

THE AUSTRALIAN NATIONAL FABRICATION FACILITY

The ANFF and how it
builds Australia's
competitiveness by
supporting R&D

Dr Jane Fitzpatrick
ANFF CEO

ENABLED BY
NCRIS
National Research
Infrastructure for Australia
An Australian Government Initiative



The Australian National Fabrication Facility exists to empower and secure Australia's future by strategically investing in, and shaping, the research, development and commercialisation system supporting pioneering technologies.

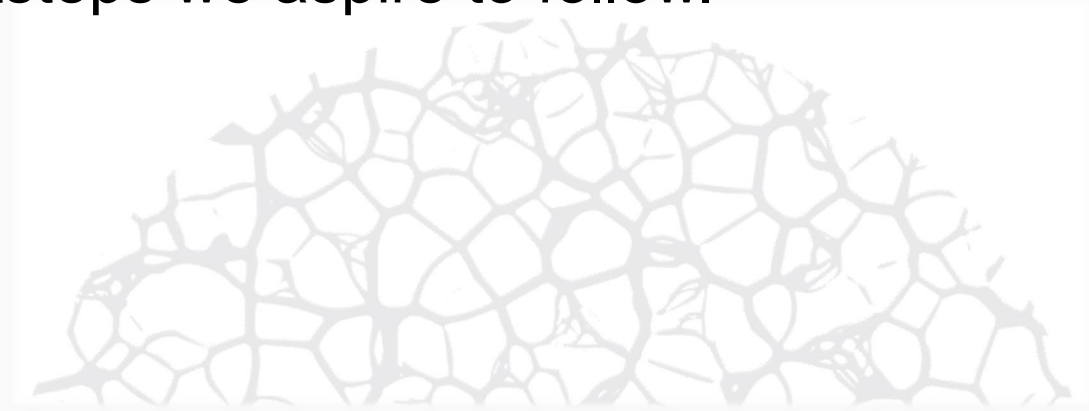
Acknowledgment of Country



ANFF acknowledges the Traditional Owners of Country throughout Australia and pays respect to Elders past and present.

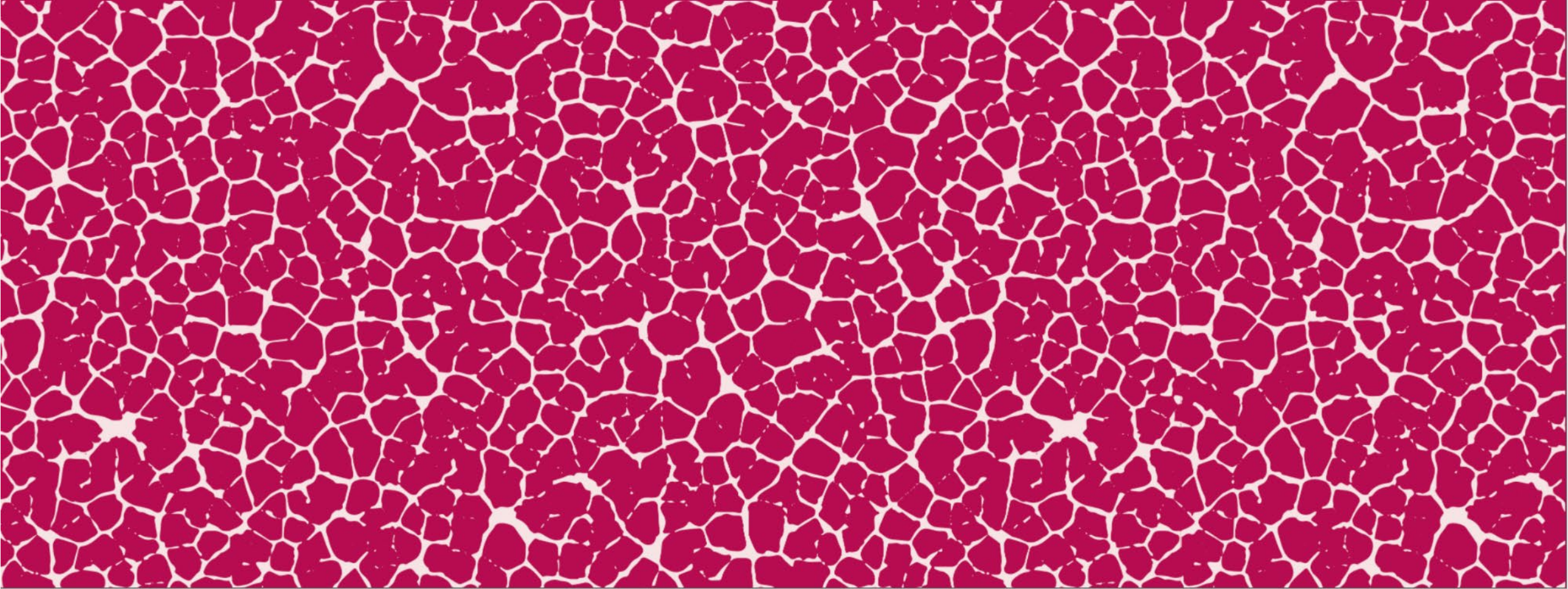
We wish to acknowledge and respect their continuing culture and the contribution they make to the life of this city and this region.

