PATHWAYS TO THE FUTURE

A Presentation for the Natural Health Products NZ Summit

Based on work by the New Zealand Crown Research Institutes | 1 September 2021

Science New Zealand
E/S/R Science for Communities
GNS Science Te Pū Ao
agresearch āta mātai, mātai whetū
Manaaki Whenua Landcare Research
NIWA Taihoro Nukurangi
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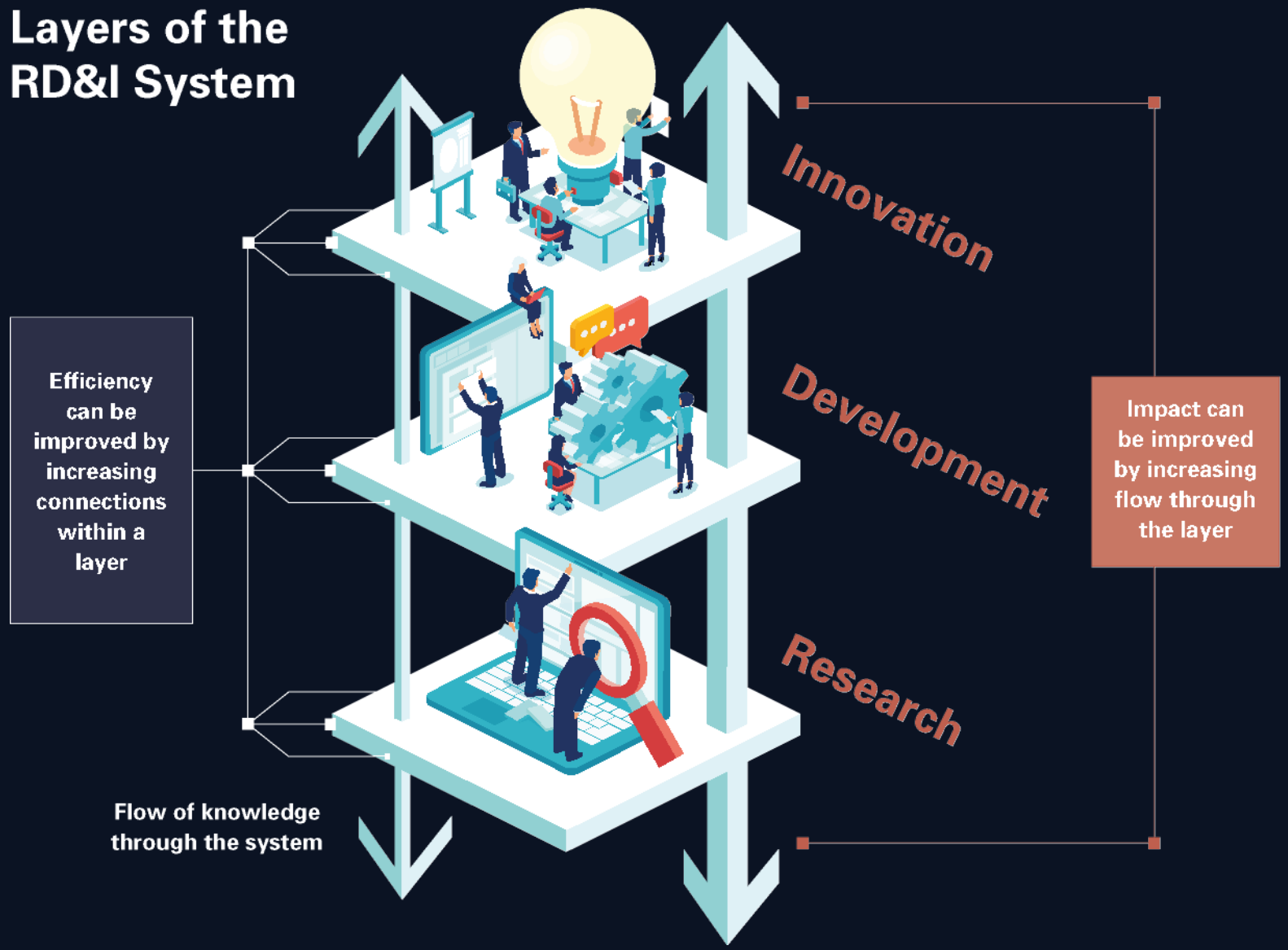
SCION Forests • Products • Innovation

