



GOVERNMENT OF
WESTERN AUSTRALIA

WESTERN AUSTRALIAN DEFENCE AND DEFENCE INDUSTRIES STRATEGIC PLAN



DEFENCE
WEST

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PREMIER'S FOREWORD

Western Australia has always supported our Defence Forces and significantly contributed to our nation's Defence requirements. We can take pride in our competitive, flexible and resilient defence industry with its long and very successful history.

Our State has strong, advanced manufacturing capabilities supported by tertiary institutions that are world class and truly at the forefront of the next generation of defence technologies and innovation.

When I committed my government to making defence a priority sector, I knew I was building on these already established strengths. I also realised how much more could be done to help our Defence industry and our innovators grow our economy and better support our Defence Force.

This is the first time in the long history of Western Australia, where the State Government has committed to a strategic plan dedicated to defence issues and established a linked whole-of-government capacity to lead, oversee and deliver.

Conservative estimates are that Defence related activity currently contributes \$3 billion to Western Australia's GSP, and when already approved Commonwealth Defence projects and investment for future work is accounted for, I expect this to almost double in the decade ahead.

I am determined to seize and exploit this opportunity and lead a State Government to promote industry, jobs and growth in this sector. It will require levels of leadership, innovation, professionalism and endeavour well beyond the status quo.

Since establishing Defence West almost a year ago, we have consulted widely and listened closely. That journey reinforced the crucial need for collaboration with the Commonwealth Government, Defence and an industry sector that extends well beyond State borders.

It also reinforced the privilege all Western Australians share in supporting the men and women of our Defence Force and their families. They protect us all and sacrifice much. They deserve from our nation the very best capability and support we can afford. It's a challenge I know this State can help meet.

That's why the Plan will also promote nation-leading support for Defence Force personnel posted to Western Australia and their families. I also want to strive for improved ways to look after our wounded veterans.

Through this plan, this State will champion the interests of Western Australia's defence sector by working with industry and other stakeholders to attract further defence investment, to create jobs and opportunities for Western Australians.

It will be an endeavour where our State and its actions complement the national interest, support our Defence Force, invest in our future, harness our significant advantages and enhance the great potential of Western Australia.

Hon. Mark McGowan MLA
Premier; Minister for Public Sector
Management; State Development,
Jobs and Trade; Federal-State Relations



"Our State has strong, advanced manufacturing capabilities supported by tertiary institutions that are world class and truly at the forefront of the next generation of defence technologies and innovation."

MINISTER FOR DEFENCE ISSUES' FOREWORD



"Western Australia has the capability and capacity to contribute towards upcoming national and international defence programs."

Western Australia has a long and proud history of successfully servicing and contributing to the national and international defence industry through innovation, collaboration and providing value for money. Being home to a world-class and globally competitive defence industry including a thriving research and development sector, Western Australia stands to continue to be a key player in domestic and international defence markets.

Western Australia is home to Australia's largest naval base, HMAS Stirling, as well as key Royal Australian Air Force and Australian Army bases and strategic infrastructure signifying the enduring importance of the State to national security. As noted in the most recent Defence White Paper and reinforced by the Commonwealth Government commitment to increase the Defence budget to 2 per cent of GDP, Defence requirements in Western Australia will grow.

The State is also home to numerous world class universities, defence focused Prime Contractors and small-to-medium enterprises, with many clustered at the Australian Marine Complex in Henderson.

Western Australia has the capability and capacity to contribute towards upcoming national and international defence programs. Our industry's capacity to deliver across Defence capability streams is underpinned by the innovation capabilities of the State's universities and the skills development and training services provided by the TAFE sector.

As the Western Australian Minister for Defence Issues, through this plan, I am strongly committed to promoting our capabilities and harnessing the State's competitive edge to maximise domestic and international defence business opportunities.

The initiatives and undertakings in this Plan have been carefully crafted to promote existing capability strengths, help unleash unrealised potential and invest wisely in areas of emerging requirement and opportunity. I will work hard to develop and maintain effective relationships with my Commonwealth, State and Territory counterparts. Where collaboration, beyond State borders confers advantage for Western Australia, it will be pursued.

Our efforts won't just be limited to Australian markets and opportunities through the Defence Integrated Investment Plan. Our knowledge, experience, expertise and reputation for delivering capability and services is internationally recognised. We already are a major exporter to the world and through this, our relationships across the Indo-Pacific are established and strong. Using this to explore and open up further opportunities for export and collaboration through our Defence industries and universities isn't just smart; it's essential.

On behalf of the Premier and in close collaboration with all my Cabinet colleagues, I will personally oversee the successful implementation of the first years of this Plan. I will also ensure the conditions are set for that success and support to continue well into the future.

Hon. Paul Papalia CSC, MLA
Minister for Defence Issues

VISION BY 2030:

Western Australia has developed into an internationally recognised advanced manufacturing hub that is the pre-eminent base of operations for all Australian Defence Force (ADF) and Alliance operations in the Indian Ocean.

It will be the home of a robust defence industry with a broader and deeper defence industrial base that is respected, innovative and competitive. This will be integrated across sectors and supported by a whole of government strategic approach to all Defence Industry, Science and Innovation investment.

The Defence annual contribution to the Western Australian State economy will be doubled and exports by Western Australian Defence Industry and our universities will grow significantly as a proportion of all State based Defence related business.

Western Australia will be the principal location for delivery of all maintenance and sustainment requirements for Australia's submarines and frigates.

Western Australia will remain the primary location for all Western Australia-based Surface Fleet Unit and Collins class submarine maintenance, sustainment, upgrades and decommissioning. This will include submarine full cycle docking. It will remain Australia's hub for all minor naval vessel shipbuilding and will continue to be a global export leader in minor naval vessel design, construction, and sustainment.

Alliance navy vessels transiting through or operating in the Indian Ocean will routinely visit Perth. They will seek and receive compliant support and services from facilities that are both trusted and highly secure.

Western Australia will diversify and strengthen its economy through science and innovation. As a result of State Defence Science and Innovation initiatives, Western Australia will be a recognised world leader for submarine maintenance and technology, maritime surface platform deep maintenance and upgrades, cyber, electronic warfare, trusted autonomous vehicle research, advanced signal processing, data management and support to unmanned aerial systems.

Western Australia's State-based approach to Defence and Defence industry is respected and acknowledged as the national benchmark of best practice. Western Australian Defence companies and universities are consistently recognised at national and international defence and industry awards for excellence.

The defence sector in Western Australia is a trusted, stable and major employer. Western Australian education and workforce skilling requirements will be guided by a whole of government strategic approach to ensure industry needs are sustainably met and the workforce of Western Australia is recognised as one of the most highly educated, qualified and skilled of its type in the world.

Support to veterans and Defence families located in Western Australia will be recognised as the best in Australia. Most service personnel who are based in Western Australia and who choose to separate from Defence, will elect to remain in Western Australia and become a sustained, significant source of skilled and experienced workforce for Western Australian defence industry and universities.

Western Australia will be the principal location for delivery of all maintenance and sustainment requirements for Australia's submarines and frigates.

AUSTRALIAN DEFENCE FORCE IN WESTERN AUSTRALIA

11 significant Defence facilities

HMAS Stirling – Garden Island

12 Fleet units including RAN's Anzac Class frigates and Collins Class submarines

70 units including the Submarine Training and Systems Centre (STSC)

Australian Clearance Diving Team Four

Defence Communications Station
(DEFCOMMSTA) Perth

The Special Air Services Regiment



11th / 28th Battalion

Headquarters 13th Brigade

Pilbara Regiment Karratha

**RAAF Base Pearce -
No 2 Flying Training School
and No 79 Squadron**

AUSTRALIAN DEFENCE PERSONNEL IN WA

Total Defence numbers in Western Australia

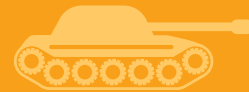
5,980

2,391



permanent Navy personnel inclusive of
35 Continuous Full-Time Service (CFTS)
personnel and 2 Gap Year members

912



permanent Army personnel inclusive of
18 CFTS personnel

301

permanent Air Force personnel
inclusive of 2 CFTS personnel



485

civilian personnel



1,891

active Reserves
(182 Navy, 1,440 Army,
269 Air Force)



WA DEFENCE BASES

YAMPI
TRAINING AREA

RAAF BASE CURTIN

PILBARA REGIMENT

NAVAL COMMUNICATION STATION HAROLD E HOLT

RAAF BASE LEARMONTH

WESTERN AUSTRALIA

JORN STATION, LAVERTON

KOJARENA ADSCS

PERTH METROPOLITAN AREA

CAMPBELL BARRACKS
HMAS STIRLING
IRWIN BARRACKS
PALMER BARRACKS JLUW
RAAF BASE PEARCE
MUCHEA ARMAMENT RANGE

LANCELIN TRAINING AREA

BINDOON TRAINING AREA

1 EXECUTIVE SUMMARY



Western Australia has a long and proud history of supporting our national security and Defence.

