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Submission on Draft Research, Science and Innovation Strategy recevied:

#### Are you making your submission as an individual, or on behalf of an organisation?

Organisation

#### Name

Dr Cate Gribble

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# Which of the below areas do you feel represents your perspective as a submitter? (Please select all that apply)

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Name of organisation on whose behalf you are submitting, if different to the organisation named above

University of Auckland

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



# Contribution of Research, Science and Innovation

This strategy is about New Zealand's Research, Science and Innovation (RSI) at a high-level. Its aim is to identify challenges and opportunities that will have the broadest impact on our research and innovation activities. For this reason, it mentions few specific areas or sectors of research and innovation. For this draft version of the Strategy, we are keen to hear from researchers, innovators, businesses, and providers of public services on what the RSI system could be doing to accelerate progress on Government's priorities.

Question 1:	Where can the RSI system make the greatest contribution towards the
	transition to a clean, green, carbon-neutral New Zealand?
Question 2:	Where else do you see it making a major contribution?
Question 3:	What else could else the RSI system be doing to accelerate the progress towards the Government's priorities*?
	towards the Government's priorities' r

\* see list of the Government's twelve priorities included in Part 1 of the draft Strategy.

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 1: Where can the RSI System make the greatest contribution towards the transition to a clean, green, carbon-neutral New Zealand?

For New Zealand to become a global innovation hub and to grow our wealth and wellbeing, we must invest in new areas, particularly areas that do not maintain our reliance on commodities. The focus on 'making the most of opportunities that are unique to us' and 'solving problems that nobody else has solved or is likely to investigate' is too limiting. We already invest, and have traditionally invested, considerably in areas such as primary industries, reduction of agricultural greenhouse gas emissions, geothermal, and an assortment of geological hazards.

We support the focus on sustainability but recommend that sustainability be considered in its broadest sense across all disciplines, including social sciences. Signalling the importance of the broad spectrum of disciplines will promote the type of cross disciplinary research required to transition to a clean, green, carbon-neutral New Zealand.

We also recommend the Government consider aligning the RSI strategy with those of the UN Sustainable Development Goals.

Question 2: Where else do you see it making a major contribution?

The RSI has the potential to contribute to all aspects of society from improving health outcomes ('healthy communities') to safeguarding and future-proofing our food supply systems, and developing the next big technologies. Limiting the RSI to a narrow selection of areas may reduce the diversity of research as well as longer term research opportunities. Instead, the RSI sector needs to contribute to all areas in which we have world-class capability and seek a balanced portfolio of research, complementing targeted research with support for blue skies research that offers potential longer term benefits.

**Question 3:** What else could the RSI system be doing to accelerate the progress towards the government's priorities?

We recognise and support the priorities set by the government, however, achieving the goals of the RSI requires significant time as many endeavours may not have an immediate impact. Attracting, funding and retaining the very best researchers over the longer term is required to build an effective and resilient world class RSI system.

The recent round of Centres for Research Excellence has resulted in a wide range of researchers with complementary interests forming teams to co-develop research agendas that will tackle issues of national and global significance. However, many of these researchers will not receive funding. The Government could look at ways to harness the strategically important research capabilities of some of these unsuccessful bidders which in turn will improve the impact of the RSI strategy.

### Researching and innovating towards the frontier

Question 4:	Do you agree that the RSI Strategy should be focused on innovation at the "frontier" (creating new knowledge) rather than behind the frontier (using existing knowledge to improve the ways we do things)?
Question 5:	In which research and innovation areas does New Zealand have an ability to solve problems that nobody else in the world has solved? Why?
Question 6:	In which areas does New Zealand have a unique opportunity to become a world leader? Why?
Question 7:	What do you consider to be the unique opportunities or advantages available to the RSI system in New Zealand?
Question 8:	What RSI challenges are unique to New Zealand, that New Zealand is the only country likely to address?
Question 9:	What are the challenges of innovating in the public sector? How do they differ from those in the private sector?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 4: Do you agree that the RSI Strategy should be focused on innovation at the "frontier" (creating new knowledge) rather than behind the frontier (using existing knowledge to improve the ways we do things)?

