

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

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

Q31.

Supporting healthy and thriving communities

Q32.

Elevating Aboriginal and Torres Strait Islanders knowledge systems

Q33.

Protecting and restoring Australia's environment

Q34.

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.

Background Biomanufacturing involves leveraging biological systems to produce chemicals, food ingredients, materials, and more. Unlike clinical biomanufacturing (low-volume, high-value), non-clinical biomanufacturing focuses on high-volume, low-value products. Australia has demonstrated potential in this space, with companies like Cauldron Ferm (one of the largest CMOs in the Southern Hemisphere) and Vow (the only company currently selling cultivated meat to consumers). Technologies of interest include cell-based cultivation, precision fermentation, molecular farming, cell-free processes, and algae farming. The Challenge / Gap The main challenge identified is the missing link in the biomanufacturing slipstream: the transition from laboratory scale to commercial tech transfer and scale-up. While Australia excels in early-stage research and development (TRL 1-4), there is a significant gap in accessible infrastructure and commercial/regulatory support for scaling up production from 1-10 litres to over 500L. This gap hinders critical product testing, economic viability assessment, and customer prototyping, limiting companies' ability to raise investment or forcing companies to seek opportunities offshore or halt projects altogether. The Ask (Biomanufacturing Hub) The proposal is to establish a centralized biomanufacturing hub that provides access to critical end-to-end production and process infrastructure for key biomanufacturing technologies. This hub would include: Upstream processing facilities (1L-1000L scale bioreactors for each major production technology) Downstream processing capabilities for purification and product isolation of major product classes Process optimization and tech transfer capabilities Multi-use and modular facility design to facilitate the range of manufacturing technologies being developed in Australia [Desirable] Co-located regulatory support for OGTR, TGA, FSANZ. The hub would be designed to support various biomanufacturing technologies, including precision fermentation, cell-based cultivation, cell-free systems, and algae farming. The Impact The establishment of a biomanufacturing hub would have several significant impacts: Bridge the gap between laboratory research and commercial-scale production Enable product testing, economic viability assessment, and customer prototyping Retain Australian companies and projects within the country Attract foreign direct investment in the biomanufacturing sector Position Australia as a top global destination for scale-up and pilot work Create jobs and export opportunities Enhance supply chain resilience and adaptability Support Australia's circularity and environmental goals Summary and Next Steps The document proposes the establishment of a centralized biomanufacturing hub as a critical step in advancing Australia's biomanufacturing sector. To realize this vision and address the identified gaps, the following immediate steps are recommended: Establish the Australian BioFutures Council to oversee and coordinate the development of the biomanufacturing sector, with a primary focus on creating the proposed biomanufacturing hub. Charge the BioFutures Council with the following responsibilities: Develop a comprehensive plan for the biomanufacturing hub, including infrastructure requirements, funding strategies, and operational models. Create sub-committees for talent development, feedstock sourcing, infrastructure planning, and international partnerships, all of which will contribute to the hub's success. Seek funding for both the Council's operations and the initial phases of the biomanufacturing hub project. Align existing programs and initiatives (such as state and federal programs such as QLD biofutures and NSW BAFI) with the Council's work to maximize efficiency and avoid duplication of efforts. Task the BioFutures Council with developing a specific biomanufacturing plan within the next year, which should include: Detailed proposals for the biomanufacturing hub's design and implementation. Strategies for attracting investment and partnerships for the hub. Plans for integrating the hub into the broader Australian biomanufacturing ecosystem. Initiate discussions with key stakeholders, including government agencies, academic institutions, and industry partners, to gather support and resources for the biomanufacturing hub project. Begin preliminary work on regulatory frameworks and approval processes that will be necessary for the hub's operation, particularly in areas such as GM technologies and novel biomanufactured products. By focusing the BioFutures Council's efforts on developing the biomanufacturing hub, Australia can take a significant step towards becoming a world leader in the biomanufacturing revolution. This approach will capitalize on the country's natural advantages, address the critical gap in scale-up infrastructure, and serve Australia's national interests by creating jobs, enhancing supply chain resilience, and supporting environmental goals

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:

- ☐ I did not know about it
- ☐ Other facilities suit my needs better
- ☐ I would like to, but cannot get access due to geographical location
- ☐ I would like to, but believed that access was only available to academic researchers
- ☒ I am not aware of any capability that meets my needs
- ☐ Other (please specify)

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.