This Plan is the first time a State Government has committed to an overarching vision and direction to ensure that Western Australia is able to fully contribute to the national and international defence industry.

Challenges and emerging threats to our national security continue to become more demanding and complex.¹ Satisfying the requirements of our Defence Force in order that it can continue to meet these challenges and successfully complete assigned missions is an enduring significant national interest. This requires a broad and deep defence industrial base able to produce world class, innovative and competitive systems, support and capabilities. To deliver this requires an agile, prioritised, synchronised and integrated enterprise, strong on collaboration and expert in the highly specialised needs of Defence.

Our vision is for the defence sector to continue to grow and become a key pillar of the

Western Australian economy, with the annual contribution to double by 2030. This will see Western Australia become the principal location for delivery of all maintenance and sustainment requirements for Australia's submarines and frigates, and will strengthen and diversify our economy through the development of cutting edge science and innovation.

During the course of 2018 the Western Australian State Government has invested considerable effort seeking advice from the Commonwealth Government, Defence, industry, other States and Territories and our own community in the development of this Strategic Plan.

The Western Australian Defence and Defence Industries Strategic Plan builds on the State's current strengths and addresses a number of challenges identified through consultation with Defence and industry stakeholders.

The Plan builds on the recently released portfolio of national documents that provide the Australian framework for defence industry capability, innovation, defence exports and partnerships.

¹ 2016 Defence White Paper, Commonwealth of Australia, pp.39-64.

The Strategic Plan includes six key strategies with action areas:

1. Supporting a Strong and Enduring Defence Presence

Western Australia hosts a significant Defence presence. The Plan includes actions to develop and promote a comprehensive case for Western Australia to be the principal location for the maintenance and sustainment of all submarines and frigates.

2. Growing the State's Defence Industry Capability and Contribution

Western Australia will expand its industry capability beyond the maritime area and undertake a range of actions to focus industrial, government, educational and financial resources onto new defence procurement activities emerging in the 2020-2030 timeframe.

3. Developing Strategic Infrastructure

Western Australia is committed to improving the Henderson Precinct and Australian Maritime Complex, one of just two locations identified in Australia for naval ship building. Ensuring defence industry and State infrastructure is matched to the current and emerging requirements of Defence is crucial if Western Australia is to remain competitive in bidding for future work.

4. Building Research and Innovation Partnerships

Working collaboratively with the Commonwealth Government and university sector, a Defence Science Centre (DSC) will be established in Western Australia based on similar arrangements in other jurisdictions. Developing a DSC in Western Australia will assist in establishing a formalised partnership that can maximise defence-related research opportunities.

5. Advancing Education, Training and Skilling

Supporting the future needs of Defence's highly sophisticated platforms and capabilities will demand new skills, knowledge and qualifications. Western Australia will undertake a Defence Workforce Development Plan to ensure the workforce and skilling needs for the Western Australian defence sector are anticipated and met.

6. Supporting Veterans and Families

Develop, in consultation with Defence and local governments, a Veterans and Defence Families Strategy. This will enhance goodwill and relationships between our ADF and Western Australia, support defence industries, and positively contribute to our community.

The Western Australian Government is committed to the delivery of the Strategic Plan. Immediate focus will be given to enhancing the capability and experience of the public sector, including Defence West, to deliver the requirements of this Strategic Plan and build robust engagement and consultation with industry.

The Western Australian Government will ensure that sovereign interest and support for our Defence Force remains a priority as improved support, enhanced collaboration and increased exports for Western Australian industry and universities are pursued.

CASE STUDY 1



AUSTAL - DESIGN CAPABILITY

Established in 1988, Austal has grown to become the world's largest aluminium shipbuilder. Renowned for developing some of the world's most iconic high-speed maritime vessel designs, including monohulls, catamarans and trimarans, Austal has delivered more than 300 vessels for over 100 operators in 54 countries.

Austal's in-house design capability started with just one designer in 1988, and since that time has grown to become the largest naval architecture capability in Australia, with over 150 professionals across multiple disciplines, including naval architecture, structural and interior design, as well as mechanical, electrical, and systems designers.

From its facilities in Western Australia Austal's design team has successfully exported advanced design technology overseas for numerous commercial and defence projects. As of October 2018, Austal has 12 locally developed vessel designs under construction at the company's shipyards around the world, demonstrating the company's globally competitive, and industry-leading capability to successfully transfer advanced design technology to deliver commercial and defence projects.

An example being the 127 metre Independence-class Littoral Combat Ship (LCS) trimaran, and 103 metre Spearhead-class Expeditionary

Fast Transport (EPF) catamaran. Both these vessels were designed at Henderson in Western Australia, and from its facilities in Mobile, Alabama, Austal USA is now delivering 17 LCS and 12 EPF for the United States (US) Navy. In fact, Austal is the only foreign prime contractor designing and constructing ships for the US Navy. These vessels are game changing, and introduce a new capability through the versatility of these multi-mission platforms.

In Australia, Austal is delivering 21 Guardian-class Patrol Boats that will be exported to 13 Pacific Island nations from 2018-2023, as part of the Commonwealth of Australia's Pacific Patrol Boat Replacement Program. This new 40 metre, monohull design is based on a proven platform that has seen a total of 32 patrol boats delivered to the Royal Australian Navy and Australian Border Force. This Guardian-class has further enhanced the capabilities of Austal, having introduced the company's design and advanced fabrication capabilities to offer steel vessel solutions for the international market.

With more than 5,250 employees worldwide, Austal is a leader in advanced maritime design and construction technology, utilising quality-certified processes in state-of-the-art, modular manufacturing facilities to produce ships of the highest quality, on time and on budget.

2 KEY ACTIONS TO DATE

During the course of 2018 the Western Australian State Government has invested considerable effort seeking advice from the Commonwealth Government, Defence, Industry, other States and Territories and our own community in the development of this Strategic Plan.

In that undertaking, Western Australia recognises the dedication, professionalism, collaboration and complexity of Defence and the wider industry who are the force behind the Defence Force. It acknowledges the bi-partisan support, understanding and goodwill it has received both nationally and internationally in this inaugural undertaking. This in turn, has strongly shaped the fundamental character of Western Australia's approach.

To date, nine key actions have been taken. Cumulatively, these have established the critical conditions necessary for the framing and initial implementation of the first Western Australian Defence and Defence Industries Strategic Plan.



Action One: Western Australia's first Minister for Defence Issues portfolio established.

Action Two: Senior Defence Advocate appointed to advance wider awareness within Defence of Western Australian industrial capabilities of relevance to the ADF.

Action Three: Defence West established to champion the interests of Western Australian Defence Industry and help promote related business development, jobs and exports.

Action Four: First Western Australian Defence Industry Capability Directory produced and published.

Action Five: First Western Australian Defence Research Universities Capability Statement produced and published.

Action Six: Inaugural Indo-Pacific Conference dedicated to promoting defence and security issues established.

Action Seven: Western Australian Defence industry advocacy and facilitation sponsored through representation at multiple national defence industry events of significance. This includes Land Forces 2018, Pacific 2017 and the Australian Defence and Industry Conference.

Action Eight: Scoping study of the Australian Maritime Complex commissioned.

Action Nine: Independent strategic adviser engaged on defence issues to assist the Premier and State Government frame a sustainable, integrated approach for Defence issues.

CASE STUDY 2



AIRFLITE

Since 1994, Airflite has provided technical and operational support to the PC9/A training aircraft fleet, the Royal Australian Air Force's (RAAF) Central Flying School and No. 2 Flying Training School, No. 4 Squadron and the ADF Air Warfare Centre.

Included in this program is the planning, maintenance and logistics management support services for 120 individual repairable line items for the PC9/A aircraft from a range of hydraulic, engine, airframe, life support and avionic aircraft components across the fleet covering four primary RAAF operational locations. Since Airflite's first involvement with the PC-9/A in 1991, they have safely maintained over 500,000 flying hours with no maintenance related incidents.

