



Australian Government

Department of Defence

2016

DEFENCE

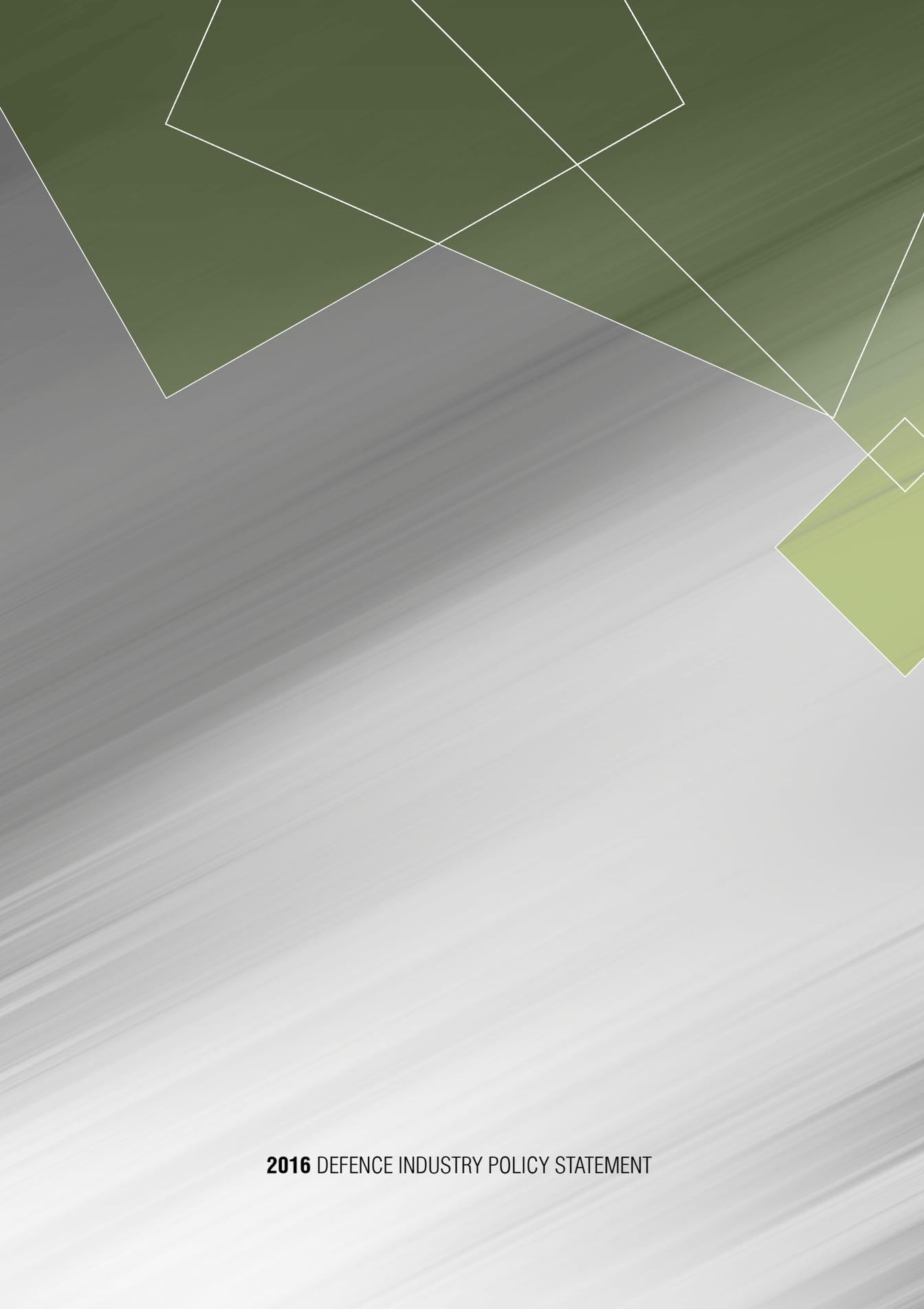
INDUSTRY

POLICY STATEMENT

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2016 DEFENCE INDUSTRY POLICY STATEMENT

► Table of Contents

Section 1 – The Defence and Industry Partnership	5
Australia’s defence industry—our critical partner in success	5
The purpose of this Defence Industry Policy Statement	10
The key elements and initiatives of the Defence Industry Policy	10
Section 2 – Delivering Defence Capability	15
The Centre for Defence Industry Capability	15
Leadership and management of the CDIC	17
Recognising industry as a Fundamental Input to Capability	19
The new capability development process	20
The Integrated Investment Program	22
Securing our sovereign industrial capabilities	23
Key enablers that support Defence capability	25
Section 3 – A New Approach to Defence Innovation	29
The new approach to Defence innovation	30
Next Generation Technologies Fund—Defence’s strategic research	31
The Defence Innovation Hub—turning research into capability	34
The Defence Innovation Portal—stakeholder engagement and facilitation	37

Section 4 – Driving Competitiveness and Export Potential	43
Role of the CDIC	44
The importance of industry skilling and STEM—Science, Technology, Engineering and Mathematics	46
A stronger Australian Industry Capability Program	48
Building on the success of the Global Supply Chain Program	50
Direct support from Team Defence Australia for Australian industry exports	55
Working with the Defence Export Controls Branch	56
Section 5 – Doing Business with Defence: Cutting Red Tape	61
Implementing the First Principles Review: Creating One Defence—Defence as a smart buyer	61
Defence’s commitment to the regulatory reform agenda	62
Key enablers—striving for excellence in procurement practices	64
Working with the states, territories and other stakeholders on defence industry matters	65
Attachment A – Program Information for Key Initiatives	69
Centre for Defence Industry Capability	69
Defence Innovation Hub	71
Next Generation Technologies Fund	72

1



▶ Section 1 – The Defence and Industry Partnership

Australia's defence industry—our critical partner in success

Australia's defence industry is essential to the operations of the Australian Defence Force (ADF) and to the capability we need to protect Australia and our national interests.

Australia has a number of remarkable world-leading success stories in the development of innovative Defence capability. From development of the high-end, leading-edge phased array radar in Canberra to next-generation protected Hawkei vehicles in Bendigo, Australian industry's contribution is essential to building Defence capability and ensuring Australia's national security. Australian industry is already making an important contribution to the development of the F-35A Lightning II Joint Strike Fighter, and many more opportunities are on the horizon for us in that world-leading program.

Based on the direction provided in the *2016 Defence White Paper*, Defence must deliver a significant capability modernisation program to build our future ADF. This program will offer exciting new challenges for Australian defence industry to support the delivery of the capability programs the ADF will need to fight and win.

In the next two decades, Australia will embark on one of the most extensive and ambitious shipbuilding programs anywhere in the world to modernise the Royal Australian Navy. On 4 August 2015, the Government announced continuous shipbuilding programs for major surface combatants and minor war vessels.

Defence is also conducting a Competitive Evaluation Process for the Future Submarine Program.

Australian defence industry

The Australian defence industry employs around 25,000 people, with global defence companies ('prime companies') accounting for around 50 per cent of employment in the industry.

Over 3000 small to medium enterprises operate in Australian defence industry, mostly as subcontractors to prime companies.

Australian defence industry is located all around the country providing essential capability, services and support to the ADF, making it a truly national enterprise.

A robust partnership between Defence and industry and a highly skilled Australian workforce will be critical if we are to deliver shipbuilding and submarine programs of such national significance.

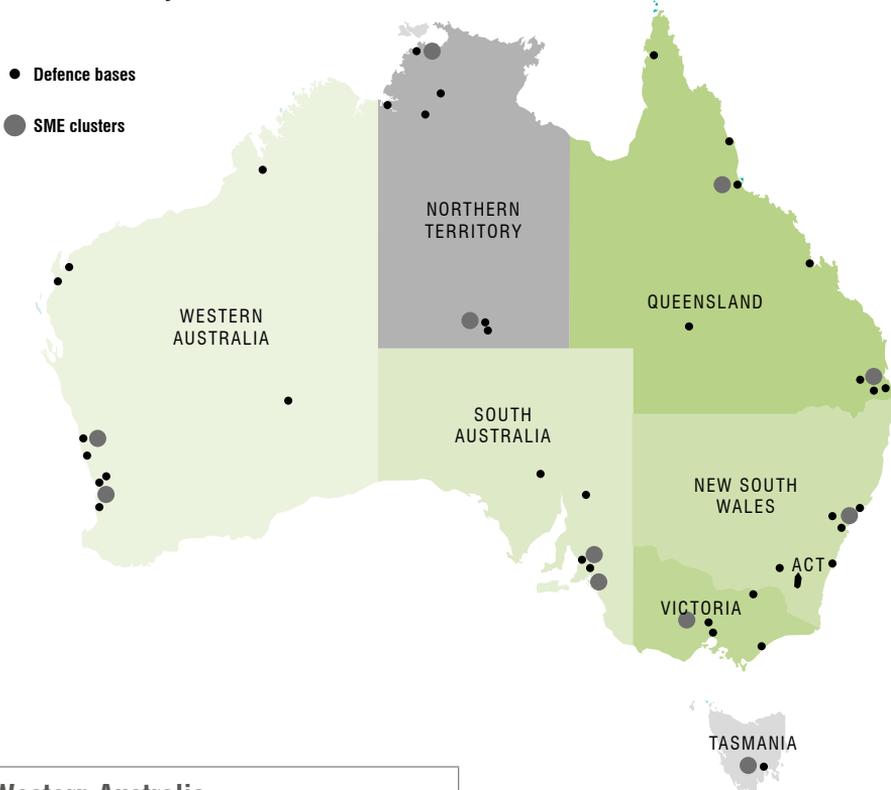
In addition to the major warfighting capabilities the ADF needs, Australian industry also provides our national Defence support base. This includes delivering the full spectrum of goods and services critical to enabling Defence capability, including logistics services, information and communications technology, health support, fuel, energy and other support.

Close collaboration between Defence and industry is critical to meet the challenges of the future and deliver the Government's ambitious program of works. The Defence and industry partnership of the future will be instrumental in delivering and supporting the future ADF.

Intentionally blank

Australian Defence Industry – Supporting Defence Throughout Australia

Around 3000 small to medium enterprises (SME) and local businesses support Defence across the country



Western Australia
Austal
For example
VEEM Ltd is a specialist engineering company manufacturing and maintaining propellers, valves and other special purpose castings. The company manufactures and maintains the flowserve hull valves for the <i>Collins</i> Class submarines. VEEM also provides major castings to Austal for their US warship program, as well as maintenance support for the Special Air Service Regiment Supacat vehicles.
S2 Wetsuits manufactures personally fitted wetsuits with a high quality finish for garment durability. S2 Wetsuits supplies custom fitted wetsuits and related garments to Navy divers and ADF special operations personnel.
AVI specialises in the design, supply and service of ruggedised and deployable networking, communications and observation systems. The company boasts a broad range of in-house design and fabrication expertise and has a proven capacity to rapidly engineer and deliver design changes and develop innovative new solutions.

South Australia
BAE Systems Australia
ASC Pty Ltd
For example
PMB Defence (formerly Pacific Marine Batteries) is the continuous supplier of the Main Storage Battery systems for the <i>Collins</i> Class submarine. The company also provides engineering, development and technical services to the Commonwealth of Australia and international customers along with ongoing support to ASC in its platform sustainment role.
Levett Engineering is a precision component manufacturer with an Australian and international client base that includes the defence, aerospace, medical, electronics and commercial engineering sectors. The company manufactures air frame and engine components for the F-35A Joint Strike Fighter program and also manufactures components for the <i>Collins</i> Class Submarine diesel engine, weapons discharge and periscope assemblies.

Note: The above diagram provides examples of industry representatives across Australia and is not meant to be an exhaustive list.

Northern Territory

For example

RGM Maintenance Pty Ltd supports the Defence land materiel maintenance industry sector and is a key supplier of repair, maintenance and overhaul services. They are a regional maintenance support provider for protected and unprotected vehicles on behalf of Australian and international prime contractors, enabling regional and remote ADF units to source consumable materiel products.

