

# National Research Data Cloud Progress, Feedback

CAUL Webinar

16 Mar 2018

# 2016 Roadmap

National research infrastructure comprises the nationally significant assets, facilities and services to support leading-edge research and innovation.

It is accessible to publicly and privately funded users across Australia, and internationally.

# National Research Data Cloud

- Review commissioned by the Department of Education to establish a new NRDC by redesigning the existing NCRIS projects:
  - Australian National Data Service (ANDS)
  - Research Data Services (RDS)
  - National eResearch Collaboration Tools and Resources (NeCTAR)
- The redesign will enable convergence towards a coherent eResearch system including the NRDC and the following National Research Infrastructure eResearch investments:
  - High performance computing and integrated services
  - Australian Research and Education Network
  - Australian Access Federation.

# Vision

- Underpin all research areas
- Provide the opportunity for researchers to ask bigger questions
- Align with, and where appropriate lead, international research
- Interface with the private sector
- Provide trusted advice to Government

# Project deliverables

1. Advice on the **future of the NRDC**, including the incorporation of existing services provided by ANDS, RDS and Nectar (Last quarter of 2017)
2. A **transition plan to an NRDC**, including consultation with impacted stakeholders (First quarter of 2018).

# Process

- We were provided with all consultations relevant to eResearch during the Roadmap construction
- Also had numerous meetings across Australia with universities, research domains and researchers, refining ideas
- Commissioned a report on governance of national facilities.
- Reference Group met monthly

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# Reference Group Principles for the NRDC

- **Vision** – The NRDC program will be designed to provide stakeholders with a clear unified vision for coherent best practice systems that enable open collaborative data-intensive research.
- **Inclusiveness** – NRDC will engage and act in coordination with all NCRIS capabilities, research groups, disciplines and institutions, the systems being introduced by other nations, and with the public and private sectors.
- **Independence** – NRDC will be governed and managed separately from any host organisation
- **International positioning** - the new organisation will engage with leading nations in developing open and comprehensive data platforms to advance knowledge gain for societal benefit
- **Trusted advisor** - the new organisation will have clear authority from stakeholders to provide sound advice to Government and research organisations about the future needs and behaviours for Australia to fully participate in data intensive research.
- **Resetting the goals** – the NRDC will set a reconsidered unified direction for the delivery of digital infrastructure to the research sector
- **Digital Data and eResearch platforms** - NRDC will seek a coordinated approach with the HPC, networking and access capabilities



# Reference Group Principles for Transitioning to the NRDC

- **Continuity** – stakeholders continue to receive existing RAN services across the transition without disruption
- **Program flexibility** – management are able to easily introduce aspects of the Future Design projected for 2018-19
- **Expertise retention** – existing staff move from the RAN to NRDC informed about the NRDC direction and ongoing roles
- **Stakeholder confidence** – forming NRDC retains and increases stakeholder confidence and engagement
- **Governance** – the NRDC entity and its Board adopt the AICD not-for-profit principles for governance as its charter

# Reference Group

**Robyn Owens (Chair)**

**Tim Kane**

**Clare McLaughlin**

**Chris Pigram**

**Rob Fitzpatrick**

**Liz Sonenberg (representing the existing projects)**

**Supported by Rob Cook and staff from the Department of Education**

# NRDC Transition Plan

Due to DET in Mar 2018

Earlier advice provided to DET about key issues

DET communique issued to sector on 15 Mar

# DET Communique

- Move to NRDC to begin in Jul 2018
- RAN to continue through 2018-19 - funding agreements under discussion
- Interim NRDC Board to replace existing RAN Boards
- Broad consultation on implementation
- NRDC to be created as an entity on or before 1 Jul 2019

# Research Infrastructure Investment Plan (RIIP)

- Funding for 2016 Roadmap recommendations
- Aimed at 2018 Commonwealth budget
- Outcomes uncertain at present – much activity
- Has the capacity to impact:
  - Replacement of Nectar research cloud and RDS data storage equipment
  - Ongoing operational funding from 2019-20 onwards

