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

A net-zero economy will require substantial and transformative changes across every part of our economy, from transport and logistics, to agriculture, tourism, manufacturing and service delivery. While many of these transitions will be led by industry, businesses will rely on effective and targeted regulation and policies at federal and state government level to ensure that they are able to make necessary changes while remaining viable and competitive in local and international markets. In order for governments to enact such policies, it will be absolutely critical that government and non-government experts have ready access to social and economic data linked at national scale that can provide both a reliable basis for modelling impacts, and information on consumer, industry and economic impacts and outcomes. Particularly important in this context will be ready access to information that allows an understanding and anticipation of impacts on socially and economically disadvantaged communities, Aboriginal and Torres Strait Islander people, youth and ageing people, those from regional and rural areas, and from culturally and linguistically diverse communities. NRI Requirements: The evidence that will be most important in informing the design, and in monitoring and understanding the transition to a net-zero future will be derived largely from the social sciences; those disciplines and fields that focus on understanding of people and their interaction through social and economic structures and institutions. To enable social scientists to provide this evidence to decision makers in a comprehensive and useful way, it will be necessary to significantly upgrade the integration of current social data sets. This includes improving the linkage and integration of: - National social, economic, household and employment datasets held by the ABS and other entities - National and jurisdictional health datasets held by institutions such as the AIHW and state and Federal health departments - National longitundinal data on cohorts of interest, with a likely need for new and substantially expanded cohort studies - Commercial data; particularly around business and household energy use and consumer trends.

Q31.

Supporting healthy and thriving communities

Health and resilient communities are enabled by social, economic, physical, cultural and community structures and supports that enable safe and fulfilling connection between individuals, and create opportunities for enriching physically and social activity. Many of these supports are provided or enabled through local, state/territory and federal government policies and programs; from health-promoting urban design, public transport, community infrastructure such as parks and libraries, provision of high quality schools, and health facilities, and stable economic policy conditions for business investment and job creation. Given the increasing threats to physical and mental health inherent in the prevalence of misinformation on social media, and declining physical activity and associated increases in obesity and health conditions, it is more important than ever that policy-makers have access to reliable evidence to inform the evolution and introduction of such policies. NRI Requirements: As with requirements for the net-zero transition, the evidence that will be most important to ensuring healthy and thriving communities will be derived largely from the social sciences. To enable social scientists to provide this evidence to decision makers in a comprehensive and useful way, it will be necessary to significantly upgrade the integration of current social data sets. This includes improving the linkage and integration of: - National social, economic, household and employment datasets held by the ABS and other entities - National and jurisdictional health datasets held by institutions such as the AIHW and state and Federal health departments - National longitundinal data on cohorts of interest, with a likely need for new and substantially expanded cohort studies - Community datasets held by service delivery organisations and local and regional councils In addition, research infrastructure capabilities are required to Develop new tools and frameworks for use of AI and Machine Learning across research data infrastructures, and to increase capacity of the general and specialised research workforce to make full and effective use of infrastructure capabilities that are available.

Q32.

Elevating Aboriginal and Torres Strait Islanders knowledge systems

Aboriginal and Torres Strait Islander knowledge systems are embedded in the languages, cultures and histories of Australia's First peoples. In order to enable the revival, revitalization and elevation of Aboriginal and Torres Strait Islanders' Knowledge Systems, it will be important to have national research infrastructure capabilities and governance that allow it to do so. NRI Requirements: Specifically, the Academy of the Social Sciences in Australia recommends: - Establishment of a dedicated Indigenous Research Data Commons capability; building on the successful program currently established under the ARDC - Expansion of the Language Data Commons of Australia (LDaCA) as a stand-alone research infrastructure capability; focused on working with Indigenous communities to enhance Aboriginal and Torres Strait Islander language and knowledge systems - Processes to embed Indigenous Data Governance and Sovereignty processes and systems as well as CARE principles into all relevant NRI - Establishment of an Indigenous Data Commissioner and office within the Federal Government, with responsibility and authority to ensure application of Indigenous data governance principles across all relevant datasets and data infrastructure.

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.

