



**Lieutenant General Angus Campbell, AO, DSC
Chief of Army**

Australia's Joint Force land capability

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Distinguished guests, colleagues, delegates, ladies and gentlemen.

Good morning.

I would like to also acknowledge the Traditional Custodians of the land on which we are meeting this morning, the Ngunnawal people, and pay my respects to their elders, both past and present. And in doing so invite, indeed strongly encourage, young Ngunnawal men and women to consider following a proud Indigenous tradition of service in our Army, or Navy or Airforce.

Army's mission is '*to prepare land forces for war in order to defend Australia and its national interests*'. We do this as part of the Joint Force. A joint force which operates in the context of Australia's wider national security community and capability, enabled by defence industry; and inevitably, in partnership with our allies and regional friends.

Success in our job is a team effort and the Army is acutely conscious that we only win when all of the team is enabled, connected and performing.

Events like the Australian Defence Magazine Congress have a useful role in facilitating connections across the team; in particular between the services and industry. I think that the success of the ADM is as much due to its ongoing deep engagement with the Australian Defence community as it is the quality of the articles published. I congratulate Katherine, and her team, in building the Australian Defence Magazine as a journal of record for Australian Defence Industry's inputs to defence capability.

Connection is not an end in itself. What really matters is the *communication* it allows. So I am grateful for the opportunity to talk with you about what is happening in the Australian Army today, and share some thoughts with you about where we may wish to be in the future.

The Army is busy. We are a bit of a national 'Swiss Army knife' – versatile, useful and, I think, a good return on investment. And backed by over 100 years of what I think is outstanding performance. I'm equally supportive of the RAN, RAAF, ADF and Defence. We work as one team, for Australia.

We are now in our 19th year of sustained and ongoing operations with our joint force and interagency partners – in the Middle East, our closer region, on our borders and at home. Our soldiers continue to impress our allies, partners and friends with their professionalism, dedication, initiative and resilience. They are an extraordinary group of Australians of which our nation can be rightly proud, as am I. My number one priority remains to support these operations – after all, it is the reason we exist. And as many will know, I have four key priorities as Chief of Army, the others being:

- Support to our wounded, injured and ill – respecting service and sacrifice, rebuilding people’s lives and our capability.
- Modernise our force – which includes our equipment, but also more broadly the doctrine, tactics, training systems and methodologies by which we understand and think about war.
- Finally, we will continue our focus on cultural renewal. This is a story which is relevant every year as we try to be the best army our nation requires and aspires for us to be.

These priorities can be reduced to three enduring themes, common to our counterpart armies all over the world: readiness, people and modernisation. In planning for the future through our modernisation efforts we seek to *protect, empower and support our Diggers to achieve their mission for Australia*. That’s what I want to do with you. And of course, by our leadership, equipment and national purpose, we must *inspire* our people; inspire them to serve a great national enterprise, often in hardship, but always as a team.

A significant achievement of our modernisation effort last year was the completion of *Plan Beersheba*, which began in 2011. *Beersheba* realised some great outcomes for the ADF. It:

- standardised brigade structures, improving our ability to sustain operations;
- rebuilt a readiness model that provides a three year framework to prioritise resources and training among brigades;
- integrated our reserve and full-time components as a truly ‘total force’; and
- developed Army’s contribution to the ADF’s amphibious capability.

An outstanding basis from which to prepare our force for war.

To protect, empower and support our Diggers is to allow them to operate within what US Secretary of Defense, Jim Mattis, recently referred to as that 'final 600 metres of foreign policy'. We want them to not merely survive, but to thrive, fight and win in the contested and lethal arena of close combat.

This is the arena in which only the Army, among all of the contributors to our national security, has the task of representing Australia's National interests, 'up close and personal', to those who would seek to thwart those interests. That's what our young men and women do, and we need to help them.

I want to mention a few projects that are helping to 'protect, empower and support' our soldiers.

Project Land 400, part of the ADF's Combat Vehicle Program, is critical to the Joint Force's future close combat capability. Phase 2 of Land 400, the Combat Reconnaissance Vehicle project, is progressing well. We anticipate that Government will have an announcement to make in the first half of this year. I have been really impressed by the work done by both companies presenting vehicles for Phase 2. I want sincerely to thank both BAE Systems Australia and Rheinmetall for their excellent tenders and teams during the evaluation process in 2017.

We expect to seek responses from industry later this year in a similar process for Land 400 Phase 3, to acquire the Infantry Fighting Vehicles described in the 2016 White Paper.

Land 400 is one of my three critical project priorities; the others being Land 200, the digital network; and the suite of Soldier Combat System projects. Together, these priority projects will see a powerful land combat system network supporting the orchestration of protected manoeuvre and empowered soldiers, better aware of their environment and able to decisively achieve their mission.

Other projects are also contributing to 'protect, empower and support'. Land 121 Phase 3B, the Heavy Medium Truck capability is currently being introduced into service. I saw them in 7 Brigade last week in Brisbane. 3 Brigade in Townsville will receive their vehicles from mid-2018. These vehicles will revolutionise Combat Service Support in Army.

Land 121 Phase 4 is acquiring 1100 Hawkei vehicles to provide a protected, network enabled, light vehicle capability. These vehicles provide a balance of survivability, mobility, communications and payload. Two Hawkeis have recently been deployed to the Middle East.

