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# Mapping priorities against existing investments

Supporting information for the PMSITAC



# Contents

The material in this pack consists of two main sections and a set of annexes. The purpose of each section is to:

**Section 1:** **Agree** to proposed funding reprioritisation between pillars

**Section 2:** **Agree** on the approach to prioritisation and de-prioritisation within each pillar by making the following decisions:

- Which SI&T areas to prioritise and how they should be presented
- What signals will guide de-prioritisation, and what expectations will be set for how organisations should respond

**Section 3:** **Agree** to the definition and principles of white space funding and next steps

**Please note:** this slide pack will reference various Annexes, which are located in a separate document titled **Annexes for the Mapping of Priorities Against Existing Investments**.

# Roadmap to priorities (26 September 2025)

18 JULY: COMPLETED

WORKING TOWARDS A LIST OF PRIORITIES

**Agreed:**

- Agreed a framework and process for identifying priorities. PMSITAC identified what information is needed to work towards a list of priorities. MBIE are progressing work to provide this material for the August PMSITAC meeting.
- Agreed that Artificial Intelligence should be the next focus area for NZIAT.

**Next steps:**

- Prepare a shortlist of SI&T priorities, including areas for deprioritisation.
- Provide further information requested by the PMSITAC to identify priorities.

22 AUGUST:

WORKING TOWARDS A LIST OF PRIORITIES

**Outcomes:**

- Agreed general areas to prioritise and deprioritise. Asked for more granular information on the impacts of increasing and decreasing investment in context of total available SI&T investment.
- Agreed to the high level investment approach for Artificial Intelligence and Advance Technologies.

**Next steps:**

- Develop a detailed breakdown of the areas which will be prioritised and deprioritised including for critical emerging technologies, against existing investment.

26 September:

Mapping of priorities against existing investments

**Outcomes:**

- Evaluate the proposed list of SI&T priorities against current investments and highlight where SI&T investment may need to be increased or reduced.
- Deliver initial draft report on priorities.

**Supporting material:**

- Material to support decisions on research areas to reprioritise
- Outline of early draft report on list of priorities.

**Next steps:**

- Draft advice on priorities presented to Minister SI&T.

24 October:

Potential for further refinement of priorities

**Outcomes:**

- Finalise and present clear, evidence-based advice on SI&T priorities, including recommended areas for focus, deprioritisation, and investment adjustment.
- Submit report to the Prime Minister.

**Supporting material:**

- Updated draft report on list of priorities.

**Next steps:**

- Deliver initial advice to the Prime Minister.

21 November:

Confirmed priorities

**Outcomes:**

- Final confirmed list of priorities and areas of deprioritisation.
- Priorities list is published publicly.

**Supporting material:**

- Final report to the Prime Minister on list of priorities.
- Plan to deliver an SI&T Investment Plan by Budget 26.

**Next steps:**

- Deliver final advice to the Prime Minister.

# Emerging PMSITAC Principles

These principles derive from previous discussions with PMSITAC on areas of importance when considering science and innovation priorities. They are intended to guide a focused and strategic conversation to decide priorities and may evolve as conversations progress.

- **Sharper Focus on Commercialisation and Technology Readiness**  
Prioritise initiatives that demonstrate clear pathways to market and scalable impact. Emphasise technology readiness and support mechanisms that accelerate the transition from research to application.
- **Investing in Public Good Science**  
Reinforce the value of stewardship and long-term capability building through knowledge-generating research. Focus on areas where public investment is essential to deliver societal, environmental, and economic benefits.
- **Policy-Focused and Evidence-Based with Clear Performance Measures**  
Align science investments with policy needs, ensuring decisions are informed by evidence. Establish clear metrics to track performance, impact, and value for money.
- **Increasing International Connectedness and Attracting NZ Investment**  
Attract strategic investment into New Zealand's science system. Support participation in global research initiatives that build capability, influence and partnerships.
- **Backing Areas Where New Zealand is Strong**  
Focus effort and investment in domains where New Zealand has established strengths to maximise national and international impact for NZ's benefit.

# Section 1 – Giving effect to strategy by investing more in Advanced Technology

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- Agree proposed funding reprioritisation between pillars.

# Background

## What PMSITAC agreed previously

- In the August PMSITAC meeting you agreed that that **Scenario 2 - "Modernise"**, most closely met the criteria.

