2

Australian defence industry

Introduction

2.1 Part One of this chapter provides an overview of the Australian defence industry, its economic and strategic significance and discusses the concept of 'spillover' effects generated by industry.

2.2 Part Two of the chapter outlines Australian defence industry policy settings and current measures to support industry. It details three issues that were subject to particular attention during the inquiry:

- Intellectual property and innovation;
- The impact of Defence's procurement decisions which seem to be often taken without regard to published defence industry policy; and
- Extant measures designed to assist Australian defence industry to be involved in large Defence acquisition and sustainment projects; specifically, the Australian Industry Capability and Priority/Strategic Industry Capability programs.

2.3 Part Three of the chapter discusses the probable impact of reforms that are expected to be implemented in the near term:

- Recognising elements of defence industry as a fundamental inputs to capability;
- Other recommendations of the First Principles Review;
- Moving to a continuous build approach to naval shipbuilding; and
- Developments related to the 2015 Defence White Paper.

2.4 The chapter concludes with the Committee's view of the implications of the relationship between Defence and industry for defence exports.

An overview of the Australian defence industry

2.5 The *Australian Defence Magazine* has estimated that the top 40 Australian defence contractors had an estimated turnover of $9.27 billion in 2014.[1]

2.6 Published estimates of the number of people employed in the defence industry have cited varying figures. The 2010 Defence Industry Policy Statement estimated that employment in the Australian defence industry is as high as 29,000 people.[2] In 2012, Skills Australia estimated the number to be between 15,000 and 25,000 people.[3] Defence's submission estimated that 'Defence demand on Australian industry in relation to capital equipment programs accounts for the direct employment of around 27,000 people' and 'substantially more… through economic flow-on'.[4]

2.7 The Committee was not provided with nor referred to any current official figures to measure the value of Australian defence exports or the annual revenue of the defence industry.

2.8 The following table lists the top 20 Defence contractors and SMEs located in Australia based on annual turnover for 2014.

1 Australian Defence Magazine, Vol.23, No.1, December 2014/January 2015, Top 40 Defence Contractors and Top 20 SMEs Survey, p.27.

2 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.28.

3 Skills Australia, 'Building Australia's Defence Supply Capabilities: Main Report for the Defence Industry Workforce Strategy', 2012, p.9, at <http://industry.gov.au/skills/Publications/Documents/BuildingAustraliasDefenceSupplyCapabilities_260912-2012.pdf> (viewed 26 August 2015).

4 Department of Defence, *Submission 41*, p.2.

Table 2.1 Top defence contractors and small/medium enterprises in Australia 2014

	Top 20 Defence Contractors in Australia	Top 20 Defence SMEs in Australia (Companies with 200 employees or less)
1	BAE Systems Australia	Cubic Defence New Zealand Ltd
2	ASC Pty Ltd	CAE Australia Pty Ltd
3	Thales Australia	Rockwell Collins Australia
4	Raytheon Australia Pty Ltd	Australia Defence Apparel Pty Ltd
5	Airbus Group Australia Pacific	GH Varley Pty Ltd – Defence & Aerospace Division
6	John Holland Group Pty Ltd	Chemring Australia
7	Transfield Services Limited	L-3 Oceania
8	Spotless Group Limited	Rohde & Schwartz (Australia) Pty Ltd
9	Boeing Defence Australia	Marand Precision Engineering Pty Ltd
10	Lockheed Martin Australia Pty Limited	Ultra Electronics
11	Austal	Adagold Aviation Pty Ltd
12	Serco Australia Pty Ltd	Rosebank Engineering Pty Ltd
13	Saab Australia Pty Ltd	Eylex Pty Ltd
14	Lend Lease Building Pty Ltd	Broens
15	Aspen Medical	Cubic Defence Australia Pty Ltd
16	Northrop Grumman Australia Pty Ltd	TAE
17	Babcock ANZ (incl Australian Helicopters)	H.I. Fraser Pty Ltd
18	Forgacs	Communications Design & Management Pty Ltd
19	IBM Australia Limited	Calytrix Technologies Pty Ltd
20	ESS Support Services Worldwide	Owen International Pty Ltd

Source: *Australian Defence Magazine, Vol.23, No.1, December 2014/January 2015, Top 40 Defence Contractors and Top 20 SMEs Survey, p. 27.*

2.9 Sonartech Atlas' submission described the historic background of the defence industry in Australia:

> In the 1970's and early 80's Australian defence industry was largely a collection of government owned and operated facilities, with a focus on meeting the needs of the Australian armed services. The commercially owned entities in the defence market place were primarily 'shopfronts' for overseas companies to supply their products into Australia.[5]

2.10 During this time, local industry was protected by import quotas and tariffs, which have since been eliminated or reduced to low levels.[6]

5 Sonartech Atlas, *Submission 26*, p.1.

6 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.24.

2.11 John O'Callaghan (Director, Defence and Government Relations, Australian Industry Group) said that the defence industry had moved from 'unproductive government-owned ammunition, dockyards and aerospace entities' towards 'a more vibrant and efficient innovative world-class commercially driven group of entities such as the prime defence contractors and their sub-entities.'[7]

2.12 Determining the size and scale of Australia's defence industry depends upon how the industry is defined. Mr Chris Burns (CEO, Defence Teaming Centre) said there is 'no agreed definition' of the defence industry.[8]

2.13 A company may supply products and services sold for either military or civilian purposes. In 2012 a study of the defence industry workforce conducted by Skills Australia[9] stated:

> Given that many of the firms working for Defence also undertake significant civilian work, many of the employees engaged directly or indirectly in supporting Defence's materiel requirements could move between military and civilian tasks if required. A degree of uncertainty over the exact size of the Defence materiel workforce is therefore to be expected.[10]

2.14 The significance of defining the 'defence industry' was noted in a submission to the 2015 Defence White Paper process by the Defence Teaming Centre:

> The breadth and scope of Australia's defence industry is not well understood because it is ill-defined. Without formal definition the industry's capabilities and capacities cannot be fully comprehended or appreciated. It also limits the capacity to determine and measure the impact of defence industry on decisions related to Defence capabilities.[11]

2.15 Mr Chris Burns said that industry should be broadly defined:

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7 Dunk and O'Callaghan, *Committee Hansard*, 13 February 2015, p.2.

8 Burns and Taylor, *Committee Hansard*, 9 October 2014, p.20.

9 Skills Australia was succeeded by the Australian Workforce and Productivity Agency. In July 2014, the AWPA 'transitioned' into the Department of Industry and Science. See <http://www.industry.gov.au/skills/Publications/Pages/Former-Australian-Workforce-and-Productivity-Agency-Publications.aspx> (viewed 16 October 2015).

10 Skills Australia, 'Building Australia's Defence Supply Capabilities: Main Report for the Defence Industry Workforce Strategy', 2012, p.9, at <http://industry.gov.au/skills/Publications/Documents/BuildingAustraliasDefenceSupplyCapabilities_260912-2012.pdf> (viewed 26 August 2015).

11 Defence Teaming Centre, Submission to 2015 Defence White Paper, p.2.

> We consider that defence industry is any company that is contributing, or might contribute to, military capability, or that is impacted by Defence procurement practices and procedures.[12]

2.16 Mr Burns observed that 'there is a vast variety of companies in the defence industry. When you consider the spectrum of it, it is quite large.'[13]

Australian defence imports and exports

2.17 Figures published by the Stockholm International Peace Research Institute (SIPRI),[14] which maintains a database of the world's 'major weapon' transfers, shows Australia's position relative to other countries. According to SIPRI's analysis, Australia is among the world's leading importers of major weapons. SIPRI's commentary noted that Australia was the recipient of 10 per cent of all US deliveries from 2009 to 2013.[15]

Table 2.2 Leading suppliers of major weapons 2009 to 2013

Volume of exports (SIPRI trend indicator values in $million)		
Rank/Country	*2013*	*2009-2013*
1. United States	6,153	39,080
2. Russia	8,283	36,243
3. Germany	972	8,800
4. China	1,837	7,379
5. France	1,489	7,211
6. United Kingdom	1,394	5,515
7. Spain	605	3,986
8. Ukraine	589	3,503
9. Italy	801	3,480
10. Israel	773	3,155
…		
20. Australia	**63**	**438**

Source: SIPRI Yearbook 2014, p.258.

12 Burns and Taylor, *Committee Hansard*, 9 October 2014, p.20.

13 Burns and Taylor, *Committee Hansard*, 9 October 2014, p.20.

14 Prof Roos, *Submission 8*, p.4.

15 *SIPRI Yearbook 2014* (Oxford University Press, Oxford, 2014), p.259; Thales, *Submission 19*, p.2.

Table 2.3 Leading recipients of major weapons 2009 to 2013

Volume of imports (SIPRI trend indicator values in $million)		
Rank/Country	*2013*	*2009-2013*
1. India	5,581	18,564
2. China	1,534	6,581
3. Pakistan	1,002	6,426
4. United Arab Emirates	2,245	5,777
5. Saudi Arabia	1,486	5,231
6. United States	759	5,074
7. Australia	**303**	**5,027**
8. South Korea	188	4,758
9. Singapore	142	4,439
10. Algeria	336	4,221

Source: SIPRI Yearbook 2014, p.268.

2.18 Thales Australia's submission noted that Australia accounts for a small percentage of global arms sales and stated that Australian defence exports 'are mostly driven by individual company commercial strategies – sometimes unrelated to local defence requirements.'[16]

2.19 Nonetheless, the Australian Industry Group's submission noted some contemporary examples of Australian success in the global market:

> Australia's defence industry has progressively matured over the past 20 years, with an increasing focus on exports. The Team Australia initiative on the Joint Strike Fighter program has provided the template for building export performance. This is particularly so for Ai Group member companies, such as Marand Precision and Ferra. Other member companies, such as Austal, have been remarkably successful in winning valuable work offshore in the maritime domain. Aerosonde and Thomas Global, among others, have proven their ability to compete successfully in international markets.[17]

2.20 As discussed below, a sizeable proportion of overall defence industry revenue is generated by sales to the Australian Defence Force (ADF).

16 Thales Australia, *Submission 19*, p.3.

17 Australian Industry Group, Submission 35, p.1.

Domestic defence sales and Defence's requirements of industry

2.21 The ADF's expenditure on capital equipment accounts for approximately one-third of Defence's total annual budget. The Defence submission claims that the proportion of this expenditure within Australia has remained relatively steady over time at between 50 to 55 per cent, with a larger proportion of the in-country spend directed to equipment sustainment, acquisition and development.[18]

2.22 Defence and Defence Materiel Organisation (DMO)[19] expenditure is sizeable. The Department of Finance's procurement statistics show that in 2013-14:

- DMO procurement expenditure is the largest among government agencies, with expenditure of $16.72 billion (or 32.4 per cent as a proportion).
- Defence ranked in second place, with expenditure was $12.68 billion (or 25.9 per cent in proportion).[20]

2.23 A February 2014 Department of Defence submission to a Senate inquiry on government procurement procedures included the following figures:

- Defence spends around $10 billion annually on acquisition and sustainment, which equates to around 0.6 per cent of Australia's GDP;
- Around 54 per cent to 60 per cent of Defence expenditure on capital equipment is spent within Australia;
- Around 70 per cent of expenditure on sustainment is spent within Australia;
- At a regional level, 'it is not unusual' for around 10 per cent of the workforce to be employed in jobs related to Defence;
- More than half of this expenditure 'leaks' from the region when company profits are distributed, consumables are sourced from outside the region and workers spend their earnings on items made elsewhere.[21]

2.24 Defence's submission to the Senate inquiry concluded:

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18 Department of Defence, *Submission 41*, p.2.

19 The Defence Materiel Organisation became the Capability, Acquisition and Sustainment Group on 1 July 2015.

20 Department of Finance, 'Statistics on Australian Government Procurement Contracts' at <http://www.finance.gov.au/procurement/statistics-on-commonwealth-purchasing-contracts/> (viewed 26 August 2015).

21 Department of Defence, Submission 43, Senate Finance and Public Administration References Committee Inquiry into Commonwealth Procurement Procedures, pp.19-20.

> For this reason, the regional economic impacts of Defence expenditure are often substantially lower than initial impressions suggest. Such impacts tend to be overstated in the public arena.[22]

2.25 However, Defence's submission to this inquiry described its economic contribution as sizeable:

> Defence demand on Australian industry in relation to capital equipment programs accounts for direct employment of around 27,000 people, and substantially more than that number through economic flow-on or multiplier effects.[23]

2.26 Defence's submission added:

> These broad budgetary parameters influence the overall size of domestic defence industry given that Australia's defence industry is centred on the ADF as a customer. Defence analysis suggests that exports by Australian-based companies with strong and direct links to supporting the ADF account for only a small element of their overall output.[24]

2.27 The ADF is therefore a key customer of the defence industry. The Department of Defence's submission acknowledged the significance of the defence industry:

> Australia's defence industry builds and supports a myriad of capital equipment - including advanced weapons platforms and systems - on which the ADF depends. This equipment is a critical contributor to Australia's defence preparedness, and the domestic defence industry is essential to ensuring the majority of this equipment is able to be deployed.[25]

2.28 Defence's submission added:

> Defence requirements dominate national shipbuilding and repair activity and contribute substantially to the overall size of the Australian market for aircraft maintenance. It makes a smaller contribution to overall Australian markets for electronics, vehicles and other products.[26]

2.29 Notwithstanding Defence's above acknowledgement of industry's contribution, in a submission to a 2014 Senate inquiry into government procurement, Defence stated:

22 Department of Defence, Submission 43, Senate Finance and Public Administration References Committee Inquiry into Commonwealth Procurement Procedures, p.20.

