

# SOUTH WEST METROPOLITAN REGION

## DEFENCE SECTOR CAPABILITY

FOR AN INDUSTRY WORTH OVER A BILLION DOLLARS A YEAR IN  
THE REGION



**Lifting a Collins-class Submarine on Australia's most technologically advanced  
floating dock at the Australian Marine Complex**

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Paper prepared by the South West Group



A Co-operative venture of the municipalities of:  
Cockburn, East Fremantle, Fremantle, Kwinana, Melville & Rockingham

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# **SOUTH WEST METROPOLITAN REGION**

## **DEFENCE SECTOR CAPABILITY**

### **Introduction**

Currently the Defence Sector is worth over a billion dollars to the South West Metropolitan Region.

In 2013/14, Defence contracts in the Australian Marine Complex alone were worth \$624 million, with the region attracting a large share of the \$700 million being spent on navy sustainment projects.

The 2016 Defence White Paper expects \$447 billion to be spent over the next ten years with billions of dollars of work earmarked to be undertaken in the South West Metropolitan Region.

The South West Metropolitan Region is one of the most capable regions in Australia to support the Defence Sector in fabrication, maintenance, refitting and operations support particularly for maritime services.

This capability has been built by diversifying into the defence, customs, paramilitary, oil and gas and resources sectors.

The Australian Marine Complex is an prime example of this diversity being a world-class centre for excellence for manufacturing, fabrication, assembly, maintenance and technology servicing the marine, defence, oil and gas, and resource industry.

HMAS Stirling Naval Base on Garden Island (Fleet Base West) is the largest naval base in Australia and is home to more than 2,300 service personnel, 600 defence civilians and more than 500 long term contractors. It is the home port for 12 fleet vessels, being more than half of Australia's Navy.

A \$336 million services upgrade is expected to commence in 2016 and be followed by an investment of over \$700 million by 2025 to provide capacity for the increasing size and number of naval vessels being supported from the base. A further \$650 million is expected to be spent on the base by 2036.

Admiral Barrett, Chief of the Royal Australian Navy, believes that Stirling Naval Base is likely to provide an increased level of support to the US Navy which will also require investment in increased capability. He also believes that it a logical location for a new centre of excellence in submarine operations and that helicopter support facilities will be upgraded at Stirling Naval Base.

Whilst the 2011 Census shows that 2,468 persons are directly employed by Defence within the South West Metropolitan Region, thousands more personnel are involved in defence contracts and logistical support.

There were an estimated 3,000 jobs created by the defence contracts in the Australian Marine Complex in 2013/14, suggesting a total of over 5,000 defence related jobs in the region.

## **The 2016 Defence White Paper and Federal Government Announcements**

The 2016 Defence White Paper puts a very strong emphasis on maritime operations and the importance of both local sustainment and through life support capability. The document commits to the doubling of the number of submarines to twelve and the acquisition of nine anti-submarine warfare frigates to replace the Anzac-class frigates. It also will see additional replenishment ships, with one to be based at Stirling and twelve new offshore patrol vessels.

The Federal Government has committed to the construction of 54 vessels of which 21 Pacific patrol boats and 10 offshore patrol vessels will be built in the South West Metropolitan Region.

The first new submarines will be delivered in 2030, necessitating extensive work to the six Collins-class submarines that were first commissioned in 1996. The submarines operate on a seven-year life maintenance cycle and the region will have significant work in maintaining, providing capability enhancements and obsolescence management for the Collins-class submarines over the next fifteen to twenty years.

The DCNS submarine bid from France was successful over the German and Japanese bidders. DCNS has built over 100 submarines for nine navies including the smaller Scorpene-class for the Indian and Malaysian navies. Details of the size of the new submarines are contained in Appendix 1. Whilst the new submarines are larger than the existing Collins-class at over 4,000 tonnes, facilities in the Australia Marine Complex will be able to handle them. The twelve new submarines are expected to cost \$50 billion and will be undertaken on a continuous build basis.

Stirling Naval Base is highlighted within the 2016 Defence White Paper as being a key operational base that will need to be upgraded to provide facilities and capacity to support the Canberra-class Amphibious Assault Ship and Hobart-class Air Warfare Destroyer (see Appendix 1).

\$1.35 billion has been allocated to upgrades at Stirling Naval Base over the next twenty years to increase wharf capacity, improve training facilities, to enhance support facilities and to develop the underwater tracking range. This is in addition to the \$336 million services upgrade already announced. Stirling Naval Base is also included in national initiatives such as the current Defence Logistics Transformation Program to be completed in 2016.

