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

- The translation pipeline and GLP large animal research facilities Provision of GLP-compliant preclinical large animal medical research facilities is essential for medical product development and commercialisation in Australia. Preclinical large animal facilities bridge the translational gap between laboratory research and clinical development of medical products and are a critical component of the regulatory pathway. Industry requires large animal facilities that integrate advanced imaging capabilities (like MRI, PET, CT and catheterisation laboratories) with quality surgical and animal holding capacity. To operate effectively, these facilities must be supported by scientific, technical and regulatory expertise, operating within an auditable quality standard suitable for regulatory approval. Large animal medical research facilities are cost- and expertise- prohibitive for individual research institutions and need to be delivered as a nationally collaborative effort, servicing researchers and industry throughout Australia and internationally. Integration of preclinical large animal facilities into a whole of pipeline approach provides access to a coordinated ecosystem that allows seamless commercialisation of applied science through preclinical safety and efficacy testing to in-person use. Ensuring access to Australian based preclinical large animal facilities with high quality imaging modalities and surgical support assists not only Australian researchers and industry, but drives international collaboration and investment. Researchers and industry from Asia, the United States of America, Europe and beyond, utilise Australian GLP-compliant preclinical large animal facilities because their imaging expertise and reputation for quality and excellent animal welfare is recognised by major medical product regulators worldwide (the Therapeutic Goods Administration (TGA), the U.S Food and Drug Administration (FDA) etc.) driving international investment in Australian research and manufacturing. - Localised translational hubs, integrating coordinated expertise and regulatory consultation There is a need to develop and appropriately resource localised translational hubs with integration of TRL3-8 facilities offering coordinated access to preclinical (small and large animal) research, radiochemistry, clinical research, imaging (MRI, PET, CT, MEG) and histopathology capabilities in a ISO and GLP quality framework and with the provision of regulatory expertise and strategy to ensure efficient pathway progression for medical products through the TGA and FDA and onto market. - New nuclear medicines and radiochemistry capabilities Radiochemistry expertise, production and molecular imaging are essential for development of cancer and dementia therapeutic innovations. There is a need for PET/SPECT. Neuroscience and dementia - Emerging imaging technologies are needed to drive advancement in brain research and therapies

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

Healthy and thriving communities need preventative health medicine including development of new diagnostic and screening capabilities, precision medicine for improved treatment success and development of biomarkers for physical and mental wellbeing. Preclinical large animal facilities integrated with biomedical imaging and radiochemistry support, drive translation of medical devices and therapies from discovery and small animal preclinical into clinical research. New biomarkers, diagnostic and screening capabilities and precision medicine need to be developed and safety and efficacy validated in small and then large animal preclinical facilities with excellent surgical, imaging, holding and histopathology capabilities, a ISO and GLP quality framework and technical expertise. Appropriate resourcing of large animal preclinical facilities, clinical trial facilities, radiochemistry and histopathology platforms is essential to bring next generation biomarkers, diagnostics and precision medicines for healthy and thriving communities. These need to be supported by access to advanced imaging capabilities including MRI, PET, CT and MEG.

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.

Preclinical large animal facilities with ISO and GLP accreditation and advanced surgical, imaging and holding capabilities are expensive and need increased resourcing and investment to ensure they can continue to support translation of grant funded and commercial research into clinical trial and use. Animal welfare is a national priority. To ensure preclinical research facilities not only meet community expectations but drive good animal welfare, they need increased funding to ensure they can implement new technologies and standards. There is a need to replace and update aging imaging infrastructure to ensure large animal preclinical facilities, clinical trial facilities and new radiochemistry and nuclear medicine capabilities can continue to support grant funded and commercial researchers as they develop medical products, biomarkers and precision medicine to support healthy and thriving communities.

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.