



17 May 2024

Science System Advisory Group  
Ministry of Business, Innovation and Employment

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Tēnā koe

## **RE SCIENCE SYSTEM ADVISORY GROUP – PHASE ONE**

Thank you for the opportunity to submit on the Science System Advisory Group's (the Group) Phase One consultation. Engineering New Zealand (formerly IPENZ) is the largest professional body for engineers in New Zealand and represents over 23,000 engineers who want to help shape the public policy agenda and engineer better lives for New Zealanders.

### **General Comments**

Engineering New Zealand welcomes the Government's commitment to strengthening New Zealand's science system. Overall – our comments fit into two main points:

1. The funding model needs to change – we need more certainty, to invest more deeply and to have a clearer focus on longer term priorities and endeavours that will build New Zealand's future workforce, meets industry needs and leverage New Zealand's unique place in the world.
2. The review provides an opportunity to rethink parts of the system – wherever possible we encourage the Advisory Group to consider how its work can break down silos and facilitate a greater role for the private sector in the system, as well as different ways of working.

In forming this submission, we discussed the Group's work with the Deans of Engineering. We heard concern from the Deans about the future of funding. We also heard several innovative ideas on potential new ways of working between academia and industry that government could facilitate.

Our submission responds to your two key questions on the future and opportunities.

### **1. The future of the system**

*The system's broad and shallow funding approach is hindering the system's potential.*

The current state of New Zealand's science, innovation, and technology system with its broad and shallow funding approach is struggling to capitalise on the transformative potential of research and development. In 2021, the World Bank listed New Zealand as only investing 1.45 percent gross on research and development expenditure (as % of GDP), as compared to the OECD member average of 3.01.<sup>1</sup>

We need a future-oriented system that targets investment to address critical national needs and gaps in knowledge – and improve New Zealand's productivity. To achieve a stronger system in the future we advocate for deeper funding into prioritised areas.

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<sup>1</sup> <https://data.worldbank.org/indicator/>

## 2. Building a thriving system

*The future science system must address the current misalignment between the skills of our graduates and those needed by the private sector and workforce shortages.*

New Zealand's postgraduate education system, while producing graduates strong in foundational knowledge, can struggle to equip graduates with the specialised skillsets required by the evolving needs of our economy. We urge the Group to help bridge this gap and foster stronger collaboration between universities, industry, and end users.

Engineering New Zealand is becoming increasingly aware of the challenges presented by New Zealand's ever-growing engineering skills shortage and how this affects our science and innovation system, among other things. Engineers are key to New Zealand's research and development sector, and we are hearing that key firms are struggling to recruit engineers. We are committed to working with our partners to help address skill shortages and support initiatives to develop, attract and retain a skilled workforce. We welcome an opportunity to discuss this further with the Group.

*The science system needs to consider the private sector and other end users.*

We see value in the Government assisting with productivity by growing and developing a more capable and innovative private sector that is competitive on a world basis. We urge the Group to consider how the science system can be best structured to support the needs of the private sector and end users.

*Different partnership approaches between the private sector and researchers are needed.*

We encourage the Group to consider how the science system itself can incentivise new ways of working. Traditional models between academia and industry often create silos, hindering the effective exchange and transfer of knowledge and expertise between researchers and the private sector. The Group's review is an opportunity to consider new partnership frameworks to bridge the gap between the private sector and academia, in order to establish and grow new ways of working and to reduce barriers to commercialisation.

### Conclusion

Engineering New Zealand recommends a future-oriented, integrated, well-funded system that drives sustainable growth and addresses critical challenges such as the chronic underinvestment, structural issues, and the skills shortage in New Zealand. We appreciate the opportunity to provide feedback to the Group's phase one consultation and look forward to being part of the next phase.

Nāku, nā



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**Chief Executive**