Over half of the nine anti-submarine warfare frigates are expected to be based at Stirling Naval Base with the new vessels being introduced from the late 2020's. Until that time, it is expected that \$600 million will be spent on capability enhancements for the existing Anzac-class frigates.

The permanent defence workforce in Australia will grow to 62,400 over the next decade with an estimated growth of 100 personnel based in the South West Metropolitan Region. Annual Defence spend is projected to grow to \$42.4 billion by 2020-21 with \$447 billion being expended over the next ten years.

The regional economy will benefit from the \$1.7 billion being spent to upgrade Stirling Naval Base, the commitment to a major continuous build shipbuilding program, the increase in numbers of defence personnel and the focus on maritime capability.

## **Private Sector Investment and Capability in Defence**

Companies in the South West Metropolitan Region, particularly those located in and affiliated with the Australian Marine Complex, provide much of the capability and resources to support defence related work.

An overview of the main companies in the region and their role in defence contracts is outlined below.

### **ASC West**

ASC Pty Ltd is tasked with maintaining the Collins- class submarine fleet. ASC West located in the Australian Marine Complex has a 2,600 m<sup>2</sup> maintenance hall with 3,600 m<sup>2</sup> of office space employing 350 staff.

This cutting edge submarine repair and support facility on a 20,000 m<sup>2</sup> site is one of Australia's most modern shipyards with direct access to the 12,000 tonne floating dock with self-propelled modular transporters able to move submarines inside their maintenance hall.

In 2016 ASC West will be upgraded to be able to maintain five of the six Collins-class submarines.

Each submarine maintained at the facility can require 150 tradesmen and 200 other staff to undertake the complex work. The work involves 84 separate contractors having a value of \$25 million.



**Collins-class submarine on Floating Dock**

**Image: Australian Marine Complex**

## **Austal**

Austal, with its head office located in the Australia Marine Complex, has produced 255 vessels since it was established in 1988 for 100 customers in 44 countries. It is currently building two Cape class patrol boats for the Australian Customs and Border Protection Service.

It has shipbuilding facilities in Australia, the Philippines and the USA. Its facilities at Henderson are on a 78,000 m<sup>2</sup> site and include a 2,000 tonne slipway and 10,700 m<sup>2</sup> of building halls. Austal has a workforce of 600 at Henderson.

Defence vessels designed and built by Austal include revolutionary, multi-mission surface warfare combatants, such as the Littoral Combat Ship (LCS) for the United States Navy, military high speed support vessels for transport and humanitarian relief, such as the Expeditionary Fast Transport (EPF) (formerly the Joint High Speed Vessel) for the United States Navy and the new High Speed Support Vessel (HSSV) for the Royal Navy of Oman.

Austal announced in March 2016 that an eleventh LCS would be built for the United States Navy and that six of the ten EPF ships have been built.

Austal also designs, constructs, integrates and maintains an extensive range of patrol boats for government law enforcement and border protection agencies globally; including the Cape-class Patrol Boat Program for the Australian Border Force.

Austal was the successful bidder for the \$500 million contract to build 21 Pacific patrol boats worth \$500 million. Austal also was successful in the \$400 million Pacific patrol boat contract maintenance program to be undertaken in Cairns and at the Australia Marine Complex. Austal will also build ten of the twelve offshore patrol vessels worth over \$2 billion.



**Cape-class Patrol Boat**

**Image: Austal**

## Strategic Marine

Strategic Marine is a Western Australian shipbuilder located in the Australian Marine Complex employing 1,500 staff in shipyards in Vietnam, Singapore and Henderson. Since 2001 they have built 460 quality craft and are active in manufacturing vessels for defence, customs and para military activities.

An example of their capability was the 589 gross tonnage Australian Customs and Border Protection Vessel “Thaiyak” built in 2014.



“Thaiyak”

Image: Strategic Marine

## Civmec

Civmec have a 29,300 m2 fabrication hall and 6,500 m2 headquarters located on a 120,000 m2 site in the Australian Marine Complex. They employ 1,500 people across sites at Henderson, Broome, Darwin, Gladstone, Sydney and Singapore.

In February 2016 they acquired Forgacs, the largest privately owned engineering and shipbuilding company in Australia, to expand their defence and resource sector capability.



Civmec Expansion Plans

Image: Civmec

Civmec, in collaboration with ThyssenKrupp Marine Systems (TKMS) constructed a submarine hull section the Henderson facility to demonstrate submarine construction capability. They have also unveiled plans for a specialised submarine manufacturing facility at the Australian Marine Complex.

### **Naval Ship Management Australia**

Naval Ship Management Australia (NSM) has a \$300 million, five year, contract to maintain the Australian Navy's eight Anzac-class frigates. NSM is a partnership between Babcock International Group and UGL Limited. The joint venture has access to more than 4,000 workers from 125 companies.



