2014 NCRIS Survey

BACKGROUND

In 2014, the Department of Education and Training undertook formal data collection across the 27 projects currently in the National Collaborative Research Infrastructure Strategy (NCRIS) network.

The survey collected data in the following areas:

- Utilisation of infrastructure
- Governance mechanisms
- Outward focus
- International engagement
- Linkages to researchers
- National footprint of NCRIS projects
- Resources
- Outcomes and benefits for Australia.

FINDINGS

The broad findings of the survey are as follows:

Utilisation of infrastructure

Levels of NCRIS infrastructure utilisation were high. A total of 35,949 researchers[1] utilised NCRIS research infrastructure across 21 projects.

NCRIS infrastructure is used by Australian researchers from universities, publicly funded research agencies and companies; researchers from overseas; by Commonwealth State and Territory agencies for a variety of purposes; secondary education institutions; and the general public.

Researchers were able to access the infrastructure through mechanisms appropriate to each project. For example, the *Atlas of Living Australia* is free to access via the web while other projects used merit allocation processes to allocate access to the most meritorious projects.

Figure 1 demonstrates the number of researchers[2] accessing infrastructure by location.

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[1] A "researcher" is defined as an identifiable individual making use of project infrastructure for a specified project. Some individuals may be double-counted in this figure (for instance, if the same individual made use of infrastructure at two different projects, this would count as two different "researchers")—however, individuals may also be *under* counted (for instance, when one applicant gains access to infrastructure on behalf of others, or makes use of one of the 6 projects where records were not kept).

Figure 1: Number of researchers accessing infrastructure by location

All projects with single-researcher data available (n=21)
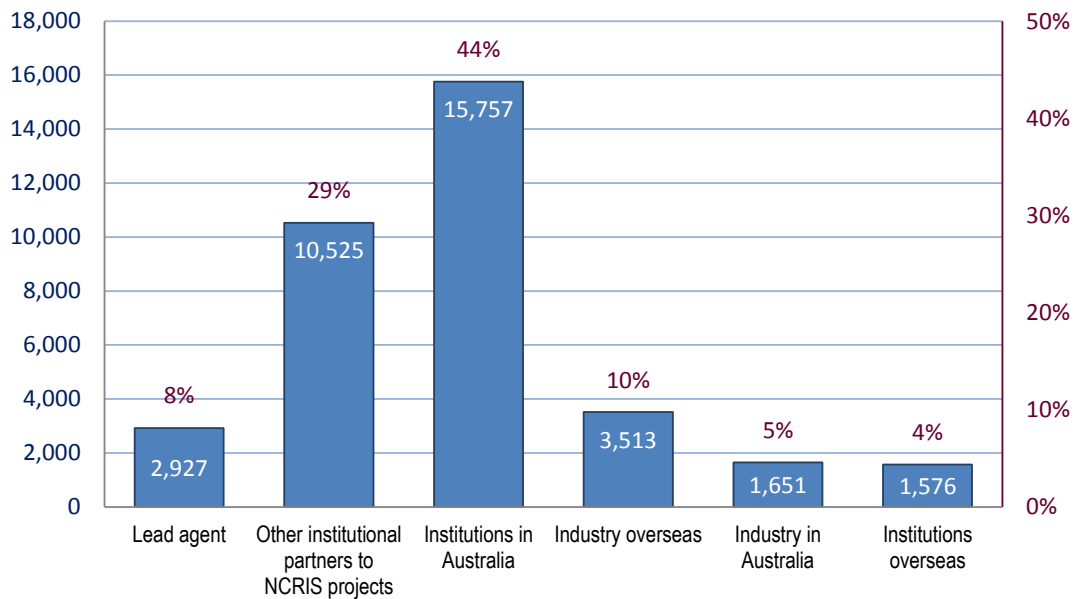
Governance mechanisms

Overwhelmingly, sound governance arrangements were in place. Additionally, a substantial majority of projects had initiated external reviews aimed at improving overall performance.

Figure 2 shows the extent to which governance documents were in place across the NCRIS projects surveyed.

