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

Bioplatforms provides 'omics analytics - genomics, proteomics, metabolomics. In all areas the ability to create data is rapidly increasing, opening many new opportunities for research contribution to problem solving. This, however, results in increased need for data manipulation, analytics, and storage. Skilled technicians in data analysis and data mining will be increasingly critical for life science research, along with the concomitant compute power and data storage requirements.

Q23.
Medical Products

Bioplatforms provides 'omics analytics - genomics, proteomics, metabolomics. In all areas the ability to create data is rapidly increasing, opening many new opportunities for research contribution to problem solving. This, however, results in increased need for data manipulation, analytics, and storage. Skilled technicians in data analysis and data mining will be increasingly critical for life science research, along with the concomitant compute power and data storage requirements.

Q24.
Defence

Bioplatforms provides 'omics analytics - genomics, proteomics, metabolomics. In all areas the ability to create data is rapidly increasing, opening many new opportunities for research contribution to problem solving. This, however, results in increased need for data manipulation, analytics, and storage. Skilled technicians in data analysis and data mining will be increasingly critical for life science research, along with the concomitant compute power and data storage requirements.

Q25.
Recycling and Clean Energy

Bioplatforms provides 'omics analytics - genomics, proteomics, metabolomics. In all areas the ability to create data is rapidly increasing, opening many new opportunities for research contribution to problem solving. This, however, results in increased need for data manipulation, analytics, and storage. Skilled technicians in data analysis and data mining will be increasingly critical for life science research, along with the concomitant compute power and data storage requirements.

Q26.
Space

Bioplatforms provides 'omics analytics - genomics, proteomics, metabolomics. In all areas the ability to create data is rapidly increasing, opening many new opportunities for research contribution to problem solving. This, however, results in increased need for data manipulation, analytics, and storage. Skilled technicians in data analysis and data mining will be increasingly critical for life science research, along with the concomitant compute power and data storage requirements.

Q27.
Environment and Climate

Bioplatforms provides 'omics analytics - genomics, proteomics, metabolomics. In all areas the ability to create data is rapidly increasing, opening many new opportunities for research contribution to problem solving. This, however, results in increased need for data manipulation, analytics, and storage. Skilled technicians in data analysis and data mining will be increasingly critical for life science research, along with the concomitant compute power and data storage requirements.

Q28.

Frontier Technologies and Modern Manufacturing

1. Access to translation and commercialisation infrastructure beyond what NCRIS currently provides is essential to drive economic, social and environmental impact from recent national investments in Synthetic Biology. Funded as an NCRIS step-change activity in 2023, Synthetic Biology is critical for Australia to capitalise on the emerging global Bioeconomy. Australia has excellent research, cutting-edge infrastructure and a world recognised regulatory system, placing Australia in an excellent position to be a world leader in this field. While pilot facilities for scale-up and process optimisation are broadly available for plant and medicinal synthetic biology products, through the Australian Plant Phenomics Network and Therapeutic Innovation Australia, gaps remain in pilot-scale facilities for bacterial and yeast fermentation products. These systems are essential to build a bioindustry in areas such as agri-foods, bio-fuels, industrial chemicals, and the circular economy Bridging this gap is essential, as pilot-scale process optimisation is a critical step in translating research to impact. 2. To accelerate innovation and maximise the return to Australia from the significant public investment in Bioplatforms and NCRIS generally, we need to support research translation and commercialisation. Researchers require access to an ecosystem of trusted strategic partners that extends beyond our core capabilities including: • Facilitated access to services provided through other NCRIS projects. • Introductions to potential strategic partners from across our national network that spans major Australian universities and research institutes, industry (from start-ups to large entities), government, and non-government sectors. • Access to experts on navigating complex legal, ethical and regulatory environments, nationally and internationally; • Commercialisation support through training programs, accelerators, incubators, translation-focussed grants, and connections to potential investors, including venture capital, angel investors, or philanthropic funding. Development of this ecosystem to accelerate impact initially requires funding of a coordinated knowledge base that understands the key elements and can facilitate appropriate connections and introductions. Additional funding would be needed to support access to required expertise.

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

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.

This question was not displayed to the respondent.

Q39.

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

This question was not displayed to the respondent.

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.