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Group of Eight submission to the 2026 National Research Infrastructure Roadmap Exposure Draft

Introduction

The Group of Eight (Go8) supports the ambition of the *2026 National Research Infrastructure Roadmap* (Roadmap) to build a coordinated, sustainable and internationally competitive national research infrastructure system.

The Go8 represents Australia's leading research-intensive universities, which collectively invest around $10 billion annually in research and development (R&D), representing approximately 70 per cent of university investment in R&D and 20 per cent of Australia's total national R&D effort.

National research infrastructure (NRI) underpins much of this research. Go8 universities are lead partners in around half of Australia's National Collaborative Research Infrastructure Strategy (NCRIS) facilities and collaborate with almost all NCRIS facilities.

Australia has built substantial research infrastructure capability through NCRIS over more than two decades. These facilities, together with the universities and institutions that host, operate and sustain them, are **critical national assets**. They underpin Australia's research capability, sovereign capability, economic resilience, health and national security.

The challenge now is not simply to preserve that capability, but to ensure it evolves in line with Australia's research, industrial, economic, resilience and national priorities.

The final Roadmap therefore needs to move beyond describing the existing system. It should make clear choices about the capabilities Australia must sustain, build and protect, how those priorities will be funded, and how success will be measured.

Recommendations

The Go8 recommends that:

1. **The Roadmap explicitly recognise nationally significant research infrastructure, and the institutions that sustain it, as critical national assets.** Decisions about investment, renewal and sovereign capability should reflect their importance to Australia's research capacity, economic resilience, health, national security and ability to respond to emerging national challenges.
2. **The Roadmap establish clear national research infrastructure priorities**, including transparent criteria for how projects and capabilities will be assessed, prioritised and evaluated.
3. **The Commonwealth Government affirm ongoing bipartisan commitment to core funding for NCRIS**, while retaining sufficient flexibility in funding and renewal cycles to build capability in emerging priority areas, particularly digital research infrastructure and artificial intelligence (AI).
4. **The Commonwealth Government work directly with state and territory governments on co-investment in NCRIS facilities**, rather than leaving individual facilities to secure state and territory participation independently.
5. **The Roadmap establish medium-term directions and explicit portfolio choices for each capability area**, identifying which capabilities should be sustained, scaled, integrated, replaced or newly developed.
6. **The Roadmap map national research, industrial and resilience priorities against the infrastructure required to deliver them**, including physical infrastructure, digital capability, workforce and translational services, and identify existing strengths and significant national gaps.
7. **The Roadmap establish a framework for sovereign capability decisions**, identifying which capabilities Australia must maintain domestically, which require assured access and which are best secured through trusted international partnerships. This should specify responsible bodies, next steps and measurable outcomes.
8. **The Commonwealth Government commence investment planning early enough to ensure funding decisions are made well before existing funding expires.**
9. **The Roadmap treat physical and digital research infrastructure as an integrated national capability.** Funding should cover instruments, data platforms, high-performance computing (HPC), AI and research software, and meet whole-of-life costs including specialist staff, operations, maintenance, software, data services and renewal, rather than capital costs alone.
10. **The Roadmap strengthen the connection between NRI and Australia's innovation and industrial ambitions**, including by addressing gaps in pilot-scale facilities, testbeds, advanced manufacturing, testing, validation and scale-up capability.

NRI is critical to Australia's research ecosystem

NRI provides facilities, equipment, data and specialist expertise at a scale that no individual institution could reasonably build or sustain alone. It enables breakthrough research, collaboration and translation and supports economic, environmental and social outcomes.

NCRIS is the Australian Government's flagship program supporting NRI. Go8 universities are central to the system, acting as lead partners in around half of NCRIS facilities and collaborating with almost all facilities nationally.

The system serves well over 100,000 Australian users and more than 30,000 international users, providing world-class capability to researchers, industry and government.

Its impact can also be seen in translation and commercialisation. Vicebio, which emerged from research at the University of Queensland, provides one example of how world-class research capability and infrastructure can translate Australian research into commercial outcomes.

NRI should therefore not be viewed simply as a collection of facilities and equipment. It is a network of critical national assets supported by specialist people, research-intensive institutions and long-term public and institutional investment.

That status should be reflected in the way Australia plans, funds and protects these capabilities.

Long-term funding certainty is essential

The impending end of current NCRIS funding arrangements in 2028-29 creates unnecessary uncertainty for facilities that must make long-term decisions now.

The Roadmap acknowledges that much of Australia's NRI success reflects sustained commitment to NCRIS. Other major national reports, including *The Universities Accord*, the *National Health and Medical Research Strategy* and *Ambitious Australia*, have also pointed to the importance of long-term planning or funding for research and innovation.