23 Department of Defence, *Submission 41*, p.2.

24 Department of Defence, *Submission 41*, p.2.

25 Department of Defence, *Submission 41*, p.2.

26 Department of Defence, *Submission 41*, p.2.

> It is a long held and widely accepted principle that Australian industry exists to support the ADF, not the other way around. Military-strategic issues should always assume a position of primacy in the Defence procurement process, generally irrespective of the economic impacts of Defence spending. The potential economic impacts of Defence capital equipment projects do not form part of the normal process through which value for money is evaluated at a Departmental level.[27]

2.30 The Defence Teaming Centre's submission to the 2015 White Paper process rejected this view, stating:

> Defence industry's capacity to generate global credibility is also greatly reduced when the Federal Government very publically denigrates and defames its own defence industry. … The Government's recent pronouncement that "industry exists to support defence, not defence supporting industry" suggesting a 'master-servant' or 'hand-out' relationship is equally unhelpful. Industry would prefer to partner with Government and Defence in a mature and collegiate manner rather than what is perceived as the Government's current confrontational approach.[28]

2.31 The Northern Territory Government submitted that whilst Defence's presence is considerable:

> Very few businesses rely solely on defence as a customer, with the workflow too spasmodic for reliance on defence alone as a customer.[29]

2.32 According to analysis prepared by Graeme Dunk (Manager, Australian Business Defence Industry), published in the ASPI *Strategist*, the proportion of Defence spend within Australia is declining:

> In the period from 1 July 2007 to 31 March 2015 the DMO [Defence Materiel Organisation] has placed approximately 117,000 contracts worth a little over A$71 billion for acquisition, sustainment and sundry other items. In the financial year 2007–08 almost 80 per cent of the DMO contracting was to companies operating within Australia, but this has steadily declined since that time to the current state where less than 60 per cent are awarded locally.[30]

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27 Department of Defence, Submission 43, Senate Finance and Public Administration References Committee Inquiry into Commonwealth Procurement Procedures, p.19.

28 Defence Teaming Centre, Submission to Defence White Paper 2015, p.5.

29 Northern Territory Government, *Submission 5*, p.4.

30 Graeme Dunk 'Australian Defence Industry – Where to Next?' ASPI *Strategist*, 1 May 2015, at <http://www.aspistrategist.org.au/australian-defence-industry-where-to-next/>.

2.33 Mr Dunk's article added:

> When ASC is taken out of the equation less than 5 per cent (by value) of all DMO acquisition and sustainment contracts are awarded directly to Australian-owned companies.[31]

2.34 The AMWU made similar observations in its submission.[32]

2.35 Thales Australia submitted that Defence views local industry's role as being to support ADF acquisitions in Australia, rather than to create unique and exportable products. As a consequence:

> That means that Australia does comparatively little R&D [research and development]… from which export possibilities with a unique value proposition may emerge. As weapons systems become increasingly sophisticated, the opportunities for local industry to forge a unique export value proposition from support activities is also difficult, because so much of the intellectual property, software, hardware, manufacturing processes and replacement parts are locked into, or controlled by, foreign original equipment manufacturers.[33]

The economic and strategic significance of the Australian defence industry

2.36 During the inquiry, the Committee was urged to consider the strategic and economic significance of the domestic defence industry and how this relates to defence exports. More specifically, the following issues arose:

- The defence industry's contribution to the Australian economy;
- The importance of sovereignty, self-reliance and national interest; and
- The economic and knowledge 'spillover' effect created by undertaking defence projects within Australia.

2.37 The Australian Manufacturing Workers' Union submitted:

> More than any other industry, countries around the world have historically and continue to identify their defence industry as a strategic capability. Practically, what this recognition means is

31 Graeme Dunk 'Australian Defence Industry – Where to Next?' ASPI *Strategist*, 1 May 2015, at <http://www.aspistrategist.org.au/australian-defence-industry-where-to-next/>.

32 AMWU, *Submission 24*, pp.2-3; see also NSW Business Chamber, 'Analysis Reveals Federal Government Exporting Australian Defence Industry Jobs Overseas', at <http://www.nswbusinesschamber.com.au/News-Media/Latest-News/Media-Releases-2013/Analysis-reveals-Federal-Government-exporting-Aust> (viewed 26 August 2015).

33 Thales Australia, *Submission 19*, p.5.

> these countries have refused to allow the laws of economics to determine the fate of their domestic defence industries.[34]

2.38 Dr Tom Skladzien (National Economic and Industry Advisor, Australian Manufacturing Workers' Union) stated:

> …if any government wishes to support defence exports, they need to support defence capability. The only way that a government can do that is to use and build its defence sector.[35]

2.39 In Mr Dunk's 2015 ASPI *Strategist* article calling for greater recognition of the defence industry's role he said:

> We need to determine those parts of industry that are associated with high strategic risk and then unashamedly support and develop them. We also need to determine how the defence industry sector plays into the wider industrial and economic base, and to make a policy decision that we'll support defence industry activities that contribute to the national economic well-being. Those aren't offsets in disguise. It's not protectionism. It's Australia as a sovereign nation taking actions that are associated with our national security.[36]

2.40 Professor Goran Roos submitted that the robustness of the defence industry directly affects Australia's sovereign capability:

> The extent to which industry is critical to sovereign capability is frequently not realised in the public debate. Without local industry expertise, it is impossible to sustain operations.[37]

2.41 Professor Roos defined sovereign capability as being:

> …the ability to ensure, under full national control and without reliance on any direct foreign assistance, the execution and sustainment of national security operations. This will require:
>
> - Sufficient numbers of highly capable and competent staff;
> - Defence systems with the required capabilities and operational availability; [and]
> - Domestic capabilities to support and sustain these defence systems. [38]

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34 AMWU, *Submission 24*, pp.1-2.

35 Skladzien, *Committee Hansard*, 17 October 2014, p.27.

36 Graeme Dunk 'Australian Defence Industry – Where to Next?' ASPI Strategist, 1 May 2015, at <http://www.aspistrategist.org.au/australian-defence-industry-where-to-next/> (viewed 26 August 2015).

37 Roos, *Exhibit 9*, p.21.

38 Roos, *Exhibit 9*, p.21.

2.42 The extent to which Government policy recognises sovereign interests was questioned by H I Fraser Pty Ltd:

> Nations other than Australia view defence products and services as a strategic capability and they keep the work in-country. This is a sovereign issue and is often borne out of the brutal experience of civil and world wars where they have had no-one else to rely upon.[39]

2.43 Mr Burns (CEO, Defence Teaming Centre) said:

> Another significant impediment to the growth of Australia's defence exports is the lack of recognition by government of the strategic importance of an indigenous defence industry to Australia's security and economy. The cornerstone of a viable defence industry export capability is the existence of a sustainable and competitive indigenous defence industry.[40]

2.44 The Returned and Services League of Australia agreed that 'the Australian defence industry is a strategic asset.'[41] The RSL's submission stated:

> The ability to manufacture, repair and maintain complex defence equipment is as vital a part of a credible defence posture today as it has been in the past.[42]

2.45 The RSL noted that there may be instances in the future when foreign supply cannot be assured.[43] In this context, naval shipbuilding was suggested as being such an example. Austal submitted:

> The strategic importance of a domestic naval shipbuilding capability seems clear to most developed countries. … The Australian Government has not demonstrated an unambiguous desire to maintain naval shipbuilding as a strategic capability for the future.[44]

2.46 Austal noted that a submarine rescue gear ship for Defence is being built at shipyards in Vietnam.[45] In Austal's view:

> The economic advantages of these decisions needs to be weighed against the long term strategic implications of the loss of domestic

39 H I Fraser Pty Ltd, *Submission 2*, p.1.
40 Burns and Taylor, *Committee Hansard*, 9 October 2014, p.13.
41 RSL, *Submission 13*, p.3.
42 RSL, *Submission 13*, p.3.
43 RSL, *Submission 13*, p.4.
44 Austal, *Submission 31*, p.9
45 Austal, *Submission 31*, p.10.

> naval ship construction capability and any potential export opportunities that may flow from this capability.[46]

2.47 Mr David Shiner (Vice President International Sales, Austal) said:

> Austal's competitive business model has always been based on our ability to win domestic and export opportunities, which is the only sustainable model for us as an organisation and what we believe is the only sustainable model for industry as a whole. …government support for Australian defence export with regard to shipbuilding is absolutely critical and probably should be considered as a strategic issue and of national interest.[47]

Spillover and second order effects of the defence industry

2.48 Advanced manufacturing industries, such as the defence industry, have a sizeable economic footprint by virtue of the wider economic or technology benefits generated, which are respectively known as 'spillover' and 'second-order' effects.

2.49 Examples of these wider benefits may be found in some recent reports on manufacturing and naval shipbuilding:

- RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century' (April 2015), commissioned by the Department of Defence;
- ACIL Allen Consulting, 'Naval Shipbuilding and Through Life Support: Economic Value to Australia' (December 2013), commissioned by the Australian Industry Group; and
- Professor Goran Roos, 'Manufacturing in the Future' (January 2012), commissioned by the South Australian Government.

2.50 RAND's report considered the extent to which naval shipbuilding would generate economic spillover. RAND defined the concept of 'spillover' in terms of economic multipliers:

> Suppose that the government spends $100 buying a good or service from a shipyard. The shipyard might then be expected to spend at least a portion of that money on inputs, such as labor or materials. The original $100 creates a cascade (i.e., multiples) of spending through the economy; that is, $100 spent at a shipyard results in additional spending by shipyard workers at local

46 Austal, *Submission 31*, p.10.

47 Shiner, *Committee Hansard*, 13 February 2015, p.27.

> restaurants, which then hire additional workers who rent additional housing, and so forth.[48]

2.51 Based on case studies and a literature review, the report stated:

> Most of the resulting estimates are in the range of 1.7–1.9—that is, $100 spent at a shipyard ultimately results in $170–$190 worth of additional economic activity in the shipyard's region (inclusive of the original $100). Economic multipliers may be lower (i.e., less than 1.0) if the increased spending displaces other economic activity.[49]

2.52 In one case, RAND's research found that development of the Gripen aircraft in Sweden had led to the creation of an 'aerospace cluster', which had grown from employing around 1,200 people in the 1980s to 18,000 people in 2015.[50] RAND concluded:

> Unfortunately, RAND's analysis of shipbuilding in the United States did not find favorable spillovers in the fashion of Gripen. Shipbuilding has been favorable to local economies, but it has done so in a more modest fashion, without the ecosystem of favorable spin-offs and spillovers associated with Gripen. We do not think an outcome from shipbuilding similar to that in Silicon Valley from technology is a realistic aspiration.[51]

2.53 Creation of jobs and workforce utilisation was cited by RAND as a favourable benefit, depending on whether 'workers hired by the shipyard would simply be displaced from other gainful employment.'[52] In the Australian context, RAND observed:

> It is impossible, lacking greater specificity, to estimate the economic consequences of a shipbuilding project on a region of Australia or on the nation as a whole. Rather, the applicable economic multiplier is a highly contextually dependent question.[53]

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48 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, pp.133-134.

49 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.134.

50 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.136.

51 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.147.

52 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.148.

53 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.136.

2.54 While this may to true during times of economic growth, Australia's economic circumstances and workforce trends may change over time. Mr Christopher Jenkins (CEO, Thales Australia and New Zealand) said:

> Right now, there are warning signs from the automotive sector collapsing and from other manufacturing sectors struggling, which the advanced-technology manufacturing sector is concerned about. That may have graduates and students thinking about other career directions.[54]

2.55 He added:

> Having a strong, globally competitive defence industry sector attracts students and graduates to go through the STEM courses—science, technology, engineering and mathematics courses—so that the strength of Australia will build in this area.[55]

2.56 ACIL Allen Consulting's report considered spillover in terms of economic and technology benefits of naval shipbuilding:

> In addition to these direct dollar and employment effects, the naval shipbuilding industry has a number of other significant economic benefits:
>
> - Technology transfer (for example, the development of Bisalloy steel);
> - Transfer of expertise – firms involved in the naval shipbuilding supply chain gain skills that enable them to compete successfully in other projects and sectors; [and]
> - Improved practices in areas such as quality assurance, business planning, sub-contracting and dealing with Defence in other fields.[56]

2.57 Professor Goran Roos similarly viewed spillover from economic and technology perspectives. He defined spillover as 'the effects of economic activity that benefit those beyond the originators', which may include technology spillover that leads to new innovation.[57] He said:

> Whereas, if you include a development phase, the return on the development phase is different. …you are solving problems not previously solved and that gives you an edge as a company once

54 Jenkins, *Committee Hansard*, 17 October 2014, p.20.

55 Jenkins, *Committee Hansard*, 17 October 2014, p.20.

56 ACIL Allen Consulting, 'Naval Shipbuilding and Through Life Support: Economic Value to Australia', December 2013, p.ii and p.20.

57 Goran Roos/South Australian Department of Premier and Cabinet, 'Manufacturing into the Future', January 2012, p.43.

> you have the solution. That solution can then be spread out and implemented to drive the business thoroughly.[58]

2.58 Prof Roos referred the Committee to economic analysis of building the future submarines in South Australia.[59] In addition to benefits to the Australian gross domestic product, he also found that 'in these types of complex projects there is normally an additional 'knowledge spillover' effect from 'the increased range of competencies… that result from domestic construction.'[60] In his research, Prof Roos has also noted the relationship between government procurement decisions and spillover effects:

> Public procurement is an area of economic, political and legal significance, involving governments at various levels buying goods and services from private firms, thereby representing a significant proportion of economic activity in most jurisdictions. The public procurement process spans the whole life cycle from initial conception and definition of the needs of the public service through to the end of the useful life of an asset or the end of a contract.[61]

2.59 Procurement involves choices:

> …the public service has to determine the type of products and services it wishes to buy. The choices range from simple items such as paper clips and office furniture to complex items such as telecommunications systems which have the potential to affect technical progress and also provide an opportunity for some of the technology to 'spillover' into the rest of the economy.[62]

2.60 The Committee sought Defence's views on the notion of spillover benefits. Defence advised:

> The industry innovation and export assistance programs currently managed by Defence are, to some extent, provided on the understanding that industry recipients will generate so-called spillovers. … However, spillovers can be formidably difficult to quantify even after a project is complete.[63]

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58 Roos, *Committee Hansard*, 9 October 2014, p.3.