We also acknowledge the First Nations people of Australia as engineers and scientists in whose tradition and footsteps we aspire to follow.



Research Infrastructure Landscape

Current state of play



What is RI?

NRI comprises the nationally significant assets, facilities, services and associated expertise to support leading-edge research and innovation. It is accessible to publicly and privately funded users across Australia and internationally.

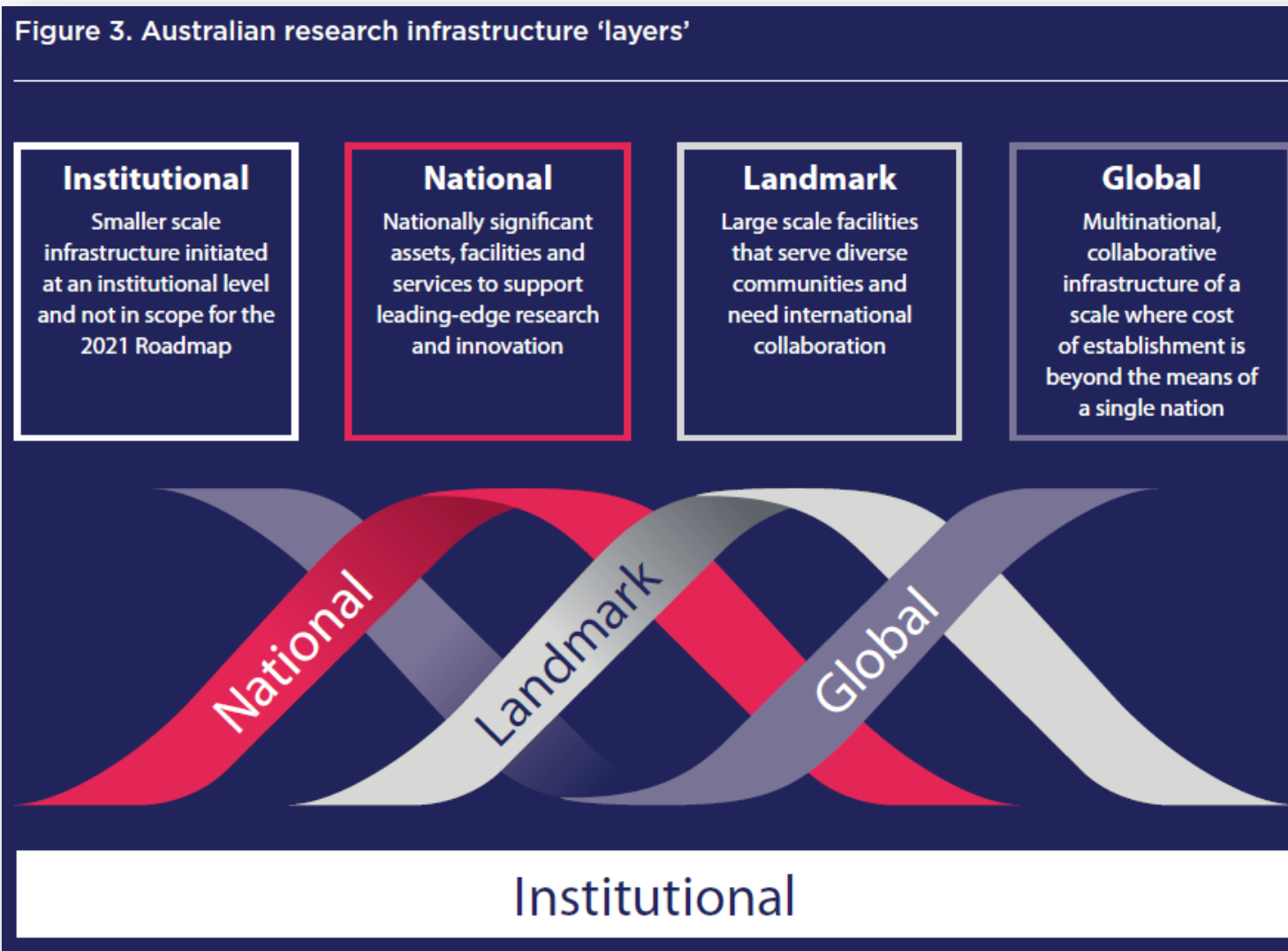


- It is a combination of people, tools, places, data, architectures, frameworks and systems that all support the R&D&C system.



