicated their intent that the REF round after next will be metrics-based.
263. The burdensome assessment process means that that component of the PBRF can be recalculated only very periodically – generally every 6-8 years. But if the major reason is to fund universities in relation to their recent research performance, then assessment can be replaced by metrics of research productivity, which are used anyhow in the calculation of the PBRF distribution. Currently the individual assessment weights 55% of the PBRF, and research degree completion and research income together make up the other 45% of the allocation. But if the quality assessment is removed, there remains a surprisingly high correlation between the funding that would be and that which is actually allocated in the current system. If the assessment included other well-accepted measures of research output, such as citation numbers, the correlation would be even higher.
264. It is relatively easy to have a set of metrics to reflect past research performance in a classical sense – less so if one extends the idea of quality beyond academic measures to include impact and future performance. The UK has over the past two rounds of the REF used the assessment process to also include “impact”, and research “environment and culture”. But assessing impact is an intensely subjective process using portfolio review, which itself has limitations or relies on proxies. But there are limited proxies available. The UK experience has shown that impact assessment in practice tends to highlight major research breakthroughs which are picked up in bibliometrics such as citation rates, which formally or informally still dominate in the assessment of individuals or groups. The UK is attempting to find proxies for research culture and environment, and again the possibilities are limited.

265. The desire for a future focus is met simply by recalculating funding every year (or 2–3 years) rather than every 6–7 years, creating a continuous incentive on universities for improvement. Indeed, if funding was more heavily weighted to PBRF rather than DQ7+, the culture to support research would shift further.
266. A further issue with subjective analysis is that with only eight universities there is always a risk of defaulting to the current state. The real granularity is achieved by the different offerings of each university (two medical schools, two engineering schools, etc.). There has likely been grade inflation in the PBRF assessments over time. The UK system is designed for over 100 institutions and the context is therefore very different.
267. Is there any real need for the assessment component in the PBRF? The universities deny it is needed for reviewing staff performance; indeed, they are prohibited to use it for that purpose, and there is anecdotal evidence that individual assessment can negatively affect staff culture. Universities with good academic governance undertake departmental reviews periodically, which would achieve a better level of performance guarantee than individual assessments. Staff have mixed views but generally value it only because it encourages the academic leaders to value their research (a worrisome claim considering these institutions are defined by research). We heard that HR administrators in the universities do not see the assessment as relevant to staff management.
268. In sum, the panel believes the assessment component of the PBRF should be abandoned. However, there is a clear need for research-weighted funding of universities, so the other components of the PBRF should be retained, reinforced and added to by including citations as a proxy of research performance.
269. The PBRF should be based solely on accessible metrics that are already collected. This would incentivise continuous improvement and an enhanced research focus by the university. Further, by having distinct elements within the formula, the Crown could decide to incentivise some components further. For example, rather than considering research income as a whole, it could be split into income from competitive grants and income from private sector and government contracts – that would support a policy choice that further emphasised the utilitarian value of research. Similarly, it could weight research qualifications at master's level differently to that from PhDs if it wished to emphasise the latter.
270. While citation rates are problematic at an individual level, at an integrated level across an institution with field-based weighting and using databases that include monographs and policy reports,<sup>44</sup> the concerns are largely washed out. Indeed, this is how university ranking systems operate globally. There is always an issue for some disciplines such as the humanities and creative arts where outputs are not in the form of publications. But if the intent of the PBRF is financial, this is a minor factor. The status of humanities and creative arts is important – the onus remains on the institution to ensure high quality research and performance in those domains. However, databases are emerging that could provide proxies, and the system can adjust over time to incorporate these.
271. Other factors could go into the calculation; for example, equity factors were to be included in the next and currently suspended PBRF round. But if the purpose is to support research intensity, then it is best to keep the focus on that. Other issues are best dealt with through other mechanisms.

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44 e.g. Open Alex and even Google Scholar.

272. In Australia and in some European countries, a dashboard approach is being developed to allow university performance to be assessed more broadly. The use of dashboards to look more broadly at university performance is to be encouraged, but they are a strategic rather than funding tool. These should rely on generally available data and would be an important tool for the proposed NZUC.
273. The context of the PBRF in 2025 is very different to what it was when first developed. If the primary purpose is to incentivise and reward research intensity because of its costs, then it can be retained and fixed by using a simple metric-based funding formula that incentivises research performance. In theory the PBRF could be done without just by changing the value of the DQ7+ to weight for university as opposed to polytechnic teaching, but the inevitable risk would be that it takes the pressure off universities' focus on research intensity.
274. We recognise wānanga and other institutions currently receive a small component of PBRF funding. We appreciate the value to those institutions of that extra funding. But it confuses matters. They need support on what their roles are intended to be, and research-related funding should be designed to meet their characteristics.

### **Recommendations**

51. *The PBRF should be continued and the name of the PBRF should be changed to the Research Intensity Component for Universities (RICU) and focused solely on incentivising research intensity.*
52. *Individual portfolio assessment should be abandoned and the PBRF calculated on the basis of research degree completions, research income and citation rates of the institution noting that any significant changes from the current allocations should not be abrupt.*
53. *NZUC should consider a dashboard approach to assist its strategic analysis and review of the system.*

#### **Box 2: The possible components of the RICU**

##### **Bucket 1: research completion**

Research master's completions  
PhD completions  
Other doctorate completions

##### **Bucket 2 impact**

Institutional Field Weighted Citation Impact (FWCI) off Google Scholar, Open Alex or similar broad database

##### **Bucket 3 research income**

Research grants (contestable from any source, excluding CoREs)  
Contract income (government agencies)  
Contract income and investments (private sector)  
Philanthropy for research (not teaching)

The weightings within and between each of these buckets would have to be modelled and the new system transitioned in over perhaps three years, as by definition there will be winners and losers in any system change. NZUC should be able to vary over time the weightings within and between buckets.

## Centres of Research Excellence (CoREs)

275. The Centres of Research Excellence (CoREs) scheme was established in 2002. Their purposes were to promote research collaboration between universities and to focus research in areas where academic excellence or potential excellence was identified. Unlike the later established National Science Challenges (NSCs) funded through MBIE, they were established as bottom-up, investigator-led initiatives whereas the NSCs were established as mission-led entities. Confusing matters further, some domains (e.g. Natural Hazards) have had funding both as CoREs and as NSCs. While the CoREs had light governance, leaving the research strategy in the hands of the academic community, the NSCs generally ended up with onerous management and governance, perhaps reflecting the differing cultures of universities and CRIs.
276. CoREs also showed considerable initiative in promoting outreach and engagement with stakeholders, including young people and Māori and Pacific communities.
277. In the first round of funding, CoREs also had an infrastructure component that assisted the hard sciences, but that was not continued after the first round. It provided in many cases for some needed large-scale research infrastructure. The CoREs had renewable five-year funding periods that were later extended to eight years. Most CoREs have had multiple cycles of funding, with some now having had five, meaning some will have had 28 years of funding in a scheme with limited funding and high demand. This duration was not the original intent of the scheme, which was that after a funding period of no more than two cycles, sustainability would need to be found through other sources, but this was not how it evolved. One further advantage of the CoREs has been that the research has not had to be fully defined at the beginning, which allows for the innovative research and stakeholder engagement that has been a feature of successful CoREs.
278. Currently funding provides for up to 10 CoREs, including Ngā Pai o te Māramatanga, which has somewhat different characteristics. CoREs funding has remained at \$50m pa since Budget 2014/15, when it was increased from \$30m pa to allow for the establishment for four new CoREs. Funding per CoRE has essentially not increased since, so the effective value of a CoRE has fallen considerably.
279. In the absence of NSCs, CoREs are the primary mechanism for long-term research funding. There is an argument that the two schema should be considered alongside each other. There is no definitive answer as to how many CoREs are desirable.
280. There is a wide consensus that the CoREs have added significantly to New Zealand's academic and research portfolio, and there is overwhelming support for their continuation. However, there is concern that continual funding of several CoREs reflects incumbent advantage in the assessment process, and that these indefinite renewals from a limited pool of available funding restricts the scheme from having a dynamic nature. Irrespective of whether they continue to do good research, it is difficult to agree that the scheme should continue to support what effectively must become business-as-usual activity.
281. A further policy question is whether the focus of CoREs should be to recognise current clusters of excellence or to produce new clusters of collaboration and excellence, especially in areas identified as priorities. The latter appears desirable, but it would be less of an issue if CoREs had a limited timeframe. The focus of CoREs must remain to promote research and academic collaboration and foster new clusters of research endeavour. Mission-led research such as in the former NSCs must have in sight translational goals to either policy or commercialisation. CoREs too should have goals in sight, but it should be accepted that this may be a more upstream focus including more discovery science than mission-led activity.

282. There is a general consensus that there needs to be dynamic refreshment of which CoREs are funded. In an ideal world where there was more funding, longer-term research initiatives would be desirable in allowing high risk research to progress, but the reality is that with a small pool of funding there needs to be a process for refreshment. It is suggested that CoREs should have a maximum of 12 years funding through one renewal for 6 further years. Those that are not renewed at 6 years would receive 2 years of termination funding that progressively reduces to stop at 8 years. Those funded for the second cycle would need to plan their exit strategy as the CoRE would not be renewed beyond 12 years. This termination phase would allow students and fellows employed on CoRE funding to complete their training and allow the host institutions to explore alternative funding if the work is valued by them to continue.
283. However given the prestige associated with the CoRE label, which is valued by the investigators, the institutions and adds to New Zealand's reputation, the title of CoRE may be maintained after the end of funding (subject to ongoing reporting evaluation).
284. One related issue is the challenge of assessing current CoREs for renewal and new applicants for CoREs in the same process. The former have a considerable advantage: a track record of collaboration, resolved processes and more advanced research. Therefore, it is recommended that separate processes are used for assessing current CoREs for renewal vs new CoREs, and that half the CoREs funded in any 6-year cycle are new.
285. An issue for consideration is whether the CoRE model should be used also by MBIE in replacing the NSCs to promote mission-led research. Currently the funding route is different. But if research and universities are located with a singular ministry as we have previously recommended, this difference would be a non-issue. CoREs are funded by TEC from the Ministry of Education and are bottom-up derived, whereas the NSCs are funded through MBIE and are mission-led. But both could use a similar RFP process, and the same assessment processes could be used. This change would further integrate public research organisation and academic research. It would also address concerns in both systems over the selection criteria and assessment and stop the unnecessary duplication that has happened. The assessment of major research grants, whether mission-led or investigator-led, and which involve multiple actors and long-term funding, should be assessed by people with expertise in disciplinary and transdisciplinary research.
286. The CoRE process has also been used to support development of Māori academics and in particular PhD graduates through Ngā Pae o te Māramatanga, which has been funded since the first round in 2002 and is now 23 years old. Ngā Pae o te Māramatanga has been highly successful. It had somewhat different objectives in its early years so that it acted more like a funding mechanism, but it is increasingly evolving as a research-focused collaboration.<sup>45</sup> Such equity initiatives build capacity, and there may be an argument for them to perhaps include Pacific knowledge and to be funded on an ongoing basis separate from the CoRE scheme.