59 Roos, *Exhibit 9*, pp.14-16.

60 Economic Development Board of South Australia, 'Economic Analysis of Australia's Future Submarine Program', p.2.

61 Goran Roos/South Australian Department of Premier and Cabinet, 'Manufacturing into the Future', January 2012, p.59.

62 Goran Roos/South Australian Department of Premier and Cabinet, 'Manufacturing into the Future', January 2012, p.59.

63 Department of Defence, *Response to Questions on Notice* (Question No. 25).

2.61 Dr Robert Bourke (Director-General, Economic and Commercial Analysis, Department of Defence) said that economic impacts are not necessarily considered by Defence:

> As you know economic impact, broadly defined, is not considered as part of Defence tender evaluations within the department. … Commonwealth procurement rules, as you know, do not clearly require that the department take economic impact into account. That is true of course not just for Defence but for other government departments as well.[64]

2.62 Dr Bourke added:

> That situation may change, if the Department of Finance or another area of government instructs that clearly to be the case, but, as far as I know, up to this point there has not been that clear instruction from central agencies.[65]

2.63 H I Fraser Pty Ltd's submission suggested that this reluctance may be attributable to influence exercised by Treasury and the Department of Finance:

> Supporting a strategic industry is [a] difficult argument to make in the current cost constrained environment. … It is clear that the Department of Finance and Deregulation [*sic*] and Department of the Treasury have the upper hand in the current decision-making process.[66]

2.64 The Committee asked the Department of Finance whether anything prevents Defence from considering spillover effects as part of its analysis of value for money. Mr John Sheridan (First Assistant Secretary, Business, Procurement and Asset Management, Department of Finance) said:

> The challenge in the area of spillover costs, which is the term that you used, or perhaps second order costs, is first of all about how one might ask a tenderer to represent those costs in response to a request for tender; and then how procurement officials might assess the validity of those costs in the consequences of procurements.[67]

2.65 He added that less than two per cent of Commonwealth procurements involve amounts exceeding $5 million.[68] Against this background, he said:

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64 Birrer et al, *Committee Hansard*, 24 March 2015, p.7.

65 Birrer et al, *Committee Hansard*, 24 March 2015, p.7.

66 H I Fraser Pty Ltd, *Submission 2,* p.1.

67 Edge and Sheridan, *Committee Hansard,* 3 March 2015, p.3.

68 Edge and Sheridan, *Committee Hansard,* 3 March 2015, p.3.

> The difficulty of getting the required economic advice on those sorts of second order effects that you discussed or that other witnesses have discussed, and how they might be applied to a particular procurement decision … might be quite considerable … That would tend to add both expense to a procurement and, of course, time to how long it took to conduct such a procurement.[69]

2.66 In a written response to the Committee, the Department of Finance subsequently advised that 'consistent with long-standing practice, second round effects… are not included' in costings.[70] The Department of Finance further advised the Committee that their role in individual procurement decisions was minimal, unless it involved a new spending proposal.[71] Defence also advised that decisions in cases of individual procurements are the responsibility of Defence's delegates and internal procurement specialists.[72]

Australian defence industry policy

2.67 There have been three iterations of defence industry policy from 1998 to 2010.[73] Although a new policy statement is expected to accompany the 2015 White Paper, the most recent defence industry policy statement (DIPS), 'Building Defence Capability Report: A Policy for a Smarter and More Agile Defence Industry Base' was released in June 2010. It listed four objectives to further support the local defence industry:

- Setting clear investment priorities;
- Establishing a stronger Defence-industry relationship;
- Seeking opportunities for growth; and
- Building skills, innovation and productivity.[74]

2.68 The 2010 DIPS argued that 'industry must become more resilient and self-reliant if it is to prosper and grow'[75] and stated:

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69 Edge and Sheridan, *Committee Hansard*, 3 March 2015, p.3.

70 Department of Finance, *Response to Questions on Notice*, p.1.

71 Edge and Sheridan, *Committee Hansard,* 3 March 2015, p.2.

72 Department of Defence, *Response to Questions on Notice,* (Question No. 24).

73 Preceding the 2010 policy statement were the Defence Industry and Strategic Policy Statement (June 1998) and the Defence and Industry Policy Statement (March 2007).

74 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, pp.9-11.

75 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.9.

> It can no longer expect the Government to use offsets or local content quotas to help protect Australian defence industry from overseas competition.[76]

2.69 Furthermore:

> Protectionist measures such as offsets and local content quotas are costly and counterproductive. They have no place in the Government's defence industry policy. Defence industry policy will encourage local enterprises to identify opportunities and enhance their productivity, skilling and innovation. It is these strengths, rather than guarantees of work with little or no competition, which will assure industry's future.[77]

2.70 Changes to the global strategic order and the role of Australia's defence industry were also highlighted in the 2010 DIPS:

> The global defence industry has undergone significant changes over the last several decades. Globalisation and the end of the Cold War have contributed to a major consolidation within industry, which has seen the rationalisation of major defence suppliers. This has resulted in a global defence industry dominated by a few very large defence companies, mostly based in Europe and North America. ...it is also an opportunity for Australian SMEs to make profits through integrating into the global supply chains of international primes and their major subcontractors.[78]

2.71 The DIPS noted the significance of priority industry capabilities (PICs), which are capabilities that 'confer an essential strategic advantage by being resident within Australia' and would 'significantly undermine defence self-reliance and ADF operational capability' if unavailable.[79] The DIPS stated:

> When making procurement and sourcing decisions, the Government will always emphasise the need to obtain value for money for the Australian taxpayer through competition. … Nevertheless, in reaching its decision based on value for money in PIC-related procurements, the Government may take into account

76 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.9.

77 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.16.

78 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.9.

79 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.40.

> factors such as Australian industry impacts, the national interest, broader strategic factors, and other whole-of-government considerations.[80]

2.72 Actions to support industry and sustain PICs included managing the timing of new projects to maintain regular work; access to export promotion; workforce skills development; longer term contracting arrangements; and targeting industry development initiatives at SMEs.[81]

2.73 Other notable elements of the 2010 DIPS, intended to support 'business opportunities within Australia and overseas' were the Australian Industry Capability (AIC) program and the Global Supply Chain (GSC) program.[82] The AIC program essentially requires tenderers for Defence projects to consider Australian industry participation (such as by supplying componentry) and to test the Australian market.[83] The objective is to 'use major Defence projects to create opportunities for Australian defence industry.'[84] The Global Supply Chain (GSC) program is a similar concept, except its objective is to facilitate Australian industry involvement on an international level within the supply chains of large multinational defence companies (known as 'primes').[85]

2.74 Defence's submission stated that its policy towards industry is based on four pillars:

- Evaluating the payment of price premiums for preferring domestic over foreign sources of capital equipment;
- Shaping the structure of defence markets and consequently the levels of competition within them;
- Establishing suitable contracting policies and procedures through which defence materiel should be purchased, including approaches to regulating the profits and costs of monopoly suppliers; and

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80 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.43.

81 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.43.

82 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.11.

83 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', 2010, p.73; see also Birrer et al, *Committee Hansard*, 24 March 2015, p.5.

84 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', 2010, p.73.

85 Department of Defence, *Submission 41*, p.8. Primes are defined as 'prime contractors which contract directly with the DMO and employ more than 200 people working essentially full-time on Defence projects.' See also Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.14.

- Assistance to Australian-based defence manufacturers, to help these firms overcome economic distortions or imperfections in the way some defence markets function.[86]

2.75 Defence's submission added:

> Assistance which Defence provides to Australian industry, including assistance relating to exports, has as its clear objective the longer-term creation and maintenance of a domestic industrial base able to deliver capital equipment to the ADF on time, on schedule and to the appropriate level of quality and value-for-money.[87]

2.76 More recently, the Australian Government's Industry Innovation and Competitiveness Agenda, released on 14 October 2014, has maintained that competition and competitiveness will increase productivity and open market access. The 2014 Agenda stated:

> The Government will further open our economy to domestic and international competition and investment to improve access to high-quality, low-cost goods and services. This will benefit consumers and enhance the competitiveness of businesses that rely on these goods and services as inputs. Greater competition within Australia will also provide incentives for domestic producers to innovate and lift their productivity, while greater market access will enable exporters to achieve global scale.[88]

2.77 Like the DIPS, the Agenda recognised globalisation, specialisation and diversity of supply chains as an emergent trend in the international economy:

> Globally integrated companies source intermediate inputs from many suppliers, across industries and geographic locations, for assembly and distribution worldwide. This is enabling local producers to specialise in one element of a larger production process and network, which might otherwise not have been viable in their own country or region.[89]

2.78 The Department of Industry confirmed that the Agenda applies to all Australian industries, including defence exporters.[90] Mr Peter Chesworth (Head of Sectoral Growth Policy Division) said:

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86 Department of Defence, *Submission 41,* p.3.

87 Department of Defence, *Submission 41,* p.3.

88 Australian Government, 'Industry Innovation and Competitiveness Agenda: An Action Plan for a Stronger Australia', October 2014, p.xi.

89 Australian Government, 'Industry Innovation and Competitiveness Agenda: An Action Plan for a Stronger Australia', October 2014, p.4.

90 Byrne and Chesworth, *Committee Hansard*, 10 February 2015, p.1.

> The agenda sets up four broad ambitions: a lower cost business-friendly environment, with less regulation; a more skilled labour force; better economic infrastructure; and an industry policy that fosters innovation and entrepreneurship. In line with these four ambitions, the department provides support to Australian industry defence exports as well as to all other exports through a range of programs that are delivered through the Entrepreneurs' Infrastructure Program and the Industry Growth Centres Initiative.[91]

2.79 Some witnesses were concerned that this approach does not adequately recognise the benefits of working in partnership with the Australian defence industry. Mr Graeme Dunk (Manager, Australian Business Defence Industry) said:

> As a country with a small defence sector, the barriers and impediments to the growth of Australia's defence exports are many and, apart from the simple consideration of market size, include no strategic view to developing and supporting defence exports nor how exports may fit into the overall direction for the acquisition and sustainment of Australia's military capability; no consideration of industry as a capability and hence how exports fit within the overall capability, development and support chain; an overreliance on defence engagement through a small number of large offshore companies; a simplistic assumption that the interests of the global primes and our national interest will align; and an overall focus on the delivery of programs rather than on achieving strategically relevant outcomes.[92]

2.80 Northrop Grumman submitted that industry's role should be factored into Defence's capability planning:

> Defence exports should not be looked at independent of the overall national industrial policy for defence industry. Defence industry policy should be moved upward to a level of consideration integrated with development of military capability in the Defence Capability Plan and Force Structure Review. A new Industry Capability Plan should be developed to articulate the industrial capability development required by the nation in order to support its overall national defence objectives.[93]

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91 Byrne and Chesworth, *Committee Hansard*, 10 February 2015, p.2.

92 Dunk and O'Callaghan, *Committee Hansard*, 13 February 2015, p.2.

93 Northrop Grumman, *Submission 28*, p.2.

2.81 Mr Peter Nicholson (Head of Government Relations, BAE Systems Australia) said:

> Defence exports should not be considered as a stand-alone element in government policy. Rather, they are part of a strategic industry policy and most of the same factors apply to the wider manufacturing sector, not just defence industry.[94]

2.82 Dr Andrew Davies (Australian Strategic Policy Institute) said:

> One of the things I can say very clearly, having spent a lot of time last year talking to Australian defence industry, is that there is a yawning gap between what was stated in defence industry policy and what was delivered. … They see one thing written down, and there is a glossy brochure of priority industry capabilities or strategic industry capabilities, and then DMO go and do their own thing.[95]

2.83 Dr Davies said that the missing element of defence industry policies had been aspects related to 'implementation rather than the statement of policy'.[96]

2.84 The Committee subsequently sought Defence's views on whether open competition may undermine or risk the long-term capabilities of local defence industry. Defence advised that an open-market approach is preferred:

> Market competition, from domestic and/or overseas sources, provides in many or even most cases the single most effective and efficient policy instrument for securing the best capability and value for money for capital equipment acquisition and sustainment projects.[97]

2.85 Defence noted that in some cases, a 'sole sourcing' procurement method may be used 'where this is likely to achieve the best value for money outcomes for Government.'[98] Nevertheless, competition remains Defence's preference:

> As a general rule, Defence does not protect Australian industry from international competition except where such protection is needed to secure in-country industry capabilities of especially high military-strategic value. However, even in this case, protection is only provided when industry cannot overcome its own 'health'

94 Nicholson and Wilson, *Committee Hansard*, 13 February 2015, p.32.

95 Davis, *Committee Hansard*, 13 February 2015, p.21.

96 Davis, *Committee Hansard,* 13 February 2015, p.23.

97 Department of Defence, *Response to Questions on Notice* (Question No. 4).

98 Department of Defence, *Response to Questions on Notice* (Question No. 4).

> problems and protection constitutes the best policy option available.[99]

2.86 Defence informed the Committee that sovereignty factors are given consideration:

> When determining the outcome of contracts, Defence takes the issue of sovereign industry capabilities into account primarily through a combination of two programs: the Australian Industry Capability (AIC) program and the Priority Industry Capability (PIC) program.[100]

2.87 Notwithstanding Defence's views, some submissions and witnesses were sceptical of the extent to which industry impacts, whole-of-life acquisition and sustainment costs and ongoing support for priority ADF capabilities have been given adequate recognition. In particular, these concerns related to:

- The degree of support directed to the creation of Australian intellectual property through innovation;
- How Defence's procurement and purchasing decisions can impact on industry's ability to sustain key ADF capability requirements; and
- The effectiveness of the AIC and PIC models and how Defence oversees industry capability.

2.88 These issues are discussed in the following sections of the chapter.

Intellectual property and innovation

2.89 In order to export products or services, the Australian defence industry needs to own or have permission to use the associated intellectual property (IP). Overcoming or negotiating IP was cited by a number of defence exporters as a key barrier to the ability to growing defence exports; specifically the challenges of accessing IP and the creation of IP.

2.90 Australian companies have developed different business models, depending on their area of innovative advantage and IP ownership:

- Building components to supply another company, where only the intellectual property surrounding the production method is uniquely Australian;
- Developing technology for products or production methods with the resulting intellectual property being sold back to the customer; or

99 Department of Defence, *Response to Questions on Notice* (Question No. 4)

100 Department of Defence, *Response to Questions on Notice,* (Question No. 6).

- Developing successful products, technology and production methods with all related intellectual property being largely Australian-owned.