There is more to the NZ Science System than just research

Layers of the RD&I System

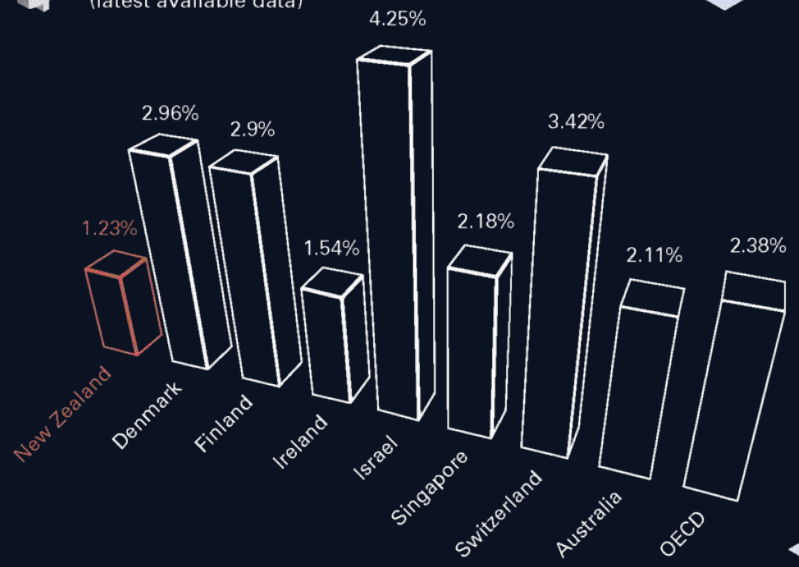


30 years of work has created a Research layer which is productive and collaborative

Efficient Research

Our science system is relatively small...

Proportion of GDP spent on R&D (latest available data)