# RAN/NRDC in 2018-19

- Research domain programs funded using 2017-18 dollars
- Continuations of existing RAN services to research
- New work towards a future NRDC program
- Research cloud/data storage infrastructure (RIIP-dependent)

# How can CAUL help?

- Feedback on Future Design – omissions, improvements, clarifications
- Priorities for transitional period in 2018-19

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# NRDC Future Design

Provided to DET in Dec 2017

Accepted in Feb 2018 as key pillar

Text embargoed for the time being



# A guide to developing an NRDC for 5-10 years into the future

The Transition Plan is about converting the RAN into a single entity that will evolve into the NRDC for the future

**The National Research Data Cloud (NRDC) will be an organisation that transforms, champions and enables the effective and productive application of data-intensive digital infrastructure to the delivery of advanced research.**





**Enhanced research excellence**

**Researcher productivity**

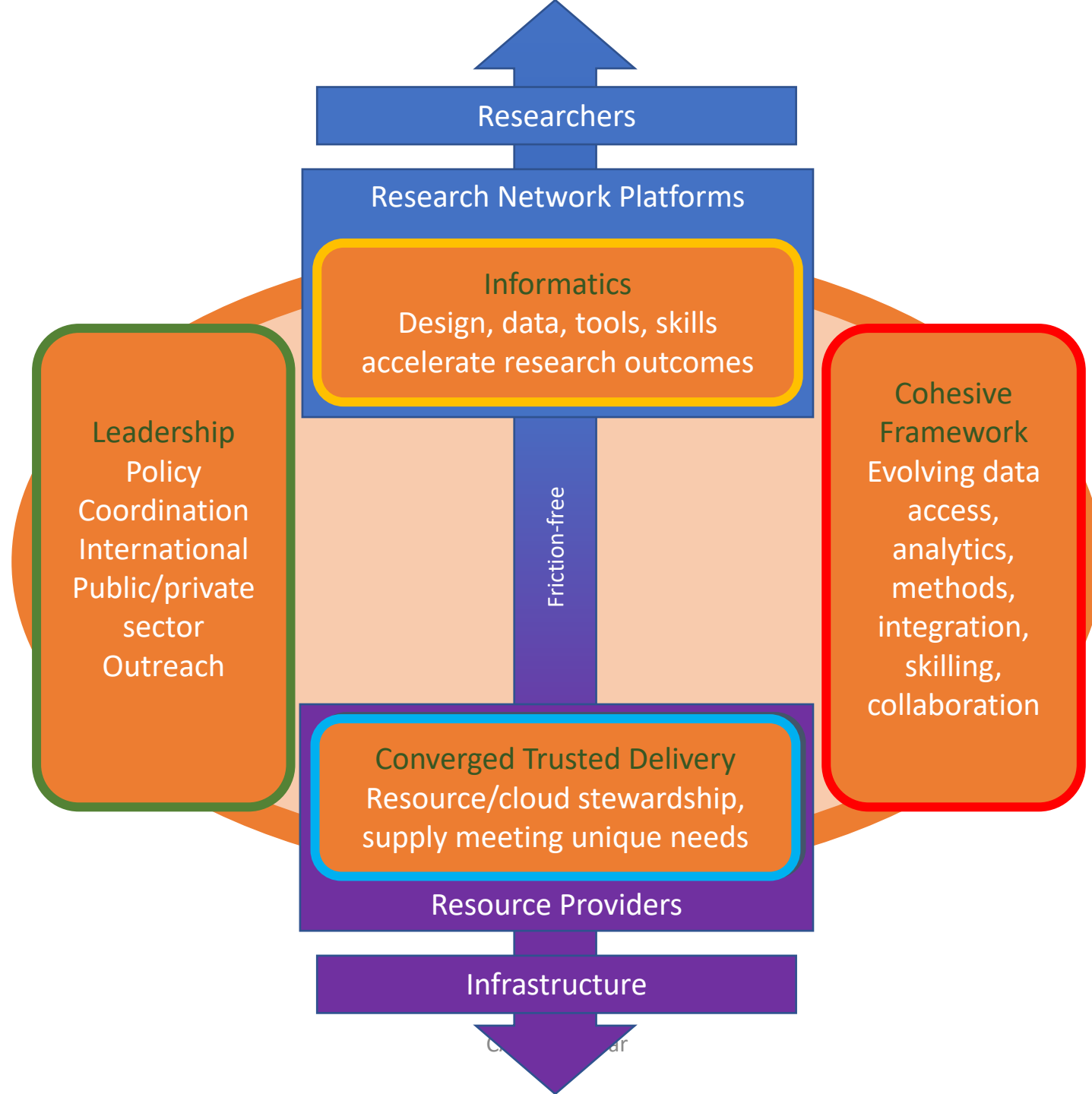
**International interaction**

**Public/private sector bridge**

**Trusted quality re-useable data**

**Expertise**

# NRDC Model



# Stakeholder context

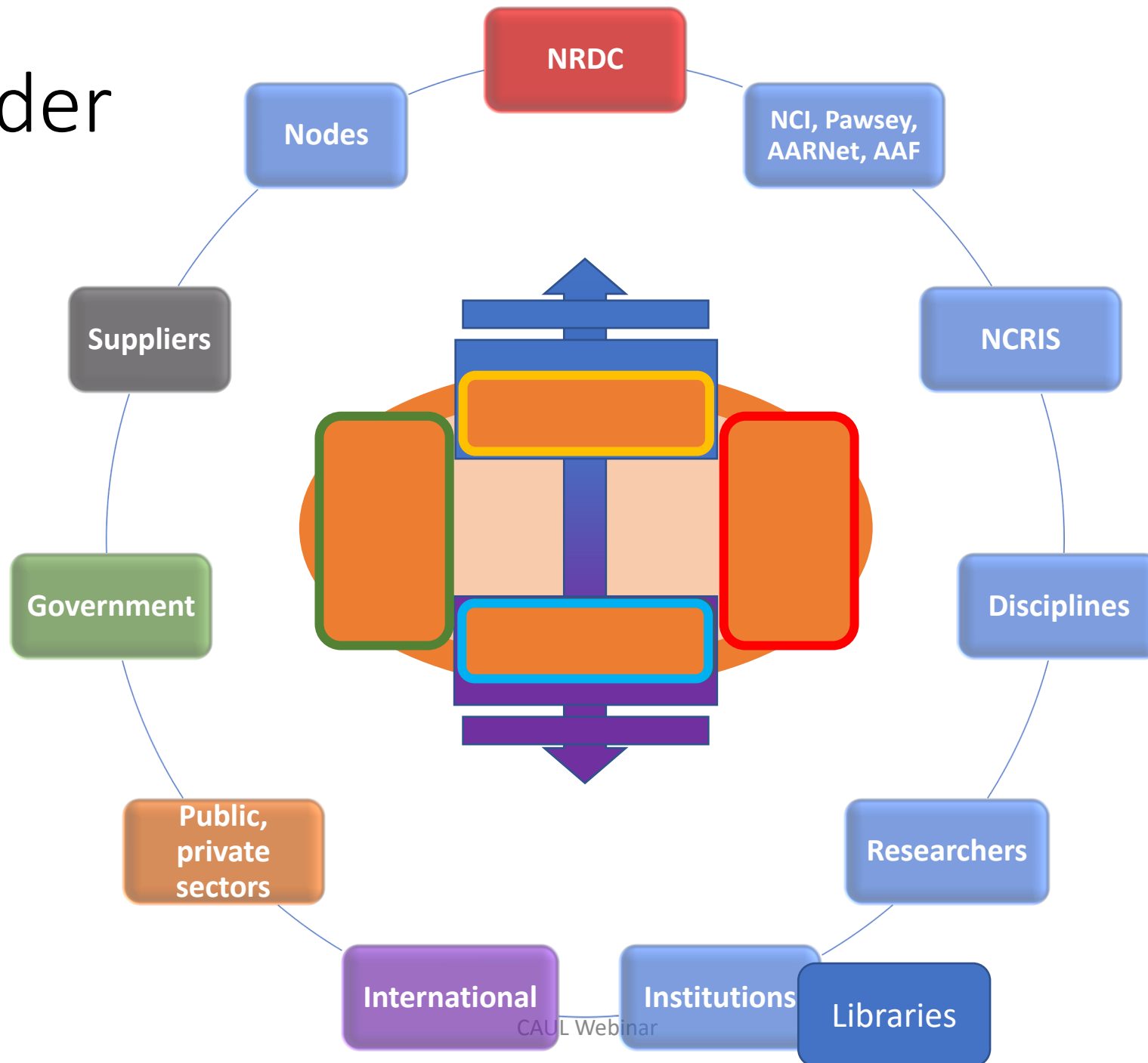
Customers

Users

Suppliers

Partners

Collaborators





- Platforms led by Research Networks
- Delivering informatics for the community
- Maturing over time
- Pervasive culture of platform use
- Towards excellent highly productive research

