

AUSTAL TRIMARAN TECHNOLOGY



Bow view of the US Navy Littoral Combat Ship (LCS)

Austal Trimaran Technology

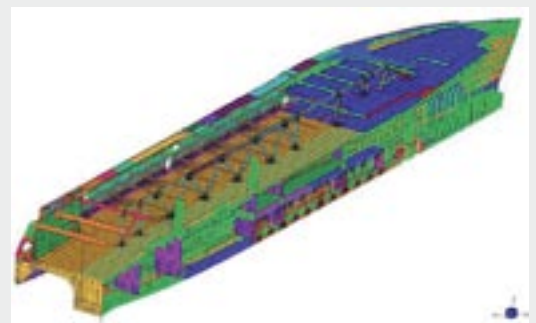
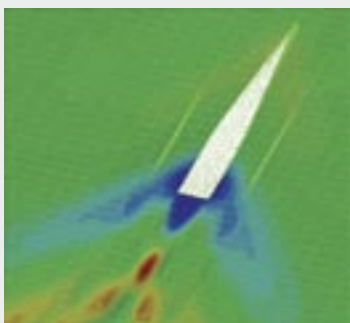
In 2000 Austal started a comprehensive research and development project with the objective to develop a new hull design that would offer high speeds in rough seas whilst setting a new standard for passenger comfort. The result was "Benchijigua Express", a 127 metre vehicle-passenger ferry utilising a trimaran hull that is successfully operating in commercial service today.

Austal Trimaran Technology can also be applied to different operations and vessel sizes. The Littoral Combat Ship (LCS) design for the US Navy utilises the inherent advantages of the trimaran - large cargo bay, high payloads, flexible layout, shallow draft, manoeuvrability, high speed in a seaway and superior seakeeping performance resulting in improved crew comfort and operational capabilities - to enable a new breed of surface combatant for near shore duties.

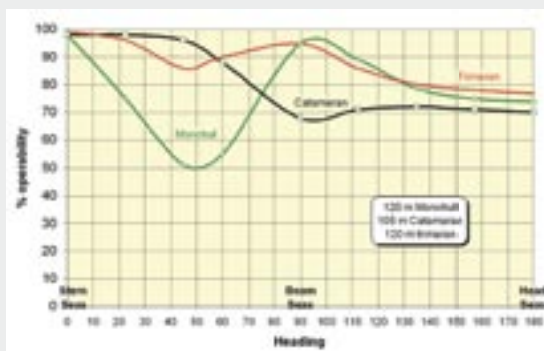


The Trimaran design features a large cargo bay with a flexible layout, capable of carrying substantial payloads at high speeds in a seaway without the loss in speed typically experienced with other hull platforms. The improved seakeeping performance results in superior aviation and watercraft operational capability, and ensures that the crew does not suffer from fatigue or seasickness due to ship motions.

127 metre Vehicle-Passenger Trimaran "Benchijigua Express" at 40 knots – delivered April 2005.



Austal utilises advanced computer software and tank testing facilities.



Trimaran: combining the best of both monohull & multi-hull worlds

This diagram compares the trimaran with equivalent size monohull and catamaran designs. It shows the superior overall performance in terms of operability (sea keeping).

USS Independence (LCS-2) Under Construction December 2006



Aluminium commercial construction expertise



Austal is the world's largest and most experienced designer and builder of aluminium ships.

LCS

GENERAL DYNAMICS LITTORAL COMBAT SHIP



Principal Characteristics

- Length 127.6m
- Beam 31.6m
- Packaged Modular Mission Capability
 - Mine Warfare (MIW)
 - Surface Warfare (SUW)
 - Anti-Submarine Warfare (ASW)

Propulsion & Electrical-CODAG

- Gas Turbines (2)
- Diesels (2)
- Waterjets (4)
- Retractable Azi-Thrusters (1)
- Diesel Generators (4)