...but highly productive

Publications per $M higher education and government research expenditure

NZ 13 | OECD 5

Publications per researcher per year

NZ 0.7 | OECD 0.3

Publications in top 1% most-cited worldwide

NZ 2.0% | OECD 1.3%

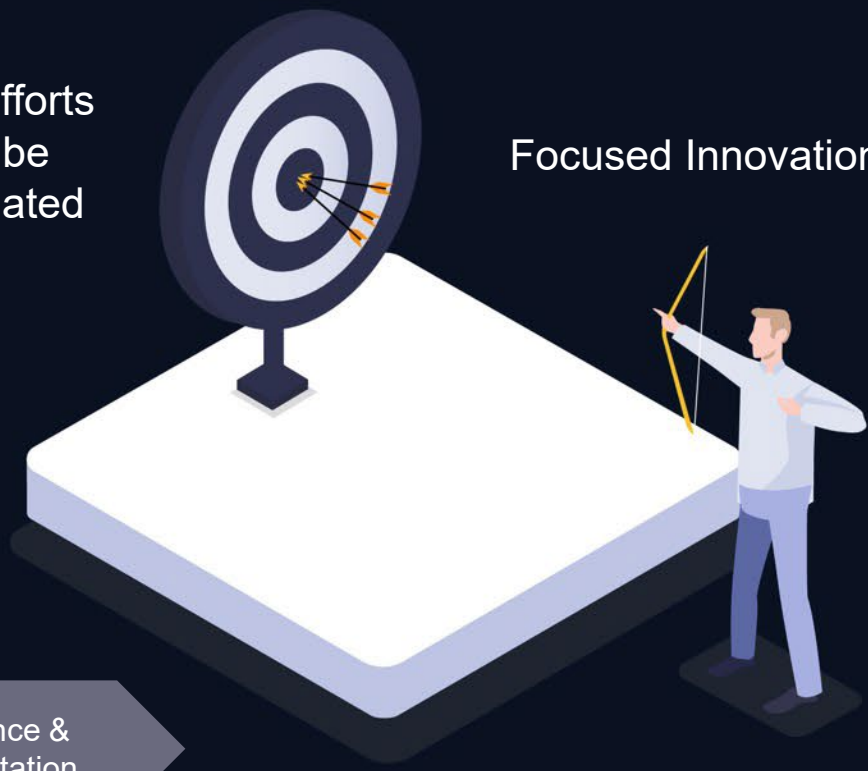
But this is not translating into impact

Uncoordinated approach

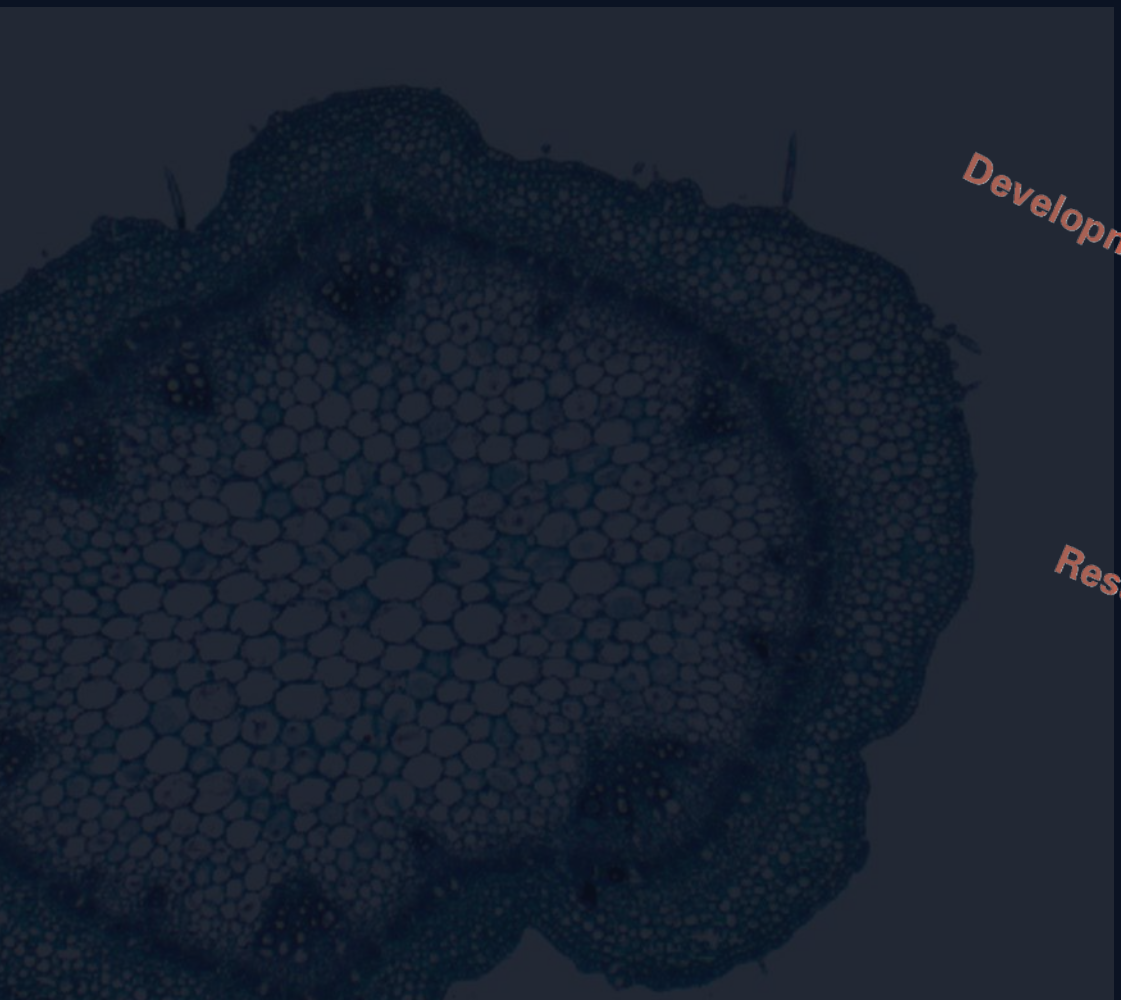
Policy efforts must be coordinated