RI Levels

Figure 3. Australian research infrastructure 'layers'



- Federal Government
 - NCRIS
 - Trailblazers
 - ARC, especially Linkage Infrastructure, Equipment and Facilities
 - NHMRC
 - MRFF National Critical Research Infrastructure Initiative

- State Governments

- Institutions

- Industry partners

- Philanthropy and charities

From the 2021 NRI Roadmap

Australia's Priorities and Reviews

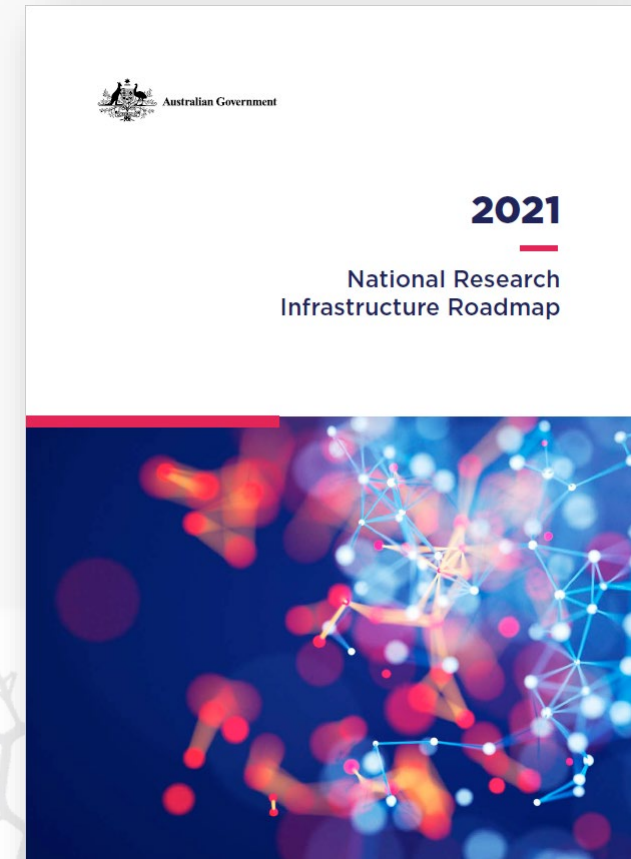


- Strategic Examination of Research and Development
- NHMRC review
 - Including the operations of MRFF
- ARC review
- 2026 NRI Roadmap
- Universities Accord

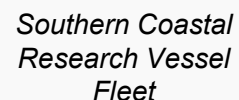
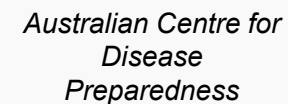
National Collaborative Research Infrastructure Strategy



- Developed to create a nationally significant, coordinated and integrated NRI system
- Started in 2008 and currently has 26 providers.
- NRI, and NCRIS in particular, is informed by the 5 year roadmapping cycle, 2026 is the next issue.
- Significant funding has been made available (\$4B over 12 years, 2018-2029)
- Significant co-investment from Institutions, State Governments and other sources.



