



Thursday, March 30, 2023

Submission: House of Representatives Standing Committee on Industry, Science and Resources inquiry into and report on developing advanced manufacturing in Australia

The Advanced Robotics for Manufacturing Hub (ARM Hub) welcomes the opportunity to provide a submission to the House of Representatives Standing Committee regarding the development of advanced manufacturing in Australia. This submission is focused on expanding Australia's network of Factories of the Future to open innovation and collaboration in manufacturing, which will enable investment in key sovereign capabilities to be translated across industry sectors. We also recommend further investment in strategic programs for industry:

- technology accelerators
- global supply chain innovation programs
- workforce development programs
- manufacturing precincts of global renown.

In collaboration with Flinders University and University of Sydney Tech Lab, ARM Hub advocates the establishment of a pilot network of Australian Factories of the Future to be delivered through advanced manufacturing accelerator facilities. It is designed to assist Australia in becoming one of the most advanced research and innovation-intensive economies in the world.

Australia needs a coordinated network of Factories of the Future to accelerate the growth of high-performance manufacturing and provide the foundation for a coherent and successful industrial transformation strategy. A strong network of Factories of the Future will tackle Australia's narrow trade and industrial structure and create the industries and jobs of the future. Only manufacturing can provide the foundations for national reconstruction because it will deliver the innovation, productivity and competitiveness we need to ensure greater sovereign capability and economic complexity, including diversification of our export mix.

Achieving our goals

By 2032, our vision is for Australia to be one of the world's most advanced research and innovation-intensive economies characterised by its high-value, net zero, manufacturing industries across designated key priority areas.

A national network will define and create Australia's own model for industrial transformation. It will build enterprise and innovation capability, translate know-how and research into commercial outcomes, develop industry's skills base, decarbonise our industrial structure, turn Australia's comparative advantages into competitive advantages, and achieve long-term growth and jobs.

The industry-led network will facilitate open innovation and collaboration in manufacturing enabling investment in key sovereign capabilities to be translated across industry sectors. Manufacturing here is seen not as a vertical industry sector but a horizontal capability across all sectors. The network should have strong governance structures, KPIs, milestones, and intellectual property rules.

Investment would be required to ensure critical mass, including the ability to grow and scale activities to meet existing industry demand. As the engine rooms of industry, SMEs would require tailored support to digitally transform.

Leading digital transformation

ARM Hub is an agile technology centre in robotics, AI, and design-led manufacturing. As the trusted partner of more than ten major research institutions, ARM Hub is the access point to a world leading network of research and development expertise. We de-risk technology adoption, development, and commercialisation by drawing together the best scientists, technical specialists, designers, and engineers to work side by side with industry, particularly SMEs, to develop commercial solutions for their business.

We believe that digital transformation is crucial for businesses to achieve advanced manufacturing capabilities. The integration of advanced technologies, such as robotics and artificial intelligence, can transform traditional manufacturing processes into highly efficient, agile and responsive operations. This can lead to significant improvements in productivity, quality, and customer satisfaction, and ultimately contribute to the international competitiveness and growth of the Australian economy.

ARM Hub is advancing digital transformation in Australia through technology accelerators, global supply chain initiatives, and capability programs. Industry has identified these as essential for success. Technology accelerators for defence and energy curate talent and resources to accelerate the development of new technologies or provide solutions for modernising existing operations. It drives technologies through the technology readiness levels toward commercialisation.

ARM Hub can build Australian industry access to global supply chains. This is already underway with primes in the defence sector. The goal is to assist businesses in assessing the commercial potential for these products, including new across-sector applications for the technology.

Skills shortages are not unique to manufacturing. Many sectors are exploring talent pipeline programs. ARM Hub works with universities to engage with students to provide pathways for STEM jobs of the future.

- Employed six young graduate women as engineers who have continued in the professional workforce at CSIRO, Corematic, and Voltin, among others.
- Five young graduate and undergraduate women are working on real-world ARM Hub projects. In our core business today, ARM Hub employs six women and six men.
- Engaged 53 graduates or interns in Hub projects from university or TAFE, with 42 of these people considered 'youth' at 26 years or under. Of this 42 graduates and interns, 13 are young women.

In conclusion, digital transformation is crucial for businesses to achieve advanced manufacturing capabilities, which is essential to Australia's economic growth and prosperity. We urge the government to prioritise initiatives that encourage the adoption of advanced technologies, invest in education and training programs, and support research and development.

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