Australian Capital Territory

Raytheon Australia Pty Ltd

Lockheed Martin Australia Pty Limited

For example

CEA Technologies Pty Ltd is an electronic systems company specialising in the design, development and manufacture of radar and communications technologies. The company holds contracts for the *Anzac* frigates Anti-Ship Missile Defence Program, the Solid State Continuous Wave Illuminator Transmitter for the *Anzac* frigates and Radar Development Services for an L, X and S Band Phased Array Radar for the *Anzac* frigates.

Electro Optic Systems designs, develops and manufactures advanced remote weapon systems and space sensors for global markets. The company's space systems sector focuses on the space surveillance and missile defence markets, with products including instruments and sensors to detect, track, classify and characterise objects in space using telescope, laser ablation, optical sensors and satellite detection systems. The company's defence systems sector focuses on remote weapon systems and remote turrets for armoured vehicles.

Victoria

John Holland Group Pty Ltd

Spotless Group Limited

For example

Australian Defence Apparel (ADA) Pty Ltd has been manufacturing combat, non-combat and protective apparel and equipment for the ADF for the past 100 years. ADA currently supplies the new Australian Multicam pattern Combat Uniform, Operational Combat Uniform, Soldier Combat Ensemble, and Flyers Ensembles to the ADF.

Sentient Vision Systems specialises in video analysis software, building solutions which automatically detect small objects with surveillance video including people and vehicles moving on land or small boats and life-jackets at sea.

Queensland

Airbus Group Australia Pacific

Boeing Defence Australia

For example

Micreo Limited is a highly innovative electronics designer and manufacturer. The company is competing in leading-edge high performance, military grade, microwave and photonic integrated circuits and subsystems. These are critical to radar and electronic warfare avionics systems for use in military aircraft such as the F/A 18 Hornet and Super Hornet and the F-35A Joint Strike Fighter.

TAE is a leading provider of military and commercial turbine engine maintenance, repair and overhaul services in Australasia. TAE delivers engineering, maintenance and logistics services for the RAAF's F/A-18 aircraft engines for the Hornet and Super Hornet squadrons. TAE also provides aerospace aluminium vacuum brazing components for the F-35A Joint Strike Fighter Program and recently secured a repair and maintenance contract for the Honeywell AGT1500 Abrams M1A1 Main Battle Tank engine.

New South Wales

Thales Australia

Broadspectrum Ltd (BRS) (formerly Transfield Services Limited)

For example

Milspec Manufacturing is a privately owned company providing vehicle electro-mechanical sub-systems, portable power and alternators. Milspec supplies the Nulka decoy system canister sub-system, as well as vehicle installation kits for light, medium and heavy vehicles.

Bale Defence Industries has a long history of supplying a broad range of equipment and services to Defence, including special forces equipment, weapon storage systems, weapon mounts, specialized containers and weapon repairs. The company also operates in the maritime sector with the supply of ship furnishings, marine watertight doors and hatches, high and low pressure valves, explosive ordinance lockers, propeller supply and repair, and naval architecture.

Tasmania

For example

Taylor Bros is a marine and offshore engineering company specialising in accommodation solutions for Defence, offshore oil and gas, and general marine applications. The company currently supplies and installs outfit accommodation products for the *Hobart* Class Air Warfare Destroyers, LHDs, FFGs and replenishment vessels. This includes the supply and installation of galley and accommodation spaces such as modular cabins, modular sanitary spaces, mess areas, sanitary spaces, office spaces, medical spaces, medical equipment installations and meeting rooms.

Delta Hydraulics undertakes design, manufacture and environmental testing of *Collins* Class submarine inboard hydraulic cylinders, sub-plates, valving and panel assemblies.

The National Innovation and Science Agenda

This Defence Industry Policy Statement complements the Government's National Innovation and Science Agenda, which is focusing on four priority areas:

- ▶ culture and capital, to help businesses embrace risk and incentivise early stage investment in startups
- ▶ collaboration, to increase the level of engagement between businesses, universities and the research sector to commercialise ideas and solve problems
- ▶ talent and skills, to train Australian students for the jobs of the future and attract the world's most innovative talent to Australia
- ▶ Government as an exemplar, to lead by example in the way Government invests in and uses technology and data to deliver better quality services

The purpose of this Defence Industry Policy Statement

This 2016 *Defence Industry Policy Statement* has been developed following an extensive consultation process during the development of the Defence White Paper.

The consultation process identified the need to develop Defence industry policy to reset and refocus the Defence and industry partnership for improved delivery of Defence capability, to ensure we are maximising opportunities for competitive Australian businesses and streamline the delivery of Defence industry programs.

The key elements and initiatives of the Defence Industry Policy

The Government's objective for Defence industry policy is to deliver the Defence capability necessary to achieve the strategy set out in the Defence White Paper, supported by an internationally competitive and innovative Australian defence industrial base.

This Defence Industry Policy Statement is structured in four parts to align with the key elements of the Government's Defence industry policy:

1. **Delivering Defence capability.** A more focused, coordinated and transparent relationship between Defence and industry is required to maximise delivery of Defence capability.
2. **A new approach to Defence innovation.** Defence will transform the way it approaches innovation, streamlining

its engagement with industry and academia, simplifying access to Defence research funding, and creating a seamless link between capability needs, smart ideas and innovation in Australian industry.

3. **Driving competitiveness and export potential.** The Government will maximise opportunities for competitive Australian businesses, building export potential, depth of skills and diversification for the Australian defence industry.
4. **Cutting red tape.** The Government will streamline tendering and contracting procedures, and rationalise the industry programs to cut red tape and make it simpler and less costly for Australian industry to support Defence, aligned with implementation of the *First Principles Review: Creating One Defence*.

This Defence Industry Policy Statement sets out the specific measures the Government will take to implement the Defence industry policy, including:

- ▶ streamlining the numerous Defence industry and innovation programs under two broad initiatives funded at around \$1.6 billion¹ over the decade to FY 2025–26:
 - › establishing a new **Centre for Defence Industry Capability**, led by an advisory board comprised of private sector and Defence representatives to drive the strategic partnership with Defence, involve industry in governance of the industry programs and provide a range of business and skilling services. The Centre for Defence Industry Capability, and the associated collaborative activities with Defence, will be funded at around \$230 million over the decade to FY 2025–26; and
 - › fostering a new **approach to innovation** through closer collaboration between Defence, industry and research organisations to jointly develop game-changing innovation and commercialisation opportunities. There will be two streams of funding (described in detail in *Section 3 – A New Approach to Defence Innovation*):
 - around \$730 million (over the decade to FY 2025–26) in a Next Generation Technologies Fund to invest in strategic technologies that have the potential to deliver game-changing capabilities

¹ All figures are calculated on an out-turned price basis.

- around \$640 million (over the decade to FY 2025–26) for a new Defence Innovation Hub to undertake collaborative innovation activities from initial concept, through prototyping and testing to introduction into service
- ▶ providing industry an earlier and stronger voice across the capability life cycle, including formally recognising industry as a Fundamental Input to Capability
- ▶ developing a more agile capability development and procurement process through implementation of the First Principles Review recommendations
- ▶ providing certainty of Government’s investment plans through publication of the *2016 Integrated Investment Program*
- ▶ evolving the existing Priority and Strategic Industry Capability policy into a Sovereign Industrial Capability Assessment Framework to ensure strategically critical capabilities remain within Australia’s exclusive control, with an improved system for identifying and managing these capabilities.

The initiatives in this Defence Industry Policy Statement, together with the Integrated Investment Program, are designed to provide industry with confidence to invest in the required skills, infrastructure and technologies to support the ADF into the future.

Our international and local industry partners will play a critical role in building the new relationship with Defence, delivering world-class capabilities, enhancing Australian industry skills and capabilities and investing in new innovation opportunities.

The large defence companies (the primes) will be vital in providing critical linkages to small to medium enterprises, including potential global supply chain opportunities. Defence and the Centre for Defence Industry Capability will also work with the prime companies to help ensure appropriate levels of skilling and technology transfer, and to develop effective processes for exchanging information between Defence and local and international defence industries.

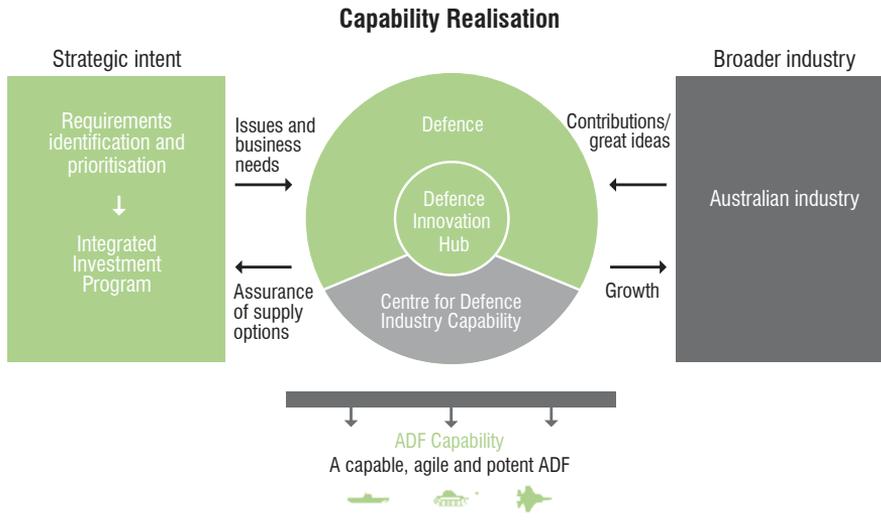


Figure 1: The Defence and industry partnership

2



▶ Section 2 – Delivering Defence Capability

Through the Defence White Paper, the Government is aligning strategy, capability and resources to build a more capable, agile and potent future force. The Government's capability plans for the future force, set out in the Integrated Investment Program, will provide Defence with the ability to develop a broad range of options to respond to the emerging challenges Australia will face in coming decades.

The Government's commitment to Defence funding will reach two per cent of Australia's gross domestic product by FY 2020–21. This funding is a significant long-term investment in Defence's warfighting equipment and systems, research and development, infrastructure, and the skills and training of our Defence people.

This section of the Defence Industry Policy Statement outlines the major initiatives central to realising the Defence and industry partnership and delivering enhanced Defence capability.

Together, these initiatives are designed to provide industry a stronger voice, improve the transparency of Defence's investment plans, enhance Defence's identification and management of sovereign industrial capabilities, and ultimately improve the delivery of capability to Defence.

The Centre for Defence Industry Capability

The cornerstone of the Government's strategy for resetting the Defence-industry partnership is the Centre for Defence Industry Capability (CDIC), which will be co-led by private sector industry and Defence through an advisory board. The purpose of the CDIC is to provide strategic leadership for the sector, and to help build the capability and capacity of Australian industry to support the ADF.

The CDIC will be funded at approximately \$23 million per year, which will be redirected from existing Defence industry programs funding. The CDIC is designed to help transform the Defence and industry relationship, and to fund new industry development, critical skilling and export programs, as well as facilitate access to Defence's new innovation programs for small to medium enterprises.

In consultation with Government, the CDIC will drive the strategic vision for the defence industry sector, building on the capability needs identified in the Integrated Investment Program.

The CDIC will focus on delivering initiatives within three core activities—industry development, facilitating innovation, and business competitiveness and exports.

Industry development

The CDIC will provide business advice and funding for sector-wide initiatives that are focused on developing defence skills and solving defence issues. For example, establishing a Defence business readiness framework to prepare small to medium enterprises seeking to enter the complex Defence business environment. For large-scale Defence projects, the CDIC will work with Defence to prepare and implement industry engagement strategies that recognise the Australian industry capabilities required for Defence.

Facilitating innovation

A new Defence Innovation Portal (the Portal) will be the primary conduit to introduce Australian defence industry to Defence innovation activities. Small to medium enterprises with innovative ideas will be able to present them to Defence through the Portal and will be able to work with the CDIC to realise investment opportunities. Companies will enter the Portal through business.gov.au, and then access specialist CDIC business and innovation advisers. The Portal's advisers will provide information about Defence innovation requirements, prepare companies to enter the innovation process, and ensure that company innovation proposals are suitable for funding consideration. More information on Defence innovation is in *Section 3 – A New Approach to Defence Innovation*.