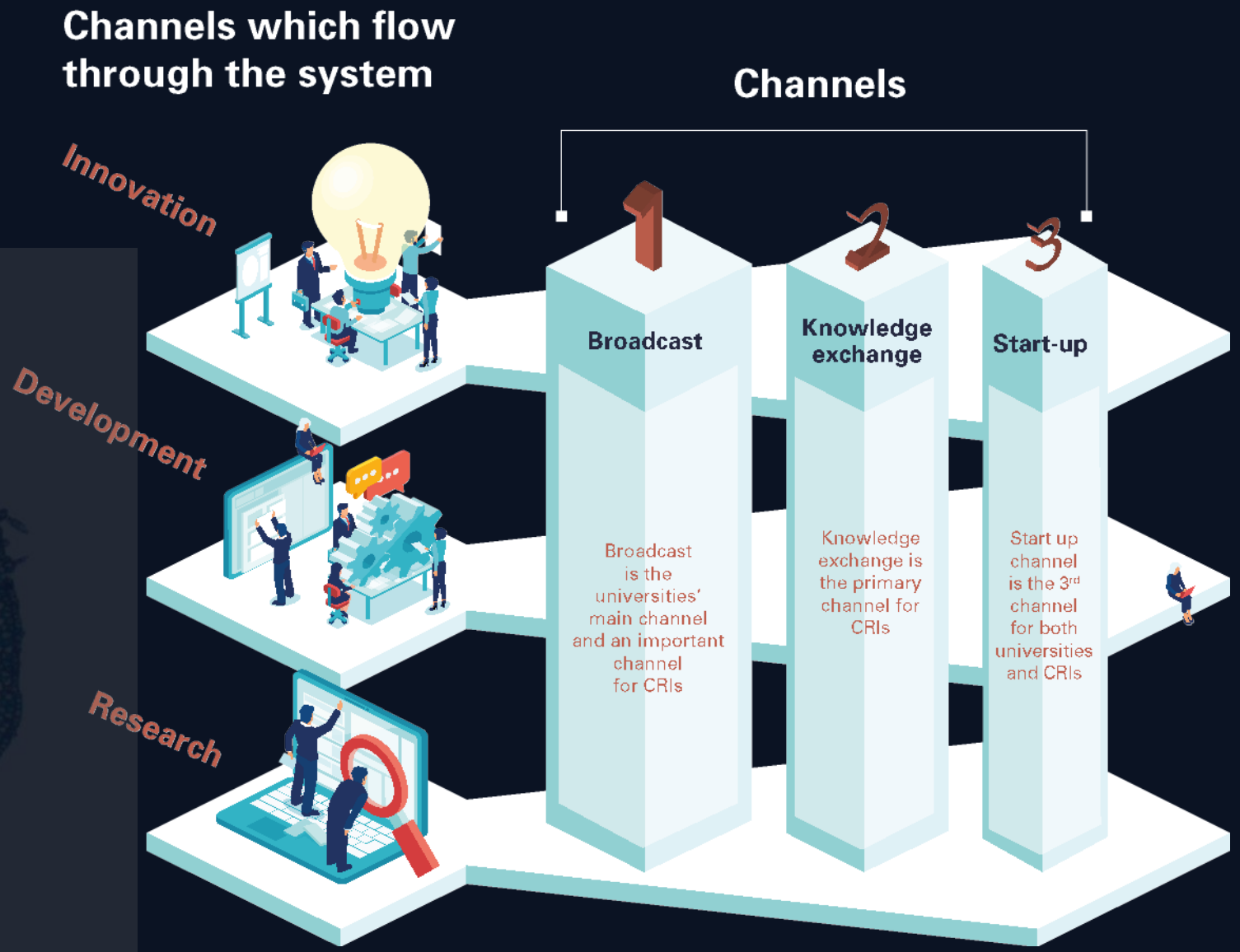
Governance & Implementation

Focused Innovation policy



The 3 channels for knowledge flow





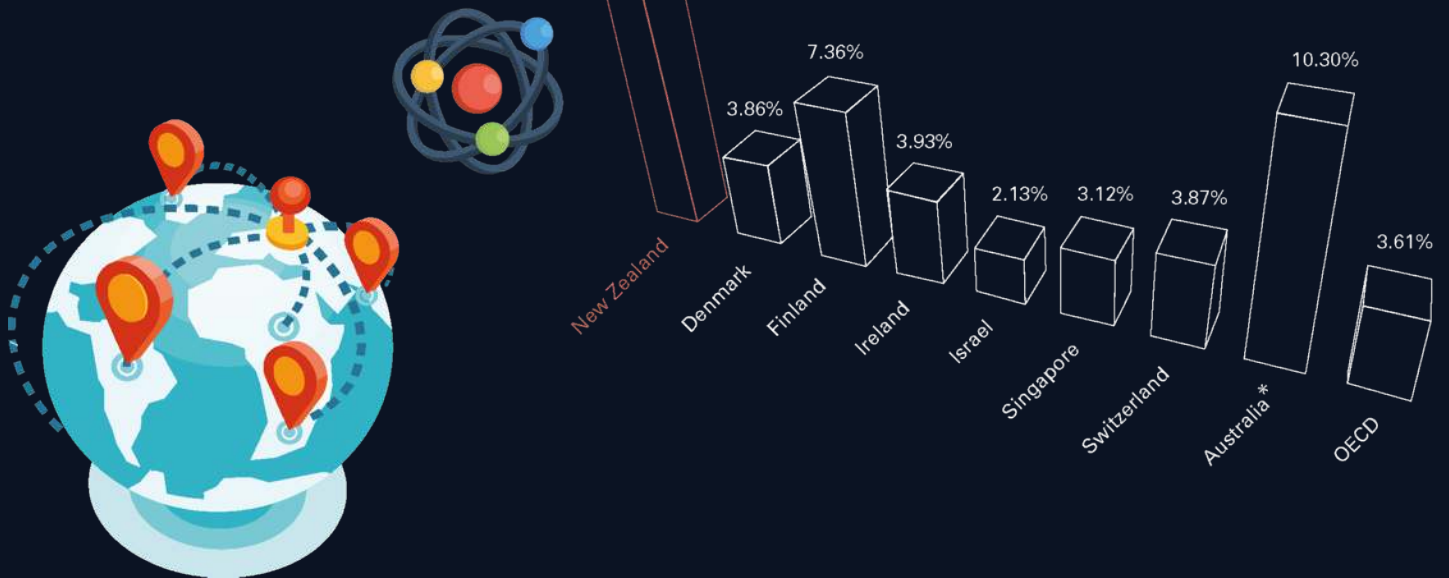
The Broadcast channel is working well

The Knowledge Exchange channel is effective but narrow

Connected to Users

Percentage of public research institute funding from business

Proportion of GDP funding on R&D from business (latest available data from 2017, *data from 2016)



