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AUSTRALIA'S 2016 DEFENCE WHITE PAPER AND ITS IMPLICATION FOR AUSTRALIAN INDUSTRY

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JCSP 45 – PCEMI 45
2018 – 2020

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INTRODUCTION

Australia's 2016 Defence White Paper (DWP) details that Government will invest approximately $195 billon to strengthen Defence into the 21st Century.[1] The DWP, together with the accompanying 2016 Integrated Investment Program (IIP) and Defence Industry Policy Statement (DIPS) detail the Government's strategic vision to enhance the partnership and collaboration between Defence and Australian Defence Industry,[2] presenting opportunities for small businesses and Small Medium Enterprises (SMEs).

The Government subsequently released additional Defence Industry policies and initiatives further amplifying the opportunities available. The 2018 Defence Industrial Capability Plan (DICP) recognised the importance of Defence Industry sovereignty, outlining the Sovereign Industrial Capability Priorities, acknowledging that as Australia builds Defence capability, it must also grow its industrial capability.[3] Release of the Defence Policy for Industry Participation (DPIP), Industrial Capability Priorities Implementation Plans and the Naval Shipbuilding Plan (NSP) further expand on how opportunities exist for Industry.

This paper will identify key changes impacting Industry through and since the release of the 2016 DWP. It will examine changes introduced in the 2016 DWP and related Industrial strategic policies, focussing on the impacts for Australian Defence Industry, in particular small businesses and SMEs. An examination of key policies

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[1] Department of Defence, *2016 Defence White Paper*, Commonwealth of Australia 2016, Canberra, 9.

[2] *Ibid.,* 20-21.

[3] Australian Government, *Defence Industrial Capability Plan*, accessed 08 Mar 20, https://www.defence.gov.au/SPI/Industry/CapabilityPlan/

and plans, particularly the NSP, will highlight that the Government has set conditions to enhance opportunities for Australian Industry. A snapshot of Australia's Defence Industry will be provided, with examples of initiatives and opportunities taken to date, before summarising the initiatives that the examples have exploited. Finally, acknowledging recent events, an assessment of COVID-19 to the opportunities will be made. It will show that opportunities are not without challenge. Australian Industry and the Government must invest in the skills and workforce necessary for the ambitious growth desired. Further, to assist Industry manage their own investment risk, delays to project timelines must be transparent.

KEY 2016 DWP STRATEGIC DIRECTION

The 2016 DWP was concurrently released with the DIPS and the IIP. Collectively they provided initial strategic direction and indicators for Industry. Key changes and their implications for Industry are detailed below.

Future Force Guidance

2013's DWP divided capabilities into land, sea and air, whereas the 2016 DWP expanded capability into six capability streams.[4] The IIP replaced the legacy Defence Capability Plan (DCP) and Defence Capability Guide (DCG), detailing investment amongst these new capability streams, including timing and monetary guidance out to 2025-26.[5] New streams and associated key capabilities are summarised in Table 1.

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[4] Department of Defence, *2016 Defence White Paper* . . ., 84.

[5] Department of Defence, *2016 Integrated Investment Program*, Commonwealth of Australia 2016, Canberra, 9.

Table 1: IIP Capability Streams, Investment and key Capabilities[6]

Capability Stream	Key Capabilities areas in Stream
Air and Sea Lift (6% of investment)[7]	- Additional air-to-air refuellers - Chinook helicopters - New replenishment vessels - Additional heavy-lift transport aircraft
Strike and Air Combat (17% of investment)[8]	- Joint Strike Fighter - Enhanced integration of air and space surveillance systems - Enhanced fixed and deployable air search radars and deployable air-defence systems - Rapidly deployable light helicopters
Intelligence, Surveillance, Reconnaissance (ISR), Space, Electronic Warfare (EW) and Cyber.(9% of investment) [9]	- Intelligence systems supported by enhanced processing - Enhanced space situational awareness - Unmanned intelligence, surveillance, and reconnaissance capabilities - Electronic Warfare support capability based on a long-range commercial aircraft - Enhanced command, control, communications and intelligence, surveillance, and reconnaissance systems
Maritime and Anti-Submarine Warfare (25% of investment)[10]	- 12 submarines - 9 ASW frigates and 12 Offshore Patrol vessels - Modernised mine countermeasures - Hydrographic survey capabilities - Deployable land-based anti-ship missile capability
Land Combat and Amphibious Warfare (18% of investment)[11]	- Digital joint communications and networks - New generation armoured vehicles - Armed, medium-altitude long-endurance unmanned aircraft and a suite of tactical unmanned systems - Future armed aerial reconnaissance capability - New long-range rocket systems.
Key Enablers (25% of investment)[12]	- Training, weapons and ranges, testing facilities, health services - ICT - Developing, monitoring and maintaining airfields, wharves, ports, bases, fuels stowage's, logistics systems. - Investment in education and training - Modelling and simulation

