

# Lifestyle & Economy

## Western Australia The Logical Choice

Western Australia is Australia's gateway to the Indian Ocean. With more than 12,000 kilometres of coastline and vast areas of wilderness, it is one of the most ruggedly beautiful places on earth.

Western Australia is also the powerhouse driving Australia's economic success. Since 2000-01, the State economy has grown at approximately 10% each year and business investment is at record levels – \$23 billion in capital investment in 2005-06 representing a real increase of 40%.

This growth has been fueled by expansions in the export-oriented resources sector, with minerals and petroleum sales up 29% to \$43.2 billion in 2005-06.

Other sectors have performed strongly as well. The construction industry has been crucial in helping to build the State's productive base through the construction of new resource projects and other important economic infrastructure.

Western Australia's manufacturing industry is also growing. Local companies are delivering larger and more complex modules to the energy, petroleum and mining sectors. The shipbuilding industry is the nation's largest, with fast ferry and naval patrol boat production for local and overseas markets continuing to expand.

Research and technology development, centred at Perth's Technology Park, is strengthening Western Australia's claim as an important regional hub for the delivery of innovative technological solutions, particularly in the area of oil and gas exploration and production.

The key to Western Australia's ongoing economic success is a strong entrepreneurial spirit and an eagerness to embrace advanced technologies.

Political stability, pristine environment, world-class health care, education and training, and an enviable safe and culturally diverse lifestyle all add to make Western Australia one of the best places to live and do business.

Western Australia is the Logical Choice ...



### Fast Facts

- The Western Australian economy is expected to expand by around 6% in 2006-07.
- Since 2001-02, business investment in Western Australia has grown an average of 22% per year.<sup>1</sup>
- China takes around 16% of Western Australia's exports, including \$6 billion in iron ore annually.<sup>2</sup>
- Western Australia's population is just over 2 million with 70% living in Perth.<sup>3</sup>
- Western Australia's population increased by 1.9% or 38,600 persons in the year to March 2006.<sup>3</sup>
- Perth enjoys a Mediterranean style climate similar to southern Spain.
- Perth shares its time zone with much of east Asia's growing economies.
- With over 2.5 million sq km, Western Australia covers one third of the Australian continent and is 5 times the size of Spain.

Source: 1. Chamber of Commerce and Industry WA.  
2. Department of Industry and Resources.  
3. Australian Bureau of Statistics.



# Australian Marine Complex

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The Australian Marine Complex (AMC) is Australia's leading marine industrial facility and a major success story for local businesses supporting the marine, defence and resources sectors.

Located on the coast just 23 kilometres south of Perth city, the AMC was established in 2003 to incorporate the already existing Shipbuilding and Support Industry Precincts with the new Technology and Fabrication Precincts.

The Fabrication Precinct includes the Common User Facility (CUF), a multi-user industrial area serviced by a deepwater port, two specialist load out wharfs, extensive lay down and assembly areas, and several large fabrication halls. The CUF is owned and managed by the Western Australian Government and operated through AMC Management Pty Ltd.

The CUF is designed specifically for large-scale module fabrication, ship consolidation, and the repair and maintenance of naval and commercial vessels. Its key benefits for industry include:

- Infrastructure to support fabrication and load out
- Sufficient lay down space to pre-assemble large modules
- Access to domestic and international suppliers, including 80 specialist businesses within the AMC
- Connection to other industrial areas via High Wide Load corridors
- Customs clearance provisions on site
- Ongoing Government support for business development and infrastructure upgrades.

Projects undertaken at the CUF in its first three years of operation include the assembly and load out of oil and gas jackets and top sides, ship loaders and stackers, and integrated processing plants including the world's first transportable biodiesel plant.

In addition, recent successful contracts for the Royal Australian Navy - including the conversion of a commercial tanker to the supply ship HMAS *Sirius* and a \$500 million upgrade program for the ANZAC Frigate fleet - are quickly establishing the complex's role as a key centre for the nation's defence shipbuilding program.



## Fast Facts

- Since opening for business in 2003, the Common User Facility (CUF) at the AMC has generated more than \$100m for the local economy and created 1400 jobs from 125 projects.<sup>1</sup>
- The AMC is home to more than 80 businesses with about 5000 full-time staff.
- Industry training providers TAFEWA are building a new \$20m oil and gas training facility within the AMC's Technology Precinct.
- Raytheon relocated its Naval Systems Division HQ to the Technology Precinct in April 2005.
- The CUF's southern services wharf can berth vessels up to 300m long.
- A full description of the Common User Facility's capabilities and businesses operating within the AMC can be found at [www.australianmarinecomplex.com.au](http://www.australianmarinecomplex.com.au)

Source: 1. AMC Management Pty Ltd (as at October 2006).