**Anzac-class Frigate on Floating Dock**

**Image: Australian Marine Complex**

### **BAE Systems**

BAE Systems operates a shipyard within the Australian Marine Complex employing 600 workers and are currently rebuilding the radar, missile systems and combat systems on the eight Anzac-class frigates. HMAS Parramatta and HMAS Toowoomba are currently being modified.

BAE has an 8,065 tonne shiplift able to handle vessels with a 24.5 metre beam and up to 150 metres in length.

The shiplift is augmented with a rotary turntable providing 640 metres of dry berth capacity supported by 25,000 m<sup>2</sup> of laydown area.



**HMAS Warramunga in BAE Systems Shipyard**

**Image: BAE Systems**

### **Barrett Communications**

Barrett Communications is located in Bibra Lake and designs, manufactures and markets HF and VHF radio equipment for specialised, autonomous, long distance radio communications. For over 35 years Barrett Communications has provided HF communications solutions for global government, business, humanitarian and AID organisations. It recently supplied tactical radio systems to the South African National Defence Force.



**South African National Defence Force Image: Barrett Communications**



## Defence Maritime Services

Defence Maritime Services are a division of Serco based in Rockingham providing naval support facilities. They also operate the two submarine support vessels MV Besant and MV Stoker.



**Submarine Support Vessel MV Besant**

**Image: Australian Navy**

## James Fisher Defence and Divex

The global company, James Fisher Defence, operate a joint facility with Divex at Bibra Lake to provide submarine rescue and torpedo recovery services. They also manage and maintain the LR5 Submarine Rescue Vehicle.



**LR5 Submarine Rescue Vehicle**

**Image: James Fisher Defence**

## **SAAB Australia**

In 1988, Saab established its Australian headquarters and local company, Saab Australia, at Technology Park, South Australia to support and build Australia's defence capability, building and integrating Australia's unique combat system for the ANZAC class frigates. Now employing over 350 Australians, the company is one of the country's most respected defence and security system integrators. It is leading research and development for Australia's future combat power and rolling out technology to protect Australia's critical infrastructure to keep its people and society safe. It has an office in Rockingham.

## **Thales Australia**

Thales Australia is a trusted partner of the Australian Defence Force and is also present in commercial sectors ranging from air traffic management to security systems and services. Employing around 3,200 people in over 35 sites across the country, Thales Australia recorded revenues of \$ 1 billion in 2013. Thales Australia's Western Australian office is located in Rockingham.

Thales has a \$22.2 million contract to maintain the Collins-class submarines sonar suite and has recently been awarded the contract to upgrade the Collins-class Submarine Simulator.

Thales holds a 35% stake in the successful bidder for the Collins-class replacement submarines, DCNS.



**Collins-class Submarine Simulator**

**Image: Thales**

## **UGL Limited**

UGL Limited is an Australian company and long-term partner to the Australian Defence Force offering comprehensive integrated solutions throughout the entire life cycle of defence assets including engineering design, manufacture, supply chain, maintenance and refurbishment capabilities. Its Western Australian office is located at the Australian Marine Complex.

From warship modernisation programs to innovative through-life support services for a broad range of naval ship classes, the maintenance of weapons systems, and electrical and instrumentation systems, UGL offers a complete range of sustainment solutions to support mission critical assets for its defence clients.

UGL Limited is a partner in Naval Ship Management Australia that is undertaking a \$300 million, five year contract, to refurbish the Anzac-class frigates.

### **Raytheon Australia**

Raytheon Australia's Western Australian office is located within the Australian Marine Complex. Its defence capabilities include management systems, project management, engineering through life support, logistics management systems and maintenance services. The facility within the AMC is Raytheon's primary location in Australia for naval systems, software design and engineering.

Raytheon's current defence contracts include a support contract for C Band Radar. In partnership with Boeing Defence Australia they have a \$9.8 million VLF and HF node contract.

### **Orontide**

Orontide is an engineering and industrial services company headquartered in the Australian Marine Complex providing services to the Mining and Resources, Marine, and Naval Defence industries. They have 300 employees and supported the recent Black Carillon submarine evacuation exercise.



Preparing for the Black Carillon submarine evacuation exercise

Image: Orontide

### **L3 Oceania**

L3 Oceania (previously Nautronix), based in Fremantle, is a global leader of in the provision of acoustic systems and solutions to the naval and maritime domains particularly in the areas of through-water communications and portable tracking, and geospatial support systems.

### **Airflite**

Airflite is a private Australian Company, established in 1981 providing a broad range of capabilities for fixed and rotary wing aircraft to general aviation and defence. Airflite has a facility at Jandakot Airport providing operational maintenance, avionics, component repair and testing, spare parts, product support and logistics.