## What today's meeting will cover

- the implications of Scenario 2 by providing more information to:
  - define the funding pillars
  - describe the impacts of proposed funding reallocation

## Outcome sought:

Agree to recommend the funding reprioritisation described in Scenario 2 "Modernise"

## Modernise\*

Reprioritise **\$122m** by 2028/29 from Current to Technology Economy

	Economic Growth & Resilience	Technology Economy	Environment	Health & society
Strategic	-\$26m (-17%)	+\$89m (202%)		
Infra				
Workforce		+\$10m (250%)		-\$10m (-29%)
Contest	-\$59m (-39%)	+\$23m (40%)		-\$27m (-16%)
<b>Totals</b>	<b>\$242m</b> <b>-\$85m</b> <b>(-26%)</b>	<b>\$243m</b> <b>+\$122m</b> <b>(101%)</b>	<b>\$156m</b> <b>N/C</b>	<b>\$195m</b> <b>-\$37m</b> <b>(-16%)</b>

\*See Annex 1 for a comparison of current state and scenario 2

Note: All numbers are based on best knowledge but are indicative at this stage

# Working Pillar Definitions

These are working definitions designed to promote shared understanding. There will be overlap across pillars, and some boundaries may be difficult to define.

In August you asked that we review the position of Advanced Technology in the pillar framework. **We agree** Advanced Technology should be treated as a driver across all pillars, for this reason we have renamed pillar 2 '**Technology Economy**' to avoid confusion. **See Annex 2-4** for further rationale.

## Economic Growth & Resilience

Research and innovation that sustains the foundations of the economy, with a focus on long-term resilience including withstanding disruptions like natural hazard.

## Technology Economy

Research and innovation that enables future industries, aiming to create new capabilities, improve efficiency, and position New Zealand for strategic advantage in emerging global markets.

## Environment

Research and innovation that protects and enhances natural systems, strengthening resilience to environmental change and biodiversity loss.

## Health & society

Research and innovation that improves physical and mental health, strengthens communities, protects and preserves our cultural heritage and ensures health and social systems are fit for our future needs.

# Implications and trade-offs of reprioritisation\*

## Impacts on Research Institutions

- **Primary production and health research** face large strategic and contestable funding cuts.
- **Auckland, Canterbury, Otago, and Victoria** universities best placed to benefit from funding shifts to Technology Economy.
- **Otago, Auckland, Waikato universities** affected by \$96m of cuts across two pillars.
- **Bioeconomy Science Institute:** disproportionately affected with a reduction of around \$20.5m in strategic funding (of a total ~\$146m) and a reduction of \$5.5m in contestable funds. This loss is partially mitigated by the establishment of the biotechnology platform\*\*.
- **Earth Sciences NZ and independent research organisations** are also impacted.
- **Many of these organisations may also be beneficiaries of investments where they are able to pivot to Technology Economy**

## System and Financial Impacts

- NZ will be **closer to international comparators** in terms of mix of strategic and competitive funding.
- **Proportion of R&D funding for advanced tech** is significantly nearer but does not reach the OECD average.
- See **Annex 5-7** for further details

## Scale-Up Capacity

- Each year \$25–35 million of high-quality new economy proposals were not able to be funded because funding levels have been met. This suggests there's **scope to scale up Technology Economy investment**.
- **Signaling** will affect a shift in research focus toward advanced technology, particularly **among universities**.
- **Private investment** is likely to grow in primary production as markets mature. In health, growth is less likely, though private R&D is already proportionately high.

\*Figures in this slide are estimates based on the long-range averages of various funding mechanisms.

\*\*Pending name change to Biodiscovery Platform

# Consequences of a Lower-Ambition Pathway: Scenario 2 vs. Scenario 1

- Approx **70% less funding for Technology Economy**: Around **120 fewer** research roles, and **two fewer** dedicated advanced technology platform investments in areas eg synthetic biology and quantum tech.
- **NZ investment in technology economy low**: at 28% of total investment this remains behind Ireland (39%) and Australia (33% of total)\*

## Scenario 1: 'Accelerate' more ambitious

Rapid relocation of **\$172m** by 2028/29 to New Economy and Advanced Tech

	Economic Growth & Resilience	New Economy/ Advanced Tech	Environment	Health & society
Strategic	-\$26m (-17%)	+\$139m (316%)	-\$10m (-14%)	
Infra				
Workforce	+\$4m (400%)	+\$10m (250%)		-\$14m (-41%)
Contest	-\$51m (-34%)	+\$23m (40%)	-\$29m (-53%)	-\$46m (-28%)
<b>Totals</b>	<b>\$254m</b> <b>-\$73m</b> <b>(-22%)</b>	<b>\$293m</b> <b>+\$172m</b> <b>(+142%)</b>	<b>\$117m</b> <b>-\$39m</b> <b>(-25%)</b>	<b>\$172m</b> <b>-\$60m</b> <b>(-26%)</b>