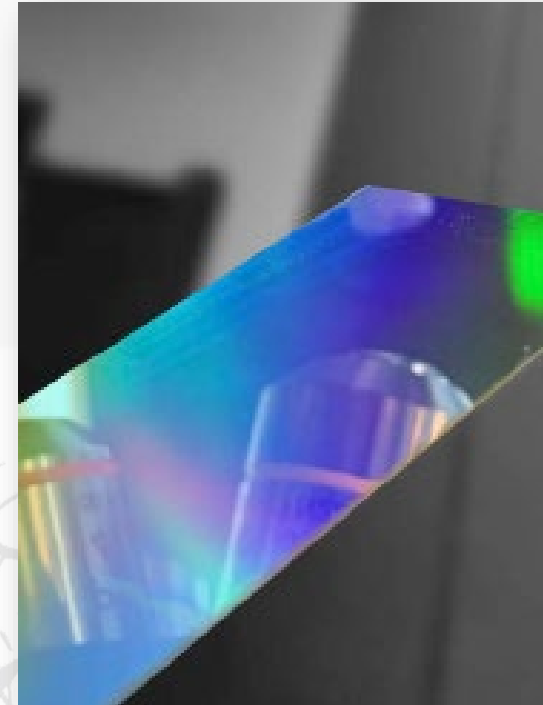
Research Infrastructure Connected



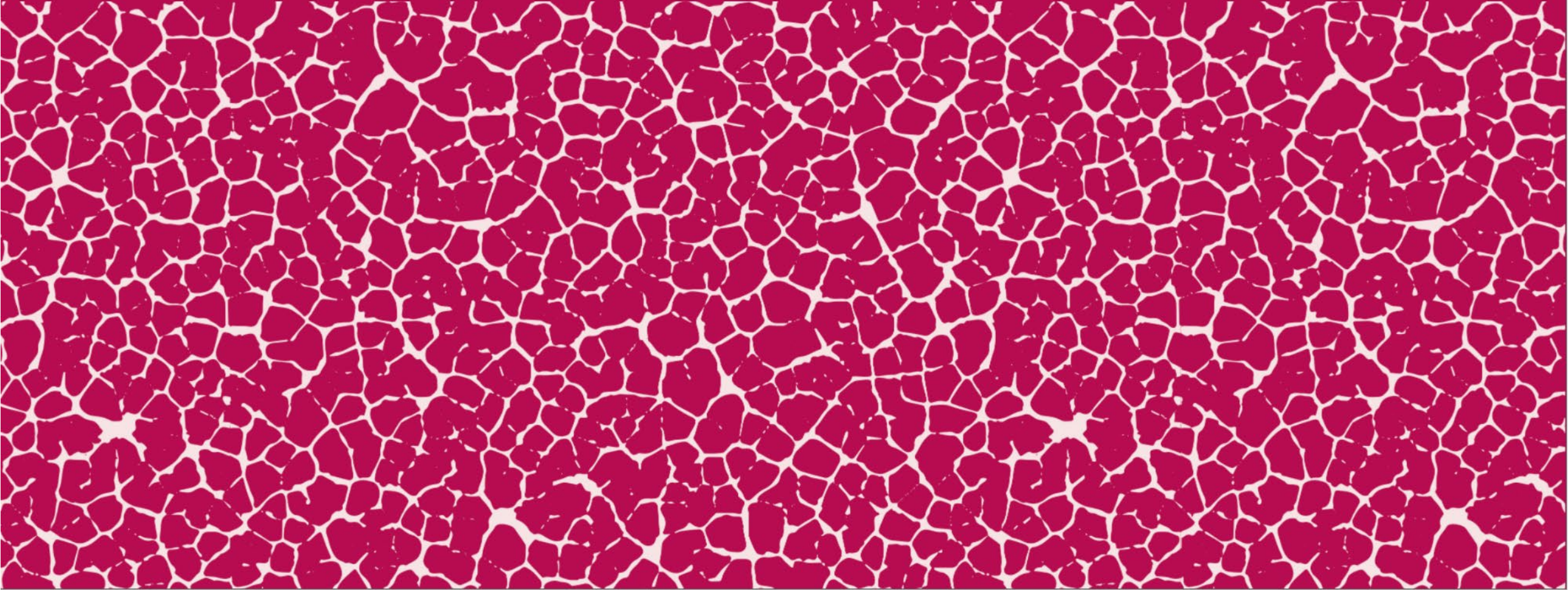
Why is NCRIS successful?



- Strong governance models and sector expertise.
- Strategic and useful investments into a nationally coordinated asset.
 - Horizon scanning and stakeholder engagement is built into the system.
 - Coordination reduces duplication and increases value for money.
- Open access – including lowering the barriers to accessing RI and the associated expertise.
- Expertise – trained, experienced and stable workforce to support the client base.
- World class training through access to world class facilities.
 - Providing skilled workforce for both academia and industry.
- Lowers investment needed to translate IP for schemes such as AEA and Trailblazers



