



# Australian Fast Ferry Building Industry

## Export Capability July 2007

### International Fast Ferry Building Industry

What is a fast ferry? It is a vessel operated commercially, which is capable of carrying at least 50 passengers or an equivalent combination of passengers and freight, at a minimum speed of 25 knots.

To increase the speed of a vessel from 25 knots to 30+ knots requires a significant increase in the capital cost of the vessel, due to the significant increase in engine power required to generate the speed. (Marine propulsion systems typically make up to 25% of the price of a high-speed ferry).

Australian designers and shipbuilders have pioneered most of the remarkable developments in the high-speed lightweight small ship sector in the last 25 years. They were among the first to use aluminium for ferries and other sizeable commercial and large pleasure vessels. They have also been responsible for many design innovations, new construction techniques and the introduction of aerospace materials to the marine industry.

Ferry and tourism operators around the world eagerly seek the technologically advanced vessels designed and built in Australia.

- Increased speeds have drastically reduced journey times, greatly improving passenger comfort levels.
- Ride control systems or vessel stabilisers have been developed, which enable vessels to continue operating at high speed (30-50 knots) without affecting passenger comfort and maintain schedules in poor weather and adverse sea conditions.

The high speed and reduced journey times have opened up a range of new ferry routes which were previously not viable using traditional steel built ferry vessels.

### Australia's International Competitive Advantages

- **Innovative Design:** Design capacity is an outstanding strength of the Australian shipbuilding industry. Innovative design has established Australia as a world leader in fast ferries and allowed Australian designers and shipbuilders to maintain a competitive edge in the export arena. Innovative Australian fast ferry designs include the wave-piercer catamaran, the air cushion catamaran and low wash environmentally friendly ferries, suitable for high speed operation in confined or congested waterways.
- **Advanced materials/construction methods:** The use of advanced materials and composites and the growing demand for larger vessels has acted as a catalyst for lightweight shipbuilders to use non-traditional ship construction methods, borrowing heavily from the automotive and aerospace industries for inspiration.
- **High quality fit out and finish:** The reputation for quality design is accompanied by a reputation for quality in production. The ability to produce a well-finished and well fitted-out vessel has contributed to the maintenance of a competitive advantage. A growing number of builders have international standard quality assurance and quality control systems in place.
- **Work force capability and flexibility:** Fast aluminium ferries built in Australia are crafted by highly skilled tradesmen. Pride of workmanship, high productivity levels and good relations between management and the workforce help maintain the competitiveness of Australian shipyards.
- **Delivery to buyer requirements:** Australian shipbuilders have a well-deserved reputation for delivering vessels on time and to performance specifications. All vessels are tailored to suit individual customer requirements and specific route conditions.
- **Value for money:** Features such as competitive price, high performance, reliability of operation, low operating costs and easy maintenance combine to make Australian fast ferries excellent value for money.



## High Speed Vessel Types

### Fast Catamaran Ferries

Since Incat introduced its first 20 metre wave piercing catamaran design in 1981, closely followed by other Australian ship builders, Australia has become the international market leader in this type of fast ferry vessel.

#### Key Australian Shipbuilders:

##### Large Fast Ferries (40 metres Plus)

- Incat [www.incat.com.au](http://www.incat.com.au)
- Austal [www.austal.com](http://www.austal.com)
- Tenix [www.tenix.com](http://www.tenix.com)



##### Medium Sized Fast Ferries (20-40 metres)

- SBF [www.sbfships.com.au](http://www.sbfships.com.au)
- Sabre Catamarans [www.sabrecat.com.au](http://www.sabrecat.com.au)
- Cougar Catamarans [www.cougarcatamarans.com.au](http://www.cougarcatamarans.com.au)
- Brisbane Ship Constructions [www.bscship.com.au](http://www.bscship.com.au)
- Richardson & Devine [www.rdm.com.au](http://www.rdm.com.au)
- North West Bay Ships [www.nwbs.com.au](http://www.nwbs.com.au)
- Aluminium Marine [aluminiummarine@bigpond.com.au](mailto:aluminiummarine@bigpond.com.au)
- Aluminium Boats [www.allyboats.com.au](http://www.allyboats.com.au)
- Yamba Welding & Engineering [www.ywe.com.au](http://www.ywe.com.au)



### Fast Car / Truck / Passenger Ferries

After the first large Incat "wave piercer" designs were introduced in the early 1990's and proven to provide significant competitive operating advantages over traditional steel vessels, the development of this sector of the market has been very fast. Yard capacity expansion has been especially rapid with vessels now been made over 100 metres in length.

#### Key Australian Shipbuilders:

- Incat [www.incat.com.au](http://www.incat.com.au)
- Austal [www.austal.com](http://www.austal.com)





## Low Wash Estuary / River Ferries

The environmental impact that the wave system generated by ferries has on river and harbour banks has become a major concern in many parts of the world. Depending on the type and composition of the banks, erosion along fast ferry routes can be severe. Also worthy of consideration is the unwanted motion of moored vessels and possible danger to users of small boats and people on shore.

With the ever-increasing demand for transport to be environmentally friendly, the Australian innovation of purpose-designed low-wash passenger ferries has spread worldwide. With its large population and high number of inland waterways, Asia is one area where there is already a large number of river and harbour ferry services in operation. With many areas still developing and with road and rail infrastructure, which is often poor, or non-existent, river transportation would seemingly provide an attractive option.

Environmentally sensitive river and estuary systems have created the demand for new ferry designs, to reduce the amount of erosion on river banks from the wash of ferries. Australia has developed specific designs to address these environmental problems.

### Key Australian Shipbuilders:

- **Richardson & Devine** [www.rdm.com.au](http://www.rdm.com.au)
- **Brisbane Ship Constructions** [www.bscship.com.au](http://www.bscship.com.au)
- **Norman R Wright & Sons** [www.wrightsons.com.au](http://www.wrightsons.com.au)
- **Yamba Welding & Engineering** [www.ywe.com.au](http://www.ywe.com.au)



## Hovercraft Ferries

Hovercraft are widely used in specialised applications, such as in swampy areas, over ice or in river and estuary systems which possess limited jetty/dock infrastructure. Australia currently possesses one company Mariah Hovercraft whom is an active exporter.

### Key Australian Builder:

- **Mariah Hovercraft** [www.mariah.com.au](http://www.mariah.com.au)



## Australian Fast Ferry Designers

While all Australian Fast Ferry builders have in-house design services there are also Australian specialist designers whom also design for these builders and export their services internationally.

### Key Australian Designers:

- **ADM Marine Consulting (large ferries)** [www.amd.com.au](http://www.amd.com.au)
- **Incat Crowther Designs (low wash / med. ferries)** [www.incatcrowther.com.au](http://www.incatcrowther.com.au)
- **Solar Sailor (low wash / medium ferries / solar power)** [www.solarsailor.com.au](http://www.solarsailor.com.au)
- **Grahame Parker Design (low wash ferries)** c/o Solar Sailor
- **Spear Green Design (interior fitout)** [www.speargreen.com.au](http://www.speargreen.com.au)