

#35

**COMPLETE**

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Page 2: Section 1: submitter contact information

**Q1** Respondent skipped this question

Name

**Q2** Respondent skipped this question

Email address

**Q3** Respondent skipped this question

Can MBIE publish your name and contact information with your submission?Confidentiality notice: Responding “no” to this question does not guarantee that we will not release the name and contact information your provided, if any, as we may be required to do so by law. It does mean that we will contact you if we are considering releasing submitter contact information that you have asked that we keep in confidence, and we will take your request for confidentiality into account when making a decision on whether to release it.

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**Q4** Respondent skipped this question

Can MBIE contact you in relation to your submission?

Page 3: Section 2: Submitter information

**Q5** Organisation

Are you submitting as an individual or on behalf of an organisation?

Page 4: Section 2: Submitter information - individual

**Q6** Respondent skipped this question

Are you a researcher or scientist?

**Q7** Respondent skipped this question

Age

**Q8** Respondent skipped this question

Gender

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**Q9** Respondent skipped this question

In which region do you primarily work?

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**Q10** Respondent skipped this question

Ethnicity

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Page 5: Section 2: Submitter information - individual

**Q11** Respondent skipped this question

What is your iwi affiliation?

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Page 6: Section 2: Submitter information - individual

**Q12** Respondent skipped this question

If you wish, please specify to which Pacific ethnicity you identify

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Page 7: Section 2: Submitter information - individual

**Q13** Respondent skipped this question

What type of organisation do you work for?

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**Q14** Respondent skipped this question

Is it a Māori-led organisation?

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**Q15** Respondent skipped this question

Which disciplines are most relevant to your work?

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**Q16** Respondent skipped this question

What best describes the use of Mātauranga Māori (Māori knowledge) in your work?

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Page 8: Section 2: Submitter information - organisation

**Q17** Respondent skipped this question

Organisation name

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**Q18**

Respondent skipped this question

Organisation type

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**Q19**

Respondent skipped this question

Is it a Māori-led organisation?

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**Q20**

Respondent skipped this question

Where is the headquarters of the organisation?

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**Q21**

Respondent skipped this question

What best describes the use of Mātauranga Māori (Māori knowledge) in your organisation?

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Page 9: Section 3: Research Priorities

**Q22**

Respondent skipped this question

Priorities design: What principles could be used to determine the scope and focus of research Priorities? (See page 27 of the Green Paper for additional information related to this question)

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**Q23**

Respondent skipped this question

Priority-setting process: What principles should guide a national research Priority-setting process, and how can the process best give effect to Te Tiriti?(See pages 28-29 of the Green Paper for additional information related to this question)

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**Q24**

Respondent skipped this question

Operationalising Priorities: How should the strategy for each national research Priority be set and how do we operationalise them?(See pages 30-33 of the Green Paper for additional information related to this question)

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Page 10: Section 4: Te Tiriti, mātauranga Māori, and Māori aspirations

**Q25**

Respondent skipped this question

Engagement: How should we engage with Māori and Treaty Partners?(See page 38 of the Green Paper for additional information related to this question)

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**Q26**

Respondent skipped this question

Mātauranga Māori: What are your thoughts on how to enable and protect mātauranga Māori in the research system?(See pages 38-39 of the Green Paper for additional information related to this question)

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**Q27**

Respondent skipped this question

Regionally based Māori knowledge hubs: What are your thoughts on regionally based Māori knowledge hubs? (See page 39 of the Green Paper for additional information related to this question)

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Page 11: Section 5: Funding

**Q28**

Respondent skipped this question

Core Functions: How should we decide what constitutes a core function, and how do we fund them?(See pages 44-46 of the Green Paper for additional information related to this question)

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**Q29**

Respondent skipped this question

Establishing a base grant and base grant design: Do you think a base grant funding model will improve stability and resilience for research organisations?(See pages 46-49 of the Green Paper for additional information related to this question)

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**Q30**

Respondent skipped this question

Establishing a base grant and base grant design: How should we go about designing and implementing such a funding model?(See pages 46-49 of the Green Paper for additional information related to this question)

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Page 12: Section 6: Institutions

**Q31**

Respondent skipped this question

Institution design: How do we design collaborative, adaptive and agile research institutions that will serve current and future needs?(See pages 57-58 of the Green Paper for additional information related to this question)

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**Q32**

Respondent skipped this question

Role of institutions in workforce development: How can institutions be designed to better support capability, skill and workforce development?(See page 58 of the Green Paper for additional information related to this question)

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**Q33**

Respondent skipped this question

Better coordinated property and capital investment: How should we make decisions on large property and capital investments under a more coordinated approach?(See pages 58-59 of the Green Paper for additional information related to this question)

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**Q34**

Respondent skipped this question

Institution design and Te Tiriti: How do we design Tiriti-enabled institutions? (See page 59 of the Green Paper for additional information related to this question)

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**Q35**

Respondent skipped this question

Knowledge exchange: How do we better support knowledge exchange and impact generation? What should be the role of research institutions in transferring knowledge into operational environments and technologies?(See pages 60-63 of the Green Paper for additional information related to this question)

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### Q36

Workforce and research Priorities: How should we include workforce considerations in the design of national research Priorities?(See pages 69-70 of the Green Paper for additional information related to this question)

Key Points:

- i) Workforce considerations must be a major element of priority operationalisation, focusing on the precariat nature of ECRs.
- ii) Traditional narrow emphases on track-record and bibliometrics hamper the development of a more diverse and equitable workforce.
- iii) Other diversity support mechanisms need to be introduced to balance the 'strong cv' dominance embodied in the competitive funding regime.

