



## **Lieutenant General Angus Campbell DSC, AM Chief of Army**

*Remarks – Panel discussion ‘Policy and implementation challenges to building the joint and integrated ADF’; Session Two of ASPI conference ‘Building the Joint and integrated ADF’.*

(Guidance – 8 to 10 minutes)

1,242 Words

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Good morning ladies and gentlemen.

While the development of the ADF as a joint and integrated force involves cultural, doctrinal, civil-military, inter-agency, international, and conceptual aspects, today I will focus on our technical connectivity, integration and interoperability.

I am going to open my remarks by quoting from a speech CAF recently delivered in Washington DC. Air Marshal Davies said:

*Our most immediate challenge concerns integration within the ADF and in particular our earlier-generation systems. Equally, we must examine how Air Force will operate with our principal ally, the United States. Finally, we need to understand how we will function at a force-level with regional partners still developing their force-structure, who do not possess the generational capabilities of Australian or American forces. This is a complex set of challenges.*

I couldn't agree more. If we were to delete the words 'Air Force' and insert 'Army' or 'Navy', or any other sectional interest, then CAF has summed up our immediate challenges as an ADF.

Army needs to prepare land forces for remote, austere and hostile operational environments.

Arguably, more so than the air or sea domains, the land environment consists of 'complex terrain'; cities, jungles, littorals, swamps, deserts, mountains and populations. The land force is in them, around them and moving through them. The terrain effects of where we operate are often incompatible with the idea of 'ease' of connectivity and integration.

Further complicating matters is the sheer number of 'nodes' we must connect to empower a capable joint force.

Our Navy has around 48 very capable Major Fleet Units and other significant vessels. Our 5th Generation Air Force, in entirety, will have around 300 flying platforms when the 2025 Objective Force is realised. Each ship or aircraft is a node in our ADF network.

Just one of Army's Combat Brigades may have up to 2,000 nodes that potentially need to be connected; with echelons of capacity and access subject to function across and through the organisation. And all of these nodes are moving through, and seeking cover in, and being obscured by the complex terrain I mentioned before.

Furthermore, the integration of our land combat system is a different challenge because of its physical boundaries.

Put simply, a warship or an aircraft is a combat system contained within the physical shell of the vehicle. There is still an integration issue across platforms, but with largely known properties and conditions to generate a system of systems approach.

Until the Thales Hawkei vehicle, land equipment has been retrofitted with and into the network, it hasn't come integrated in the shell of the vehicle. And the land network between nodes is always dispersed and highly dynamic.

So, before we even begin to consider the challenges of connection and integration to the other parts of the joint force, and regional or coalition partners, the Army has a fair problem set in trying to integrate within our own land combat system; but we must not succumb to the allure of the stovepipe. Our combat systems must be connected to, and a component of, the ADF combat system.

ASPI recently described Army as a 3rd Generation Force. If the ADF is to fight together, Army has a lot of catching up to do.

We haven't always been as successful as we might hope in doing this. We have been far more successful in addressing cultural and conceptual modernisation issues. Despite the training, education, thinking and engagement of our people, who consistently inspire me, our technical challenges remain.

Peter Leahy started the 'Hardened and Networked Army' initiative 15 years ago.

We are still not a networked Army today.

Given our record, and the challenges we face, I think it would be heroic to declare that we will have an effectively networked land combat system, with coherent whole-

of-system design, operational in a decade – that’s a quarter century transition from analogue to a designed digital force.

Building this networked combat system needs deliberate and coordinated design. Traditionally, the Army has focused on people, increasingly it is the effective integration of equipment and people that creates capability for the ADF

Our current Project Land 200 Tranche 2 will begin the transition of a battlefield management system toward a networked land combat system that integrates the sensors and fire power systems on land platforms; and between people, vehicles and HQ.

That land combat system will adopt an open architecture approach, improving our ability to adapt to technological change. Importantly, it will enable Army to move beyond stove-piped proprietary systems.

Our future will be shaped by problems and possibilities. The problems we need to worry about are:

- Interoperability with allies, especially with the United States and other ‘Five Eyes’ nations, and close coalition partners,
- Signature management of our electromagnetic emissions,
- Network resilience,
- Graceful degradation under attack, and
- Coping with catastrophic network failure, through mission command.

The possibilities come through our joint focus and the land combat system that emerges by design and intent.

We need to stop buying stuff and then agonising for a decade over how to connect it.

Specifically, I seek:

- A land combat system that is both a component of and connectable into the ADF 'joint combat system', and
- A 'top down' design and architecture for the land combat system.

These principles will drive the way each platform or capability is acquired, the sequencing of that acquisition and how it 'connects' to the backbone of the land combat system.

My Head of Land Capability, MAJGEN Kath Toohey, likes to say – 'our preference is for "military off the shelf" – unfortunately, we have never found a shelf we didn't like'.

We will be critically looking at MOTS and COTS acquisitions for their ability to connect into the land combat system by design.

Army's Land Network Integration Centre is providing the testing and proving ground for design, integration, interoperability and the development of our command, control and communications systems.

Training and simulation is being established as a core component of junior leadership training, ensuring that our next generation of commanders will think and fight digitally, and cope with a system under attack.

All of this is consistent with the DWP16 vision of deployable, mobile, networked Task Forces, the foundation of modern Australian military operations. This is where Army needs to be, as a component of a joint and integrated ADF fighting force.

Thank you