

Not without cost

FMS and sovereignty

Modern airpower and the Peace of Westphalia (signed in 1648) may be centuries apart, but they share a common link – the concept of sovereignty. For a nation state to be sovereign, it needs to be capable of choosing a course of action that is in the best interests of its own people.

■ SENATOR DAVID FAWCETT

As a superpower, the USA sits at one end of a broad spectrum of sovereignty in respect to airpower, having the ability to design, construct, maintain, repair and modify all of the aircraft it requires for military and commercial operations. Moving across the spectrum, nations including Russia, China, the UK, France, Sweden, Switzerland, Brazil, Canada, Spain, Germany, Italy and India form a band of nations that design and manufacture aircraft to various extents. At the other extreme, a third world nation has no option but to accept the level of capability someone else is prepared to sell them, and they generally need ongoing support to sustain what they have.

While Australia has no pretence to be an aerospace superpower, neither do we want to be at the third world end of the spectrum. At the very least, we have always aspired to be a 'smart customer'.

The synergy between Australia's military and commercial engineering capability has for many years provided the opportunity to make key decisions about our aerospace capabilities that have firmly placed Australia mid-point along the spectrum of sovereignty. In more recent years, the relationship between defence and industry has become even more interdependent with outsourcing to the commercial sector of many 'uniformed' func-

tions such as design assurance, fabrication and maintenance.

This capability has not only provided Australia with a measure of freedom to act in our national interest, but has added value to both our US, Canadian and UK allies. Addressing fatigue issues in the classic Hornet, the Black Hawk helicopter and other ageing aircraft has extended the life of these capabilities for many years, both here and abroad, at a much reduced cost. The ability of Defence to certify an Australian company's innovative use of supersonic particle deposition to restore helicopter gearbox facings has saved the nation considerable time and money, as there is normally a long lead time to source these expensive items from overseas. Test, research, and development of the seeker capabilities of the ASRAAM missile, acquired for the Hornet, have not only provided Australia and the UK with a better missile, they have provided the US with a better suite of tools for testing heat-seeking weapons. There are many other examples of sovereign capability adding value in areas such as electronic warfare, visionics, and armaments (such as JDAM-ER).

The ability to contribute as a technology peer has for many years secured Australia deep

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access to an exclusive network comprising the USA, Canada and the UK. This access, and the cost and capability benefits to our nation and our allies, would be at risk if Australia's engineering capability were to move further towards the third world end of the spectrum. Quietly and unintentionally, that movement has already started and is accelerating.

With Defence budgets at their lowest levels since the 1930s (as a percentage of GDP), there is significant pressure to choose equipment options with the lowest short-term cost and perceived risk. Procurement reviews such as Mortimer and Kinnaird have been used to justify a far greater emphasis on 'off-the-shelf' acquisition, and so it is perhaps no surprise to see a dra-

matic increase in the number of aircraft purchased under Foreign Military Sales (FMS) arrangements from the USA. There have been some much lauded 'on-time and on-budget' success stories that are held up as good models for future acquisition. From a sustainment perspective, FMS also makes good sense in some respects – obtaining a proven product backed up by a major power that will provide the engineering and support infrastructure that ensures a spiral upgrade path throughout the life of type.

In the medium term, however, the unintended consequences are not so positive.

Under FMS, the US Department of Defense provides the engineering services that underpin design assurance, certification, repair, and modification. Part of the value-for-money argument is that Australia therefore no longer has to maintain a workforce to conduct these

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functions. It follows that there are fewer places where Australian engineering graduates can work and develop competence as engineers, whether in uniform or industry.

This is already having an impact on the ability of Defence to manage the professional development of the officers who would normally become project engineers (the smart customers), design authorities, chief engineers, or eventually the Director General of Technical Airworthiness. This affects DSTO scientists and Defence T&E agencies as well – the weapons roadmap for the F-35 JSF (albeit not technically an FMS acquisition) does not appear to provide much opportunity to retain or develop the significant Australian capabilities that currently exist in the area of weapons test and integration. This reduction in the capacity and competence of the aerospace engineering sector has a flow-on effect to other areas of Defence capability, given that numbers of industry and defence engineers working in significant maritime and land projects have developed their skills in the aerospace sector.