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# Australian Marine Complex

AMC tenants include the nation's largest shipbuilder Austal and several companies with established international reputations for defence shipbuilding and support including Tenix, Raytheon, ASC and Thales.

Key features of the CUF include:

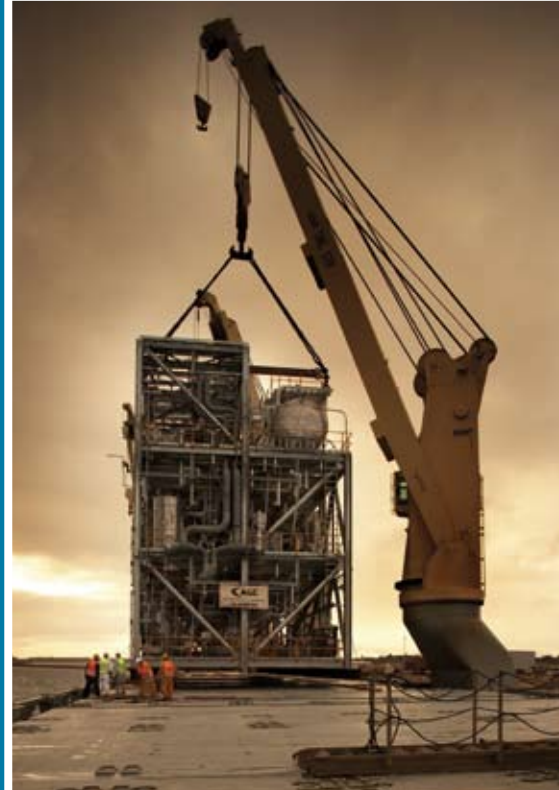
- 40ha of lay down, load out and assembly area
- Main fabrication hall (80m long x 60m wide x 40m high) with a 200t capacity gantry crane
- Additional supporting fabrication halls
- Load out wharfs and 300t wharf crane
- Protected deepwater harbour dredged to 10 metres.

Expansion plans underway at the CUF will see the facility's multi-user capabilities grow to include:

- Increased berthing capacity for a further two vessels
- Floating dock capability for transfer of marine vessels to shore
- On-land transfer system to move vessels to maintenance areas
- A specialist submarine services facility being built by leading defence shipbuilder ASC.

Highly adaptable for multi-purpose fabrication, assembly and load out work, the CUF is suitable for multiple, overlapping projects. The CUF's world-class facilities have substantially enhanced Western Australia's capability for large-scale module fabrication, ship consolidation, and the repair and maintenance of naval vessels.

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# Supporting Naval Defence

Western Australia is gearing up to undertake more naval shipbuilding and consolidation work, in addition to the ongoing maintenance and upgrade activity already being carried out on Australia's naval fleet.

The Australian Marine Complex (AMC) south of Perth is now home to world-class facilities and companies targeting major contracts for Australia's multi-billion dollar defence build program.

The AMC's newest arrival is ASC – Australia's largest military shipbuilder. ASC will build three Air Warfare Destroyers in Australia, and the AMC's fabrication and load out facilities are expected to be used for a significant portion of the module fabrication work. ASC is also constructing a specialist facility at the AMC to service the Royal Australian Navy's (RAN) Collins Class submarine fleet, which is home ported at nearby Garden Island.

Other AMC tenants with well-established international defence credentials include Austal, Tenix and Raytheon.

Austal – Australia's leading shipbuilder – is a perfect example of how one Western Australian company has taken on the world to become a leader in its industry. Long recognised internationally as an innovator in fast ferry and patrol boat construction, Austal is now applying its visionary business principles to the global defence market.

In 2001, Austal became the first company to supply the US military with a high speed Theatre Support Vessel. In October 2005, Austal won an order to build one of two initial Littoral Combat Ships (LCS) for the US Navy. This unprecedented achievement – a foreign company chosen as the vessel designer and builder for a US Navy fighting ship – confirmed Austal as a world leader in vessels of this class.

