

**From:** no-reply@mbie.govt.nz  
**To:** [Research, Science and Innovation Strategy Secretariat](#)  
**Subject:** Draft Research, Science and Innovation Strategy submission  
**Date:** Friday, 8 November 2019 7:25:33 p.m.

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Submission on Draft Research, Science and Innovation Strategy received:

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

Organisation

**Name**

Eva McLaren

**Name of organisation or institutional affiliation**

Auckland Council

**Role within organisation**

Manager Research and Evaluation

**Email address (in case we would like to follow up with you further about your submission)**

eva.mclaren@aucklandcouncil.govt.nz

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

**If you selected other, please specify here:**

**Gender**

**Ethnicity**

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

**In which sector does your organisation operate: (Please select all that apply)**

Other

**If you selected other, please specify here:**

Local Government

**How large is your organisation (in number of full-time-equivalent employees)?**

**Please indicate if you would like some or all of the information you provide in your submission kept in confidence, and if so which information.**

**Please upload your submission document here**

AC-submission-on-MBIEs-RSI-strategy-Nov-10.pdf - [Download File](#)

8 November 2019

Ministry of Business, Innovation and Employment  
15 Stout Street  
Wellington 6011

TO WHOM IT MAY CONCERN

**Auckland Council's submission on the draft Research, Science and Innovation Strategy**

Thank you for providing Auckland Council with the opportunity to make a submission on the draft Research, Science and Innovation Strategy (RSI). Auckland Council's submission is attached.

In preparing this submission the council has included input from one of its substantive Council Controlled Organisations, Auckland Tourism, Events and Economic Development (ATEED). Additional feedback from ATEED is contained in a separate Appendix.

The council strongly supports the Ministry of Business, Innovation and Employment's Research, Science and Innovation Strategy initiative and the recognition of the importance of evidence and innovation for decision-making and service provision.

Research, science and innovation are critical to the success of planning and managing Auckland in the context of growth and change. To this end, Auckland Council has an Innovation Lead with a broad portfolio of programmes including the smart city and big data.


In addition, council has a well-established, centralised multi-disciplinary Research and Evaluation Unit (RIMU) that undertakes research, monitoring, evaluation and reporting. RIMU's purpose is to provide robust evidence to underpin decision-making and to meet legislative requirements under the Resource Management Act 1991 and the Local Government Act in relation to social, economic, land use and environmental issues.

ATEED leads and supports initiatives and networks that attract talent and investment, boost business and job creation, foster innovation and an entrepreneurial culture, grow our visitor economy, and shape Auckland's identity to stand out globally.

Consequently, we are keen to continue working with MBIE to ensure the ongoing relevance of the RSI strategy for the public service.

Please contact Eva McLaren, Manager of the Research and Evaluation Unit (RIMU) ([Eva.McLaren@aucklandcouncil.govt.nz](mailto:Eva.McLaren@aucklandcouncil.govt.nz)) or Quanita Khan, Manager Strategy and Planning (ATEED) ([quanita.kahn@aucklandnz.com](mailto:quanita.kahn@aucklandnz.com)) if you have any queries regarding the submission.

Ngā mihi



Stephen Town  
Chief Executive





# Research, Science and Innovation Strategy

## Submission form

The Government is developing a Research, Science and Innovation (RSI) Strategy to set out our vision for RSI in New Zealand and its role in delivering a productive, sustainable, and inclusive future.

We are keen to hear the views of New Zealanders on the draft Strategy so that we can get a better understanding of what our country needs from RSI. We also are looking for feedback on how we can take action to ensure New Zealand's RSI system is optimised for success. These views will inform the direction of Government investment in RSI and the research and innovation areas for us to focus on as a country, as well as help us understand the challenges we need to overcome.

We encourage anyone with an interest to make a written submission.

### How to have a say

We have included a number of questions in the draft RSI Strategy document to highlight issues on which we would like further input. We encourage you to use these questions as a guide when submitting your feedback.

This document provides a template for you to provide your answers. Please upload the completed document using our [online submission page](#).