### **Watmarine Engineering Services**

Watmarine Engineering Services is located in both Naval Base and the Australia Marine Complex providing engineering services focusing on the maintenance and repair of pumps and ship related equipment. The Australian Marine Complex workshop provides specialist services including general engineering, ship repairs and maintenance and pump repairs and testing.

## APPENDIX 1

### Naval Vessel Size

The increase in capability of the Royal Australian Navy has seen a move to larger vessels. The Canberra Class is the largest ship ever operated by the Australian Navy at 27,500 tonnes with a draft of 7.08 metres.

The 7,000 tonne Hobart Class Air Warfare Destroyer is able to be lifted on the BAE Systems Ship Lift and the Floating Dock.

The Collins Class submarine replacement from DCNS will be slightly heavier than current submarines but will also be able to be handled on both the BAE Systems Ship Lift and the Floating Dock.

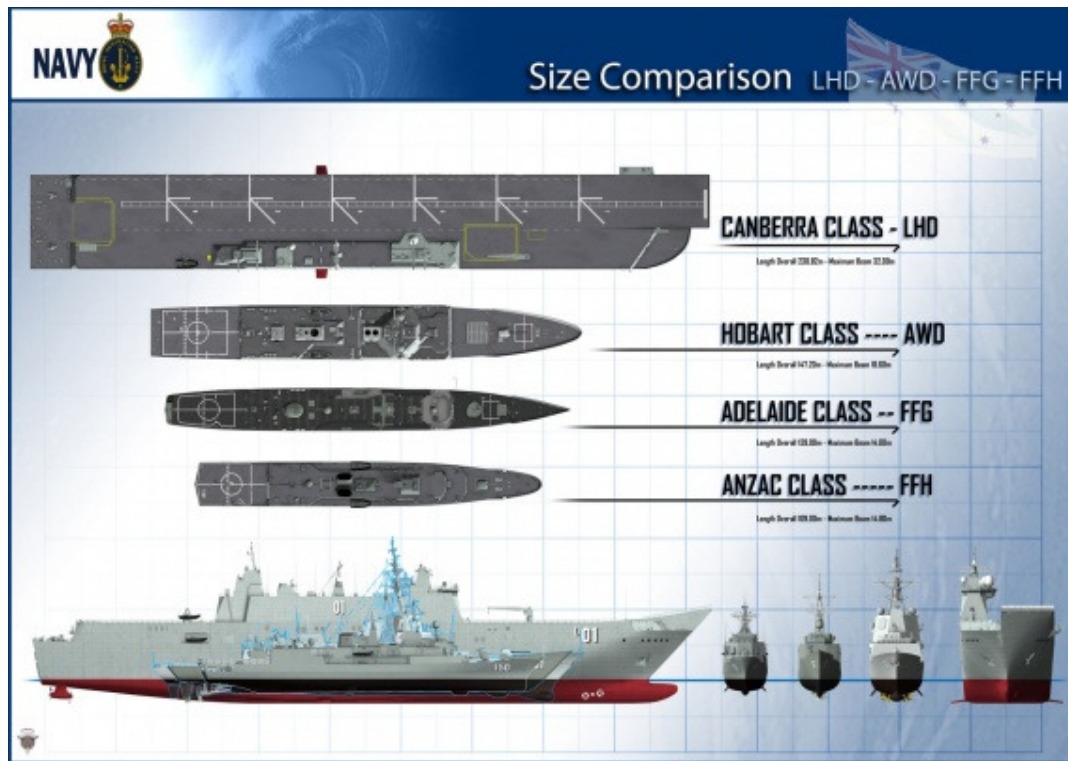


Image: Royal Australian Navy

### Submarine Sizes:

Collins-class 3,100 tonnes and 77.8 metres long

DCNS and Thales Shortfin Barracuda Block 1A 4,000+ tonnes and 97 metres long

## APPENDIX 2

### Australian Marine Complex Capability

#### Floating Dock

- Lift Capacity 12,000 tonnes
- Length of Pontoon 99 metres
- Width inside Side Walls 44 metres
- Flooded Depth 11.2 metres
- Transfer Capacity to hardstand 4,652 tonne

#### Self-Propelled Modular Transporters

- Maximum Payload 4,652 tonne
- Number of Units 24



**Self-Propelled Modular Transporters at AMC**

**Image: AMC**

#### BAE Systems Syncro-lift Ship Lift

- Lift Capacity 8,065 tonne
- Maximum Vessel Draft 9.4 metres
- Maximum Vessel Beam 24.5 metres
- Maximum Vessel Length 150 metres