The Hawkei is a great piece of kit. I like it so much that I had one of them temporarily brought to Canberra, and put the 'Army One' number plates on it. Not so I can have a cool ride – although it is certainly that - but for people to see what the tax payer is providing to our soldiers and for people to begin to understand how technologically transforming it will be. We are not thinking of the Hawkei as a vehicle with a digital network added to it. Rather, we are thinking of it as a node in our digital land combat system, with a highly capable protected vehicle built around it. I drove here this morning

in the Hawkei. I suspect we surprised the heck out of the concierge when we pulled up out front of the Hyatt and asked for valet parking!

Hawkei is an example of the benefit which accrues from innovation and cooperation between Australian Industry, in this case Thales Australia, and the Army. I am interested in more. The perennial issues of lighter armour and power generation / battery capacity for our soldier combat system are areas ripe for the application of more innovative thought; as is the field of Unmanned Aerial Systems or UAS.

It would be great to see the development of a sophisticated military UAS industry in Australia. This would be of real benefit to the ADF and the nation. It may come as a surprise to some in the audience, but Army is Australia's biggest and most experienced user of drones, albeit of the smaller variety, and with respect for the more sophisticated systems in the Airforce and Navy.

As an example, a few years ago, under Project Land 129 Phase 4A, Army looked to acquire a small UAS for use in close reconnaissance by our Combat Teams. We were seeking approximately 65 systems so that we could field one for every Combat Team in the Army between 2018 and 2021. And I expect more will follow in time. The open tender process revealed that there were no suppliers of such a capability within Australian industry - even though our excellent civil UAS industry did make all of the constituent elements of such a system.

The method chosen by Army and the Capability Acquisition and Sustainment Group to realise the potential of Australian Industry to develop a sovereign small UAS was a

‘special notice’ through the Defence Innovation Hub. The goal of the ‘special notice’ is to develop at least one, but preferably more, Australian competitive tenderers for the anticipated Land 129 Phase 4B contract in the early 2020s. The challenge statement was issued in June 2017, 47 submissions were received and moderated to 18 Requests for Proposals. These were narrowed down to four final respondents. I anticipate we will have contract signatures sometime in the first half of this year.

It is perhaps a statement of the obvious that the manufacture of UAS and the development of related technologies are industries of the present and the future. Others in our region are already making great strides. An article in *The Diplomat* magazine a few weeks back described how a Chinese team set a record last December, mobilising the largest swarm of drones in history. Over 1,000 miniature drones performed a series of collective tasks at the Global Fortune Forum in Guangzhou, showcasing just how far and rapidly things are developing in the realms of robotics, autonomy and AI.

So what leading advice might I offer Australian Industry and its collaborators? Firstly, we will always want to network, protect, empower and support our soldiers. And there will always be soldiers on the battlefield but they will need our best efforts to lower the ‘risk envelope’ in which they operate in an increasingly lethal environment. Teaming with our soldiers will, in time, be these three technology areas showcased at Guangzhou – robotics, autonomous systems and Artificial Intelligence. They are part of a wave of technological development that will change the world.

As with any approaching wave, there are choices in how we handle it. We can ignore it, pursuing ‘more of the same’ and risk being tossed around and left floundering in the

wake. We can take a breath, dive under it and hope to come out on the other side, seeking time to assess which technologies we will acquire. Or we could start paddling now, riding the wave to secure an innovative and technological future.

This isn't a simple choice, bits of all three approaches may be appropriate.

In making choices we should remember what Thucydides wrote more than 2000 years ago: *'hope is an expensive commodity. It makes better sense to be prepared'*. You won't be surprised to hear that I want the Army, in conjunction with Australia's science, technology and industry sectors, to *prepare* rather than *hope* for the future.

Realisation of innovative capacity in robotics, autonomous systems and AI in complement with the protection, empowerment and support of our Diggers may well be the foundation for our so-called '5th generation Army'; an army able to hold up its end of the force with our highly sophisticated Navy and Air Force. Might human / machine teaming, and the application of key technologies, enable our relatively small army, a total force of 45,000, to generate, cost effectively, the effects of an army many times that size? Is this even the right question to ask?

I need industry committed to delivering projects for our soldiers *today*, as described in 2016 Defence White Paper, and experimenting with Army for the *longer future*.

And that means STEAM skills: Science, Technology, Engineering, Arts and Humanities and Mathematics. The technology, the people and the military, legal, ethical and societal concepts to succeed are *all* essential.

The realisation of a human/machine, robotics, autonomous systems and artificial intelligence approach, may represent the biggest single step innovation change our Army

has ever undertaken. Army, Defence industry and society need to further develop our collective thinking on this, possible, future. We will be looking to build partnerships of thought and action with interested parties and stakeholders. You might consider this a call for collaboration, building on the connected network this ADM congress helps enable.

Building from this congress, Land Forces 2018 in Adelaide this year will further foster connections between Defence and Industry. Army will attend Land Forces 2018 in force, as I am committed to connecting with partners, understanding challenges and opportunities and strengthening Army's relationships as we seek to innovate.

I am also inviting 34 international counterparts to attend the Chief of Army Land Forces Seminar (previously the Chief of Army Exercise), which will be held alongside Land Forces 2018, and Defence Science and Technology Group's Land Forces Science and Technology Conference. I encourage industry colleagues present to make the most of this opportunity to collaborate with such a broad network of Australian and international partners, and to continue our discussion about our shared efforts for today and for the future.

Thank you.