House of Representatives Standing Committee on Industry, Science and Innovation Inquiry into Australia's international research collaboration

Australasian Research Management Society submission

As the professional society for specialists in management and administration of research, the Australasian Research Management Society (ARMS) welcomes the House of Representatives Standing Committee on Industry, Science and Innovation's focus on Australia's international research collaboration. The Society is especially interested in three of the terms of reference for the Committee's current inquiry, namely:

3. The key drivers of international research collaboration at the government, institutional and researcher levels
4. The impediments faced by Australian researchers when initiating and participating in international research collaborations and practical measures for addressing these
5. Principles and strategies for supporting international research engagement

About ARMS

Since its founding in 1999, the ARMS network has grown to involve more than 1000 professionals from universities, research agencies and institutes, medical research institutes, R&D corporations, research centres, government departments, funding bodies, industrial R&D teams, service providers, commercialisation bodies and consultancies. Its members are located in all Australian states, the ACT, the Northern Territory and New Zealand.

ARMS is dedicated to the professional development of research managers and administrators, the promotion of the profession of research management and the enhancement of the research enterprise. It achieves this mission through:

- A strong and effective network of research managers and administrators at all levels
- Personal relationships, presentations, formal and informal meetings and publications
- Developing and promoting professional standards for research management in Australasia consistent with international best practice
- Improving the interface between research and its management

TOR3. The key drivers of international research collaboration

A range of factors drive international research collaborations. Among these, we wish to highlight the particular and underestimated role of research management professionals within institutions, driven by:

1. Institutional goals – such as accessing more facilities and data repositories overseas, increasing research quality and raising research funding and productivity

2. Organisational recognition that focused, consistent efforts are necessary to increase the level and quality of collaborations – as can be seen in the number of research managers' job descriptions that refer explicitly to fostering collaborative relationships, and research teams, such as Australian Research Council Centres of Excellence, employing research managers to manage collaborations between nodes nationally and internationally
3. Researchers' need to maximise the time that they can they devote to their projects – so they require specialist support from research managers and administrators to help win grants from overseas sources, negotiate contracts and report on progress and results
4. The complex set of institutional, policy and legal requirements involved in developing research agrements, including memoranda of understanding (MoUs), which often necessitate significant institutional support for research teams
5. Opportunities that come to the attention of research managers due to their networking with peers and diverse sources of information
6. The increasing internationalisation of research, especially in large projects and to meet ambitious objectives. This also reflects the global nature of some of the most important research challenges, such as climate change.

These drivers imply higher level objectives for the national innovation system:

- To increase the quality of research, by forming relationships with high quality researchers around the world, and by accessing facilities and other resources that we do not have in Australia
- To maximise the outcomes that can be achieved with a defined amount of research funding, by using specialist expertise of other researchers and research managers rather than trying to be self-sufficient
- To respond to international interest in collaborating with Australian researchers, due to the quality of Australian researchers and research facilities, and distinctive research strengths and fields
- To integrate innovation activities globally, reflecting economic and social globalisation trends
- To integrate the national innovation system with international research

In examining drivers, it is vital to remember that engagement is a means to an end; it should not be regarded as an end in itself. Collaboration has intrinsic costs – in building and maintaining trust as well as legal, communication and travel expenses – and so should only be pursued where it can be expected that the benefits of collaboration are going to outweigh these costs.

That judgement should, of course, recognise that costs and benefits can flow over long periods of time and impact indirectly. The benefits of a collaboration can multiply many times over and incremental costs decrease over time. Once a relationship is under way and yielding results, the cost of adding new elements progressively reduces. Less investment is needed in marketing, face-to-face interaction and formal contractual arrangements once awareness and trust have been well established.

This applies not only at a team or institutional level, but also at a national level. For example, Australia's pursuit of the Square Kilometre Array is building on investments by many individuals, organisations and government bodies over many years.

These long-term and wide-ranging benefits also come with risks: a poor experience with one researcher, one institution or a class of institutions can damage many others or the whole Australian research brand.

TOR 4. Practical measures for addressing impediments

ARMS would like to stretch the scope of the fourth Term of Reference for this inquiry, if we may, to not only consider impediments to *researchers* initiating and participating in international research collaborations but impediments to *all* who are involved in initiating and participating in international research collaborations. Engagement involves many parties in addition to researchers. Research managers in particular are deeply involved in initiating and fostering collaborations, and many of the activities that our members undertake are better done by specialists than by researchers.

We encourage the Committee to include the broader research sector when addressing this aspect of the current inquiry. There are practical implications for efficiency and effectiveness in, for example, funding or otherwise targeting researchers to undertake an activity that might be better undertaken by research managers.