**You do not have to fill out every section – we welcome submissions on some or all of the questions.**

The closing date for submissions is 10 November 2019.

After the consultation period finishes, we will analyse the submissions received and incorporate the feedback in the final version of the strategy.

### Confidentiality

**Please note:** All information you provide to MBIE in your submission could be subject to release under the Official Information Act. This includes personal details such as your name or email address, as well as your responses to the questions. MBIE generally releases the information it holds from consultation when requested and will sometimes publish it by making it available on the MBIE website.

If you do not want some or all the information you provide as part of this consultation to be made public, please let us know when you upload your submission. This does not guarantee that we will not release this information as we may be required to by law. It does mean that we will contact you if we are considering releasing information that you have asked that we keep in confidence, and we will take your reasons for seeking confidentiality into account when making a decision on whether to release it.

If you do not specify that you would prefer that information you provide is kept in confidence, your submission will be made public. While we will do our best to let you know that we plan to publish your submission before we do so, we cannot guarantee that we will be able to do this.

## 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\*?

\* 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.

Thank you for the opportunity to provide feedback on your draft Research, Science and Innovation (RSI) Strategy. We particularly support the three principals to effect change namely, excellence, impact and connections. In addition, the focus on ensuring that research institutions are set up and supported to be fit for purpose acknowledges that the roles played by different organisations are equally important for an effective RSI strategy.

Q 1.

- If we want to make a greater contribution to a clean, green NZ we need to ensure that we have robust, longitudinal data to measure the impact of change to inform robust decision-making.
- While a focus on research and innovation is important, fundamental science understanding of natural systems and communities is still required to understand the progressive impacts of climate change and the impact and effectiveness of any innovative approaches.
- The importance of a research and science function in local government to support decision-making and statutory science requirements should be strongly acknowledged and supported.
- Science challenges, when well-funded and inclusive of global participation are a capable vehicle which may benefit from greater scale and focus in the policy portfolio.

Q2.

- New Zealand has the potential for a well-connected science sector to provide the opportunity for an innovative, comprehensive national approach to collecting data or meta data and building a data and research information management system. Impact and significant contribution will come from a comprehensive national

approach to data collection and management. A stronger mandate is recommended.

- However, there needs to be a strong central government core of researchers/scientists which hasn't been evident for a while. Funding is a big part of this. If there isn't core central government funding, science and innovation will be fragmented with us all doing our own thing without sufficient funding nor focus.
- Furthermore, of increasing concern is the lack of clear science communication/translation capacity that is hindering government agencies in effectively implementing the current body of scientific knowledge. This requires immediate action in terms of more focused delivery and handover between science providers and central government end-users.
- Any strategy should be explicit about using data and analytics (and developing the needed capability to do this)
  - to support the application of research (where is success most likely)?
  - to develop new products, services and experience for commercialisation
  - to develop the innovation system/RSI system itself.
- Research, science and innovation plays a vital role in the biosecurity system to assist in protecting our natural environment, economy and people. It is integral to first understand and to then protect our natural environment and native biodiversity, in order to effectively defend it from the pressures of non-indigenous and invasive species, diseases and pathogens. The risk associated with such threats is high on the scale of not only environmental, but also a range of values including economic, societal, and cultural values.
- Within biosecurity some areas currently receive a higher level of investment, such as terrestrial-focused initiatives. Auckland Council advocates for continued and increased support for research, science and innovation of the lesser-known areas that are still in early development, in particular marine biosecurity.

Q3.

- As already indicated in the Strategy, a more focused approach to investment allocations is recommended – at both national and city/regional-level in sectors/niches of comparative advantage (MED, 2011. *Enhancing productivity: Towards an updated action agenda.*).
- An increase in the proportion of technical research within the tertiary sector is suggested. It would be useful to review the distribution of current research fields against RSI objectives. Is there any weighting applied to various academic disciplines already?

