Exposure Draft Consultation Response

1. Are the recommendations appropriate to the current NRI environment?

The Australian Academy of the Humanities (AAH) is concerned that the Exposure Draft's Recommendations do not adequately reflect Finding 5: that the 'most impactful research derives from collaboration between HASS [SHAPE] and STEM research'. An explicit vision and practical pathways to building this capability is needed.

Suggested amendments:

Finding 7 overlooks the complex human, health, environmental and social challenges relating to the role of 'next generation of technologies'. The multidisciplinary teams, infrastructures and capability, together with investment in sovereign capability in cultural and social research alongside S&T, **needs to be explicitly supported in the Recommendations**.

Recommendation 3: A challenge-based agenda is important to guide or incentivise NRI investment but should not direct the sum total of effort. It risks skewing the focus in one direction at the expense of long-term underpinning capabilities needed to support a broad range of national priorities now and into the future. At a minimum, expand the focus on manufacturing priorities to include research-industry collaborations in areas of priority and significant jobs growth and potential: service industries, creative economy, and the digital transformation and digital economy (cf. Government's Digital Economy Strategy).

Recommendation 5: We welcome reference to the importance of 'management of datasets and collections'. For HASS/SHAPE research, this also means cultural and collecting institutions. This needs to be made explicit in the document. Driving a more integrated NRI system is about maximising government investment (not cost-shifting). To capitalise on the value of social and cultural infrastructure for NRI that means making more efficient and effective use of partnerships that currently exist (e.g AIATSIS, NFSA, NLA, NAA) to build research-led platforms through the NCRIS agenda (the ARDC HASS RDC Trove project is the start).

2. Do the principles articulate the vision and key elements required of NRI, including investment?

The AAH supports the Exposure Draft's recognition of social outcomes alongside economic, environmental and security. These are all interdependent.

We are in general agreement with the Principles for investment, with the exception that **research excellence/quality and integrity are missing from the framework.** Excellence should be valued alongside an impact agenda. Together, these principles should inform each other and drive an approach to policies, processes, and the development and application of indicators/metrics.

Government has an important role to play (through NRI investment) to ensure its publicly-funded programs are transparent, accountable and designed to:

- Deliver sustainable and ethical investment

- Build future capacity in our research workforce

- Maintain research quality and integrity, and

- Realise long-term social, economic, cultural and environmental benefits to communities and the nation.

We recommend the following additions to the Principles:

- Suggest in the first principle that the word 'build' is added – 'NRI builds and maximises the capability of the research and innovation system…'

- Research excellence and research integrity need to be explicitly incorporated into the principles and/or added as stand-alone principles.

- Co-design principles need to be at the fore in infrastructure development for Indigenous research, and community-based cultural and social research.

3. The NRI Roadmap has a clear focus on identifying the NRI investments required to support Australian research over the next 5 to 10 years. Are there any national research infrastructure needs missing in the draft Roadmap?

The recognition of HASS/SHAPE role in multidisciplinary capability is welcome (p.6), but the NRI needs of both HASS/SHAPE and Indigenous research capability for NRI innovation and cultural and social research are under-developed.

Gaps and opportunities have been identified through AAH work, ARDC process, HASS and Indigenous research scoping studies (not published) and include new analytic methods, data visualisation and computationally intensive methodologies.

Suggestions for clarification/improvement:

1. Investment in the pilot work of HASS RDC and Indigenous Research Capability is appropriately recognised in the document, but the NRI horizon should anticipate the next-generation capability and expansion of these programs to service broader disciplinary needs and work currently out-of-scope.

2. The document singles out Indigenous Knowledge but needs to make explicit the vision for investment over the next 5-10 years.

3. AI, automated decision-making, and social media/real-time data are under-realised. Australia has world-leading expertise in combining humanities research methods, with insights from the technological sciences, to make substantial advances in knowledge and address major challenges and sovereign capability in areas such as big social data, proprietary social media platforms, ethical and social inclusive infrastructure by design.

The opportunities for system-wide enhancements recognised in the Exposure Draft should recognise social and cultural research contribution and potential. There is welcome recognition of the HASS RDC in Software analysis and tools, and data for the understanding of human and societal behaviours, but opportunities for HASS/SHAPE include:

1. Continental-scale observations – deep time observations not just earth and geo but historical, Indigenous, cultural see for e.g., A Time Machine for Australia.