Business competitiveness and exports

The CDIC will have expert business advisers able to provide defence-specific business advice to help grow prosperous Australian businesses supporting the ADF. The CDIC will provide development support and funding to assist small to medium enterprises improve their productivity and global competitiveness in areas of specific interest to Defence. Building on the success of the global supply chain program, small to medium enterprises will be able to access a range of export programs and courses through the CDIC. More information on competitiveness and exports is in *Section 4 – Driving Competitiveness and Export Potential*.

Leadership and management of the CDIC

The CDIC will be a close collaboration between the private sector, Defence and AusIndustry (within the Department of Industry, Innovation and Science) designed to best meet the needs of both industry and Defence.

The CDIC will be led by an advisory board, which will be co-chaired by a senior private sector representative and a senior executive from Defence. Board members will comprise defence industry, Defence and other industry representative organisations. This approach will bring together the skills and experience of Australian defence industry leaders with senior public sector representatives to provide clear insight into Defence's capability requirements.

The CDIC services will be delivered through AusIndustry, allowing Defence and industry to draw on the valuable expertise of AusIndustry's existing service and program delivery infrastructure. The CDIC model will build on the success of the existing Defence Industry Innovation Centre, which will be subsumed into the new centre.

The CDIC will employ highly qualified staff, recruited from the private and public sectors, who possess significant industry experience and skills to provide advice and services to industry across the country. Representatives of the CDIC will be

located in major state and territory locations, providing the flexibility to engage with industry across Australia.

The CDIC will commence operations in the second half of 2016. This will see the initial advisory board meetings, provision of business advisory services and commencement of the Defence Innovation Portal.

Additional information in relation to the CDIC and its activities is set out at *Attachment A – Program Information for Key Initiatives*.

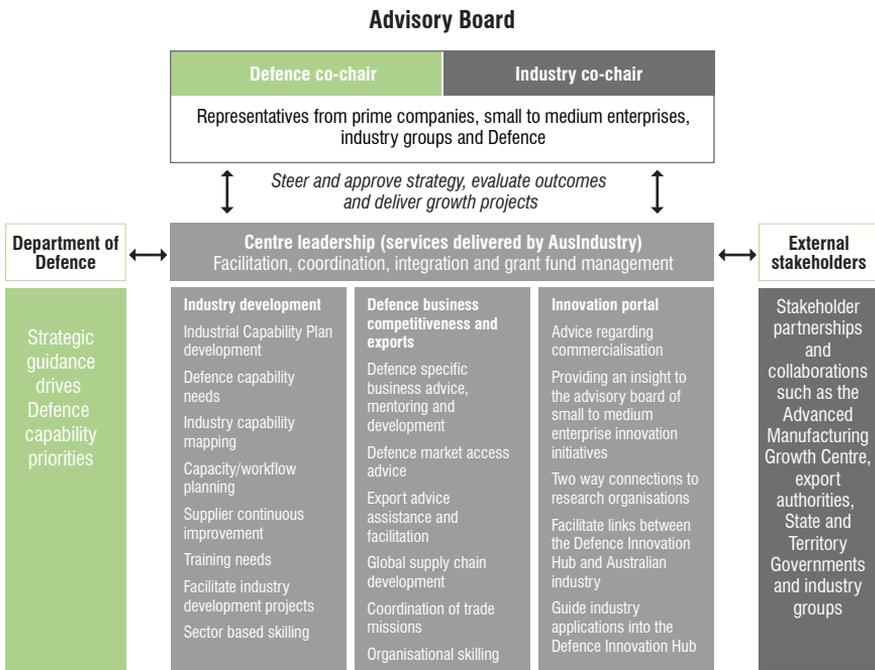


Figure 2: Functions and relationships of the Centre for Defence Industry Capability

Recognising industry as a Fundamental Input to Capability

Australia's defence capability edge is based on Defence's ability to deploy, operate and sustain technologically superior capabilities. Defence achieves this by acquiring advanced technology from international partners, as well as through innovation and indigenous capability development.

For the first time, the Government will formally recognise the vital role of Australian defence industry as a discrete Fundamental Input to Capability. The Fundamental Inputs to Capability are those essential inputs that are combined to achieve capability—reflecting that this requires more than simply purchasing equipment. The current Fundamental Inputs to Capability are: personnel; organisation; collective training; major systems; supplies; facilities and training areas; support; and command and management.

The recognition of industry as a Fundamental Input to Capability will ensure Defence fully considers the industrial capabilities and the capacity of Australian businesses—micro, small, medium and large—to deliver Defence capability, including operational capabilities and the full spectrum of support functions.

The intent behind making industry a Fundamental Input to Capability is to drive more formal consideration of industry impacts through the early stages of the capability development life cycle. In this way, Defence will better match the development of new capabilities with industry's ability to deliver them. Through this approach, Defence can make more informed recommendations to Government on the role of industry in the acquisition and sustainment of capability, providing more opportunities for Australian industry and ensuring the best capability is delivered to Defence.

Defence capability managers will be required to consider and manage industry inputs as they would other Fundamental Inputs to Capability. This means considering the resilience and capacity of industry as capability plans are developed—such as the reliability and health of supply chains. The CDIC will assist capability managers to achieve this new requirement.

Shipbuilding—an example of industry as a Fundamental Input to Capability

The Government's decision on 4 August 2015 to establish a continuous build of naval surface ships is an unprecedented vote of confidence in Australia's shipbuilding workforce and skills base. It provides industry with the long-term certainty it has needed to secure investment and critical skills and will foster the establishment of a new Defence and industry partnership necessary to deliver this vital Australian industrial capability.

Constructing warships in Australia as part of a continuous building program will consolidate and capitalise upon our long history of shipbuilding success. Ships acquired this way can take advantage of development and experience and perform at the cutting-edge. This strategy will foster a similarly advanced national ship refit and sustainment industry.

This new partnership will be based on a set of robust principles and reforms to allow the future naval shipbuilding industry to be set up on a sustainable, long-term path.

'This (continuous shipbuilding plan) provides certainty for not just the naval shipbuilding side of things but it also provides certainty for planning, not just within Navy, but within the Australian Defence Force.'

Vice Admiral Tim Barrett, AO, CSC, RAN, Chief of Navy, August 2015

The new capability development process

The Government's *First Principles Review: Creating One Defence*—in particular the reform to the capability development, acquisition and sustainment process—is essential to implementing the Government's plans set out in the Defence White Paper and the Integrated Investment Program.

The Government is implementing an extensive force modernisation program that will bring organisational and cultural opportunities and challenges. This modernisation will introduce new capabilities that require innovative ways of working, particularly as we integrate complex and globally networked systems into the joint force. This

includes establishing a single end-to-end capability development function and a strong strategic centre with a robust contestability function.

As part of the First Principles Review, the Defence Materiel Organisation has been dis-established and its core responsibilities for capability delivery have been transferred to the new Capability Acquisition and Sustainment Group with clearer responsibilities and direct lines of accountability. The new Group will work in partnership with defence industry and, together with the CDIC, will ensure the ADF has the necessary capabilities to fulfil its missions and operations.

The Government will revise the current process for approving new capital investment projects to ensure tailored decision-making based on the cost, schedule, technical complexity and overall risk of projects. Through these changes, Defence will be able to adapt the acquisition process to the capability being sought. This will give Defence more agility to work with industry to acquire rapidly evolving technology or take advantage of efficiencies in less complex acquisitions.

Value for money in the capability development process

The Government understands the importance of the value for money concept being clear in the context of Defence capability procurement. The Commonwealth Procurement Rules and Defence procurement policy require procurement officers to take into account a range of issues in considering value for money, including financial and non-financial costs and the quality of goods and services.

Defence capability decisions will continue to seek to achieve the best value for money, based on the Commonwealth Procurement Rules, and include explicit consideration of:

- ▶ the sovereign requirements for Australian industry involvement, which would help guarantee the ADF's independence of action
- ▶ the identification of opportunities to maximise internationally competitive Australian industry involvement.

The First Principles Review: Creating One Defence

'The One Defence transformation is a clear path for Defence to operate with maximum efficiency and effectiveness. It will also allow Defence to establish better and transparent relationships with Government, Ministers, external stakeholders, central agencies, its own leadership and workforce. Most importantly, it will allow Defence to effectively and efficiently deliver on its primary focus: to protect and advance Australia's strategic interests through the provision of appropriately prepared and equipped armed forces.'

**Mr David Peever,
Chair—First Principles
Review of Defence**

In considering Defence capability proposals, the Government will ensure Defence provides comprehensive information in relation to Australian industry issues to ensure informed decisions are made based on the evidence presented.

The Integrated Investment Program

The Government recognises that developing world-leading capabilities is a long-term proposition and is confident Australian industry will invest to meet Defence requirements where there is additional certainty of the Government's plans.

For the first time, the Government has released an integrated investment program as part of the Defence White Paper package. The Integrated Investment Program brings together all major elements of future investment in Defence capability—from specialist military equipment, through to Defence estate and infrastructure, information and communications technology, and the workforce—to create a comprehensive investment program for Defence. It provides Australian industry with greater certainty on the timing and sequencing of planned approvals to better inform industry planning and guide industry investment.

An integrated approach to investment planning will ensure that key enablers of Defence capability such as wharves, airfields, bases, training ranges, information and communications technology, and a trained uniformed and civilian workforce, are accorded appropriate priority in investment decisions to maximise the effectiveness and sustainability of the force within available resources.

Securing our sovereign industrial capabilities

There are some capabilities that are so important to Australian Defence missions that they must be developed or supported by Australian industry because overseas sources do not provide the required security or assurances we need. As such, it is critical that the industry base associated with these capabilities is maintained and supported by Defence as sovereign industrial capabilities.

The existing Priority and Strategic Industry Capability policy will be replaced by a Sovereign Industrial Capability Assessment Framework to improve the identification and management of the sovereign industrial capabilities that develop and support our ADF capabilities.

Identification of sovereign industrial capabilities will be a collaborative process between Defence and the CDIC. Together, Defence and the CDIC will identify these critical capabilities and utilise the newly developed Sovereign Industrial Capability Assessment Framework to assess industrial elements that support the capabilities.

A Defence Industrial Capability Plan will be created that identifies the sovereign industrial capabilities that are required to be maintained and supported in Australia. Existing contracts and programs that support priority and strategic industry capabilities will continue until a transition takes place to the new sovereign industrial capabilities, scheduled for the second quarter of 2017.

What is an industrial capability in the Defence context?

An industrial capability is any information or knowledge; technology or technology application; invention or innovation; platform, system or equipment; profession, skill or discipline; that can be provided by Australian industry to enable the ADF to deliver a military effect or for Defence to achieve a Defence capability outcome.

Plan Jericho—setting standards in industry planning and engagement

In early 2015, the Royal Australian Air Force launched Plan Jericho—a plan to transform the Air Force into a more balanced, potent and fully integrated force capable of fighting and winning in the information age.

Together with the complementary initiatives in Army (Plan Beersheba) and Navy (Plan Pelorus), Plan Jericho aims to provide a transformational shift in how Defence as a whole organisation manages strategic planning, creating a culture that values innovative thought and a framework that allows for the flexibility to adapt plans as required.

Industry is fundamental to meet the challenges within Plan Jericho, with Air Marshal Davies, the Chief of Air Force including Defence's relationship with industry as a key pillar fundamental to ensuring the success of Plan Jericho:

'Plan Jericho is more than just a vision; it is about transforming our entire force ... transforming the way we think; transforming the way we operate; and transforming our relationships with industry.'

Air Marshal Leo Davies, AO, CSC, Chief of Air Force, August 2015

The following criteria, applied collectively, will form the basis of the Sovereign Industrial Capability Assessment Framework:

- ▶ protection of intent
- ▶ independence of action
- ▶ assurance of supply
- ▶ essential skills retention
- ▶ interoperability limits and benefits
- ▶ leveraging competitive advantage.