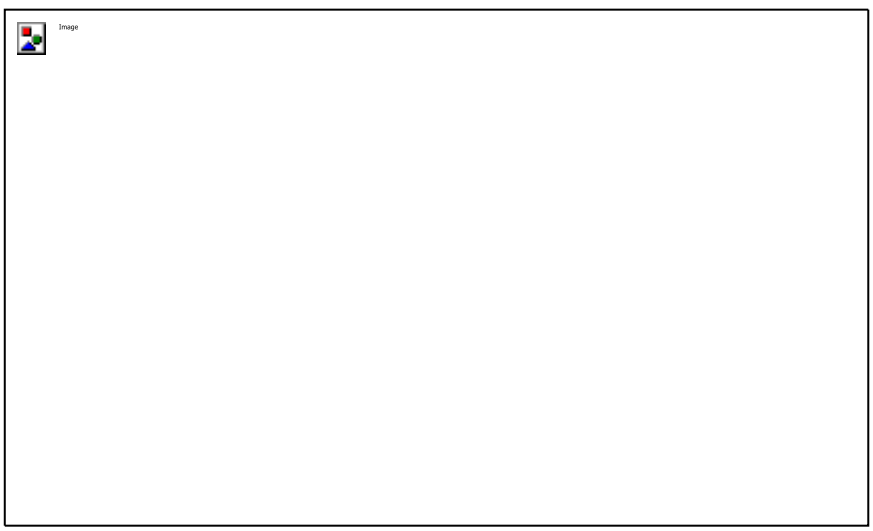
Unlike previous guidance, the IIP includes enabling infrastructure, training and ranges, test facilities, health services and Information Communications Technology.[13]

[6] *Ibid.*, 19-107.
[7] *Ibid.*, 67.
[8] *Ibid.*, 19.
[9] *Ibid.*, 28-29.
[10] *Ibid.*, 79.
[11] *Ibid.*, 107.
[12] *Ibid.*, 39 – 41.
[13] Department of Defence, *2016 Defence Industry Policy Statement*, Commonwealth of Australia 2016, Canberra, 25-26.

Provision of timeframes, guidance on capabilities and investment values for each stream, allows Industry to prioritise where they may investment. Figure 1 and Table 2 illustrate how this is represented.

Figure 1: Graphic of IIP investment timeline (Air & Sea Lift)[14]

Table 2: Example of Key Investment Decision guidance (Air & Sea Lift)[15]



[14] Department of Defence, *2016 Integrated Investment Program . . .*, 65.
[15] *Ibid*., 74

The integrated approach to investment planning, which includes supporting infrastructure, ensures enablers are considered in investment decisions, providing opportunities for Australian Industry outside of material equipment. IIP analysis allows Industry to determine where and when opportunities exist that best match their skills and resources, or plan investment to develop them. However, as not all IIP projects are approved, there is risk that investments can be wasted. Further, the IPP was to undergo 6 monthly updates as programs hit milestones. Only one update has occurred to date, and it has not been published for Industry.[16] So whilst there are opportunities, a lack of transparency presents challenges.

Industry as a Fundamental Input to Capability (FIC)

FIC are essential inputs combined to achieve capability.[17] They traditionally include Personnel; Organisation; Collective Training; Major Systems; Supplies; Facilities and Training Areas; Support; and Command and Management. The 2016 DWP formally added Industry, making it mandatory to consider Australian Industry during the capability development process.[18] Early involvement will highlight opportunities available to Australian Industry from commencement of the capability life cycle.

Industry Support Initiatives

New initiatives streamline previous support programs into two areas; a Centre for Defence Industry Capability (CDIC) and innovation.

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[16] Ziesing, Katherine, "*From the Source: Melissa Price", Australian Defence Magazine*, 08 Jan 20, http://www.australiandefence.com.au/industry/interviews/from-the-source-melissa-price

[17] Department of Defence, *2016 Defence White Paper . . .*, 109.

[18] *Ibid*.

CDIC. Co-led by Defence and Industry, CDIC allocates $230 million to 2025-26 funding development, skilling, export and innovation programs.[19] CDIC offers insight into innovation priorities and funds access to assist capability development. Other key services provided are detailed in Table 3. Unlike the 2013 DWP, where SMEs were encouraged to collaborate and focus on markets within the Indo-Pacific and existing platforms;[20] CDIC encourages action through innovation programs, provision of business advice and assistance accessing global markets. Coupled with IIP analysis, Industry can utilise CDIC resources to innovate and develop skills in areas relevant to future capability.

Table 3: CDIC Services

KEY CDIC SERVICES	
1	Advice and funds to assist Industry build skills and capabilities
2	Development support for SMEs, including access to global supply markets.[21]
3	Information on Defence's innovation requirements.[22]
4	Preparing and implementing engagement strategies to recognise Australian Industry.[23]
5	Provision of Defence specific business advice and funding to assist SMEs improve productivity and global competiveness in areas of Defence interest.[24]
6	Assisting access to global markets through economies of scale and access to export programs, by offering advisory services and market advice.[25]

Innovation. Three innovation initiatives targeting SMEs have been implemented; the Defence Innovation Hub, the Next Generation Technologies Fund (NGTF) and a Defence Innovation Portal. These initiatives are summarised in Table 4.