Since 2000, Airflite has provided in-house off-aircraft maintenance and support for all Lead-In Fighter (LIF) Hawk aircraft at RAAF Bases Pearce and Williamtown, under subcontract to BAE Systems Australia. The contract includes more than 60 Hawk line items, including life support and egress systems equipment (including ejection seats), wheels, brakes, armament and

alternate mission equipment. Under this contract, Airflite recently completed its 200th Ejection Seat Overhaul servicing, and was part of an integrated BAE/Airflite team responsible for the development of a specialist Hawk armaments system equipment servicing stand.

Airflite is the national provider for maintenance, engineering, planning and logistics support services to the RAAF for Air Sea Rescue Kits from its facilities on site at RAAF Pearce. These 10-person raft and life preservation kits are carried and deployed from RAAF C130 Hercules and P3C Orion aircraft in response to small and large scale emergencies at sea.

Airflite recently completed Airflite's Ejection Seat maintenance services, encompassing both PC9 and Hawk, has completed a combined total of 720 overhauls and 1460 bay servicing's across the Airflite Defence Sites at RAAF Pearce (W.A), RAAF East Sale (Vic) and Williamtown (NSW); an achievement unmatched by any Australian Defence Contractor organisation.

3 KEY STRATEGIES

3.1 SUPPORTING A STRONG AND ENDURING DEFENCE PRESENCE

Western Australia's Defence Industry – Relevant and Ready

Defence resources currently expended in Western Australia approach \$3 billion per annum.

Western Australia is already host to a significant Defence Force presence and is the recipient of substantial work through the Defence Integrated Investment Program (IIP). Defence resources currently expended in Western Australia approach \$3 billion per annum. As identified in the 2016 Defence White Paper (DWP16) and the Defence IIP, this will need to expand substantially to satisfy future ADF requirements. This Strategic Plan is intended to ensure that Western Australia remains relevant and ready to meet Defence's future requirements. Western Australia will build on the already recognised capability of our industry and universities and harness the State's potential for continued growth and to compete more effectively. This includes working with the Commonwealth Defence Science Technology Group.

Western Australia will also pursue wider opportunities through the Defence IIP and along the six defence capability streams, including emerging areas of capability and technology, where we already have

strong credentials. This will include cyber, electronic warfare, data management, trusted autonomous vehicles, special operations, specialised ranges and training areas including for Army's long-range fires (LCAW-183) capability in the 2023-2030 period and advanced manufacturing and maintenance technologies for our Navy.

The most significant goal will be to develop and promote comprehensive cases for Western Australia to be the principal location for maintenance and sustainment for submarines and frigates. This will represent a major undertaking to build and argue the case for this to be primarily conducted from Western Australia. While formal figures are not available at present, anecdotally, these contracts alone are expected to exceed \$50 billion through the life of these new fleets.



Actions

- a. Develop and promote a comprehensive case for Western Australia to be the principal location for all submarine maintenance and sustainment.
- b. Develop and promote a comprehensive case for Western Australia to be the principal location for maintenance, sustainment and upgrades for frigates.
- c. Promote the ongoing support and further development of ADF exercises in North West Western Australia including Northern Shield.
- d. Review and better understand emerging ADF needs including autonomous systems, cyber, data management and special operations where Western Australian industry and universities can offer solutions.
- e. Consult with Defence, including through the annual Defence-Western Australian Government Consultative Forum, to explore and develop a future concept for exercises in North West Western Australia to periodically demonstrate capacity to force project and operate at Formation/Task Force level in this region.
- f. Consult with Defence to explore emerging requirements for staging and sustaining unmanned aerial systems (UAS) operations in the Indian Ocean.
- g. Work with the Commonwealth Government to support the establishment of an Associate Director by the Defence Science and Technology Group (DST) to facilitate Defence science, technology and innovation priorities within Western Australia.

3.2 GROWING THE STATE'S DEFENCE INDUSTRY CAPABILITY AND CONTRIBUTION

Transitioning Western Australia into the Broader Defence Economy

In the case of Western Australia, maritime or Navy projects currently dominate defence industry and capability conversations. While this is expected to continue, Defence requirements are diverse and extend well beyond maritime and Navy. An opportunity currently exists for Western Australia to focus industrial, government, educational and financial resources onto new military procurement activities emerging in the 2020-2030 timeframe. These opportunities sit outside the four major Defence projects (SEA 1180/5000/1000 and Land 400) and can be found in the multitude of smaller projects that, make up most of the IIP and the opportunity to seek markets beyond Australia.

Our capabilities, knowledge and experience are extensive and world class. Western Australia will promote business opportunities and collaboration overseas to support exports. For a range of reasons, which are well addressed by DWP 16, many nations in the Indo-Pacific with stronger economies are now investing more in their defence. Furthermore, they are seeking partners that help deliver a significant capability advantage over potential adversaries.

Western Australia already has strong relationships with many of these nations and this represents a platform from which to explore new defence export markets. Two examples in Western Australia that illustrate this potential include Austal, which is currently constructing vessels for the Pacific Patrol Boat Replacement Program² and Luerksen partnering with Cimmec/ASC Pty Ltd to construct ten of the twelve Offshore Patrol vessels (OPV) under SEA 1180.

² SEA 3036 under the Commonwealth Pacific Maritime Security program (PMSP)

Western Australia will build a stronger, smarter, more integrated team consisting of State government, industry, universities and training providers all working in close collaboration with Defence. This team will focus on chosen areas of endeavour to ensure that scarce capacity is not dissipated. The team will be designed to compete and win key contracts.

Collaborating Nationally and Internationally

Supporting Defence is an endeavour that extends well beyond state boundaries. In recognition of the extensive national and international collaborations that happen routinely in the defence sphere, state initiatives to pursue this vision and implement this Plan will include opportunities to collaborate beyond State boundaries. Business, science and innovation are now well and truly global, and in the case of Defence it is likely that the most exciting opportunities for Western Australia will come through interstate or international partnerships. From these partnerships, benefits will flow into Western Australia and through this, our State economy will grow, and new jobs will be created. Where broader collaborations deliver these positive outcomes they will be encouraged.

Pursuing Success Through Exports

Western Australia's industry continues to enjoy considerable success overseas. As implementation of the Defence and Defence Industries Strategic Plan progresses, the Western Australian Government believes that over time, State-based industry and universities that are part of the defence sector can achieve greater export success and become stronger, more sustainable and globally competitive. Aligned with the Australian Government Defence Export Strategy³, Western Australia will strengthen partnerships among State government, industry and our Allies to pursue export opportunities, promote greater innovation and grow our defence industry exports.

Actions

- a. Create a detailed plan to build advanced manufacturing capability in the defence industries, as a key long term economic pillar for Western Australia, by drawing on the State's expertise from the oil, gas, mining and other industry sectors.
- b. Collaborate with Western Australian industry to strengthen its Defence business capacity and promote ongoing positive engagement between prime contractors and small to medium enterprises (SMEs).
- c. Assist Western Australian companies to enter defence supply chains, including grant support to attend key interstate or international industry events. Also, provide European facilitation support through the Western Australian Agent General.
- d. Promote Western Australian industry capacity to national and international defence markets.
- e. Collaborate with Defence and industry to enhance capability as a global leader in naval vessel design, construction, and sustainment, with an emphasis upon delivering the needs of the ADF.
- f. Lead an annual SME-oriented Western Australian Defence industry and trade delegation into South East Asia to promote export opportunities and facilitate industry collaborations. Invite annual reciprocal regional delegations to Western Australia to promote local industry and innovation collaboration.

Western Australia's industry continues to enjoy considerable success overseas.

³ Defence Export Strategy, Commonwealth of Australia, 2018.

g. Leverage the State's existing presence in Singapore by dedicating resources in the Western Australian Overseas Office to Defence industry support to take advantage of established Australian High Commission and AUSTRADE support and facilitate Western Australian Defence industry export efforts across South East Asia.

h. Seek Defence support to facilitate dialogue with the US, UK and France about how Western Australia might inform its future investment decisions to accommodate and support vessels from Alliance partners operating in or transiting through the Indian Ocean.



