



A Fifth-Generation Air Force – Alliance Structures and Networked Capabilities

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1. Introduction

Ladies and gentlemen, it is a great privilege to be here with you today to talk about a topic most vital to my role as an air Chief; namely the development of our future force in the context of our strategic alliances. Specifically, I will discuss the development and sustainment of Australia's "fifth-generation Air Force", what that means for the Australian Defence Force, and what it may mean for our most significant ally, the United States. I will also examine the implications of this force for our engagement with other regional allies and partners.

2. Australia's development of a "fifth-generation Air Force"

We believe we coined the term "fifth-generation Air Force" in our recently released *Air Force Strategy*. We defined the concept as:

"...a fully networked and integrated Air Force that exploits the combat-multiplier effects of a readily-available, integrated and shared battlespace picture to deliver lethal and non-lethal air power for joint Australian Defence Force, allied and coalition operations."¹

We aim to be the first "fully fifth-generation" force. By 2025, we will possess no legacy platforms – our oldest aircraft will be our J Model C-130 Hercules! Such sweeping transformation naturally provides us tremendous opportunities, but does, of course, pose a few challenges.

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.

The solution lies in not just coining a phrase, but in developing a strategy to set our organisation on a different footing. Our *Air Force Strategy* contains five vectors for organisational change. The first of these is "joint warfighting". It describes how Air Force will operate as part of the Australian Defence Force, and with our allies in coalition operations.

¹ *Air Force Strategy 2017-2027*, Royal Australian Air Force.

In terms of opportunities, the Royal Australian Air Force's fighting elements will largely comprise systems common to the United States Navy and USAF. Our Joint Strike Fighter – the A model – will be in service with the USAF. This presents obvious options for collaboration. The remainder of our combat force – our Poseidons, our Tritons, our Super Hornets and Growlers – will match the capability set of the USN.

Therefore, our Air Force sits in a compelling position, straddling different force elements of our greatest ally and strategic partner. Our modern Air Force offers the potential to explore how we can operate together in a maritime environment supported by sea and land-based air capabilities.

I will return to the significance of this in a moment.

2.1 History of our fifth-generation force – alliances, friendships, and capabilities

But first, how did we get here?

Australia's current, and more importantly our future force structure, has come about in large part because of our enduring relationship with the United States.

Indeed, our development of a fifth-generation Air Force has been fostered by paying very close attention to relationships at all levels, with all of the US Services, over a number of decades.

A famous Australian, General Sir John Monash, who commanded both Australian and US forces in World War 1, on witnessing Australian airmen protecting Australian and US soldiers on the Western Front, described those primal combat operations as "the perfection of teamwork".² His comment stands as an enduring reminder that our alliance is about more than shared

² Sir John Monash, Memoirs, "Hamel", Western Front, 1918.

interests. It is about the friendships and close associations that develop in the test of combat, with a vision of common strategic purpose.

A century later, our Wedgetails, Super Hornets and tankers, operating in the skies of Iraq and Syria today, affirm these bonds. They belong to a committed, hi-tech ally seeking actively to partner – and to do more – in the cause of common strategic interests.

One description of this relationship would be “institutional interoperability”.

Another is friendship, or, as we say in Australia, mateship.

Either way, I consider these relationships as the bedrock of an effective security and military posture. They are the intangibles that breathe life into collective security arrangements such as ANZUS, and the reason I can sincerely call many people in this room my friends.

Ultimately, whether through friendship or institutions, our combined joint capability now means we can prosecute our shared interests together more decisively. Where necessary, we possess the means to do so more forcefully.

3. What does a fifth-generation Air Force mean for the ADF and US integration?

In Australia, the imminent arrival of the JSF has crystallised a developing debate between our three Services. It has forced us to think about networked capabilities which will integrate our Army, Navy and Air Force from design through to operational delivery. This aircraft has re-defined “joint”.

JSF also means that, with the US, we are more than just friends and allies. We are technology partners whose capability brings us shared futures. Fifth-generation systems were conceived with that purpose in mind from the outset.

When people ask me what a fifth-generation air force is, I could tell them it means a fully-networked and integrated air force whose systems share battle-space awareness from multiple nodes to increase situational awareness, targeting fidelity and maximise whole-of-force effects.

Instead, I employ the metaphor of a formation, a “four-ship” of JSFs: an Australian, a Marine Corps, a USAF, and a Navy jet.