[19] Department of Defence, *2016 Defence Industry Policy Statement . . .*, 15-16.

[20] Department of Defence, *2013 Defence White Paper*. Commonwealth of Australia 2013, Canberra, 117.

[21] Department of Defence, *2016 Defence Industry Policy Statement . . .*, 50.

[22] Department of Defence, *2016 Defence White Paper . . .*, 110.

[23] Department of Defence, *2016 Defence Industry Policy Statement . . .*, 16.

[24] *Ibid.*, 17.

[25] *Ibid.*, 44.

The Innovation Portal and the NGTF are progressive steps required to access Innovation Hub resources. The Innovation Portal guides priorities to focus efforts. With CDIC assistance, Industry can present ideas and seek assistance to develop them further. Once mature, they will be transferred to the Innovation Hub to access further development support. Similarly, Industry can collaborate with academia to present research ideas for funding through the NGTF, progressing through to the Innovation Hub once mature.

Table 4: Defence Industry Innovation Initiatives[26]

Initiative	Funding	Features
Defence Innovation Hub	$640 million to 2025-26	- Coordinated by Defence Strategic Policy and Intelligence Group, rationalises legacy innovation programs.[27] - Facilitates Industry and Defence collaboration and innovation from initial concept, prototyping and testing.[28] - communicates capability needs and requirements, request proposals from Industry and academia, provides recommendations for innovation priorities and builds collaborative programs with stakeholders.
Next Generation Technologies Fund (NGTF).	$730 million to 2025-26	- Led by Defence Science Technology Group (DSTG) to work with Industry and academia on strategic next generation technology research and development. - Communicates funding priorities. - When technologies reach sufficient maturity, they transfer to the Innovation Hub for further development. [29]
Defence Innovation Portal	Not Applicable	- Established within the CDIC as entry point for new companies. - Facilitates SME access to Defence. - Broadcasts capability and technology challenges, refers and connect companies to key priorities, convenes innovation forums, facilitate early engagement with Defence Export Controls Branch, assist development of innovation proposals and introduce Industry to broader government innovation initiatives. [30]

[26] Department of Defence, *2016 Defence Industry Policy Statement . . .*, 33 – 71.

[27] legacy programs include the Capability Technology Demonstrator, Rapid Prototyping Development and Evaluation, Defence Innovation Realisation Fund, Priority Industry Capability Development Fund and the Chief Information Officer Group Innovation Program.

[28] Department of Defence, *2016 Defence Industry Policy Statement . . .*, 71.

[29] *Ibid.*, 33.

[30] *Ibid.*, 37.

Naval Shipbuilding Fund.

The DWP commits to a continuous Australian naval shipbuilding industry, bringing forward maritime projects; providing opportunities in systems integration, design, testing and sustainment within the future submarine program.[31] This guarantee, allows Industry to invest in workforce and new technologies, which are enablers for the shipbuilding ambitions. Funding to assist investment is available through the CDIC.

IMPLEMENTATION POLICIES

The 2016 initiatives informing Industry and facilitating innovation were discussed above. This following focuses on subsequent policies, plans and initiatives that complement the 2016 initiatives in supporting the implementation of Government's ambitions.

Defence Industrial Capability Plan (DICP)

The DICP includes initiatives to Australian Industry, identifying entry points for businesses to join Australia's Defence Industry, as well as programs for businesses already supplying Defence goods and services. Key content in the DICP is Australia's Sovereign Industrial Capability Priorities.[33] Detailed in Table 5, these ten priorities are capabilities considered critical, for which Australia must have access to, or control over the skills, technology, intellectual property, financial resources and infrastructure

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[31] Department of Defence, *2016 Defence White Paper*, . . ., 113.

[32] *Ibid*., 114.

[33] Department of Defence, 2018 *Defence Industrial Capability Plan,* Commonwealth of Australia 2018, Canberra, 13.

that underpin the capability. [34] Priorities are reviewed periodically based on strategic, technology and Industry capability developments.[35]

Table 5: Australia's Sovereign Industrial Capability Priorities[36]

Sovereign Capability Priority	**Amplification**
Collins Class submarine maintenance and technology upgrade	- Ability to enhance, sustain, repair, operate and upgrade submarines.
Continuous shipbuilding program	- Technical, managerial, heavy engineering and advanced manufacturing capabilities for an innovative, sustainable and continuous program that delivers future submarines, major surface combatants and minor war vessels. - Global supply chains, shipyards, and a skilled workforce.
Land combat vehicle and technology upgrade	- Capability to design, develop, manufacture, update, upgrade and integrate new systems and equipment.
Enhanced active and passive phased array radar capability	- Phased array radar capability is an element that Australia has a world leading capability and advantage.
Combat clothing survivability and signature reduction technologies	- Provision of signature reducing characteristics and blast protection incorporated into the soldier combat ensemble.
Advanced signal processing capability in EW, cyber and information security, and signature management	- Australian industry must understand, design, develop and use technology applications to maintain an advanced signal processing capability in cyber and information security, radar, sonar and acoustic technologies, EW operational support and signature management.
Surveillance and intelligence data collection, analysis dissemination and complex systems integration	- Ability to design, develop, maintain and upgrade persistent surveillance capability enabling large amounts of data to be collected, analysed and disseminated across the joint force.
Test, evaluation, certification and systems assurance	- Initial and in-service test, evaluation, certification and systems assurance of platforms and systems. - Suitably skilled workforce and equipment to ensure the safety, accessibility and usability of platforms and systems.
Munitions and small arms research, design, development and manufacture	- Manufacture of propellants, munitions, ammunition and small arms.
Aerospace platform deep maintenance	- Deep level maintenance of the ADF's rotary and fixed wing aircraft, such the F-35A, in Australia in the required timeframes