Percentage of Higher Education Expenditure in Research and Development financed by the business sector 2017

NZ 4.86%

OECD 6%*

*estimated value

The start-up channel is “emerging”

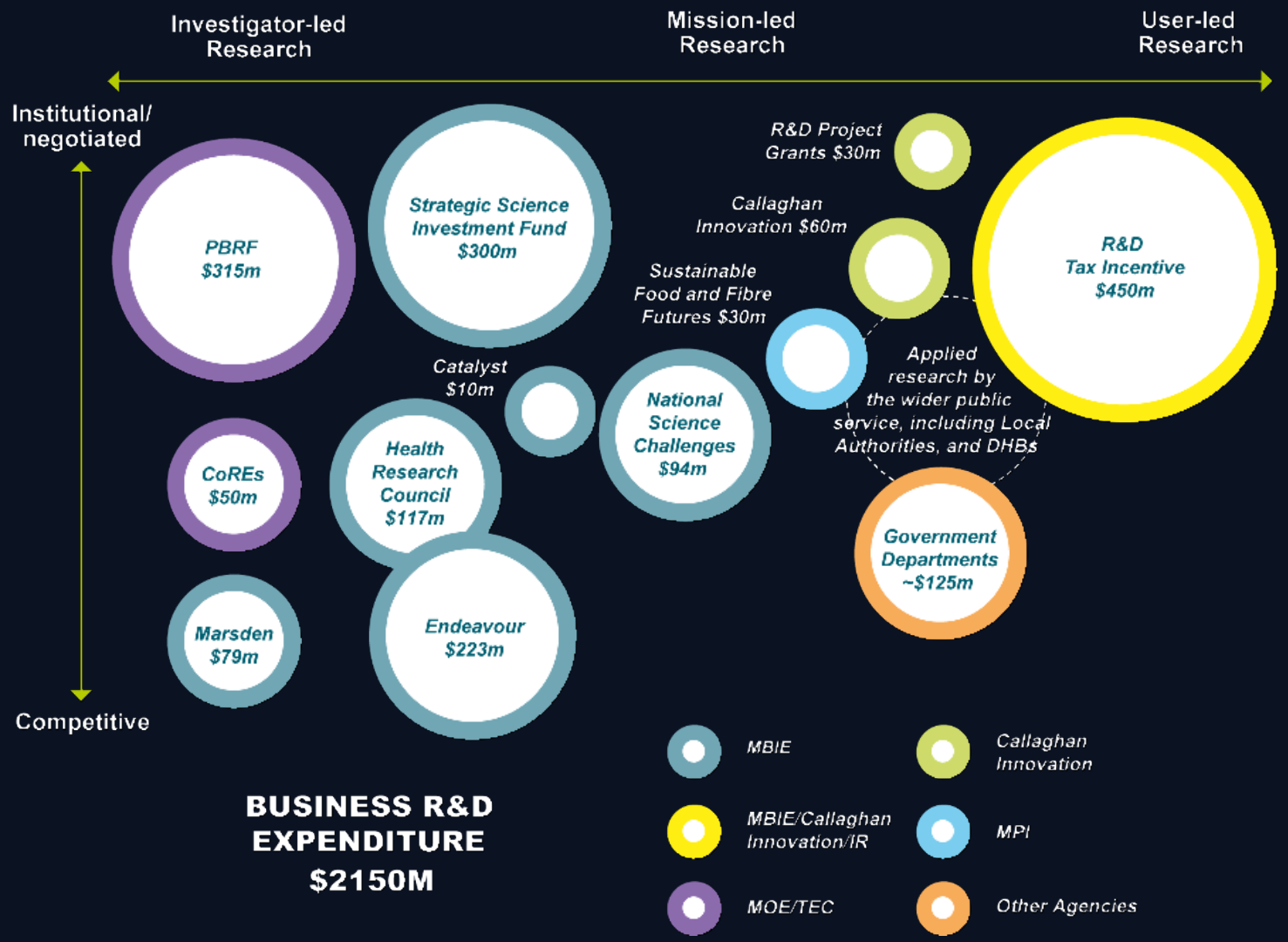
NZ is in 33rd place

31	Norway	+2	1.15	1.57	3.66	**6.386**
32	Czechia	-6	1.24	1.72	3.26	**6.226**
33	**New Zealand**	**+14**	**1.06**	**1.12**	**3.69**	**5.865**
34	Ukraine	-5	1.01	2.09	2.60	**5.705**
35	Bulgaria	-3	1.88	0.58	2.75	**5.209**
36	Chile	-2	1.11	1.24	2.63	**4.976**
37	Croatia	+2	0.97	1.06	2.88	**4.907**
38	Mexico	+3	0.63	1.63	2.55	**4.800**
39	Argentina	-1	1.11	1.52	1.98	**4.613**
40	Malaysia	+8	0.55	1.18	2.68	**4.411**

Conclusions so far

- **NZ's science system is made up of 3 layers Research, Development and Innovation**
