

## Submission

### 2016 National Research Infrastructure Roadmap Capability Issues Paper

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I make this submission primarily in my role as Research Community Leader for the Research Data Services Access to Data for Cultures and Communities (C&C) Research Project (NCRIS 2015 A1.6), and the Domain nominee for that project on the RDS Scientific Reference Group (SRG) reporting to the RDS Board and the Node Operators Committee. The NCRIS 2015 C&C project identified a need to develop and operationalise a national sustainable scalable capability to facilitate data and metadata sharing and transfer between archives, institutions and research projects in the broad domain of the Humanities and Social Sciences (HASS), to facilitate active community participation through the provision of training and education resources for the C&C research community, and to provide a consolidated and sustainable user support service. While the work undertaken in this project to develop an Open API as a standardised method of accessing archival data, and the continuation of this work proposed under the Service Transition Plan currently under consideration by the SRG represent relatively small-scale elements in the construction of a research infrastructure for the large-scale needs of HASS researchers, they also point very clearly to that research sector's need for infrastructure that supports the C&C research community in a manner that is both sustainable and scalable.

For over two decades, HASS research has been transformed by digital technology in ways that are fundamental to both its quotidian activities and its methodologies, primarily through the vastly enhanced access to research material and the research questions that can be addressed by and through that access. Australian research capabilities produced by both collecting institutions and researchers – the National Library's TROVE and the Humanities Networked Infrastructure (HuNI) Virtual Laboratory are leading examples among many – are world-leading in their development of research resources and tools that can address the particular methodological requirements of humanities research. Research infrastructure in this area will be built through the collaboration between libraries, collecting institutions, and researchers so that the full range of citizen researchers in the humanities can benefit from and contribute to the curation of cultural information about ourselves and our communities. What is now needed is a substantial increase in the scale of this research infrastructure in order to address the considerable unmet demand in the HASS sector for the creation, retention, storage and sharing of data, together with a clear and transparent process for priority-setting in its development, in order to ensure efficient and effective allocation of resources.

Question 1: Are there other capability areas that should be considered?

I welcome the paper's situation of Understanding Cultures and Communities in a list of capability areas in which its breadth no longer seems quite so out of place as in previous iterations of the Roadmap. In these circumstances more discrete listings of digital humanities and HASS disciplines seems unnecessary.

Question 2: Are these governance characteristics appropriate and are there other factors that should be considered for optimal governance for national research infrastructure.

The listed governance characteristics are broadly appropriate, but it is worth emphasising that the governance model must be sufficiently representative as to enjoy the confidence and respect of its various stakeholder communities, including HASS scholars and the collecting and cultural and research institutions.

Question 3: Should national research infrastructure investment assist with access to international facilities?

Yes, where appropriate. In relation to C&C infrastructure, it is important that we develop collaborative relationships with the development of comparable capabilities overseas, such as Europeana and the Digital Public Library of America (DPLA), in order to maximise interoperability on a global scale, including where this relates to Australian cultural resources located overseas. It is, of course, the case that the provision of access to data for Australian culture and community research is an Australian national responsibility; our middle size and relatively high economic status provides us with the capacity to do something world-leading that will bring disproportionate attention to Australian culture.

Question 5: Should research workforce skills be considered a research infrastructure issue?

The answer to this question is most definitely yes. Most research infrastructure will not work without trained staff. A major issue generated by the short-term and insecure funding on which most C&C research infrastructure has been built is that experienced staff may not be retained from one funding cycle to the next. Projects lose their stable staffing base, and with it expertise and therefore capability. Expert staff lose security. All of this is extremely wasteful, manifesting in delayed, unfinished or incomplete projects. Funds must be assured over longer periods to help build confidence in the infrastructure developed and also build a skilled researcher base.

Question 6: How can national research infrastructure assist in training and skills development?

Question 7: What responsibility should research institutions have in supporting the development of infrastructure ready researchers and technical specialists?

Infrastructure support for research training needs to focus not only on the production of research but also on the development of a researcher. HDR graduates must be equipped with the digital literacy and skills to operate in an increasingly digital research environment, to understand and work with digital data, tools and structures.

There is a significant opportunity for a large scale, nationally coordinated research infrastructure to drive and enable digital literacy and data capabilities of this half of the higher education system in Australia. Researchers need training in data management appropriate to their discipline; institutions are potential sources of this training, in collaboration with research infrastructure. Major repositories could provide training in data management and discipline-specific methods for creating well-formed research data that can be archived, to assist in ensuring that high quality data can be readily incorporated into repositories with clear access conditions and rights statements. A national coordination role is needed to ensure there are mechanisms to support cross-capability conversations around skills and training for the 'demand' side, as well as to leverage the skills and expertise resting in 'supply' side organisations, including cultural and collecting organisations.