[34] Department of Defence, *Australian Industry Capability*, accessed 10 Mar 20, https://www.defence.gov.au/SPI/Industry/AIC.asp

[35] *Ibid.*

[36] Department of Defence, 2018 *Defence Industrial Capability Plan . . .* , 36 – 40.

Defence are developing implementation plans for each priority, that include workforce and skilling considerations, and where appropriate, a forecast of applicable technological developments.[37] To date, two plans have been released.[38] Additionally, CDIC grants assist Australian SMEs conduct work associated with the priorities.[39] Building on IIP capability guidance, the priorities and their associated plans enable Industry to focus on developing resilience and capabilities in critical areas where government has assured sovereign involvement. CDIC grants assist SMEs to do this.[40]

Defence Policy for Industry Participation (DPIP)

The DPIP formalises requirements to consider Australian Industry at national and local levels for materiel and non-materiel procurements over $4 million, and construction procurements over $7.5 million.[41] It builds on the legacy Australian Industry Capability Program for material procurement, where now depending on nature and size of the procurement, tenderers through their responses consider local or national Australian Industry through schedules or plans. The aim is not to preference Australian Industry, but focus on value-for-money, maximising opportunities to compete for work.[42] Table 6 summarise the new requirements. Schedules require a breakdown planned expenditure in Australia in terms of companies, nature and value of work. Plans require description on how tenderers have engaged with Australian

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[37] Department of Defence, *Fact Sheet: Sovereign Industrial Capability Priorities,* accessed 12 Mar 20, https://www.defence.gov.au/SPI/Industry/CapabilityPlan/Docs/SICP-Factsheet1.pdf

[38] Australian Department of Defence. *Sovereign Industrial Capability Priorities: Implementation and Industry Plans*, accessed 19 Apr 20, https://www.defence.gov.au/SPI/Industry/CapabilityPlan/implementationplans.asp

[39] Department of Defence, 2018 *Defence Industrial Capability Plan . . .*, 44.

[40] *Ibid.*, 48.

[41] Department of Defence, *Defence Policy for Industry Participation*, Commonwealth of Australia 2019, Canberra, 8.

[42] *Ibid.*, 16.

Industry at national and local levels to deliver the required goods, works or services.[43] Plans also include how tenderers will monitor and report on commitments once in contract. Schedules are inclusive when a plan is required.[44]

Table 6: Plan and Schedule Requirements[45]

Procurement Details	Requirement
Procurements valued less than $4 million	no specific requirements.
Materiel procurements between $4 million and $20 million	no specific requirements.
Materiel procurements valued at $20 million or more	Continued legacy requirement for an AIC Plan including an AIC Schedule
Non-materiel procurements valued between $4 million and $20 million	requirement for an Industry Participation Schedule
Non-materiel procurements valued at $20 million or more	requirement for an Industry Participation Plan including a schedule
Construction services valued at $7.5 million or more	requirement for a Local Industry Capability Plan

The DPIP drives opportunities for Australian small businesses and SMEs, requiring primes to engage them at both national and local regional levels. Whilst it doesn't guarantee business, should innovative value-for-money contributions be offered, rewards are likely. Further, as tenderers will increase awareness of local capability, opportunities to participate in their broader Australian supply chain may evolve.[46]

[43] *Ibid.*, 42.
[44] *Ibid.*
[45] *Ibid.*, 15.
[46] *Ibid.*, 44.

Naval Shipbuilding Plan (NSP)

Australia has committed to expanding maritime capability.[47] The NSP details how Government will deliver its naval shipbuilding Industry.[48] Table 7 details four key enablers critical to this, with a discussion on each following.

Table 7: Key Enablers of Naval Ship Building[49]

ENABLER	DESCRIPTION
Naval shipbuilding and sustainment infrastructure	- Modern, innovative and secure. - Upgrades planned for South Australia and Western Australia
Naval shipbuilding and sustainment workforce	- By 2026 over 5,200 workers will be needed, plus a supply chain force. - Attracting, recruiting, and retaining the workers the enterprise needs. - The right education and training to skill the workforce.
Australian industrial base	- motivated, innovative, cost-competitive and sustainable. - Includes sovereign capabilities - Strong partnerships between industry and government. - Transfer to Australia of naval shipbuilding knowledge, skills and capability.
National Approach	- Largest, most complex and technically difficult manufacturing challenge Australia has attempted. - All States and Territories involved, and many sectors of the economy. - Build partnerships between stakeholders, nationally and internationally.