An airborne team of teams, our four pilots draw from common intelligence mission data, threat libraries, target-acceptance and validation. They are supported by networked, nationally agnostic command-and-control systems, electronic warfare assets, airborne early warning and control systems, air-to-air refuelling elements drawn from our joint combined force. They have trained together, they have fought together. Even our logistic support is common. Parts and weapons can be shared as readily as data, and as quickly as technicians can fit them.

Software and hardware combine to make this team one of the most lethal and versatile air combat capabilities available to allied and coalition forces.

JSF allows us to envisage the interoperability, not only of Australian and US forces, but other regional and allied JSF operators. This ability to be an ‘integrator’ is why the JSF is a catalyst for fifth-generation combat. We have started to explore what this means in Australia at a whole-of-force level. I invite the USAF and the USN to join and expand that conversation.

I do this knowing that for an Australian Chief to extend such an invitation is to step into your backyard. But it is also our backyard. And, I know that your successful integration is a force-multiplier for our shared objectives. Together we can realise the full potential of fifth-generation capability more quickly than alone. We must accelerate meaningful conversations between all our Services – our armies, air forces and navies – on the future of joint-force integration at an alliance level. In some respects, our size allows us to turn faster.

We want to participate in your force-design processes so we can produce scaled, high-end systems for a medium power like Australia. Our aim is that our forces, and others, can operate seamlessly alongside yours.

Shared design acknowledges that fifth-generation is not just about specific platforms such as JSF. It is about whole-of-force level concepts, and capabilities that dramatically change the way we engage within any battlespace.

We, in Australia, are starting to explore the strategic implications of these shifts in our national force-posture. We want to explore them with you.

4. What a fifth-generation Air Force means for Australia's regional relationships

So what does this mean for Australia in a regional context? Our geography, coupled with our unique relationships, make our fifth-generation Air Force a game-changer for regional stability.

Australia's defence objectives have, at their core, a requirement to bolster regional states to encourage their participation in the rules-based global order.

Our Defence White Papers – from 2009, 2013, and 2016 – are consistent in advocating this as policy. We reflect it in our defence posture. A rules-based global order is our strongest preference, and we are working with our regional partners to bring it about.

4.1 Geography

Self-evidently, our geography will always drive our engagement with the militaries of the South-West Pacific and South-East Asia. We will continue to explore how to work with regional partners, despite the misalignments that occur in technology, concepts, and cultures between countries.

I have first-hand experience of that in a practical sense. As a young navigator, I flew P-3 Orion missions out of Malaysia on what is known as OPERATION GATEWAY. Begun in 1980 to provide counter-piracy and maritime security, GATEWAY continues today because our interests, and those of Malaysia, remain constant as we protect our sea-lanes.

I reflected then that Australia's active security cooperation, with partners like Malaysia, generated steel threads which bridged oceans. Those threads went beyond Australia and Malaysia. Cooperating with US forces was an ever-present factor in those operations, and there was a regional dividend of transparency and peace. As often happens, multiple partners underwrote security outcomes – albeit with different levels of capability.

Our fifth-generation Air Force will expand those opportunities. For example, our P-8 Poseidons will use sophisticated, integrated sensors and data at a highly classified level, yet we will continue to operate from Malaysian bases.

Traditionally, “air riders” from other nations have accompanied our GATEWAY patrols. This has served as training, exposure and relationship-building with Australia’s nearest region.

Our Poseidons will continue to carry air riders. Our engagement won’t abate due to fifth-generation technology – it will evolve. We will balance our important relationships with a need to maintain the integrity of our data and security systems. In so doing, we will induct our region into the rules-based global order, whilst we use our fifth-generation capabilities to defend it.

Our Air Force can, and should be, a strategic technology bridge to our neighbours.

4.2 Relationships

Despite the 'urgency of geography', relationships matter. Some relationships, in some locations, more than others. Nowhere is this more obvious than in the space and cyber domains.

We in Australia can see parts of the sky that you, in the US cannot. Equally, countries such as Japan and Singapore are defined by geographies which drive their regional choices. We therefore have a confluence of commercial capabilities and geography which, if focused, could be strong assets in a mutual development of space and cyber systems.

Space and cyber are critical to the air domain. They will be contested and congested, and we – in the US, Australia and partners – will have to maintain superiority in those areas to prevail.