2.91 The Committee was informed that pursuing innovation and the creation of intellectual property has allowed Australian companies to move beyond commodity production (or 'build to print') towards build to specification. There was evidence that although some Australian companies had moved beyond a build to print capacity, most companies remained in this category and only a minority were in a position to produce and export complete complex systems.

2.92 Sonartech Atlas submitted:

> Much of the manufacturing work being undertaken in Australia has been manufacture under licence. To export you must have control of the intellectual property, otherwise the exports are at the behest of the foreign owner.[101]

2.93 Mr Mark Baker (Managing Director, Sonartech Atlas Pty Ltd) said:

> If Australia is to have a viable and meaningful defence export industry then the appropriate environment has to be established—one which nurtures development in Australia, building a skill and experience base and generating IP. It must utilise Australian technology and seek to capitalise on that Australian technology overseas, both financially and diplomatically. These more intangible elements can be difficult to attribute a cost or value to. Ultimately, however, they must form part of assessing the value for the taxpayer.[102]

2.94 Mr Baker was asked about the ability of Australian companies to generate their own intellectual property:

> **CHAIR**: Would I be correct to take out of that a lot of the work that is put forward as being Australian companies successfully integrating into the global supply chain is actually using the IP that belongs to the parent company to manufacture and just deliver a good, as opposed to generating their own IP and their ability to have an exportable product outside of that one contract.
>
> **Mr Baker**: I believe that is the case for the majority. There is one example… carbon fibre manufacturing—where they have got the process which is covered and in their IP for the actual manufacturing process. So even though they are manufacturing components to somebody else's design—and from that perspective

101 Sonartech Atlas, *Submission 26*, p.3.

102 Baker, Schulte and Sedgman, *Committee Hansard*, 17 October 2014, p.11.

> they can be replaced—they have a process that gives them an efficiency advantage and they are now going through the stages to license their process, which is good. One of the issues potentially that the Global Supply Chain program will face is that, because you do not own the IP, you are easily supplanted or replaced by somebody else.
>
> **CHAIR**: I think that is Quickstep you are referring to.
>
> **Mr Baker**: Quickstep, that is correct.[103]

2.95 The Committee subsequently sought Quickstep's views on the barriers related to intellectual property. Mr Michael Schramko (Vice President – Operations, Quickstep Technologies) said:

> What we are trying to sell is a process that can be used by somebody else in their technology. The resistance we find is that people do not want to embody somebody else's IP into their own, because they would see it as you being under their control for some part of what they want to sell, which is partly the resistance that we are finding on introducing the Quickstep process in the F35 [Joint Strike Fighter] program.[104]

2.96 Mr Michael Halloran (Managing Director, Supacat Pty Ltd) was similarly asked whether the ability to export depends upon Australian innovation and ownership of intellectual property. Mr Halloran said:

> I agree absolutely. I do not think we need to generate all of the IP. We need to be able to take IP where it exists and put that together in a lot of cases. Even as an OEM [original equipment manufacturer], we use a lot of other people's IP to generate a system or a solution for customers. Our IP management is not necessarily all about owning it, but it is certainly about being able to access it, deliver it and exploit it.[105]

2.97 Mr Graeme Dunk (Manager, Australian Business Defence Industry) had a similar view:

> We do not necessarily have to control the IP. We do not have to own the IP, but we need to have access to the IP.[106]

2.98 He added:

> We need access to the IP not only in order to maintain and not only in order to protect what we have got but also to give us the

103 Baker, Schulte and Sedgman, *Committee Hansard*, 17 October 2014, p.12.

104 Driver and Schramko, *Committee Hansard*, 17 October 2014, pp.53-54; see also Exhibit 4.

105 Halloran, *Committee Hansard*, 31 October 2014, p.8.

106 Dunk and O'Callaghan, *Committee Hansard,* 13 February 2015, p.8.

> flexibility to upgrade systems as and when we see that we need to do it for our own sovereign reasons.[107]

2.99 Other companies have developed specialisations and are filling niche markets, which has led to exports, such as EM Solutions Pty Ltd, a company that designs and manufactures broadband telecommunications systems.[108] Dr Rowan Gilmore (CEO, EM Solutions) said:

> Our success has come by offering innovative and customised products that often cannot be obtained elsewhere. …we have been successful at exporting small volumes of our products, particularly to blue chip defence systems integrators currently in Spain, Italy, the UK and France.[109]

2.100 Dr Gilmore added that notwithstanding success overseas, EM Solutions had been 'unsuccessful at tendering satellite terminals to our very own Defence department.'[110] He said that business development has been hindered by Government:

> …there are institutional barriers, systemic barriers and a cultural cringe in government procurement that work against the success of small, innovative IP-creating companies such as ours being able to grow and to become the next generation of multinational systems integrators exporting more to the world.[111]

2.101 Mr Aaron Thompson (Business Unit Manager – Global Supply Chain, Ferra Engineering) said:

> When we started export 10 years ago we were primarily build to print, so the IP was owned by the prime contractor and we were manufacturing a product. Our strategy is similar to what I heard with EM Solutions—move up the value chain. To put it in layman's terms, rather than producing a screw or a washer and competing as a commodity, it is a matter of moving up and upskilling our people so that we can build a centre fuselage or a wing of an aircraft and have multiple Australian companies in our supply chain.[112]

2.102 CEA Technologies, an Australian defence exporter that specialises in communication systems, missile control radars and radar systems, explained that its participation in past Australian Defence projects had led

107 Dunk and O'Callaghan, *Committee Hansard*, 13 February 2015, p.8.

108 EM Solutions, *Submission 7*, p.1.

109 Gilmore, *Committee Hansard*, 17 October 2014, p.34.

110 Gilmore, *Committee Hansard*, 17 October 2014, p.34.

111 Gilmore, *Committee Hansard*, 17 October 2014, p.35.

112 Gaka, Hill and Thompson, *Committee Hansard*, 17 October 2014, p.41.

to innovation and, eventually, to international sales. Mr Merv Davis (CEO, CEA Technologies Pty Ltd) said:

> We operate within what is referred to as the high-frequency and phased array radar priority industry capability, and as such we deliver critically important capability—capability that is world leading in terms of its capability and cost. … DMO's and Navy's strategic approach to CEA's participation in the Anzac anti-ship missile defence program underpinned the development and fielding of our phased array radars.[113]

2.103 As a result of CEA's product success, Mr Davis said that 'CEA radar systems provide capabilities that are in demand internationally' and the company has had 'in excess of $100 million in export orders in the past 10 years'.[114] Mr Davis said:

> Our intellectual property, clearly, is the commercial jewel, and it also underpins the military capability that we offer. However, our customer is supportive of export. I believe Navy and the DMO understand the benefits and the risks. They understand the benefits of reduced long-term costs; of the ability for us, on the basis of export, to undertake further development and hence provide further capability improvements; and of course, the strategic benefit in contributing to our allies' needs; and of retaining real engineering and real manufacturing capability within Australia.[115]

2.104 The Committee was informed that innovation may be stifled due to risk aversion. Dr Rowan Gilmore (CEO, EM Solutions Pty Ltd) cited unwarranted risk aversion as having prevented his company from selling to Defence and to be able to capitalise on such benefits. He stated:

> We have current collaborations with CSIRO, DSTO and the University of Queensland. We have a strong IP portfolio. We collaborate with several defence primes. We employ 40 people, including seven PhDs, and we are successfully satisfying some of the world's most demanding customers. Yet, we have been unsuccessful at tendering to our very own Defence department. …it is disappointing to be eliminated on the basis of risk.[116]

2.105 He added:

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113 Davis and Forbes, *Committee Hansard*, 28 October 2014, p.1.

114 Davis and Forbes, *Committee Hansard*, 28 October 2014, p.2.

115 Davis and Forbes, *Committee Hansard*, 28 October 2014, p.2.

116 Gilmore, *Committee Hansard*, 17 October 2014, p.34.

> I believe the real obstacle with an SME being able to supply to DMO is DMO's fear of risk. Never in my 40 year career have I heard the term 'risk' raised more frequently than in the last few years when I have been trying to supply to defence procurement. It is probably the most frequently used word in their culture.[117]

2.106 Mr Alfred Schulte (Chief Technical Officer, Sonartech Atlas Pty Ltd) highlighted the importance of supporting innovation to deliver product performance:

> That needs to be managed, because it requires a plan. It requires consistency and feedback, interaction between industry and users, in order to make these incremental steps work. If you do not have a structure that supports this kind of innovation, then you will never get to the final performance of the product. That is a particular problem for SMEs because it is a longer process. It takes some time and it requires interaction and feedback from using your system. And we need to look at both things when we talk about innovation.[118]

2.107 Northrop Grumman Australia submitted:

> Without ongoing innovation, Australian industry will not have the world leading capability offerings to attract export sales. Whilst it is recognised that these innovations will come from industry, the Government should be focussed on ensuring that an environment exists such that the defence industry sector is encouraged to provide world leading innovation in Australia.[119]

2.108 Mr Mark Baker (Managing Director, Sonartech Atlas Pty Ltd) outlined the UK's approach to supporting capability:

> There have been some cases in the UK, where—by virtue of wanting to have the piece of equipment, even if it is built under licence in the UK—the costs have gone up threefold. There needs to be a balance but—because it forms part of an industrial strategy that the government has set, and because of the need to have certain industries available in the event that they want them—they are prepared to pay a certain premium in some cases.[120]

2.109 Mr Baker added:

> I would not, for one second, argue that Australia needs to go down the exact path where… we will build it in Australia and

117 Gilmore, *Committee Hansard*, 17 October 2014, p.35.

118 Baker, Schulte and Sedgman, *Committee Hansard*, 17 October 2014, p.15.

119 Northrop Grumman Australia, *Submission 28*, p.7.

120 Baker, Schulte and Sedgman, *Committee Hansard*, 17 October 2014, pp.16-17.

> build it under licence, even if it costs us four times or three times the amount. But I think it is very important to weigh up the intangible benefits that the rest of the country can get from having that industry viable.[121]

2.110 Mr Andrew Watson (Managing Director, MBDA Australia) said that Defence's approach to procurement does not encourage the creation of Australian intellectual property:

> A largely off-the-shelf procurement policy misses a vital opportunity to stimulate creation of Australian-owned IP. I believe that the Australian government has the leverage to challenge the major international defence companies to truly partner and work jointly on programs and, in particular, to exercise the high-end technical skills that Australia undoubtedly has. But this can only work if those multinationals and their respective governments are prepared to truly partner, share IP and genuinely share development work and, through that, foster Australian industry's ability to create Australian-owned IP. Without the creation of IP it is difficult to see how Australian companies can succeed in export.[122]

2.111 MBDA's submission also suggested that Australia could work with international partners 'who are able to share intellectual property with local SMEs who have capabilities in specific niche areas.'[123] EM Solutions' submission recommended that a portion of DMO's budget should be dedicated to 'procurement from innovative Australian SMEs.'[124]

2.112 Defence advised that intellectual property issues, among other barriers to defence exports, are being considered in the 2015 White Paper process.[125]

Defence's procurement decisions

2.113 In the context of this inquiry, Defence's approach to procurement was criticised for privileging acquisition price over whole-of-life costs despite published policy to the contrary, and pursuing competition at the expense of Australia's strategic and economic interests. Witnesses argued that

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121 Baker, Schulte and Sedgman, *Committee Hansard*, 17 October 2014, p.17.

122 Watson, *Committee Hansard*, 13 February 2015, p.52.

123 MBDA, *Submission 16*, p.15.

124 EM Solutions Pty Ltd, *Submission 7*, p.2 and p.6.

125 Department of Defence, *Response to Questions on Notice* (Question No. 21).

these interests should include supporting the Australian defence industry. The implication of this argument was that decisions not to purchase from Australian companies where that is feasible, diminishes innovation and capacity in Australia's defence industry, impacting in the long term on its ability to sustain capabilities for the ADF. It was put to the Committee that the dominant culture within Defence prefers to deal with large prime contractors as a means of managing perceived risk, which in turn reduces the opportunity for Australian industry to generate intellectual property and limits the prospect of growing defence-related exports.

2.114 When procuring goods and services, Defence is obliged to follow the Commonwealth Procurement Rules (CPRs), which are a binding legislative instrument applicable to Commonwealth entities. The CPRs state that 'achieving value for money is the core rule',[126] although an exception can be made for decisions 'necessary for the maintenance or restoration of international peace and security' or 'the protection of essential security interests'.[127]

2.115 A new addition to the 2014 version of CPRs was a section relating to whole of life costs. Along with value for money, this was an issue subject to discussion during the inquiry. In relation to elements of value for money, the CPRs state:

> When conducting a procurement, an official must consider the relevant financial and non-financial costs and benefits of each submission including, but not limited to: the quality of the goods and services; fitness for purpose of the proposal; the potential supplier's relevant experience and performance history; flexibility of the proposal (including innovation and adaptability over the lifecycle of the procurement); environmental sustainability of the proposed goods and services (such as energy efficiency and environmental impact); and whole-of-life costs.[128]

2.116 The CPRs define the meaning of whole-of-life costs as follows:

> Whole-of-life costs could include: the initial purchase price of the goods and services; maintenance costs; transition out costs; licensing costs (when applicable); the cost of additional features procured after the initial procurement; consumable costs; and disposal costs.[129]

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126 'Commonwealth Procurement Rules', July 2014, p.13.

127 'Commonwealth Procurement Rules', July 2012, p.14; 'Commonwealth Procurement Rules', July 2014, p.7.

128 'Commonwealth Procurement Rules', July 2014, p.13.

129 'Commonwealth Procurement Rules', July 2014, p.14.