It is in the operationalisation of research priorities that workforce considerations must be integral. The pandemic has highlighted the perennial issue of the precariat nature of academic work for the ECR workforce, captured well in the recent TEAGA publication 'Precarious Academic Workforce Survey 2021 – Interim Report (<http://www.teaga.co.nz/precious-academic-work-survey-2021-interim-report/>). The issue is largely caused by, or at best strongly exacerbated by, the imbalance in our RS&I system towards a total reliance on competitive funding modes.

As noted in the Green Paper, the competition for funding is probably one of the strongest incentives in the RS&I system for institutions. Thus, researchers who can amass multiples grants and support large teams are more highly valued (at least in the university system). However, these grants usually only support ECRs on short-term, often part-time, contracts which do not enable a sustainable living, let alone career. SfTI acknowledges that CRIs tend to take a more corporate approach to workforce development so ECR precarity may be less of an issue.

As we noted in our 2019 submission to the draft RS&I strategy, the gross imbalance in the system works against diversity on many dimensions and further entrenches the success of those privileged to have gained and maintained a strong track record of grants-personship. "The traditional process of contestable funding where a Principal Investigator (PI), with a strong 'excellence' CV, bids with a team of less experienced researchers, is not always conducive to achieving diversity, unless that PI purposively seeks to have a diverse team. Given citation counts take time to build up, the citation view of excellence also reinforces the ageist nature of the RSI system.

SfTI has observed that we are enabling more diversity serendipitously through our Mission Design Process. We send out an EoC on a specific mission (eg. 'Intelligent oceans' or 'flexible robots') and ask researchers to bring their capability to be a part of one project team. Anyone, from whatever discipline, can make EoC so SfTI has seen more diverse teams form this way – both demographically, as well as in terms of disciplinarity."

SfTI also supports workforce diversity in other ways. As noted in our 2019 submission: "SfTI has also encouraged demographic diversity by prioritising funding of Seed projects that propose 'strong' linkages to VM, and with emerging researchers as the lead PI. We also assess our Seed project applications as either fundable or not and, once that hurdle has been reached, the fundable projects go through a ballot process. This is not new to the NZ research scene (eg. in use by HRC) but appears to be very well accepted by researchers who are unsuccessful in the ballot, and possibly works to correct any conservative bias in any more detailed ranking assessments, given SfTI wants to support 'risky' research."

SfTI's approach gets around the vagaries mentioned early in the peer review system, especially once a certain quality level is achieved. SfTI has seen a remarkable improvement in the quality of VM proposals that enter our separate VM ballot, so much so that in 2021, SfTI's Board approved extra capacity development funding so that two further excellent VM projects were supported. Once selected, all Seed project PIs are mentored by our experienced Leadership Team Theme Leaders, for example, to develop achievable milestones, which we have also found has accelerated progress and is a much-appreciated capacity development activity.

Because the barriers to engagement in the research system by ECRs is often hampered by issues other than the opportunity to apply, SfTI implemented Seed 'Proposal Development Grants' in 2021. These small (up to \$3000) grants were to be used to support the applicants to ameliorate time or skill issues, for example, by obtaining help with editing or childcare.

### Q37

Base grant and workforce: What impact would a base grant have on the research workforce?(See pages 70-71 of the Green Paper for additional information related to this question)

Key Points:

- i) In principle a base grant will have a positive impact on the research workforce, but any impact will depend greatly on the detailed grant design.
- ii) Consideration should be given to an inverted base grant design such that ECRs are funded at a higher % of their salary than experience PIs that attract large amounts of external funding.
- iii) The impact on the research workforce of any base grant dimensions should be included in any modelling of changes to the current funding system.

As indicated earlier, SfTI's answer is 'in principle, yes', but it very much depends on how such a base grant is designed and implemented. Such a system could be thought of as a 'Universal Basic Income' for researchers and might reduce the huge amount of un-costed effort that goes into proposal formation which, at the moment, is borne by individuals and institutions.

If the base grant has the primary intention of supporting and developing succession in the workforce then consideration should be given to constructing an 'inverted' base grant scheme. That is, SfTI considers that a system which allocates a larger base grant (as a proportion of salary) for an employed ECR researcher but a lower % of salary for those PIs that have a good track record of attracting fund and bringing in significant overheads, could support a more equitable and diverse workforce. This might also encourage senior PIs to consider other important leadership roles in the system, rather than staying on the proposal treadmill, potentially freeing up more space for succession.