The Go8 recognises that detailed investment decisions will follow the Roadmap. However, uncertainty about future funding already limits facilities' ability to plan, retain specialist staff and provide confidence to researchers, industry and co-investors.

Funding horizons should better reflect infrastructure lifecycles, and funding models need to recognise whole-of-life costs, including specialist staff, operations, maintenance, software, data services and technology renewal, rather than capital expenditure alone.

Repeated funding cliffs put at risk expertise, partnerships and capabilities that take years to build.

Australia cannot regard its research infrastructure as a critical national asset while repeatedly creating uncertainty about its future.

Ongoing bipartisan commitment to NCRIS should therefore extend beyond individual funding cycles and provide the certainty needed for long-term planning and investment.

An integrated, accessible and accountable national system

The Go8 supports a portfolio approach to NRI. At its core, the system should be:

- **Easy to access.** National capabilities should be discoverable through a shared platform providing clear information on capacity, cost, location and expertise, supported by specialist user assistance.
- **Connected from discovery to application.** Researchers and industry should be able to move between research facilities, pilot-scale capability, testing, validation and translation without independently assembling every stage of the pathway.
- **Managed as a national portfolio.** Commonwealth, state and institutional investment should be coordinated to address capability gaps and avoid unnecessary duplication while preserving valuable distributed capability.
- **Built on AI-ready data.** Data should be appropriately governed, interoperable and capable of supporting AI-enabled research, translation and commercialisation.
- **Transparent and evidence-based in setting priorities.** Decisions should draw on active research users, demand and utilisation data, supported by proportionate reporting requirements that do not unnecessarily increase the burden on infrastructure staff.
- **Governed around national outcomes and user needs.** Governance should draw on researchers, infrastructure specialists and industry and be accountable for the effectiveness and value of national capabilities.
- **Supported by a skilled workforce.** Specialist technical, data, software and infrastructure staff need viable career pathways and greater employment certainty.

The Roadmap needs clearer priorities and greater flexibility

The research infrastructure environment is changing more quickly than traditional planning cycles. AI is perhaps the most significant development since the 2021 Roadmap, while automation, digital transformation and geopolitical and supply-chain uncertainty are also changing national capability requirements.

Australia needs greater flexibility, but **flexibility cannot become a substitute for certainty**.

The Roadmap should establish the priority capabilities Australia needs while allowing facilities and networks to adapt how those capabilities are delivered. This should include:

- a rolling five-to-ten-year national portfolio approach;
- standing expert advice in fast-moving areas such as digital research infrastructure;
- networks of complementary facilities structured around research and industry pathways; and
- periodic review allowing capabilities to be expanded, renewed, reconfigured or decommissioned on the basis of impact, national need and value for money.

The Roadmap should also benchmark Australia against comparable research-intensive nations on investment, access models, HPC and digital capacity, infrastructure renewal, workforce and translation.

This should inform sovereign capability and resilience decisions. Australia needs to know where domestic capability is essential, where reciprocal international access is appropriate and where dependencies create unacceptable vulnerabilities.

The final Roadmap should therefore be clearer about **what Australia needs to sustain, what it needs to build and where existing capability needs to be reconfigured or replaced.**

Planning, prioritisation and coordination

The Commonwealth should lead engagement with states and territories to align priorities, funding cycles and co-investment expectations rather than leaving individual NCRIS facilities to negotiate independently.

The Roadmap should also assess the research infrastructure ecosystem as a whole, including NCRIS facilities, public research agencies, universities, medical research institutes and state-based infrastructure.

User demand, utilisation, capacity, equipment age and workforce requirements should inform planning. This should include mapping how researchers and industry move between facilities and capabilities, identifying bottlenecks, duplication and gaps.

Formal networks of complementary facilities should make it easier to move from discovery to scale-up. The proposed Advanced Materials and Manufacturing Australia network provides an example of how capabilities could be coordinated around shared research and industry requirements.

Digital integration should be supported through common metadata, persistent identifiers and interoperable standards, alongside more coordinated workforce arrangements.

National coordination must also recognise the role of universities and other institutions that host and co-invest in NRI. They provide the research capability, people, systems and institutional environment that allow national infrastructure to operate effectively.

Funding and governance

NCRIS does not operate in isolation. The Roadmap should consider how NCRIS, the Medical Research Future Fund (MRFF), Australian Research Council, National Health and Medical Research Council and relevant Commonwealth and state translation and industry programs can operate as a more coordinated portfolio.

Timing, eligibility, co-investment requirements and planning horizons should be better aligned, with clear responsibility for lifecycle costs so that essential costs do not fall between funding programs.