Photo © Commonwealth of Australia 2018

Growth Drivers and Opportunities from the Defence Integrated Investment Plan (IIP)

The challenges of meeting Australia's strategic Defence interests are growing, as new global threats and complexities emerge. The release of the DWP 16 and its accompanying IIP, lay out Australia's strategic defence priorities for the next 20 years and project investment time frames for the next decade. These outline an increase in Defence spend out to 2025-26 of \$447,485 million.

As the ADF pursues greater integration, six capability areas guide investment:

- Intelligence, surveillance, reconnaissance, electronic warfare, space and cyber security
- Key enablers
- Air and sea lift
- Maritime and anti-submarine warfare
- Strike and air combat and
- Land combat and amphibious warfare.

The IIP identifies numerous investments over the next ten years in support of the ADF's requirements in Western Australia. The IIP has also identified \$730 million in new funds over the next decade to support the development of new technology that can enhance Australia's security. This is managed by DST through the Next Generation Technology Fund and is guided by priority areas including:

- Integrated intelligence, surveillance and reconnaissance
- Trusted autonomous systems
- Quantum technologies
- Advanced sensors
- Hypersonics and directed energy capabilities
- Multidisciplinary material sciences and
- Cyber security.

Supporting the Western Australian defence industry and university sector to better understand the IIP and how to pursue the opportunities, within this and the next generation technology fund, will be a key output of Defence West and the Defence Science Centre described in section 3.4.

Based on existing known strengths within Western Australia, there are significant opportunities to seek additional Defence contracts. This will form the basis of early Defence West and industry collaboration to explore and where appropriate, develop business cases. Some indicative areas may include:



CYBER SECURITY CAPABILITY IMPROVEMENT

Electronic warfare and Special Operations support
Space and Space Situational Awareness



KEY ENABLERS (KEYN)

Base Support and Redevelopment
Training and Simulation



AIR AND SEA LIFT (AASL)

Mid-life Upgrade HMAS Choules
Construction of a third replenishment ship



MARITIME AND ANTI-SUBMARINE WARFARE (MASW)

Hydrographic vessels and underwater data collection
Collins class submarine
Upgrades and Enhancements



STRIKE AND AIR COMBAT (SAAC)

Integrated Air and Missile Defence
RAAF Base Curtin Redevelopment



LAND COMBAT AND AMPHIBIOUS WARFARE (LCAW)

Riverine Patrol Craft and Light Watercraft
Special Operations Capability Enhancements
ADF Search and Rescue

Capitalising on Existing Federal Initiatives and Support

The Commonwealth Government and Defence have already resourced and established an extensive range of initiatives to support a robust defence industry and innovation system. Much of this is outlined in the Defence Industrial Capability Plan⁴ which seeks to achieve a more mature, resilient and international competitive Defence industry over the next decade. This is designed to provide the best capability for the ADF and maximise Australian industry and innovation in support of Defence capability to guide and assist Australian businesses and researchers to meet capability needs.

In Western Australia, these Commonwealth Defence plans and their linked support will be further promoted and used. Improved approaches will be pursued in positive collaboration with Defence to ensure that Commonwealth resources and support are more easily and locally provided to a scale matched to Western Australia's industry requirements.

Actions

- a. Establish a stronger presence for Western Australia in Canberra to enhance Defence's understanding of Western Australia's industry requirements, reduce the impact of geographic distance and better support Western Australian defence industry capacity.
- b. Complete a review of the Defence Integrated Investment Program (IIP) to match current and emerging requirements including supply chain opportunities against the capability and expertise resident in Western Australia.⁵
- c. Update the *Western Australian Defence Industry Capability Directory* to include all Western Australian defence industry companies and seek to migrate this into a national system to ensure widest possible coverage.

⁴ Defence Industrial Capability Plan, Commonwealth of Australia, 23 April 2018.

⁵ 2016 Integrated Investment Program, Department of Defence, Commonwealth of Australia.

Advocacy for Western Australian Industry

The defence industry in Western Australia is diverse, capable and innovative but currently no single industry association, advocacy group or 'voice' exists to represent the views and requirements of the industry. This can limit effectiveness in a sector where strong, consistent, unified and coherent messages resonate more strongly than multiple opinions. When combined with the challenge of being located 3,000 kilometres from Canberra, this potentially represents a significant disadvantage compared to competing with State-led industry advocacy approach that is more integrated, consistent and clear. When key Defence, east-coast based industry or overseas representatives visit Western Australia, a unified platform for defence industry representation and advocacy is desired.

Western Australian industry groups and stakeholders have been working closely and collaboratively over recent months to secure a unified platform for industry representation and advocacy. The State Government will establish a Defence Council as an ongoing Western Australian defence industry engagement and consultative mechanism to seek and receive industry advice and feedback on selected issues.

The Defence Council will advise and support the State Government on strategic policy, industry and investment issues. This will include facilitating consultations with the Western Australian defence industry sector on stated Defence and State Government priorities linked to the realisation of this Strategic Plan. The State Government will also establish direct links with the most significant national defence industry groups including the Australian Industry Group (AIG), to ensure Western Australia is continuously informed about national defence industry conversations and policy deliberations.

Actions

- a. Establish a dedicated Western Australian 'Defence Council' to advise and support the State Government on strategic policy, industry and investment issues.
- b. Conduct regular defence industry engagement and consultations.
- c. Establish a register to track and action formal defence industry submissions to the Western Australian Government.
- d. Commence discussions with Defence to increase Centre of Defence Industry Capability (CDIC) and Australian Defence Export Office capacity and presence in Western Australia.

3.3 DEVELOPING STRATEGIC INFRASTRUCTURE

Expanded RAN Requirements in Western Australia

The expansion of the RAN Fleet under the Defence White Paper⁶ will see a significant component of Australia's Naval vessels based at HMAS Stirling on the western shores of Cockburn Sound. It is expected that Defence's west-coast based vessel sustainment, requiring the support of contracted workforce, will preference the Henderson precinct for such activity. Ship and submarine sustainment and upgrades will provide the majority of Defence and defence industry activity at Henderson.

During the next two and a half decades, Henderson will see an increase in both direct and indirect sustainment-related Defence investment as the new capability, defined in the 2016 Defence White paper, is commissioned and enters service.

This increase will start to become material in the 2020s as two of the new Offshore Patrol Vessel (OPV) fleet are home ported in Western Australia and transition to the sustainment phase of the capability lifecycle. These new vessels at 80 metres in length, and 1,800 tonnes displacement, will require an additional crew of 40 personnel per ship plus an extra 40 support staff to be home based in Western Australia.

From late 2021 the second of the new Auxiliary Oiler Replenishment ships, HMAS Stalwart, will be home-ported in Western Australia. At 173.9 meters in length and 19,500 tonnes displacement with a crew of 157, the ship will replace the oil replenishment ship HMAS Sirius.

Following the introduction in to service of the OPVs and the new auxiliary oiler, the Hunter Class Frigates (HCF) will begin to replace the existing five Western Australian homeported Anzac Class Frigates from 2030, with a sixth HCF increasing the current fleet size in 2043.

The HCFs are a substantial step up in capability and lethality from the highly capable Anzac class. At 149.9 metres in length and 8,800 tonnes displacement, they are approximately 30 per cent longer, 145 per cent heavier and require an approximate 20 additional crew per ship.

With the combined Henderson OPV and Frigate Naval fleet expanding from five ships to eight and an overall tonnage increase of over 210 per cent by 2043, Western Australia can expect to experience the positive impact of the significant increase in Defence spending required to sustain this new, larger, more capable fleet and its crews.

To facilitate the ongoing management of Navy's significant Western Australia based capabilities in both the OPVs and HCFs as well as consolidate the training and sustainment activities for the current Anzac Class Frigates, Commonwealth Government advice will be sought on plans for investment into facilities to support the Navy's 'Ship Zero' concept. If endorsed, this is estimated to have a value in excess of \$100 million and could include facilities for the Headquarters of Navy personnel of each ship class; Systems Program Office (SPO) for both OPV and HCF and a linked Through Life Support facility.

This lift in local investment by Defence will be further enhanced as the larger, more capable future submarines begin to enter into service in the early 2030s.

There are many challenges associated with future growth of the defence sector in Western Australia. Most of those that have been identified by industry, the university sector and local government are anticipated in this Plan and will be mitigated through its implementation.

⁶ Department of Defence. (2016). *Defence White Paper*. Commonwealth of Australia.