A fundamental goal of the RSI must be to push the boundaries of knowledge and innovation at a global level. While in some cases it is beneficial to draw on existing knowledge and expertise, overall research and innovation at the frontier should be prioritised. The best of our research centres are typically involved in the full spectrum of new knowledge to translation as these researchers are strongly motivated to see their work utilised. Nations that invest earlier in the research spectrum are more likely to reap social and economic benefits. Importantly, underscoring any focus of the RSI must be recognition of the value of multiple knowledge sources and traditions, including indigenous knowledge.

**Question 5:** In which research and innovation areas does New Zealand have an ability to solve problems that nobody else in the world has solved? Why?

Research that is distinct to New Zealand is likely to focus on our unique characteristics. However, this knowledge may also have limited impact on the world stage. As a small, geographically isolated nation, New Zealand must avoid focussing inward, but rather maintain a global perspective, pursuing our research strengths and contributing to the development of knowledge. Our ability to solve major problems is driven by the quality of our research and researchers. At the same time, we must also capitalise on the opportunities to meld indigenous and other knowledge and philosophies to create a globally relevant approach to RSI.

Question 6: In which areas does New Zealand have a unique opportunity to become a world

#### leader? Why?

As indicated above, many of our leading researchers choose to live and work in New Zealand but their work is highly mobile. However, New Zealand boasts a significant number of academics who are world leaders in their fields where there is local context. Research areas in this category relate to New Zealand's unique social and physical characteristics including indigenous research, geology and volcanology and native biodiversity. As a nation, we are well positioned to place RSI in a social and science context under consideration of Mātauranga Māori, kaitiakitanga, and sustainability. Our small yet diverse population, with an integrated health system that allows population-based research approaches to be undertaken more readily than in other jurisdictions, is a significant advantage.

In the social sector, New Zealand has a unique opportunity to strengthen and amplify its potential for world-leading innovation in developing, implementing, and sustaining bicultural services and systems responsive to and in full partnership with Māori. Investments in this domain are essential to reducing current inequities and disparities. At the same time, they have the potential to make important contributions internationally. The foundations for leadership by New Zealand as a global innovation hub in the development and testing of indigenous and decolonial service models (for example in child protection services) have been in place since the 1980s, but intentional investments in social and education sector innovation and research are needed to fully realise this opportunity.

**Question 7:** What do you consider to be the unique opportunities or advantages available to the RSI System in New Zealand?

New Zealand's distinct social and cultural context present unique opportunities. New Zealand also provides distinct advantages in terms of economies of scale. We are a small, developed, progressive, nation with a past history of innovation to support equitable outcomes and nation-wide programmes directed towards addressing inequality and marginalisation. The IDI also represents a world leading resource that provides unique opportunity, particularly in clinical research.

See also responses to Q5 and Q6.

Question 8: What RSI challenges are unique to New Zealand, that New Zealand is the only country likely to address?

See response to Q5 and Q6.

**Question 9:** What are the challenges of innovating in the public sector? How do they differ from those in the private sector?

Universities play an enabling role, providing non-university public sector organisations with a highly educated workforce and assisting them to innovate. Challenges in this domain include a variable record of political leadership in these areas, low appetite for risk and the restrictions associated with a three-year electoral cycle in regard to innovation, testing and action on sustainability.

### Our key challenge – Connectivity

**Question 10:** Do you agree that a key challenge for the RSI system is enabling stronger connections? Why or why not?

#### Please type your submission below.

Question 10: Do you agree that the key challenge for the RSI system is enabling stronger connections? Why or why not?

Collaboration is essential in many, but certainly not all, areas of research and can result in rich and diverse perspectives on complex problems. Central to New Zealand's ability to strengthen international connections and contribute to the global research agenda, is our capacity to generate excellent research. One of the challenges of the current system is that it does not support universities to invest into other countries' research systems. For example, funders place limits via budget rules on how much we can connect with international collaborators.

We must also provide more support for our Maori researchers and scientists to collaborate with other Indigenous researchers and scientists. New Zealand is recognised as a leader in indigenous health (for example) which could be leveraged to support greater connection internationally.

We also need to encourage our ECRs to connect with leading international researchers early in their careers. One way to address this challenge would be to provide PostDoc fellowships for our brightest PhD students to go overseas and bring back new knowledge, methods and approaches. Moreover, New Zealand is missing out on the best and brightest international PhD graduates who are often ineligible for domestic scholarships.