Infrastructure. South Australia, with major combatant and submarine programs includes investment of up to $535 million, while Western Australia, with the minor vessel program includes $100 million.[50] Noting the DPIP construction requirements, this presents local Industry opportunities.

[47] Capability to include 21 pacific patrol boats, 12 offshore patrol vessels, 9 future frigates and 12 future submarines.

[48] Department of Defence, *Naval Shipbuilding Plan*, Commonwealth of Australia, 2019, Canberra, 4.

[49] *Ibid.*, 12.

[50] *Ibid.*,, 17.

Workforce. Significant workforce is needed for construction and sustainment, with over 15000 personnel ultimately employed.[51] With focuses on advanced technology, skills are essential. Whilst workers with existing skills and qualifications may include former shipbuilding workers; workers exiting adjacent industries; and Navy personnel, the availability within required timelines is a risk.[52]

As mitigation, a Naval Shipbuilding College (NSC) was established to support workforce growth and skills.[53] It initially arranged suitable group training organisations across Australia to recruit apprentices and hire them out for on-the-job training.[54] In 2020–21, it will incorporate higher education qualifications, whilst providing bridging programs for qualified workers from allied industries. 2022-23 will see the development of a purpose-built training facility at the Osborne Naval Shipyard in South Australia.[55] Notwithstanding these initiatives, workforce remains a risk.

Industry. The DPIP is critical for achieving the Government's Industry objectives. In selecting experienced international designers and builders, the Government identified and mandated the technology, intellectual property, business processes and workplace cultures that must be transferred to Australian Industry in order for a sovereign shipbuilding enterprise to be delivered.[56] Further, CDIC expanded their science, technology, engineering and mathematics initiatives and Defence Industry skilling strategies to further develop the workforce required.[57]

National Approach. Success requires contributions, support and engagement from all Australian states and territories, including various community sectors. Failure

[51] *Ibid.*, 18.
[52] *Ibid.*, 68.
[53] *Ibid.*, 64.
[54] *Ibid.*, 65.
[55] *Ibid.*, 75.
[56] *Ibid.*, 19.
[57] *Ibid.*, 87.

of a coordinated, national approach would see competition for resources, increasing capability costs.[58] This is a real risk. In 2019, state parliament debate arose concerning job losses, capability gaps and cost surrounding the delivery and timeframe of shipbuilding programs and long-term sustainment of the Collins submarines.[59] In this case, debate between West and South Australia occurred on the relocation of submarine docking maintenance, and its impact on Adelaide's shipyard workforce ahead of shipbuilding program commencement. Movement would result in short-term job loss and economic risk to South Australia, leaving gaps in workforce skill. This debate is reflective of the broader workforce issues.[60] It also illustrates states will have economic agendas resulting in workforce risks, emphasising requirements for national collaboration.

AUSTRALIAN DEFENCE INDUSTRY

Australian Defence Industry consists of large global companies (primes), their major subcontractors (sub-primes), relatively few medium-sized businesses and a large and wide base of SMEs with fewer than 25 employees.[61] Sub-primes and SMEs exhibit capabilities in system integration, software development, program management, and specialist engineering and manufacturing skills. Several sub-primes are suppliers and integrators of parent company equipment and some are subsidiaries of large service industries engaged in infrastructure design and construction, or consulting services.[62]

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[58] *Ibid.,* 19.

[59] Defence Connect, *Defence Industry Minister reinforces growing importance of workforce numbers*, Oct 2019, https://www.defenceconnect.com.au/key-enablers/5045-defence-industry-minister-reinforces-growing-importance-of-workforce-numbers

[60] *Ibid.*

[61] Department of Defence, 2018 *Defence Industrial Capability Plan . . .,,* 123

[62] *Ibid.,* 125.

SME contributions vary from manufacturing to delivering services. SMEs rarely contract directly to Defence, but through primes and the use of CDIC support programs to connect with primes and seek global market opportunities. The Joint Strike Fighter is illustrative of this, whereby the program enabled a number of SMEs to establish US footprints.[63] In essence, smaller businesses and SMEs, being aware of the Defence growth plans and initiatives available to them, can invest and innovate in areas critical to the future. The following illustrate how the 2016 and subsequent initiatives are benefiting Australian Industry and how Industry is supporting the initiatives.

DEWC Systems. DEWC Systems, an Australian electronic warfare (EW) company, was recently awarded $3.1 million from the Defence Innovation Hub to advance its space tactical sensor system for Defence. Its Miniaturised Orbital EW Sensor System project is a constellation of 20 CubeSats fitted with sensors and monitoring equipment to detect radio frequencies and signals offering surveillance of ship and aircraft movements from above. This represents Australia's first fully developed, owned and operated space-based EW capability.[64] Leveraging DWP initiatives in 2018, DEWC received a $150,000 Defence Innovation Partnership grant from the NGTF for phase one of their project in collaboration with Defence Science and Technology Group, and other academia institutions.[65] The current phase represents maturity to proceed to the Innovation Hub.