Improving the Henderson Precinct and Australian Maritime Complex – Common User Facility (AMC CUF)

Ensuring Defence industry and State infrastructure is matched to the current and emerging requirements of Defence is crucial if Western Australia is to remain competitive in bidding for future work. Enhancing the Henderson precinct and AMC infrastructure, security and services is critical to ensuring the future competitiveness of the State.

The Henderson Precinct has been identified as one of only two locations for naval ship building in Australia⁷ in line with the findings of the Rand Report (2015). The Henderson precinct will undertake all future ship building of minor naval vessels and would be the foundation of any Western Australian bid to win the maintenance and sustainment contracts for future submarines and frigates.

The AMC was established by the Western Australian Government in 2003 to support Western Australian industry and economy. This asset has provided significant stimulus to economic activity across mining, oil, gas and defence sectors since inception. The CUF provides land and services enabling projects to be delivered on the facility. Further development is required to ensure the effectiveness of this precinct to meet the future needs of Defence and the defence industry.

The State Government has announced the establishment of Infrastructure WA (IWA), which will be developing Western Australia's first State Infrastructure Strategy in 2019. The Defence and Defence Industries Strategic Plan will inform the work of IWA as it provides advice to government on the State's infrastructure priorities.

⁷ Department of Defence. (2017). *Naval Shipbuilding Plan*. Commonwealth of Australia.

⁸ Naval Ship Building Plan, Commonwealth of Australia, 2017.

⁹ Odense Maritime Technology (OMT) have undertaken a study for the Commonwealth in support of the Naval Shipbuilding Plan.

Actions

- a. Establish a Government led Task Force to undertake strategic planning and management of the Henderson precinct and the AMC to ensure they meet current and future Defence requirements⁸.
- b. Coordinate and optimise use of existing infrastructure to ensure it can be leveraged to meet the needs of Defence and other industry sectors.
- c. Continue to engage with Defence to understand its infrastructure requirements in Western Australia including through its own review of Australian Naval Shipbuilding Infrastructure⁹.

3.4 BUILDING RESEARCH AND INNOVATION PARTNERSHIPS

Often the foundations of a successful industry and economy are anchored in sustained investment in science, technology, innovation and associated development of a knowledge society and skilled workforce. Nowhere does this hold more truth, than for defence.

In recognition of this, Western Australia will work with the Commonwealth Government to establish a Defence Science Centre (DSC).

What is a DSC?

The DSC is a collaboration among the State Government, the Defence Science and Technology Group (DST) and Western Australian universities to harness the capabilities of universities to deliver integrated solutions for the defence sector and facilitate the growth of defence science research networks among academia, DST and industry. It aims to create research and development connections, and foster a globally engaged, competitive and innovative defence and national security sector.

The DSC itself will not undertake any research; it will facilitate university-government-industry research and skills exchange via actively cultivating relationships and linkages. One of the DSC's key roles will be to act as a match-maker between universities, government and industry.

DSC grants will be an important tool in supporting the facilitation of these exchanges. These grants will set the conditions for commercial opportunities in industry, and business development. Victoria, South Australia and New South Wales already have established similar models, each of which is calibrated for the unique circumstances of their State.

Why Establish a DSC in Western Australia?

Developing a DSC in Western Australia will assist in establishing a formalised partnership that can maximise defence-related research opportunities for Western Australian researchers. This will enable research and industry to be part of a broader Australian network of similar entities which has the potential to increase and diversify Western Australia's impact and access at national and international levels.

The Commonwealth Government has set out its broad defence investment needs to deliver and sustain Australia's defence capabilities, and the defence sector is transforming. The introduction of a DSC in Western Australia at this time will support this transformation and opportunity. A broad mechanism that effectively attracts defence-related research and development investment opportunities for academic and industry collaboration is vitally important for the State's economic diversification and job creation.

Research collaboration presents significant benefits in providing an opportunity to deliver more effective access to and utilisation of knowledge, expertise and science infrastructure. Diversification of research and development efforts across technology areas, increases the usefulness of research outputs, and improves industry and academic linkages. As an example, the Victorian Defence Science Institute has demonstrated considerable success through its partnerships, resulting in defence-related research investment leverage of 15:1 (15 dollars returned for every 1 dollar invested), the support of over 35 PhD students, and assistance provided to over 100 organisations.

The DSC is a collaboration between the State Government, the Defence Science and Technology Group (DST) and Western Australian universities.

What will the DSC (WA) Do?

The DSC (WA) will provide linkages among universities, government and industry and will offer a coordinating role for visitors, such as prime contractors, US Defence research agencies (including the Defence Advanced Research Projects Agency, the Air Force Office of Scientific Research and the Army Research Office). It will support the commercialisation and translation of defence-related research outcomes in addition to using a collaborative approach towards defence industry workforce development.

A unified approach among the Western Australian State Government, DST and Western Australian universities will strengthen and enhance performance in defence-related research and education for Western Australia. It will provide valuable flow-on effects for the Western Australian defence industry and the broader growth and competitiveness of the national economy. The DSC (WA) will also complement and align to related initiatives in the science and innovation portfolio, such as the establishment of innovation hubs and support for collaborative research institutes.

DSC (WA) will:

- Boost defence-relevant research collaborations and engagement between universities, industry and Defence
- Connect small-to-medium enterprises (SMEs) to relevant research and expertise to strengthen SME participation in defence business

- Stimulate defence-relevant collaborations through its grant programs
- Identify defence-relevant science and innovation opportunities for investment and commercialisation
- Showcase Western Australian science and innovation capabilities
- Support capability and capacity development of students undertaking research projects in areas where Defence has an interest or in a defence-related industry.

Actions

- Establish a Defence Science Centre (WA) in partnership with DST to enhance research collaborations and engagements among universities, industry and Defence.
- Establish a competitive grants scheme administered by the DSC (WA) to promote defence-related science and innovation by Western Australian universities and industry.
- Actively seek to participate and collaborate with the Defence Cooperative Research Centre for Trusted Autonomous Systems (DCRC TAS).



CASE STUDY 3



EDITH COWAN UNIVERSITY - CYBER SECURITY

In an increasingly digital world, where reliance on information and connectivity is paramount, the need to understand potential threats and how to protect our computers, networks and data from unauthorised access or attacks is vital, no more so than for Defence. It is because of this that after air, land, sea and space, cyberspace has been declared the fifth domain of warfare.

Virtually every aspect of Defence's capability is now reliant on information systems to be effective. This dependency also constitutes vulnerability; thus, investment in cyber security research and development will be critical to not only maintaining a comparative military advantage, but also fundamentally preserving fitness for the purpose of Defence's capabilities. While cyber is specifically articulated in the Intelligence, Surveillance and Reconnaissance capability stream, in reality cyber security must be designed into every element of capability and recognised as an integral component of all capability streams.

The Security Research Institute at ECU (ECUSRI) is the premier and most trusted cyber research and education institution in Australia and is recognised internationally for its capability and contribution to cyber security. It possesses an accredited secure facility, as well as security-cleared personnel, and has produced quality graduates and post-graduates in cyber security for over a decade.

A number of the institute's staff participate as members of expert bodies, panels and advisory boards, providing advice to government, law enforcement and defence agencies (both Australian and international) on cyber security issues.

Recognising the need for professional training to improve the knowledge and skills, ECUSRI provides Advanced Cyber Security Training to employees from many industries including Defence, Finance, Mining, Medical and Commonwealth, State and Local Government. Using real-case examples, attendees are trained to protect Critical Infrastructure and networks from cyber-attack using various cyber defence measures. This training program is run in collaboration with the Western Australian Police and relevant Commonwealth Government agencies.

The ECUSRI undertakes a range of leading edge research and development activities, and has the expertise and capacity to help develop the next generation of protection for Defence systems and the broader community. Sapien Cyber, an Australian company co-funded with ECU, is bringing leading edge cyber security and threat intelligence solutions to industry. It provides a priority response service that is designed to facilitate secure operations to organisations in an increasingly insecure hostile cyberspace. Sapien's research and development is supported by its close collaboration with ECUSRI's security research team.

Western Australia has over 1.3 million people in its workforce.

3.5 ADVANCING EDUCATION, TRAINING AND SKILLING

Western Australia has more than 1.3 million people in its workforce. This workforce is highly skilled and educated with nearly one million holding post-secondary qualifications. Almost half a million Western Australians have a Bachelor's degree or higher. As the requirements of the Western Australian Defence sector grows, this will generate new jobs and translate into demand for thousands of highly qualified, skilled and experienced workers.