Austal is the Designer and Builder of the LCS Trimaran



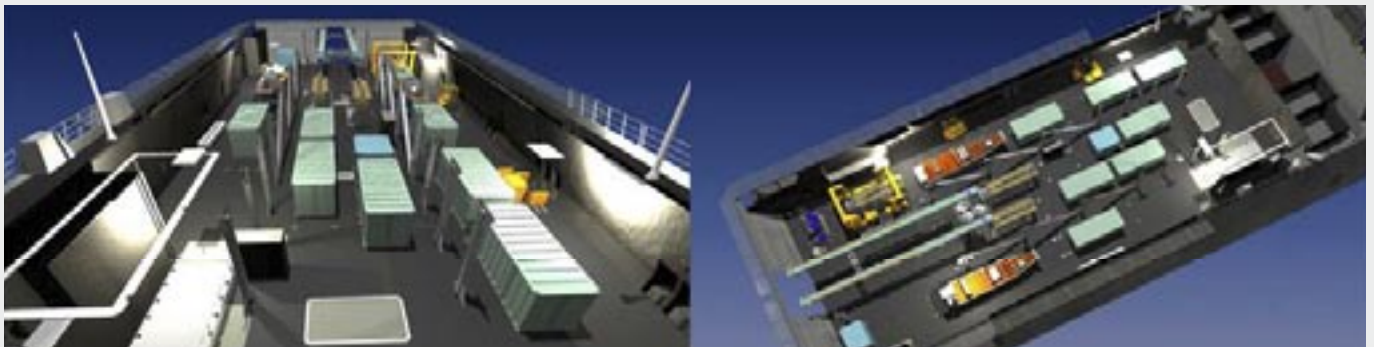
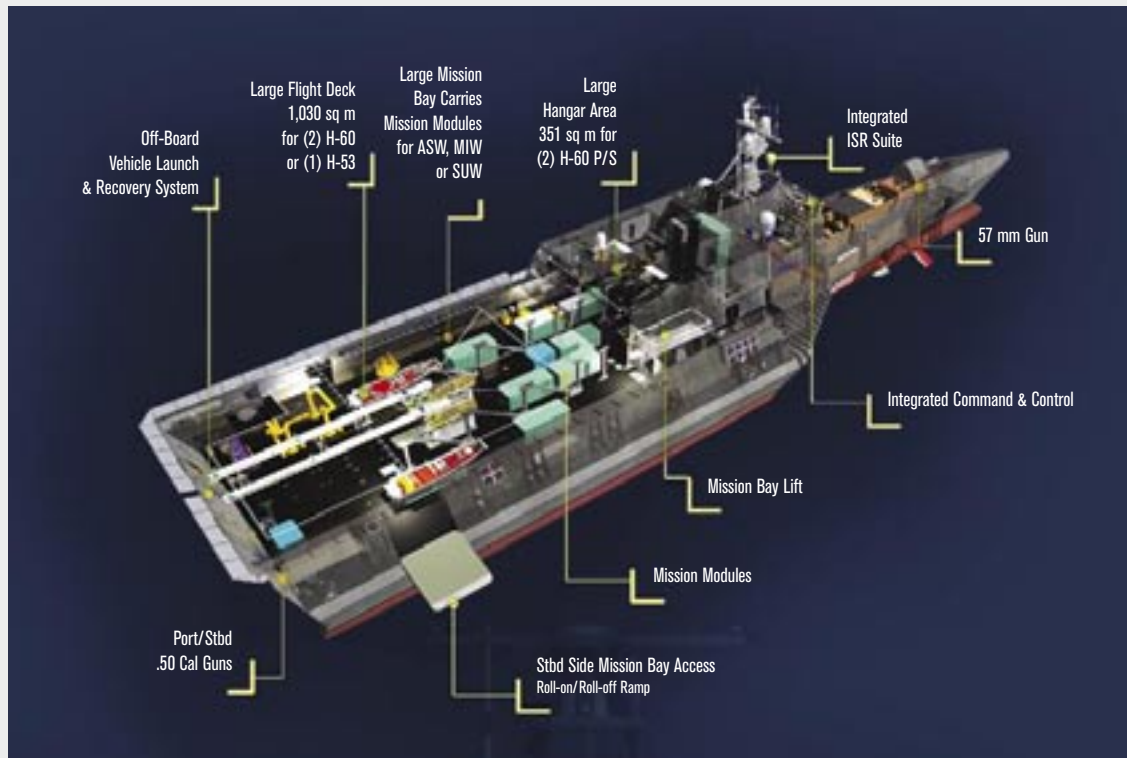
Aviation Facilities

- Hangar for (2) H-60 R/S
- Flight Deck for (2) H-60 or (1) H-53

Sprint Speed – 45 knots

- Over 3500nm Range
- Superior Mission Volume
- Superior dynamic stability in adverse wave environments

LCS - Capabilities Overview



- Maximum combat payload
- Superior mission flexibility
- War fighting options to use LCS in ways not yet conceived
- Rapid reconfigurability
- Greater margin for future mission growth
- Affordable technology insertion for mission upgrades
- Independent development of mission modules from ship
- Innovative mission module launch and recovery Superior operational stealth – far beyond current surface combatants