2. Physical collections and biobanking – need to recognise cultural collections alongside the health and medical collections

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3. Bridging innovation gaps with translation NRI – support interdisciplinary effort to address social media algorithm biases: freedom of expression/speech versus 'hate speech'; algorithms fuelling social polarisation, misinformation.

4. **A key priority for Australia is to enhance research translation. The 2021 NRI Roadmap identifies some reforms and investments to achieve this. What other reforms would help deliver this priority?**

In referencing research translation and commercialisation, the Exposure Draft should explicitly employ a broad definition of industry to include public sector and non-government organisations and the community sector, to deliver durable social and economic benefits. This should include services industries to complement focus on manufacturing/products; as well as sectors that promote social innovation.

A hallmark of HASS/SHAPE research is that the data it relies on is re-purposable for many different disciplines and communities, meaning it has high potential for translation across a range of government policy and portfolio areas, including in:

- Policy development, analysis, evaluation, advocacy, implementation
- Business and economics – translate research into private sector benefit
- Language research – machine translation and equitable access to information in a highly multilingual country in Australia is important (e.g. vaccine hesitancy)
- Health: public attitudes on COVID-19.
- Well-being, mental health and productivity agenda (individual, community).

We welcome the recognition of the role of both platforms *and* people as enablers of translation and commercialisation. NRI investment should encourage the pipeline of expertise required to underpin this capability, explicitly referencing the need to include and support early-career researchers in 'people and programs'.

5. **The Roadmap proposes that Australia could make landmark investments to drive step changes in research and innovation over the next 10 to 15 years. Do you agree with the assessment of potential areas for investment in the report? What other areas do you consider might fit the definition of landmark investment?**

We agree with the Exposure Draft's recognition of the significant potential for landmark investment in a Social [and Cultural] Data Observatory. Outlined in the proposal from ARC Centre of Excellence for Automated Decision Making and Society, AuSDO responds to the 'major challenge of collecting, analysing and connecting the national social data and analytical tools required to support research on the social, cultural and economic benefits and challenges of digital transformation and includes crucial integration or connection work with the key current infrastructures including HASS Research Data Commons – IRISS, LDACA, Trove and the Indigenous RDC – as well as the Australian Digital Observatory for social media platform data harvesting, the Australian Text Analytics Platform, CADRE for sensitive data and many others.

We see the transformational potential of AusDO for a broad range of disciplinary fields and for many social and cultural research researchers – including in translational research with the full range of industry sectors, private, public and community.

Another opportunity for landmark investment, that fits the definition, but is not currently scoped in the Exposure Draft, is in interdisciplinary research and knowledge infrastructures of the scale and scope that bring together science, humanities and Indigenous Knowledges. An exemplar in the current landscape is the ARC Centre of Excellence for Australian Biodiversity and Heritage. Example opportunity: A Time Machine for Australia.

6. Please add any other comments you would like to provide to the Expert Working Group.

The key additional comment we wish to make is the need for a better balance of research discipline sector expertise on the bodies that are tasked with making decisions about planning and investments in NRI. If the principles espoused in the Exposure Draft and the investment recommendations are to truly reflect the needs of the whole research system, then there must be representation of humanities research/leadership on the Expert NRI Advisory Group, NRI Workforce Strategy, and the National Digital Research Infrastructure Strategy.

The AAH has a deep commitment to achieving national data and research infrastructure that serves the humanities, arts, the wider system, and the public good. The critical and creative talents of the humanities are vital to developing and realising NRI step-change. Over many years the Academy has contributed its convening power and policy and research capacity towards this agenda, including drawing on international best practice and developments.

International investments in HASS research infrastructure have shown pathways for infrastructure investment in:

- heritage research, data and technologies – building capabilities in characterisation technology and pattern recognition;

- language research, data and technologies – building capabilities in informatics, semantics and AI; and

- social research, data and technologies – building capabilities in internet of things, civic technologies and precision services.

Australia is in a position to plan out the HASS/SHAPE NRI ecosystem based on these lessons. The sector is investment ready.

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