The concept of a sovereign industrial capability does not mean that all industrial elements must be wholly maintained within government or Defence. Defence envisages that the number of sovereign industrial capabilities will be small, properly

targeted and managed. Key examples could include the industrial capabilities underpinning the Nulka active missile decoy system and the CEA phased array radar.

This new framework will be designed to operate at two levels in Defence:

- ▶ at the strategic level, Defence will provide an improved identification and management plan for sovereign industrial capabilities
- ▶ at the individual project investment level, Defence will provide recommendations to Government on sovereign industrial capabilities as part of the Government's consideration of discrete capital investment proposals.

Key enablers that support Defence capability

Defence recognises the importance of a balanced and integrated approach to investment in new capability and the key enablers—such as wharves, airfields, bases, training ranges, information and communications technology, and a trained uniformed and civilian workforce. The *2016 Defence Industry Policy Statement* is aimed at addressing all capabilities of industry, including the key enablers that support Defence.

The Integrated Investment Program outlines an investment of around \$195 billion in Defence capability, approximately 25 per cent of which will be spent on key enablers. The large majority of the key enablers investment will be spent in Australia. Defence procurement of these capabilities and services, which includes non-materiel procurement, is extensive in diversity, value, geographical spread and the number of suppliers involved directly or indirectly through the supply chain.

The Integrated Investment Program, in accordance with the plans set out in the Defence White Paper, places a high priority on investment in the following specific key enablers:

- ▶ developing and maintaining critical infrastructure—including airfields, wharves, port facilities, key ADF bases and logistics systems such as fuel and explosive ordnance facilities
- ▶ upgrading training and weapons ranges to support advanced weapons and systems

- ▶ providing testing facilities and modern health services that enable ADF training and exercises—including jointly with the United States and others
- ▶ investing in information and communications technology that supports Defence business, from peacetime activities through to combat operations.

Future Defence procurement in these areas will focus on the development of strategic partnerships with industry to ensure agile delivery, improved data, management of risks and innovation through longer-term commitments creating stronger, sustained local skill and expertise.

CASE STUDY Managing fuels

The current fuel management challenge

The provision of fuel is critical for Defence capability. Fuel is the largest single commodity expenditure by Defence. Defence demand constitutes one per cent of total Australian fuel volume and three and a half per cent of aviation fuel volume. Most of this demand is for military specific grades of fuel for which Defence is the only customer. Fuel storage and handling is expensive, complex and potentially hazardous.



Defence fuel usage locations

continued

Future options for Defence

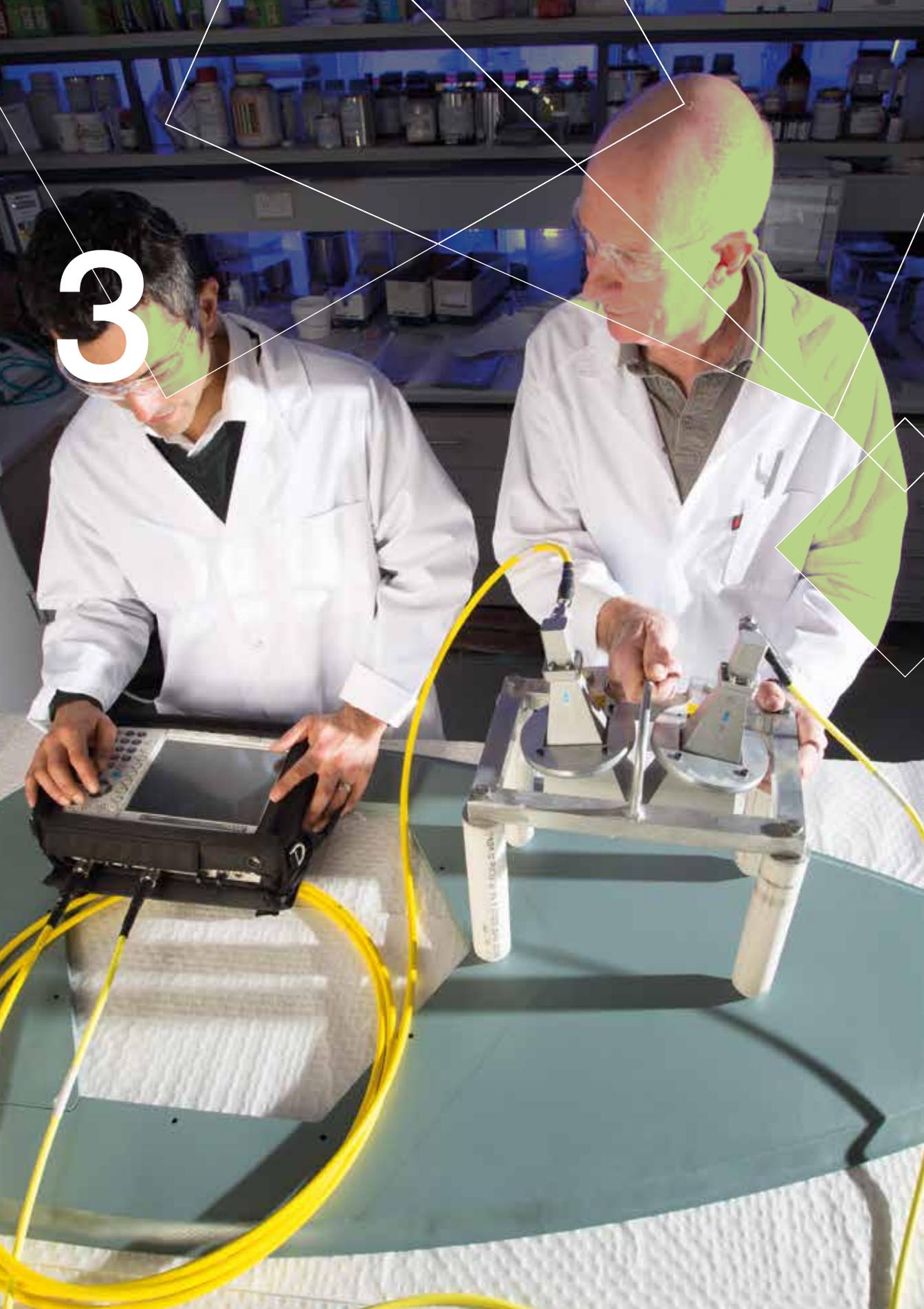
Building new Defence owned fuel infrastructure to replace or expand existing facilities may not always be the preferred or value for money solution for Defence. Likewise, preserving the current operating and maintenance model for fuel infrastructure may not always be the best solution. A new approach is needed. First and foremost, Defence will continue to need access to a secure and resilient fuel supply chain that provides the right fuels to a flexible number of locations in scalable volumes to meet capability needs, in a safe, efficient and cost effective manner. Solutions to meet this requirement are potentially very different from the traditional Defence design, build and operate approach. Defence needs to be a smart buyer.

An improved fuels network for Defence capability

Defence is already engaging with industry to identify how to deliver improved fuel network resilience, safety and cost. A consolidated picture of demand covering supply for regular training and operations, as well as increased demand for contingency scenarios, has been developed and shared with industry to enable collaboration and co-design of new fuel supply options. Defence has commenced the use of industry facilities rather than building and operating parallel infrastructure. Recently, in Darwin, rather than investing tens of millions of dollars to replace aged infrastructure, Defence has partnered with industry to provide a more flexible and cost effective solution to supply fuel to Navy. This includes using commercial rather than military specific fuel to take full advantage of the industry supply chain. Similar considerations are occurring in other parts of the Defence fuel supply chain wherever feasible, however one size may not fit all.

Defence stands to gain significant benefits through collaborating with industry to enhance the fuel supply chain—increasing resilience and reducing cost and risk.

3



▶ Section 3 – A New Approach to Defence Innovation

Driving Australian innovation is a critical element of the Government's vision for the nation. The Government's *National Innovation and Science Agenda* released on 7 December 2015 will incentivise and reward innovation, entrepreneurship and risk taking.

Defence's new approach to innovation, described in this section, complements the Government's broader strategy. The increasing pace of geopolitical, economic and technological change means it is critical that Defence ensure it has continued access to the best innovation Australia has to offer.

Investment in innovation helps to ensure Defence remains resilient to emerging threats, including the possible use of disruptive technologies by adversaries. It also enables us to take advantage of new or developing areas of technology that have the potential to provide a capability edge for Australia's relatively small force.

Australia benefits from an industrial base consisting of a large number of agile small to medium enterprises strengthened by a vital collection of global companies—with access to global knowledge networks, supply chains networks and export markets.

Together our small, medium and large enterprises (along with Australian research institutions and academics) have a track record of producing some of the world's most innovative defence technologies. However, these enterprises have often found it difficult to engage with Defence due to the fragmented nature of innovation programs and complex entry processes.

The Government is committed to implementing a new approach to Defence innovation that will address these barriers and more effectively access the potential of Australian defence industry to innovate. This new approach will provide greater transparency of Defence needs, seed and nurture innovative technologies and the companies developing them, and develop regulatory and cultural processes to facilitate innovation.

'Our operations in Afghanistan, and elsewhere over recent years, remind us that if we don't innovate we won't sustain an advantage over a future adversary—war can be very Darwinian.'

Lieutenant General
Angus Campbell, DSC, AM
Chief of the Australian Army
June 2015

The new approach to Defence innovation

Defence's new approach to innovation will comprise four key initiatives:

1. **Next Generation Technologies Fund**—around \$730 million (over the decade to FY 2025–26) will be invested in strategic next generation technologies that have the potential to deliver game-changing capabilities.
2. **Defence Innovation Hub**—around \$640 million (over the decade to FY 2025–26) will be invested in a new virtual Defence Innovation Hub to enable industry and Defence to undertake collaborative innovation activities throughout the Defence capability life cycle from initial concept, through prototyping and testing to introduction into service.
3. **Defence Innovation Portal**—as part of the Centre for Defence Industry Capability (CDIC), the Portal will facilitate engagement between Defence and innovation activities across Australia. The Portal will provide vital connections between small to medium enterprises and Defence, helping companies understand Defence capability needs and supporting their ability to contribute to Defence innovation requirements.
4. **Changed culture and processes**—Defence will change its culture and business processes to systematically remove barriers to innovation. The first step will be to develop new contracting and intellectual property policies that encourage investment in Australia's good ideas, keep profits in country, and provide incentives for larger companies to innovate in Australia.

This new approach to Defence innovation takes its direction from Defence's strategy and policy settings, with priorities driven by

the new force design process being developed through the First Principles Review. This new approach will involve rigorous governance and oversight of funding recommendations, linking innovation investment to capability priorities.

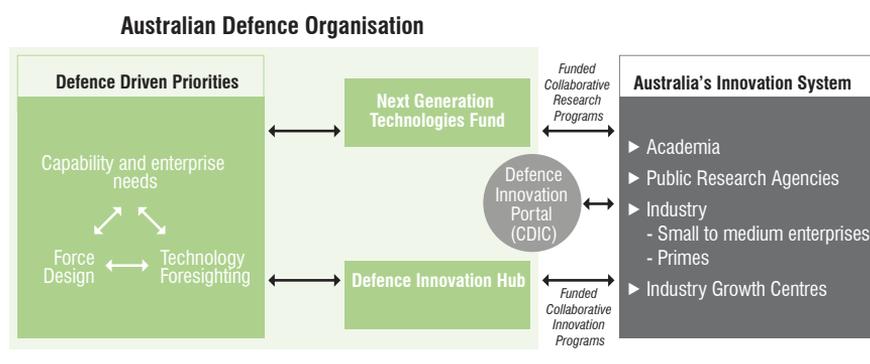


Figure 3: Principal elements of Defence innovation

Next Generation Technologies Fund—Defence's strategic research

Effective leveraging of science and technology is a significant priority for Defence, given the relatively small size of the Defence and the wide range of operations it must be able to conduct.