2.117 Changes to legislation[130] also resulted in updates to Defence internal processes and policies relating to procurement.[131] In October 2014, a new version of the 'Defence Procurement Policy Manual' (DPPM) was published. The manual advises:

> Value for money is not limited to a consideration of capability versus price, or 'cheapest price wins.' Value for money requires consideration of Australian Government policy, specifically values such as open competition, efficiency, ethics and accountability.[132]

2.118 The manual also advises:

> For any Defence procurement, price is seldom the only relevant cost of a purchase. A minimum consideration for all procurement is a prediction of useful life.
>
> …
>
> In making a value for money judgement, a comparison of the relevant benefits and costs on a whole of life basis should be undertaken. This requires that whole of life costing principles be used in the evaluation of offers.[133]

2.119 Mrs Sue Smith (Executive Officer, Australian Industry and Defence Network Inc) said that in practice, Defence procurement decisions are focussed on 'the sticker price' and overlook 'the cost of through-life maintenance and support of major acquisitions'.[134] She said:

> Australia needs to adopt more holistic whole-of-life, value-for-money criteria when assessing tenders. This myopic approach denies SMEs the opportunity to build capability that will enable them to be more productive and competitive in global markets. Currently we have a situation where often only the initial procurement costs are considered.[135]

2.120 Mrs Smith also said this could lead to export growth:

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130 The timing of this inquiry has coincided with changes to the Commonwealth Procurement Rules. This has occurred after submissions for this inquiry were received and at around the same time public hearings had commenced. The *Public Governance, Performance and Accountability Act 2013* (Cth) commenced on 1 July 2014, replacing both the former *Financial Management and Accountability Act 1997* (Cth) and the *Commonwealth Authorities and Companies Act 1997* (Cth). The current *Commonwealth Procurement Rules* are a legislative instrument made under the *PGPA Act 2013*. In July 2014, at the time submissions to the inquiry were due, a new version of the Commonwealth Procurement Rules (CPRs) was issued.

131 Department of Defence, 'Annual Report 2013-14', p.165.

132 Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, p.5.6-4.

133 Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, p.5.6-11.

134 Smith, *Committee Hansard*, 31 October 2014, p.39.

135 Smith, *Committee Hansard*, 31 October 2014, p.39.

> Australia needs a long-term perspective to be taken, especially in relation to having an indigenous defence industry, and to consider the whole-of-life cost benefits to the nation. Then industry can invest in innovation and new capabilities for not only the ADF but for more competitive exporting.[136]

2.121 She added:

> Defence acquisition decisions should not only be based on defence requirements, but also consider the national industrial and regional requirements.[137]

2.122 Mr Christopher Burns (CEO, Defence Teaming Centre) questioned the benefit to industry of the Government's approach:

> Understandably, Defence is allocated a budget and its ambition is to get the maximum value from that limited resource. When it is not pressed or compelled to consider national interests of its investments, unsurprisingly it is motivated to acquire the least expensive hardware with minimal risk and without having to consider the benefits to the nation of its investments. To truly resolve this, government must be compelled to consider value for money in the context of holistic, whole-of-life cost-benefit to the nation.[138]

2.123 Similarly, the Australian Manufacturing Workers' Union (AMWU) submitted that Defence and DMO have had a 'focus on contract cost minimisation'.[139] The AMWU's submission stated:

> Such a focus ignores the benefits of sourcing locally by ignoring flow on tax returns and significant industry capability benefits such as improvements in skills, technological development and innovation. An equation of contract price for value for money neglects half of the determinant of true value for money, namely the economic benefits of procurement decisions.[140]

2.124 The submission continued:

> This one sided approach to general government procurement is a long standing policy error that needs to be corrected. …it denies and neglects the strategic industry capability that should form a central concern in defence procurement decisions, and in doing so

136 Smith, *Committee Hansard,* 31 October 2014, p.39.

137 Smith, *Committee Hansard*, 31 October 2014, p.39.

138 Burns and Taylor, *Committee Hansard,* 9 October 2014, p.13.

139 AMWU, *Submission 24*, p.2.

140 AMWU, *Submission 24*, p.4.

> places Australia's long term national security interests in jeopardy.[141]

2.125 Dr Tom Skladzien (National Economic and Industry Advisor, Australian Manufacturing Workers' Union) stated:

> We take the view that the government should value Australian jobs more than jobs elsewhere, for obvious reasons. … it is the Australian government's role to look after the interests of Australia and Australian citizens, and, in being blind to these benefits of $1 here versus $1 there, we do not think that true value for money is actually being achieved.[142]

2.126 EM Solutions Pty Ltd submitted:

> In our dealings with individual Defence personnel, we have typically found strong enthusiasm and support for an innovative local manufacturer such as ourselves to succeed. However, we lament that the institutional support during the procurement process does not match this enthusiasm.[143]

2.127 Dr Andrew Davies (ASPI) said that with 'some important caveats'[144] competitiveness should form the basis of Defence purchase decisions:

> I tend to have views up the dry end of the economic spectrum and I have long been an advocate of acquisition processes that are as competition driven as possible. I am inclined against paying a premium for local work for its own sake.[145]

2.128 The Committee sought Defence's views on value for money considerations. Defence advised that price is not the sole determinant:

> Choosing the best value for money option entails balancing what is being offered against the price being asked. In some cases, better value for money can be - and is - obtained by paying more to achieve the required capability effects (including interoperability), to achieve earlier delivery or to provide assurance of long-term supportability.[146]

2.129 Mr John Edge (Acting Deputy Secretary, Business Procurement and Asset Management, Department of Finance) said that he did not believe the CPRs required value for money to be interpreted narrowly:

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141 AMWU, *Submission 24,* p.4.

142 Skladzien, *Committee Hansard,* 17 October 2014, p.28.

143 EM Solutions Pty Ltd, *Submission 7*, p.2.

144 Davies, *Committee Hansard*, 13 February 2015, p.19.

145 Davies, *Committee Hansard,* 13 February 2015, p.19.

146 Department of Defence, *Response to Questions on Notice* (Question No. 25).

> I do not know that we would say that the value for money assessment as it is framed in the Commonwealth Procurement Rules necessarily leads an agency to a very, very narrow interpretation of value for money.[147]

2.130 Defence's procurement procedures have been subject to a previous review by the Senate Foreign Affairs, Defence and Trade Reference Committee in 2012.[148] A more general review of Commonwealth procurement procedures was completed by the Senate Finance and Public Administration Committee in 2014.[149]

2.131 The Government response to the 2012 inquiry into procedures for Defence capital projects stated:

> The report suggests there is a growing disconnect between strategic guidance and capability development, confused accountabilities, poor appreciation of risk, and a need for structural reform in Defence procurement. Government supports the thrust of the report's findings and Defence is already implementing a number of initiatives which will address some of the Committee's concerns.[150]

2.132 Defence advised the Committee that the Department's Capability Development Group (CDG) consults with industry on future projects 'up to ten years prior' to initial Government approval and this continues 'via a range of engagement mechanisms.'[151] However, Dr Rowan Gilmore (CEO, EM Solutions Pty Ltd) said that in his experience:

> We are not like a prime contractor that has a government office and government relations people based in Canberra, where they are aware of what is coming next. We are way behind in terms of understanding.[152]

2.133 Subsequent to the Committee receiving advice on this issue from Defence in March 2015, the First Principles Review recommended 'disbanding the

147 Edge and Sheridan, *Committee Hansard*, 3 March 2015, p.3.

148 Senate Foreign Affairs, Defence and Trade References Committee, 'Procurement Procedures for Defence Capital Projects', August 2012, p.xxi.

149 Senate Finance and Public Administration References Committee, 'Commonwealth Procurement Procedures', July 2014.

150 Australian Government Response to Senate Foreign Affairs, Defence and Trade References Committee's Final Report: Procurement Procedures for Defence Capital Projects, October 2012, p.1.

151 Department of Defence, *Response to Questions on Notice* (Question No. 8).

152 Gilmore, *Committee Hansard*, 17 October 2014, p.36.

Capability Development Group and dispersing its functions to more appropriate areas.'[153]

2.134 The Senate Finance and Public Administration Committee's report included a recommendation that 'the Government develop a methodology to quantify the factors used to assess whole-of-life costs.'[154] The Government did not support this recommendation on the grounds that:

> Due to the large range of goods and services procured by Commonwealth entities, a one-size fits all cost benefit analysis methodology would not be feasible to implement.[155]

2.135 Defence advised the Committee that sovereign interests are given consideration by way of the Australian Industry Capability (AIC) and Priority Industry Capability programs, which are intended to encourage prime contractors to involve Australian industry in Defence projects.[156]

The Australian Industry Capability and Priority Industry Capability programs

2.136 The 2010 Defence Industry Policy Statement (DIPS) contained a framework for identifying and supporting key industry capabilities, based on the strategic and operational necessity of retaining these capabilities within Australia, of which the AIC and PIC programs were key elements. Whilst greater investment in identified capabilities could follow, the DIPS cautioned that 'Government does not guarantee future work or funding for particular companies'.[157]

2.137 Defence's submission stated that the AIC program aims to create a 'systematic mechanism for ensuring that Australian industry has adequate opportunity to bid for work and that suitable domestic supply options are properly considered by Defence', unless a case can be made by the Department to the contrary.

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153 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.35; see also FPR recommendation 2.1.

154 Senate Finance and Public Administration References Committee, 'Commonwealth Procurement Procedures', July 2014, p.39.

155 Australian Government Response to the Senate Finance and Public Administration References Committee Report: Commonwealth Procurement Procedures, April 2015, p.6.

156 Department of Defence, *Response to Questions on Notice,* (Question No. 6).

157 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.43.

2.138 The Priority Industry Capabilities (PIC)[158] program is used by Defence to ensure industry capabilities of strategic value to the ADF are considered when tenders are called for capital equipment projects.[159] An additional range of related Strategic Industry Capabilities (SICs)[160] were identified in the 2010 DIPS, which are more general and intended to 'provide Australia with enhanced defence self-reliance, ADF operational capability or longer-term procurement certainty.'[161] Defence's submission summarised the objectives of the AIC and PIC programs as follows:

> The aim… is to secure, and then build, on the foundation of defence-oriented firms which the AIC program has helped to create. By identifying areas of industry where these capabilities are of highest strategic value to the ADF, the PIC program provides initial guidance on how grants-based and associated assistance measures should be targeted - keeping in mind that the Government's defence industry policy extends well beyond the PIC arena.[162]

2.139 Defence explained to the Committee that where a project includes an identified PIC, 'an AIC plan needs to be prepared for that PIC capability, as an automatic requirement.'[163] In addition, Defence's submission stated that 'for export-oriented companies in Australia, the AIC program helps to ensure an adequate base workload.'[164] The current Defence Procurement

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158 Identified PICs are as follows: Electronic warfare; high frequency and phased array radars; 'high end' system and 'system of systems' integration; through-life and real time support of mission and safety critical software; anti-tampering capabilities; signature management; in-service support of Collins combat system; acoustic technologies and systems; ship dry docking facilities and common user facilities; selected ballistic munitions and explosives; infantry weapons and remote weapons stations; and combat clothing and personal equipment. Department of Defence, 'Priority Industry Capabilities' at <http://www.defence.gov.au/dmo/DoingBusiness/Industry/IndustryPrograms/PriorityStrategicIndustryCapability/> (viewed 26 August 2015).

159 Department of Defence, *Response to Questions on Notice* (Question No. 6).

160 Identified SICs are as follows: Composite and exotic materials; elements of national infrastructure (these include aviation fuel, communication systems and logistical infrastructure in Darwin and Townsville); geospatial information and systems; guided weapons; naval shipbuilding; protection of networks, computers and communications; repair, maintenance and upgrade of specialist airborne early warning and control systems; armoured vehicles; and aircraft; secure test facilities and test ranges; system assurance capabilities; and system life cycle management. Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, p.3.12-5.

161 Department of Defence, 'Building Defence Capability: A Policy for a Smarter and More Agile Defence Industry Base', June 2010, p.41.

162 Department of Defence, *Submission 41*, p.9.

163 Birrer et al, *Committee Hansard*, 24 March 2015, p.6.

164 Department of Defence, *Submission 41*, p.9.

Policy Manual contains instructions for procurement officers relating to AIC requirements, including:

> The AIC program is conducted on a best value basis and Defence Procurement officers must ensure that value for money is the prime consideration when determining whether Defence capability is to be sourced from Australian or overseas suppliers.
>
> The AIC program identifies three types of industry capability ('Industry Requirements'):
>
> - Priority Industry Capabilities (PICs);
> - Strategic Industry Capabilities (SICs); and
> - Project/ Product Specific Industry Capabilities (PSICs).
>
> Procurement officers must include applicable Industry Requirements in request documentation released to the market.
>
> …
>
> Procurement officers must include in request documentation a requirement for tenderers to submit an AIC Plan as part of their tender where:
>
> - The estimated value of the procurement is $20 million or more; or
> - The procurement will impact on a PIC.[165]

2.140 In addition:

> Where a PIC exists, Procurement officers must seek a costed Australian industry option in the request documentation for the relevant procurement.[166]

2.141 Defence advised that the precise detail of the PICs can change and 'the exact criteria used to identify PICs remains confidential to Defence.' Nevertheless, three general criteria are applied:

- The importance of an industry capability to the operational needs of the ADF;
- The ability of the ADF to access these capabilities from overseas should the need arise; and,
- The availability of the capabilities from Australian industry in the normal course of business.[167]

2.142 Some witnesses and submissions expressed reservations regarding the effectiveness of the AIC and PIC programs. Dr Andrew Davies (ASPI) was asked whether he believed value for money could override the identified PICs and SICs. He said:

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165 Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, pp.3.12-1.

166 Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, pp.3.12-6.

