The Land Combat System

Good morning ladies and gentlemen.

I 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.

I echo Vice Admiral Barrett’s thanks to Kim Gillis for the invitation to speak today. I do so on behalf of the Chief of Army, Lieutenant General Angus Campbell, who sends his apologies. He is presently undertaking counterpart visits in North America.

The Chief of Army spoke at the ASPI conference last week on ‘The joint and integrated ADF’. His remarks are available on the Australian Army website. Today I want expand upon his remarks regarding the Land Combat System. I want to illustrate the complexity of the environment we must sustain our Land Combat System within, and introduce some questions Army needs CASG and Industry’s help in framing.

A good way to understand the Land Combat System is that it is the product or outcome of the Army’s mission, which is: To prepare land forces for war in order to defend Australia and its national interests. It represents the end state of our force design, capability acquisition and integration of the fundamental inputs to capability. It takes our sensors, shooters and networks and combines them into the ‘thing’ which generates the ‘joint land effect’ on the battlefield.
The Army, in cooperation with others, is developing a ‘top down’ design and architecture for our Land Combat System. This will ensure it integrates our current and legacy capabilities with those in the IIP, as well as those yet to be developed. Furthermore, the Land Combat System will be both a component of, and connected into, the ADF ‘Joint Combat System’.

The system will necessarily be scalable, agile and tailorable. The design must address how the elements of the system come together, in different ways, to address a myriad of circumstances - many unimaginable today. The aspiration is a system that is greater than the sum of its parts based on the basic building block of a combined arms team.

As HLC you may have heard me speak about Land projects specifically and capability acquisition more broadly. I am generally satisfied that we have a sufficient understanding of future acquisition challenges. However, five months into my role as Head of Land Capability, I remain uneasy about our understanding of the complexities of sustaining and using the capabilities vital to the Land Combat System. I am going to briefly discuss these complexities now.

Complexity arises from the infinite array of possible operating environments and circumstances for the Land Combat System. This is the stuff of futurists and force developers. The Army and the ADF spend a lot of time thinking about this space. We have an array of documents, publications and concepts telling us how and what to think about it. This is all worthy stuff. And despite what we know about prediction – especially about the future – some of it might even be accurate!
The next complexity is the sheer number and range of capabilities we manage within the Land space. While supporting a joint land effect, the capabilities run through and across the land, sea, air, cyber and space domains. We are an Army, but we also manage an internal air and marine force. The latter provides an instructive example. Army alone manages 18 different water craft mission systems. We have a total number of 973 assets spread across various commands. These mission systems range from two person canoes through to floating bridges and landing craft.

Then there is the complexity of the capabilities themselves. To give you an example, consider the central actor in our system – the combat soldier. In response to modern threats, our Soldier Combat System project has greatly enhanced the soldier’s lethality, protection and communications. Some of you may remember when a soldier was issued with a rifle, helmet and webbing. Nowadays each of these components is a sub-system in its own right. The rifle now has between 5-7 separate attachments including day sight, night sight, laser aiming device and a grenade launcher. The helmet can be fitted with a head torch and IR strobe. And the soldier also wears ballistic goggles and hearing protection. This equipment needs to be configuration managed, sustained and maintained – with commensurate increases in cost. In 1999 the gear a soldier carried into combat cost $3,700. Last year the kit cost $37,193. For any non-engineers amongst you this equates to a 10 fold increase in cost.
The next factor in our complexity is the Land Combat system’s physical distribution. It is located where our soldiers are – all over this vast country (every capital city and many regional ones) and across the globe on operations. Further complicating this is the need for Land Combat System capabilities to operate in hostile, mobile and difficult environments, which in turn can make contracted support solutions somewhat tricky.

Alas, the system Army has to manage and sustain its capabilities is also complicated. AHQ has nine programs responsible for end to end, cradle to grave management of capability. Sustainment is delivered through engagement with over 40 SPO and 7 Joint Logistic Units. The Army relationship matrix is very large once you factor in our Industry partners.

So what is the impact of this complexity? Ultimately, it means costs of ownership are increasing and we need to remain vigilant to ensure we are able to live within our means. To that end, I am very interested in hearing from our CASG and industry partners about:

- How you might help us reduce our cost of ownership?
- What tools or systems may be available to assist in ensuring kit is affordable throughout its life?
- How do we better position logistics to support the modernised Land Combat System?
- Is there a way we can challenge / change / or drive our Force Generation model to optimise maintenance, sustainment and resource usage?
While I am in the process of asking questions, there are others beyond sustainment that we are asking:

- The Land Combat System will necessarily adopt an open architecture approach, improving our ability to scale, tailor and to adapt to technological change. But how open should ‘open’ be?
- The Chief raised concerns about redundancy and resilience within the Land Combat System – what is the premium we will pay or the opportunity costs of this?
  - How much is ‘enough’?
  - Can we ‘future proof’ the Land Combat System against the technological shock and surprise which is almost inevitable?
- How should we plan for the likely transition to partnering our soldiers with AI and robotics – possibly sooner rather than later?
  - And what may be the implications for the ‘legacy fleets’ that we are acquiring in today’s IIP and expect to use for the next three decades and beyond?
- And finally, How do we best prepare our people to be able to contend with the rapidly changing environment of the future and the increasing levels of technological sophistication of our capabilities.
The bottom line is that the Army’s Land Combat system is being designed and shaped according to the questions we frame today. We realise that developing these questions will involve a combination of art, science and working with others.

So, I invite everyone here today, the other Services, CASG and industry, to engage and tell us what questions they think we should be asking to ensure Army retains its capability edge in an affordable, sustainable fashion.

And then, once we have the right questions, it will be vital for the Army, the joint force and the Nation that we get the answers right. Thank you.