## Scenario 2: 'Modernise' less ambitious

Reprioritise **\$122m** by 2028/29 from Current to Technology Economy

	Economic Growth & Resilience	Technology Economy	Environment	Health & society
Strategic	-\$26m (-17%)	+\$89m (202%)		
Infra				
Workforce		+\$10m (250%)		-\$10m (-29%)
Contest	-\$59m (-39%)	+\$23m (40%)		-\$27m (-16%)
<b>Totals</b>	<b>\$242m</b> <b>-\$85m</b> <b>(-26%)</b>	<b>\$243m</b> <b>+\$122m</b> <b>(101%)</b>	<b>\$156m</b> <b>N/C</b>	<b>\$195m</b> <b>-\$37m</b> <b>(-16%)</b>

\*As a proportion of total public investment in R&D

# Consequences of Reduced Ambition: Risks associated with Scenario 2

## Less likely to reach critical mass

- Focus of NZ R&D ecosystem remains on areas of traditional strength due to insufficient investment to shift the needle
- Too few promising ideas generated to maintain a viable advanced tech ecosystem
- Advanced tech research communities don't reach sufficient scale to be self-sustaining

## Underinvestment in strategically important tech

- NZ fails to achieve leadership in any critical tech niches, limiting our participation in (and contribution to) international strategic partnerships.
- Insufficient expertise and 'absorptive capacity' to adapt and apply international innovations.

## Struggle to attract and retain talent

- PhD grads in physics, chemistry, and information sciences continue to leave in high numbers due to limited funding and opportunities.
- Low focus on advanced tech makes NZ a less attractive destination for world-leading talent.

## Slower economic growth and productivity gains

- Fewer spinouts, start-ups, and high-growth tech firms compared to other countries
- High potential returns from R&D missed as investment in advanced tech remains well below socially optimal levels

**Agree** to recommend reprioritisation of \$122m by 2028/29 from Economic Growth and Resilience and Health and Society into the New Technology Economy pillar

# Section 2 – Identifying research priorities and areas to deprioritise

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- **Agree** on the approach to prioritisation and de-prioritisation within each pillar by making the following decisions:
  - Which SI&T areas to prioritise and how they should be presented
  - What signals will guide de-prioritisation, and what expectations will be set for how organisations should respond

## **In your August meeting, you asked for information on priorities across each pillar, including identifying research priorities and areas to deprioritise**

### **The purpose of this section is to:**

- **Agree** on the approach to prioritisation and de-prioritisation within each pillar by making the following decisions:
  - Which SI&T areas to prioritise and how they should be presented
  - What signals will guide de-prioritisation, and what expectations will be set for how organisations should respond

### **This section provides key inputs to support these decisions, including:**

- the methodology used to identify priorities and areas for de-prioritisation (**Annex 8-9 refers**)
- mapping of current research priorities across the system
- an assessment of these priorities using prioritisation criteria (**Annex 10-11 refers**)
- information on strategic interest of Māori relevant to the SI&T system (**Annex 12-13 refers**)
- presentation options for communicating priority areas and those recommended for de-prioritisation



# Overview of Priority Research Areas by Pillar (Contestable)

Endeavour, Marsden, HRC – Total Investment: **\$426.5M in 2024/25\***

## Economic Growth & Resilience \$150.5m

Primary Production	\$33.0
Natural Hazards	\$23.8
Manufacturing	\$16.3
Climate Change	\$15.5
Construction & Urb. Planning	\$11.8
Economics & Comm.	\$11.5
Biosecurity	\$10.5
Postharvest Processing	\$7.6
Natural Resource Use	\$6.3
ICDT	\$4.3
Basic/Fundamental Research	\$4.1
Transport	\$3.5
Energy & Minerals	\$2.2
<b>TOTAL</b>	<b>\$150.5</b>

## Technology Economy \$74.3m

Basic and Fundamental Research	\$33.5
Manufacturing (Advanced)	\$17.1
Energy & Minerals	\$11.5
Machinery & Equipment	\$6.9
ICDT	\$5.0
Transport	\$0.2
Economics & Commerce	\$0.1
<b>TOTAL</b>	<b>\$74.3</b>