An Australian Research Infrastructure Ecosystem for the Social Sciences (ARIESS) Between 2022 and 2024, the Academy of the Social Sciences in Australia worked with partners the ARC Centre of Excellence for Children and Families over the Life Course, the ARC Centre of Excellence in Population Ageing Research, the ARC Centre of Excellence for Automated Decision-Making and Society, the Institute for Social Science Research at the University of Queensland, and the ANU Centre for Social Research and Methods to engage with a broad cross-section of Australia's social science research community in a co-design process to establish common ground on research infrastructure needs and priorities for the future. The result is the Decadal Plan for Social Science Research Infrastructure: 2024-33. Launched in April 2024, this plan outlines three high-level goals, nine priority action areas, and five decision-making principles that represent the consensus view of hundreds of individuals and organisations involved in the sector in Australia. The central element of the plan is a vision for a new, coordinated Australian Research Infrastructure Ecosystem for the Social Sciences–ARIESS–that will: • engage and mobilise key stakeholders from the research, government, community and business sectors in the design, implementation and review of new social science infrastructure initiatives • take decisive steps to embed Indigenous Data Take decisive steps to embed Indigenous Data Governance (IDG), Indigenous Data Sovereignty (IDS) and Indigenous Cultural and Intellectual Property (ICIP) goals and aspirations across the ARIESS, in line with the Maiam nayri Wingara Principles and Australia's National Agreement on Closing the Gap. • Establish mechanisms for sectoral cooperation at the national level, to collectively develop or acquire strategic data and analytics assets necessary to tackle urgent national challenges. • Formulate a comprehensive and coordinated sectoral response to Artificial Intelligence and other emerging technologies, across the various components of the ARIESS. The specific actions identified as requirements by the sector are listed in the Decadal Plan document. Amont other priorities, these actions include: • Working with government and research stakeholders to develop national standards for social science research data and metadata, incorporating IDGov and IDSov principles and a suite of social science research vocabularies to promote data linkage • Working with partners to develop a suite of national training datasets and test environments • Working across the humanities, arts and social science sectors, and the galleries, libraries, archives and museums (GLAM) sector to prioritise and support digitization of physical records and other high-value research assets • Promoting and guiding the development of necessary national storage and computational capabilities for secure handling of sensitive data. The ARIESS model is supported by a broad cross-section of the social science research community, including those from government, industry, the community sector and existing national research infrastructure capabilities (in particular, ARDC, PHRN and AURIN). With co-investment from partners matching Federal Government funding, it is envisaged that a new ARIESS capability would engage in a 10-year workplan to support and enable transformative changes across the research ecosystem in ways that enable higher quality research outputs that will be directly beneficial to policy makers, businesses, community organisations and broader society. Discrete investment in Indigenous Research Infrastructure In addition to the ARIESS model outlined here, there is a clear requirement for investment in national-scale research infrastructure to support Indigenous research and Indigenous researchers, as well as those non-Indigenous researchers from HASS and other disciplines who work directly with Aboriginal and Torres Strait Islander people and communities, and with Indigenous data. The Academy recommends that this new infrastructure capability should be built on the successful Improving Indigenous Research Capabilities program supported since 2022 by the ARDC.

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.

Q39.

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

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

The Humanities, Arts and Social Science (HASS) research sectors have lagged many STEM disciplines in both sectoral coordination around priorities, and requirements for national scale research infrastructure capabilities. Over the past decade however, new research methodologies and the vastly increased volume of research-relevant data being collected and stored by governments, private companies and research organisations has made clear the necessity and value of discrete, national-scale HASS infrastructures across a broad suite of disciplines and in clear and distinct areas of operation. In addition to the case for a new Australian Research Infrastructure Ecosystem for the Social Sciences (ARIESS) articulated in the Academy and partners' Decadal Plan and outlined at a high level in this survey response, the Academy recommends the establishment of a cluster-based coordinating capability across relevant national HASS research infrastructures, similar to those established across the earth and environmental sciences and health nodes. Such a coordination should involve and promote collaboration across existing national research infrastructure capabilities (ARDC, PHRN and AURIN), as well as connecting with relevant national research data custodians and with future research capabilities. Given its work on the Decadal Plan and positioning as a trusted and independent organisation working across the social science research sector, the Academy would be pleased to advise on and play a substantive role in the delivery of such a capability.

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.

Decadal-Plan-for-Social-Science-Research-Infrastructure-2024-33.pdf

4.3MB

application/pdf