## 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.

Q4:

If the fundamental principle of the RSI system is creating value for society then both the 'frontier' and 'behind the frontier' priorities are important. The two aren't mutually exclusive. The Strategy should set up a framework and environment that enables and encourages both. However, the Strategy seems to make clear the focus on 'frontier' innovation, leaving 'behind-the-frontier' activity to other strategies or business as usual. It might be helpful to clarify this. 'At the frontier' knowledge creation is important, but the RSI strategy should also have a significant focus on 'behind the frontier'.

- There is already a wealth of scientific insights that could be improving local and central government service delivery, but non-research staff in these sectors are not always aware of, or able to make use of, such insights. Local authorities, for instance, generally lack research professionals with the ability to translate scientific insights into actual improvements to services, especially in the social science domain.
- There is a need to focus on the application of research insights to improve public services. Academics do not currently do this well, and when they do propose research involving local authorities, it is often at great expense with less-than-optimal usefulness for the local authorities involved.
- Internationally, the growth of centralised behavioural insights units to apply behavioural science findings to improve government services is an example of both the need and value of embedded, applied researchers. Auckland Council's Research and Evaluation Unit (RIMU) is an example of the value of a centralised social, economic and environmental research function. Most local authorities in New Zealand do not have the resources to establish such teams themselves.

We suggest the following:

- Acknowledge more strongly the public benefits of applied research as well as researchers who can communicate and apply research findings in local and central government environments.
- Consider establishing a centralised team of researchers able to work across local and central government sectors to translate and apply scientific insights to improve public service policies and programmes.
- Recognise the ability for applied researchers in local and central government agencies, such as Auckland Council's Research and Evaluation Unit, to lead funded programmes. Such researchers are as well qualified as university-based researchers and tend to have a greater ability to apply the research findings for the public good.
- Create avenues for collaboration and cross training for researchers across government sectors. Fund someone to coordinate this.
- Better funding for applications like Envirolink that allow the translation of research into tools and allowing local government scientists to access this for applied research rather than just as a fund for CRI's and Universities.

Q5.

- We are in a unique position for innovative science and research in the areas of Conservation/climate change response, Biosecurity, Agritech and Food Science.
- Given our size, the NZ science sector is able to respond quickly to opportunities given accessibility and informality.

Q9.

- The purpose of public sector innovation, research and evidence is to inform robust decision-making. Not only is the impact of the applied research important, but also relevance, efficiency, and sustainability.
- Academic influence measures are not always the most appropriate markers of real-world effects. Citations are an example. Academic research is often not publicly available and has a significant time lag.
- There is a perception issue in investing in applied research for the public service as it is not seen as core business and for local authorities there is (rightly) great scrutiny on how money is spent. Yet applied research is fundamental to good decision making.
- This document talks of the number of FTE researchers across institutions but doesn't recognise those researchers working in the public sector. MBIE could do much to promote the role of research and science in evidence-based policy making and in recognising the skills and expertise that exist in local authorities.
- There could be a stronger focus on commercialising innovation and research.
- Greater transparency of success measures is recommended.



## 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.

Our response here is 'partly'. Considering the small country size and high level of people interconnection **connectivity** isn't necessarily a critical challenge. An important consideration, however, is that connectivity is a **problem** in NZ, including internationally. Innovation and development of new knowledge is an intensely social endeavour, making connectivity and collaboration vital to success. As to whether it's the 'key' challenge for NZ is less clear.

## 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.

Q. 11

- Agree that excellence should not be solely determined according to traditional academic criteria “Not just citations, basic science, investigator-led, or academic work”.
- However, it’s important to avoid the common issue in opposing science vs “entrepreneurship and innovation” and the occasional lack of trust towards science and academia.
- However, who will judge “best-possible” and how will they benchmark it?
- As a public service organisation, we have the enduring commitment to using the best evidence available be that co-created with the tertiary or private sector or primary research conducted in-house. Hence council has an interdisciplinary research unit with scientists and researchers from multiple disciplines, and peer esteem to ensure the production or co-production of evidence that is robust and defensible e.g. in the Environment Court.
- As producers of applied research, we are still required to adhere to the robust criteria expected of academic publications like blind peer review and ethics committee approval. RIMU has these processes embedded for robustness.
- Inclusion of indigenous knowledge and kaupapa Māori needs to be a strong consideration.