**Bioscience**

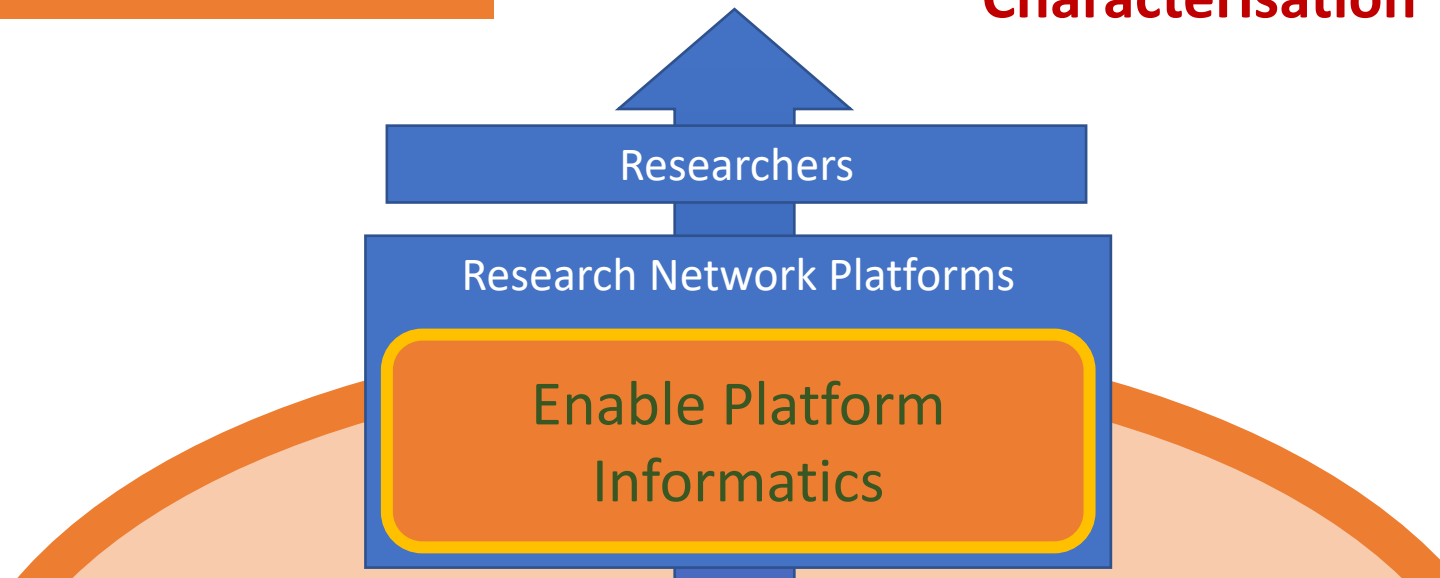
**Characterisation**

**Astronomy**

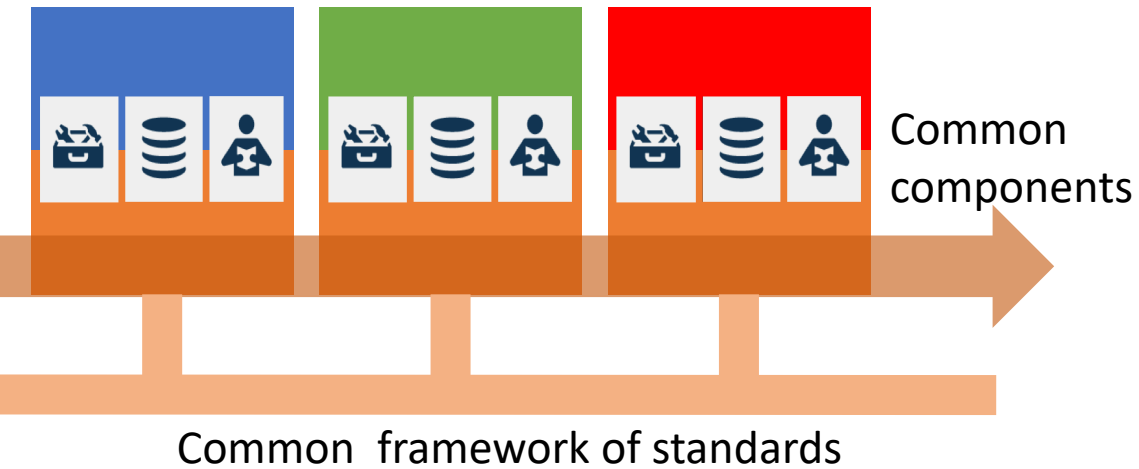
**Marine**

**HASS**

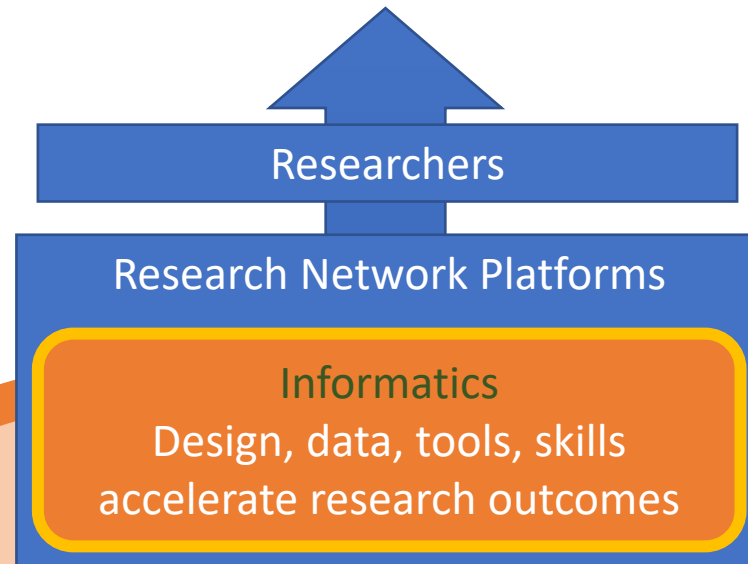
**Ecoscience**



# Platforms: NRDC role



- Harvest from successful platforms
- Co-develop with maturing platforms
- Plan platforms with less mature networks
- Re-use componentry
- Promote the cohesive framework
- Adopt, adapt from international networks
- Expertise in production systems



Cohesive  
Framework  
Evolving data  
access,  
analytics,  
methods,  
integration,  
skilling,  
collaboration