History has shown that the most game-changing military capabilities arise from the pursuit of next generation research and technology programs. In Australia, Defence and Australian industry have developed the internationally acclaimed Jindalee operational radar network, the Nulka anti-ship-missile decoy and world-class counter-improvised explosive device systems.

The Government recognises the importance that Defence's strategic research has for Australia's future prosperity, both as a nation and in the global market. Through the Integrated Investment Program, the Government will invest around \$730 million (over the decade) in new funding to better position Defence to respond to strategic

challenges and develop the next generation game-changing capabilities of the future. The Defence Science and Technology Group (DST Group) will take the lead role in conducting and integrating research in next generation technologies.

The investment priorities for the Next Generation Technologies Fund will be generated via a rigorous but agile process that is regularly reviewed and agreed by Defence's Investment Committee. DST Group will work with Defence stakeholders, industry, academia and allied defence research agencies on technology studies to identify opportunities and potential game-changing technology areas.

Examples of priority areas of work for the Next Generation Technologies Fund, as identified in the Integrated Investment Program, include:

- ▶ integrated intelligence, surveillance and reconnaissance
- ▶ space capabilities
- ▶ enhanced human performance
- ▶ medical countermeasure products
- ▶ multidisciplinary material sciences
- ▶ quantum technologies
- ▶ trusted autonomous systems
- ▶ cyber
- ▶ advanced sensors, hypersonics, and directed energy capabilities.

DST Group will participate in the Defence Innovation Forums (discussed below) to communicate the Next Generation Technologies Fund priorities, explain how industry and academia can partner with Defence on the programs, and present progress on existing activities.

Defence will build collaborative programs with academia, publicly funded research agencies, industry (particularly small to medium enterprises), and our allies to create a vibrant and interlocking research and innovation capability that is focused on driving Defence outcomes.

Defence will work closely with Government and industry bodies across Australia which are participating in innovation activities. This will provide greater opportunities for collaboration and leverage the substantial national investment in research and development.

For example, Defence will co-invest in Cooperative Research Centres and Australian Research Council Industry Linkage Programs and continue its support for the national science, technology, engineering and mathematics initiatives.

Defence's Investment Committee will have oversight of the Next Generation Technologies Fund. When promising science and technologies have reached a suitable level of maturity, the Investment Committee may approve the project's transition to the Defence Innovation Hub for the provision of further funding to allow these technologies to develop into operational capabilities.

CASE STUDY Defence and industry research program success

DST Group and Thales Australia have engaged in a strategic alliance to conduct, share and collaborate on research and development in sonar-related technologies since 1997. These technologies include fibre laser hydrophones, sonar performance prediction systems and sonar processing and display systems for Australian ships and submarines.

In the early 2000s, DST Group and Thales Australia initiated a collaborative research program into the potential benefits of utilising commercial off-the-shelf computing hardware with custom software to provide improved sonar processing. The program resulted in a suite of software, known as Panorama, which performs real-time sonar data processing and information display for Australian surface combatant sonar systems. The software provided increased situational awareness and enabled the cost-effective replacement of existing obsolescent equipment.

continued

The Panorama software is the result of a development process in which experimental versions were deployed on Royal Australian Navy surface combatants and operator feedback was used to iteratively evolve the design. The Panorama software has been licensed to Thales Australia which has equipped the *Adelaide* Class frigates with Panorama to supplement the existing underwater warfare system. With the assistance of existing Defence industry innovation support funding, including the Capability Technology Demonstrator program and the Defence Innovation Realisation Fund, Thales Australia has also integrated the Panorama software into an upgrade of its Spherion sonar system, providing a substantial improvement in capability for Navy's *Anzac* Class ships.

The Defence Innovation Hub—turning research into capability

The new Defence Innovation Hub will be established as a virtual organisation in the second half of 2016 and will manage a portfolio of Defence innovation investments. The Hub will be coordinated from the Defence Strategic Policy and Intelligence Group, and will rationalise and simplify the existing Defence innovation programs into a streamlined program which nurtures and matures proposals through a single innovation pipeline. Funding of around \$640 million (over the decade to FY 2025–26) will be redirected from the existing innovation programs to more effectively deliver innovation to Defence.

The portfolio of investments will range from small 'concept' exploration projects through to large-scale prototypes, and will introduce innovation solutions across the Defence enterprise—including information and communications technology and intelligence capabilities. The Hub will have a strong virtual presence across the nation, working closely with industry, academic and research institutions, using the networks established by Defence and the CDIC. The Hub will be responsible for:

- ▶ clearly articulating Defence capability needs and challenges
 - ▶ requesting proposals from industry and academia for innovative capabilities
-

- ▶ providing the Investment Committee with recommendations on funding priorities for innovation activities
- ▶ building collaborative programs with Defence stakeholders and contract management for innovation activities, including supporting the testing and assessment of innovation projects
- ▶ championing innovation across Defence.

The virtual Hub will assist Australian companies, and academic and research organisations to assess whether innovations have a Defence application and will provide access to funding to collaboratively mature those ideas. It will be informed by Defence capability priorities identified in the force design process.

The investment of around \$640 million over the decade to FY 2025–26, will be directed to Defence’s highest priority capability needs, including urgent operationally driven requirements. Decisions on investment will be based on evidence from operational and technical experts. Defence will consider, prioritise and resource innovation proposals based on alignment with Defence strategy and:

- ▶ suitability—to fulfil a priority Defence capability, enterprise or technology challenge
- ▶ feasibility—from a technology perspective
- ▶ timeliness—ability to deliver capability when it is needed.

Critical to the success of the Hub will be the development of the supporting policies and culture to remove the current barriers in Defence to innovation. New contracting and intellectual property regimes will be established to maximise incentives to innovation and attract investment from a range of local and international sources. Importantly, Defence will develop new approaches to risk, to encourage Defence and industry to embrace risk where necessary to allow innovation to flourish across the Defence enterprise.

Prior to the establishment of the Hub in the second half of 2016, Defence will release more information to industry on the detailed operation of the Hub, including business processes and performance metrics such as expected timeframes for responses to proposals.

The establishment of the Hub within Defence represents a transformational change in the way Defence approaches innovation, bringing together Defence, our academic and industry partners in a more collaborative and effective way.

CASE STUDY Defence Materials Technology Centre—Linking Defence with industry and academia

The Defence Materials Technology Centre (DMTC), DST Group, Civmec Pty Ltd (then Forgacs Engineering), the University of Wollongong and the Australian Nuclear Science and Technology Organisation have teamed to improve the quality of welding in naval shipbuilding and therefore improve shipyard productivity. The work culminated in a National Defence Innovation Award which was presented by Maritime Australia at the Pacific 2015 Conference in Sydney.

The development of the novel Tandem Gas Metal Arc Welding method reduces weld induced distortion in ship hull plating. The collaborative project, which commenced in 2011, was focused on addressing a number of weld induced distortion issues associated with the fabrication of the Air Warfare Destroyer modules. The resultant weld method, demonstrated on 5mm plate, eliminated significant amounts of thermal rework whilst potentially increasing the shipyard's productivity and weld quality. The higher residual strength resulting from the improved quality of welds means greater resistance to weapons effects and enhances the structural life of the ship.

Each of the participants in this project brought together unique capabilities to ensure the success of the innovation project. This included numerical modelling of the welding process, evaluating the weld qualities and structural performance, developing a unique prototype welding system and, finally, demonstrating the technique in a shipyard.

DMTC will continue to play an important part in Defence innovation and will support the new Defence innovation Hub through its unique capabilities and networks.

The Defence Innovation Portal—stakeholder engagement and facilitation

To help drive the new approach to Defence innovation, the Government will establish a Defence Innovation Portal within the CDIC to ensure we achieve expansive and effective communications into the Australian academic and industrial base.

The Portal will provide a key communication bridge between Defence, industry and academia and will be the entry point for ‘new starters’ to engage with Defence’s virtual Innovation Hub. In particular, small to medium enterprises that do not have established Defence relationships will be able to use the Portal to gain an understanding of Defence’s capability needs and to support their ability to contribute to Defence’s requirements.

The Portal will:

- ▶ broadcast Defence’s capability and technology challenges, including the Next Generation Technologies Fund, through the *business.gov.au* online service, as well as through networking and engagement processes
- ▶ refer and connect companies via the Portal’s expert innovation advisers to key Defence research and innovation priorities
- ▶ convene regular Defence Innovation Forums where Defence will engage with industry, academic and research organisations
- ▶ help to facilitate early engagement with the Defence Export Controls Branch in Defence via the strong connections between Defence and the Portal’s business advisers
- ▶ assist in developing viable innovation proposals for consideration by the Hub through expert innovation advice
- ▶ introduce industry to broader Government innovation initiatives through AusIndustry’s connections in the Department of Industry, Innovation and Science.

'A transparent articulation of defence innovation priorities and a clear path-to-capability realisation are key to achieving greater industry R&D investment.'

Ian Irving, CEO Northrop
Grumman Australia

In line with the Government's *Digital Transformation Agenda*, the Innovation Portal will provide essential information online, through the Government's centralised resource for the business community: *business.gov.au*. Companies and researchers will also be able to speak directly to expert staff to assist with innovation queries and make connections to the Hub and the services of Defence and the CDIC's specialist advisers.

As Australia's national security, science, research and innovation efforts are coordinated by Defence, Defence Innovation Forums will also provide a venue for communicating national security science and innovation priorities. These priorities will be outlined in a future policy statement on Science and Innovation for National Security.

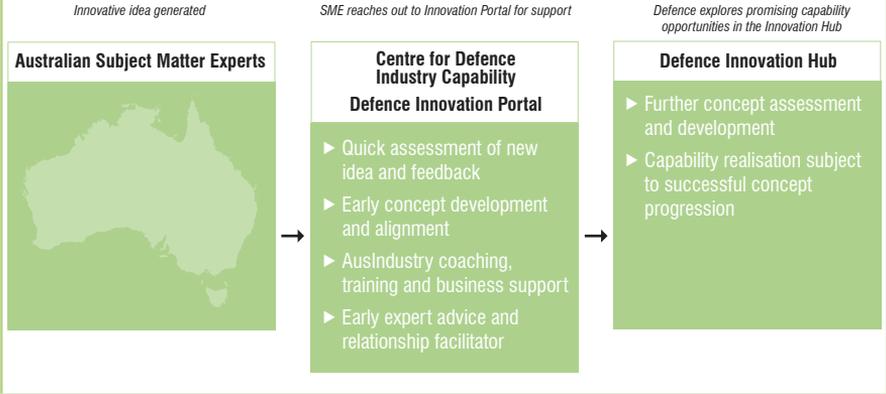
The Defence Innovation Portal: an illustration

A small Australian business has an innovative idea that has potential for Defence capability. The business connects into the Defence Innovation Portal through *business.gov.au*—the doorway into the Defence Innovation Hub for 'new starters.'

Once in the Portal, business advisers engage with the company to assess and potentially refine the idea. The advisers examine the opportunities that might be available, assess the idea against Defence needs and identify its competitive advantage. Business advisers in the CDIC may also look at the company itself to assess if it is ready to do business with Defence.

If the idea continues to have potential, the CDIC will help the proposal to mature, with support provided to improve the business's potential for success if necessary.

Once the initial assessment and feedback process has been provided by the Portal, and if the idea is appropriate for progression, the small Australian business is ready to transition into the Defence Innovation Hub for further concept exploration. If the idea is not deemed appropriate for Defence, there may be potential for it to be transferred to other business advisers in the broader national innovation system through AusIndustry.



CASE STUDY Innovation enhancing survivability

The counter improvised explosive device challenge— REDWING Program

Improvised Explosive Devices (IED) are relatively cheap and easy to produce and since 2003 have emerged as the weapon of choice for insurgents in areas of the Middle East, particularly Afghanistan. The global emergence of increasingly violent and extremist ideologies has ensured that usage of IEDs will continue to proliferate throughout the world and evolve as new technologies emerge.