## Guiding Policy – Impact

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

Please type your submission below.

- Impact is multi-faceted and should be acknowledged as such.
- We suggest that impact is not only measured by 'increasing the use of NZ research by the public sector' (Annex 2 Indicators of success) but also an increase in the primary research undertaken by scientists and researchers employed by local government agencies.
- Impact should also focus on efficiency, relevance and timeliness etc.
- Important too is how evidence is produced or co-produced with mana whenua. There isn't only one knowledge system so the way impact is measured could differ.
- Local government has increasing requirements to measure, monitor and report on, for example, National Policy Statements which require the longitudinal, sustained collection and analysis of data in the most scientific way. The contributions of comprehensive data bases to New Zealand's environment and land-use for example, cannot be underestimated.
- Consider a cross-agency approach to measuring research impact.
- Consider measuring research and innovation impact, rather than just research impact.
- Consider working back from, and linking, existing impact frameworks rather than starting from scratch. Understand the overlaps and necessary distinction and create a core that can be linked to others' measurement frames.
- Consider co-creating the framework across government, academia and sector boundaries for richness of perspectives, priorities and considerations. This would support "connection".
- It must be acknowledged, however, that measuring impact is almost impossible as the impact could be short-term or enduring. Someone once said:  
*"Somehow science managed to struggle through several thousand years, having considerable impact as it went (think electricity, atomic power, penicillin), without either defining or measuring impact, but now measuring the impact of research is becoming de rigueur."*

## 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.

Q16.

Currently, weak connections exist across the RSI ecosystem, TEs and Industry and the interface between indigenous knowledge (mātauranga Māori knowledge and practices) and other sciences. These weak connections also exist in relation to research design/approach and kaupapa Māori based methodologies. There are also weak connections across agencies procuring/supporting research leading to some duplicate efforts. Current barriers:

- indigenous Māori knowledge systems and their value should be prime considerations in designing and undertaking research;
- indigenous Māori knowledge systems, practices and approaches should be requirements for evidence bases across sectors and disciplines;
- timeframes for research, and engagement in processes, are often rigid and unable to be agile/flexible;
- transactional interactions are more commonplace than maintaining enduring and mutually beneficial relationships with iwi, hapū, whanau, Māori communities and Māori research organisations;
- a variety of types of expertise and insights are required, and there is often a lack of capacity within research/project teams to identify or fill gaps;
- the scope of research and projects are often developed without all interested parties/contributors in the room;
- consideration (or inclusion) of pukenga Māori, mātauranga and kaupapa Māori approaches often comes too late in the process; and
- Inter/cross/multidisciplinary connections should be more widely and overtly encouraged.

Q18:

- Important to acknowledge processes and procedures to enable mana whenua and/or mataawaka participation in knowledge co-creation.
- Greater emphasis on co-design or at least involving people right at the beginning to scope research.
- Consider establishing a centralised team of researchers able to work across local and central government to translate behavioural and other scientific insights to improve government policies and programmes, similar in model to the Behavioural

Insights Team in the UK. This unit could facilitate connection between a range of research organisations and between researchers and government agencies.

- Create avenues for collaboration and cross training for researchers across government sectors. Fund someone to coordinate this.
- Fund secondments for staff across departments and sectors.
- In order to support and stimulate connectivity, the ability to share, access and use knowledge, information and data needs to be supported formally by some well-known platform/hub. Having multiple partial places that require insider knowledge leads to “weak connections” and “a great deal of difficulty in finding out ‘what everybody is up to’”
  - Sharing needs to occur within the system and across agency, commercial sector, academia, the public sector, NGO and community boundaries in NZ.
  - Would be useful to understand, assess and leverage how other national systems are connecting within states and across the globe.
- This could be an existing hub, or, if need be, a new hub. Existing platforms, mechanisms, infrastructure in the public sector ought to be explored first.
- Nothing complex is required to start, rather the process of co-creating and defining requirements is a connective mechanism in its own right.
- Governance, well-known access protocols, the ability to classify information depending on levels of sharing/privacy will all be important.
- To play its role in supporting connection, the platform/mechanism/infrastructure must be well-known (and used) within the RSI system and across its boundary.