### **Recommendations**

54. *The CoRE Scheme should continue but be enhanced.*
55. *CoREs should focus on new areas and clusters of activity rather than rewarding well-performing extant activities. These new areas should be investigator-led and align with New Zealand's overall priorities.*
56. *CoREs should continue to include the collaborative requirement of extending across universities and other research active entities.*

<sup>45</sup> Ngā Pae has an international arm with very strong research relationships with global Indigenous scholars. Currently Ngā Pae has 21 research entity partners and now has 250+ Māori affiliated researchers. This is a remarkable development from its start in 2002.

57. CoREs should be funded for a maximum of one six-year cycle followed by a possible six-year renewal. CoREs that are terminated after one round should get reduced two-year transitional funding.
58. The review processes should distinguish new applicants from renewing applicants.

## Capital expenditure

287. New Zealand's universities are asset-intensive, holding capital assets valued at \$11.9 billion in 2015, as illustrated in Figure 2, from the Auditor General's report.<sup>46</sup>

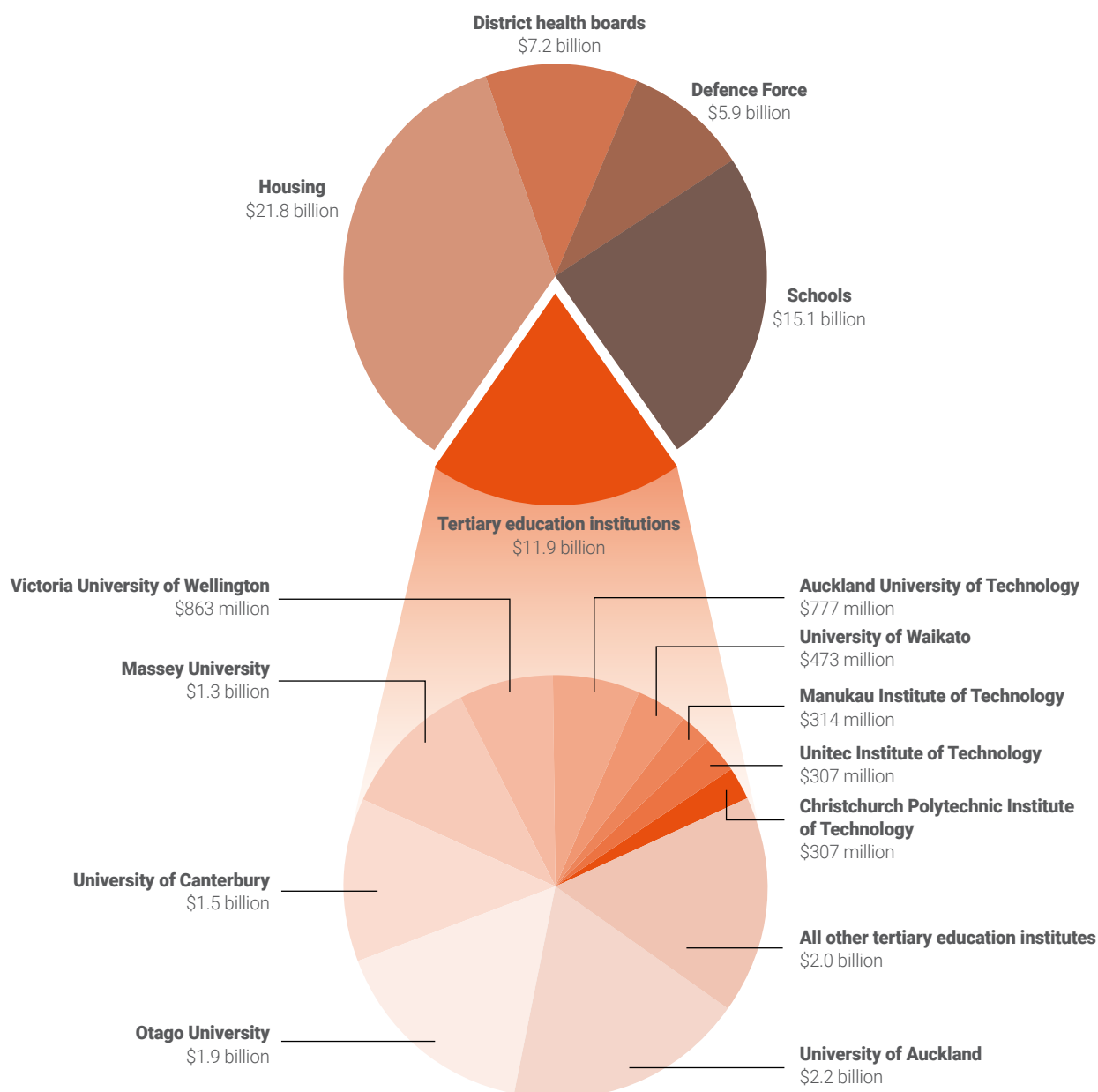


Figure 2: Total value of assets held by tertiary education institutions and other selected sectors in 2015<sup>47</sup>

46 Controller and Auditor-General. (2017). *Investing in tertiary education assets: Report to Parliament*. Office of the Auditor-General New Zealand. <https://oag.parliament.nz/2017/tei-assets/docs/tei-assets.pdf>

47 Source: *The Treasury, Financial Statements of the Government of New Zealand for the Year Ended 30 June 2015*, and the annual reports for 2015 of Housing New Zealand, the New Zealand Defence Force, the Ministry of Education, all district health boards, and tertiary education institutions.

288. The book value of the universities' property, plant and equipment had risen to over \$14 billion by 31 December 2023. The reports to Parliament by the Auditor General, *Managing public assets* (2013)<sup>48</sup> and *Investing in tertiary assets* (2017), are of wide interest to government and the universities for their insightful analyses and recommendations,<sup>49</sup> a number of which do not appear to have been fully implemented. The 2017 report examined a selection of business cases prepared for capital investment projects by TEIs. The report commends the business cases as generally of a high standard, but goes on to observe:

*"However, there was little evidence of the tertiary education strategy's aim to enhance the effectiveness of the sector as a whole. In most of the business cases, tertiary education institutions did not:*

- *take account of the investments planned or made by other tertiary education institutions; nor*
- *consider how to make the most of their investments by sharing or using the existing assets of other tertiary education institutions."*

The UAG considers this observation remains valid.

289. At the time these OAG reports were written, the Government was providing necessary capital injections for tertiary education institution assets damaged by the 2010/11 Canterbury earthquakes, assets which required significant capital investment for repair and replacement. The earthquake disaster brought added Treasury and OAG focus on capital asset management (CAM).
290. Since then, other natural disasters (e.g. Kaikoura earthquake and Cyclone Gabrielle) have inflicted major damage on tertiary education assets. Remediation and strengthening projects place strains on these institutions' finances, even with insurance payouts and specific fiscal assistance from the Crown. These stresses remain evident for universities with campus facilities in the Canterbury and Wellington regions.
291. The significant fluctuations in domestic and international enrolments since onset of the Covid epidemic have had a major effect in temporarily stifling university capital investment, with many postponements of projects, deferred maintenance, defect remediation and construction of new assets.
292. These constraints on university finances have not prevented multiple universities from approving building projects that have comparatively high construction cost arising from their generous architecture.
293. The UAG observes accumulating instances of a growing mismatch between national need and how each university examines their capital programme. In the current and future climate of tight economic conditions, there are opportunities to better coordinate university capital programmes within a national strategy for investment in New Zealand's university system.
294. The combined university capital plans currently indicate a desire to invest over \$8 billion over the next decade. This figure alone suggests the need for greater coordination and strategic clarity.

48 Office of the Auditor-General New Zealand. (2013). *Managing public assets: A guide for public entities*. <https://oag.parliament.nz/2013/managing-public-assets/docs/managing-public-assets.pdf>

49 Controller and Auditor-General. (2017). *Investing in tertiary education assets: Report to Parliament* (page 8). Office of the Auditor-General New Zealand:

"We recommend that the Ministry of Education, the Tertiary Education Commission, and other education agencies work with tertiary education institutions to improve the use of, and investment in, tertiary education assets by:

1. improving business case guidance and assessment criteria to support tertiary education institutions in considering how their business cases and asset investment proposals are affected by the investment decisions of other tertiary education institutions; and
2. considering further types of analysis, measures, and forecasting that could improve the collective effectiveness of the investment in tertiary education assets."

295. Currently the TEC only reviews business cases when debt funding is needed but formal approval<sup>50</sup> is required only if the business case includes increased borrowing. The UAG has concluded that this requirement does not sufficiently consider the national interest in providing university research and teaching. Further, the planning, design and management processes for large university capital projects could benefit from:
- a. Collaboration between universities to further specialise and better allocate resources for major advances in the nationwide research and teaching capability in the university system and the PROs.
  - b. Recognition of the significant differences between individual universities' needs for capital investment. These differences can owe their existence to external factors beyond the control of the university.
  - c. Given the scale of the overall capital requirements of the university system relative to other Crown investments, there is a need to use formal governmental assessment and business case processes for large scale processes (> \$75 million) to ensure long-term good value from university capital investments.
  - d. A further issue brought to the UAG's attention by the universities are centralised constraints on debt financing and asset disposal, both of which are prudential matters requiring government oversight. The panel sees no compelling argument to change the current arrangements other than to define where decisions are made once the NZUC is established.