We question the suggestion in the draft RSI that researchers are not incentivised to collaborate and that the lack of connections is a major challenge. Collaborative research is seen very positively by researchers. Projects and publications that include co-collaborators from other institutions (domestic and international) are highly valued. It is important to note that successful collaborations must be mutually beneficial, bringing together complementary skills and knowledge in a productive way. They must also be well managed both at a personal and institutional level. Forced collaborations are almost always counter-productive.

The RSI system in New Zealand is highly complex and problems cannot be attributed to one challenge (i.e. lack of connections). Low levels of funding and low success rates among researchers should be addressed urgently. Other challenges faced by researchers include lack of business investment, the predominant characteristics of local businesses and the skewed nature of investment towards the safe options that are easy to credibly justify.

More analysis is required to determine if lack of connections is the fundamental issue, or whether there are other issues that require more urgent and targeted attention.

## **Guiding Policy – Excellence**

Question 11:	Do you agree with the definition of excellence presented here as the best thing possible in its context? Why or why not?
Question 12:	How can we achieve diversity within our research workforce? What are the current barriers preventing a diverse range of talent from thriving in the RSI system?
Question 13:	Do you agree that excellence must be seen in a global context, and draw from the best technology, people, and ideas internationally? Why or why not?
Question 14:	Do you agree that excellence is strengthened by stronger connections?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 11: Do you agree with the definition of excellence presented here as the best thing possible in its context? Why or why not?

The definition of excellence is appropriate, particularly given the global context. Attracting the best people within New Zealand but also from overseas to contribute to the RSI is the most sustainable way to position ourselves on the global stage. We need to make sure that we align our national measures of excellence with internationally established benchmarks. Failing to do so risks disadvantaging our researchers, particularly PhD and postdoctoral scholars seeking further training overseas.

Question 12: How can we achieve diversity within our research workforce? What are the current barriers preventing a diverse range of talent from thriving in the RSI system?

The draft document notes the importance of developing world class talent and improving the diversity of researchers in the NZ RSI sector in NZ. Universities have an enabling capability to educate and actively support non-proportionally represented researchers at any career stage. The RSI benefits from diversity and by having transparent criteria, for example, for promotions and considering merit relative to opportunity, supports a more equitable development of the RSI workforce.

Our current system needs to be transformed to address existing issues such as the persistent and longstanding issue of inequitable educational outcomes for Māori and Pasifika students and students from low socio-economic communities. Efforts to increase the proportion of Māori researchers in the system must begin in New Zealand schools. We also need strong research and innovation in the education sciences if we are to get better at developing the knowledge, literacies, resilience, agency, wellbeing, creativity and criticality our young people needed to thrive in a future world. In short, we need much more investment in the education sciences if we are to transform the schooling system in the ways needed to achieve the goals of the RSI.

**Question 13:** Do you agree that excellence must be seen in a global context, and draw from the best technology, people, and ideas internationally? Why or why not?

As a country, we need to embrace the benefits of globalisation, such as access to talented researchers from across the globe, and ensure our graduates are competitive in an international context. Research undertaken in New Zealand must meet international standards of excellence, however, we caution against the expectation that what is considered excellent overseas is necessarily fit-for-purpose here. We should also aim for excellent research that is locally relevant and in the areas where Māori knowledge production and leadership exists. This can only be understood using Māori understandings and measures of excellence.

**Question 14:** Do you agree that excellence is strengthened by stronger connections? Why or why not?

While excellence is often strengthened by strong connections, excellent research can take many forms and we caution against adopting too narrow a version of excellence that may exclude research that may not require or benefit from collaboration.

In some cases connections provide challenges that the RSI needs to acknowledge. For example, while research published together with industry partners may receive higher citations, the absorptive capacity of industry within New Zealand to work with research providers is still limited. Also issues can arise when scientific findings do not match the company's expectations.

There is significant potential for stronger connections to improve Māori outcomes and achieve equity. We need to move away from funding and working within silos in order to tackle complex problems. We also need to understand what is meant by connection, and shift away from approaches that largely involved the RSI consulting with Māori. Instead, we shoud be aiming for genuine partnerships supported by resources, infrastructure and accountability measures. We need to recognise that these connections will take time. Māori haven't always benefited from connections with RSI due to past extractive rather than reconciliatory processes. We will need to navigate these relationship-building exercises carefully and provide ongoing monitoring to ensure equal and mutual benefit (as described by the Treaty of Waitangi).

