

# Submission

## 2016 National Research Infrastructure Roadmap Capability Issues Paper

<b>Name</b>	<b>David Moss</b>
<b>Title/role</b>	<b>Director</b>
<b>Organisation</b>	<b>Centre for Microphotonics, Swinburne University</b>

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

I strongly support A/Prof Steve Maddens proposal for a more comprehensive and integrated photonic chip fabrication capability in Australia. The United States has recognized the strategic importance of photonics by initiating the American Institute for Manufacturing Integrated Photonics (AIM Photonics) in 2015 - an industry driven public-private partnership that focuses premiere capabilities and expertise for critical global manufacturing in photonics. This is a multi-billion dollar project that will have a substantial impact on the American economy. In Australia, while we are recognized internationally in terms of our research capability in many areas of photonics, we have not succeeded in translating this into real outcomes for the economy. A large part of the cause for this is the lack of comprehensive fabrication capabilities. While it is admittedly difficult for Australia to match the level of investment that the US has made, we certainly need to do more than what we have. The MCN is good starting point but it needs much more in terms of resources – both equipment and personnel – to be able to offer services that are at the level that is needed for any startup based on photonic technologies – notwithstanding the presence of some world class tools like the Vistek e-beam.

We need our own capability here in Australia. We cannot rely on the few photonics foundries that exist around the world (IMEC, Belgium, A-Star, Singapore, and AIM in the US) that are both inflexible and expensive. Australia has a long way to go in transforming itself away from a resource based economy into one based on innovation and hi-technology. Hopefully this process will form the first step.

Email completed form to: [RoadmapSubmissions@education.gov.au](mailto:RoadmapSubmissions@education.gov.au)