## 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.

Q19.

- There should be more emphasis on retaining and training researchers through a career path in New Zealand, enabling them to advance within New Zealand without the need to go overseas. New Zealand grown researchers are undervalued and overlooked with a bias to international researchers. It is widely acknowledged that to advance in New Zealand you need to spend significant amounts of time overseas working in other institutions. We need to support New Zealand researchers into developing roles and enable them to travel through scholarships and sabbaticals to gain wider experience but still retained in New Zealand. Bring visiting scientists here is another way to bring international experience to New Zealand.
- Greater recognition such as campaigns celebrating our leading researchers, coupled with national/local awards.

Q20.

- Local government hasn't always been recognised as a place for researchers and scientists to further their careers and have an impact. In Auckland Council, with our multi-disciplinary Unit, we continue to attract exemplary scientists and researchers and also offer multiple opportunities for capacity building at the start of research or science careers.
- However, Auckland and housing affordability is having a significant impact on recruitment and retention.
- Emphasis still needs to be on growing and nurturing New Zealand scientists and researchers. Many do not advance or go overseas due to a lack of opportunities here for new researchers while more senior roles are filled by international researchers.
- Well-funded, high-profile research collaborations and possibly more intensive pastoral care programmes.

## 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.

Q24

- Improved visibility and accessibility of research support opportunities for the non-traditional research and science users and generators such as the public sector and industry would make a significant difference to impact.

Q25

- Active international promotion of NZ institutions and research programmes would also contribute to the value and impact of investment in research, science and innovation.

## 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.

Q27.

- Consider the provision of heavily subsidised research support services and investment in public industry-specific infrastructure – as proposed in the strategy.
- Again, facilitation of international R&D collaborations is recommended.



## 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.

We are encouraged by the acknowledgement of mission-led research in the proposed investment system to include the meaning “applied research by the wider public service, including local authorities and DHBs”.

- Mission-led research and innovation is critical to the success of robust decision-making in the public sector.
- Acknowledge, where appropriate, the importance of spatial differences and priorities in New Zealand. Auckland’s research, science and innovation priorities could differ from local authorities.
- Regional sector and council strategies put a strong emphasis on accurate, innovative and timely environmental monitoring data collection and supply for public information and evidence-based policy. To support this expectation, an environmental data management system needs to well-connected across regions and easily provide information to end-users.
- Councils working across a common environmental data management system improves efficiencies and saves the tax/rate payer money rather than replicating a system for every region.
- Constantly looking to the future to ensure that an environmental data management system meets stakeholder needs that better informs the public.
- Environmental health, including water use and quality, marine quality.
- Tech adoption and provision– including in the context of Smart City.

## 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.

PROACTIVELY RELEASED

## 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.

- These are all important areas of focus. However, they very much tend towards new technologies, economics, growth and yet there is fundamental science required to underpin our policies and ensure we have an environment that can sustain us.

## 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.

The population of Māori in Tāmaki Makaurau is diverse and dynamic. They comprise nearly 12 per cent of Auckland's population, and number around 160,000 people. Auckland Council has relationships with mana whenua and mataawaka, and legislative obligations to the 19 mana whenua groups in the region.