Leveraging the DWPs innovation initiatives has not been without challenge, as DEWC has found skilling a challenge. In a personal interview, DEWC Systems CEO

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[63] *Ibid.,* 126.

[64] Spence, Andrew, "Electronic Warfare satellite project enters second phase", *The Lead*, 29 Apr 20, http://theleadsouthaustralia.com.au/industries/defence/electronic-warfare-satellite-project-enters-second-phase

[65] *Ibid.*

Ian Spencer stated "Skills can be hard to find, particularly in areas of specialty programming. It's not easy to source Australian skilled workers with the right security clearances and when we do, we have to compete with other markets."[66] Spencer also highlighted challenges sourcing specialist electronics, "It can be hard due counterfeits and meeting ITAR restrictions, so if we're serious we need to do this ourselves."[67] Despite these challenges, DEWC illustrates success in identifying IIP capabilities that align to sovereign priorities. They have successfully exploited the DWP initiatives and collaborated with others to their advantage.

Prism Defence. Established in 2015, Prism specialises in flight test, ship–air integration and solutions to support the development and management of ship–helicopter operating limits. Staff numbers have grown from 19 to 27, with the software development team being the largest area of expansion.[68]

Prism contacted CDIC in 2017 to seek Defence business adviser assistance, and subsequently received an $11,000 grant to enhance business management skills and lessons in applying lean principles to software development.[69] Though only $11,000, it highlights the benefits available from CDIC and building of specialist skills required to support Shipbuilding, which will require ship–air integration and flight test services.

Lendlease Construction. In April 2020, Lendlease Building Contractors were awarded a $365 million managing contract for the initial works at HMAS Stirling and

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[66] Spencer, Ian, telephone conversation with DEWC Systems CEO, 20 March 20.

[67] *Ibid*.

[68] Australian Government, Business, *Growing Aussie business brings flight testing to the world*, last updated 30 Oct 2019, https://business.gov.au/CDIC/Case-studies-in-defence-industry/Growing-Aussie-business-brings-flight-testing-to-the-world

[69] *Ibid.*

the Australian Maritime Complex.[70] These works represent an element of the Navy Capability Infrastructure Sub-program, worth approximately $2.1 billion for new infrastructure and facilities across Australia. Facilities include accommodation and a specialist training centre to train Navy's crews in operating and maintaining the new Offshore Patrol Vessels.[71] As part of DPIP construction services requirements, Lendlease committed to an 85% target for local sub-contract work.[72] This illustrates how local industry is benefiting from the expansion of Defence infrastructure, which was highlighted in the IIP and how larger primes are including local industry as detailed in the DPIP.

Industry Shipbuilding Initiatives. Defence primes are making efforts to develop the Australian skilled workforce needed to deliver shipbuilding programs. In October 2019, the NSC and leading naval primes, including ASC, BAE Systems Australia, Naval Group Australia (NGA) and Saab Australia collaborated to address workforce challenges on a national basis.[73]

Short-term, ASC Shipbuilding is recruiting external candidates for their Hunter-class frigate program, transferring skilled resources from programs completed by owner BAE Systems, and partnering to deliver design and prototyping capabilities with additional companies. Medium-term, they have assignments to the UK, for Australians to gain experience on the Type 26 reference ship, as well as plans to establish capability hubs in cities where critical skills may not be available. Longer-

[70] Australian Defence Magazine, *Lendlease wins contract for WA shipyard work,* 6 April 2020, https://www.australiandefence.com.au/defence/estate/lendlease-wins-contract-for-wa-shipyard-work

[71] *Ibid*.

[72] *Ibid.*

[73] Kerr, Julian, "Meeting the shipbuilding workforce demand", *Australian Defence Magazine,* 05 Apr 20, http://www.australiandefence.com.au/defence/sea/meeting-the-shipbuilding-workforce-demand

term, they will grow capability through early career and professional development programs.[74]

Submarine apprentices joining NGA will work with ASC completing fabrication programs on the Collins-class. Once qualified, they'll return to NGA, forming the core Attack-class hull section qualification team.[75]

In a new initiative, naval shipbuilding primes and the NSC are developing and implementing training secondments for SMEs into primes, enabling them to take new skills, experience and knowledge back into their environments.[76] Despite workforce challenges, these illustrate efforts being made by Industry to address them and their willingness to embrace the national approach required for success.

Loyal Wingman Development. Australia's Government has invested $40 million in the Boeing Loyal Wingman Development Program; the first military aircraft to be designed and built in Australia in more than 50 years.[77] The program illustrates innovation and collaboration between Air Force, Boeing Australia and broader Australian Defence Industry. More than 35 Australian companies are supporting prototype work across four Australian states. New South Wales-based Allied Data Systems is one such Australian-owned SME benefitting from the program, with the company being selected to supply power distribution systems.[78] The program represents a partnership between a large prime and the opportunities available to innovative Australian businesses and SMEs, which are tied to the DPIP.