**Standards**

**Data management**

**FAIR data and tools**

**Open/shared research**

**Workforce development**

**Data bridges**

**Trusted quality data**

**Secure data, secure repositories**

**Automation**

**Identifiers**

**Authentication**

**Catalogues**

**Geocoding**

**Metadata**

**Vocabularies**

**Publication**

**Open data/science**

Global alignment, cross-disciplinary, cross-sector coherence

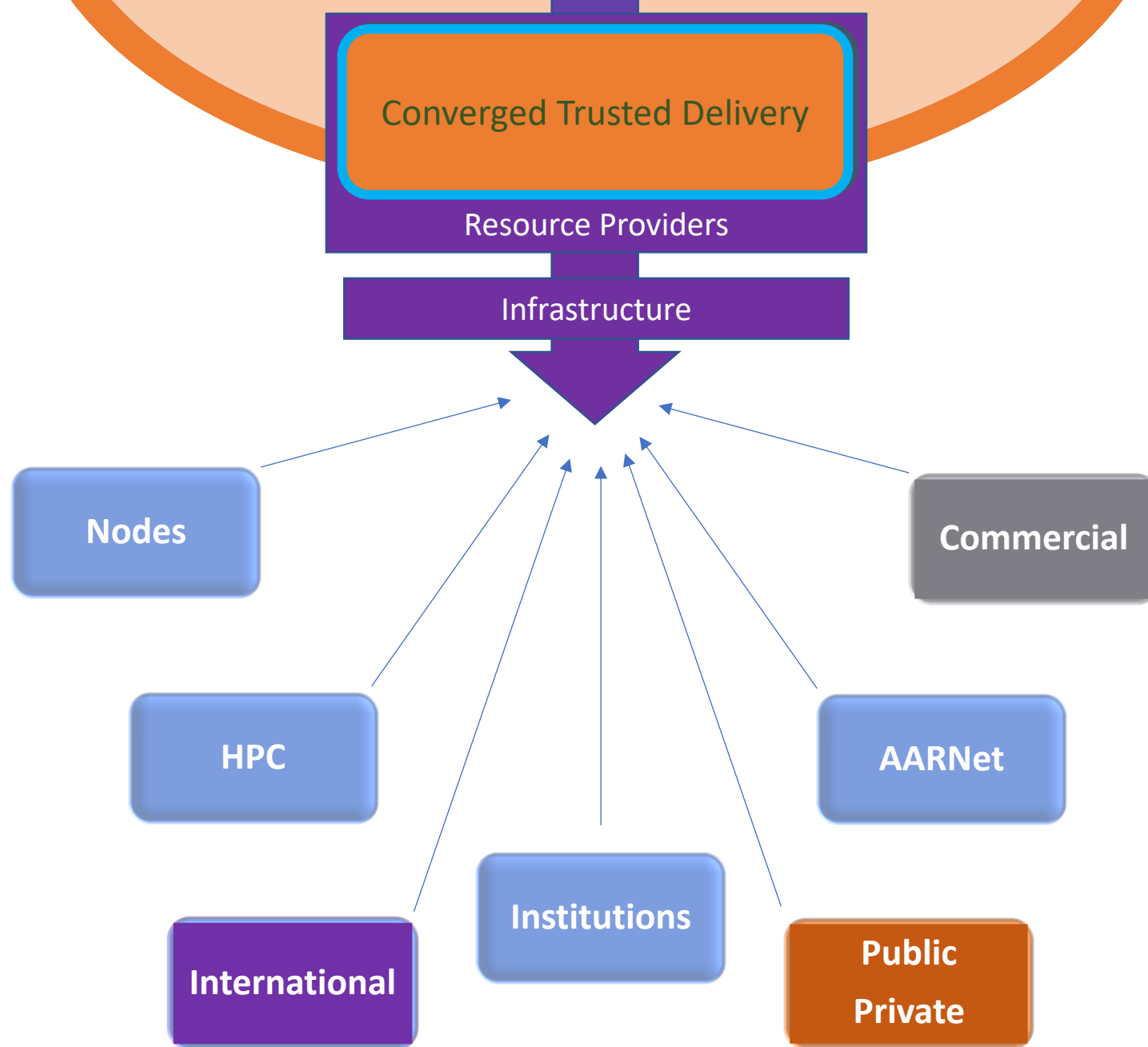


# Framework: NRDC role

Cohesive  
Framework  
Evolving data  
access,  
analytics,  
methods,  
integration,  
skilling,  
collaboration