Australian National Fabrication Facility



THE 8 NODES OF ANFF

MATERIALS NODE



OPTOFAB NODE



WA NODE



SA NODE



QLD NODE



NSW NODE



ACT NODE



VIC NODE



SNAPSHOT OF ANFF

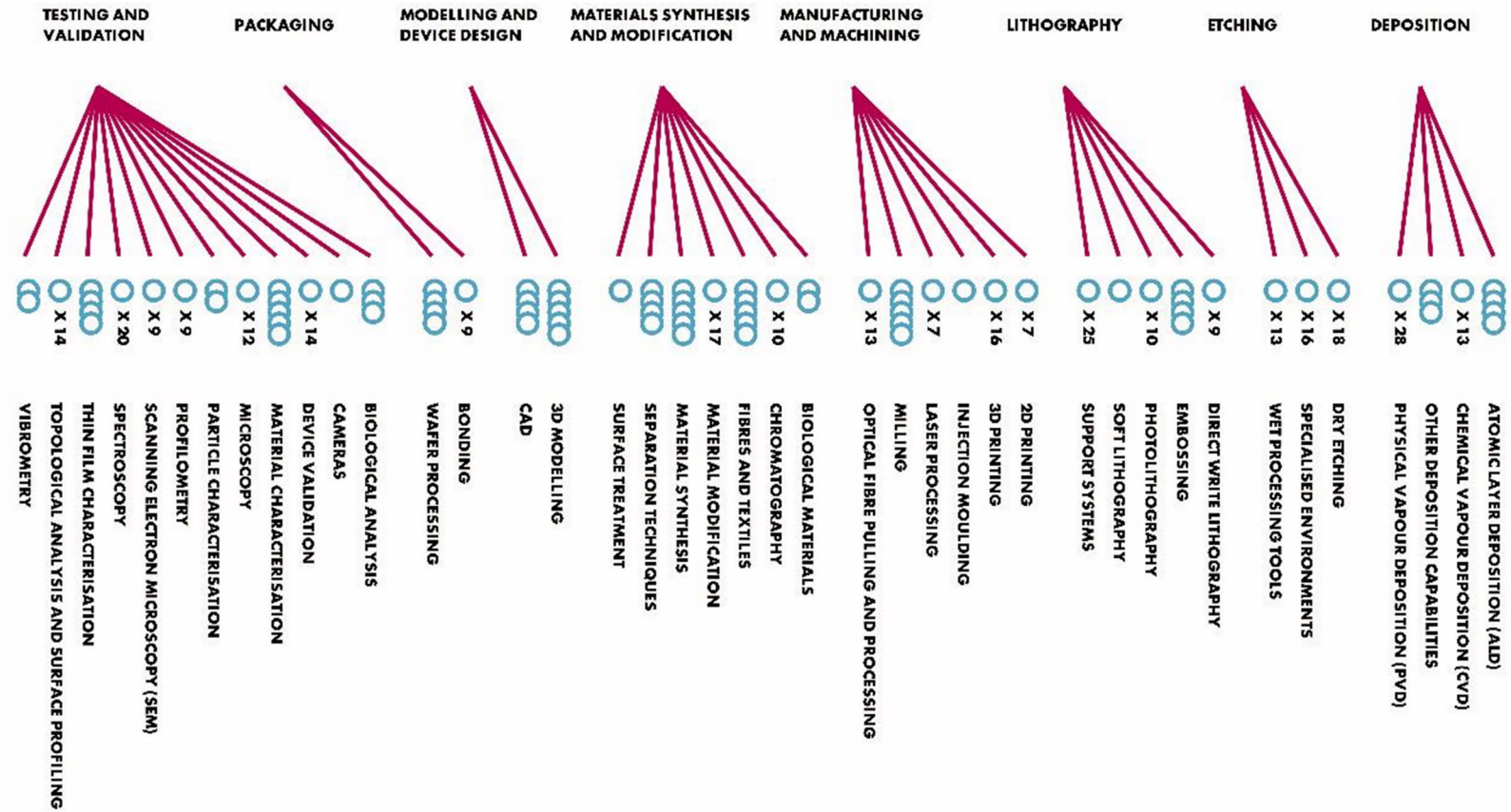


We offer affordable access to:

- More than 697 individual capabilities
- ~130 expert engineers

Access ANFF for:


- Training
- Direct access to tools and processes
- Fee-for-service work
- Project advice and consultancy





ANFF in Numbers (2025)



 208,262 hours of usage


 2,983 Clients

 13,078 items supplied

 4,685 training instances


 640 publications acknowledging ANFF

- FWCI 1.72 (since 2014)
- 61.5% in top 10% journals in 2024

 135 technical staff

- Includes 20% female staff

 123 industry referrals by CEFs

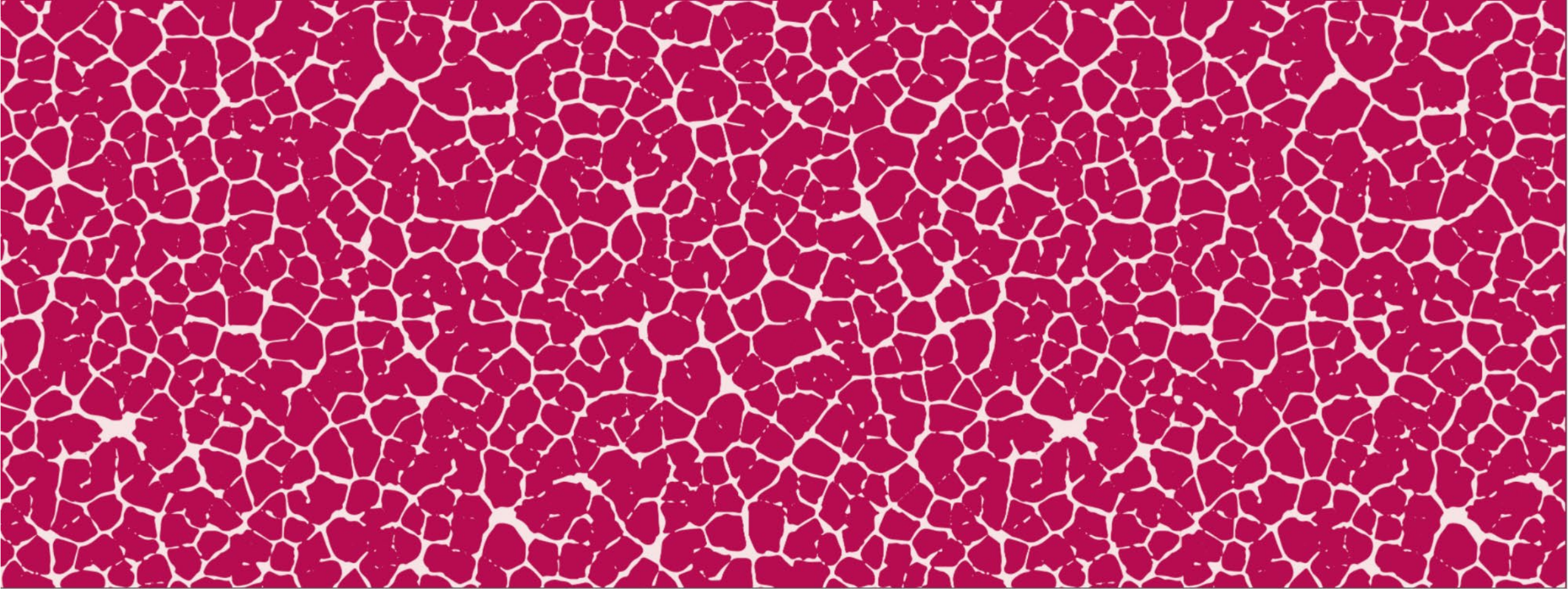
 458 LMS Training Hours



ANFF 2024 Casebook
ANFF NEXT

Beyond Research Infrastructure

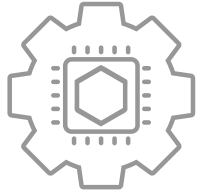
Building on a solid foundation



RI as a foundation for...