# **Guiding Policy – Impact**

Question 15: How can we improve the way we measure the impact of research?

Please type your submission below.

In the draft document, the focus seems limited to impact that is easily visible downstream of the research and may result in greater funding of applied research. We recommend including 'beyond contribution to knowledge' as a measure of impact. True discovery comes from curiosity driven or 'blue skies' research with limited focus on application. Funds for this type of research needs to be strengthened as work in other jurisdictions suggest it has the largest ultimate return on investment. We recommend the requirement for research to 'have a strong line of sight to impact' used with considerable care to enable funding knowledge driven research.

# **Guiding Policy – Connections**

Question 16:	Where do you think weak connections currently exist, and what are the barriers to connections at present?
Question 17:	What actions will stimulate more connectivity between parts of the RSI system?
Question 18:	How could we improve connections between people within the RSI system and people outside it, including users of innovation, and international experts, business communities, and markets?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 16: Where do you think weak connections currently exist, and what are the barriers to connections at present?

Retaining Early Career Researchers is a major challenge. Transition of our PhD graduates into academic positions is a challenge due to the limited number of PostDoc positions. This affects our ability to retain talented domestic students as well as host excellent PostDocs from overseas. Other nations are unlikely to send their postdoctoral students to New Zealand if we do not provide adequate support for our PostDocs to go overseas. Providing greater support to ECRs would strengthen important connections between our researchers and overseas counterparts.

Domestically, there are a number of established mechanisms that promote collaboration among researchers and across disciplines, such as the National Science Challenges and the Centres for Research Excellence. However, the system heavily favours established researchers and their networks while newly appointed colleagues, especially those coming from overseas, often find it hard to break into the system and tap relevant networks.

Finally, there is significant scope to enhance the connections between university academics in many disciplines and industry.

**Question 17:** What actions will stimulate more connectivity between parts of the RSI system?

Further to the response to Q16, a national system to facilitate the formation of, and the management of, connections between universities, government research institutes and industry research could be beneficial.

**Question 18:** How could we improve connections between people within the RSI system and people outside it, including users of innovation, international experts, business communities and markets?

In addition to a national system to facilitate connections as indicated in response to Q17, we also need to facilitate connections with those outside the RSI system. Industry Expos and Trade fairs is one way to promote greater connectivity across sectors.

Our funding system is directed to build links between industry and the RSI. While this works well in some areas there is scope for improvement. We have a number of programmes in place to host international experts at universities in New Zealand, and we provide significant support to entrepreneurial students. One tactic to increase engagement with industry is to



## Actions – Making New Zealand a Magnet for Talent

Question 19:	How can we better nurture and grow emerging researchers within New Zealand and offer stable career pathways to retain young talent in New Zealand?
Question 20:	How could we attract people with unique skills and experience from overseas to New Zealand?
Question 21:	What changes could be made to support career stability for researchers in New Zealand? What would be the advantages and disadvantages of these approaches?
Question 22:	Do you agree with the initiatives proposed in the Strategy to support and attract talented researchers and innovators? Are any changes needed for these initiatives to be successful? Are there any other initiatives needed to achieve these objectives?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 19: How can we better nurture and grow emerging researchers within New Zealand, and offer stable career pathways to retain young talent in New Zealand?

As discussed earlier in this document, providing PostDoc fellowships for our brightest PhD students to go overseas and learn from leading international experts. International PostDoctoral fellowships offer enormous benefits to New Zealand, regardless of whether the PostDocs return home with new expertise and knowledge or continue to contribute to New Zealand from a distance, via ongoing collaboration and the promotion of our RSI.

In addition, we need to attract the best international PhD graduates to join our system for the same reason. New Zealand should be promoting 'brain circulation', rather than focussing on retaining talent. We must also provide PostDocs with access to funding, involve them in large, established networks that are often difficult to access without strong mentorship from within.

In order to retain talent and diversity within the RSI system, we must provide adequate support to researchers balancing doctoral and postdoctoral work with caring responsibilities and parenting. We need funds to recognise career breaks, parental leave etc. for those on fixed term or undertaking doctorates.