IEDs, initiated by radio signals, continue to represent a significant threat to Afghan military, security and police elements. Two systems have been developed by the DST Group to counter this threat under the REDWING Program. This was in direct response to a requirement set by the Defence's Counter IED Task Force (CIEDTF) to develop a low cost, lightweight and robust family of systems for use by dismounted Afghan forces (GREENGUM) and for fitting to light vehicles (GREYGUM). Both systems were optimised for the austere operating environment of Afghanistan and require minimal operator training and limited logistic support.

Cutting-edge research and links to other Defence programs

In response to this urgent operational need, DST Group was able to quickly leverage its extensive counter IED experience gained from the development of cutting-edge technologies used in systems which have been in use by the ADF since 2011. Based on this experience, pre-production prototypes to meet these stringent requirements set by the CIEDTF were developed within a few months.

continued

Industry engagement

Australian defence industry was engaged early in the project, through Defence's Australian Military Sales Office (AMSO), in order to facilitate a rapid transition of the prototypes into full manufacturing and subsequent production of the GREENGUM and GREYGUM systems. Five Australian small to medium enterprises were selected and subsequently contracted to participate in the program to meet the demanding schedule. Thanks to the exceptional efforts of these industry partners, Australia was able to begin delivery to Afghanistan of the first of over 100,000 systems within four months of contract signatures. Based on the demonstrated effectiveness of these fielded solutions, AMSO staff in December 2015 successfully negotiated the sale of a further 55,000 systems to Afghanistan.

A new approach to innovation

The counter IED systems delivered under the REDWING Program are a clear illustration of the successful collaboration between Defence and industry to rapidly develop, manufacture and deliver cutting-edge technologies in response to an urgent operational requirement.

This is an exemplar of how the new approach to innovation will function. In particular, it will:

- ▶ leverage forward-looking research in key areas offering high impact to Defence
- ▶ involve close interactions with operational users
- ▶ provide a strong link from the capability need to potential solutions
- ▶ include early involvement of Australian defence industry to rapidly transition innovations into fielded capabilities.

4



▶ Section 4 – Driving Competitiveness and Export Potential

Agility, innovation and performance are all essential characteristics of a diversified and sustainable Australian defence industry base. Ensuring value for money in capability acquisition requires Australian defence industry to be competitive and able to perform not just at the local level but also in a global context.

Australian industry has already proven its ability to develop innovative niche capabilities for Defence, variants of which are world-leading and are competitive in the global market. However, selling Australian defence capabilities in an export market has not always met with success.

Enabling better access to global markets for Australian companies not only makes economic sense—it makes strategic sense. The Government is committed to promoting internationally competitive Australian business; where barriers to the global economy still exist, collaboration between government and industry will be critical to overcoming these challenges.

The strategies described in this section will provide industry with greater opportunity to develop internationally competitive capabilities. The Centre for Defence Industry Capability (CDIC) will work with Australian companies to achieve economies of scale and develop a more robust and diverse industrial base.

Competitive Australian defence industry base

A competitive Australian defence industry base delivers benefits to national security:

- ▶ provides a military capability edge
- ▶ enables Defence to act independently
- ▶ builds long-term business relationships
- ▶ develops unique knowledge of Defence needs.

CEA Technologies Pty Ltd

CEA Technologies Pty Ltd is a medium sized enterprise, based in Canberra. It specialises in the design, development and manufacture of radar and communications systems for military and civilian applications.

In 2010, the company delivered to the Royal Australian Navy the first 4th generation Active Phased Array Radar to be brought into service anywhere in the world.

CEA's innovative approach has opened new export opportunities, particularly to the United States, which demonstrates the innovation and potential of Australian defence businesses.

Role of the CDIC

Defence capability requirements pose some challenges to business competitiveness in Australia. Defence often has unique requirements and limited demand and this means achieving economies of scale can be difficult if Australian defence industry relies only on Defence.

As part of Government's commitment to improve opportunities for Australian business, the CDIC will guide and mentor businesses to improve their international competitiveness through exports programs. The CDIC will do this by:

- ▶ acting as a trusted broker of relationships between defence companies, Defence and other Government agencies (for example, with AusTrade)
- ▶ offering advisory services to Defence industry to assist enterprises to become 'export ready' and globally competitive
- ▶ offering market advice to help guide potential export opportunities
- ▶ facilitating Defence trade missions
- ▶ facilitating interaction with the Defence Export Controls Branch
- ▶ providing a Supplier Continuous Improvement Program, aimed at systematically embedding corporate, operational and continuous improvement capability as required by global Defence businesses.

CASE STUDY Business and Government working together for success

iWebGate is a fast growing and innovative Australian network and internet security solutions company. The company was originally formed in 2004 by a small team of Western Australian software developers and network security specialists originally from the Health, Defence and financial services sectors. iWebGate is now an ASX listed company with operations firmly established in Australia, the United States and Europe and contracts or advanced opportunities with local and international Telcos, internet service providers, Defence primes, local and international State and Federal Governments plus United States security management consultants. The company is regarded as an innovation and commercialisation success story in its own right and a model for targeted and collaborative Australian Government industry assistance in the innovation sectors.

The company has successfully developed, prototyped, internationally patented and commercialised a new type of Virtual Private Network technology known as a Virtual Segmentation Platform (VSP). The technology allows users including Defence and Government Agencies to securely share sensitive data and to provide enhanced security and performance for remote access working environments for its staff. Initially released to market in 2010, iWebGate's innovative VSP technology platform won the prestigious global security challenge and was subsequently awarded an advanced prototype development contract with a United States Government agency via United States defence prime contractor, Northrop Grumman. Today, the technology is available commercially as a suite of internet security and networking products through various channels.

continued

The business initially requested assistance through *business.gov.au* where the company's potential and the significance of its technology for both commercial and Defence applications was recognised and it was agreed to pursue parallel and complementary paths of assistance for the company. The following worked together to assist the company; AusIndustry, the Defence Industry Innovation Centre, the Defence Global Supply Chain Program and Business Access Office, and AusTrade.

The iWebGate story and journey is far from over and the company continues to receive strong and ongoing support from Government as it enters into a new and perhaps even more challenging stage of business growth and international commercialisation challenges.

Importantly, the iWebGate success story is now in turn building further opportunities for Australian companies as it collaborates with other innovative Australian businesses to provide further innovation and development of business and government critical information security solutions.

The importance of industry skilling and STEM— Science, Technology, Engineering and Mathematics

The Government is committed to a long-term national strategy which harnesses innovation to improve productivity and competitiveness. A key component of this strategy is building the nation's science, technology, engineering and mathematics skills.

For Australia to develop and maintain a technologically advanced and agile defence industry sector it must be populated by personnel with advanced education, training and experience. Having the right levels of training and skills in Australia's defence industry is essential for the efficient delivery and sustainment of increasingly complex Defence capability.

The Government recognises that managing a business within the defence environment has some unique challenges that require enhanced commercial, managerial and technical skills. In partnership with other government services, Defence and the CDIC will assist Australian defence industry to access the most suitable training programs from a whole-of-government perspective.

The CDIC will identify the most appropriate source of support, and depending on the circumstances, the CDIC will:

- ▶ direct businesses that need to develop general business skills to the Industry Skills Fund
- ▶ develop and fund tailored individual training through the CDIC
- ▶ develop and fund joint industry and defence training activities, particularly where specialist defence business skills are identified.

An important task for the CDIC, in consultation with Defence and industry, will be to conduct a skills gap analysis by sector to help ensure Australia has the skills needed to meet the requirements of existing and future capabilities.

Science, technology, engineering and mathematics skills

Improving Australia's already world-class education system is part of the Government's long-term strategy to secure the high-tech industrial investment necessary to position Australia as an advanced economy of the twenty-first century. Central to this pursuit is the Government's strong commitment to increasing the focus on science, technology, engineering and mathematics in schools to train the scientists, engineers and innovative thinkers of tomorrow.

As part of the *National Innovation and Science Agenda*, the Government is providing additional support to foster school students' interest and competency in science, technology, engineering and mathematics to better equip students with job-relevant skills. Specifically, the Agenda promotes support for all Australian students to embrace the digital age by promoting coding and computing in schools to ensure our students have the problem-solving and critical reasoning skills for

high wage jobs. Changes are also being made to the visa system to attract more entrepreneurial and research talent from overseas.

In recognition of the critical importance of science, technology, engineering and mathematics skills to Defence capability, Defence is:

- ▶ supporting ADF recruitment by reintroducing the Defence Technical Scholarships program for year 11 and 12 students
- ▶ providing a career pathway in Defence for science and technology professionals by establishing Australian Public Service cadetships.

Defence also has a number of existing science, technology, engineering and mathematics programs designed to boost these skills within the Australian defence industry, including the Defence Engineering Internship Program and the School Pathways Programs.

These programs will continue to be funded in FY 2016–17. The CDIC’s advisory board will review those programs and make recommendations to the Government about the best way to progress essential science, technology, engineering and mathematics initiatives starting in FY 2017–18.

Future initiatives will target and directly contribute to the development of Defence capability, which will also enhance the science, technology, engineering and mathematics skills available to the broader Australian economy. Details of these programs are in *Attachment A – Program Information for Key Initiatives*.

A stronger Australian Industry Capability Program

The Australian Industry Capability Program requires companies looking to supply and support capability to Defence, in projects valued at over \$20 million, to submit an Australian Industry Capability Plan. The Plan details:

- ▶ how the company has engaged with Australian industry to identify Australian companies capable of being part of the supply chain
-

- ▶ how the competitive source selection decisions were made in relation to the proposed subcontractors
- ▶ how the company intends to support the transfer of technology and foster innovation within Australian industry.

Defence evaluates the Australian Industry Capability Plans based on the quality of the proposals and benefit to Australian industry. Once in contract, Defence will enforce the contracted Australian Industry Capability Plan to ensure the benefits are realised.

The Government is committed to building a stronger Australian Industry Capability Program as an important part of developing a strengthened Australian industry development process. The \$20 million threshold will be maintained and Defence will work with the CDIC to build on this program, looking for synergies with the Global Supply Chain Program (discussed below). These two programs are seen as complementary, working with the same supplier base in Australia.

To realise the full potential of the Australian Industry Capability Program, Defence will ensure that:

- ▶ Defence and industry continue to build their knowledge and understanding of relevant Defence and Government policy and legislative responsibilities
- ▶ Defence provides effective management and assurance of Australian Industry Capability Plans to appropriately support sovereign industrial capabilities, obtain contracted capability and the realisation of other industry benefits
- ▶ prime companies continue to receive assistance in the construction and implementation of their Australian Industry Capability Plans.

Defence industry, particularly prime companies, will have a critical part to play in enabling capable and competitive Australian companies gain access to supply opportunities in major projects.

Building on the success of the Global Supply Chain Program

The Global Supply Chain Program involves working with multinational defence companies to identify opportunities for Australian companies within their international supply chains.

Six prime companies are involved in the program and are identifying bid opportunities for Australian industry across both civilian and military aspects of the business. The prime companies involved are: BAE Systems; Boeing; Lockheed Martin; Northrop Grumman; Raytheon; and Thales. To date, over 1,000 commercial opportunities have been provided to Australian industry under the Global Supply Chain Program and in excess of 115 Australian companies have won over 700 contracts together worth over \$755 million.

To build on the effectiveness of this program, the CDIC will support the Global Supply Chain Program so that all elements of defence industry support are aligned under a common strategy and leadership arrangement, maximising supply chain opportunities.

Defence has recently developed a new performance framework to provide greater assurance of the program's achievements to increase competitiveness, innovation and productivity of Australian industry. Defence and the CDIC will continue to build on these improvements, working with industry to maximise opportunities for local businesses.

Defence and the CDIC may seek additional funding from specific Defence projects where a global supply chain arrangement with the winning tenderer has the potential to provide capable Australian companies with significant export opportunities.

CASE STUDY Ocius Technology Ltd – Industry and Government working together

Ocius Technology Limited (formally known as Solar Sailor) is based in Sydney and has been an innovator of renewable energy powered vessels since 1997. Ocius' technology has been used in a number of vessels currently in operations in Australia and Asia.

Ocius specialises in the development of ocean going vessels that are powered by renewable sources of energy such as solar and/or wind. Their technology has been incorporated into a number of passenger carrying vessels and more recently, the company has focused their efforts on anti-submarine warfare and maritime surveillance.