Design of the LCS was undertaken at Austal's shipyard at the AMC, where it has also built some of the world's largest fast ferries, private luxury vessels and many patrol boats for the Australian and overseas navies.



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### Fast Facts

- Austal designed the Armidale Class patrol boat for the Royal Australian Navy at its AMC shipyard and is completing an order for 14 of the 56-metre vessels.
- Once complete, ASC's new submarine maintenance facility at the AMC will house about 185 employees.
- Fleet Base West (HMAS *Stirling*), at Garden Island near the AMC, is the home port for all of Australia's navy submarines and over half the surface fleet.
- As the AWD Combat System-Systems Engineer, Raytheon Australia will work with the Federal Government's Defence Materiel Organisation (DMO), US Navy and its AEGIS Combat System Engineering Agent to achieve world-class system capability.
- Austal uses Perth company Formation Design Systems' software *Maxsurf* for the design of all its vessels, and is now using its shipbuilding software *ShipConstructor* for the design of the new Littoral Combat Ship.



# Supporting Naval Defence

Tenix recently completed a \$60 million conversion of a merchant vessel into the supply ship, HMAS *Sirius*. Together with SAAB Systems, Tenix is also undertaking a \$500 million weapons system upgrade to the Australian Navy's ANZAC Class Frigates.

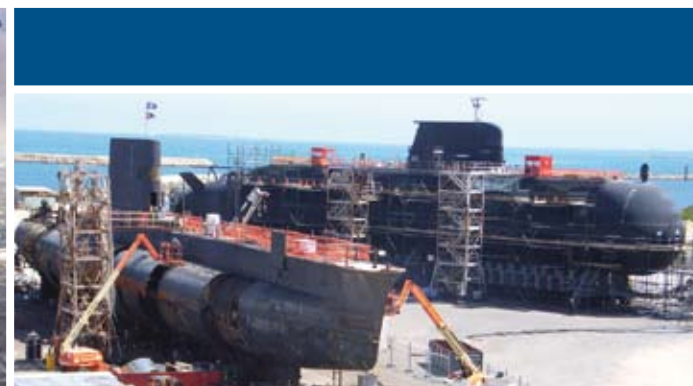
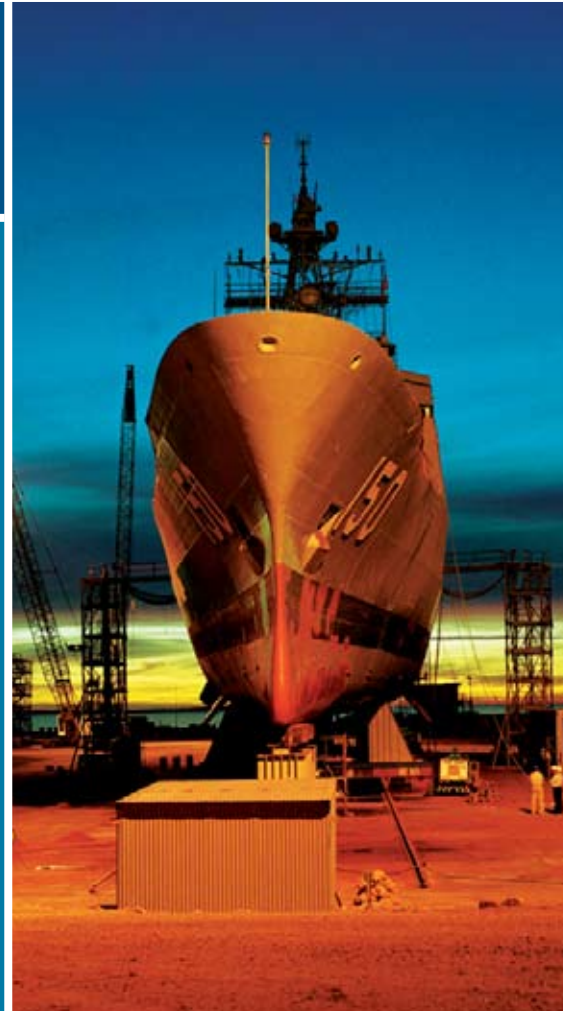
In 2005, Raytheon's Naval Defence Systems division established its headquarters within the AMC's Technology Precinct. Raytheon is installing an augmented combat system into the Collins Class submarines and will install combat systems into the new Air Warfare Destroyers to be built by ASC.