Moreover, research managers are an important target for communication from government, institutions and funding bodies about collaborative issues and opportunities, as they are fewer in number and have broader motivations to increase collaboration than have researchers.

Three practical ways of addressing impediments to collaboration are to boost:

1. Understanding of other nations' research systems
2. Opportunities to form relationships internationally
3. Skills in forming collaborations

ARMS is addressing the first of these through much of its professional development and member communication activity. Many sessions at ARMS' annual conference and the biennial International Network of Research Management Societies (INORMS) conference are designed to enable research managers to more effectively engage with their peers, institutions and researchers in other countries by knowing more about the way their systems operate, the drivers for research in those nations, potential sources of funding to support research collaboration, and some areas of research excellence.

For example, attendees at the ARMS conference in Christchurch last September came away with a much deeper understanding of the New Zealand research system, while the INORMS conference to be held next April in Cape Town will particularly seed new collaborations across the Indian Ocean and increase knowledge of the issues facing research managers in developing countries. Because ARMS covers Australia and New Zealand, its members are able to learn much about research systems on the other side of the Tasman. For example, the ARMS magazine last year featured a comparison of Australia's Cooperative Research Centres and New Zealand's Centres of Research Excellence, to help members appreciate the similarities and differences.

There may well be benefits in the Australian Government working with the research sector to prepare resources about Australian research aimed at overseas researchers that could be:

- Used in presentations by Australians at international conferences – perhaps woven into a presentation on another topic and downloaded from the World Wide Web
- Included in conference hand-outs
- Easily found on the Web
- Used as a resource for articles in specialist publications

ARMS presents opportunities for its members to form international relationships through networking at our conference, participation in the INORMS conference and engagement with sister societies. Australia in fact hosted the inaugural INORMS conference, held in Brisbane in 1996. ARMS members are encouraged to attend conferences of sister societies in the USA,

Europe and the UK though, for example, discounted registrations. Each year ARMS provides travel scholarships on a competitive basis to members to help them attend international conferences and workshops. ARMS also attracts speakers from sister societies to its conferences.

Networking with peers in other organisations leads to new collaborations, stronger relationships and solutions to problems that might have arisen in, for example, debates over intellectual property or interpersonal communication. Networking helps reduce the risks of specific issues causing wider and longer-term damage. Overall, networking across research management societies internationally helps further international collaboration.

The long-term, wide-ranging benefits and risks associated with international collaboration call for a high level of skills in managing research and relationships. We have embarked on creating a body of knowledge for research management, beginning with a scoping exercise last year that showed members are especially keen to build skills associated with collaboration.

TOR 5. Principles and strategies

We suggest the following two principles for inclusion under this TOR.

1) Draw on skills across the innovation system

Australia's strategies for improving collaborations should draw on the enthusiasm and expertise to be found across the national innovation system. As well as researchers and research managers, other participants in the national innovation system that are strongly involved in initiating and participating in collaborations include firms, counsellors in Australia's diplomatic missions in other countries, their counterparts from other countries located in Australia (some of whom are ARMS members), the learned academies, bodies such as the Forum for European-Australian Science and Technology cooperation (FEAST), and officers in the Department of Innovation, Industry, Science and Research.

2) Clear, evidence-based performance review

The long-term and system-wide implications of research collaborations raise challenges in gathering robust evidence of performance and results of initiatives. Analysis of results must be taken across the national innovation system and over extended periods of time. This is not to suggest ARMS would support an increased level of data gathering: given the proportion of time that research managers spend on data gathering and reporting, it is not surprising that we are strong advocates of only gathering data that has clear purpose.

Rather, this is to reinforce the need for a system-wide, longitudinal perspective. What specifically should be measured? Because collaboration involves significant costs and is a means to an end, it should not be treated as a goal in itself for reporting purposes. A focus on mechanisms that enable collaboration, such as MoUs and collaborations funded by research grants, can easily distort behaviours. It is far more important to measure the *results* of collaborations, in the form of outputs such as joint papers and patents, or outcomes such as new products and services born of transnational cooperation.

If the Committee sees merit in tracking collaborations across the sector, it might consider the benefits of agreeing some standard indicators that would build on organisations' own data sets and assist government and the research sector. Such indicators would mitigate the problems that arise from ad hoc requests for data that lack consistency and demand unnecessarily large amounts of time to satisfy.

In conclusion

ARMS would be happy to expand on any of the points it has raised in this submission or where the Committee believes it may be able to assist in this inquiry.