## Environment \$44.3m

Other Environment	\$15.5
Freshwater Environments	\$11.4
Terrestrial Environments	\$8.7
Coastal & Marine	\$7.5
Basic/Fundamental Research	\$1.3
<b>TOTAL</b>	<b>\$44.3</b>

## Health & Society \$157.4m

Health	\$99.5
Basic/Fundamental Research	\$26.9
Heritage, Arts & Culture	\$14.4
Law, Politics & Social Serv.	\$13.5
Education, Dev. & Training	\$2.4
Economics & Commerce	\$0.4
ICDT	\$0.3
<b>TOTAL</b>	<b>\$157.4</b>

\*For a further breakdown please refer to **Annex 10-11**

# We recommend priorities be framed as 'Mission-led thematic pillars'

- In this framework each thematic pillar is anchored by a clear mission to enhance both clarity and strategic coherence.
- This structure also provides flexibility to 'shift' existing investments or 'create' new virtual structures where none currently exist, aligning them under these mission-driven thematic areas.

Option	Structure	International Example	Pros	Cons
<b>Thematic Pillars</b>	<p>Organises priorities into broad, cross-cutting domains (e.g. Economic Growth and Resilience, New economy, Environment, Health and Society).</p> <p>Each pillar can house multiple research priorities.</p>	<p>Ireland's Impact 2030: Six pillars including Climate, Digital, Health, Economy, Food, Society.</p> <p>Singapore's RIE2025: Four domains (Health, Sustainability, Digital, Manufacturing) + three horizontals Talent, Innovation, Academic Research.</p>	<ul style="list-style-type: none"> <li>• Familiar format</li> <li>• It allows for clear alignment with existing government and sector strategies.</li> <li>• Pillars can be updated or expanded without disrupting the whole framework</li> <li>• Helps show how different domains interact or overlap</li> </ul>	<ul style="list-style-type: none"> <li>• Pillars be quite list oriented domains without a compelling narrative.</li> </ul>
<b>Mission-led</b>	<p>Frames priorities as national missions with clear goals, investment pathways, and impact metrics ("e.g NZ as a climate innovation leader" or "Digital education for all")</p> <p>Missions are outcome-driven and framed as stories of transformation.</p>	<p>Israel's National R&amp;D Priorities: Missions like Bio-Convergence, Quantum Computing, Foodtech.</p>	<ul style="list-style-type: none"> <li>• Easy to communicate and understand</li> <li>• Focuses investment on measurable results, not just activity</li> </ul>	<ul style="list-style-type: none"> <li>• These can be complex to design and take time to deliver</li> </ul>

**Recommendation: Agree that priorities will be presented using a mission-led, thematic pillars approach**

# Priorities within Pillars could leverage our strengths/emerging opportunities\*

## Principles for mapping research to pillars:

- Single Pillar Assignment: Each research investment will be mapped to one pillar only, to maintain clarity and focus.
- Outcome-Based Mapping: Research will be assigned to the pillar where its primary impact or outcomes are expected to occur, rather than based on the disciplines, methods, or technologies used.

## Economic Growth & Resilience

### *Strengthening the foundations of prosperity and adaptability*

Enabling economic and productivity growth through research and innovation that harnesses New Zealand's natural assets, built environment, enterprising approach, and global reputation for trust, quality, and integrity.

It also supports research and innovation that sustains the foundations of the economy, with a focus on long-term resilience—including the ability to withstand disruptions such as natural hazards.

At the same time, it draws on New Zealand's deep expertise in geohazards, biosecurity, and community-led adaptation to reduce risk, enhance preparedness, and support recovery. Together, these efforts ensure the protection of our people, places, and infrastructure—building a future that is both productive and resilient.

#### **Priorities could include:**

- Food science and agritech – innovation in food production and processing
- Geoscience and mineral exploration – supports extractive industries
- Biosecurity science – critical for protecting the primary sector (agriculture, horticulture, aquaculture).

## Technology Economy

### *Catalysing future industries and strategic capabilities.*

Accelerating the development and deployment of advanced technologies that strengthen New Zealand's global competitiveness, enhance national resilience, and drive productivity.

This pillar fosters transformative research, cross-sector collaboration nationally and internationally, and scalable innovation to address complex challenges and unlock new economic frontiers.

#### **Priorities could include:**

- Artificial Intelligence (AI)
- Advanced manufacturing and robotics
- Space technologies
- Synthetic Biology

## Environment

### *Driving Innovation for Environmental stewardship*

Advancing protection and sustainable management of New Zealand's natural environment while leveraging our strengths in environmental science and innovation

This pillar draws on our strengths in ecological science, resource management and our unique biodiversity, to drive research that both protects our natural systems and creates the potential to drive globally relevant commercial solutions.