Thriving as a Māori researcher requires the RSI system and research institutions to be responsive to Māori, pro-equity, Treaty compliant and anti-racist. Organisations will need to aim for these values and characteristics and put in place systems to monitor and intervene in order to retain and grow a diverse population of researchers.

**Question 20:** How could we attract people with unique skills and experience from overseas to New Zealand?

New Zealand is an attractive destination in terms of lifestyle, climate, political stability, etc. However, attracting world class researchers requires an internationally recognised and renowned RSI system. To achieve this, we must demonstrate that we value research of a wide and diverse nature by providing a funding system with success rates competitive in an international context, allowing researchers to operate without excessive administration duties and a flexible, providing a reasonable regulation framework and access to state of the art infrastructure.

Other issues to consider relate to immigration policy. A current barrier includes people with disabilities either as the primary applicant or their family members. The narrow rules around family reunification also makes New Zealand less attractive to an international workforce.

**Question 21:** What changes could be made to support career stability for researchers in New Zealand? What would be the advantages and disadvantages of these approaches?

The unstable funding situation poses major challenges. Research is a long-term process and funding for a limited number of years is often insufficient to provide stability. The constant need to apply for funding has led to inefficiencies in the system with researchers spending large amounts of time writing proposals rather than carrying our research and publishing outputs. We need to address these challenges in order to be internationally competitive.

Our small research community also means there is the risk of bias, with the same researchers receiving repeat funding while emerging researchers struggle to launch their careers. The lack of international peer review and feedback on unsuccessful projects means that ideas are not properly tested in an international context and we stand to miss key opportunities to guide and mentor our emerging researchers.

**Question 22:** Do you agree with the initiatives proposed in the Strategy to support and attract talented researchers and innovators? Are any changes needed for these initiatives to be successful? Are there any other initiatives needed to achieve these objectives?

Yes, under consideration of the responses to Q19-Q21.

New Zealand also has an acknowledged and increasing deficit in research infrastructure that has a significant impact on our ability to attract international talent in key areas of research, particularly in health and physical sciences.

In addition, we need to provide our researchers with training on unconscious bias and other areas to support a more inclusive research environment. More funding to support a strategic hire schemes that will allow universities to attract and recruit diverse staff is also required.

A thriving Maori research environment requires the RSI system and research institutions to be responsive to Maori, pro-equity, Treaty compliant and anti-racist. Organisations will need to aim for these values and characteristics and put in place systems to monitor and intervene.

# **Actions – Connecting Research and Innovation**

Question 23:	What elements will initiatives to strengthen connections between participants in the RSI system need to be successful?
Question 24:	What elements will initiatives to strengthen connections between participants in the RSI system and users of innovation need to be successful?
Question 25:	What elements will initiatives to strengthen connections between participants in the RSI system and international experts, business communities, and markets need to be successful?
Question 26:	Are there any themes, in addition to those proposed in the Strategy (research commercialisation and international connections), that we need to take into consideration?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 23: What elements will initiatives to strengthen connections between participants in the RSI system need to be successful?

In order to increase connections internationally, we need significant project funding that permits applications to attribute funds to overseas collaborators and participate in major international research partnerships. Importantly, there needs to be a realistic chance of success in order to encourage overseas collaborators to contribute to the development of projects. Without adequate incentives, international collaborators will be focus on their own RSI system which have higher success rates.

Question 24: What elements will initiatives to strengthen connections between participants in the RSI system and users of innovation need to be successful?

See Q23

**Question 25:** What elements will initiatives to strengthen connections between participants in the RSI system and international experts, business communities and markets need to be successful?

When establishing frameworks for collaboration with international partners, business communities, etc. we must ensure that we are not viewed as the minor partner, but recognised as the major player, steering the discussion around strategic initiatives.

**Question 26:** Are there any themes, in addition to those proposed in the RSI Strategy (research commercialisation and international connections), that we need to take into consideration?

UniServices will be submitting a separate response that will specifically address issues related to commercialisation.



# **Actions – Start-up**

Question 27:	How can we better support the growth of start-ups?
Question 28:	Do the initiatives proposed in the draft Strategy to support growth of start- ups need to be changed? Are there any other initiatives needed to support start-ups?
Question 29:	What additional barriers, including regulatory barriers, exist that prevent start-ups and other businesses from conducting research and innovation?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 27: How can we better support the growth of start-ups?