Figure 2: Governance documents in place

All projects (n=27)
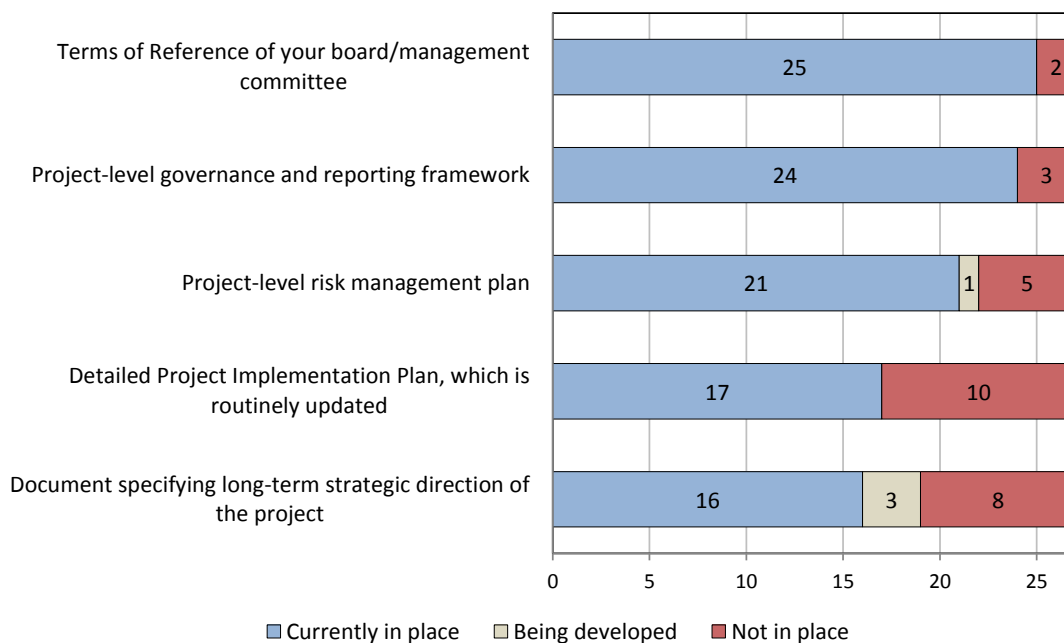
Outward focus

All 27 NCRIS projects promoted their facilities to the research sector. This was supplemented by activities such as consultations on (intra-project) priorities, user training, and user feedback surveys which included industry users.

The activities most likely to be undertaken in 2013-2014 were:

♦   training researchers and other relevant researchers to use or familiarise themselves with the infrastructure (70% of projects did this at least monthly, 93% at least once);
♦   updating the project website or blog (67% did this at least monthly, 100% at least once); and
♦   updating social media sites (55% did this at least monthly, 74% at least once).

International engagement

International researchers can, and do, access the infrastructure of NCRIS projects on an appropriate basis through access and pricing arrangements. NCRIS projects also complement their infrastructure offerings through arrangements under which Australian researchers can benefit from complementary research infrastructure facilities located overseas. See Figure 4 for more details.

Linkages to researchers

The data collection indicates that NCRIS projects used formal collaborative arrangements to improve services to researchers. Figure 3 shows that in 2013, NCRIS projects had an average of 34 formal collaborative arrangements in place with other parties. On average, 14 arrangements were in the form of memoranda of understanding (MOUs).

Figure 3: Formal collaborative arrangements

Type of arrangement	Number of projects with this arrangement	Average number (per project with this arrangement)	Average number (all 27 projects)
MOUs with other NCRIS projects	13	2.0	1.0
MOUs with other domestic parties	11	7.9	3.2
MOUs with overseas parties	15	4.3	2.4
Other formal arrangements with other NCRIS projects	12	5.8	2.6
Other formal arrangements with other domestic parties	17	31.0	19.5
Other formal arrangements with overseas parties	4	11.8	1.7

National footprint of NCRIS projects

Over 1700 highly skilled STEM workers are employed as a result of NCRIS. They are located around Australian in proportions broadly similar to the overall Australian population. Figure 4 shows that nearly three-quarters of NCRIS project staff were employed in technical capacities (74%), with the majority of the remainder (16%) in management/administration.