Design options need to be consulted upon separately, with appropriate in-depth scenario modelling to assess likely impacts on the system. A base grant scheme that works to entrench the current inequities in the workforce and RS&I system, would be a folly at best. Such an inverted base grant system would need to be adjusted for/matched to any changes to the graduated scale of overhead charges, and the latter be part of the modelling.

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### Q38

Better designed funding mechanisms: How do we design new funding mechanisms that strongly focus on workforce outcomes? (See page 72 of the Green Paper for additional information related to this question)

Key Points:

xxxv) A major gap in our current system is the ability for capable ECRs to propose and lead their own projects.

xxxvi) Building in capacity development opportunities to develop leadership competencies is essential for such workforce development.

As part of our SfTI Seed project process, SfTI has learnt how greatly ECRs (post-PhD) appreciate the opportunity to lead their own programmes – which can be small to start with – with guidance from senior researchers when requested. In the current system such opportunities are few and far between, for example, Fast Start Marsden grants. ECRs do not necessarily want, nor need, to join a senior PI's established group, or at least might relish the chance to be able to do both at the same time to build independence.

It is SfTI's experience that supporting the fresh, sometimes risky, but usually exciting, ideas of ECRs provides huge benefit both to the ECRs themselves but also to their mentors and the system at large. Senior PIs can become quite entrenched in their approaches and methods which is why, as mentioned previously, they have strong track-records and attract most funding. Some post-PhD ECRs won't have the experience or confidence to do so but enabling ECRs with their own ideas, who are capable, is a way to bring not only fresh perspectives into the research portfolio, but also bringing in new talent that can then enhance well-established teams as well as allow them to build their own track records for innovation and project management.

The RS&I workforce funding infrastructure needs to include a well-designed ECR pathway with (living-level) funding but also capacity development opportunities planned with a succession ethos. A recent exchange on social media acknowledges and reinforces this as a major gap in our system. A mature and independent researcher finishing her PhD, stated “[w]hile I’m incredibly clear that I’m not looking to stay in the university system, all postdocs I see offered in NZ are based in ongoing research areas, be that with people or groups. Not having the (potential) post-docs lead the funding. We’re missing out on new ideas/areas”.



### Q39

Funding research infrastructure: How do we support sustainable, efficient and enabling investment in research infrastructure?(See pages 77-78 of the Green Paper for additional information related to this question)

Key Points:

- i) Facilitated access to what should be national infrastructure is a key barrier to research collaboration and impact.
- ii) Open access requires appropriately tailored service models for specific infrastructure.
- iii) As per core function, base grant and workforce development, a national approach to funding, and access, to research infrastructure should be a priority.

Important research infrastructure should be nationally owned with open access, to allow it to be used maximally to generate value for New Zealanders. Access to equipment in other institutions has been found to be one of the best ways to encourage collaboration and putting an ECR or migrant researcher in charge of the equipment helps them build their networks at a much faster rate. (See <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1467-8551.2010.00713.x>).

But open access infrastructure is complex and costly to put into practice, which is partly why the 'user pays' model is the default approach across research organisations. Though providing access for a fee may be reasonable, charging large sums can be an added impediment to collaboration and lead to poor rates of utilisation. Open access has implications for scheduling systems, health and safety, maintenance of core business, priority user access, facilities management, HR policy, floor space, insurance, certifications etc. This provides a management challenge that goes beyond the cost of technician time and laboratory operating costs.

First and foremost, open access requires an appropriate service model for accessing any particular infrastructure, that is supported by all relevant functions of the organisation within which the infrastructure is situated. The service model needs to meet the needs of external parties: even if infrastructure is free to access, it may be impractical to do so under certain conditions like time and certainty of availability. Furthermore, the service model needs to be practically feasible for internal infrastructure users and the infrastructure provider.

This in practice means that there will inevitably be specific types of infrastructure in specific locations that will have a valid demand on it beyond the internal user group, which justifies the development and resourcing of a service model for accessing that infrastructure. Along with a service model is the need for the capability to develop it and adequately resource and execute it.

Important infrastructure should be treated in the same discussion as the 'base grant', in that hosting infrastructure, including the support of staff and technicians should be a base grant element. The way this element is factored into the determination of the grant requires careful consideration to recognise the specific rather than generic requirements of open access infrastructure and the need to incentivise the proper development of capability in service model provision.

Of course, the infrastructure issue, as indicated previously, has an inherent ambiguity about what infrastructure is critical, which can change over time as has happened during the pandemic. Ideally, the nation needs a universal agreement defining priorities for new infrastructure, which would include guidelines for the sharing of equipment and facilities (existing as well as new). The guidelines should cover access priorities, so that if a host invests, for example, they will maintain priority, but if spare capacity is identified, it be made available to external users.