UniServices will be submitting a separate response that will specifically address issues related to commercialisation.

Question 28: Do the initiatives proposed in the draft Strategy to support growth of start-ups need to be changed? Are there any other initiatives needed to support start-ups?

See above

Question 29: What additional barriers, including regulatory barriers, exist that prevent startups and other businesses from conducting research and innovation?

See above

# Actions – Innovating for the public good

Question 30: How can we better support innovation for the public good?

Question 31: What public-good opportunities should our initiatives in this area be focused on?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 30: What elements will initiatives to support innovation for the public good need to be successful?

See UniServices response

Question 31: What public good opportunities should our initiatives in this area be focused on?

See above

### Actions – Scale up

Question 32: What is the best way to build scale in focused areas?

Question 33: Do the initiatives proposed in the Strategy to build scale in focused areas need to be changed? Are there any other initiatives needed to build scale?

Note: see following page to comment on possible areas of focus

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 32: What elements will initiatives to build scale in focused areas need to be successful?

It is important to retain a focus on excellence and avoid taking too narrow a view of relevance and benefit to New Zealand. Rather than establishing an additional fund, the RSI should increase funding in the established funding mechanisms in order to make them less competitive and more efficient.

Question 33: Do the initiatives proposed in the Strategy to build scale in focused areas need to be changed? Are there any other initiatives needed to build scale?

Aerospace, health technologies and renewable energy are key areas. The RSI could also consider expanding to include additional areas of national and global significance, such as biotechnology, materials, IT and sustainability in a broader sense.

### Scale up – Choosing our areas of focus

For this draft iteration of the strategy, **we seek input on the selection of possible areas of focus**. We will consider establishing around five focus areas, but, depending on the eventual selection, are likely to introduce them over time, rather than immediately. In addition to the criteria set out in the Strategy document, we invite stakeholders to consider the following factors in their suggestions –

- The ambition of this strategy to focus efforts in the RSI portfolio at the global frontier of knowledge and innovation.
- Ways in which the RSI system can accelerate progress on the government's goals.
- The focus areas already determined by From the Knowledge Wave to the Digital Age.
- Work already underway where we are already seeking to build depth and scale in the RSI system.

The following areas could be a useful start, and are highlighted in *From the Knowledge Wave to the Digital Age:* 

- Aerospace, including both autonomous vehicles and our growing space industry.
- Renewable energy, building on recent investments in the Advanced Energy Technology Platform.
- Health technologies to improve delivery of health services and explore opportunities in digital data-driven social and health research.

We invite comment on these suggestions and welcome input on other possible focus areas.

#### Please type your submission below.

# Actions – Towards an Extended Vision Mātauranga

This section of the draft Strategy signals our intention to consult and collaborate further with Māori stakeholders to co-design our responses and initiatives. From that perspective, we consider the signals in the draft Strategy to be a start, rather than a set of final decisions. Nonetheless, we are keen on initial feedback in the following areas.

Question 34:	Does our suggested approach to extending Vision Mātauranga focus in the right five areas? If not, where should it focus?
Question 35:	How can we ensure the RSI system is open to the best Māori thinkers and researchers?
Question 36:	How can we ensure that Māori knowledge, culture, and worldviews are integrated throughout our RSI system?
Question 37:	How can we strengthen connections between the RSI system and Māori businesses and enterprises?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 34: Does our suggested approach to extending Vision Mātauranga focus in the right five areas? If not, where should it focus?

Since its launch, there has been a lot of discussion about the purpose of the 'Vision Mātauranga' policy. Who is it for? The policy's Māori name has led to the assumption that it was a policy to prioritise Māori aspirations across the sector. In reading the policy and providing assessment against the policy, it became clear that it was being used as a tick-box exercise for non-Māori to claim when their research was not relevant to Māori and therefore Māori involvement was not warranted.

It is critical for both Māori and non-Māori to see themselves in the policy and for the policy to incentivise behaviour change. We need to shift from consultation to partnership, and reward organisations that support and elevate outstanding Māori research led by leading Māori researchers, as well as supporting non-Māori to develop excellence in relation to knowledge-production and innovation that has clear benefits for Māori. There is enormous potential for the RSI to be a global leader in Indigenous innovation, to develop models of partnership and connection between knowledge-producers and end-users, and to be better connected across the systems (including working with education to better identify and support Māori students into STEAM).