  - Our Reserach layer is small but productive and collaborative
  - But we struggle to convert knowledge through to impact
- **We need to focus on getting knowledge to flow though the layers rather than optimising knowledge creation in the Research layer**
  - Our Broadcast channel is working well
  - Our Knowledge Exchange channel is effective but narrow
  - Our Start-up channel is emerging but small

The system is not designed around priorities or flow



Source: MBIE NZ's Research, Science & Innovation Strategy: Draft for Consultation September 2019

We have added structures to help prioritise and coordinate but they come at a cost

So what should
we do about this?

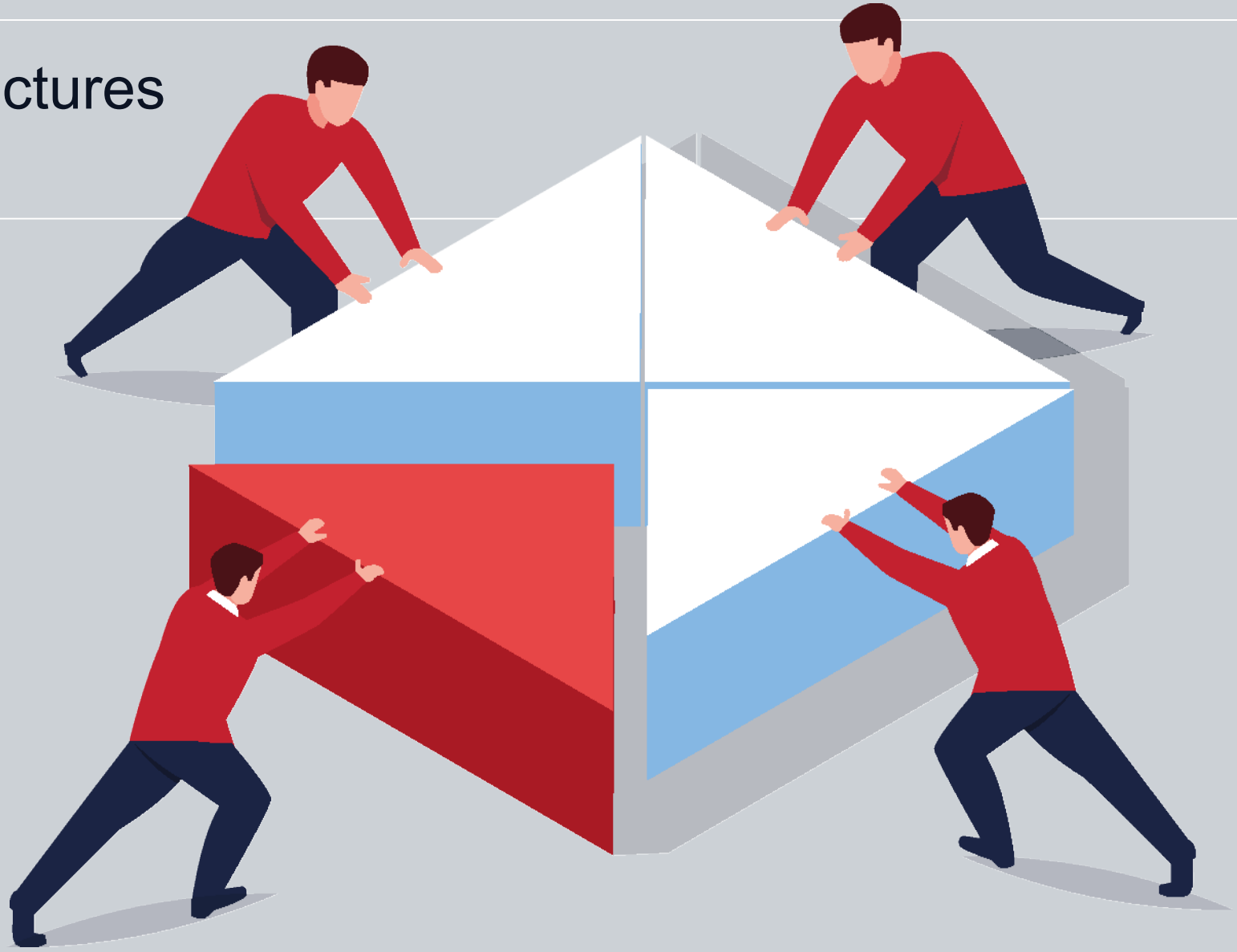
Create a RD&I Council to agree priorities

