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A submission to the inquiry into the performance of the Department of Defence in supporting the capability and capacity of Australia's Defence industry

Building a culture of innovation

Building a culture of innovation within Defence and related industries that leads to fit-for-purpose novel and innovative products and solutions is essential if we are to address the current and future needs of the Australian Defence Force.

Delivering impact through innovative technology and solutions requires strong and sustained partnerships and collaborations across the value chain. Building a resilient Defence industry value chain requires engagement with startups, scaleups, small-medium sized enterprises (SMEs), multinationals, academia, investment community, governments and agencies, etc, working together in building up existing, new and emerging capabilities.

Startups, scaleups and small companies appear to have limited engagement within the Defence innovation ecosystem. Yet, they play a vital role in boosting the economy with fit-for-purpose technologies and solutions that address unmet needs. If there is a perception that startups and scaleups comprises "two person in a garage" teams, then this perception of "garage startup" must change and be brought into 21st century reality. Startups these days are managed by mature serial entrepreneurs and serial investors who are not only business and commercial savvy but tech savvy.

To attract startups and scaleups into the Defence sector requires Defence to move away from a one-size-fits all approach when it comes to business and contracting processes. Consider that investors of startups value business agility, flexibility and nimbleness as they operate in a competitive marketplace. Protracted negotiations, labourious and time consuming paperwork and long turnaround times for decision making would be a death knell for startups. To nurture a culture of innovation, it is imperative that Defence moves away from processes that foster incumbency.

There are opportunities to learn from others such as the U.S. Defense Innovation Unit (experimental) (DIUx). Much has been written about the DIUx. Since its inception, DIUx has become a gateway for companies to engage with US Defence. DIUx works with startups, established companies, venture capital firms, investors, and traditional defense contractors to deliver leading edge commercial technology to the US DoD. It engages with non-prime defence contractors including companies that are backed by large venture firms such as Sequoia Capital. To-date it has brought on board more than 65 first time vendors.

Cross industry sector engagement

Driving innovation requires engagement with related industry sectors. Defence industry should comprise multiple industries. To address threats to national security, capabilities and expertise that are required spans from submarines to subatomic particles, from biological viruses to cyber viruses, etc. Consequently, multiple industry sectors should be engaged. No one industry can combat the threats posed by malicious actors. Yet, there is limited strategy to promote, drive and support cross sector collaborations.

Innovation integrator

Defence has recently funded the establishment of the Centre for Advanced Defence Research and Enterprise (CADRE-OCE) at the University of Melbourne. The CADRE-OCE was established in January 2023 with funding through the Defence's "Operating in Chemical, Biological, Radiological and Nuclear Environments" (OCE) Science and Technology Research (STaR) Shot program.

CADRE-OCE functions an innovation integrator working with industry and academic capability partners and Defence to co-design and co-develop leap-forward technologies that are fit-for-purpose in addressing CBRN threats to national security. CADRE-OCE will tap into the breadth and depth of research expertise and capabilities throughout Australia to build critical mass and scale that is essential to deliver these types of innovations.

Moving from concept to capability, from invention ready to investor ready requires engagement with the global value chain. CADRE-OCE will be a key player in this global value chain.

Innovation integrator as a new model of engagement should be applied across Defence.