

# eResearch 2020

NSC | CoRE Digital Infrastructure Workshop

# eResearch 2020

## Jane McCann, Facilitator

- Welcome
- *The Royal Society Review of the NZ Research System* – Prof Peter Hunter
- eResearch 2020 & NZ Research Infrastructure
- **Session 1:** *Forward Thinking – how is technology altering our goals and methods in research?*
- *Lunch – 45 minutes*
- **Overview:** *Vocabulary & framework for aligning Digital Infrastructure Strategies*
- **Session 2:** *Identifying Shared Needs – Digital Infrastructure for NSC and CoREs*
- *Development of Research Infrastructure Planning and Thinking in New Zealand* – Prof James Metson
- **Session 3:** *Defining Outcomes*
- *Closing – 15:30!*

# eResearch 2020

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GLEN SLATER



REANNZ



eResearch 2020 aims to better understand the long-term ambitions New Zealand scientists have for their science.

#### Future Infrastructure Performance



"Much of what we're doing with visualisation has parallels in the video gaming industry, which is now setting the standard for visualisation and interaction, and we are able to utilise advances related to these developments."  
– Lynley Smith

[Read opinion >](#)

[MORE >](#)

#### Collaboration & Privacy



"Academics aren't very good at collaboration – as researchers we tend to be a little self-focused."  
– Tim David

[Read opinion >](#)

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#### Investment Models & Asset Ownership



"Another challenge is in the organisation space around valuing software engineers who aren't researchers in their own right, but aren't IT or general staff either. These experts are a vital link in the research process and research project."  
– Stuart Charters

[Read opinion >](#)

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#### Shared Data & Services



"Currently we lack a cohesive national plan and policy framework which would mitigate the prospect of unacceptable loss of unique data, research and human capital."  
– Penny Carnaby

[Read opinion >](#)

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#### Sovereignty & National Capability



"The idea that we generate and preserve intellectual capital just within territorial boundaries is the bane of my life."  
– Sydney Shep

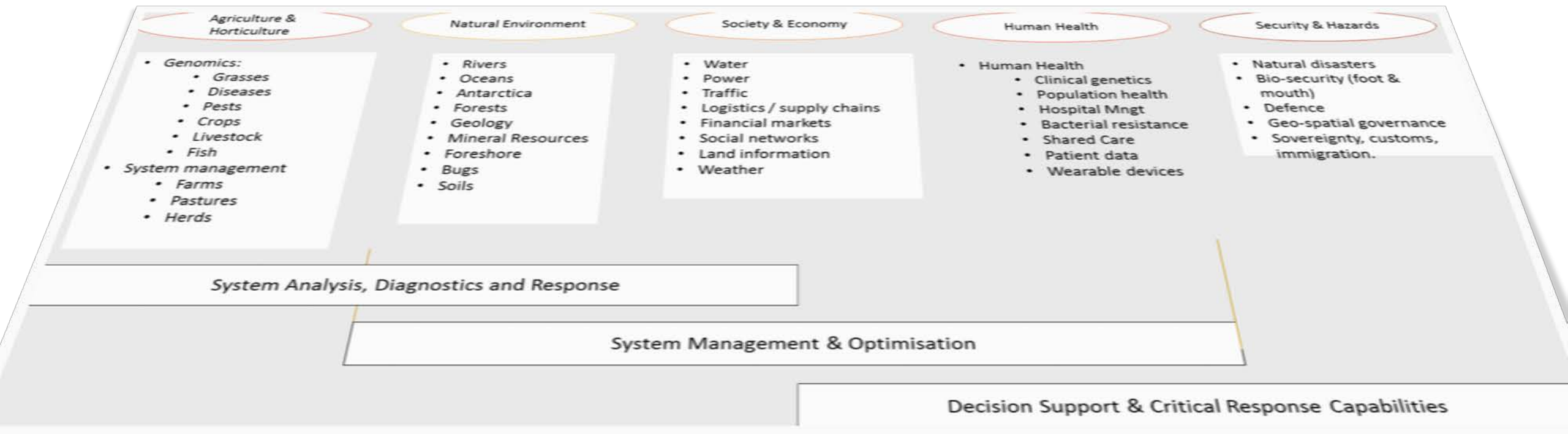
[Read opinion >](#)

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# Forward Thinking – how is technology altering our goals and methods in research?

To what extent can we anticipate the shape of a data informed and enabled society, economy, and research sector in the coming years?

How are the norms and expectations changing in five major areas of our lives and our work?