#### **Recommendations**

59. *All capital projects over \$75 million should have business cases and their sources of funding approved by the NZUC.*
60. *Universities should be required to fully comply with Cabinet rules and Treasury processes for the management of capital projects.*
61. *Universities should continue to seek approval for debt financing and the divestment of significant assets (>\$15million), but this should be on the approval of the NZUC rather than the present requirement of it to be from the Secretary of Education.*

## **Interactions between the university sector and the research and innovation sector**

296. Both the SSAG and UAG reviews have recommended much closer relationships between the university and research systems, preferably within a single ministry as is the case in many advanced countries. New Zealand stands out as an exception in having such a high proportion of research in public research organisations. Denmark, two decades ago, merged the two components by folding its PRO equivalents into the universities. Government has made a first step towards a closer relationship by appointing a single Minister to cover both portfolios. The SSAG report highlights ways to reduce high barriers related to technology transfer and commercially focused research. There are many potential synergies to be exploited and explored. These include:
- a. Further integration of physical infrastructure – both campuses and high-value research infrastructure

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<sup>50</sup> Approval is provided by the Secretary of Education on the advice of TEC.

- b. More cross or joint appointments of staff
- c. More research opportunities for students within the public research sector
- d. Greater cooperation on technology transfer
- e. Enhanced critical mass and research cooperation in key areas
- f. Development of new disciplines, especially in advanced technologies
- g. Potentially combining mission-led and investigator-led large research programmes
- h. Joint development of research roadmaps
- i. Joint recruitment of key opinion leader researchers
- j. More efficient research funding mechanisms

#### **Recommendations**

- 62. *There should be cross appointments between NZUC and the proposed National Research Foundation and both should be represented on the proposed National Infrastructure Advisory Committee.***
- 63. *Universities and PROs should increase the number of joint and cross appointments of research-active staff.***

## Final remarks

297. The panel is of the view that legislative change is needed, and for multiple reasons we recommend a separate university-focused Act. Major change is needed if the system is to adapt to meet New Zealand's needs into future decades. A systems approach is required, while respecting institutional autonomy. We are firmly of the view that a NZ University Council is a necessary step. In the interim much could be achieved through two steps: firstly, establishing a Ministerial Advisory Committee with as many of the functions of the NZUC as is possible without legislation, and secondly seeking TEC to reorganise to have a separate management and funding arm for universities. Even before legislative change, much progress could be made between the proposed Ministerial Advisory Committee, TEC and Universities NZ with the cooperation of NZQA and the Ministry of Education.
298. Universities are critical institutions of liberal democracies. They are conferred special privileges in their forms of governance and high levels of institutional autonomy, and in the protection of academic freedom. But the social licence provided by society to universities is not unbounded. Universities have a set of critical roles to play which both our reports have highlighted.
299. That social licence can be undermined if universities are not mindful of their responsibilities. Around the democratic world, the behaviour of universities has come under the spotlight. In general, this has occurred in part because of broader changes in the sociopolitical milieu and in part because some universities have moved further away from focussing on their core educational and research responsibilities to take more political positions. Of course, the very nature of the faculty and student body has and should always create a constructive tension with the status quo: that is core to their essential role in a democracy as a "critic and conscience of society", but it must not degenerate into an ideas filter.
300. Universities must remember that they must serve societies that have a breadth of political and ideological views. When they undertake actions that are perceived as manipulating those views or of promoting a particular ideology, their social licence is threatened. Yet universities are important and critical places of debate and contested ideas. Indeed, the very nature of the faculty and student body empowers this role which has a fine global tradition.
301. Universities must not suppress the pluralism of voices in society or in their institution. This creates a fine line, and universities may face difficulties in identifying when they cross it. But they must be sensitive or else they risk political interference, as has been seen in several jurisdictions overseas. Councils must be particularly alert to how the institutions position themselves. These issues have emerged in New Zealand, as elsewhere, over the place of free speech on campus and concerns of ideological interference with academic teaching (and thus paradoxically ignoring the overriding imperative of academic freedom).
302. Most obviously these concerns have arisen over what should be made compulsory courses, to the conflation of knowledge systems, and in how some issues of academic debate have or have not been handled. There are red flags here given international trends. Strong academic governance is vital to protecting academic freedom and we have emphasised that in this report.
303. Universities as institutions must not take ideological or political positions or speak on behalf of a pluralistic faculty on matters which are political or ideological. The institution (as opposed to faculty members) should only speak on matters directly affecting universities.

304. It is critical for our democratic futures that we have robust high-quality universities. They are complex entities. Their position in society is under threat both from within and the changed contexts in which they operate. The universities must be entrepreneurial to thrive but in doing so they must sustain, not lose, the social contract.
305. In writing this report the panel has consistently and repeatedly focused on protecting institutional autonomy and academic freedom while advancing quality for the nation's interests through high-quality teaching and research. Improvements in outcomes are made more difficult by the current financial circumstances.
306. Universities have faced growing costs in a constrained environment and the political and societal support needed for greater investment is related to their functions and perceived quality. In a small country like New Zealand, the panel has concluded, that without damaging institutional autonomy, a more systems-based approach is essential and that the current deficit in strategic policy oversight must be remedied.
307. The national interest requires that universities are funded appropriately to meet their multiple objectives. This funding will always require a mix of government teaching and research support, private sector support, likely student fees<sup>51</sup> and philanthropy.
308. The changes proposed in the financial system for universities will help incentivise the needed collaboration for access but competition for quality. In the time and resources available we could not do more than identify the principles to underpin the financial changes needed, so to operationalise these will require detailed work by officials.
309. The initial part of this report highlighted the many challenges universities face into an uncertain future. Governance, leadership and faculty will have to be more adaptable than in the past; universities have often been characterised as very conservative and resistant to change.
310. In a small country with eight universities, that adaptability must occur at both system and institutional level. Cooperation will be important while respecting and desirous of that intellectual competition that drives quality. New disciplines will emerge, others may change in ways that fundamentally change the requirements in education. New technologies will change how knowledge is gained, reported and shared. The student body itself is likely to change, with greater demands for inter- and transdisciplinary education. Both academic governance and enterprise governance will have to demonstrate the ability to respond strategically and rapidly.
311. We have been fortunate that New Zealand's eight universities have performed well for our society. But in the challenging times ahead we believe the system can and must do much better in advancing the interests of the nation, the society it serves and the students it educates.
312. A knowledge-based economy and society depends on a healthy university system; a cohesive and healthy democracy requires a university that serves all segments of society; and a university can function well for the nation only when it is clear that it is more than a business – it is a pluralistic community of scholars and students.

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51 The issue of student fees was outside the UAG's scope of reference. Most liberal democracies charge students recognising the private benefit of university education. There are some European exceptions.

## Acknowledgements

We thank the many submitters across the past year whose contributions have been well digested by the panel. In many cases there was a granularity in comment that could be revisited by officials if recommendations are accepted. We thank Universities New Zealand for their assistance and the cooperation of all the universities during this review. We thank academic leaders and officials in higher education policy in UK, Ireland, Israel, Singapore and Australia for their advice and assistance. Dr James Wilsdon and colleagues from the Research on Research Initiative (RoRI) were particularly helpful over issues of research assessment. Officials in TEC and the Ministry of Education provided support and research. We also wish to acknowledge the support from Koi Tū Centre for Informed Futures, and Hema Sridhar who coordinated much of the panel's work and assisted with the analysis and deliberations.





## Unitec New Zealand Limited

Meeting of Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 11 September 2025

<b>Title</b>	2025 Early Career Researcher (ECR) Funding Progress Reports
<b>Provided by:</b>	Brenda Massey, Senior Grants Advisor
<b>For:</b>	<b>REVIEW</b>

### Recommendation

That the committee receives progress reports from the recipients of 2025 Early Career Researcher (ECR) Funding.

### Purpose

The purpose of this paper is to report to the committee concerning the progress towards outcomes and expenditure of the 2025 ECR funded projects.

### Information/Background

The ECR Fund provides annual, contestable funding to emerging and established ECRs at Unitec in order to develop their capability, capacity and career progression as a Principal Investigator on a high quality, externally partnered, applied research project that meets the evaluation criteria. Provision of one progress report and one final report is required as part of the accountability requirements of the fund.

### Attachments

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- 2025 ECR Progress Report – Nigel Pizzini
- 2025 ECR Progress Report – Sharon Sitters & Kate O’Callahan

# Early Career Researcher Fund 2025

## Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	Nigel Pizzini
<b>Project Title:</b>	Expectations of School Guidance Counsellors
<b>Amount of Grant:</b>	\$3,500

### Provide an update on the project's overall progress

*Summarise progress towards your aims/objectives; note any highlights of your project to date.*

All interviews and site visits are now complete. Work has begun on transcribing the 5 interviews and collating the data from the surveys.

Highlight has been the engagement through the interviews with the individual Principals. All were very eager to contribute and generous in sharing their understandings and perspectives. The school counsellors enjoyed talking with me, and were eager to hear about my findings from the previous phase of my research (focus groups with students that highlighted constraining and facilitative factors).

### Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Nov 2024	Complete NZAC Research Grant application	Completed
Feb 2025	Complete UREC Approval	Approved
April 2025	Recruit and secure participant schools	Completed
May – July 2025	Undertake site visits	Completed
Aug 2025	Transcribe interviews and data analysis	Underway
Oct 2025	Write findings / complete draft of academic article for publication	Will be undertaken in Nov/Dec
Nov 2025	Estimated completion date	February, 2026

### Outline any variations to your project [if applicable]

*If there have been any changes in terms of timeframes, budget, personnel or planned outputs note these here.*

There are no variations – expenditure is within budget. Most expenses have now been incurred.

### Outline any new opportunities to come from this project so far

*Are there new connections, funding sources or opportunities for your own research, Unitec teams or the work of others which are emerging in this project? How could these opportunities be pursued in this or future projects?*

There is the potential to follow up with these schools and others, to offer undertaking a review of student experience and perceptions of the counselling provided in the school (drawing on the research method I undertook for Phase two). No school has requested this yet, but invitations may be received in 2026.

### Financial Update

- *Comment on the status of your project's budget.*
- *In the update, keep to the original budget items.*
- *If it is likely that you will not spend all your allocated funding, please articulate this here, as this will give the Unitec Research Committee the option of reallocating funds to other worthy projects.*

As most of the expenses have been incurred (there may be some still forthcoming from the last research trip (Aug 2-4) it seems there will be \$500 unused.

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Personnel (data analysis)	\$ 500	0	500	0
Professional services (transcriber \$45 p/hr + GST)	\$1,000	0	1000	500
Travel <ul style="list-style-type: none"> <li>• Site visits to 6 communities (4 in North Island, 2 in South Island) \$1,200</li> <li>• Car Rental \$800</li> <li>• Accommodation (5 nights @ \$150) + meals \$1,000</li> </ul>	\$3,000	\$518.20 (Flights) \$312 \$128.19 (fuel) \$843.49 \$474.74 (meals)	\$681.80 \$359.51 -\$318.23	2500
<b>Co-funding</b>	<b>(\$1,000)</b>	<b>\$299</b>	<b>701</b>	<b>500</b>
<b>Total</b>	<b>\$3,500</b>	<b>2276.62</b>	<b>723.08</b>	<b>3000</b>

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why:

At this stage, I do not have the costings for accommodation, airfare and car hire to assess how this project falls under the budget.