Question 8: What principles should be applied for access to national research infrastructure, and are there situations when these should not apply?

Adequate and stable funding, including for national and state cultural collecting institutions, to ensure sustained access

A National Research Infrastructure Roadmap needs to ensure that the products, including the content and community connections resulting from government funded initiatives, remain freely accessible and discoverable.

Clear recognition of the wider community, and non-institutional researchers, as end users of research infrastructure for Understanding Cultures and Community.

### **Understanding Cultures and Communities**

Question 24: Are the identified emerging directions and research infrastructure capabilities for Understanding Cultures and Communities right? Are there any missing or additional needed?

I agree with the broad capabilities and directions outlined in the paper and endorse the document's statement that "Research infrastructure-like activities currently undertaken at national cultural institutions need to be supported and recognised as core national infrastructure, as important as any other research infrastructure holding, and just as irreplaceable." The opportunities for developing national-scale research infrastructure to support and drive transformative research on Australian cultures and communities are very considerable; they will be achieved by the successful integration of resources and capabilities held by collecting institutions working in close collaboration with researchers and researcher-led initiatives that have to date been developed in Virtual Laboratories

and LIEF-funded projects, where humanities and social sciences researchers have developed exemplary discipline-specific digital resources and projects in literary studies, drama, archaeology, linguistics, the visual arts and law and public policy.

Research infrastructure for C&C needs not only to provide increased access to digitised cultural collections but also to facilitate the curation, reuse, integration, and interoperability of collecting institutions' and researchers' data, and to provide a platform for building tools and techniques designed to address research problems. Open Data capability is a basic requirement of this C&C research infrastructure, together with the substantial increase in digitisation capacity identified in the discussion paper.

The work undertaken to date in the sector has demonstrated both the capability of C&C researchers and the pressing need for a national-scale facility that can expand exponentially the discovery, access, data mining, curation, analysis and interpretation that large-scale data permits, and the innovative forms of HASS research that are being developed as a result. Such a facility would ideally bring together existing resources and capabilities under a governance model that connected data providers and researchers, prioritised data accessibility and digitisation strategies and resourced their provision. I share the vision expressed in the submission from the Australian Academy of the Humanities that a national-scale facility for the UCC capability would:

- exponentially increase the speed of the research process;
- facilitate research on issues of national priority and significance, including research on Indigenous cultures, traditions, languages and health;
- enable as-yet unimagined connections between datasets and platforms, and new research questions about Australian society, history, identity and our relationships with other cultures and societies;
- offer researchers unprecedented discoverability and access to otherwise inaccessible data archives;
- allow researchers to examine trends across time and place; and reach and obtain valuable new insights from local knowledge and local historical societies;
- support and connect with STEM research and drive cross-disciplinary collaborations, in areas requiring Australian data such as climate science, health, demography, sociology, anthropology, economic history, criminology, botany, ecology, geology, palaeontology, ancient DNA science and oceanography;
- enable citizen research, and reach new communities and raise awareness of Australia's cultural heritage nationally and internationally;
- contribute to a wider digital literacy agenda, and broadening the skills and capacity development for students at all levels of education and researchers in all disciplines.

Question 25: Are there any international research infrastructure collaborations or emerging projects that Australia should engage in over the next ten years and beyond?

The emergence of networked data structures in the humanities is suggestive of many future collaborations particularly in the linked data ecology. In addition to the Europeana and DPLA projects mentioned in my response to Question 3, both the CLARIAH (Common Lab Research Infrastructure for the Arts and Humanities) facility in the Netherlands, and HASS infrastructure

components of Finland's Strategy and Roadmap for Research Infrastructures 2014-2020 provide relevant models for Australian developments of the kind described in this submission.

Question 26: Is there anything else that needs to be included or considered in the 2016 Roadmap for the Understanding Cultures and Communities capability area?

It is important to note the document's recognition of digitisation as Underpinning Research infrastructure, a case that researchers in the sector have been arguing for well over a decade. Having secured this recognition, more attention needs to be paid to enhancing and systematising existing digitisation of cultural artefacts (from media to historical material).

### **Underpinning Research Infrastructure**

Question 30: Are the identified emerging directions and research infrastructure capabilities for Underpinning Research Infrastructure right? Are there any missing or additional needed?

As noted above, it is pleasing to note the document's acknowledgement of digitisation as infrastructure, and its proposal that a digitisation initiative would benefit from national coordination and funding. Such a development would be a critical contribution to the continuing development of digital humanities.

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