Thales Australia, the nation's largest defence company, is also moving into the AMC – to gain a greater presence among Australia's leading shipbuilders. Thales (formerly ADI) provides the communications systems for the ANZAC ships and sonars for the submarines. The company also has significant software engineering and military systems integration capability.

In addition, many companies outside the AMC provide support services to the naval defence industry, including through-water communications and positioning technology integrator L-3 Nautronix, software solutions company Calytrix, and 3D naval software specialist Formation Design Systems.

Western Australia has the infrastructure, technology, skilled workforce and the right companies to undertake and support all types of large-scale shipbuilding and module fabrication work, including for both the Air Warfare Destroyer and the upcoming Amphibious Ships build programs.

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# Fabricators expand to meet demand

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Western Australia's fabrication capability has grown significantly in recent years, with increased activity in the State's resources sector and the provision of associated infrastructure providing many companies with opportunities to expand their operations.

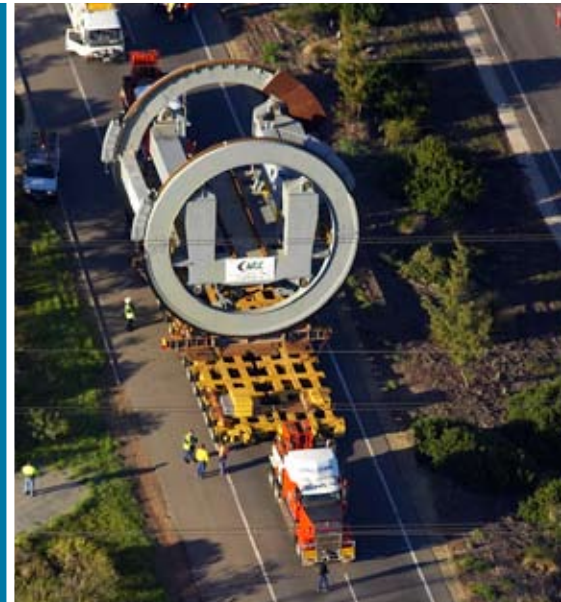
The introduction of new world-class technology – including the multi-user facilities at the Australian Marine Complex (AMC) – has allowed Perth's major structural fabricators to successfully complete larger and more complex contracts.

The reputation of Western Australian fabricators is built on the skills of its workforce and a commitment to safety, quality, reliability and efficiency. Leading companies include Ausclad (AGC), United, Theiss, Pacific Industrial, Steel Plan, Park Engineers and Fremantle Steel. Together, these companies have a combined capability of more than 70,000 tonnes of steel fabrication annually.

In addition, Western Australia's shipbuilding and module fabrication industries are well serviced by a wide range of technical and manufacturing companies covering steel supply, galvanising, pipe fabrication, modular buildings, electrical and instrumentation, pressure and storage tanks, and insulation.

Key large-scale fabricators have formed the Western Australia Major Projects (WAMP) alliance to capture a greater slice of major fabrication and construction work. Founded by AGC and the United Group, the alliance is made up of a broad spectrum of companies in the fabrication industry whose combined capacity enables them to engage in major national and international projects. WAMP has more than 10,500 skilled employees undertaking up to 1100t of structural steel fabrication and 700t of piping fabrication each week for the marine, resources and construction sectors.

WAMP is structured to enable the participants to focus on their core competencies under a common management framework, thus maximising effectiveness and efficiency. It has integrated workflows to take a project from detail design, through shop detailing, fabrication, assembly, pre-commissioning and load out.



## Fast Facts

- Perth's structural steel fabrication industry can deliver 70,000t of steel annually with a skilled workforce of more than 10,000.
- Key large-scale fabricators have formed the Western Australia Major Projects (WAMP) alliance to capture a greater slice of major fabrication and construction work.
- Perth's major structural steel fabricators are all connected to the AMC's multi-user load out facilities by a High Wide Load road network.
- Tutt Bryant recently assembled a 650t Hitachi-Sumitomo crawler crane at the AMC for use on sites throughout Australia.
- As prime contractor for the ANZAC ships, Tenix pioneered the introduction into Australia of MEKO modular ship construction techniques.