Coordinated NCRIS and MRFF investment in health data infrastructure should be a priority. This should encompass trusted computing and storage, the capacity of health systems to share data safely and the specialist workforce required to support approved use.

Progress should be measurable, including through time to data access, cost per approved project and reuse of established access pathways.

National coordination should be accompanied by accountable local delivery and clear responsibility for acting on expert advice on nationally significant research infrastructure.

Digital research infrastructure, AI and high-performance computing

AI and digital infrastructure require particular attention in the final Roadmap.

National AI infrastructure investment should focus on shared, trusted capabilities that individual institutions or commercial providers cannot safely or efficiently provide, while avoiding unnecessary duplication of general-purpose services.

Trusted AI environments for sensitive health, genomic, government administrative and First Nations data should be a national priority. These environments should bring together computing capability, data stewardship, access controls, validation and Indigenous data sovereignty.

This should include secure imaging datasets and Australian-owned foundation models for biomedical imaging. Biomedical imaging AI foundation models should be recognised as an emerging national infrastructure priority.

AI must also be integrated with experimental infrastructure, high-quality machine-readable data and specialist support, including research software engineers and data specialists.

The Go8 supports an integrated national approach to HPC but believes the Roadmap should be more ambitious about achieving internationally competitive scale.

Current NCRIS investment is insufficient. Splitting Tier 1 funding between two facilities disperses resources and duplicates overheads, while coordination alone does not increase national capacity.

The Roadmap should examine a transition towards a single, large national Tier 1 facility, supported by appropriate resilience arrangements, and should not defer urgent investment until the proposed Phase 3 funding model is complete.

The respective roles of Tier 1 and Tier 2 capability should also be clearly distinguished and connected, with Tier 1 concentrating on workloads that cannot reasonably be delivered institutionally.

Collections and Indigenous Knowledge Systems

Nationally significant collections should explicitly include large-scale digital research assets such as population and clinical imaging cohorts, longitudinal datasets and linked biobanks where their scale, uniqueness and reuse potential create substantial national value.

Priorities should include improved discovery, interoperability and access through shared metadata, persistent identifiers and common standards, supported by digitisation, data management and long-term stewardship.

Governance should embed Indigenous leadership, Indigenous data sovereignty, Indigenous Cultural and Intellectual Property protocols and culturally appropriate access.

The Go8 supports the proposed phased approach to Indigenous Knowledge Systems. The initial audit should extend beyond existing NRI facilities to identify Indigenous-related data holdings across institutions and disciplines, including unpublished, legacy and composite datasets.

Indigenous workforce development should commence in Phase 1 so Indigenous participation informs governance, needs assessment and implementation from the outset.

Capability gaps and translation

The Roadmap's capability descriptions provide a useful foundation but need to be more explicit about areas requiring growth and those in which Australia has strategic advantage.

Each capability should be connected to national research, industrial and resilience priorities and should distinguish established strength from significant gaps.

Digital and data foundations require greater recognition, including sustainable support for research software and the specialist workforce, and ensuring storage, computing and networking requirements are planned alongside major instruments.

The Roadmap should also recognise gaps in critical translational and specialist capabilities, including:

- radiopharmaceutical production and sovereign isotope supply, together with the associated specialist workforce;
- testing, validation and qualification;

- fabrication beyond micro- and nanofabrication, including additive manufacturing, composites and pilot-scale production; and

- system-level integration and demonstration.

These capabilities matter because national research infrastructure must do more than enable excellent discovery. **It must help Australia turn discovery into capability, products, technologies and economic value.**

Conclusion

The Go8 supports the Roadmap's ambition for a coordinated, sustainable and internationally competitive NRI system. Achieving that ambition will require greater clarity on priorities, long-term funding, sovereign capability and accountability.

NCRIS has been a significant national success over more than twenty years. The 2026 Roadmap provides an opportunity to position that capability for the next twenty.

Australia's national research infrastructure, and the research-intensive universities and institutions that host, operate and sustain much of it, are critical national assets. They underpin the discoveries, technologies, skills and sovereign capabilities Australia needs to remain economically competitive, secure and resilient.

The final Roadmap should therefore move beyond describing what Australia has today. It should set out what national capabilities Australia must have tomorrow, which capabilities it must maintain domestically, where it can rely on trusted international partners, and how those capabilities will be sustainably funded and kept internationally competitive.

This requires long-term funding certainty alongside sufficient flexibility to respond to technological change and emerging national priorities. It also requires clear responsibility, measurable outcomes and recognition of the universities and institutions that co-invest in, operate and sustain these national capabilities.

The Go8 looks forward to continuing to work with the Department of Education and the Roadmap Expert Working Group as the Final Roadmap is developed and detailed investment priorities are established through the subsequent investment plan.

Yours sincerely

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