

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

Q27.
Environment and Climate

High-resolution climate models are already emerging and are indispensable for accurate climate projections in order to address and mitigate the implications of a changing climate to Australia and beyond. The next decade we will be seeing more and more climate models that (a) operate at high resolution, giving much more detail, and (b) encompass additional components (ice sheets, carbon cycle processes), greatly enhancing our ability to predict (and adapt to) future weather, climate and ocean states. We need the resources to be able to run these models and analyse them. Resources include (i) software infrastructure and software support to be able to unify the way these models are run to reduce duplicate work. But more importantly to allow for researchers across Australia to share output thus avoiding duplicate work or duplicate resource allocation. Further we need software engineer support to further develop the models and configure them to Australia's need. All of the above are provided by ACCESS-NRI. We also need the hardware resources to run the models and store the output. Compute and storage is provided by NCI. Storage has been a real road-block lately. And as models become higher and higher resolution so does (unfortunately) the size of their output increases making storage even more pertinent issue.

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

Part of the challenge the only way we can look into the future is with climate models. To better understand the net zero pathways we need better climate projections and this connects with the high-resolution modelling endeavours I was talking before. I repeat here: High-resolution climate models are already emerging and are indispensable for accurate climate projections in order to address and mitigate the implications of a changing climate to Australia and beyond. The next decade we will be seeing more and more climate models that (a) operate at high resolution, giving much more detail, and (b) encompass additional components (ice sheets, carbon cycle processes), greatly enhancing our ability to predict (and adapt to) future weather, climate and ocean states. ACCESS-NRI and NCI are both indispensable in this quest.

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

To become resilient from a changing climate we need better climate projections and better understanding of the processes that govern them. Again, high-resolution climate modelling and large-data analysis is one of the keys: ACCESS-NRI and NCI are pivotal in this role.

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.

ACCESS-NRI, NCI

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.