



# Capability development vision of the Australian Army

Defence IQ interview with Brigadier Ian Langford, Director General Future Land Warfare, Australian Army. Go to the Soldier Modernisation website to read the full length interview



Brigadier Ian Langford

**B**rigadier Langford joined the Australian Army in 1992 and has held a range of command and staff appointments in the Army and Special Forces during his career. He has served as the Commanding Officer, 2nd Commando Regiment, and has commanded multiple Special Operations Task Groups in Afghanistan, Iraq and domestic counter-terrorism duties. He has served in Australia's Joint Operations Command, Special Operations Headquarters, and as the Plans Officer in Army's Forces Command Headquarters. Recently, Brigadier Langford led the Chief of Army's Initiative Group and assumed the role Director-General of Future Land Warfare, Army Headquarters, in December 2018.

*Brigadier Langford's operational service includes multiple deployments to Timor Leste and Afghanistan, and single deployments to Bougainville, Solomon Islands, Iraq, Israel, Lebanon, Syria, and the South-West Pacific. For his service, Brigadier Langford has been awarded several Australian commendations and the Distinguished Service Cross on three occasions.*

**Q: What's your vision for the Australian Army's near, mid and long-term capability development to retain the information advantage in the future operating environment?**

**A:** The Australian Army is currently in the planning phase of developing its land ISR EW capstone plan. The plan provides the vehicle for us to articulate our requirements in two fold: firstly, in terms of defining how we will generate both land and joint force, and the information varies that's required to underpin that force; secondly, how we integrate that with the whole of government and our strategic intelligence assets across our broader national and ally network.

Our capstone plan goes beyond just our capital, to include our people, preparedness, how we prioritise that plan and how we invest in rolling it out over time. When it comes to translating the plan into outcomes, we have three horizons.

The near horizon is the development of the plan itself, where we really articulate the known capability gaps in our current ISR inventory, and then think about how we might remediate those through our current funding loans and our projects.

In the midterm it's about building the enterprise: we design the concept and build the capability development roadmap around it, using our existing programmes here in the Army. That means we can capitalise on our platform

programmes to be able to then thread those through an ISR EW network, so that not only can we integrate the current legacy systems, but also build through the third, fourth, and fifth generation of intelligence technology and build an all-informing network.

In the long term, the plan is about reshaping the entire enterprise to be ready for AI, machine learning, quantum computing, and the internet of things, and understand what that is going to mean for us.

The more traditional notions of human intelligence, signals intelligence, communications intelligence, and imagery intelligence are the analogue way of looking at intelligence; through our capstone plan we will be looking at fused and synthesised information being turned into intelligence at the rate that AI will allow us to, to support decision-making in the future.

**Q: What type of technological enablers/disruptive innovation will allow the Australian Army to maintain the competitive edge in hybrid warfare? What are some of the inhibitors preventing rapid integration of these technologies into force structure?**

**A:** In the challenge that will come with hybrid warfare, one of the most significant responsibilities is to compete and attempt to own the narrative. With the advent of the



Photo: Australian Army

pathologies of globalisation, such as social media and rapid information networking and dissemination, our capacity to dominate that space becomes really important.

The Army will be looking forward to integrating emerging tech to include, AI, big data analytics and digitalisation tools to protect our values and project our own narrative, but to also be able to act as an effective counter to an adversary. It can involve for example trying to defeat deep fakes under the challenges of alternate narratives – much of what we have seen in recent conflicts in terms of misinformation and false information being put across social media to elicit a massive response regardless of whether it's true or not. Defeating that through our own narrative becomes critical, and especially so in hybrid warfare. We think a lot about how to defeat fakes and bots in the context of how we can win over the population; we recognise that through our national sophisticated framework, it begins with us engaging with citizenry on the technical level, and extends all the way out to our geostrategic messaging.

More broadly, we have a strong focus on AI, autonomy and the digital network; we want to be able to maximise our soldiers' performance by reducing their cognitive load and support their rapid decision-making. This includes leveraging off technology, not only to improve individual decision-making, but to also improve headquarter performance, especially when it's desegregated.

Moreover, we are a small army so mass and effects are really important, and being able to scale them becomes critical; our presence, our reach, and our lethality become crucial. The Army has got an organisation project at the moment which really focuses on the network, our lethality and our fire systems. Our protective manoeuvre systems and our enabled soldier systems are looking for opportunities that manifest themselves as human-machine teaming, autonomous swarming, robotics and autonomous systems which can assist humans do the dull and dangerous work.

Due to our small size, the efficiency that comes with using AI and tech enablers is really important, whether to

make our supply chain less human-intensive and more agile, or using AI and big data to support decision-making and rapid information fusion and synthesis, to generate strategic dilemmas for our adversary by being able to make decisions at a much more rapid pace.

All of these elements are considered when thinking about scaling, as opposed to the more dated concept of only mobilising the populous; the reality is much more sophisticated now in terms of generating those capabilities through disruptive innovation. Force protection is really important, and we can use autonomy to remove soldiers from dull duty and dangerous tasks. Obviously, the broader proliferation of unknown systems and their capacity to service our requirements is an opportunity that's ripe.

Other aspects we focus on are some of the emerging opportunities that include directed energy weapons; we are certainly conscious of the challenge that comes with space, power and energy when it comes to some of these intensive energy weapons options; it would be appropriate to think about directed energy and what it might mean in the next 10-20 years.

Moreover, AI and autonomy seem really impressive at this point. AI is pretty brittle, but I think as it grows and proliferates, its application will become apparent. We need to be the early adopters or first followers on that, because once that genie is out of the bottle, we'll be in big trouble if we're not on it. The other element to codify around this is clearly our morals, our ethics and our laws. We reflect our society, and we are part of a democracy that has legally codified what's appropriate, what reflects our values and our international obligations, and we need to remain consistent with those. ■

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