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 11:40:09 a.m.
Attachments:	Online-submission-form-uploadsdraft-research-science-and-innovation-strategy-submissionssubmission-form-research-science-and-innovation-strategy-v6.docx

Submission on Draft Research, Science and Innovation Strategy recevied:

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

Name

Name of organisation or institutional affiliation

Role within organisation

Email address (in case we would like to follow up with you further about your submission)
privacy of natural persons

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

If you selected other, please specify here:

Gender
Female

Ethnicity
NZ European

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)

If you selected other, please specify here:

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
submission-form-research-science-and-innovation-strategy-v6.docx - Download File

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

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 prioritiesincluded in Part 1 of the draft Strategy.

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

Q1. Greatest contribution can be made to the practical implementation of known knowns through a greater collaborative approach with industry

Q2. Fundamental research to improve the efficiency of key processes

Q3. Including in the strategy a more open source approach to research outcomes and research facilities. Research outcomes can be owned and licensed by the quasi govt organizations but clear and transparent licencing systems to all industry will maintain competition in NZ that will insure the most efficient and fair uptake to the population. Funding rules and regulations to universities and CRI's such that equipment and facilities etc are available to industry to use at cost (or depreciation rates). This will see expensive equipment fully utilized rather than priced out of use by the profit driven institutes that would rather mothball equipment for 9 months of the year than see it used at cost. It is after all primarily there for the benefit of all.

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 RSI should be split between both we already have a surplus of knowledge that is not in full use. Distilling down to efficient application is needed for uptake otherwise it is just knowledge for knowledge sake. Working in partnership is a key way to do this. Current PG+ programme is a good example of this where a known technology still requires lots of specific fine tuning to apply economically to a NZ pasture industry-wide issue.

Q5. None really or any, NZ has certain key geographical and industry uniqueness that it should look to research for key NZ advantage and if this goes out to the wider world then all the better but trying to change the world from NZ first is putting the cart before the horse.

Q6. See above

Q7. The RSI system in NZ has a discreet size that larger developed countries lack. It should therefore be able to connect the R&D dots and commercialization patheway in NZ with far greater efficiency than larger more complex nations. (Keep it simple)

Q8. Pasture systems, restoration of native diversity, a blueprint for carbon neutral farming and urban living.

Q9 The challenges for public sector science is balancing the requirement for 'capability' and public sector pay and conditions with the need to be focussed and directed towards achieving a goal. The requirement for 'capability' with the pay and conditions see's a lot of 'Dead wood' being maintained and huge overhead costs in over heavy management and support to levels that would never be tolerated in the 'real world'. This increases overheads to such a rate that the industry cannot afford to use the CRI's fantastic facilities and staff. Greater involvement in the management of projects by industry with 'skin in the game' could help solve this as they would help the CRI's be decisive in their direction and allocation of resources

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.

Yes stronger connections within the CRI's and universities and between these institutes and commerce and industry are fundamental to a government funded research strategy. However this must be based on some very clear fundamental philosophies around delivery of NZ or global good and equal access across the industry to such developments. There are many examples in NZ of bad or non-existent connections with large parts of industry due to inconsistent or exclusive arrangements that undermine the potential good and undermine and compromise the integrity of the institutes and their scientists. Funding conditions could stop such events tomorrow and gain greater public trust of the science community (e.g. The Agresearch commercialization of endophyte is an example of such. Agresearch with a favoured commercial company marketed one endophyte, forcing others to fiind alternative endophytes. Then the CRI was conflicted when having to make comment to the industry about endophytes such that trust was severely undermined)

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.

Q11 Excellence is like how long is a piece of string. Unless you know what the ultimate most efficient process is (which we cannot) then we cannot realte how excellent a proposed process is. Therefore it doesn't matter as long as you have sensible criteria to judge proposals against

Q12. This seems at odds with excellence. Just employ the best people for the job, as long as you are equal opportunity employees then as society becomes more even in its distribution of knowledge and wealth then your recruitment will reflect this. If society selects against a group of people then that group of people will not be reflected evenly in your 'excellent' workforce. This is not your issue but a more fundamental government social issue.