#### **Priorities could include:**

- Ecology and biodiversity science
- Climate science and modelling
- Low-emissions energy systems (e.g. hydrogen, solar, wind)

## Health & Society

### *Enhancing health and social outcomes through research, technology and innovation*

Applying evidence-based science and research to empower New Zealanders to live healthier, more productive lives.

This pillar builds on Aotearoa New Zealand's diverse strengths to ensure our health and social systems are resilient, adaptive, and prepared for future challenges.

#### **Priorities could include:**

- Genomics and precision medicine
- Social science and behavioural economics
- Health informatics and digital health
- AI for clinical decision support
- Biotechnology and regenerative medicine

**Recommendation: agree in-principle to SI&T areas to prioritise within pillars**

\*For a further breakdown on the types of science that could fall under each pillar refer to **Annex 10-11**

# Presenting areas to deprioritise

While the prioritisation process naturally leads to some areas being de-emphasised, there are three distinct approaches to actively de-prioritise within the science, innovation and technology system:

Option	Description	Pros	Cons
<b>1. De-prioritise Specific Areas of SI&amp;T</b>	Target individual disciplines or research areas  <b>Example:</b> Targeted reduction in investment for plant production research and innovation.	Clear and direct; Easier to quantify impact	Requires robust data; Risk of unintended consequences; May be politically sensitive
<b>2. De-prioritise Thematic Areas of SI&amp;T</b>	Reduce investment across broader themes  <b>Example:</b> Broad reduction across the agriculture theme, affecting multiple disciplines.	Aligns with strategic shifts; Easier to communicate	May affect diverse sub-fields; Harder to isolate high-performing areas
<b>3. Signal-based de-prioritisation (recommended)</b>	Use strategic signals to guide system-wide adjustments  <b>Example:</b> Reduce investment in capability or research that does not align with advanced technologies or future system needs.	Flexible and adaptive; Encourages innovation; Less disruptive	Less immediate control; Relies on system responsiveness; Harder to measure short-term impact

# We recommend using signals to guide de-prioritisation

- This approach allows the system to self-adjust based on strategic direction, without requiring granular decisions that may lack sufficient evidence or data.
- It also enables organisations to make informed choices about resource allocation.
- Signals that could guide de-prioritisation include:
  - areas where longer term public investment has potential to transition to private sector leadership.
  - areas with lesser future capability needs or lower system leverage.
  - areas of lower alignment to national priorities or global relevance.
- Organisations with devolved MBIE funding (e.g. SSIF) will be asked to respond to deprioritisation signals through resource and capability choices. Organisations receiving contestable funding (e.g. Endeavour, Marsden, Health Research) will need to align with Government SI&T priorities. Both funding types will transition to Research Funding New Zealand (RFNZ).

**Recommendation:** Agree on the signals that will guide de-prioritisation, along with expectations for how organisations should respond

## Section 3 – White Space Funding

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- Agree on a white space fund definition, principles, scope and appropriation type.

# WSF Definitions & Principles

**In August:** you requested work on a definition of white space and information about how the model is used by other economies.

**Today:** Consider further information on a WSF and agree to a definition & principals, scope and appropriation.

## White space style programmes succeed when

- sufficient funding supports risk absorption, long time horizons, freedom to explore, investment signaling and requisite talent and infrastructure
- funding programmes are underpinned by dedicated legislation that maximises speed, flexibility and contingency
- they are not left exposed to the type of intense competition created by system underfunding

See Annex 14-15 for our considerations

## Principles

### 1) Agility and responsiveness

Funding decisions can be made in real time — weeks, not months or years

### 2) High risk tolerance

Projects or trials may fail, but those that succeed will have a profound impact

### 3) Invitational and negotiated

Not contestable or market-based — instead, funding is targeted to where it can deliver faster, deeper and transformational impact

### 4) Strategic importance

Funding will contribute to New Zealand's long-term resilience, economic transformation, or sovereign capability

## Definition

A **White Space Fund** provides extra flexibility and responsiveness to New Zealand's science system by enabling it to act on limited-time opportunities, respond to emerging global trends or emergencies, and support bold initiatives.

# We seek your agreement on:

- The definition and principles of the White Space Fund
- That New Zealand needs a white space fund
- That a white space fund include all proposed pillars

Active Consideration

- That MBIE will conduct further work to determine how a WSF can be designed and implemented as part of the RFNZ establishment process