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[74] *Ibid.*

[75] *Ibid*.

[76] *Ibid*.

[77] Department of Defence, *Australian-built aircraft military milestone*, 05 May 20, https://news.defence.gov.au/capability/australian-built-aircraft-military-milestone

[78] Defence Connect, *First Airpower Teaming System unmanned aircraft roll-out a win for Australian industry*, 04 May 20, https://www-defenceconnect-com-au.cdn.ampproject.org/c/s/www.defenceconnect.com.au/strike-air-combat/6041-first-air-power-teaming-system-unmanned-aircraft-roll-out-a-win-for-australian-industry/amp

Applicable DWP initiatives and policies

Table 8 summarises the 2016 DWP initiatives and policies applicable to the Industry examples above. It highlights that Industry is leveraging and exploiting opportunities that are available.

Table 8: Initiative/Policy vs Industry example

Initiative/Policy	DECW	Prism	Lendlease (Infrastructure)	Shipbuilding Initiatives	Loyal Wingman
IIP Stream Specific	X (EW)	X (Key Enablers)	X (Key Enablers)	X (Maritime & ASW)	X (Strike and Air combat)
Innovation Hub	X				
CDIC Services	X	X			
NGTF	X				
NSP			X	X	
DPIP (Aus Industry requirement)			X		X
DICP (Priorities)	X (EW)	X (T&E)	X (Shipbuilding)	X (Shipbuilding)	

IMPACTS FROM COVID-19

Given current events, this analysis of Australian Industry opportunities requires consideration of impacts resulting from the COVID-19 pandemic. Most plausible, is that IIP projects not currently approved could be delayed due to resulting Government deficits. However, opportunities and pro-active steps are already visible.

In April 2020, Australia's Defence Industry Minister, Melissa Price, that Defence is assessing which IIP projects can be bought forward to mitigate pressures on SMEs.[79] Selection criteria are those offering the greatest amount of small business cash flow, as they remain driving forces of Australia's Defence Industry. Further, she

[79] Kerr, Julien, "Defence Moves to mitigate pressure on SMEs", *Australian Defence Magazine*, 09 Apr 20, http://www.australiandefence.com.au/defence/budget-policy/defence-moves-to-mitigate-pressure-on-smes

emphasised that Defence would pay approved invoices within a maximum of two days.[80] These efforts represent pro-active SME support in uncertain times.

From a shipbuilding perspective, the NSC is actively engaging with organisations from the manufacturing, airline, mining, tourism and hospitality industries to identify opportunities to transfer their skills to the shipbuilding industry.[81] This illustrates opportunities for addressing workforce challenges.

The pandemic will likely strengthen cases for Australian sovereign supply chains. Australia has interests in international projects such as the JSF. Italy and Japan recently closed their production factories for a period, and in doing so impacted the global supply chain model that is critical to the program.[82] Should weaknesses in global cooperation result, it will only strengthen the case for self-reliance, further opening opportunities for Australian Industry. In sum, whilst outcomes of the pandemic may result in IIP delays, the Government continues to prioritise Australian Industry and the opportunities remain.

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[80] *Ibid.*

[81] Australian Defence Magazine, *College moves to offset pandemic job losses*, 10 Apr 20, http://www.australiandefence.com.au/defence/sea/naval-shipbuilding-college-moves-to-offset-pandemic-job-losses

[82] Chenney, Kevin, "An SME perspective on surviving COVD-19", *Australian Defence Magazine*, 09 Apr 20, http://www.australiandefence.com.au/business/an-sme-perspective-on-surviving-covid-19

CONCLUSION

With Government plans to invest $195 billon strengthening Defence into the 21st Century, there are ample opportunities available to Industry. The 2016 DWP, IIP and DIPS highlight Government's vision and changes impacting how Industry can contribute to Defence's future. Collaborative and partnering opportunities, particularly for SMEs will allow contribution to whole of a capability under new capability streams, with the IIP facilitating assessment on timing and investment return for allocating resources into these streams. The establishment of CDIC offers insight into innovation priorities and funds access to assist Industry develop capability.

Providing further guidance, the DICP identifies Australia's initial Sovereign Industrial Capability Priorities. Industry can leverage this guidance by further focussing investment in critical areas assured of sovereign involvement. DEWC Systems is illustrative of a SME that has leveraged this guidance through their space-based surveillance innovation.

The DPIP further drives opportunities for Australian Industry, where depending on nature and size of procurements, prime tenderers must consider local or national Australian Industry. This is particularly beneficial for SMEs, and has already proved beneficial to local industry through the infrastructure upgrades being conducted by Lendlease. With significant investment in maritime capability planned, the policy will also drive opportunities for SMEs providing innovative and value-for -money solutions.