The company received a business review with the Clean Energy Innovation Centre in 2010. Through the review, the company applied for and received a Tailored Advisory Services grant to conduct market research for opportunities in overseas markets.

The R&D Tax Incentive has also provided support to the ongoing research and development activities of Ocius.

In 2012, business advisers from the Defence Industry Innovation Centre (DIIC) began working with one of Ocius' partners, Steber International, and in 2013 the DIIC provided Defence specific market knowledge and advice to both Steber International and Ocius through a Defence Industry Change Plan. Part of the advice included development of a strategy to pursue funding for development activities including through the Capability Technology Demonstrator (CTD) program.

continued

In September 2015, Ocius was awarded a \$3 million contract through one of Defence's industry innovation support programs – the CTD program. The contract was to develop and demonstrate an Unmanned Surface Vessel, coupled with a thin-line towed array system uniquely suited for anti-submarine warfare surveillance.

In addition to being awarded CTD funding, Ocius recently won the award of 'Best Advanced Manufacturing Company' at the 2015 Australian Technology Competition.

This award recognises the company's innovative and commercial approach to business which has included taking advantage of Government programs to help drive efficiencies and pursue exports.

The DIIC is continuing to work with Ocius to improve its export readiness to pursue overseas defence opportunities in conjunction with Australian defence opportunities.

CASE STUDY Leading the way—the Joint Strike Fighter Program industry engagement

The Joint Strike Fighter Program is about much more than just the delivery of a new fighter capability. It is a catalyst for change for both Australian Defence capability and outcomes for Australian defence industry. The Program is an example of how a capability requirement can be used to build new global supply chain opportunities for competitive Australian defence industry.

The Program adopted a new capability acquisition strategy that allowed Australian industry to participate in all stages of the capability life cycle, from design through to sustainment. Importantly, Defence's Joint Strike Fighter Program Office includes an industry team which has brought about a cultural shift in the way industry and Defence capability managers engage. As a result, the fifth generation aircraft is providing a pathway for industry to move closer to the heart of capability development and sustainment, effectively positioning industry as a Fundamental Input to Capability.

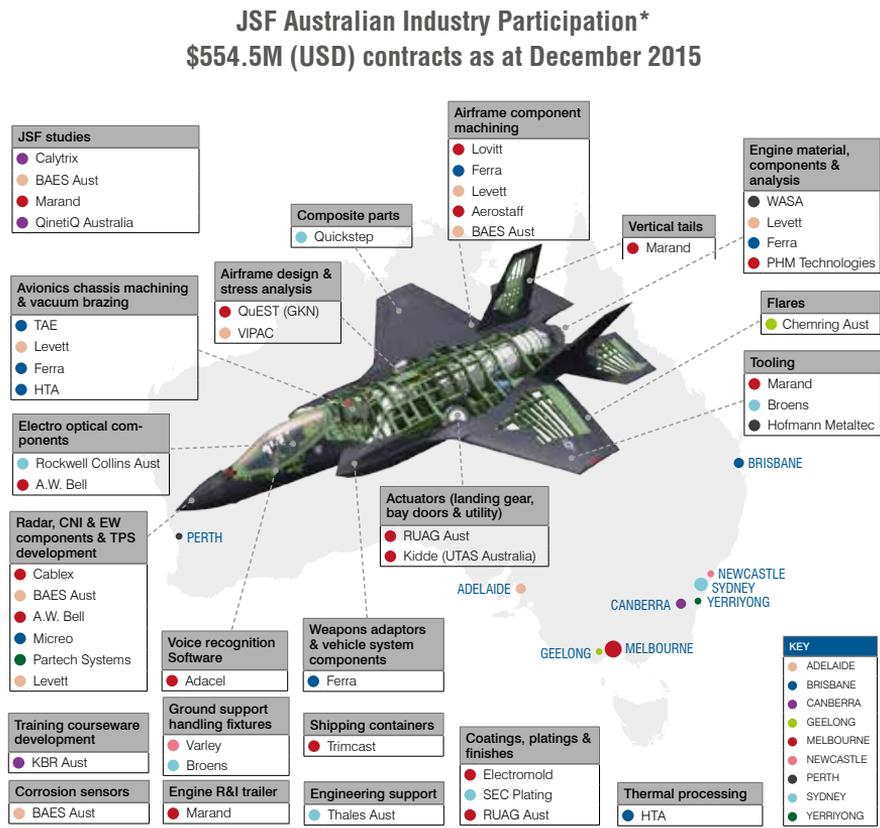
To date, a total of US\$554.5 million in contracts has been secured by Australian defence industry in Joint Strike Fighter design and production, with more opportunities to become available as rates of aircraft production increase and the sustainment model develops. The Joint Strike Fighter will be sustained by a global supply chain that will eventually service over 3000 F-35 aircraft worldwide.

Industry participation in the Joint Strike Fighter Program has been supported by other initiatives such as the Defence Industry Innovation Centre, enabling businesses to find competitive advantages through delivery of innovations, improved capacity, up-skilled staff, research partnerships and entry into export markets. The improved competitiveness means Australian businesses are realising opportunities to diversify into other defence sectors and overseas markets, competing on the global stage.

continued

Maximising opportunities for Australian defence industry in the global sustainment system for the Joint Strike Fighter will require an even closer relationship between industry and Defence in the future.

The global supply chain opportunities, provided to Australian defence industry through the Joint Strike Fighter Program, are a good example of how large-scale capability projects can provide real benefit and growth to Australian small to medium enterprises. Defence will, in collaboration with CDIC, seek to develop similar models for Australian industry involvement in future major ADF capability projects. Figure 4 shows Australian industry involvement in the Joint Strike Fighter Program as at December 2015.



*Includes companies awarded contracts and/or undergoing qualification

Figure 4: Joint Strike Fighter Australian participation

Direct support from Team Defence Australia for Australian industry exports

There can be no higher praise for Australian-developed defence equipment than that given by the men and women of the ADF who have used the capabilities in both peace and wartime. Potential international customers place significant weight in procuring capability that has been tested in operational service.

To ensure this message is heard by potential international customers, the Government will continue to promote Australian defence industry exports by using former two and three-star ADF officers as Team Defence Australia representatives at international trade shows.

The Team Defence Australia initiative will be improved by integrating it within the CDIC. This will enable targeted, focused promotion of products prioritised to Defence's capability needs, which will maximise the potential for export growth.

Working with the Defence Export Controls Branch

Within Australia's system of export controls, the Defence Export Controls Branch is responsible for regulating the export of defence and strategic goods, services and technologies.

Export controls ensure that goods and technologies that can be used for military purposes, or to develop weapons of mass destruction, do not get into the wrong hands. It is important that this can be achieved without disrupting legitimate trade, innovation and international scientific collaboration.

The implementation of strengthened export controls under the *Defence Trade Controls Act 2012* requires close engagement with industry and academic stakeholders to ensure that these new controls are understood and practicable. In consultation with stakeholders, the Defence Export Controls Branch, within the Department of Defence, has introduced reforms for a more streamlined, risk-based approach to export controls that provides a leaner and more responsive export control system.

The reforms include the introduction of:

- ▶ an online permit system that has streamlined the application process and reduced processing times for export permits

- ▶ risk-based approaches, such as:
 - broader export licences for lower-risk items going to lower-risk destinations
 - longer licences for lower-risk exports enabling greater self-assessment by exporters of the control status of their goods through an online assessment tool.

The Government recognises that Australian companies producing sensitive technologies in service with the ADF have at times raised concerns about restrictions on the export of their products. To help companies in this situation, Defence has established a Sensitive Technologies Advisory Group to:

- ▶ identify sensitive Australian-produced technologies that are in service with the ADF and therefore need to be protected
- ▶ work with the producers of these technologies on the exportability of their products, so that they can make reasoned commercial decisions or develop variants early in the capability development life cycle
- ▶ harness opportunities to use exports and the disposal of equipment being retired from service with the ADF to pursue international engagement objectives.

The Australia–United States Defence Trade Cooperation Treaty is in place to enable opportunities for Australian companies to export their products. It provides Australian defence industry with opportunities to import, export, transfer or re-export eligible defence articles that support Australian or United States government defence projects, military exercises, cooperative programs and equipment sustainment, without the need for individual licences or authorisations.

The Treaty framework may also benefit Australian defence industry by opening new avenues for industrial cooperation and allowing partnering and technology sharing with their United States counterparts, and by reducing lead times in brokering business opportunities and responding to requests for tender.

CASE STUDY A. W. Bell—Supporting competitive Australian businesses

A. W. Bell is a privately owned Australian manufacturer, based in Melbourne, Victoria, that specialises in producing complex metal castings. Established in 1952, A. W. Bell has serviced diverse industries, including automotive, biomedical, marine, hardware and mining. In recent years, however, the business has focused on becoming a supplier of complex precision parts to the global defence and aerospace market. This expansion and diversification has been driven by the determination and foresight of A. W. Bell's team, combined with support provided by the Australian Government over an extended period.

In 2009, A. W. Bell engaged a specialist adviser from the Defence Industry Innovation Centre (DIIC) who conducted a comprehensive analysis of the business, which identified a number of areas for improvement and growth.

The advice assisted A. W. Bell to prioritise strategic planning, introduce performance management processes, focus on lean manufacturing and staff development on continuous improvement.

The DIIC also facilitated an introduction of A. W. Bell to key aerospace contractors, resulting in the opportunity for A.W. Bell to become a supplier to the Joint Strike Fighter Program. Through increased investment in research and development, A. W. Bell created a new production technique that made them the leaders in their field. This technique, along with the abovementioned internal improvements, allowed them to become a key supplier to two major international companies in the aerospace industry. The company's success has been amplified by opportunities provided through the Global Supply Chain Program. Additionally, they are supplying critical parts to the *Collins* Class submarine upgrade program.

continued

A. W. Bell has received continued support, stemming from the business review conducted by the DIIC, and also been given the opportunity to partner with other government agencies. This work has ensured that it has been able to create a transformational business vision and implement dramatic process and product improvement—giving them an edge over their global competitors.

This type of 'strategic supplier development' is a key part of establishing industry as a Fundamental Input to Capability and is expected to become normal practice for Defence and the CDIC.



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▶ Section 5 – Doing Business with Defence: Cutting Red Tape

The initiatives outlined in this Statement reflect Government's commitment to removing inefficient and ineffective regulation. Through the new Centre for Defence Industry Capability (CDIC) and the Defence Innovation Hub, Defence will adopt more efficient processes for engaging with industry, including streamlined and tailored administrative processes for investing in innovation, greater collaboration with the states and territories on industry programs and a shift towards a more forward-leaning and productivity-focused culture.

The Government has also accepted the recommendations of the First Principles Review to transform the business environment for individuals and companies working with Defence to lower tendering and contracting costs, and reduce red tape.

This section details the specific initiatives Defence will undertake to meet the Government objective of improving the way Defence does business, including by removing any unnecessary regulation, and improving procurement practices across the Defence enterprise.

Implementing the First Principles Review: Creating One Defence—Defence as a smart buyer

The First Principles Review established a strong case for organisational change and to Defence's approach to interacting with industry. The First Principles Review was critical of the current 'one size fits all' approach to procurement strategy as it inhibits strategic engagement with industry.

The establishment of a single end-to-end capability development function will improve Defence's interactions with industry, removing complex and unnecessary procurement processes, and Defence will:

- ▶ move to a leaner ‘smart buyer’ model that better manages risk, leverages industry, is simpler, more commercially oriented and delivers value for money. This will involve significant streamlining to remove unnecessarily complex components of the Government's approach, tendering and contracting processes in Defence; and
- ▶ strengthen the initial stages of the capability development life cycle by revising the two pass process, establishing an entry gate and creating a clear pathway to tailor and fast track projects. The strategy will also include a robust and arms-length contestability process. These reforms will provide industry with increased confidence in project schedules and reduce the potential for schedule delays.

