Australian Academy of Technological Sciences and Engineering

Submission to the DIISR Discussion Paper on the 2011 Strategic Roadmap for Australian Research Infrastructure

The Australian Academy of Technological Sciences and Engineering (ATSE) welcomes this opportunity to comment on the Discussion Paper. ATSE would like to take this opportunity to make a few general comments on the Discussion Paper that apply across all of the working group areas. ATSE is particularly keen to see that any Roadmap for Research Infrastructure has a visible and stated target of attempting to maximise the Innovation Dividend from the public funding of research in Australia.

ATSE recognizes the role that high quality accessible research infrastructure, supported by expert technical staff, has in enabling high quality research. ATSE also supports the need to focus resources into capabilities that address the national research priority areas, while recognizing that some of the capabilities cut across multiple priorities and working groups.

However, the discussion paper does not appear to consider the distinct needs for research infrastructure to support the needs of industry (present and future).

Firstly, there is a need to invest in research infrastructure that can underpin the translation of research results and intellectual property, from the academic and publicly funded research sectors, into commercial outcomes and economic benefits. It is widely recognized that while Australia performs well against international benchmarks in a range of research areas, it is relatively poor at harnessing this activity and transforming it into economic benefit and industrial outcomes.

In many areas of research there is a gap between the kind of infrastructure needed to support research and secure research publication outcomes (which is where the NCRIS investment to date has been focused) and the type of infrastructure needed to support the commercialisation of the research. For example, the development of product prototypes typically forms a critical part of any technology commercialisation strategy. This generally requires the establishment of pilot-scale fabrication facilities, device packaging facilities and the like, which are generally not found in research organisations. Typically industry does not have such infrastructure. The result is

that we regularly miss opportunities to transform Australian industries or obtain economic returns on Australian research from licensing our intellectual property because this gap restricts access to commercial opportunities. This problem is particularly acute for disruptive technologies, because by definition such technologies have potential in industry sectors to which they are foreign (i.e. where there is no or limited relevant industry infrastructure).

Secondly, industry access to research infrastructure needs to improve. While there is some mention of this in the Roadmap Discussion paper, it needs to remain a priority. In addition, ATSE recommends stronger engagement with industry during any future processes scoping research capability requirements.

Finally, ATSE would like to note that the most important challenges the nation faces, from climate change to improved medical diagnostics, require the development of knowledge and technologies that cannot come from any one field or area alone. Noting that current drivers of research activity and behaviour such as the ERA assessment exercise and the structure of grant funding panels discourage interdisciplinary-based drivers, ATSE urges DIISR to create an approach to funding research infrastructure that actively encourages researchers to collaborate across discipline boundaries.