It is our unique relationship with other regional players, relationships which the US may not enjoy, that allows us in Australia to play a special role here. We have, if you will, the insight of a permanent resident.

Our relationship with countries like India and Indonesia, to whom you in the US seek greater access, are perhaps a case in point. Both countries are emergent powers, emergent economies, as space and cyber rise to prominence in warfare.

A key alliance objective should therefore be for us to harness regional partners in the development of key technologies like space and cyber – to guarantee increased participation in, and shore up the notion of, the rules-based global order, and to defend it with leading edge capabilities.

Such a future will take brokering. It will require consideration and trust. But it will be necessary in tilting the balance of regional interests in our favour. And it will shape the future of the air domain.

4.3 Values

I should finally touch upon another key tenet of our vision for a fifth-generation future. Successive Australian governments have told us that we must continue to earn our place in our region. We cannot become complacent and assume that our previous success will secure us.

Our Minister for Defence emphasised Australia's leadership role with respect to smaller regional partners such as Timor Leste, Papua New Guinea and Pacific Island nations, with the release of our Defence White Paper last year.³ The Australian Foreign Minister stated in Singapore in March this year that "one reason why the rules-based order underwrites stability despite shifts in power and wealth is that such an order does not privilege previous winners nor constrain opportunities for newcomers".⁴ Our Prime Minister cemented that theme in India recently when he observed that "like-minded liberal democracies ... can work closely to champion international law ... and ensure... any threat to the rules-based global order can be peacefully resolved."⁵

Our leaders remind us that, as military forces, we must earn our right to continue in the regional security roles to which we have become accustomed since the end of World War II.

³ See DWP 5.38-5.45 and Minister for Defence – 2016 Royal Australia Air Force Air Power Conference, National Convention Centre, ACT, Australia. <https://www.minister.defence.gov.au/minister/marise-payne/speeches/minister-defence-2016-royal-australian-air-force-air-power-conference> ; Launch of the 2016 Defence White Paper, 25 February 2016, <https://www.minister.defence.gov.au/minister/marise-payne/speeches/minister-defence-launch-2016-defence-white-paper> .

⁴ Australian Foreign Minister Julie Bishop MP, *Change and uncertainty in the Indo-Pacific: Strategic challenges and opportunities*, Speech delivered as the 28th IISS Fullerton Lecture, Singapore, 13 Mar 2017. See http://foreignminister.gov.au/speeches/Pages/2017/jb_sp_170313a.aspx (accessed 28 Mar 17).

⁵ Prime Minister of Australia Malcolm Turnbull MP, *Address to the National Defence College*, New Delhi, India, 11 Apr 2017. <https://www.pm.gov.au/media/2017-04-11/address-national-defence-college-0>

We not only have to pull our weight in the conventional, military, sense. We must also act as ambassadors for the rules-based global order we want our region to foster.

Freedom of overflight and navigation, for example, symbolise what our regional partners expect of our vision for the future.

Fifth-generation capabilities, born of a values-based alliance, go beyond that. They are a living example of what strong strategic relationships – founded in history and developed with trust over time – can produce.

Australia and the US are now in a strong position, as fifth-generation technology partners, to shape a discussion about the alignment between capability and values. This may be pivotal for the ongoing development of a rules-based global order.

5. Conclusion

Ladies and gentlemen, it has been a privilege to address you today and thank you again to Andrew and CSIS for allowing me to speak.

It is possible that you heard me outline four key themes:

1. Australia's fifth-generation Air Force is a game-changer for the Australian Defence Force and, by extension, our regional partners.
2. We now want to work with you in force-design, to generate those advanced and complex systems which can be scaled for all levels of security.

3. In attempting to change the game, we want to work to a single line of effort with all US Services to shape our region in ways that reflect our global preferences.
4. Finally, fifth-generation Air Force can, and should be, a bridge for regional and global engagement.

Let us make fifth-generation an axis of a new security paradigm.

President Eisenhower reminds us that the history of free people is written by their choices. I am reminded, standing here, of how consistent our choices as allied services and nations have been: choices for freedom, choices for friendship and choices for increased capability which enhances our shared security.

I look forward to continued growth with the United States, our allies and partners – in and beyond Air Force – as we develop a global future guaranteed by the strength and endurance of our strategic partnerships.

Thank you.