

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

Generation Australia, is anchored by GenV and ORIGINS, two of Australia’s newest, largest consented, longitudinal child and family cohorts. These studies are led from Australia’s two largest children’s research institutes - The Kids Research Institute Australia and The Murdoch Children’s Research Institute. These existing cohorts offer scale, with 60,000 consented and engaged families (comprising 145,000 individuals - children and their parents), and a representative population which dramatically accelerates research translation. Generation Australia has a unique ability to observe and test for environmental changes like heat, and climate change events like flooding and bushfires across research disciplines. Generation Australia can combine cutting-edge climate exposures at the individual level with self-reported information, and administrative and service data. This information can be used to either model the impacts of scalable mitigation strategies to inform policy and practice across Australia or to observe the impact of a significant climate change event. As parents join cohort studies from the time their baby is born, only consented population cohorts can understand the health, social and economic impact of cumulative environmental change and climate change events, as families have been part of these cohort studies for years prior to environmental change or a climate change event.

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

The health and wellbeing of children is pivotal to Australia's health and economic outcomes. But the 21st century presents complex challenges for children and adults: rising rates of anxiety and depression, chronic disease, new infections, climate impacts, and growing health and social inequities disproportionately affect those most disadvantaged in our community. Current research methods required to address these health and social issues are too costly, short term and unable to scale up to shift the dial at a population level. Traditional research approaches—addressing one question at a time—are too slow. The research priority Supporting healthy and thriving communities notes that data underpins research that addresses the social, cultural, developmental and environmental drivers of individual and community health, particularly in infancy and childhood. Young children have the most to gain from preventive interventions but the weakest evidence base of all age groups. The Murdoch Children's Research Institute and The Kids Research Institute Australia are Australia's two largest children's research institutes. Generation Australia offers the Australian Government a unique opportunity to leverage more than \$100million of already committed funds to create a world-class child health research asset and unlock the potential of Australia's existing child and family cohorts. Generation Australia is anchored by GenV and ORIGINS, two of Australia's newest, largest longitudinal child and family cohorts with a unique capability to conduct multiple trials at scale. Generation Australia cohorts integrate comprehensive data and biosamples with linked information from health, education and social systems. They are designed to support healthy thriving communities and accelerate cost efficient research, with lifelong benefits to all Australians from better prediction, prevention, early intervention and equity. GenV is Australia's only "100k+" lifecourse cohort and one of few globally. Launched during the COVID-19 pandemic, it captures the experiences of children and families during unprecedented social and health disruption. As its diverse, representative sample reflect the lives of Australians, its findings are broadly relevant and actionable. GenV can take phenome to population scale across the lifecourse to discover how thriving and disease develop. GenV's Open Science platform fosters robust and scalable technology, transparency, collaboration, research analysis and sustainability for long-term value and insights. Generation Australia, with a biobank and longitudinal records, is directly relevant to step change 6.5 A national approach to collections in the 2021 National Research Infrastructure Roadmap. Adding Generation Australia to the National Research Infrastructure brings together the different strengths of Australia's consented cohort studies - a truly national approach to collections - to support healthy and thriving communities.

Q32.

Elevating Aboriginal and Torres Strait Islanders knowledge systems

Consented population cohort studies can elevate and incorporate Aboriginal and Torres Strait Islanders knowledge systems, including data governance. This involves collaborating with Aboriginal and Torres Strait Islander people to use CARE Principles for Indigenous Data Governance to operationalise how data and biosamples should be collected, stored, accessed and reported on. GenV conducted culturally safe recruitment resulting in over 900 parents who identify as Aboriginal and/or Torres Strait Islander participating in the study. Led and developed by Aboriginal and Torres Strait people, GenV will be operationalising Aboriginal and Torres Strait Islander Data Governance and Sovereignty using existing frameworks. While data will be available to researchers in a staged process, data for Aboriginal and/or Torres Strait Islander people will remain aggregated until the GenV Aboriginal and Torres Strait Islander Data Governance and Sovereignty Framework, including data governance process, is established. GenV is proud to be elevating Aboriginal and Torres Strait Islanders knowledge systems, working in partnership with Aboriginal and Torres Strait Islander people and organisations, on Australia's largest and most inclusive, child and parent cohort study.

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.

Generation Australia: Unlocking the full potential of Australia’s child and parent cohorts to help build Australia’s research infrastructure Generation Australia is anchored by GenV and ORIGINS, two of Australia’s newest, largest longitudinal child and parent cohorts with 60,000 consented and engaged families (comprising 145,000 individuals - children and their parents). Uniquely designed to test interventions at scale, these existing cohorts have a representative population which dramatically accelerates research translation. Generation Australia offers a cost-effective way to harness the power of population cohort data with existing research and investment in data linkage to accelerate research and policy outcomes and impact, benefiting researchers and government using these national assets. To deliver on this, Australia’s two most internationally renowned and respected children’s health research institutes, The Murdoch Children’s Research Institute and The Kids Research Institute Australia are joining forces to provide \$100 million of in-kind existing investment from government, philanthropy and the institutes themselves toward the establishment of Generation Australia. With Commonwealth investment, Generation Australia can deliver on the NCRIS roadmap for Data Collections. Population genomic mapping is becoming cheaper and more sensitive; it allows researchers to compare diseases across the diversity of Australia’s population, fast track diagnosis and personalise medicine. GenV has consent, biobanking, survey information and a cohort representing Australia’s diversity. Population cohorts like GenV are ready to value add to population-based OMICS by exploring the interaction between genes and the environment. For example, how does microplastics or the microbiome impact the physical and mental health and wellbeing of children and their parents. Using population cohorts like GenV takes genomics to the next level of application. Leveraging Generation Australia, the National Health and Medical Research Council, Medical Research Future Fund and the Australian Research Council will be able to fund more research projects with greater efficiency, and lower risk profiles as researchers can access existing participants, biosamples and data linkage infrastructure. The WA Busselton Health Study found that using established cohorts delivered a social return on investment of \$3.20 for every \$1 invested (Commissioned report, unpublished). Cost savings can also be found by investing in better and more equitable policy and services, resulting in savings to government in the immediate -medium term and from having healthier children and adults in the longer term. Consented cohorts, designed for observation and trials, are national research infrastructure collections and assets. Unlike the UK and USA, there is no sustained research infrastructure funding for cohorts in Australia. It would be mutually beneficial to sustain and use these cohorts via the NCRIS; it also aligns to the NCRIS 2026 Roadmap to develop a national approach to collections, including longitudinal and biobank records. Generation Australia is ready to deliver the missing piece of Australia’s research infrastructure.

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.