167 Department of Defence, *Response to Questions on Notice*, (Question No. 12).

> Yes; best value for money in the narrow sense. That is the nub of the problem. To be fair, in many cases, you would make the same decision anyway. There are probably some instances where, if you took that longer view, you would pay a little bit more up-front for the ongoing depth of capability later on.[168]

2.143 A submission from H I Fraser Pty Ltd stated:

> Successive Australian governments have made the decision not to show any preference or offset for Australian industry. Even the AIC policy is flawed because it is not audited after the tender phase nor during the course of the project and there are no consequences to not meeting the AIC quoted during the tender phase.[169]

2.144 Similarly, Mrs Sue Smith (Executive Officer, Australian Industry and Defence Network Inc) said that there is a 'dependence' on global primes to deliver major defence contracts. She said this has led to:

> …the reluctance of DMO to enforce local production goals and Australian industry capability plans, even when these are an express condition of their contract.[170]

2.145 The AMWU submitted that the AIC program 'should not be abolished… but should be well-resourced and expanded'.[171] Furthermore:

> While these programs fall short of requiring Australian defence industry involvement, they do represent a step in the right direction. In the AMWU's view, this program should go further by requiring project proponents to provide sub-contract work to Australian businesses if Australian businesses are shown to be capable potential suppliers to the project.[172]

2.146 The Defence Procurement Policy Manual provides the following direction to procurement officers in cases of contractors flouting AIC requirements:

> Defence Procurement officers are responsible for monitoring and enforcing contractor achievement of contracted AIC program requirements. Procurement officers must ensure that request documentation specifies that where contractors have underperformed against contracted AIC requirements under

168 Davis, *Committee Hansard*, 13 February 2015, p.21.

169 H I Fraser, *Submission 2*, p.2.

170 Smith, *Committee Hansard,* 31 October 2014, p.39.

171 AMWU, *Submission 24,* p.6.

172 AMWU, *Submission 24,* p.6.

> previous contracts, they may be excluded from consideration in the tender evaluation process.[173]

2.147 And further:

> Contractors that continue to underperform against their AIC obligations will be reported to CEO DMO and the Minister for Defence Materiel. Contractors that do not seek to redress identified shortfalls in performance against their AIC obligations may be reported in the Defence Annual Report.[174]

2.148 Other witnesses were concerned with the development and selection of the current PICs. Mr Mike Lovell (Director, Operations and Integration, Northrop Grumman Australia) said:

> Some of the current PICs, quite frankly, are probably past their use-by date, but others will continue to evolve. While I say they might be past their use-by date, industry around the world has moved on in some areas and there are some things that just do not make economic sense to do in this country.[175]

2.149 Mr Lovell also said:

> …essentially what we are talking about is a cohesive defence industry policy that aligns with the DCP [Defence Capability Plan] and using that to evaluate, re-evaluate or test the PICs going forward. That will enable us in industry to focus our investment, R&D [research and development] and the development of our industrial capacity to service the local defence need and also to export.[176]

2.150 Mr Lovell added that, in his view, there is a 'disconnect between a declared PIC and current policy and DMO decisions'.[177]

2.151 Ferra Engineering submitted that whilst there had been 'progress' with the AIC and the related PICs and SICs, improvement is needed:

> …there remain deficiencies in at least two key components; a coherent overarching performance management framework and a coordinated approach to industry effort across projects/programs.[178]

2.152 Sonartech Atlas submitted:

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173 Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, p.3.12-3.

174 Department of Defence/DMO, 'Defence Procurement Policy Manual', October 2014, p.3.12-7.

175 Lovell, *Committee Hansard*, 13 February 2015, p.41.

176 Lovell, *Committee Hansard*, 13 February 2015, p.42.

177 Lovell, *Committee Hansard*, 13 February 2015, p.42.

178 Ferra Engineering, *Submission 15*, p.6.

> …it is unlikely that Australia will ever be able to develop and produce major items of military equipment competitively and nor should we. Specific areas should be targeted. One possible basis for selection would be the PICs, then aligned with the needs of the ADF, as elucidated in the DCP [Defence Capability Plan].[179]

2.153 Thales Australia agreed that priorities should be identified, but questioned whether the current PIC program had been effective. Mr Chris Jenkins (CEO, Thales Australia and New Zealand) said:

> We need to be focusing our efforts into the priority areas for Australia. Innovating products that can be globally competitive in all areas of defence technology does not make sense. We do not have the scale of funds and the scale of expertise in resources. Prioritising that is important. We have previously had priority industry capabilities enunciated, and that has been useful except that those identified areas need to be reviewed and we need to understand whether they are really the priorities that we want or whether there are more definitive and perhaps more appropriate priorities to be set. That is not for industry to determine; that is for the Department of Defence and government to determine.[180]

2.154 Thales Australia's submission stated that 'Australia's investment choices in defence technology and industry support continue to be tested through open market competition.'[181] Thales observed that although Priority Industry Capabilities and Strategic Industry Capabilities have been identified, the PICs policy is 'essentially passive' and 'Defence does not commit to buy or accept anything developed in or for a PIC.'[182] Thales' submission noted that:

- Although acoustic technologies are identified as a PIC, an anti-submarine towed array solution for Air Warfare Destroyers was tendered and awarded to a UK-based company.[183]
- Whereas the Bushmaster Protected Mobility Vehicle is 'not associated' with any PIC, it has been successfully exported.[184]

2.155 Thales Australia's submission stated:

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179 Sonartech Atlas, *Submission 26*, p.6.

180 Jenkins, *Committee Hansard*, 17 October 2014, p.20.

181 Thales Australia, *Submission 19*, p.4.

182 Thales Australia, *Submission 19*, p.4.

183 Thales Australia, *Submission 19*, p.4.

184 Thales Australia, *Submission 19*, p.5.

> In simple terms, a national defence export strategy must support the development of products and services that offer foreign customers a unique value proposition.[185]

2.156 The Committee asked Defence whether a tendency to procure from overseas had led to a loss of Australian industry capability and the effective lapse of certain PICs. Dr Robert Bourke (Director-General, Economic and Commercial Analysis, Department of Defence) said:

> Simply because you are a PIC does not mean that you are automatically entitled to, if you like, industry assistance or an inclusion in government programs. The idea behind the PIC program and the AIC program is to look at capabilities on a case-by-case basis, look at where those capabilities fit into projects and programs and then, on a cost-benefit basis, evaluate whether investment in a particular capability can be justified.[186]

2.157 Dr Bourke was then asked whether industry capability is considered in the context of PIC-related procurements. Dr Bourke explained how PICs are applied:

> PICs of course are broad ranging capabilities and when they are assessed within the department they are done not purely on a case-by-case or project-by-project basis. They are done on a capability basis. For example, electronic warfare, as you have cited, will have a number of programs and projects that cover the EW space. The PIC is assessed and measured, if you will, taking into account all that program activity and, indeed, it is considered as well outside of the program space.[187]

2.158 He added:

> As you are probably aware, what happens within industry and how industry is structured and evolves depends partly on what happens with Defence programs, but it is also influenced, in part, by what happens between Defence programs and in other markets.[188]

185 Thales Australia, *Submission 19*, p.5.

186 Birrer et al, *Committee Hansard*, 24 March 2015, p.6.

187 Birrer et al, *Committee Hansard*, 24 March 2015, p.6.

188 Birrer et al, *Committee Hansard*, 24 March 2015, p.6.

Defence industry as a fundamental input to capability

2.159 Currently, Defence recognises the eight fundamental inputs to capability (FIC): personnel; organisation; collective training; major systems; supplies; facilities and training areas; support; and command and management.[189] Defence defines the concept of fundamental inputs to capability as follows:

> A capability is provided by one or more systems, and is made up of the combined effect of multiple inputs. The inputs are known as the Fundamental Inputs to Capability (FIC)… Understanding FIC enables Defence to better understand and manage the whole-of-life workforce and funding implications of a new capability.[190]

2.160 In August 2015, then-Defence Minister Kevin Andrews stated that the forthcoming White Paper would recognise industry as a FIC:

> Through the White Paper and the accompanying Defence Industry Policy Statement, the Government will re-set the foundations for how industry engages with Defence. For the first time, the Government will recognise the vital role of Australian industry as a fundamental input to Defence capability.[191]

2.161 He continued:

> This means that it will be mandatory for Defence to consider Australian industry in the formal capability development process ensuring Defence better understands and identifies its needs for industrial support, and is able to better advise industry on its future needs.[192]

2.162 During the inquiry, witnesses and submissions similarly proposed that Defence should recognise industry as a FIC. In its submission, the Defence Teaming Centre argued:

> Australia's defence industry be recognised by the Federal Government as the ninth FIC. This would assist in generating an

189 Department of Defence, 'Fundamental Inputs to Capability' at <http://www.defence.gov.au/CDG/FundamentalInputs/> (viewed 26 August 2015).

190 Department of Defence, 'Defence Capability Development Handbook', December 2012, p.2.

191 Minister for Defence Address to the American Chamber of Commerce in Australia, 27 August 2015, at <http://www.minister.defence.gov.au/2015/08/27/minister-for-defence-address-to-the-american-chamber-of-commerce-in-australia-qt-hotel-canberra/> (viewed 16 October 2015).

192 Minister for Defence Address to the American Chamber of Commerce in Australia, 27 August 2015, at <http://www.minister.defence.gov.au/2015/08/27/minister-for-defence-address-to-the-american-chamber-of-commerce-in-australia-qt-hotel-canberra/> (viewed 16 October 2015).

> understanding and acceptance that defence industry is a critical partner to Defence's capacity to deliver military capability for government.[193]

2.163 Dr Andrew Davies (ASPI) was asked whether the defence industry could be recognised as a fundamental input to capability. He said:

> The short answer is yes. Defence is clearly a key stakeholder of defence industry and the services and goods it provides. … At the moment the bulk of that work is done as part of DMO's ongoing processes. Making it a fundamental input to capability would throw the onus on to the service chiefs and the capability manager to make sure that defence industry was healthy enough to provide them with the ability to raise, train and sustain the forces that government requires.[194]

2.164 Mr Graeme Dunk (Manager, Australian Business Defence Industry) said:

> If industry is recognised as a fundamental input to capability, it would mean firstly that, at the time major acquisition and sustainment decisions are being made, the ability of the indigenous industry to address that acquisition and sustainment would have to be taken into account. Secondly, in any decision that is to be taken by Defence associated with acquisitions, the impact on the industry would also have to be assessed.[195]

2.165 A submission from Australian Business Defence Industry to the 2015 Defence White Paper process expanded on this concept, proposing the creation of six fundamental inputs to industry capability: in country facilities; skilled and available workforce; access to intellectual property and design information; sustainable workflow; access to capital; and national infrastructure.[196]

2.166 Mr Peter Nicholson (Head of Government Relations, BAE Systems) agreed that the defence industry should be a fundamental input to capability.[197] He added:

> Defence industry is a vital part of ADF capability because of the sustainment requirements through life of type. That includes not just maintenance, repair and overhaul but also upgrade.[198]

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193 Defence Teaming Centre, *Submission 6*, p. 2.

194 Davies, *Committee Hansard*, 13 February 2015, p.20.

195 Dunk and O'Callaghan, *Committee Hansard*, 13 February 2015, p.3.

196 ABDI Submission to 2015 Defence White Paper, p.6.

197 Nicholson and Wilson, *Committee Hansard,* 13 February 2015, p.33.

198 Nicholson and Wilson, *Committee Hansard,* 13 February 2015, p.33.

2.167 Some witnesses cautioned that relying entirely on the domestic defence industry for all ADF requirements would not be possible. Dr Andrew Davies (ASPI) said that increasing globalisation meant that some reliance on overseas suppliers was inevitable.[199] Nevertheless, he said Australia could pursue areas of advantage.[200] He said:

> It is a matter of looking at comparative advantage and identifying sectors of the Australian industry where we can really add some value. I do not think there is a blanket solution in terms of this model or that model. When it is all said and done, we are a country of 24 million people in an increasingly globalised defence industry setting.[201]

2.168 In its submission, Thales Australia referred to the 1992 report commissioned by Defence entitled 'The Strategic Priorities for Australian Defence Industry'. According to Thales:

> The report gave weight to the argument that Australia's geo-political circumstances did not warrant, nor could the country afford, a high level of self-reliance in defence technology and production.[202]

2.169 The 1992 report stated:

> There is no need, in most circumstances, for full local design and production of high risk capabilities… Proven overseas designs adapted for local conditions, such as the ANZAC frigate, are the lower risk strategy that must be adapted for the austere financial circumstances of the 1990s.[203]

2.170 The report also stated:

> It will be important, therefore, for Australian industry to be targeted on those areas where retaining a technological edge is most critical for our contingency planning.[204]

2.171 BAE Systems presented a similar view. Mr Peter Nicholson (Head of Government Relations, BAE Systems) said:

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199 Davies, *Committee Hansard*, 13 February 2015, p.20.

200 Davies, *Committee Hansard*, 13 February 2015, p.22.

201 Davies, *Committee Hansard,* 13 February 2015, p.22.

202 Thales Australia, *Submission 19*, p.4.

203 Paul Dibb, 'The Strategic Priorities for Australian Defence Industry', ANU Strategic Defence Studies Centre, November 1992, p.70.

204 Paul Dibb, 'The Strategic Priorities for Australian Defence Industry', ANU Strategic Defence Studies Centre, November 1992, p.28.

> In general, Australian industry does not have the capacity—that is, the resources—to design, develop and field complex weapon systems.[205]

2.172 Mr Nicholson noted that Australia's capability strengths rested in the ability to make systems within complex systems, for example, 'some types of platform, sensors, communications, software development and electronic warfare' and the integration of these elements into the overall system.[206] He added that there are two approaches:

> The first one is to design, develop and produce and export individual systems that could not be categorised as complex. Secondly, and most likely, to produce systems for export as part of the supply chain of a complex weapons system produced by an overseas manufacturer.[207]

First Principles Review reforms to capability development

2.173 In August 2014, the Defence Minister commissioned a review of the Defence organisation's 'first principles' to ensure defence remains 'fit for purpose and is able to deliver against its strategy with the minimum resources necessary.' The review was completed in April 2015, after the Committee had concluded public hearings for this inquiry.[208] As noted by the Minister for Defence when the Review was released in April 2015, the Government has agreed (or agreed in-principle) to 75 of the First Principles Review's 76 recommendations.[209]

2.174 The First Principles Review recommended reforming capability development processes to create:

> An end-to-end approach for capability development with Capability Managers having clear authority and accountability as sponsors for the delivery of capability outcomes to time and budget, supported by an integrated capability delivery function and subject to stronger direction setting and contestability from the centre.[210]

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205 Nicholson and Wilson, *Committee Hansard*, 13 February 2015, p.32.

206 Nicholson and Wilson, *Committee Hansard*, 13 February 2015, p.32; see also BAE Systems, *Submission 3*, p.2.

207 Nicholson and Wilson, *Committee Hansard,* 13 February 2015, p.32.

208 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.5.