-  Easy access to a substantial national asset – a connected ecosystem
-  Supporting projects along the translation pipeline
-  Training the workforce needed for future prosperity
-  Providing expertise in commercialisation
-  Proving manufacturability
-  Access to early business funding
-  Access to manufacturers and supply chain
-  Smoothing the journey between a research project and a commercial reality

ANFF-C – Helping great ideas get to market



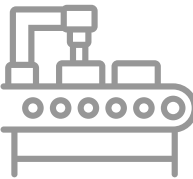
ANFF-C is a pre-seed fund that aids in commercializing technologies developed using the ANFF platforms.



The purpose of the fund is to reduce the commercial risk associated with early-stage projects to attract ongoing investment and support.



ANFF-C continues to provide support to companies post-funding.



We see ANFF/ANFF-C as a critical enabler of Australia's future manufacturing economy.

“ANFF-C is a natural extension of how ANFF supports its client community. It has rapidly become a key enabler in our sector by closing a gap in the innovation pathway. We are impressed by the impact it has had in such a short space of time.”

Jane Fitzpatrick, CEO of ANFF Ltd



ANFF-C IMPACT | Notable Outcomes



100

Technologies
reviewed



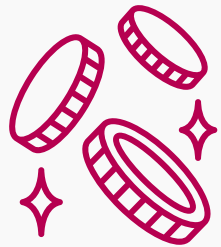
47

Technologies
supported
(Total)



27

Alumni
companies
(Total)



\$2.1 M

Funding
committed
(Total)



\$40 M

Follow-on
Funding
(Total)



19

Investment
multiplier
(Total)

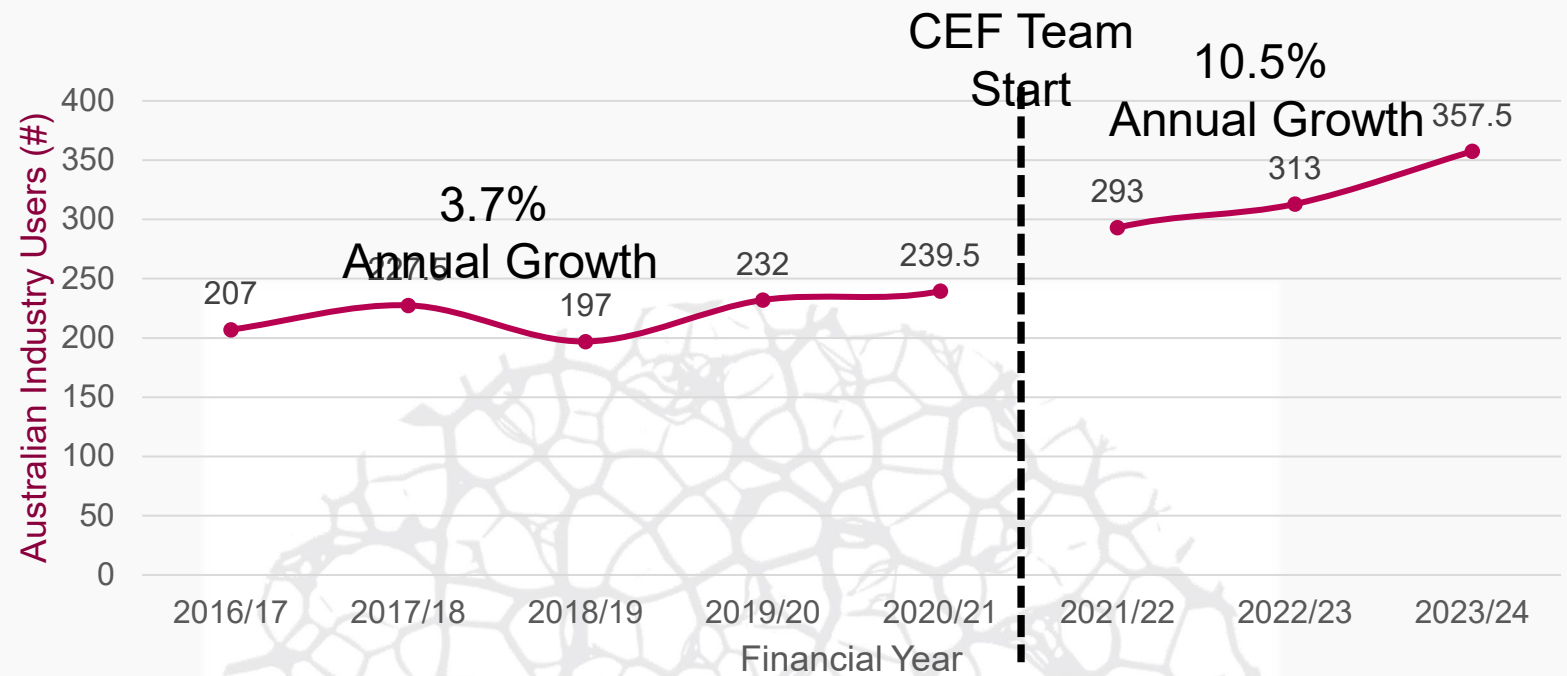
“ANFF-C's gate 1 funding has helped Misti to significantly de-risk our technology at a formative stage”.