The extended policy needs to be more transparent regarding the goals and the activities that flow from into the RSI system, participating organisations and individual researchers.

Finally, many of our iwi are already under high demand from the research community. MBIE needs to take care that embedding an 'extended' approach might stretch Māori resources even further without resulting in the outcomes they are targeting

Question 35: How can we ensure the RSI system is open to the best Māori thinkers and

researchers?

This can be achieved by creating a diverse and equitable RSI community. The level of awareness in this area is high already and by offering pathways in collaboration with, for example, iwi businesses through dedicated scholarships and/or fellowships would be an opportunity.

**Question 36:** How can we ensure that Māori knowledge, culture and world views are integrated throughout our RSI system?

We recognise that Māori knowledge, culture and world views are relevant across the research spectrum and we are committed to expanding our current capacity to incorporate Māori knowledge, culture and world views. We see the RSI system as a driving force in this area.

**Question 37**: How can we strengthen connections between the RSI system and Māori businesses and enterprises?

### **Actions – Building Firm Foundations**

Question 38:	Do the current structures, funding, and policies encourage public research organisations to form a coordinated, dynamic network of research across the horizons of research and innovation? What changes might be made?
Question 39:	Is the CRI operating model appropriately designed to support dynamic, connected institutions and leading edge research? What changes might be made?
Question 40:	What additional research and innovation infrastructure is necessary to achieve the goals of this Strategy? What opportunities are there to share infrastructure across institutions or with international partners?
Question 41:	What elements will initiatives in this area need to be successful?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Question 38: Do the current structures, funding, and policies encourage public research organisations to form a coordinated, dynamic network of research across the horizons of research and innovation? What changes might be made?

We strongly support plans to increase funding to established funding schemes, as noted in the draft RSI. As noted previously, low success rates within our highly competitive funding environment is demotivating for researchers (particularly ECRs). We also support moves to provide unsuccessful applicants with detailed feedback. This is an important part of researcher development with critical feedback providing opportunities for researchers to learn from unsuccessful applications.

Question 39: Is the CRI operating model appropriately designed to support dynamic, connected institutions and globally leading research? What changes might be made?

The CRIs should act as natural facilitators of research and innovation collaboration between universities and industry. Both universities, CRIs and researchers benefit from collaboration rather than competition. Joint Graduate Schools are examples of where Universities and CRIs build on each other's strengths and resources.

Question 40: What additional research and innovation infrastructure is necessary to achieve the goals of this strategy? What opportunities are there to share infrastructure across institutions or with international partners?

The CoREs provide excellent examples of successful collaboration and cooperation among institutions. Synchrotron / ANSTO are good examples of successful international partnerships that have boosted New Zealand research capacity. A limitation of the New Zealand funding system that it usually does not extend to the purchasing equipment. One option is to look at other large infrastructure requirements and consider establishing national infrastructure centres around facilities relevant to more than one university.

Question 41: What elements will initiatives in this area need to be successful?

New Zealand needs to be seen as a viable partner when it comes to the contribution of research infrastructure on the global stage. We need to have our share of major research infrastructure to achieve our aspirations of becoming a global innovation hub and to ensure New Zealand researchers have access to the best facilities in the world.

# Actions – General

Question 42: How should the Government prioritise the areas of action, and the initiatives proposed under each area?

#### Please type your submission below.

Question 42: How should the government prioritise the areas of action, and the initiatives proposed under each area?

New Zealand needs adequately funded and strategically managed research ecosystems that is capable of "delivering for all New Zealanders". It needs to:

- be responsive to, but not driven by, government strategy
- be sustainable, with a commitment to long term research support
- support world-class research and researchers that addresses the problems that beset the NZ education and social sector systems
- support the development of young researchers, Maori and Pacific researchers

Without a broad cross disciplinary approach, NZ will not be able to become a "global innovation hub, a world-class generator of new ideas for a productive, sustainable and inclusive future."

### General

Question 43:	Do you have any other comments on the Strategy which have not yet been
	addressed?

Please type your submission below.