Maritime investments and the associated Naval shipbuilding commitments provide assurance allowing Industry to invest in their workforce and technologies supporting this capability. The NSP details the four key enablers that are essential for

delivery of the shipbuilding industry. Of these, the quantity and skilling of the workforce is a key risk that will provide the greatest challenge, emphasising the need for a national approach. Establishment of the NSC in an example of how this is being mitigated, with recent collaboration between the NSC and leading naval primes illustrative of the initiatives that can be taken. Further, CDIC resources can also assist Industry, particularly SMEs develop their skills.

As a COVID-19 deficit will likely result in IIP project delays, Defence must work to increase its transparency of IPP changes. This will emphasise the importance that Defence places on Industry, enhancing an environment necessary for success.

In sum, the opportunities afforded to Australian Defence Industry are significant. With an understanding of the policies, frameworks and resources available for assistance, Industry can focus their efforts in areas that are likely to be rewarded.

BIBLIOGRAPHY

Australian Defence Magazine. “College moves to offset pandemic job losses”. 10 Apr 20. http://www.australiandefence.com.au/defence/sea/naval-shipbuilding-college-moves-to-offset-pandemic-job-losses

Australian Department of Defence. “Sovereign Industrial Capability Priorities: Implementation and Industry Plans”. accessed 19 Apr 20. https://www.defence.gov.au/SPI/Industry/CapabilityPlan/implementationplans.asp

Australian Government. “Defence Industrial Capability Plan”. accessed 08 Mar 20. https://www.defence.gov.au/SPI/Industry/CapabilityPlan//

Australian Government. “Business. Growing Aussie business brings flight testing to the world”. last updated 30 Oct 2019. https://business.gov.au/CDIC/Case-studies-in-defence-industry/Growing-Aussie-business-brings-flight-testing-to-the-world

Australian Defence Magazine. “Lendlease wins contract for WA shipyard work”. 6 April 2020. https://www.australiandefence.com.au/defence/estate/lendlease-wins-contract-for-wa-shipyard-work

Chenney, Kevin. “An SME perspective on surviving COVD-19”. *Australian Defence Magazine*.09 Apr 20. http://www.australiandefence.com.au/business/an-sme-perspective-on-surviving-covid-19

Defence Connect “Defence Industry Minister reinforces growing importance of workforce numbers”. Oct 2019. https://www.defenceconnect.com.au/key-enablers/5045-defence-industry-minister-reinforces-growing-importance-of-workforce-numbers

Defence Connect. “Defence Industry Minister reinforces growing importance of workforce numbers”. Oct 2019. https://www.defenceconnect.com.au/key-enablers/5045-defence-industry-minister-reinforces-growing-importance-of-workforce-numbers

Defence Connect. “First Airpower Teaming System unmanned aircraft roll-out a win for Australian industry”. 04 May 20. https://www-defenceconnect-com-au.cdn.ampproject.org/c/s/www.defenceconnect.com.au/strike-air-combat/6041-first-air-power-teaming-system-unmanned-aircraft-roll-out-a-win-for-australian-industry/amp

Department of Defence. “2016 Defence White Paper”. Commonwealth of Australia 2016. Canberra

Department of Defence. “2016 Defence Industry Policy Statement”. Commonwealth of Australia 2016. Canberra

Department of Defence. “2016 Integrated Investment Program”. Commonwealth of Australia 2016. Canberra

Department of Defence. “Defence White Paper 2013”. Commonwealth of Australia 2013. Canberra

Department of Defence. “Defence Industrial Capability Plan 2018”. Commonwealth of Australia 2018. Canberra

Department of Defence. “Australian Industry Capability”. accessed 10 Mar 20. https://www.defence.gov.au/SPI/Industry/AIC.asp

Department of Defence. “Fact Sheet: Sovereign Industrial Capability Priorities”. accessed 12 Mar 20. https://www.defence.gov.au/SPI/Industry/CapabilityPlan/Docs/SICP-Factsheet1.pdf

Department of Defence. “Defence Policy for Industry Participation”. Commonwealth of Australia 2019. Canberra

Department of Defence. “Naval Shipbuilding Plan”. Commonwealth of Australia. 2019. Canberra.

Department of Defence. “Australian-built aircraft military milestone”. 05 May 20. https://news.defence.gov.au/capability/australian-built-aircraft-military-milestone

Ker, Julien. “Defence Moves to mitigate pressure on SMEs”. *Australian Defence Magazine*. 09 Apr 20. http://www.australiandefence.com.au/defence/budget-policy/defence-moves-to-mitigate-pressure-on-smes

Kerr, Julian. “Meeting the shipbuilding workforce demand”. *Australian Defence Magazine.* 05 Apr 20. http://www.australiandefence.com.au/defence/sea/meeting-the-shipbuilding-workforce-demand

Spence, Andrew. Electronic Warfare satellite project enters second phase. *The Lead.* 29 Apr 20. http://theleadsouthaustralia.com.au/industries/defence/electronic-warfare-satellite-project-enters-second-phase

Ziesing, Katherine. “From the Source: Melissa Price”. *Australian Defence Magazine* 08 Jan 20. http://www.australiandefence.com.au/industry/interviews/from-the-source-melissa-price