*Dr Anushi Rajapaksa
(CEO and Co-founder of Misti)*

Client Engagement Facilitators

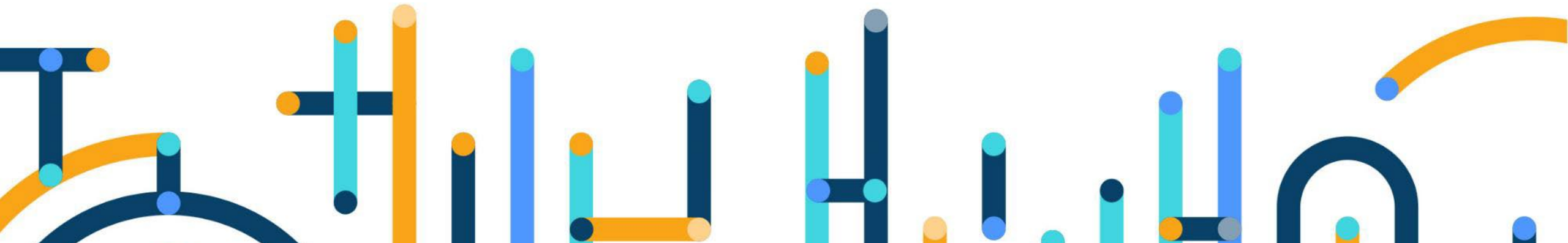


Dedicated staff who can ask the right questions and direct you to the right expert, quickly and efficiently. Simplifying the engagement process for all industry users.



The National Collaborative Research Infrastructure Strategy (NCRIS) gives researchers and industry access to equipment, data, services and expertise to enable world-leading research and development for the benefit of all Australians.

The breadth and variety of RI available through the NCRIS network is vast. Research Infrastructure Connected (RIC) helps you to find the tools you need and the experts who can shorten the time it takes to get to a working solution.



Workforce training and support



ANFF Enlightened

MicroAu MyScope

ANSTO and HIA Nuclear training

ARDC and HPC providers Data and HPC training (DReSA)

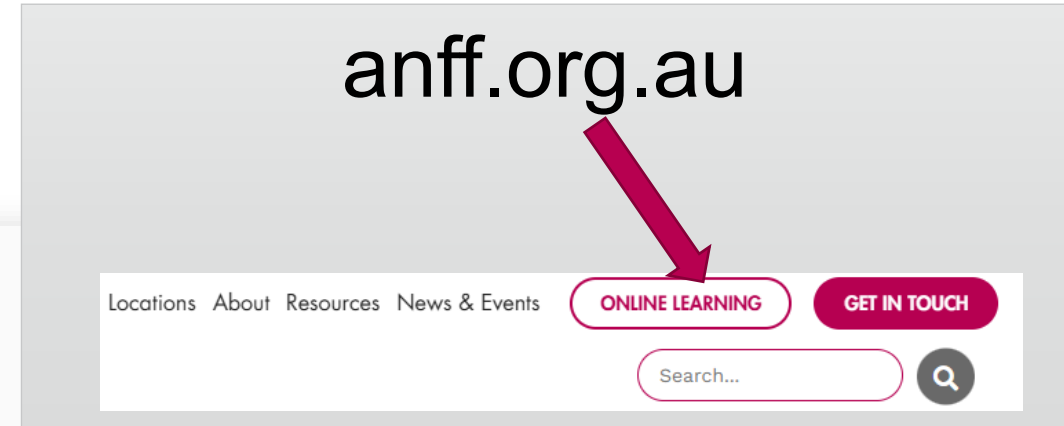
Academy for Collaborative Research Infrastructure

NCRIS Research infrastructure specialist position paper

ANFF Enlightened




ANFF Enlightened: An open access library of free nanofabrication courses



2 Air filtering
3 Preventing contamination from external sources

1. Operating with pressure differences



Fabrication cleanrooms are run at a positive pressure, this means the atmospheric pressure inside the clean space is higher than the surrounding area. This way, particles are literally blown away from the clean area. If a door is opened the clean air rushes out instead of dirty air rushing in.