209 Minister for Defence media release, 'First Principles Review of Defence', 1 April 2015, at <http://www.minister.defence.gov.au/2015/04/01/first-principles-review-of-defence/> (viewed 26 August 2015). The sole recommendation Government did not agree to accept related to the Defence Science and Technology Organisation.

210 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.5.

2.175 The Review found that the existing capability development process (shown in a graphical representation at Annex E of the Review) created 'disconnect between customers and the purchaser as well as multiple and unnecessary handover points'.[211] The Review also stated that Defence is 'more focussed on process adherence than high quality capability outcomes.'[212] To achieve an end-to-end capability development approach, the Review recommended forming a new Capability Acquisition and Sustainment Group (CASG):

> The new group would manage a project from Gate Zero through to Final Operating Capability, including the integration of all Fundamental Inputs to Capability.[213]

2.176 With the defence industry recognised as being among the fundamental inputs to capability, its ability to fulfil capability requirements would be overseen from CASG. The Review stated:

> The outputs of Defence industry should be viewed as a Fundamental Input to Capability and be integrated into the acquisition life cycle. This may well mean a more imaginative use of a small number of potential contractors early in the process or the extension and use of already existing collaborative mechanisms (such as rapid prototyping, development and evaluation) at the very early stages of requirements development.[214]

2.177 This means Defence may need to display a greater willingness to foster innovation by managing or accepting project risks, rather than deliberately excluding or avoiding options due to risk anxiety.

2.178 The First Principles Review acknowledged that the current approach to procurement may not be appropriate in the defence context. The Review stated:

> We have had significant evidence from industry and other commentators that the current reliance on a 'one size fits all' competition policy and the use of complex procurement contracts does not produce the best results from domestic and international industry. It also adds significant cost and time for all participants and encourages unrealistic costing to be included in the decision-making process. The importance and relevance of competitive

211 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.32.
212 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.33.
213 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.35.
214 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.37.

> tension amongst prospective bidders varies from project to project. In some cases there may be only one realistic option.[215]

2.179 The Review recommended that procurement strategies for Defence acquisition and sustainment should follow a 'smart buyer' approach, which would involve:

- An 'enhanced relationship' between CASG and industry, with industry providing 'expertise in managing projects in the acquisition and sustainment phases';
- Defence would focus on planning and governance, including reviewing plans adopted by industry; industry would then focus on meeting the outcomes required by Defence.
- Involving industry in procurement strategies;
- Recognising the outputs of the defence industry as a FIC;
- Formulating a Defence Investment Plan and making it available to industry 'to enable appropriate planning for future capital projects.'[216]

2.180 Furthermore:

> We recommend that Defence, in partnership with academia and industry, review its developmental research priorities, their alignment with future force requirements and capacity to leverage allied partners, in order to promote innovation and make the most valuable contribution to future Defence capability.[217]

2.181 Implementing these changes necessitates managing industry's ability to deliver the capabilities Defence requires. The continuous build approach adopted for naval shipbuilding could be applied (or adapted) as a template for other segments of the defence industry.

RAND report - continuous build strategy an example of managing FIC

2.182 In September 2014, the Australian Government requested the RAND Corporation to produce a report on Australia's naval shipbuilding. The report was released in April 2015, to inform the next Defence White Paper. The scope of the RAND report was limited to naval shipbuilding, rather than defence industries generally; however, aspects of the report contained discussion relevant to themes arising during this inquiry, in particular:

- How acquisition decisions provide certainty for industry when Government planning creates ongoing production activity; and

215 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.36.

216 David Peever, 'First Principles Review: Creating One Defence', April 2015, pp.36-37 and p.41.

217 David Peever, 'First Principles Review: Creating One Defence', April 2015, p.42.

- Continuity may generate savings and mitigate sovereign risks.

2.183 A ministerial statement issued upon release of the RAND report stated:

> The RAND report is a critical input into the Defence White Paper and the Naval Shipbuilding Plan. The Government will now carefully consider the report's analysis and findings in preparation for the release of these documents later this year.[218]

2.184 RAND's analysis found that Defence could adjust the timing of ship construction to provide industry with an uninterrupted cycle of activity:

> Australian domestic naval shipbuilders can sustain an 18- to 24-month pace of large ship construction starts if AUS DoD [the Australian Department of Defence] carefully manages Future Frigate deliveries and keeps those ships operational for 25 to 30 years.[219]

2.185 The report recommended 'steady production' and a 'continuous build strategy' for naval shipbuilding:

> Supporting an Australian shipbuilding industry that is cost effective will require specific steps, including lessening the gap between the end of the AWD program and the start of Future Frigate construction and adopting a continuous build strategy that starts a new surface combatant every 18 months to two years.[220]

2.186 RAND stated that the price premium of Australian shipbuilding 'could drop over time, however, with steady production drumbeats and mature designs.'[221]

2.187 Subsequent to release of RAND's report, the Minister for Defence initiated preparation of a naval shipbuilding plan, which the Minister indicated was to be 'informed by the expert, independent advice from the RAND review.'[222] In August 2015, the Prime Minister and Minister for Defence jointly released the plan and endorsed the continuous build approach recommended by RAND:

> The Government will implement a continuous build of surface warships in Australia. This means that Australia's shipbuilding

218 Minister for Defence, 'Release of the RAND Corporation Report', 16 April 2015, at <http://www.minister.defence.gov.au/2015/04/16/minister-for-defence-release-of-the-rand-corporation-report/> (viewed 26 August 2015).

219 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.145.

220 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.149.

221 RAND Corporation, 'Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century', April 2015, p.xxxviii.

222 'Launching a New Deal for Naval Shipbuilding', *the Australian*, 22 April 2015, p.12.

> workforce will build Navy's Future Frigates and Offshore Patrol Vessels.[223]

2.188 The Defence Minister recently reiterated that 'the Government has committed to an unprecedented continuous build of surface warships in Australia.' The Minister also acknowledged that 'a sustainable shipbuilding industry will also generate significant benefits for the wider Australian economy, including through knowledge transfer and innovation.'[224]

Departmental and ministerial responsibilities for the defence industry

2.189 Responsibility for matters related to the defence industry is currently shared between three ministers.[225] The role of Minister for Defence Materiel and Science was revived in September 2015.

2.190 The Australian Strategic Policy Institute recommended that the Minister Assisting the Minister for Defence should have 'particular responsibility for defence export promotion.'[226] Dr Andrew Davies (ASPI) said that having a minister responsible for the defence industry, in his view, would be a 'positive step' given the size and complexity of the Department of Defence.[227] Dr Davies said:

> Defence is a very large and very complex beast. I think it is too big for a single minister. I think the personnel issues are sufficiently complex and sufficiently important that there be a junior minister in charge of them. Just going from my experience, when there was a defence procurement minister was when the projects of concern list really started kicking goals in terms of taking difficult projects and remediating them. That is because there was a minister who had the time to do that, to pull the industry stakeholders and Defence together and get all the important people in a room to sort

223 Prime Minister and Minister for Defence, 'The Government's Plan for a Strong and Sustainable Naval Shipbuilding Industry', 4 August 2015, at <https://www.pm.gov.au/media/2015-08-04/governments-plan-strong-and-sustainable-naval-shipbuilding-industry> (viewed 26 August 2015).

224 Minister for Defence, speech to Sea Power Conference, 7 October 2015, at <http://www.minister.defence.gov.au/2015/10/07/minister-for-defence-sea-power-conference-sydney/> (viewed 16 October 2015).

225 Department of Defence, 'Department of Defence Ministers' at <http://www.minister.defence.gov.au/> (viewed 26 August 2015).

226 ASPI, *Submission 20*, p.3.

227 Davies, *Committee Hansard*, 13 February 2015, pp.24-25.

> out these multibillion-dollar projects that had gone off the rails. Having a dedicated minister who had the time to do all of that was very valuable.[228]

2.191 The portfolio of Minister for Defence Materiel has existed intermittently between 1939 and 2013. Responsibilities have included defence procurement, materiel engineering, financial management, project and sustainment management and materiel logistics.[229]

2.192 Austal submitted:

> On numerous occasions key ministers from various portfolios visit many countries of interest to defence exporters. There is currently no way of coordinating this visit schedule to harness the potential value of this level of support. This lack of coordination is a significant impediment to publicising potential Australian exports. Industry has been left to its own devices and is often a low priority afterthought, when trying to squeeze into a Minister's busy schedule.[230]

2.193 In the UK, the Minister for Defence Equipment, Support and Technology is given specific responsibility for defence exports. Mr Andrew Watson (Managing Director, MBDA Australia) said that the UK Government had 'decided at the highest level the need to support defence exports.'[231]

Forthcoming White Paper and industry policy statement

2.194 Following the release of the 2015 Defence White Paper, Defence intends to publish a 10-year Defence Capability Plan and a Defence Industry Policy Statement to provide defence industry with greater certainty about the Government's key priorities and timeframes. Additionally, the Government has indicated that the White Paper will be followed by a fully costed Force Structure Review.[232]

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228 Davies, *Committee Hansard*, 13 February 2015, p.25.

229 *44th Parliament: Parliamentary Handbook of the Commonwealth of Australia 2014* (33rd ed.) (Parliamentary Library/Department of Parliamentary Services, Canberra, 2015), pp.505-593.

230 Austal, *Submission 31*, p.10.

231 Watson, *Committee Hansard*, 13 February 2015, p.54; see also <https://www.gov.uk/government/ministers/parliamentary-under-secretary-of-state-defence-equipment-support-and-technology> (viewed 26 August 2015).

232 Prime Minister and Minister for Defence media release, 4 April 2014, 'Delivering a World Class Defence Force', at <http://www.pm.gov.au/media/2014-04-04/delivering-world-class-defence-force-0> ; Minister for Defence, ASPI Future Surface Fleet Conference speech, 31 March 2015, at >http://www.minister.defence.gov.au/2015/03/31/minister-for-defence-aspi-australias-future-surface-fleet-conference/> (viewed 26 August 2015).

2.195 In an address to the Australian Strategic Policy Institute's Future Force Structure Options Conference on 25 June 2015, Prime Minister Abbott stated:

> We need a strong defence industry to support and sustain our armed forces. The White Paper will reset this critical relationship. It is certainly not necessary or practical that all our defence equipment be made here in Australia but it is necessary that it be sustainable in Australia.[233]

2.196 The Prime Minister added:

> The White Paper, a Defence Investment Plan, covering major equipment and its sustainment, the Defence Industry Policy Statement, a Naval Shipbuilding Plan and our commitment to increase funding — in combination — will provide the clarity and certainty that the defence of Australia needs.[234]

2.197 The Committee asked Defence for its views on the linkage between the defence industry and defence capability. Defence advised:

> The Government supports local industry and recognises how valuable it is to our nation. The new Defence White Paper and the associated Defence Industry Policy Statement will articulate the critical role of industry in Defence business and provide greater clarity and certainty of Defence's requirements of industry.[235]

2.198 Subsequently, the Defence Minister has given an indication of the position likely to be taken in the White Paper and Industry Statement. She said:

> The Government very strongly supports the principle that we should maximise the opportunities for Australian industries to participate in Defence acquisition and sustainment. We are also strongly committed to Australian industry that can deliver Defence capability that is internationally cost-competitive.[236]
>
> …
>
> The new Defence Industry Policy will offer industry greater opportunities to build its innovation, its productivity and its

233 Prime Minister of Australia, 'Address to the Australian Strategic Policy Institute Conference, Canberra', 25 June 2015, at <http://www.pm.gov.au/media/2015-06-25/address-australian-strategic-policy-institute-conference-canberra> (viewed 26 August 2015).

234 Prime Minister of Australia, 'Address to the Australian Strategic Policy Institute Conference, Canberra', 25 June 2015, at <http://www.pm.gov.au/media/2015-06-25/address-australian-strategic-policy-institute-conference-canberra> (viewed 26 August 2015).

235 Department of Defence, *Response to Questions on Notice* (Question No. 9).

236 Minister for Defence, speech to Sea Power Conference, 7 October 2015, at <http://www.minister.defence.gov.au/2015/10/07/minister-for-defence-sea-power-conference-sydney/> (viewed 16 October 2015).

> international competitiveness – which is all in Australia's national interests. To ensure that the Government's significant investment in Defence is spent wisely, this will be Australia's first fully-costed, and externally cost-assured, Defence White Paper.[237]

Implications for defence exports

2.199 Once it is established that there are elements of domestic defence industry that are FIC (including those that generate the competence and capacity to be a smart buyer), it is easier to make the linkage to which Defence exports should be actively supported. This creates a positive cycle with Australian investment in innovation to enhance FIC leading to new IP that can (subject to export controls) increase opportunities for export.

2.200 Mr Graeme Dunk (Manager, Australian Business Defence Industry) explained how exports are related to industry capability and government policy:

> Defence export opportunities do not spring fully formed out of the ground, but need to be considered as a result of defence industry engagement and associated involvement in multiple upstream activities, including determination of military capability needs based on the consideration of the strategic outcomes desired by the government; definition and description of military capability requirements; support for innovative developments to address identified needs and requirements; support for the commercialisation of innovative concept and prototypes; and acceptance of the outcomes of innovation and commercialisation and introduction into service.[238]

2.201 Thales' submission stated:

> In Thales' experience, our most successful exports have been products designed and developed in Australia and launched through large contracts to fulfil local requirements… One way to describe exports of this type is the 'push' model – a unique product is developed and launched through a local requirement that then has sufficient momentum to 'push' its way into the global market as a unique value proposition.[239]

237 Minister for Defence, speech to Sea Power Conference, 7 October 2015, at <http://www.minister.defence.gov.au/2015/10/07/minister-for-defence-sea-power-conference-sydney/> (viewed 16 October 2015).

238 Dunk and O'Callaghan, *Committee Hansard*, 13 February 2015, p.1.

239 Thales Australia, *Submission 19*, p.5.

2.202 Prof Goran Roos said:

> Hence, there is a natural link between the requirements of somebody working with your local industry, the increase of the capability in that industry and the opening up of that industry for opportunities that they otherwise would not have both through capability and through linkages.[240]

Identifying FIC and alternatives to competition

2.203 The practical benefit of analysing industry to identify FIC and then using procurement to not only sustain it, but save money in the process is demonstrated by the UK's approach to complex systems procurement. This policy has significant changed how the UK approaches naval ship (and submarine) building, elements of aviation capability and complex weapons procurement.

