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

There is currently ongoing development work between our institution, academic collaborators and Industry that aims to improve precious metal recovery from mining operations in a more environmentally-conscious approach compared to previous cyanide-based methodologies. Though still in early stages, this work shows great promise, and can be applied to multiple valuable metals (Au, Cu, Co, etc.). Unfortunately there is a limitation in scale, with current resources not enabling the pace of sampling, analysis and reporting that is required to meet the needs of the industry. As such, the critical on-going monitoring service is not able to be fully met, reducing the efficiency of their process. Provision of dedicated infrastructure would be an ideal approach to improving the extraction efficiency of critical resources, with clear economic demand.

Q22.
Food and Beverage

The rise of alternative protein sources and lab-grown products has been profound in our area of service, with many start-ups engaging us to examine their products to address/confirm market claims. Current resources allow for the ongoing testing/servicing of these clients, but rate of progress is restricted to low throughput, which commensurately increases overall development time to release the product. Given the multi-metric implications of that space, proteomic collaborations have been essential (an successful), but an integrated platform might be of benefit in accelerating these Australian products onto the market.

Q23.
Medical Products

Proteomic studies have been essential in this space. We have been able to support the development of Australian medical products by providing a number of client services in order to address various developmental questions. That being said, the scale of the support that we can offer has been significantly limited by the time and staffing costs available. These services are capital-intensive and are a significant barrier to entry, which cannot be ameliorated with current resources.

Q24.
Defence

No comment. Beyond my purview.

Q25.
Recycling and Clean Energy

No comment. Beyond my purview.

Q26.
Space

We have been fortunate enough to be involved in a variety of this research area, though the technical challenges (low-abundance, access to clean-space, intrinsic technical challenges) have rendered it difficult to support Australian researchers in this field. It is certainly an ongoing area of academic interest but it is infrastructure-intensive and requires considerable specialisation that is at- or beyond- current capabilities.

Q27.
Environment and Climate

Critical area of research, with many proteomic investigations supporting spin-outs to bring environmentally-beneficial products to the market, particularly biofoundries. This is outside of my immediate area of expertise, but has been supported by BioPlatforms Australia. Also, please see Critical Resources section above

Q28.

Frontier Technologies and Modern Manufacturing

No comment. Beyond my purview.

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

No comment. Beyond my purview.

Q31.

Supporting healthy and thriving communities

No comment. Beyond my purview.

Q32.

Elevating Aboriginal and Torres Strait Islanders knowledge systems

No comment. Beyond my purview.

Q33.

Protecting and restoring Australia’s environment

No comment. Beyond my purview.

Q34.

Building a secure and resilient nation

No comment. Beyond my purview.

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.

I have not identified such a requirement. My involvement with the NRI/NCRIS/BioPlatforms Australia spans a number of demains, of which, I am exposed to such advocacies.

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.

We (the Australian Proteome Analysis Facility) are an NCRIS-supported facility through Bioplatforms Australia, who support us to offer or expertise and services to Australian or International users. Inter-field collaborations that have been fostered/supported by Bioplatforms Australia, enabling their successful completion.

Q39.

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

- [x] For expertise or advice
- [ ] Access to research resources or products
- [x] Access to equipment for research
- [x] 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.

No other comments at this time.