### **Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?**

This is a highly valued investigation by the participating principals and school counsellors. The participants were vocal in their validation of the project, and expressed keen interest in the findings. I believe the outcome will contribute to evidence-based advocacy for the

<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)

importance, complexity, and value of counselling in schools and lift the awareness, appreciation, and support (resourcing) of the school counsellor workforce. This has implications for the Ministry of Education, Principal associations and the New Zealand Association of Counsellors.

**Do you wish to highlight any other matters relevant to this project?**

Yes  The Principles involved will be strong connection points to present the findings to Principal Associations and other forums. I will follow up these relationships in 2026 with the intention to create opportunities to speak to Principal forums about the issues and findings stemming from this project.

No

**Reminders:**

- There will be no rollover of funds into 2026.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must enter any outputs from the project into ROMS as and when they occur.
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 27 March 2026.

**NB:** Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

# Early Career Researcher Fund 2025 Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	Sharon Sitters & Kait O'Callahan
<b>Project Title:</b>	Exploring Explainable AI for Roster Generation: A Human-Grounded Evaluation with Novice Healthcare Workers
<b>Amount of Grant:</b>	\$15,020

## Provide an update on the project's overall progress

The research experiment was carried out on March 5<sup>th</sup> 2025. All participants were present and engaged. All data was collected in full on this day. Since then, we have had multiple meetings with our data analyst, Michael O'Callahan. We have discussed our research objectives and his quantitative data analysis methods. He has begun analysis and expects to be near completion by August 14<sup>th</sup> 2025. He has shared with us some preliminary findings. The introduction and mini literature review has been started for the write-up.

## Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Dec 2024	Ethical approval	Complete
Feb – July 2025	Research activities	Complete
Throughout 2025	Data analysis	Ongoing
Mid-late 2025	Interpretation and writing	Started
Late 2025/ early 2026	Dissemination (2 outputs if possible)	TBC
Mid-2026	Estimated completion date	TBC

## Outline any variations to your project [if applicable]

There is no change. Rosterlab intend to fund us to a conference in early 2026. We intend to publish in a journal this year.

## Outline any new opportunities to come from this project so far

The project has potential for several outputs, especially around how health care workers respond to the AI systems. However, we need to analyse the qualitative data first to see where those opportunities may be. The funding opportunity for the industry partnership voucher remains, which would be spend on an international conference.

## Financial Update

Our budget is on track and as expected. We will use all allocated funds.

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Personnel <ul style="list-style-type: none"> <li>• 0.1FTE for Sharon Sitters \$8,520</li> <li>• Data analyst (50 hrs x \$40 p/hr) \$2,000</li> </ul>	\$10,520	FTE allocation is apportioned weekly from mid-January (therefore, approximately \$4,000 to date)  No funds have been spent towards data analysis (this is currently underway and will require payment in August)	Approx. \$6,500	\$10,520
Vouchers for student-participants (15-20 vouchers valued at \$200, based on 8 hrs per student @\$25 p/hr)	\$4,000	\$4,000	\$0	\$0
Kai (pizza, drinks, snacks for during the simulation)	\$300	\$300	\$0	\$0
AI-powered qualitative data analysis subscriptions	\$200	\$80	\$120	\$120
<b>Total</b>	<b>\$15,020</b>	<b>\$8,380</b>	<b>\$6,620</b>	<b>\$10,640</b>

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why:

**Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?**

Excellent

**Do you wish to highlight any other matters relevant to this project?**

<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)

Yes No **Reminders:**

- There will be no rollover of funds into 2026.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must enter any outputs from the project into ROMS as and when they occur.
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 27 March 2026.

**NB:** Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

# Early Career Researcher Fund 2025

## Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	Dr Soheil Varastehpour
<b>Project Title:</b>	Development of AI Platform for Real-Time Disease Detection and Classification in Grape and Apple Crops
<b>Amount of Grant:</b>	\$7,000

### Provide an update on the project's overall progress

*(This section is same in both RI25003 and RI25004 report.)*

As the Principal Investigator for the project Cloud Based Autonomous AgriTech Vehicle Designed for New Zealand (RI25003), I am pleased to provide an update on the overall progress of this research and its integration with the companion project The Development of AI Platform for Real-Time Disease Detection and Classification in Grape and Apple Crops (RI25004), led by Dr. Soheil Varastehpour.

These two projects are closely connected, and their outcomes are being developed in a fully integrated manner to maximise efficiency, collaboration, and impact.

#### **Funding and Early-Stage Progress**

In the early stages of 2025, we utilised NZD 2,000 from RI25004, along with additional financial support from the School of Computing, to procure the essential hardware and materials required for the research. This investment laid the foundation for both the prototype development and the AI platform integration.

#### **Student Involvement and Capacity Building**

From February to June 2025, three Capstone Project students contributed significantly to advancing the research, focusing on both vehicle development and disease detection systems. Currently, three additional Capstone Project students (commencing July 2025) are actively working on extending this research. In parallel, multiple master's students, supervised by me and Dr. Varastehpour, are engaged in advanced aspects of the project, while Capstone students are supervised and mentored by Dr. Jamie Bell and Mr. Artem Tolstykh. This layered supervision ensures that students gain hands-on, practical experience while contributing to meaningful research outcomes.

#### **Research Assistants and Team Expansion**

Following interviews earlier this year, we successfully appointed two Research Assistants, Kumudu Fonseka and Raj Patel, who are now actively engaged in both projects. Their contribution has enhanced the pace of development and enabled better continuity across the research streams.

#### **Collaboration and Research Fellow**

We also onboarded Mr. Artem Tolstykh, an external cloud specialist, as an Honorary Research Fellow. Artem has been instrumental in supervising students and advancing the technical aspects of the project, particularly in vehicle design and systems integration.

### **Team Meetings and Coordination**

We have continued to hold fortnightly team meetings, where progress is reviewed, challenges are discussed, and the next steps are collectively planned. This has ensured effective coordination between the vehicle development (RI25003) and the AI disease detection platform (RI25004), allowing us to maintain a cohesive and integrated approach.

### **Overall Progress**

The project is progressing well, with steady advancements on both the hardware prototype for the autonomous vehicle and the AI-driven disease detection platform. The integration of these two streams is central to the project vision, and we are confident that their combined outcomes will provide a robust foundation for commercialisation opportunities in AgriTech, particularly in grape and apple disease detection.

### **RI25004 Specific Overall Progress:**

The RI25004 project focuses on leveraging the data collected by the Cloud-Based Autonomous AgriTech Vehicle (RI25003) to develop robust machine learning and AI methods for leaf disease detection in grape and apple crops.

Significant progress has been made in the development of the leaf disease prediction system. We have successfully designed and trained nine distinct machine learning models, specifically tailored to detect eight classes of apple diseases, along with one class representing healthy leaves. Data pre-processing has been implemented using a variety of image transformation techniques, ensuring that the models are exposed to a wide range of data scenarios and improving their generalisation performance.

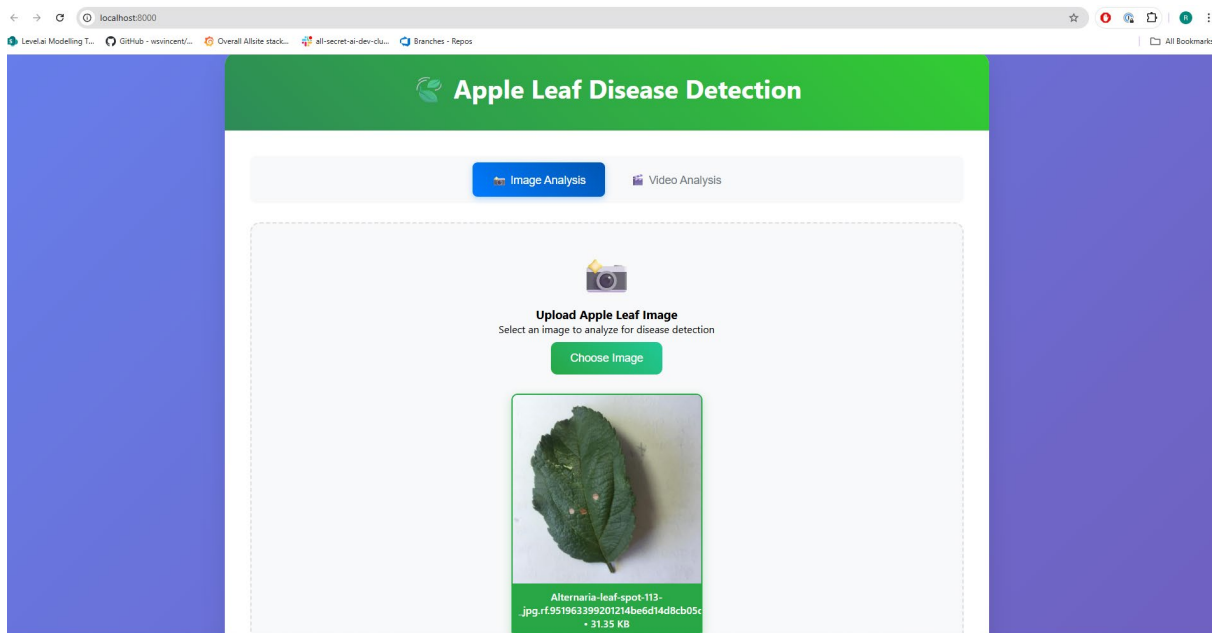
To facilitate practical application, we have developed a local web application utilising vanilla JavaScript and FastAPI, which enables the models to process both images and videos of apple leaves. The platform not only identifies the diseased class but also visualises the affected areas by drawing bounding boxes around them. Additionally, the system can evaluate the performance of each model and determine the most accurate prediction for a given input.

The integration between RI25003 and RI25004 is a key component of the workflow. Data collected by the autonomous vehicle, including sensor readings, camera images, and IoT device inputs, will serve as the primary input for the RI25004 disease detection system. Once processed in the AWS cloud environment, the ML/AI models will analyse the data to detect diseases in real-time and inform the autonomous system regarding subsequent actions, thereby closing the loop between data collection, analysis, and automated intervention.