2.204 A submission from MBDA Australia detailed how the UK's preference to engage sole suppliers for complex weapons has retained capabilities in-country, led to savings and created opportunities for exports. MBDA submitted that an 'interdependent relationship' had been developed between Government and industry whereby:

> The UK MoD [Ministry of Defence] requires current and future military capability with operational advantage, freedom and action and value for money, which is achieved by the sustainment of appropriate industrial sovereign capability; and MBDA UK requires a sustainable and profitable business through being MoD's primary partner of choice for the supply and support of world leading complex weapons which delivers shareholder value.[241]

2.205 MBDA submitted that this 'collaborative approach' to procurement was delivering savings for the UK Government:

> These savings are achieved through activities such as commonality and modularity of sub-systems and technologies, optimising the design to minimise through life costs, as well as enabling greater flexibility to trade requirements and cost across the portfolio.[242]

2.206 While the partnership between the MoD and MBDA allowed for the MoD to acquire any system it deemed necessary (including an off-the-shelf system from an offshore supplier), to date it has not chosen to exercise that option due to the increased capability and savings achieved through the

240 Roos, *Committee Hansard*, 9 October 2014, p.1.

241 MBDA Australia, *Submission 16*, p.6.

242 MBDA Australia, *Submission 16*, p.6.

partnership with MBDA. According to MBDA, UK Government support for the export of unique capabilities would lead to increased tax contributions and additional savings:

> These savings may accrue as a result of an increase in the production quantity enabling a reduced unit price, reduced overheads as a result of increased business volume, and potentially the spread of non-recurring development costs if the timescales of domestic and export requirements can be aligned.[243]

2.207 For Australia, MBDA suggested that relations between Government and industry could be modelled on the UK approach:

> Proactive and joined up relationships… could stimulate more innovative business models for the longer term preservation of a defence sector within Australia, providing skills, knowledge, capability and the generation of intellectual property which is ultimately needed for the growth of exports.[244]

2.208 MBDA concluded:

> As such, if the Australian government is to seriously address support to defence industry exports, one of the first steps is to assess the options for a 'non-OTS' procurement policy in specific technologies and capabilities. These technologies and capabilities would need to be targeted at those areas where it is not only essential to maintain a level of in-country capability, but also where export market analysis demonstrates greatest opportunity for exploitation of Australian developed products.[245]

2.209 The committee notes the parallel process developed in the UK to support a long term partnering relationship in shipbuilding. The combination of new contracting models and investment in production processes and technology to assess which industry elements (down to specific trades) were sovereign shipbuilding capabilities that should be retained have transformed the UK approach to shipbuilding, delivering savings, certainty for industry and a sustainable sovereign capability.[246]

2.210 Chapter four details other aspects of UK Government support for its defence industry and defence exports.

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243 MBDA Australia, *Submission 16*, p.9.

244 MBDA Australia, *Submission 16*, p.15.

245 MBDA Australia, *Submission 16*, p.16.

246 UK Ministry of Defence, 'Defence Industrial Strategy: Defence White Paper', December 2005, pp.6-11, and see Appendix E.

Committee comment

2.211 The Committee notes that despite policies which appear to support closer engagement with industry, a paradigm shift in Defence culture and practice is required if the stated outcomes are actually to be achieved. The Committee's starting point is accepting the evidence provided during this inquiry—and validated by recommendations of the First Principles Review—that elements of defence industry are essential to ADF capability. Industry elements that the Committee considers could be categorised as FIC include:

- Products;
- Services;
- Competence and capacity (for example, design, engineering and manufacturing capacity); and
- Intellectual property.

2.212 While it will be for Defence and industry to jointly establish a methodology to identify FIC and update it on a regular basis, the Committee recognises that not all industry activity should be regarded as essential. Products or services that can be readily sourced from alternative domestic or international suppliers, or in times of conflict, even be substituted with minimal cost or disruption are clearly not FIC, even if they are the result of a Defence related program such as AIC or the Global Supply Chain. The manufacturing capability to produce low technology items such as trailers or vehicle trays are two recent examples that would clearly be in this category. At the other end of the spectrum, where Australia operates a small fleet of a complex system with a unique configuration, recent experience in both the maritime and aerospace domains have proven that there are elements of engineering competence and manufacturing capacity that must be maintained in Australia.

2.213 Noting that Service Chiefs are responsible to ensure that FIC are sustained, the Committee is of the view that Defence has an interest, indeed an obligation to identify FIC elements in industry and then to use available means—including domestic procurement programs and support for exports—to enhance and sustain them.

2.214 This framework is represented schematically in Figure 1.

2.215 The Committee expects that this approach will lead to a far more strategic partnership between Defence and industry. In line with the experience of peer nations, it will most likely result in longer term, whole-of-life contracts and a commitment from Government to underwrite a given level of procurement activity in key sectors (eg: the continuous build of surface

ships). This will in turn develop more IP, capacity and sustainable skilled work in Australia's industrial base. The Committee notes, however, that the driver for this framework must be sustaining the skilled jobs that enable Defence capability, not job creation as an end in itself.

2.216 The comment by Dr Davies of ASPI (paragraph 2.82) captured the sentiment of many witnesses which indicates that there is a gulf between policy and practice when it comes to Defence interaction with industry. Many aspects of previous Defence Industry Policy Statements (eg: DIPS 2010) and the 2014 Defence Procurement Manual were commendable and, if consistently implemented, would have served both Defence and industry well. The Committee notes ANAO comments that past reform in Defence has resulted in much new process but seldom the intended outcomes. The First Principles Review also identifies this adherence to process rather than strong, strategic leadership, including in this field of industry engagement.

2.217 The step change that will underpin a change in cultural mores will be for Defence to accept that they have a strategic and operational need to be a smart buyer who manages the sustainability of industry FIC, just as they do for other fundamental inputs to Defence capabilities. This will require a new level of analysis and engagement with industry as well as change in the culture that drives current procurement practices. These changes should be implemented top down through policy and reporting frameworks as well as bottom up, through highlighting the role of industry as FIC during specialist training (eg: trades, engineering, project management) and generalist career training such as the various levels of staff training for ADF officers.

2.218 The Committee recognises that profit and loss are prime considerations for industry and that probity is required in the Commonwealth's dealings with all commercial entities. In comparison with peer nations however, the Committee also accepts the evidence that anxiety about probity has led to an over reliance on competition as the prime vehicle to drive value for money, as highlighted in discussion regarding DPPM guidance in paragraph 2.117. Even when Defence sought to provide evidence that they already had policy that allowed them to consider whole of life costs when evaluating value for money, the Committee noted that the reference provided—being the most recent edition of the DPPM—detailed the primacy of competition: "*Value for money is not limited to a consideration of capability versus price, or 'cheapest price wins'. Value for money requires consideration of Australian Government policy,* ***specifically values such as open competition,*** *efficiency, ethics and accountability*".

2.219 The Committee received evidence that in the longer term, many projects could deliver better value for money where a long term partnering agreement is reached. Such an agreement provides incentive for the company to invest in the quality and longevity of its people, processes and infrastructure which has the tangible benefit of increasing productivity, decreasing costs and increasing availability of the asset to the warfighter. There are some examples of this practice in Australia but they are not widespread, as is the case in nations such as the UK.

2.220 The UK Government's management of complex weapons procurement, which has been designed to establish ongoing relationships with suppliers, has demonstrated how partnering with industry can deliver savings to government, improved capability, innovation, unique products with export potential and maintain UK sovereign capability. The applicability of industry as a FIC has been demonstrated by the UK's Defence Industry Strategy White Paper in 2005. This has resulted in a long-term partnership between the UK Ministry of Defence and BVT Surface Fleet Ltd in 2009 (Appendices E and F contain extracts from the White Paper and the contract between the UK Secretary of State for Defence and BVT Surface Fleet Ltd).

2.221 The Committee also accepts that there has been a recognised aversion to risk, with decisions taken to procure offshore, even when Australian companies offer products in areas that are classified as PICs. The risk cited as reasons to go offshore range from commercial to technical or a perceived lack of interoperability with allies. The Committee accepts that in some cases these judgements may be valid but has received evidence that Australian industry has often been denied the chance to provide solutions to Defence at all, or in some cases has been told to get an overseas prime interested so that they can provide it to the ADF as part of a broader solution. While the Committee recognises the CPR requirements to consider scale and commercial longevity are valid, managing these risks—where appropriate in order to sustain and develop industry elements identified as FIC—would appear to deliver more value in the long term than simply defaulting to acquisition from an overseas prime.

2.222 The ability of Australian industry (sometimes supported by DSTG, CSIRO and the university sector) to innovate and develop IP has improved Australian defence capabilities and is an essential enabler to export. Evidence suggests, however, that the majority of the defence industry is building to print, rather than generating indigenous intellectual property. Where elements of industry are identified as being FIC, programs that encourage research & development that leads to IP and a path to commercialisation should be funded as a priority. The DMTC model is

one existing example that should be expanded into other technology areas to help achieve this goal.

2.223 A number of witnesses highlighted to the Committee that industry competence and capacity take time to develop. The competence to sustain a FIC or to be a smart buyer, requires graduates from trades or engineering courses who also have hands on experience applying their knowledge in a relevant field. This drives a requirement to undertake some acquisition programs in Australia or where this is not feasible, to form contractual arrangements that allow for Australian workers (Defence or industry) to be embedded with the overseas prime and in some cases, the relevant foreign military engineering regulatory authority. The Committee saw that the key failing in the PIC program was a mistaken assumption by Defence that short term, grant based activities could create sustainable industry competence and capacity. Likewise the AIC program has sometimes created jobs, but often not in a manner that sustainably targeted industry elements that could have been regarded as FIC.

2.224 When describing the PIC program, Defence indicated a reliance on individual project officers to evaluate PIC elements. This approach has led to an inconsistent application of this policy, and as highlighted by the First Principles Review, is an example of form over substance. In the Committee's view, Defence's capability managers (Service Chiefs) should be making decisions affecting FIC-related defence industry capability. This would create the opportunity to take a strategic view on a programmatic basis rather than project by project. Where a project officer may not see that the particular equipment being procured needs an industry element as FIC, a programmatic view may see the potential for that project to contribute in a cost effective manner to sustainment of a FIC that is under pressure to support other ADF weapons systems. There would need to be an agreed threshold of significance (eg: value, complexity or technology) above which this evaluation of each individual project was mandatory.

2.225 Lastly, recent ministerial changes have resulted in the appointment of A Minister for Defence Materiel and Science (DM&S). The Committee recognises that the Defence Minister as a member of National Security Committee of Cabinet will have the lead role in *what* capabilities are to be procured, the Minister for Defence Materiel and Science should be responsible for *how*. The Minister for DM&S should have oversight of how Defence plans for future capability (encompassing management of FIC – including industry), how capability is procured and supported throughout its service life, as well as defence exports including government-to-government sales.

2.226 In summary, support for defence exports—where they assist to sustain or develop industry elements that are identified as FIC—should be viewed as a core Defence responsibility in the same way as the services manage other FIC elements including training, personnel plans, facilities and doctrine development.

Recommendations

Recommendation 1

The Committee recommends that the Department of Defence incorporate into policy, doctrine, procurement instructions and all associated training the addition of defence industry as the ninth fundamental input to capability.

Recommendation 2

The Committee recommends that the Department of Defence build on previous activities in Australia and abroad to develop a system to identify those elements of industrial competence or capacity that are deemed to be fundamental inputs to ADF capability (FIC). This activity should be led by the Service Chiefs and implemented by Capability, Acquisition and Sustainment Group at a strategic level with an assessment of how each new significant project may change the assessment of FIC or indeed could contribute to the maintenance of FIC from a whole of program perspective.

Recommendation 3

The Committee recommends that when implementing the First Principles Review changes to roles and responsibilities, capability development, procurement and sustainment, Defence take into account the framework for industry engagement based around the fundamental inputs to capability illustrated in Figure 1.

Recommendation 4

The Committee recommends that in areas where an aspect of industry is identified as a fundamental input to capability, Defence's procurement and probity guidelines provide suitable pathways for long term partnerships to be the default approach to driving innovation, productivity and value for money rather than a primary focus on open competition. Defence should publicly report savings achieved by virtue of this revised approach to procurement.

Recommendation 5

The Committee recommends that where a procurement activity is linked to a fundamental input to capability, the Department of Defence develop guidelines that encourage identification and management of risk rather than avoidance of risk through defaulting to an offshore contract.

Recommendation 6

The Committee recommends that the Department of Defence significantly expand its investment in activities that generate fundamental input to capabity-related innovation and intellectual property, and support commercialisation through partnership models such as the Defence Materials Technology Centre.

Recommendation 7

The Committee recommends that where an industry-related fundamental input to capability has been identified, the Department of Defence prioritise Australian based procurement contracts so that relevant industry and Defence staff can develop competence in specific tasks via hands-on experience, or where this is not possible, through making the placement of Australian staff in original equipment manufacturers or foreign military engineering bodies a condition of contract.

Recommendation 8

Subject to acceptance of Recommendations 1-7, the Committee recommends that the Department of Defence discontinue the Priority Industry Capability and Strategic Industry Capability programs, retain the Australian Industry Capability targets for procurement activity that do not involve an identified fundamental input to capability and continue to promote the Global Supply Chain scheme wherever possible.

Recommendation 9

The Committee recommends that the Department of Defence increase the level of support to defence exports where such exports will help sustain or develop a fundamental input to capability.

Recommendation 10

The Committee recommends that the Minister for Defence Materiel and Science have responsibility for how the capability development, procurement and sustainment systems work, the investment in fundamental input to capability-related innovation and export opportunities including an increased focus on Government to Government sales.

Recommendation 11

The Committee recommends that Defence develop performance measures relevant to the management of the defence industry as a fundamental input to capability and publicly report the outcomes.