

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

There is a distinct gap in the fabrication support capability in the MedTech sector. Access to GMP and ISO certified facilities are limited across Australia. The key challenge is that many translational MedTech activities require facilities that may not be compatible with each other. What is needed is a distributed capability accross Australia with key focal areas of strength (eg. Bio-Additive Fabrication, Materials Synthesis (not only pharma), Sterility qualification and packaging etc). These capabilities need to work in tandem with Australian researchers, medical institutes/hospitals and support spin-out entities and start-up concepts to ensure Australian MedTech advances are retained and commercialise within Australia

Q24.

Defence

Distributed advanced materials qualification capabilities that underpins sovereign ability should be considered as a area of development.

Q25.

Recycling and Clean Energy

Investment in energy storage at scale will be essential to Australia as the shift way from carbon energy sources. Technologies such as hydrogen, ammonia and battery and the local-interconnected networks of these should be considered. Fusion vs Nuclear investments should be in the mix.

Q26.

Space

Remote medicine approaches. Remote fabrication capabilities and how materials required to sustain these capabilities should be considered. The above would have application not only to space but also underpin activities in remote Australian communities and in disaster situations

Q27.

Environment and Climate

Q28.

Frontier Technologies and Modern Manufacturing

Clearly quantum technologies is an emergent strength for Australia. Investment should be continued and actively developed as strategic sovereign capability. Underpinning all of the sectors above is the ability of Australia to fabricate and characterise then next generation of devices to provide proof-of-concept and extend this to the level that the translational barriers to the deployment of the technologies at a commercial scale will continue to be a key activity for Australia.

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

Bulk and distributed energy storage systems research support is essential. Fabrication and characterisation support of the underpinning materials and their associated assemblies will be critical to keep Australia at the forefront of these technologies and maintain and grow its relevance as a relevant player in this sector.

Q31.

Supporting healthy and thriving communities

Remote medicine and deployable fabrication technologies to remote or point-of-care deployment is an emergent technology area

Q32.

Elevating Aboriginal and Torres Strait Islanders knowledge systems

Q33.

Protecting and restoring Australia’s environment

Q34.

Building a secure and resilient nation

Given recent international developments it is clear that Australia is exposed with limited capability in the micro/nano-electronic (encompassing quantum computing, biomedical devices, nanophotonics, medical detectors, photovoltaics. and MEMS/NEMS area). Existing NCRIS investments should be sustained and investments to build a broader capability developed to service spin-out entities resulting from these emergent technologies considered

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.