**WAMP**  
Western Australia Major Projects



# Fabricators expand to meet demand

Major fabricators are also connected to the AMC by a High Wide Load road network, allowing them to utilise the AMC's substantial assembly and load out capability. Some of the major projects enjoying final assembly and load out at the AMC's Common User Facility in recent years include:

- Linda and John Brookes platforms for Apache Energy's North West Shelf operations
- Subsea manifold foundations for Woodside's Enfield project
- Australia's first export jacket, for Shell Todd's Pohokura gas field in New Zealand
- Two iron ore ship loaders for Rio Tinto's Dampier operations
- Product stacker for Comalco's Weipa bauxite mine in Queensland
- The world's first transportable biodiesel plant for Natural Fuel Australia's facility in Darwin
- Exhaust stacks for the North West Shelf Gas Project's Train 5 LNG expansion.

Western Australia has the infrastructure, the track record and the people to deliver further large-scale shipbuilding and module fabrication projects.

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# Workforce Skills and Technology

Western Australian companies are leading the world when it comes to developing the workforce skills and the technology required to be industry leaders. They are focused on boosting production through automation and the rapid adoption of new technology, along with lifting the skills of staff through apprenticeships and training.

Austal is a perfect example of how one Western Australian company has taken on the world to become a leader in its industry. With a well-established reputation as the world's largest builder of fast ferries, Austal is now making an impact on international defence shipbuilding through design and construction contracts to the US Navy.

Austal's success is a tribute to its highly skilled and dedicated workforce and reflects its commitment to increasing workforce skills. Austal has introduced modern vocational training methods in close collaboration with TAFEWA. The company has also joined the Skilling Australia's Defence Industry Program (SADI), a Federal Government initiative to enhance the quantity and quality of workforce skills available to the defence industry.

The Western Australian Government is also addressing the needs of the defence industry to meet the 12% growth expected over the next three years.

As a result of a variety of skilling initiatives taken by the State Government, universities, training providers, industry associations and companies, Western Australia has:

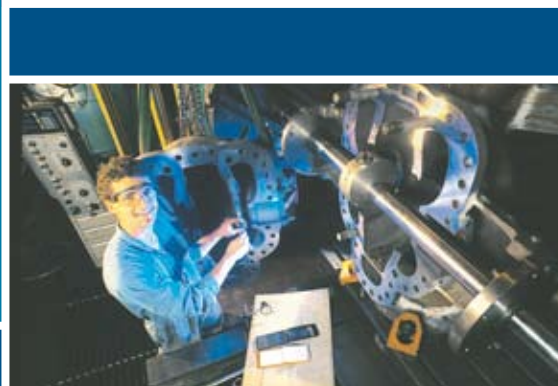
- Increased the number of apprentices and trainees by 60% since 2001, double the national average of 30%
- A record 32,225 people in apprenticeships and traineeships
- 51% of apprentices and trainees in traditional apprenticeships - such as metal fabrication, welding, fitting and turning - compared to 36% nationally
- Growth rates in this segment of the apprenticeship program of 36%, compared to 14% nationally
- 43% of apprentices and trainees under 19 years, compared to the national average of 31%<sup>1</sup>
- Increased skilled migration by 50% in the past year with metal fabricators, welders, fitters and mechanical engineers among the top occupations.

Western Australia's universities and training organisations have developed world-class industry-focused programs to ensure Western Australia maximises the opportunities from the current growth cycle to prepare for the future.

In addition, companies with international profiles, such as Raytheon, Saab Systems and Thales, are bringing their technology capabilities to Western Australia, helping to secure further challenging contracts in the years ahead.

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<sup>1</sup>See Miles Morgan Australia Pty Ltd Skilling Western Australia's Defence Industry (August 2005) for more detail.



## Western Australia The Logical Choice

### Fast Facts

- Western Australian industries recording the largest employment growth in 2005-06 were utilities (6.9%), mining (5.9%) and construction (5.5%).<sup>1</sup>
- Above average economic growth in Western Australia over the past 15 years has ensured strong labour market conditions. Employment growth has averaged 2.3% per annum over the past 15 years, compared to 1.6% nationally.<sup>2</sup>
- Challenger TAFE is the leading provider of defence-oriented training in Western Australia, with particular expertise in marine engineering and operations.
- The Defence Industry Skills Taskforce is examining Western Australia's future defence industry training requirements and includes representatives from the Defence Materiel Organisation, Department of Industry and Resources, Challenger TAFE and the Department of Education and Training.

Source: 1. Australian Bureau of Statistics.  
2. Chamber of Commerce and Industry WA.