- International standards alignment & leadership
- Adopt & adapt international best practice
- A national framework strategy
- A national standards body
- Production systems implementing standards
- Selective developments
- Innovations – eg secure data systems, data federation

# Resource Marketplace



## Resource Providers

Nodes, NCI, Pawsey

Institutions

AARNet

AWS, Google etc

International

Converged Trusted Delivery

Resource Providers

Infrastructure

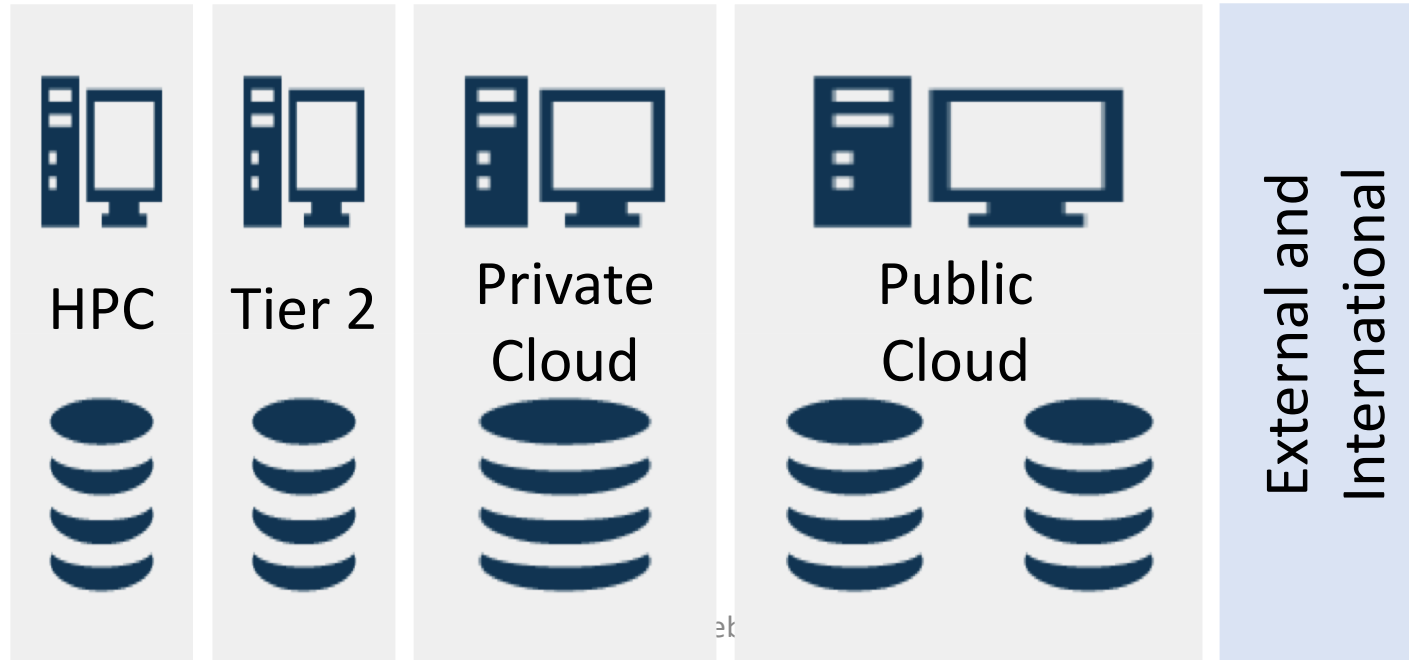
## Service Providers

Core services

User support

Maturity models

Cohesive framework





Leadership  
Policy  
Coordination  
International  
Public/private  
sector  
Outreach

**Production**

**Development**

**Innovation**

**Data-intensive**

**Skills, culture**

**Expertise**

Research  
Network  
Platform  
Informatics

Transformation  
Strategy

Converged  
Trusted  
Resource  
Delivery

Cohesive  
Framework

Leadership  
Policy  
Coordination  
International  
Public/private  
sector  
Outreach

# Questions, discussion, feedback

Prof Robyn Owens

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