

Please note: the substantive content of the 2026 NRI Roadmap Survey begins at Question 20 (with prior questions dealing with administrative and other information).

As such all submissions that are published include the responses submitted from Question 20 onwards only.

Q20.

Part 2: Research themes

2.1 NRI comprises the assets, facilities and associated expertise to support leading-edge research and innovation in Australia and is accessible to publicly and privately funded users across Australia and internationally. We are seeking your input on possible directions for future national-level investment - i.e., where the requirements are of such scale and importance that national-level collaboration and coordination are essential.

The [2021 Roadmap](#) used a challenge framework to support NRI planning and investment. With this in mind, consider likely future research trends in the next 5 - 10 years, and with respect to one or more of the 8 challenge areas identified in the 2021 Roadmap as listed below:

- describe emerging research directions and the associated critical research infrastructure requirements that are either not currently available at all, or not at sufficient scale and
- describe current national infrastructure requirements that you anticipate will no longer fit the definition of NRI in 5-10 years.

Do not limit your commentary to NCRIS funded capabilities.

Q21.

Resources Technology and Critical Minerals Processing

Q22.

Food and Beverage

Q23.
Medical Products

Q24.
Defence

Q25.
Recycling and Clean Energy

Q26.
Space

The Australian Antarctic Data Centre (AADC) is working actively in developing and manufacturing satellite calibration/validation infrastructure through custom designed corner reflectors focused on synthetic aperture radar and optical satellite imagery in the subantarctic and Antarctica. We are actively collaborating with CSIRO through the AusCalVal (Australian Calibration and Validation) facility.

Q27.
Environment and Climate

Investing in research infrastructure to support data collection over the scale of the Southern Ocean and East Antarctica • Develop/deploy innovative in situ, autonomous and cost-effective technologies to maximise reach, ensuring coordination, standardisation and best practices. Thematic priorities for monitoring should focus on key climate risk and adaptation needs, extreme events, human impact including pollution, and biodiversity. • Strengthen, expand and innovate infrastructure and technology for biodiversity and environmental monitoring, data collection and analysis, and for long term storage of specimen collections. • More broadly we require infrastructure and resourcing to ensure that we can provide background data to support the establishment of spatial area protection and ongoing monitoring to ensure positive outcomes (MPAs, BIAs, ASPAs, National Parks etc). Investing in the Australian Antarctic Program workforce • Investment to maximise the use of existing research capabilities (inter alia Nuyina and Investigator), this includes additional FTE to allow both platforms (and other national facilities) to be used year-round and for scientific and monitoring equipment to be switched on, or deployed/retrieved, on every voyage. Emerging need: Computing infrastructure • Coupled earth system climate modelling and large geospatial datasets will continue to evolve in environmental and climate change research, including for assessing risk and adaptation. Integrated computing infrastructure and expertise (such as ACCESS-NRI) will continue to be needed for efficiently developing and running models and to make datasets and model output data more accessible to a wider user base. Current barriers are the separate approaches by NRI-scale HPC and cloud computing facilities which are not well integrated and remain siloed. • There are emerging cloud-native technologies for storage and access of large datasets including geospatial, remote sensed data and large-scale climate model output, that are seen as the future that need to be accommodated by cloud-based compute and HPC with federated access and storage, and to be publicly accessible outside of these environments.

Q28.

Frontier Technologies and Modern Manufacturing

Q29.

2.2 The 2024 statement of National Science and Research Priorities (NSRPs) includes outcomes linked to each priority to assist in identifying critical research needed in the next 5 to 10 years.

Consider the priority statements and, with respect to one or more of the 5 priority areas as listed below:

- describe emerging research directions and the associated critical research infrastructure requirements that are either not currently available at all, or
- not at sufficient scale and describe current national infrastructure requirements that you anticipate will no longer fit the definition of NRI in 5-10 years.

Do not limit your commentary to NCRIS funded capabilities, and where relevant, refer to the underpinning outcomes and research identified in the NSRPs document.

Q30.

Transitioning to a net zero future

• Invest in energy-efficient, Carbon-neutral Antarctic and sub-Antarctic infrastructure, including having the resources (\$ and FTE) to support ongoing monitoring infrastructure or data collection. • Consider facilities (in our case energy-efficient, carbon neutral (?) vessels) that can be dedicated to research, monitoring and data collection and not diverted toward non-scientific uses (unless absolutely imperative). • Invest in energy-efficient, carbon-neutral Antarctic and sub-Antarctic infrastructure, including having the resources (\$ and FTE) to support ongoing monitoring infrastructure or data collection.

Q31.

Supporting healthy and thriving communities

Q32.

Elevating Aboriginal and Torres Strait Islanders knowledge systems

Q33.

Protecting and restoring Australia's environment

Q34.

Building a secure and resilient nation

Q35.

2.3 The case for a new NRI capability, or enhancements to existing capabilities, typically emerges through advocacy from research communities clustering around rigorously identified needs and goals. Such a concept could respond to a requirement for novel or expanded capacity within a domain, or across domains, and must be such that it could only be made available with national-level investment.

If you have identified such a requirement, briefly describe the need, the proposed infrastructure capability, the medium-term goals, impacted research communities, and the timeframe over which you advocate its establishment. Your response can include links to relevant existing reports.

Q36.

Part 3: Industry perspectives

This section is seeking input specifically from industry-based respondents. Other respondents can skip this section.

Recommendation 6 of the [2021 Roadmap](#) related to improvements in industry engagement with NRI. To complement work on this topic that has occurred since then, we are seeking additional advice on NRI requirements as perceived by current or potential industry-based users.

Q37.

3.1 Have you (or your organisation) interreacted with or used Australia's NRI?

☒ Yes

☐ No

Q38.
3.2 If so, please briefly outline the NRI capabilities you (or your organisation) have interacted with or used. Do not limit your response to NCRIS capabilities.

Q39.
3.3 Please indicate your (one or more) primary reasons for interacting with NRI:

- ☐ For expertise or advice
- ☐ Access to research resources or products
- ☐ Access to equipment for research
- ☐ Access to equipment for operational reasons
- ☐ Help in translating research
- ☐ Access to data
- ☐ Support for clinical trials
- ☐ Other (please specify)

Q40.
3.4 If you answered no, please indicate your (one or more) primary reasons:

This question was not displayed to the respondent.

Q41.
Part 4: Other comments

4.1 Please elaborate on any of your above responses or add any other comments relevant to the development of the 2026 Roadmap. Your response can include reference or links to existing reports that you recommend be considered during the 2026 Roadmap development process.

Q49.
4.2 Optional Document Attachment.
Note: Our strong preference is that answers are provided against the relevant questions in the survey. However, this file upload option is available for submissions in file format, where needed. Please ensure the document includes your name or organisation.