- Enabling partnerships with mana whenua in Tāmaki Makaurau honours our commitment to Te Tiriti and provides a pathway towards a future-focused dynamic, successful Auckland. An important component of this, and one that requires ongoing improvement, is working with mana whenua and mataawaka, to enable Māori to be involved in the co-creation of evidence.
- Academic evidence should not be privileged over indigenous knowledge.
- What does 'best' Māori thinkers and researchers mean?
- The council supports the inclusion of an extended vision mātauranga Māori as well as mana whenua-led development of cultural methodologies. Including these values nationally will require significant resourcing from tangata whenua, local and central government agencies to implement well.
- Identifying tangata whenua values and interests (where not already in existence) will need to consider cultural intellectual property management, resourcing to upskill iwi/hapu as well as capacity building within council to understand and use mātauranga Māori in policy.
- In order to succeed in the ambition to integrate *te ao Māori* into the RSI system:
  - Te Tiriti and the Maori-Pakeha partnership must be addressed as core to the system, rather than as a bolt on – and be a visible part of each core guiding principle/action. Clearly define and assess progress toward the goal.
  - Remediation is required – invitation to the Māori community must be proactive; the shift must be visible and displace other priorities.
  - We submit that this section should have been written by mana whenua and the entire document should have been a co-design product.

## 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.

Q38.

- Recognise local authorities as equal partners in the area of science and the contribution to knowledge. Encourage leading scientists and researchers in local government to lead or co-lead objectives in MBIE-funded programmes like the National Science Challenges.
- Support/encourage research centres in the public services to ensure multi-disciplinarity; open access to data and research; inhouse applied research; and IP kept in-house to save money etc.
- Applied research should have the same status as 'academic' research provided it's subject to the same robust criteria of excellence.
- Ensure efficient, effective, relevant, timely and strong connections to mana whenua when prioritising funding.
- Mandate and even legislate open access to data and research that is publicly funded (confidentiality and sensitivity issues notwithstanding).
- Develop a national approach to data and research management.
- Ensure that local government has the resources to respond appropriately to the growing government priorities.
- An incentive structure for institutions and individual researchers aligned to the RSI strategy outcomes is essential (e.g. Funding framework).

Q41.

- Comprehensive programmes that coalesce relevant inputs to support tech business/start-up success – capital, skills, infrastructure, regulation – all of which have been articulated in the strategy

## 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.

PROACTIVELY RELEASED

## General

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

Please type your submission below.

Acknowledge the importance of spatial differences in NZ.

- The strategy should be explicit about using data and analytics (and developing the needed capability to do this)
  - to support the application of research (where is success most likely)?
  - to develop new products, services and experience for commercialisation
  - to develop the innovation system / RSI system itself

### Notes on Climate Change & Sustainability

- The RSI does not take into consideration the ambitious target of Net Zero Emissions by 2050. It is not possible to reach this target without targeted innovation for high emitting sectors. The emissions reductions for each sector must be a portfolio of methods, including ETS, clean (low/zero) emission technology and supporting key high emitting sectors with innovative approaches to reduce their emissions. "Reference page 3 of the proposed RSI – This does not include R&D support to businesses which may be working on emissions-related products or services.
- The RSI notes how some of the existing programs "contribute" to climate change work. Some of the current programmes had formed before Zero Carbon Bill, the Net Zero Emissions Target, and the ongoing National Climate Risk Assessment work, which indicates we need to re-align the research strategy, so it addresses the national carbon target and supports building resilience.
- Auckland's emissions profile is different to New Zealand's emissions profile – Unlike New Zealand, Agriculture sector only forms 6% of the emissions, and Transport and Energy are 43% and 27% respectively. Auckland has a population of 1.4 million people and 90% of the population live in urban context. Auckland Council has carried out emission reduction modelling as an indicative pathway to net zero emissions by 2050. The key sectors need technological and innovative advances to be able to reach the ambitious target by 2050. We applaud the focus on "RENEWABLE ENERGY" in the climate change work as it addresses both emissions and resilience for a large city such as Auckland. We do, however, encourage more focus on working collaboratively with Auckland Council and Industries in Auckland to address some of the critical challenges for Auckland.
- Auckland Council, with collaboration with key stakeholders, has developed a Climate Change Framework to address the emissions reduction target and building resilience to climate change. One of the actions under this framework is to establish a climate innovation ecosystem. There is currently ongoing work across council, University of Auckland and Callaghan to discuss the ecosystem, the required funding and the approach.