The decrease in engineering capability would not be such an issue for our nation if we could safely assume that every 'off-the-shelf' purchase was in fact going to be fit-for-purpose in the Australian context. Recent history shows that this is not always the case. A contemporary example of where sovereign capability mattered was the modifications required to the off-the-shelf CH-47D helicopter prior to deployment to the Middle East.

With almost all current and planned aerospace acquisitions being FMS, the opportunities to retain and develop the Defence-related engineering workforce are declining. The commercial sector of the aviation industry can no longer be relied on to provide a backstop in capability either. Exchange rates, global competition, and the decreasing maintenance requirements of



Modifications were required to the off-the-shelf CH-47D helicopter prior to deployment to the Middle East. DEFENCE PHOTO

modern aircraft have resulted in the closure of two out of three heavy maintenance facilities by a major airline. Australia's aviation engineering workforce contracted by nearly 20 per cent from 2011-2012, according to the 2013 Manufacturing Sector Report.

Addressing this decrease in sovereignty requires, as a minimum, that the combined engineering capability of defence and industry be recognised as a key part of what Defence calls the "fundamental inputs to capability (FIC)". Government must therefore consider the impact on Australia's engineering capability of both the individual project and the cumulative effect of other procurement activities. Short-term value-for-money considerations for individual projects must be balanced with an appreciation of the longer-term consequences of FMS as a procurement approach. A military off-the-shelf (MOTS) procurement, for example, with increased Australian involvement in design support and maintenance

may prove to be a better investment over time than FMS.

This value is derived from the fact that the competence of individuals to provide an engineering capability is a combination of qualification and experience, which cannot be gained overnight. If we are not to drift towards the third world end of the spectrum, the government must ensure that there is ongoing, relevant, value-adding engineering work. This will enable graduates to put qualifications into practice and to develop the experience that underpins engineering capability, so that it is available when required for sovereign purposes.

Capability development for national defence is such a long-term undertaking that a relatively stable planning and procurement environment (free from political cycles and partisan priorities) is required for both Defence and industry to have any hope of increasing capital productivity. Both sides of politics could learn from the multi-party approach of the Danish parliament, which sees seven of

The weapons roadmap for the F-35 JSF does not appear to provide much opportunity to retain or develop the significant Australian capabilities that currently exist in the area of weapons test and integration (such as JASSM testing, below). DEFENCE PHOTO



the eight parties in its parliament sign a binding defence agreement every five years outlining funding and procurement priorities.

Political leaders must take every opportunity to engage with allies, especially the USA, in discussion about ways to preserve opportunities for Australians to participate in relevant design, test and evaluation (T&E), and research and development. Defence efforts to place Australians in the USA with an engineering role in the JSF support team are welcome, but should receive active support at a political level to broaden the scope and numbers involved.

Negotiations around increased use of Australian bases as part of the US pivot to the Asia Pacific, should include steps to create opportunities for Australian industry to provide a regional engineering support hub for ADF and US aircraft.

Australia is not a third world nation, but as the Rizzo Report (into the collapse of the Navy amphibious fleet) highlighted, poor materiel practices can catastrophically undermine critical engineering capabilities.

Informed political leadership is required to prevent short-term budget pressures driving a repeat of Rizzo, which would undermine Australia's sovereign ability to use airpower in the interests of the Australian people. ■

David Fawcett was elected to Federal Parliament as a Liberal Senator for South Australia in August 2010, and has been a member of the Joint Standing Committee on Foreign Affairs, Defence and Trade. A 22-year career in the Australian Army as a pilot culminated in his appointment as commanding officer of the Royal Australian Air Force's Aircraft Research and Development Unit (ARDU). After leaving the military in 2004 he was elected to the House of Representatives as the Member for Wakefield. Between 2007 and 2010 he was the director and principal consultant of Fawcett Consulting Pty Ltd, providing professional services to the defence