Ensuring a continuous pipeline of skilled workers is available to support the increased demand on Western Australia's Defence industries, requires careful analysis and planning. In many cases, supporting the future needs of Defence's highly sophisticated platforms and capabilities will demand new skills, knowledge and qualifications. Achieving this often requires extended lead times.

Western Australia will undertake a Defence Workforce Development Plan to ensure the workforce and skilling needs for the Western Australian defence sector are anticipated and met. It will focus on six areas:

- Pursuing a holistic approach towards defence industry workforce development by leading the collaboration with industry, community, government and educational partners
- Working with the relevant educational partners to ensure vocational training programs are developed and delivered to meet the emerging needs of the defence industry
- Understanding and investing in relevant education and tertiary qualifications
- Ensuring the right skills are available at the right time
- Attracting and retaining the critical skills required by Western Australia's defence Industries
- Enhanced consultation, planning and coordination.

This approach will build on the work already being undertaken by Western Australian universities and South Metropolitan TAFE (SM TAFE), the major training provider in Western Australia delivering semi-professional and trade training for the defence industry and the Naval Shipbuilding College. SM TAFE is also experienced in the development and commercial customisation of shipbuilding skills programs and has worked extensively with ASC Pty Ltd, Austal, BAE Systems, Civmec, the Royal Australian Navy, the defence industry supply chain and the Australian Departments of Defence and Education.

Through collaboration and with the support of the Department of Training and Workforce Development, SM TAFE will develop a Defence Workforce Development Plan and establish a dedicated Defence office to help ensure the education and skilling requirements of Western Australian Defence industries are met and that new jobs and opportunities are created for Western Australians.

Actions

- a. Establish a Defence Office in South Metropolitan TAFE to lead a coordinated and collaborative approach to the development of a Western Australian Defence Workforce Development Plan and oversee and advise on defence-related Western Australian skilling matters.

3.6 SUPPORTING VETERANS AND FAMILIES

In the Western Australian community there are estimated to be more than 30,000 veterans who have served in our Defence Forces and been deployed to fields of action.¹⁰ Each year in Western Australia, hundreds more will leave the Defence Force. Some will leave and move onto new careers, using the skills and experience gained during their time in Defence to strengthen our workforce. Some will become business people and some will become community leaders, or pursue further public service.

However, some may not have a choice in leaving. Through medical or administrative discharge, their time in Defence will come to an end. For these veterans, it might be the simple things that are difficult. This is because they could be carrying with them the burden of service, which may include mental health conditions or injuries.

Our Defence Force is made up of veterans and their families. A successful Western Australian Defence and Defence Industries Strategic Plan will also involve supporting our veterans and their families. This will enhance goodwill and

relationships between our ADF and Western Australia, support defence industries and positively contribute to our community.

A key focus of the Western Australian Government is to support Western Australian based veterans and their families, helping them to transition out of the Australian Defence Force and join our community with dignity, respect and support if needed. A Veterans and Defence Families Strategy will be developed to better understand and guide these transitions.

Through this plan, we aim to support veterans and Defence families located in Western Australia and to be recognised as one of the best in Australia by 2030. The majority of service personnel who are based in Western Australia, and who choose to separate from Defence, will elect to remain in Western Australia and become a sustained, skilled and experienced workforce for the Western Australian Defence industry and our universities.

Actions

- a. Develop, in consultation with Defence and local governments, a Veterans and Defence Families Strategy.



¹⁰ Ministerial Statement on Veterans and their Families, The Hon Dan Tehan MP, August 2017.

CASE STUDY 4



BARRETT COMMUNICATIONS

Since its founding in 1976, Barrett Communications has become known as one of the world's leading designers and manufacturers of High Frequency (HF) and Very High Frequency (VHF) radio communications systems.

Originally the company focused on the aviation market and then into sales of land based HF systems within Australia. With initial exports of commercial HF radios into the African continent in 1987, Barrett began to broaden its markets and develop key relationships with international communications integrators. This began to open new doors for their products in new regions of the world.

When they launched their PRC-2090 Tactical HF manpack in 2008, they began to actively target the defence, military and security markets internationally. Over the past 10 years Barrett has expanded their HF tactical range from the initial portable manpack, to a vehicle mounted station and base station. They have also extended their product offering with a full range of VHF, antenna and interoperability solutions.

In August 2018, Barrett Communications attended their 5th Pacific Endeavour training exercise in Kathmandu. Over 252 military and civilian communications specialists from 20 Indo-Pacific nations come together for this 12 day military exercise. The goal was to establish common communications operating procedures across the region. Three nations attending used Barrett equipment, representatives from the Fijian, Solomon Island and Bangladeshi military established voice and data communications, demonstrating full interoperability with all other HF systems.

Barrett Communications CEO, Mr Andrew Burt commented "We are continuing to innovate our product range and provide tactical solutions to existing and new customers in Asia, Africa, the Middle East and North and South America. Many nations see it as an advantage to buy from an Australian company and we are proud of the history we have in this market and look forward to further defence market growth."

4 IMPLEMENTATION AND MEASURING

Robust governance and oversight will be established to monitor the delivery of the Strategic Plan.

The considerable opportunity and importance of progressing implementation of this Strategic Plan in the first year is recognised. By working collaboratively and proactively with government, industry and other stakeholders we will deliver the strategies and actions outlined in this document. To ensure the strategies and actions are delivered in a timely and successful manner, measures and reporting mechanisms will be developed and put in place to monitor the progressive success of the Strategic Plan's implementation.

As the Strategic Plan encompasses actions across a range of areas, tailored mechanisms and measures will be developed and used to track success including:

- number of jobs in defence industry
- economic growth, revenue linked to defence
- new contracts awarded by Defence to Western Australian companies
- number of defence-related promotional activities undertaken
- number of businesses registered on the *Western Australian Defence Industry Capability Directory*
- Western Australian defence-related export growth.

Robust governance and oversight will be established to monitor the delivery of the Strategic Plan. This includes ensuring collaboration and delivery across the Western Australian public sector, and strong engagement and consultation with industry.

The Department of Jobs, Tourism, Science and Innovation will have lead responsibility for the delivery of the Strategic Plan, reporting to the Minister for Defence Issues and the Premier. An annual implementation plan will be developed, and progress will be reported publicly.

Progress with the implementation of the Strategic Plan will be reviewed annually by the Western Australian Defence Council, which will provide independent advice to the Premier and Minister for Defence Issues.



5

APPENDIX A - SETTING THE SCENE

5.1 WESTERN AUSTRALIA'S COMPETITIVE ADVANTAGES

A Strategically Significant Location in a Dynamic Hemisphere

Western Australia is Australia's largest state and accounts for more than 30 per cent of the nation's overall landmass.

Western Australia is Australia's largest state and accounts for more than 30 per cent of the nation's overall landmass. With more than 12,000 kilometres of mainland coast, the State has the longest coastline of all Australian states and territories, dominating the eastern flank of the Indian Ocean. Western Australia's population now exceeds 2.5 million with more than 80 per cent located in Perth and its surroundings. It shares a similar time-zone to 60 per cent of the world's population, keeping the same business hours as key international markets throughout the Indo-Pacific region. This geographic position gives the State a strategic advantage to those seeking a gateway to high growth Asian and Pacific regions.

The state currently contributes 14 per cent to the national economy, and much of this is gained through exports to Asia and the world. For the past decade Western Australia has been known for its successful mining and resources sector. This sector has delivered economic prosperity to the State, and more broadly, to the nation. Western Australia will remain a global leader in the export of commodities such as liquefied natural gas, iron ore, and lithium. These industries and their associated infrastructure are nationally significant, and of strategic interest to the nation and our allies.



- Half the population of the world live in this circle.
- More people live in this circle than live outside it.
- More people will live inside this circle by 2050 than live in the entire world today.
- It contains 24 of the world's 36 mega cities (10m+).
- Six out of ten of the largest militaries are in this region.

Perth at the Fulcrum of the Indo-Pacific

Perth's position as Australia's Indian Ocean capital places it at the fulcrum of the Indo-Pacific as a significant and increasingly important geo-political region. It is notable that the first formal use of the term "Indo-Pacific" in an Commonwealth Government document was in the 2013 Defence White Paper released by Western Australian Stephen Smith, then Minister of Defence. Similarly, under the leadership of former Minister of Foreign Affairs Julie Bishop, another Western Australian, the 2017 Foreign Policy White Paper firmly placed the "Indo-Pacific" as the prism through which Australia now views the region. As evidenced by that paper, the academic construct of the Indo-Pacific has now taken on greater strategic significance. The Indo-Pacific concept now influences how nations in the region view themselves, and it informs national strategy and the allocation of resources.