Defence's commitment to the regulatory reform agenda

Defence is strongly committed to the Government's regulatory reform agenda. Establishing more effective and efficient methods of working with industry is critical to Defence's ability to harness innovation and to ensure an agile and collaborative approach with industry.

Defence is taking action to identify, assess and ensure we are playing our part in lowering costs for business. Since Defence began implementing the regulatory reform agenda, we have already identified Defence and industry savings of over \$40 million. Key initiatives that have been identified include:

- ▶ improving selection of templates for the Australian Standard for Defence Contracting
 - ▶ simplifying the Australian Standard for Defence Support template for major platform sustainment
 - ▶ standardising the approach to performance based contracting in the sustainment of Defence materiel
 - ▶ introducing e-tendering
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- ▶ amending the *Defence Trade Controls Act 2012* to reduce export regulation for industry, university and research stakeholders
- ▶ streamlining intellectual property management
- ▶ introducing open days for small to medium sized business enterprise engagement.

Defence will continue to implement these initiatives and identify new opportunities to reduce the cost and impost on businesses of regulatory measures. For Australian companies, this means it will be easier for them to compete for and win Defence business.

Through this Defence Industry Policy Statement, the Government is also making significant reductions in red tape associated with industry and innovation programs, fundamentally reshaping the way industry engages with Defence. The streamlining of Defence industry and innovation programs into the Defence Innovation Hub and the CDIC will make it simpler and cheaper for business to engage with Defence.

Streamlining the Defence industry programs will allow Defence and industry to:

- ▶ ensure industry development and skilling needs are accurately identified and targeted
- ▶ align industry development activities with the Integrated Investment Program
- ▶ reduce red tape and administrative burden through simplifying entry into industry development and innovation programs
- ▶ develop a program of regular reviews to ensure the effectiveness and return on investment of industry development activities and outcomes.

Defence is committed to driving innovation and making it easier for individuals and businesses to access Australian Government services through the Government's *Digital Transformation Agenda*. The CDIC will draw on AusIndustry's whole-of-government service delivery solutions, which have been established to be consistent with the *Digital Transformation Agenda*. By using these services Defence will ensure the CDIC consistently provides high quality services and helps to satisfy industry needs.

Key enablers— CDF perspective

'I expect us to be a force that has intelligence, surveillance, infrastructure, ICT, logistics, command and control, and other enablers in place to make the force work when and how we need.'

'I can confidently speak for the Defence leadership group in saying that we understand very clearly the need to ensure the enablers are front and centre in the decisions about the future force and funding priorities.'

**Air Chief Marshal
Mark Binskin, AC,
Chief of the Defence Force,
November 2014**

Key enablers—striving for excellence in procurement practices

Defence is implementing changes to its procurement strategies in relation to key enablers. This involves a shift beyond a traditional focus on cost savings and transactional dealings, towards different priorities such as innovation in service delivery, revitalised contracting methodologies and e-procurement.

Defence's new strategy in relation to key enablers will:

- ▶ ensure procurement is aligned directly with organisational priorities and objectives
- ▶ underpin a strategic contracting approach through collaborative relationships with industry
- ▶ ensure Defence meets industry's expectations in relation to equity, particularly in the conduct of procurement practices
- ▶ reduce the cost of engaging with Defence for industry providers
- ▶ simplify Defence processes so that similar key enabler requirements are obtained through single procurement processes, rather than multiple approaches to market
- ▶ provide increased opportunities for industry to influence strategies and processes adopted by Defence in procuring and delivering products and services.

Defence will continue to develop a professionalised procurement and contracting workforce with the necessary skills and capabilities to engage, understand and leverage industry contributions to these outcomes.

CASE STUDY Key Enablers—Indigenous Procurement

Defence is leading the way in innovative procurement strategies to help provide opportunities for Indigenous Australians to participate in the economy. In 2014 there were milestone procurement decisions of significant contracts awarded to Pacific Services Group Holdings, including a managing contract for the planning phase of the Garden Island Stage 1 Cruiser Wharf Upgrade. Defence is actively engaged with a number of other indigenous contractors and will be working with them towards the targets of the Commonwealth Indigenous Procurement Policies.

Working with the states, territories and other stakeholders on defence industry matters

Delivering Defence capability involves many stakeholders at the Australian Government and state and territory levels. There is much that can be done to establish a more coordinated approach between these jurisdictions to help grow Australian defence industry and present a united position to overseas markets.

Defence will take a lead role, supported by the CDIC, to deliver the required level of coordination. Particular areas of focus for this coordination effort will be:

- ▶ recommending opportunities for improvement for better coordination through the CDIC
- ▶ recommending strategies to rationalise funded programs between federal, state and territory governments to deliver integrated enterprise development, workforce skilling, and innovation support for new and established defence companies. Defence will work closely with state industry development and education departments in this context

- ▶ coordinating efforts to increase Australian supply chain capability and competitiveness. This should also involve coordinating Defence and state and territory activities in trade shows, related industry events and communication strategies
- ▶ coordinating efforts in relation to export opportunities with AusTrade and the Department of Foreign Affairs and Trade, as well as the states and territories
- ▶ coordinating Australian defence technology development opportunities, particularly leveraging the Innovation Portal in the CDIC
- ▶ coordinating the collection of timely industry data and statistics across the nation to standardise methodologies and comparisons of defence industry performance. This will involve leveraging the proximity and visibility afforded by state and territory based defence industry development agencies to assist Defence in maintaining an up-to-date view of current and emerging capabilities.

A key objective will be to ensure that Defence coordinates a national approach adopted by all stakeholders in a united effort to deliver Defence capability and grow our Australian industrial base.

CASE STUDY Delivering Base Services

The Base Services re-tender provided a once in a decade opportunity to introduce long-term reform of base services by approaching industry in a single national tender process. The result has delivered ten nationally based contracts, replacing the previous 21 regionally based contracts. The re-tender has provided opportunities for Defence to improve its value for money outcomes by:

- ▶ leveraging its national volume
- ▶ increasing the level of standardisation
- ▶ better managing supply and demand
- ▶ better leveraging industry innovation by separating out packages of service requirements
- ▶ allowing modernisation of the providers' service delivery models
- ▶ having outcome-focused statements of work.

Partnering with industry is a key theme for the re-tender. The contracting governance framework includes industry innovation such as the Business Improvement Plans and 'wholesale innovation' activities such as gain share. This process has significantly reduced the cost of doing business with Defence by providing a strategic approach to identify what Defence needs from industry at a national level.

continued

Industry has increased opportunities to improve its value proposition to Defence by using the greater economies of scale available through this strategic contracting framework and by developing solutions armed with a greater understanding of Defence requirements and a reduced administrative burden delivered through simplified contracts.

Further reform within the Estate Works element of the Base Services model is delivering real benefits to Defence and industry through:

- ▶ grouping like projects, and delivering and managing them nationally to reduce the management costs; and
- ▶ rolling out a model for the delivery of general estate works where the contractor has a fixed budget responsibility, rather than tendering for each job.

The future for Defence contracting

Defence will continue to review and build on reform, including its relationship with industry. The Base Services model will be adapted across a broader range of services and procurement to provide greater value for money to Defence and reduce the cost to industry of competing for service delivery.

Further consolidation of service delivery will occur; for example, individual regional base service contracts will be rolled into the national base services contracts where appropriate.

▶ Attachment A – Program Information for Key Initiatives

Centre for Defence Industry Capability

Key milestone

The Centre for Defence Industry Capability (CDIC) will commence operations in the second half of 2016. By this date the advisory board will be operational, as well as the business advisory services and Innovation Portal.

Purpose

The CDIC will drive transformation of the Defence–industry partnership through a single governance framework that will help consolidate existing industry programs and provide a transparent, focused interface between Defence and Australian defence industry.

Main features

- ▶ The CDIC will focus on three core streams of activity: industry development, facilitating innovation and business competitiveness and exports.
- ▶ The **Industry Development** stream will identify and support sector-wide initiatives and incorporate activities from existing programs:
 - › delivering an **Australian Industry Capability** facilitation function
 - › developing and managing the future delivery model of skilling programs, including the **Skilling Australia’s Defence Industry** program
 - › developing and proposing the future delivery model for the **Defence Engineering Internship Program**. The Program will be funded to FY 2016–17, with future funding to be reviewed by the CDIC advisory board

- › developing and proposing the future delivery model for the **School Pathways Program and F1 in Schools/Subs in Schools**. The programs will be funded to FY 2016–17, with future funding to be reviewed by the CDIC advisory board
- › **development of the Defence Industrial Capability Plan**, including sovereign industrial capabilities. Existing contracts and programs that support Priority and Strategic Industry Capabilities will continue until a transition takes place to the new sovereign industrial capabilities, scheduled for the second quarter of 2017.
- ▶ **The Defence Innovation Portal** will, by the second half of 2016:
 - › assist Australian industry to access Defence innovation funding
 - › develop industry awareness
 - › provide information about Defence innovation requirements.
- ▶ The **Business Competitiveness and Exports** stream will provide Defence-specific business advice and development support for small to medium enterprises to improve their productivity and global competitiveness in areas of specific interest to Defence. The stream will subsume the functions currently performed by the **Defence Industry Innovation Centre** by the second half of 2016. This stream will also:
 - › support delivery and development of the current **Global Supply Chain Program** and the future delivery model; and
 - › assume responsibility for the delivery and development of **Team Defence Australia** trade events.

Funding

Approximately \$230 million over the decade to FY 2025–26, noting this initiative will be a close collaboration with Defence and there may be some refinement of the final split of funding and responsibilities between organisations. The CDIC advisory board will provide advice on the annual funding of approximately \$23 million, including recommending allocation and prioritisation across the three streams of activity.

Defence Innovation Hub

Key milestone

The virtual Defence Innovation Hub will commence initial operations in the second half of 2016.

Purpose

The Defence Innovation Hub will undertake collaborative innovation activities from initial concept, through prototyping and testing to introduction into service.

Main features

- ▶ The Defence Innovation Hub will manage a portfolio of funded investments in Defence innovation. Following completion of the detailed design for the Defence Innovation Hub, by the second half of 2016 the functions and funding of a number of existing innovation programs (and their future models) will come under the strategic guidance of the Defence Innovation Hub, including:
 - › **Capability Technology Demonstrator (CTD)**
 - › **Rapid Prototyping Development and Evaluation (RPDE)**
 - › **Defence Innovation Realisation Fund (DIRF)**
 - › **Priority Industry Capability Development Fund (PICDF)**
 - › **Chief Information Officer Group Innovation Program.**
- ▶ The **Defence Materials Technology Centre** will be funded at \$3 million per year to FY 2018–19 and continue to provide a resource to support the Defence Innovation Hub. Further funding of the program will be reviewed by FY 2018–19.

Funding

Around \$640 million over the decade to FY 2025–26, inclusive of the \$3 million per year for the Defence Materials Technology Centre to FY 2018–19.

Next Generation Technologies Fund

Key milestone

New funding introduced from 1 July 2016.

Purpose

The Next Generation Technologies Fund will enable Defence to better position itself to respond to strategic challenges, retain a technology 'edge' against adversaries and provide game-changing Defence capabilities for the future.

Main features

- ▶ The Defence Science and Technology Group (DST Group) will take the lead in identifying, conducting and integrating research in next generation technologies that are relevant to Australia's national security.
 - ▶ The DST Group will work collaboratively with academia, publicly funded research agencies, Australian industry, other areas of Defence and Government and our allies to create a vibrant and interlocking innovation capability using collaboration networks.
 - ▶ Through its understanding of Defence's future needs, its national and international science contacts and its technology scanning activities, the DST Group has identified the following initial set of transformational technology areas of particular interest:
 - › integrated intelligence, surveillance and reconnaissance
 - › space capabilities
 - › enhanced human performance
 - › medical countermeasure products
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- › multidisciplinary material sciences
- › quantum technologies
- › trusted autonomous systems
- › cyber
- › advanced sensors, hypersonics, and directed energy capabilities.

Funding

Approximately \$730 million over the decade to FY 2025–26. Defence's Investment Committee will have oversight of the annual funding.

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