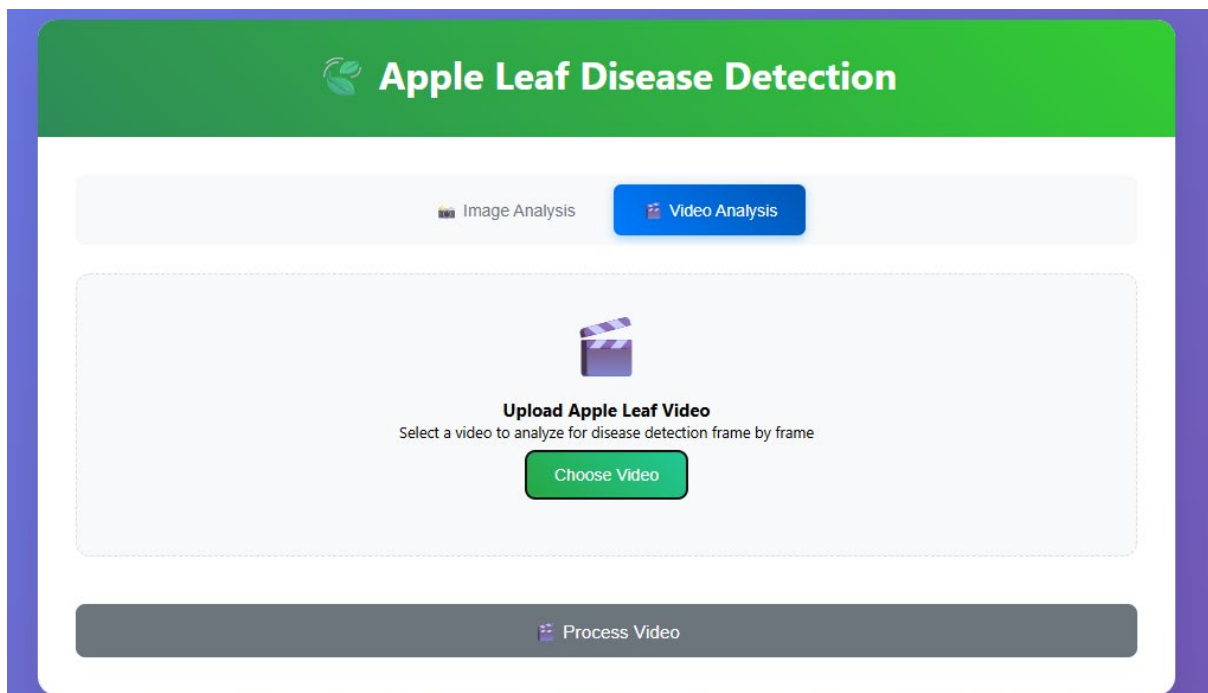
This combined approach positions the project to provide a scalable, cloud-enabled solution for precision agriculture, enhancing early disease detection and supporting informed decision-making in orchard management.

Following are a few snapshots of platform:

## Snapshot 1: Interface for Image processing:




## Snapshot 2: Interface for Image video analysis:

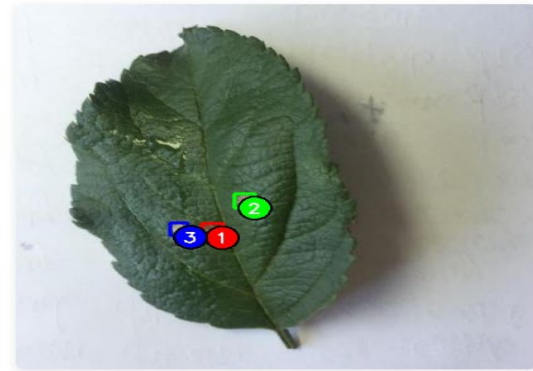


### Analysis Results

**Original Image**



**Detection Result**



**Analysis Complete: 3 leaf detections found**

Total Detections	Processing Time	Models Used
3	8.80s	9 Models

**Detection #1** Score: 75.3%

**Alternaria Leaf Spot**

Classification Confidence	Detection Confidence	YOLO Model	Classification Model
100.0%	75.3%	YOLOv11x	ResNet50

**Bounding Box:** (228, 385) → (254, 407)

**Detection #2** Score: 61.5%

**Alternaria Leaf Spot**

Classification Confidence	Detection Confidence	YOLO Model	Classification Model
100.0%	61.5%	YOLOv11x	ResNet50

**Bounding Box:** (269, 333) → (293, 357)

**Detection #3** Score: 56.7%

**Alternaria Leaf Spot**

Classification Confidence	Detection Confidence	YOLO Model	Classification Model
100.0%	56.7%	YOLOv11x	ResNet50

**Bounding Box:** (190, 384) → (210, 405)

# Snapshot 4: Results of Video Analysis

## Video Analysis Results

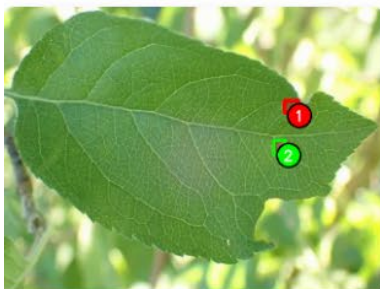
### Video Analysis Summary

Total Frames 10	Frames with Detections 8	Total Detections 15	Detection Rate 80.0%	Avg Confidence 0.965
Processing Time 6.2s				

#### Disease Distribution:

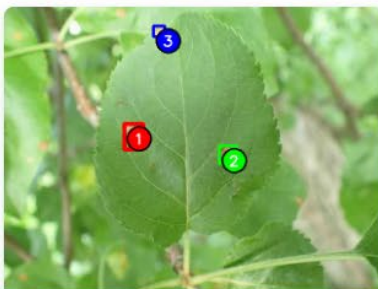
Alternaria Leaf Spot: 14    Powdery Mildew: 1

### Frame Results (8 frames with detections)



Frame 1 - 2 detection(s)

- #1: Alternaria Leaf Spot (99.9%)
- #2: Alternaria Leaf Spot (100.0%)



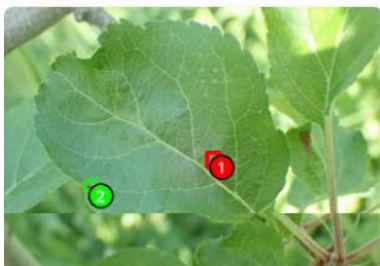
Frame 2 - 3 detection(s)

- #1: Alternaria Leaf Spot (98.7%)
- #2: Alternaria Leaf Spot (95.8%)
- #3: Alternaria Leaf Spot (99.9%)



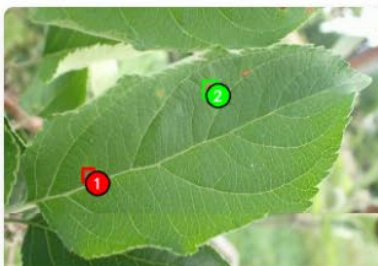
Frame 4 - 2 detection(s)

- #1: Alternaria Leaf Spot (99.8%)
- #2: Alternaria Leaf Spot (99.9%)



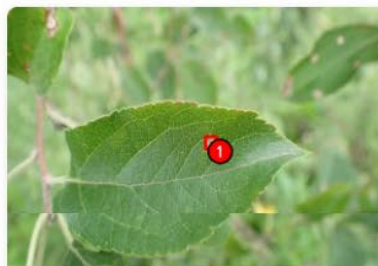
Frame 6 - 2 detection(s)

- #1: Alternaria Leaf Spot (99.2%)
- #2: Alternaria Leaf Spot (99.9%)



Frame 7 - 2 detection(s)

- #1: Alternaria Leaf Spot (100.0%)
- #2: Alternaria Leaf Spot (99.9%)



Frame 8 - 1 detection(s)

- #1: Alternaria Leaf Spot (95.4%)



Frame 9 - 1 detection(s)

- #1: Alternaria Leaf Spot (99.9%)



Frame 10 - 2 detection(s)

- #1: Alternaria Leaf Spot (97.9%)
- #2: Powdery Mildew (61.4%)

## Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Jan 2025	Data collection, preprocessing, algorithm selection	Done! We collected all the data using existing labelled datasets, completed preprocessing and selected multiple algorithms.
Feb 2025	Development and initial testing of deep learning models	Done! We designed and developed the initial platform. Please refer to the above snapshots.
May 2025	Optimization and finalization of models	Done! All models were trained, optimised and ready for live test.
July 2025	AI platform architecture design and development	Done! The platform has successfully designed and developed
Aug 2025	Testing and refinement of the AI platform	Done! The test process has been completed.
Oct 2025	Real-time testing and evaluation in agricultural settings	In-progress! We need to setup and arrange the real-time test process.
Nov 2025	Prepare Documentations (report and journal article)	In progress! However, we started the documentation process from the early stage of the project, we will start the final documentation in the format of a Journal paper after completing the real time testing.
Nov 2025	Estimated completion date	In progress! We will finish the project by the end of this year. We are collaborating with several students, internal researchers (Jamie Bell and Artem), and external partners from the University of Auckland, the University of Waikato, and SOJO University in Japan to advance this work and secure additional funding. The project is on track for completion by November, after which we will prepare further funding applications to support its continued development and commercialisation.

## Outline any variations to your project [if applicable]

There are no variations to report. The project remains on track, with no changes to the agreed timeframes, budget, personnel, or planned outputs at this stage.

## Outline any new opportunities to come from this project so far

New opportunities have emerged through strengthened collaboration with the University of Waikato, where we are jointly working on a KiwiNet Commercialisation Fund application and co-supervising Master's and PhD students. In addition, collaborations with the University of Auckland and Sojo University (Japan) have been initiated, creating opportunities to jointly apply for external funding and expand the research scope through international partnerships.

## Financial Update

To date, the entire NZD 7,000 allocated under the RI25004 fund has been fully utilised.

Of this amount, NZD 1,000 was allocated as partial support for attendance at the Horticulture Conference 2025.

A total of NZD 4,000 was used to cover research assistant payments, with all current RA costs settled under this fund. Any additional RA expenses required for the completion of the project will be met through the remaining balance of the RI25003 fund.

Furthermore, NZD 2,000 was expended on the purchase of essential project materials and hardware to support ongoing research and development activities.