Over the past few years it is increasingly apparent that Australia is not alone in expanding its view of the region to incorporate India into the "Asia-Pacific". Australia now recognises that former boundaries in the Indian Ocean and Pacific Ocean regions have long since shifted, and that global commerce, communication and military capabilities have grown and changed. Japan has a clearly articulated strategy for a "Free and Open Indo-Pacific." In May 2018, the United States notably changed the name of its Pacific Command in Hawaii to the "Indo-Pacific" command. India and Indonesia reached a bilateral agreement in late May of 2018, framed by the Indo-Pacific. Perhaps most notably, Indian Prime Minister Narendra Modi also recognised the importance of the "Indo-Pacific" region in his keynote speech at the June 2018 Shangri-La Dialogue in Singapore, the premier security conference in the region. These and many other similar developments have positive implications for Australia and its role in the region. For all its merits, the term "Asia-Pacific" positioned Australia at the bottom of a vertical region. Now, the term "Indo-Pacific" situates Western Australia in the centre - at the fulcrum point - of the emerging Indo-Pacific region.

Cross Sector Opportunities

The Western Australian resources sector shares a common challenge with Defence, which is the need to design and develop equipment and technology which can perform in harsh and extreme environments. Coupled with this is the need to establish and sustain effective and efficient supply chains in often isolated austere locations. For the resources sector, these are to ensure commercial objectives are met, while for Defence it is to ensure that the strategic objectives in security of the nation and its interests are met. In the case of Western Australia, there is an opportunity for shared development of equipment and supply chains, particularly where Defence can leverage the intellectual property, expenditure and considerable experience of the resources sector. The State will work with Defence to identify opportunities to exploit technologies and capabilities from within the Western Australian resources sector.

Western Australia's resources sector is globally recognised as a leader in remote operations and automation, operating this technology in extreme and challenging environmental conditions. The Pilbara region in the State's north west is home to one of the world's largest fleets of autonomous trucks, with over 160 currently in operation and over 300 planned to be rolled out over the next few years. Rio Tinto completed the world's first fully autonomous long haul rail journey in June 2018, and plans to have over 30 per cent of its fleet automated by 2019. In 2017 Woodside became the world's first oil and gas company to sign a five year partnership with NASA to deploy one of its advanced 'Robonauts' at unmanned offshore platforms - there are just two other Robonauts in the world, one deployed on the International Space Station and one with General Motors in Michigan, USA. Western Australia is focussed on further developing, introducing and sustaining autonomous capabilities across its resources sector, many of which could have applications for Defence in remote and extreme operational environments.

The State is also focused on cyber security and has recently established the Joondalup Innovation Hub at Edith Cowan University, which is also the headquarters of the national Cyber Security Cooperative Research Centre (CRC). The Cyber Security CRC includes \$140 million in funding from 25 industry,

State Government, university and research participants, including contributions of \$50 million from the Commonwealth Government and \$5.6 million from the State Government over seven years.

Western Australia's southern hemisphere location is ideal for space situational awareness, and facilities that contribute to the global coverage of space assets including tracking launches. This location also provides maximum access to Global Navigational Satellite System (GNSS) constellations. These geographic advantages have been reinforced by investments in communications and computational infrastructure and access to technical expertise, creating significant opportunities for a range of defence space applications.

5.2 DEFENCE AND SOVEREIGN INTEREST

Western Australia Supporting our Defence Force in the National Interest

It remains entirely appropriate for a State government to take an enduring interest in supporting co-located Defence facilities and promoting linked initiatives that benefit the State economy. The core task of defending the nation, operating military capability, and the disposition and employment of the Defence Force, however, remains primarily a sovereign matter. This extends to defining the capability needs of our Defence professionals and determining the priority areas of focus that best suit their emerging requirements.

In Australia's case, defence is a sector that touches almost every component of our society and includes every State and Territory. Each State and Territory in our nation shares in the support of Defence, and each has a role in realising the requirements for the defence and security of Australia and its interests. For that reason, the efforts of the wider defence industry and associated science and technology can be described as a national enterprise with very strong linked, collaborative characteristics. Participating in this enterprise is far more than

a business opportunity – it is an undertaking in the national interest, and one that Western Australia is determined to approach seriously.

2016 Defence White Paper

The 2016 Defence White Paper explains how the Commonwealth Government is investing in defence capabilities to strengthen Australia's security in the more complex strategic environment our nation will face in the years ahead. It sets out the Government's vision to enhance Australia's defence capability, deepen international security partnerships, and collaborate with defence industry and science and technology research partners in support of our nation's security.

Challenges being faced in the Indo-Pacific are becoming more complex and less predictable. Greater competition between States, unresolved regional territorial disputes, the resurgence of terrorism and the growing pace of military modernisation – all of these pose potential threats.¹¹ This complex strategic environment also presents new opportunities for greater cooperation.

Collaborating with the Commonwealth Government to Promote Western Australian Defence Industries

Almost every aspect involved in the enterprise of generating and sustaining military capability is set out in a comprehensive range of supporting policies and strategies issued and maintained by the Commonwealth Government and Defence. These lay out in detail their requirements and provide guidance of these enterprises. Knowledge and understanding of these policies and strategies are essential prerequisites for working with Defence. They are a principal reason why a dedicated State Strategic Plan, and a professional dedicated Defence West capability, are required to support Western Australian approaches. The historic absence of a dedicated State effort to understand and work to support Defence requirements in Western Australia is an omission that until recently, can be said to have contributed to inefficiencies and missed opportunities for Western Australian industries seeking to engage with Defence.

¹¹ Christopher Pyne, Australian Defence Minister, p.12, *The Australian*, Thursday, Oct 11, 2018.

Western Australia's understanding and engagement with Defence for industry has been historically inconsistent, despite the fact that there is a great amount of assistance available. As part of this Strategic Plan, Western Australia will dedicate significant effort to collaborate with the Commonwealth Government, Defence and national industry groups to gain more access to programs that deliver support to innovation in local industry and research. The existing Defence Industry Policy Statement and the Defence Exports Strategy will be central to these efforts.

The Defence Industry Policy Statement

Launched in February 2016, the Defence Industry Policy Statement sets out the Commonwealth Government's commitment to transform the Defence relationship with industry and the national research community. The Commonwealth Government is investing \$1.6 billion in three new initiatives, which will build Defence capability as well as the capability and capacity of Australian industry and the innovation sector to support Defence.

Within the Defence Innovation system, the **Next Generation Technologies Fund** has established major initiatives across the national research community addressing Defence science and technology priorities. The **Defence Innovation Hub** provides an opportunity for businesses of all sizes and research organisations to put forward innovative ideas, make connections and collaborate in developing their technology from concept through to introduction into service. The **Centre for Defence Industry Capability** (CDIC) is the cornerstone of the Commonwealth Government's strategy for resetting the Defence industry partnership. It is funding Defence industry development, providing critical skilling and promoting export initiatives.

Together these three initiatives are helping drive Defence capability, by investing in Australia's Defence industry and innovation sector, and lowering barriers to doing business and innovating with Defence. They are aligned with and support the Commonwealth Government's Defence industry policy that includes the first **Defence Exports Strategy** released on 29 January 2018 and the **Defence Industrial Capability Plan** also released later that same year.

Defence Exports Equals Western Australian Opportunities

Australia's Defence industry currently achieves almost \$2.5 billion in Defence exports each year, including in priority markets in the United States, United Kingdom, Canada, New Zealand and the Indo-Pacific.

Western Australia shares in the strategic goal of the Defence Export Strategy to achieve greater export success. Western Australia will achieve this by collaborating with the Australian Export Office and consulting with the Australian Defence Export Advocate. This will include initiatives for Western Australian industries to access the \$3.8 billion Defence Export Facility administered by Australia's export credit agency Efic, to provide support when there is a market gap for Defence industry finance.

In addition, Commonwealth funding is allocated to develop export campaigns, provide grants to help defence SMEs compete internationally, provide specialist market advice and coordinate export efforts.