Each priority is framed up as a **mission**

Empowering Māori, Industry and Research to create and enact the mission strategies

1. Domain leaders who are able to represent the key stakeholders in their domain are appointed to the Strategy Teams
2. Repayable grant mechanisms are expanded to support emerging sectors and companies in priority areas
3. MBIE increases the ratio of institutional funding to the CRIs to empower them and enable them to deliver on the commitments they make as part of the Mission Strategy Teams
4. Government engage with Māori to understand the changes they require the Crown to make so that Māori are empowered to take a full partnership role in both the establishment of priorities and the Mission strategies.

Simplifying structures

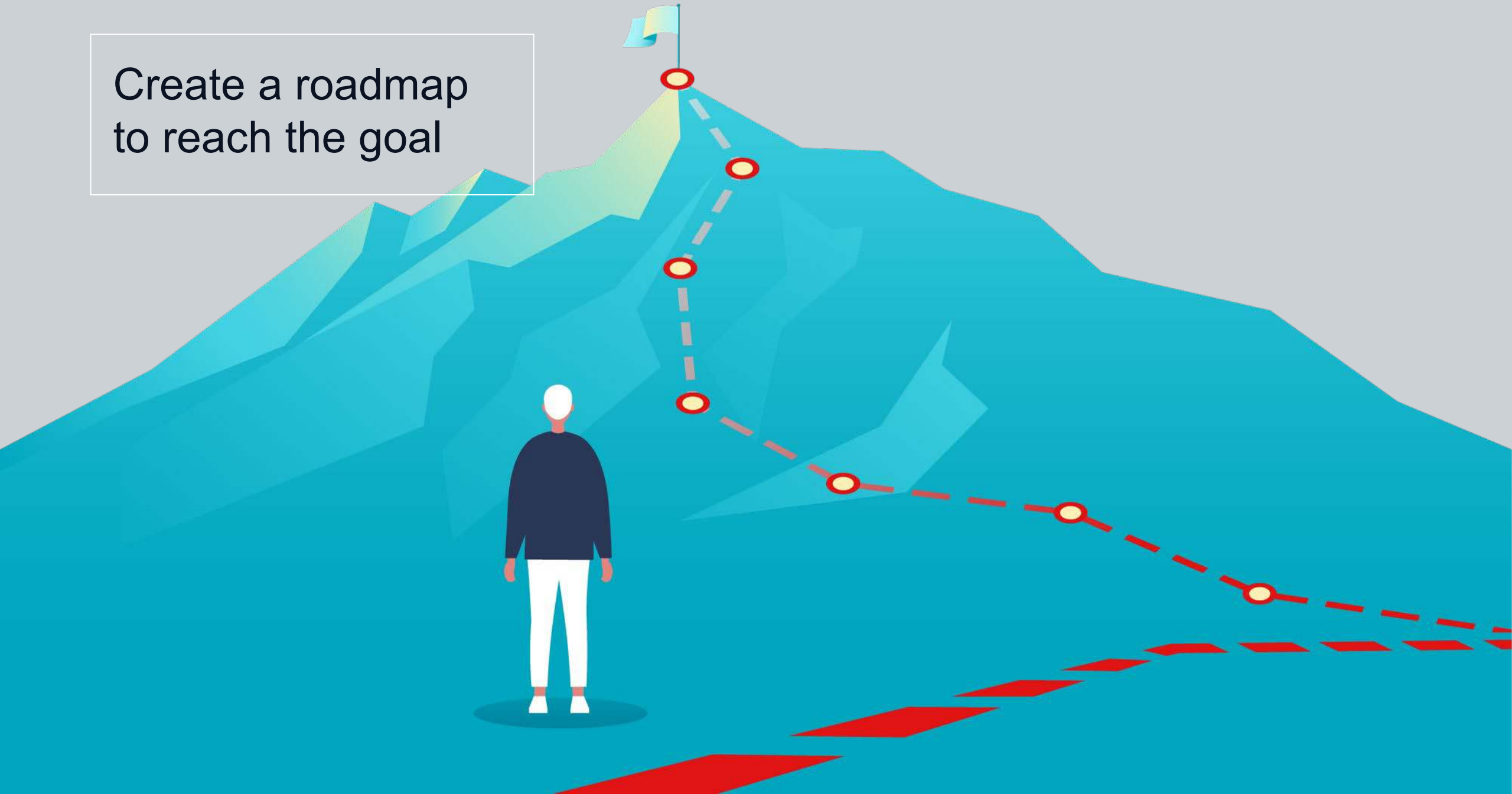


So what should the Natural Health Product Sector do?