## APPENDIX 1: Additional comments from ATEED

### 1. Overall positioning and visioning the Strategy

- As drafted, the 'Guiding Principles' 'excellence, connections and impact' lack sufficient specificity to adequately position the strategy in the New Zealand economy -*specific* to be able to inspire change-makers. They could apply to any country/place. While some of the nuanced detail in the five strategic drivers is good, it would be helpful if framing the New Zealand opportunity could be strengthened. Examples may include:
  - **Research for productivity and wellbeing**
  - **Exploit unique strengths-** demonstrable leverage areas of global competitive advantage for investment in public sector research.
  - **Rally resources** behind technologies and science-led sectors that demonstrate momentum and global commercial opportunity.
  - **Develop great minds; exceptional research talent**
  - **Establish New Zealand as the global leader** of epoch-change in social and environmental matters through focused research agenda (e.g. Zero carbon)
  - Focus a more integrated approach towards **Māori responsiveness and participation.**
- It may be helpful to ensure and allude to direct linkages with other relevant national frameworks such as the Wellbeing Framework, national Economic Plan etc.
- Having a larger emphasis on developing clear linkages of this strategy with 'active research' and commercially relevant research would be instrumental in generating economic value and returns to the New Zealand economy. The Productivity Commission's low-emissions economy report (August 2018) highlighted the clear need to devote more resources to low-emissions innovation and technology to account for the longer term to help bringing these innovative ideas to fruition. It is essential to link these findings of the Productivity Commission towards resource allocation for innovation in commercially relevant clean technologies.

### 2. Commercialisation of Research

- To be able to support true commercialisation systems, it is important to understand the value generated by New Zealand's tertiary education institutions and this link seems to be missing in the strategy –particularly where the full costs to such activities are taken into account. While globally there has been a trend toward commercialisation activity (spinouts, start-ups), the results are less convincing based on the evidence. An argument can be made for these tertiary education institutions to ensure that they are within their original mandates of conducting research (both basic and applied) and the development of human capital. Evaluation of 'whole of life' value in economic terms for such institutions should be undertaken with a view to determining how any deficiencies in the current system may be overcome or whether in fact these activities are worth continued investment. This is a crucial area for the strategy to explore further



- The current strategy seems to also be missing the broader innovation in the commercial sector – which maintains and develops funding levers that incentivise collaborative research and innovation prototyping. This is especially important in lifting sectoral productivity as evidenced internationally.
- It would be useful to further build on the extension service models in the primary sector. Establishing the linkages of such models in priority sectors for example in creative industries, construction and infrastructure, and with the technology sector, can contribute to meaningful economic growth outcomes as a tangible extension service

**3. Specific Questions ATEED has:**

- Has the focus over the past five years on 'funding systems' produced measurable results? (What were the objectives of these changes?) If not, what changes are intended to this area?
- Concerning priority sectors, it is important to understand the resource allocation for such sectors and industries and how relevant research will be prioritised?
- Have any incentives for innovation been highlighted? Will there be any in the future? International evidence suggests use of regulatory incentives have helped bolster innovation systems.
- Funding is required to support multi-organisational teams and working groups to come together in a neutral setting to rapidly prototype and develop the above innovative concepts and solutions. Are we directly aiming to support multi-organisational cross-sectoral organisations and teams?
- Whilst we are aiming to build up domestic research workforce for fostering innovation we are also considering talent attraction programmes that bring a range of global innovation and research expertise to New Zealand.
- There is a global movement towards co-opetition rather than competition. Clusters of researchers operating in a comparative advantage and co-opetition would be the best approach and this is facilitated through stronger connections. Are we considering approaches like this as utilised by Grid AKL managed by ATEED. Consideration of Corp-Up models that bring together Corporates and Start-Ups to form working teams, develop new innovative solutions is recommended. This creates benefits from corporates that have resources, experience and stability, mixed with agility and entrepreneurial approach of start-ups and is an important approach that may be considered by the strategy for New Zealand.