Understanding and Taking Advantage of Commonwealth Programs

Combined, these Commonwealth initiatives are about implementing a robust Defence industry and innovation system that provides the best capability for the Australian Defence Force, maximises Australian industry and innovation in support of defence capability and better plans, guides and assists Australian businesses and researchers to meet our defence capability needs. The Commonwealth Government's commitment to growing a sovereign, competitive and efficient Australian Defence Industry recognises the crucial contribution of Australian industries to enhance and sustain the capability of our Defence Force.

Through its Defence and Defence Industries Strategic Plan, Western Australia will promote greater understanding and access to these Commonwealth initiatives as a principal pathway to improve its Defence capacity, enhance competitiveness, promote exports and grow business opportunities.

Australia's Defence industry currently achieves almost \$2.5 billion in Defence exports each year.

6

APPENDIX B - DEFENCE AND DEFENCE INDUSTRIES IN WESTERN AUSTRALIA

6.1 DEFENCE INDUSTRIES

Western Australia is a leader in shipbuilding, and Defence is an important industry sector for Western Australia. Over the last 12 years Western Australia's Defence sector has grown to become one of the State's economic success stories. There are over 250 defence related companies located here in Western Australia, the majority being small to medium enterprises employing thousands of Western Australians.

Western Australia's local ship building and repair capacity is a strategic asset for Defence, due to the industry's experience, expertise, flexibility and proven resilience. The State also has emerging Defence industry capabilities including cyber security, space, aircraft maintenance and ICT support for Defence programs.

What are Defence Industries?

The Australian Defence Industry provides essential capability, services and support to the ADF. It directly employs nationally over 25,000 people and includes over 3000 small and medium enterprises operation within the sector.¹² The Western Australian component accounts for over 10 per cent of this.

Defence industries are businesses that are 'actually or potentially involved in supplying military capability and/or are influenced by Defence business policies or purchasing decisions.'¹³ They encompass research and development, engineering, manufacturing and the service of military material and facilities across air, sea and land domains.

The Defence supply chain includes a number of multinational companies, known as Prime Contractors, with well-established systems enabling them to efficiently deliver defence projects. Prime contractors with a strong Western Australian presence include Austal, BAE Systems, Luerksen, ASC Pty Ltd, Raytheon, Thales and Lockheed Martin.

The Existing Defence Presence in Western Australia

Western Australia currently supports a Defence presence that represents over 9 per cent of the Australian Defence Organisation (ADO) and includes over 5,500 permanent ADF personnel. One of the most significant Navy bases in Australia is located here, along with Australia's most operationally ready Special Forces. To the north, significant facilities and bases contribute to our secure borders and ability to rapidly project force into the region. In combination, and taking account of major base activities, resident Defence workforce, platform maintenance, repair and exercises, the total Defence related resources annually expended in Western Australia approaches \$3 billion per annum.

This capability has been recognised at the national level, with the Commonwealth Government naming Western Australia as one of two naval shipbuilding hubs, for its \$200 billion Defence Integrated Investment Program (IIP).

Western Australia is well placed to reap the benefits of this unprecedented investment, with the State set to build up to 31 of the 54 new vessels identified within the Naval Shipbuilding Plan. This accounts for the 21 Guardian Class (Pacific Patrol Boats) and 10 of the OPVs.

¹² 2016 Defence Industry Policy Statement, p.6.

¹³ Submission from the Australian industry & Defence Network to the Australian governments 2015 Defence White Paper, 27 Oct, 2014.

For a combination of reasons including geography, proximity to Fleet Base West infrastructure, possession of a highly skilled workforce and world class research and technology centres, Western Australia is the ideal location for maintenance and sustainment of our current and future Navy.

Western Australia is already delivering strong outcomes for Defence through the Pacific Patrol Boat Replacement Program, Anzac frigates and Collins class submarines. The ASC West facility is pivotal for streamlined maintenance activities to support the sovereign sustainment of the Collins class fleet. Current work at the facility ensures state-of the art submarine support and repair capabilities, reinforcing Western Australia's critical role in supporting the ADF. The Commonwealth Government's OPV announcement will see ten vessels built in Western Australia commencing in 2020 along with all future minor warfare vessel projects. These projects represent significant sustained jobs and growth for Western Australia.

Given that Western Australia's major Defence facility comprises the RAN Fleet base at HMAS Stirling, it follows that a large majority of Defence expenditure undertaken in Western Australia is attributable to building and sustaining naval platforms. This includes the decision to home base the majority of Anzac class frigates and the entire Collins class submarine fleet.

These expanding Defence requirements in Western Australia represent a significant opportunity for the Western Australian economy that will require State support if they are to be fully realised.

Expanded Land and Aerospace Requirements in Western Australia

There are many strategically significant and widely dispersed Defence units and facilities located throughout Western Australia. These include a Jindalee Over the Horizon Radar (JORN), Wide Band Satellite Ground Station facilities, expeditionary air bases, Regional Force Surveillance units and an Army Reserve brigade. Three are focussed on in the text below, to help illustrate the diversity and significance of the ADF's presence in Western Australia.

Western Australia hosts perhaps the most significant component of Australia's Special Operations Command, the Special Air Service Regiment at Campbell Barracks. For national security reasons the requirements to support this exceptional unit are not disclosed in this plan. However, the needs of our Special Forces drive substantial science, technology, infrastructure and innovation initiatives that are arguably the best in the world.

At Bullsbrook to the north of Perth is RAAF base Pearce, one of the busiest airbases in Australia. With about 110,000 movements a year at Pearce and Gingin combined, it is by far the busiest military airspace in Australia. RAAF Pearce supports significant air force training including the current delivery of services through the Pilot Training System, Project 5428.

Though there are currently no known plans to expand the infrastructure at Pearce, or to increase the tempo of activities at the base in the future, a gradual upgrading of existing infrastructure worth tens of millions of dollars is currently underway including a new air traffic control tower and associated control systems, while an extension of the main runway is being planned to cater for future capability requirements such as the P-8 Poseidon maritime patrol aircraft, which have replaced the AP-3C Orion.

Behind the ADF's successful support to its sustained high operational tempo has been Joint Logistics Command, the ADF's Joint Logistics manager. In Western Australia and at the forefront of much of the logistic support activity for ADF operations in the Middle East has been Joint Logistics Unit – West (JLU-West). It is one of seven such units located throughout Australia at strategic locations. Operating out of Guildford's Palmer Barracks and HMAS Stirling, JLU-West plays a vital role in supplying, storing and maintaining military equipment for all ADF activities in Western Australia.

7 GLOSSARY

ADF	Australian Defence Force	FBE	Fleet Base East is the RAN Naval Base located at Garden Island, Sydney, NSW
AEWC	Airborne Early Warning and Control	FBW	Fleet Base West is the RAN Naval Base located on Garden Island in Western Australia – HMAS Stirling
AMC	Australian Maritime Complex - The collection of Western Australian Government and Private Industry Infrastructure and Facilities located in the Henderson Precinct.	FCD	Full Cycle Docking – a deep maintenance activity for the CCS
AMC-CUF	Australian Marine Complex Common User Facility – infrastructure and facilities under the control of the control and direction of the Western Australian Government.	ICT	Information, Communications Technology
CCS	Collins Class Submarine	IIP	Integrated Investment Program
CUF	Common User Facility is an area designed to be used by different entities for different purposes	Infrastructure	For the purpose of this report infrastructure refers to the physical structures that comprise an asset including those that supply services
C4ISREW	Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance, Electronic Warfare	ISR	Intelligence, Surveillance and Reconnaissance
CDIC	Centre for Defence Industry Capability	JTSI	WA Government Department of Jobs, Tourism, Science, and Innovation
Defence	Australian Defence Organisation comprising both the military and public service elements.	R&D	Research and Development
DSC	Defence Science Centre	RAAF	Royal Australian Air Force
DST	Defence Science and Technology Group	RAN	Royal Australian Navy
DW	Defence West is the Western Australian Directorate charged with representing the State Government in matters relating to Defence and Defence Industry	SASR	Special Air Service Regiment
DWP16	2016 Defence White Paper	Ship Zero	A RAN term to describe a “sustain where you operate” philosophy towards a navy vessel; specifically the efficiencies achieved by co-locating key supporting agencies and training capabilities with industry support centres.
Efic	Australia's export credit agency	SME	Small and medium, enterprises (up to 200 employees)
		STEM	Science, technology, engineering and mathematics
		UAS	Unmanned Aerial Systems


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