Figure 4: National footprint of staff employed by NCRIS projects
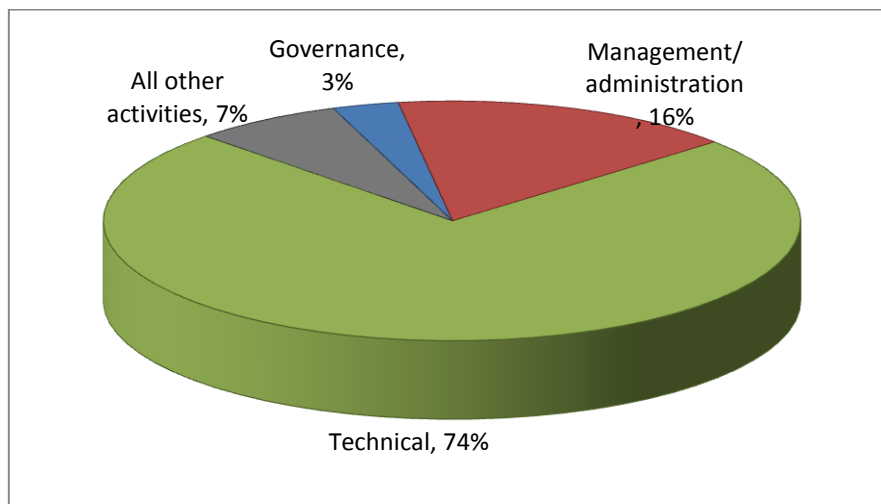
Resources

As well as funding from NCRIS, projects were supported by funding from state and territory governments, industry and private donations (philanthropy).
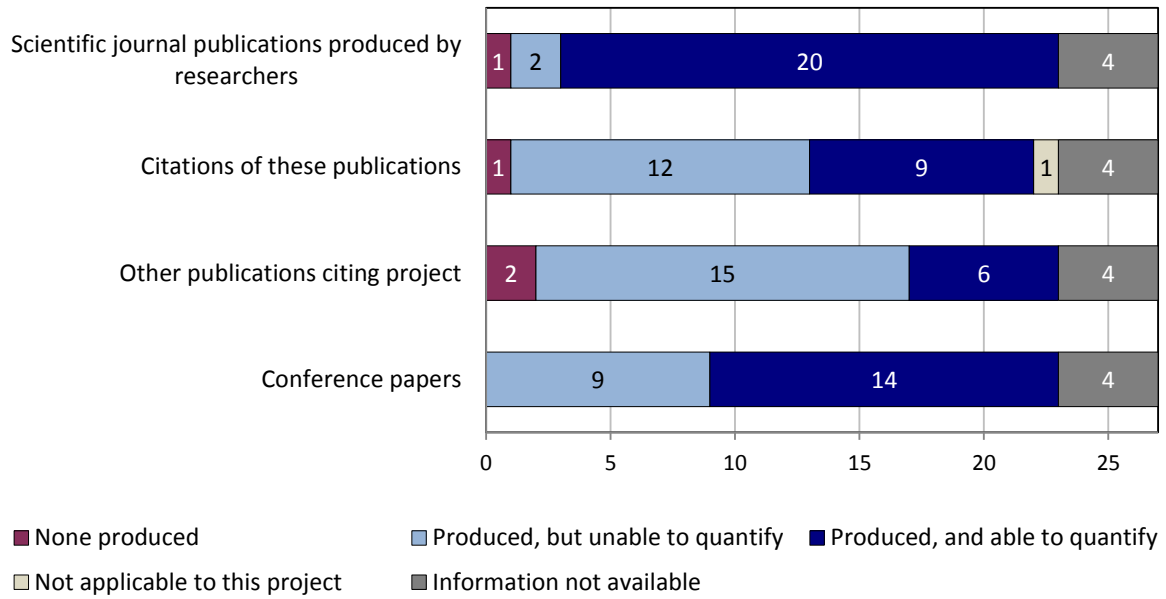
The largest single category of expenditure across NCRIS projects in the 2013-14 financial year was the maintenance of existing infrastructure, which consumed 50% of funding available to the 27 NCRIS projects surveyed.

A large number of projects indicated that they faced at least some level of skill shortage when looking to fill vacancies. These shortages mostly took the form of a lack of relevant experience and/or technical support knowledge.

Outcomes and benefits for Australia

Figure 5 shows that NCRIS projects were able to quantify the number of scientific journal publications produced as a direct result of researchers making use of project infrastructure. Outcomes and benefits included academic outcomes (scientific journal publications and associated citations; conference papers and other publications, etc), as well as industry/commercialisation outcomes (new and improved products, processes and services introduced to the market; proof of concept products; clinical trials; etc) and intellectual property outcomes (copyrighted materials; patents; invention disclosures; plant breeders rights; licences).

Figure 5: Research outcomes produced as a direct result of project infrastructure
All projects (n=27)

Legend:
- None produced
- Produced, but unable to quantify
- Produced, and able to quantify
- Not applicable to this project
- Information not available

FUTURE ACTION

The Department will conduct a survey to collect 2015 data and begin longitudinal data capture and reporting on NCRIS.