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Personnel – two postgraduate research assistants (160 hours @ \$25 p/hr)	\$4,000	4,000	0	4,000
Travel (meeting with stakeholders and traveling for test purposes)	\$1,000	1,000	0	1,000
Materials (a flexible experimental system that includes hardware and software components, cloud storage solutions, and necessary licenses)	\$2,000	2,000	0	2,000
<b>Total</b>	<b>\$7,000</b>	<b>7,000</b>	<b>0</b>	<b>7,000</b>

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why: N/A

<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)

## **Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?**

Based on the progress report, I believe I have managed the project effectively to date. All early milestones have been met on schedule: we completed data collection, preprocessing and algorithm selection in January, developed and tested multiple deep learning models by February, optimised and finalized these models by May and designed the platform architecture by July. The AI platform is now built, tested and ready for real-time trials.

Throughout this period, I have coordinated a growing team of capstone and master's students, research assistants and an honorary research fellow, ensuring that tasks are clearly defined and aligned with project objectives. Regular fortnightly meetings have helped keep both the autonomous vehicle and disease-detection streams integrated and on track. Careful financial management has meant all funds are fully utilised as planned, with clear reporting on personnel, travel and materials expenditure. I have also fostered partnerships with external institutions such as the University of Auckland, the University of Waikato and Sojo University, which have broadened the project's impact and led to co-authored publications and additional funding opportunities.

There are still aspects underway, namely real-time field testing and final documentation, but overall the project is on target for completion by the end of the year, with strong progress against milestones, evidence of capacity building and clear pathways to commercialization.

## **Do you wish to highlight any other matters relevant to this project?**

Yes

In developing closer collaboration with Sojo University in Japan, we have co-authored two research papers accepted for international presentation.

1. "Apple Leaf Disease Detection: A Comprehensive Analysis of Pre-Trained Models and Platform Development," will be presented at the Future Technologies Conference (FTC 2025) in Munich, Germany (6–7 November 2025).
2. "Apple Leaf Disease Detection and Classification Using YOLOv11\_ResNet18 Hybrid Model," will be presented at the 8th International Conference on Sensors, Signal and Image Processing (SSIP2025) in Kobe, Japan (28–30 November 2025).

In addition, attending AGRITECHNICA 2025 (9–15 November 2025, Hanover, Germany), the world's leading trade fair for agricultural machinery, will provide unparalleled opportunities to engage with global industry leaders, explore commercialisation pathways, and directly support our KiwiNet commercialisation strategy.

These two ECR funds (RI25003 and RI25004) have already made a massive contribution to our school's research outcomes and positioned **AgriTech** as a core research strength. Since AgriTech is a shared research focus for me and Dr. Soheil, we have worked strategically to grow capability, impact, and partnerships in this field. To date, we have achieved the following:

### **Supervision in AgriTech projects**

- 1 Honorary Research Fellow
- 2 Research Assistants
- 10 Master's students (6 graduated, 4 ongoing)
- 12 Capstone projects (9 completed, 3 ongoing)

### **AgriTech Publications**

- 3 International Conference Proceedings
- 5 Peer-reviewed journal articles (2 published, 3 under review)

### **Collaborations**

- University of Auckland – Co-authored a peer-reviewed journal paper
- University of Waikato – Co-supervising students and jointly applying for external funds
- Sojo University, Japan – Co-authored 2 international conference papers
- One NZ – In-kind 5G services (valued at NZD 20,000+)
- AWS – Cloud research credits (valued at NZD 8,000+)

### **Additional Funding Success**

- In collaboration with the University of Waikato, we have already secured a KiwiNet Commercialisation Fund Tier 1 and are preparing to apply for Tier 2 next year.

### **Request for Support**

Participation in FTC 2025, SSIP 2025, and AGRITECHNICA 2025 will directly build on these achievements, significantly raise Unitec's international research profile, and accelerate opportunities for collaborative external funding and commercialisation. To fully realise the potential of these projects and ensure a successful Tier 2 KiwiNet application, we require Unitec's support to attend these events. This investment will not only add value to our project and the School of Computing's research strategy but also strengthen Unitec's reputation as a leader in applied AgriTech innovation.

No

#### **Reminders:**

- There will be no rollover of funds into 2026.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must enter any outputs from the project into ROMS as and when they occur.
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 27 March 2026.

**NB:** Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

# Early Career Researcher Fund 2025

## Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	Dr Sarah Wells
<b>Project Title:</b>	A morphological and genomic investigation of hybridisation in <i>Naultinus</i> geckos
<b>Amount of Grant:</b>	\$8,490

### Provide an update on the project's overall progress

*Summarise progress towards your aims/objectives; note any highlights of your project to date.*

Due to the misalignment of the timing of these grants with our field season, as per the previous ECR grant and as per my stated milestones below, fieldwork has not yet been conducted and is due to start in the next month or so as the weather warms up. Therefore, at this stage there is not much to report. This year, I have been focussing on maintaining relationships with my iwi partners, Te Roroa. One fieldtrip has been conducted in Waipoua in March 2025 following engagement with Te Roroa and their enthusiasm for this project. Myself, and my research partner Dylan van Winkel travelled to Waipoua to meet with Te Roroa and to conduct one night of fieldwork to find *Nautilus* geckos in their rohe. We found two *Naultinus* geckos, much to the excitement of the iwi representative who came out with us that night. We reported these sightings back to Te Roroa and DOC at a hui at the local DOC office the following day. They were not aware of the presence of geckos at these sites and this information now gives them focus for implementing pest management plans at these locations. We plan on conducting more fieldwork with Te Roroa this spring.

### Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
30 Dec 2025	Fieldwork to collect remaining samples in Bay of Islands and Waipoua regions completed	ongoing
30 Feb 2026	DNA extractions completed and samples sent for sequencing (subject to MASCI student timeline)	ongoing
30 Mar 2026	Morphological analysis completed (subject to MASCI student timeline)	ongoing
30 June 2026	Population genomic analysis completed (subject to MASCI student timeline)	ongoing
30 Oct 2026	Manuscript drafted and submitted for publication	ongoing
30 Oct 2026	Estimated completion date	ongoing

### Outline any variations to your project [if applicable]

*If there have been any changes in terms of timeframes, budget, personnel or planned outputs note these here.*

None, milestones above are still on track.

### Outline any new opportunities to come from this project so far

*Are there new connections, funding sources or opportunities for your own research, Unitec teams or the work of others which are emerging in this project? How could these opportunities be pursued in this or future projects?*

None at this stage. Likely further funding anticipated from external sources following completion of this initial stage of the project. Collaboration with Te Roroa has been strengthened through this project however, and I am discussion with their science advisor about potential future collaborations, about which he is very keen.

### Financial Update

The budget from Unitec has not yet been used, however, I do not anticipate any changes to the budget or its use. The co-funding amount has been used because this came through before the ECR grant and it allowed us to start fieldwork last summer (the aforementioned trip to Waipoua).

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Accommodation (16 nights of fieldwork in the Bay of Islands and west coast at \$400 per night for the research team)	\$6,400	0		
Travel (Fuel costs to Northland (east and west coasts) and around for fieldwork.	\$1,500	0		
Koha (for hui on marae in the Bay of Islands)	\$400	0		
Food (during fieldwork for field team (\$90 a day for 16 nights for three people).	\$1,440	0		
<b>Co-funding</b>	<b>(\$1,250)</b>	<b>1,250</b>	<b>0</b>	<b>1,250</b>
<b>Total</b>	<b>\$8,490</b>			

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why:

### Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?

These ECR grants are always plagued by the issue of misalignment of timing of funding with the fieldwork components of our ecological research projects. As such, it is necessary for us to apply for funding and then wait a whole year (or almost) until we can utilise the money.

<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)

Therefore, I believe, given these challenges, I have managed the project as best as possible.

**Do you wish to highlight any other matters relevant to this project?**

Yes

No

**Reminders:**

- There will be no rollover of funds into 2026.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must enter any outputs from the project into ROMS as and when they occur.
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 27 March 2026.

**NB:** Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

# Early Career Researcher Fund 2025

## Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	Dr Masoud Shakiba
<b>Project Title:</b>	Cloud Based Autonomous AgriTech Vehicle Designed for New Zealand
<b>Amount of Grant:</b>	\$2,000

### Provide an update on the project's overall progress

*(This section is same in both RI25003 and RI25004 report.)*

As the Principal Investigator for the project Cloud Based Autonomous AgriTech Vehicle Designed for New Zealand (RI25003), I am pleased to provide an update on the overall progress of this research and its integration with the companion project The Development of AI Platform for Real-Time Disease Detection and Classification in Grape and Apple Crops (RI25004), led by Dr. Soheil Varastehpour.

These two projects are closely connected, and their outcomes are being developed in a fully integrated manner to maximise efficiency, collaboration, and impact.

#### **Funding and Early-Stage Progress**

In the early stages of 2025, we utilised NZD 2,000 from RI25004, along with additional financial support from the School of Computing, to procure the essential hardware and materials required for the research. This investment laid the foundation for both the prototype development and the AI platform integration.

#### **Student Involvement and Capacity Building**

From February to June 2025, three Capstone Project students contributed significantly to advancing the research, focusing on both vehicle development and disease detection systems. Currently, three additional Capstone Project students (commencing July 2025) are actively working on extending this research.

In parallel, multiple master's students, supervised by me and Dr. Varastehpour, are engaged in advanced aspects of the project, while Capstone students are supervised and mentored by Dr. Jamie Bell and Mr. Artem Tolstyk. This layered supervision ensures that students gain hands-on, practical experience while contributing to meaningful research outcomes.

#### **Research Assistants and Team Expansion**

Following interviews earlier this year, we successfully appointed two Research Assistants, Kumudu Fonseka and Raj Patel, who are now actively engaged in both projects. Their contribution has enhanced the pace of development and enabled better continuity across the research streams.

#### **Collaboration and Research Fellow**

We also onboarded Mr. Artem Tolstyk, an external cloud specialist, as an Honorary Research Fellow. Artem has been instrumental in supervising students and advancing the technical aspects of the project, particularly in vehicle design and systems integration.

### **Team Meetings and Coordination**

We have continued to hold fortnightly team meetings, where progress is reviewed, challenges are discussed, and the next steps are collectively planned. This has ensured effective coordination between the vehicle development (RI25003) and the AI disease detection platform (RI25004), allowing us to maintain a cohesive and integrated approach.

### **Overall Progress**

The project is progressing well, with steady advancements on both the hardware prototype for the autonomous vehicle and the AI-driven disease detection platform. The integration of these two streams is central to the project vision, and we are confident that their combined outcomes will provide a robust foundation for commercialisation opportunities in AgriTech, particularly in grape and apple disease detection.