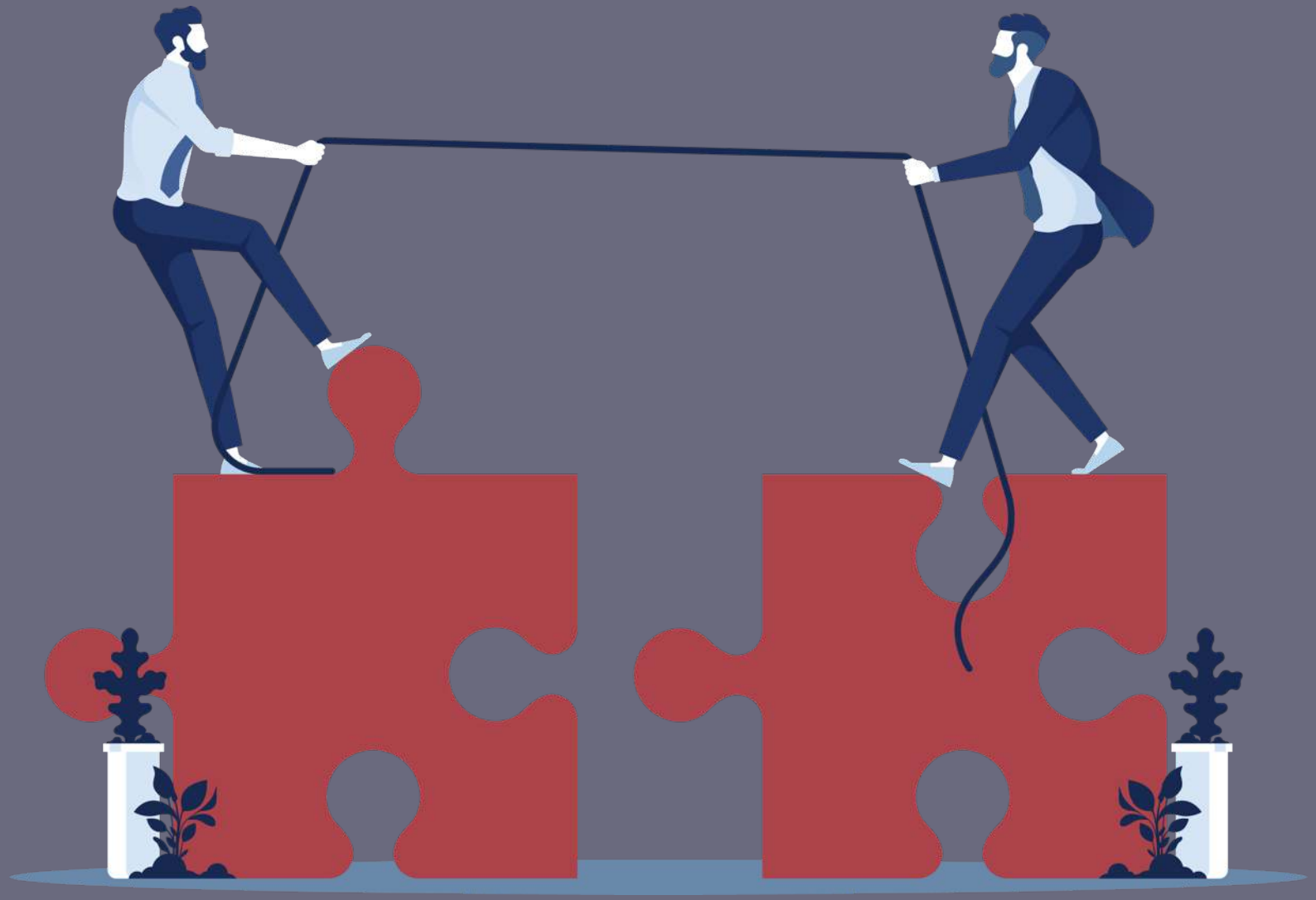
BHAG

Big, Hairy, Audacious Goal

Create a roadmap to reach the goal



Enable the key players to join the coalition



Measuring and Story telling

Our climate change response shows that we can do this

Thank you

Science New Zealand

agresearch
āta mātai, mātai whetū

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