## National Science Challenges & CoREs

High Value Nutrition

Healthier Lives

A Better Start

Resilience to Nature's  
Challenges

Our Land & Water

The Dodd-  
Walls Centre  
for Photonic  
& Quantum  
Technology

Brain  
Research  
New Zealand

The Medical  
Technologies  
CoRE

The Maurice  
Wilkins  
Centre

Te Punahi  
Matatini –  
Centre for  
Complex  
Systems

Bio-  
protection  
New Zealand

The  
MacDiarmid  
Institute

New Zealand's  
Biological Heritage

Aging Well

The Deep South

Science for  
Technological  
Innovation

Sustainable Seas

Collaboration

Sensor Networks

Report/Publish

## Multi-discipline Research Processes

Design

Output

Instrumentation

Optimise

Feedback

Collect/Ingest

Analyse

Forms

Model

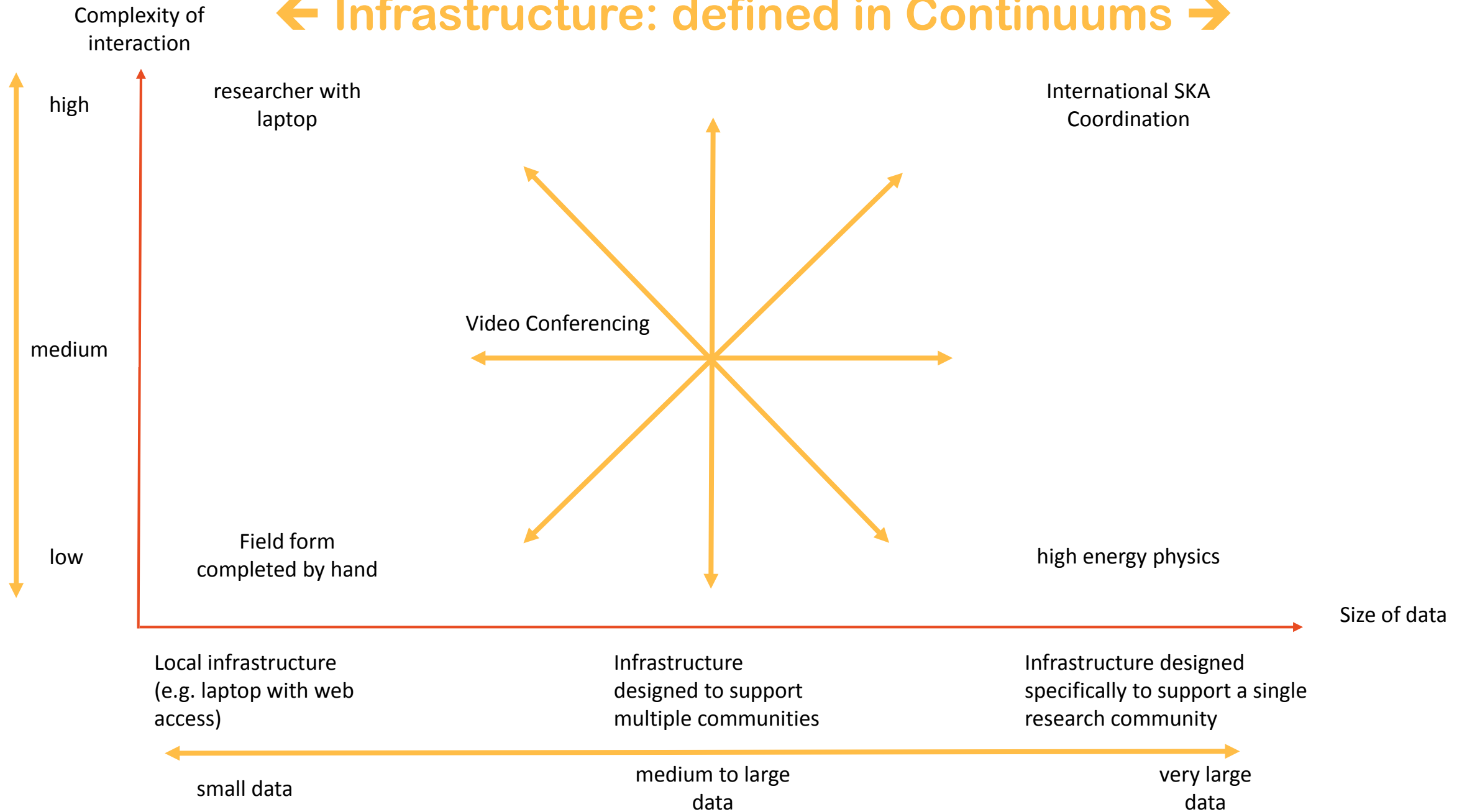
Archive

Visualise

Reuse

Meta-data

# ← Infrastructure: defined in Continuums →





## Segmenting Exercise

**Social:**  
needs met mostly by consumer technologies & services available, often in the cloud.

**Community:**  
needs specific to a research community, and met with tools & services designed for that community.

**Specialised:**  
deeply specialised needs met mostly through international collaboration & access to major global infrastructure investments.

## Session 3 – Workgroup Presentations

- *Workgroups – which NSC or CoREs are you representing?*
- **Defining Outcomes:** detailed descriptions of NSC/CoRE shared needs in digital research infrastructure:
  - Can you describe your metadata needs?
  - How will you interact with sensor networks and large instruments?
  - What challenges might you face in collaboration and analysis?
  - What skill sets or support are you struggling to find?
- **Identification of how these needs might best be met for each Workgroup:**
  - Which resources would you prioritise access to?
  - How might changes in major social trends influence your research?
  - What kinds of barriers or issues should be worrying now, if we don't want to end up in trouble in 5 years time?