### **RI25003 Specific Overall Progress:**

Over the course of this research project (RI25003), we conducted a comprehensive literature review focused on image-based apple leaf disease detection. The process began with a careful selection of research papers by examining the study's relevance to the domain and its quality, impact and contribution to the existing body of research. After the screening, we selected 40 journal papers published between 2020-2025 for review and 21 supporting research articles.

Through this review, we identified and assessed how researchers collected diseased leaf images from apple orchards and what public apple leaf disease datasets they used most frequently. We also noted the challenges they faced with current data collection practices and existing datasets which reduce the generalisability of the trained models and make it difficult for them to perform well in practical farming environments. We explored and discussed how researchers have used different preprocessing and augmentation strategies to address these challenges.

An important part of the review examined deep learning methods that have been used in previous studies, including convolutional neural networks (CNNs), vision transformers (ViTs), and object detection and localisation techniques such as Faster R-CNN and YOLO. These approaches were compared in terms of their accuracy and efficiency to assess their suitability for practical deployment. The metrics used to evaluate the performance of these methods were also discussed.

Furthermore, we looked into the real-world deployment setups such as UGVs (Unmanned Ground Vehicles) and UAVs (Unmanned Aerial Vehicles) and the associated challenges that need to be addressed when moving from controlled experimental setups to real-world apple orchard environments. This included concerns relating to computational resources, costs, scalability, regulations, user-friendliness of the system and acceptability by farmers. The final section of the paper discusses recommendations and directions that guides future research.

After several rounds of feedback and revisions guided by Dr Soheil and Dr Masoud, the paper has been refined and improved. It is now under review by external researchers, and we are awaiting their feedback.

## Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Jan 2025	Evaluate and review existing technologies and research in cloud and 5G autonomous driving, both internationally and within New Zealand	Done. We drafted a comprehensive literature review. Under review by external partners.
26–27 Aug 2025	Attend New Zealand Horticulture Conferences 2025 (including RSE Conference)	Done. Masoud and one of our master's students (Mohamed Jumly) both attended the Horticulture and RSE Conference 2025 in Wellington on 26-27 Aug. Funded jointly by RI25003 and RI25004 and extra fund sponsored by our school to support our master's student participation.
Nov 2025	Estimated completion date	In progress. We will finish the project by the end of this year. We are collaborating with several students, internal researchers (Jamie Bell and Artem), and external partners from the University of Auckland, the University of Waikato, and SOJO University in Japan to advance this work and secure additional funding. The project is on track for completion by November, after which we will prepare further funding applications to support its continued development and commercialisation.

### Outline any variations to your project [if applicable]

There are no variations to report. The project remains on track, with no changes to the agreed timeframes, budget, personnel, or planned outputs at this stage.

### Outline any new opportunities to come from this project so far

New opportunities have emerged through strengthened collaboration with the University of Waikato, where we are jointly working on a KiwiNet Commercialisation Fund application and co-supervising Master's and PhD students. In addition, collaborations with the University of Auckland and Sojo University (Japan) have been initiated, creating opportunities to jointly apply for external funding and expand the research scope through international partnerships.

## Financial Update

From the RI25003 fund, NZD 500 has been allocated as partial coverage for attendance at the Horticulture Conference 2025. The remaining NZD 1,500 is earmarked for research assistant payments upon project completion. To date, research assistants have already been compensated through the RI25004 fund.

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Research assistant (to conduct a literature review)	\$1,500	0	1,500	1,500
Travel (for stakeholder/industry engagement)	\$500	500	0	500
<b>Total</b>	<b>\$2,000</b>	<b>500</b>	<b>1,500</b>	<b>2,000</b>

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why: N/A

### **Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?**

I believe I have managed this project effectively and in line with the objectives of the Early Career Researcher Fund. To date, the project is progressing on schedule, with no variations to budget, personnel, or timeframes. I have successfully built and coordinated a multidisciplinary team, including internal researchers, external collaborators, research assistants, and students at undergraduate and postgraduate levels. This has not only ensured steady progress toward our technical milestones but has also created strong pathways for student engagement and capability development.

From a leadership perspective, I have developed my skills in project management, stakeholder engagement, and research supervision. Regular team meetings, structured planning, and close collaboration with our industry partners (AWS and One NZ) have been critical in maintaining momentum and aligning the project with commercialization pathways.

Overall, this project has strengthened my capability as a Principal Investigator by giving me the opportunity to lead a high-quality applied research project, coordinate diverse expertise, and align academic research with industry needs. I am confident that the experience and networks gained through this project will support both my career progression and Unitec's broader research agenda.

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<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)

## Do you wish to highlight any other matters relevant to this project?

Yes

In developing closer collaboration with Sojo University in Japan, we have co-authored two research papers accepted for international presentation.

1. "Apple Leaf Disease Detection: A Comprehensive Analysis of Pre-Trained Models and Platform Development," will be presented at the Future Technologies Conference (FTC 2025) in Munich, Germany (6–7 November 2025).
2. "Apple Leaf Disease Detection and Classification Using YOLOv11\_ResNet18 Hybrid Model," will be presented at the 8th International Conference on Sensors, Signal and Image Processing (SSIP2025) in Kobe, Japan (28–30 November 2025).

In addition, attending AGRITECHNICA 2025 (9–15 November 2025, Hanover, Germany), the world's leading trade fair for agricultural machinery, will provide unparalleled opportunities to engage with global industry leaders, explore commercialisation pathways, and directly support our KiwiNet commercialisation strategy.

These two ECR funds (RI25003 and RI25004) have already made a massive contribution to our school's research outcomes and positioned **AgriTech** as a core research strength. Since AgriTech is a shared research focus for me and Dr. Soheil, we have worked strategically to grow capability, impact, and partnerships in this field. To date, we have achieved the following:

### Supervision in AgriTech projects

- 1 Honorary Research Fellow
- 2 Research Assistants
- 10 Master's students (6 graduated, 4 ongoing)
- 12 Capstone projects (9 completed, 3 ongoing)

### AgriTech Publications

- 3 International Conference Proceedings
- 5 Peer-reviewed journal articles (2 published, 3 under review)

### Collaborations

- University of Auckland – Co-authored a peer-reviewed journal paper
- University of Waikato – Co-supervising students and jointly applying for external funds
- Sojo University, Japan – Co-authored 2 international conference papers
- One NZ – In-kind 5G services (valued at NZD 20,000+)
- AWS – Cloud research credits (valued at NZD 8,000+)

### Additional Funding Success

- In collaboration with the University of Waikato, we have already secured a KiwiNet Commercialisation Fund Tier 1 and are preparing to apply for Tier 2 next year.

### Request for Support

Participation in FTC 2025, SSIP 2025, and AGRITECHNICA 2025 will directly build on these achievements, significantly raise Unitec's international research profile, and accelerate opportunities for collaborative external funding and commercialisation. To fully realise the potential of these projects and ensure a successful Tier 2 KiwiNet application, we require Unitec's support to attend these events. This investment will not only add value to our project and the School of Computing's research strategy but also strengthen Unitec's reputation as a leader in applied AgriTech innovation.

No **Reminders:**

- There will be no rollover of funds into 2026.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must enter any outputs from the project into ROMS as and when they occur.
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 27 March 2026.

**NB:** Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

# Early Career Researcher Fund 2025

## Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	Kate Harder
<b>Project Title:</b>	Evaluation of debilitating and zoonotic endoparasites in cats of Auckland, New Zealand
<b>Amount of Grant:</b>	\$11,516

### Provide an update on the project's overall progress

#### Objective 1: Sample collection

Progress in sample collection has been steady, though slightly slower than anticipated. To date, faecal samples have been collected primarily from rescue cats, with collections dependent on rescue organisations' capacity and the number of stray cats admitted. This has provided valuable insight into the practical challenges of working with community-based organisations. Sample collection from pet cats has not yet commenced, as this was reliant on securing veterinary clinic participation. Lessons learned at this stage include the importance of planning for courier options in future projects, which would increase efficiency and improve sample numbers.

#### Objective 2: Geographic coverage

Productive relationships have been established with several cat rescues, particularly in South Auckland, providing a foundation for ongoing and future collections. These partnerships have been strengthened through regular communication and flexibility around collection timing. I am also continuing to develop further relationships with other rescue organisations across Auckland to broaden sample coverage. Work to engage veterinary clinics for pet cat sample contributions is ongoing, with initial discussions underway to identify willing participants.

#### Objective 3: Diagnostic comparison

Initial progress has focused on faecal flotation, with the assistance of a research student who is carrying out this part of the diagnostic work. This has been a valuable step both in advancing the project and in supporting student capability development. Molecular testing at the Unitec AMS Research Centre and James Cook University will form the next phase of the project, and planning meetings with the supervising laboratory staff are already underway to ensure a smooth transition to this stage.

#### Objective 4: Clinical relevance

Although sensitivity analysis has not yet begun, the project remains on track to deliver useful comparative data on the reliability of faecal flotation compared with molecular testing. This outcome will have direct clinical relevance by informing best practice

diagnostic approaches for both veterinary clinics and rescue organisations. In addition, the study will provide an up-to-date view of the endoparasites currently present in Auckland's cat populations, which will be valuable for both clinical decision-making and broader animal health planning.

### Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Jan 2025	Invite cat rescue and veterinary clinics to contribute to the project by providing samples from patients.	I am working with three rescues that cover the south/east area of Auckland. Clinic participation has been an issue. Clinics are interested in the project but so many are dealing with staffing changes and not in a position to help currently.
Jan – April 2025	Collect samples over several months. Perform faecal flotations as samples arrive and then place into ethanol for long term storage for DNA extraction	Have collected approximately 90 samples to date. Will continue to collect to get as close to 200 samples as possible. Rescues have slowed down a bit due to the winter months and less breeding occurring in stray cats.
May – June 2025	Carry out DNA extraction in preparation for PCR genetic testing	The first stage of this will be occurring end of October at James Cook University. We will be checking for hookworm and Strongyloide species. Other species will be carried out in the AMS lab.
July – Sept 2025	Carry out data analysis in preparation for publishing	Delayed to due to slowing in sample collection.
Oct 2025 – March 2026	Prepare three manuscripts for academic journal publishing	Hope to still meet this March deadline.
April 2026	Estimated completion date	Hope to still meet this.

### Outline any variations to your project [if applicable]

A portion of the funding has been reallocated to support travel with samples to James Cook University (JCU). This adjustment has resulted in cost savings for the project, as JCU is providing all required consumables and DNA processing materials during my time there. This variation allows the project to progress as planned while optimising the use of available resources. Importantly, this collaboration also strengthens international research connections, which will add long-term value to my development as an early career researcher.