Q13 Yes and No. – excellence has to be focussed primarily to NZ centric issues and hopefully ones that also apply globally, sometimes this requires a global context and sometimes it is a more NZ context and global excellence might not exist.

Q14. Not sure what you meam by stronger connections (you can have a very strong connection at the exclusion of others). I think you want better more open and transparent connections.

Guiding Policy – Impact

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

Please type your submission below.

Obviously science excellence with respect to publications etc is important (and methods to measure this are available), but equally measuring the practical application of science outcome by reporting on the application and cost savings, or environmental and social impact improvements for industry and society need also to be measure so that the academics work can be put into context

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 Weak connections exist between CRI's and universities, especially where funding has been poached, between CRI's as they each have particular 'patches' they try and protect, between MBIE and industry as most MBIE funds are primarily managed by the CRI's and industry is either wholly or partly excluded and has limited influence, terms of engagement are vague or non-existent. Industry and CRI's due to conflicts of interest and 'playing industry favourites'. All could be substantially improved with more forceful and directed MBIE funding contracts

Q17 See above. More forceful contracts from MBIE stipulating the philosophy under which the funding is given. MBIE delegates too much responsibility to quasi limited companies and then wonder why the funding has not been well spent or why there is discomfort between groups, parties, and industry. NZ is too small and influence too easily applied to the CRI's or universities. MBIE needs to take charge of this through its contractual arrangements for funding

Q18 See above

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 Make sure a large component of the science is industry related and improve ability to contract out equipment from CRI's and university to industry so that industry can uptake a quota of the talent. Make university/CRI staff retire at 65. Provide management training to scientists so that they can migrate to other areas of S&T

Q20. If the project is excellent enough they will want to come, if they don't like NZ then they wont stay anyway. Not sure this is a problem

Q21. I would improve the stability for young post-docs with 5 year appointments and destabilise the upper management

Q22. Improve home grown talent with greater opportunities for NZ students to go and learn the latest skills and techniques

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.

Q23 The elements that are needed to strengthen connections are the basic philosophical principles. You either represent NZ good (as you used to) or you are working with specific companies (as most companies are overseas owned then this is not necessarily NZ good) therefore you have to work across the industry for the benefit of NZ

Q24 Again the basic philosophy if you have the whole industry on board then uptake will be much quicker otherwise the industry will split and knock each others products even if they are good e.g. uneven access to endophytes caused half the industry to find alternatives, losing uptake of a great cri development and costing the other companies millions in extra R&D, then it all ended up in court which cost lots more. What a waste

Q25 Open honest transparent discussions

Q26 Key theme would be around open source or at least equal access to all. The world is too small a place and big business too powerful for NZ to pander to large corporates it is not a good look and creates distrust among the public and between business. Knowledge can only benefit everyone if everyone is aware of it and has access to it.

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

Q28

Q29

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.

Q30 Education programmes

Q31 Education programmes and an independent source of information for the public to easily source material relating to topical issues e.g. gene editing, immunization, nanotechnology etc include school visits etc

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.

Q32 Good leveraged funding

Q33

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.

Renewable energy, yes

Food, food production, storage, use, and transportation. Carbon neutral systems for food production and food production systems thinking e.g. cow waste to feed insects to feed salmon etc

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.

Science is science, knowledge is knowledge it should be a global thing for the human species any division of this is a distraction from the bigger picture. We can all equally think and propose hypotheses and test assertions. If there is disparity between peoples education and opportunity then sure address this but not sure it fits here.

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 No - too many silo's and patch protection and conflict between universities and CRI's. The CRI's are often in a position to bully or manipulate the universities. Current structures around partnerships etc cause conflict between the CRI's and industry

Q39 No – See above, plus too much dead wood, too little flexibility and top heavy management making for huge overhead costs, for the size of NZ you could probably amalgamate much of it

Q40 Huge opportunities to share infrastructure and make it more available to industry at a much more reasonable rate, overheads and operating procedures drive up prices and see equipment sitting idle for years rather than let industry use it for what should be the cost to cover depreciation

Q41 Leadership from MBIE and govt to make the big philosophical decisions and place such contractual arrangements upon their funding

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.

Start with the philosophy at the top and work down

General

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

Please type your submission below.