Introducing ANFF Enlightened: a free library of nanofab courses

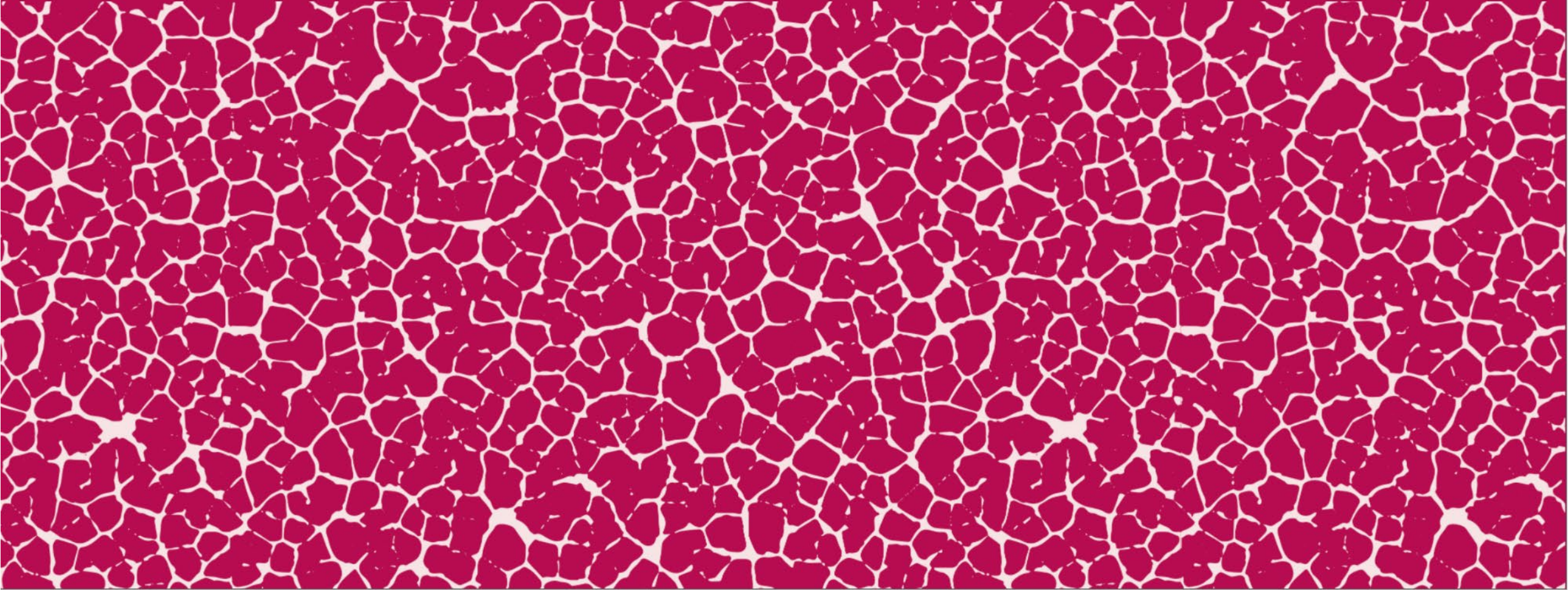
ANFF's learning platform, called ANFF Enlightened, will give you the micro and nanofabrication knowledge to take your projects further, faster.

It's completely free, and absolutely anyone can access this new learning tool, even if you're not one of our clients. Go ahead and sign yourself up to enroll on any course that takes your fancy.

[Click here to create your account](#)

What does the future hold?

What more does innovation need?



Future Expansion



Trust the experts



RI is a continuous investment. It is not set and forget. The specifics of what we invest in will change but not the need for investment.



NCRIS is well designed for its purpose. Expansion of that purpose needs expansion of investment and scope.



How to build a productive workforce

Reward, Recognition and Career Path all need to be addressed



How can RI further support the national priorities?

Investments at scale

- Mission based long term investment to develop a particular industry.
- Invest in all areas of that industry
 - Research
 - Supporting infrastructure
 - Development
 - IP commercialisation
 - Attract venture and patient capital
- Look at the whole supply chain and invest in the parts we can get value from and use the global markets for the rest



Translational NRI (tRI)



- Separating RI and tRI addresses the cultural mismatch between the various client types and TRL requirements.
- EU: https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/technology-infrastructures_en
 - Towards a European policy for technology infrastructures: Building bridges to competitiveness
 - User needs for technology infrastructures
 - Policy landscape supporting Technology Infrastructures in Europe - Final report

Technology Infrastructures (EU)



TIs are described in European Commission Staff Working Document (SWD 2019/158) as 'facilities, equipment, capabilities and support services required to develop, test and upscale technology to advance from validation in a laboratory up to higher Technology Readiness Levels prior to competitive market entry. They can have public, semi-public or private status. Their users are mainly industrial players, including SMEs, which seek support to develop and integrate innovative technologies towards commercialisation of new products, processes and services, whilst ensuring feasibility and regulatory compliance.'

TIs come in various forms and can be sector-specific or technology-focused, such as pilot lines, testing facilities, clean rooms, demonstration sites, and living labs.

They are usually hosted and operated by Research and Technology Organisations and technical universities. Companies can also offer Technology Infrastructures.



CONTACTING ANFF

Contact info@anff.org.au for general enquiries, or get in touch with any of our staff to start discussing your project.

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TO FIND
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