### Outline any new opportunities to come from this project so far

This project has already generated valuable new opportunities for both my research and future collaborations. Continuing my partnership with James Cook University (JCU) has opened the pathway for me to pursue a PhD with them, which I am planning to commence in 2026. This collaboration also provides a strong foundation for future joint projects, including:

1. **Human parasite sampling in Tonga** – building on previous collaborative work with JCU and extending the scope of zoonotic parasite research.

## 2. Canine parasite studies in New Zealand and Australia – in partnership with a JCU PhD student, providing a comparative, cross-country perspective.

These opportunities not only enhance my own research trajectory but also strengthen international collaboration, expand Unitec's research connections, and create potential for further funding applications. They demonstrate how this project serves as a catalyst for wider applied research in both companion animal and public health contexts.

### Financial Update

The project budget remains on track overall, with expenditure progressing in line with the original budget items. A portion of funds was reallocated to support travel to James Cook University (JCU), which has resulted in cost efficiencies as JCU is providing all consumables and DNA processing materials. These savings have allowed the project to maximise its outputs within the allocated budget.

At this stage, I anticipate the majority of funds will be spent as planned. If there is any underspend, it is likely to be minimal and will become clearer once sample collection and laboratory work are completed in the next phase of the project.

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Consumables	\$4,516			
NGS sequencing (93 samples x 2 @ \$3,500)	\$7,000			
<b>Total</b>	<b>\$11,516</b>			

### Adjusted Budget

Item	Quantity	Price/estimate per unit	Item total	Comments	Explanation
Sample pottles	200	\$1.00	\$200.00	Sample collection	Need to order
Ethyl acetate	1	\$240.00	\$240.00	Microscopy (formalin acetate sedimentation)	
Faecalysers x4 (50 per box) inc shipping	1	\$260.00	\$260.00	Feecal floatation	Purchased
Interlab consumables	1	\$650.00	\$650.00	Slides, coverslips, tips, centrifuge tubes	
Microscope slides (50 per box)	0	\$4.00	\$0.00	Feecal floatation	Purchased
Cover slips (100 per box)	0	\$5.00	\$0.00	Feecal floatation	Purchased
Micropipette tips (96 per box)	0	\$20.00	\$0.00	DNA extraction for sequencing	Purchased
Eppendorf tubes sterile (2ml) 1000 per bag	0	\$200.00	\$0.00	DNA extraction for sequencing	Purchased
Qaigen Powersoil kitDNeasy PowerSoil Pro Kit (250)	1	\$3,600.00	\$3,600.00	Done in Applied Molecular Solutions(AMS) lab at Unitec	Purchased
Qubit reagents	0	\$50.00	\$0.00	DNA extraction for sequencing	Included in Powersoil kit
Formalin	1	\$50.00	\$50.00	DNA extraction for sequencing	Use for sample storage for microscopy, need to order
qPCR assays (being done in AMS)	4	\$330.00	\$1,320.00	DNA extraction for sequencing	Potentially will be provided by funding from JCU.
Taq enzyme	0	\$520.00	\$0.00	DNA extraction for sequencing	Included in Powersoil kit
Clean-up kit	0	\$370.00	\$0.00	DNA extraction for sequencing	Included in Powersoil kit
NGS sequencing (93 samples)	0	\$0.00	\$0.00	Sent externally to be analysed	qPCR can now be run in AMS rather than outsourcing.
AMS lab technician (in-house rate)	52	\$50.00		Approximately 4 hours per 15 samples for DNA extraction time	Funded separately via research office
Travel to JCU	1	\$3,200.00	\$3,200.00	DNA extraction and qPCR testing for 9 species at JCU	Primer/probe material will be funded by JCU
2nd Qaigen Powersoil kitDNeasy PowerSoil Pro Kit (250)		\$3,600.00	\$0.00		
			\$0.00		
			\$9,520.00		
		Remaining	\$1,996.00		
			\$0.00		
		Approved amount	\$11,516.00		

NOTE: If I do not need to purchase 4x qPCR assays, I would like to use remaining to purchase a second Qaigen Powersoil kitDNeasy PowerSoil Pro Kit (250) as I may get more samples than planned. And any remaining part of this kit would be saved for a Negotiated Research project for next year.

#### Rough Example Total for a Basic qPCR Assay

Primers (2x): ~NZD \$80

Probe: ~NZD \$200

Shipping: ~NZD \$50

Total: ~NZD \$330 (one-off cost for hundreds of reactions)

#### Materials provided by JCU

10 species qPCR assay = ~\$3000

Done at JCU lab

2nd Powersoil kit = \$3600

Done at JCU lab

4 species qPCR assay = ~\$1320

Hoping/expecting to be able to provide to me from JCU funding.

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why: I expect to stay on target at this stage.

<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)

**Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?**

To date, I believe I have managed this project effectively while also gaining valuable insights into the realities of applied research management. One key achievement has been negotiating a productive research student partnership. The student is performing faecal flotation analyses on my samples as part of her own project, and our collaboration has developed into a strong working relationship. Importantly, she has expressed enthusiasm for continuing to work on the research beyond her course requirements, which demonstrates the project's capacity to foster capability development in others as well as myself.

While I had initially hoped to collect more samples by this stage, progress has been influenced by factors outside my control, such as rescue organisations' availability and the variable number of stray cats admitted. This has been an important lesson in project planning. In future funding applications, I would include courier costs, as relying on weekend travel to collect samples has limited the frequency of collections. Allowing participants to courier samples directly to Unitec would increase both efficiency and sample numbers, by removing logistical barriers.

I have also learned the importance of flexibility in estimating project timelines. Teaching responsibilities occasionally shift, which can affect progress, and this experience has taught me to build greater contingency into project planning.

Communication and stakeholder engagement have been a strength. I have maintained regular meetings with participating staff to check in, seek guidance, and collaboratively plan the next stages of the project, including DNA processing. This has ensured that the project continues to move forward in alignment with research objectives.

Through these experiences, I can see clear growth in my capability and confidence as a Principal Investigator. I have strengthened my skills in project management, student supervision, budgeting and resource planning, and stakeholder communication. The lessons learned—particularly around logistics, time management, and contingency planning—will directly support my progression as an independent researcher and increase my capacity to design and lead future high-quality applied research projects.

**Do you wish to highlight any other matters relevant to this project?**

Yes

No

A particularly exciting development in this project has been the potential identification of a lungworm species not well documented in New Zealand. During faecal flotation, my student detected a lungworm egg which, with the support of colleagues at James Cook University, was morphologically identified as *Capillaria aerophila*. This finding is significant because *C. aerophila* is a zoonotic species, unlike the feline lungworm *Aelurostrongylus abstrusus* which we had expected to encounter.

In Australia, *C. aerophila* is relatively common due to foxes acting as reservoir hosts, but there is very little information about its presence or distribution in New Zealand. If confirmed, this represents an important and novel contribution to our understanding of feline (and potentially zoonotic) parasitology in this country. It also highlights the value of this project in detecting emerging or under-recognised parasite species, with implications for both animal and human health.

# Early Career Researcher Fund 2025

## Progress Report

Email your completed Progress Report to [bmassey@unitec.ac.nz](mailto:bmassey@unitec.ac.nz) before **5pm on Friday, 29 August 2025**. Instructions in red italics may be removed before submission.

<b>Researchers:</b>	A/P Kristie Cameron
<b>Project Title:</b>	Using behaviour economics to identify commodities for good welfare in guinea pigs
<b>Amount of Grant:</b>	\$2,400

### Provide an update on the project's overall progress

*Summarise progress towards your aims/objectives; note any highlights of your project to date.*

### Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Sem 1	Ramp exp 1 & 2 with NR students	Complete Exp 1 presented at NZABA August 2025 Paper accepted to Academia Biology special Animal Welfare issue Exp 2 presented at NZABA August 2025
Dec 2025	Estimated completion date	Done.

### Outline any variations to your project [if applicable]

Data collection completed July 2025. Data analysis and presentation of both experiments completed August 2025.

### Outline any new opportunities to come from this project so far

This experiment provided interesting data and a lens of which to approach the analysis of the large size/shape project from 2025. The SPCA are very interested in this data to inform their recommendations for husbandry in guinea pigs and also for a future code of welfare.

### Financial Update

I believe there is \$200 left.

Paying the RA using a special service system was difficult but necessary. The techs at TPK help the students above their role and monetary compensation is required. I hope we can repeat this in the next ECR funding round.

Item	Amount approved	Amount spent to date <sup>1</sup>	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Personnel - research assistant (enough for at least 2 hours per week April-July (50 hrs).	\$1,200	1500	-	-
Husbandry and animal care via existing techs (food, supplies, vet care, loan of animals)	\$200	200		
Guinea pig food and supplies	\$1,000	514.18		
<b>Total</b>	<b>\$2,400</b>	<b>2214.18</b>	<b>185.82</b>	

\* If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why:

**Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?**

I think I managed this project well considering we have disseminated the data to a journal and presented at a conference - and it's only August.

**Do you wish to highlight any other matters relevant to this project?**

No

**Reminders:**

- There will be no rollover of funds into 2026.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must enter any outputs from the project into ROMS as and when they occur.
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 27 March 2026.

**NB:** Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

<sup>1</sup> If you are unsure, you can check these figures with Asma Muir [amuir@unitec.ac.nz](mailto:amuir@unitec.ac.nz)



## Te Komiti Rangahau o Unitec | Unitec Research Committee Self-Assessment

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**Purpose:** NZQA requires the committees of Te Komiti Mātauranga | Academic Committee to provide evidence of self-assessment.

### Te Komiti Rangahau o Unitec Self-Assessment Provocations

- Can we improve the way the committee is run?
- Is time well managed?
- Are issues under discussion well-handled and resolved?
- Are the agenda and minutes well handled?
- Are the perspectives of committee members respected and heard?
- Are actions completed and accounted for?
- Were there matters raised and dealt with in the meeting that were particularly helpful or unhelpful?
- Does the committee oversee and ensure compliance within its mandate?
- Does the committee show foresight and proactively engage in continuous improvement?
- Does the committee review and improve the relevant policies, guidelines and regulations?

**How to Provide Feedback:** Any feedback members of the committee may have in relation to any of the above provocations should be directed, in confidence, to Delphine Gesché, Secretary of Te Komiti Mātauranga: [dgesche@unitec.ac.nz](mailto:dgesche@unitec.ac.nz)