Covert Operations / Low Signatures

- Non-ferrous hull
- Topside low radar cross section design
- Integrated low-observable sensors
- Advanced / special materials
- Diverse embarked forces / mission loadout options enhanced by innovative delivery platform and launch / recovery system

Trimaran – Superior Aviation Capability



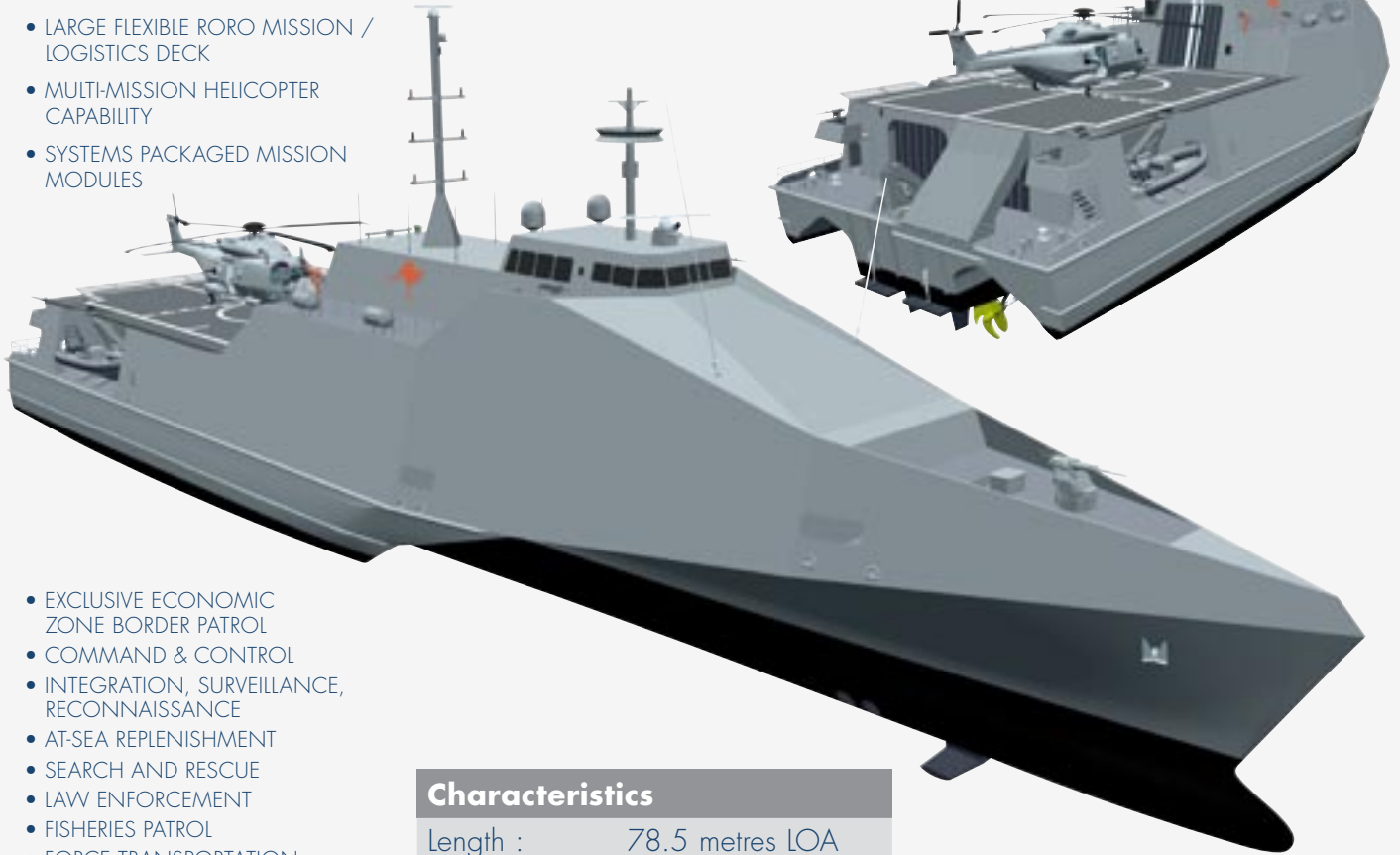
- Excellent Sea-keeping
- Superior Protection from Sea Spray
- Large Flight Deck
- Support H-53 Operations



Austal High Speed Naval Solutions

Multi-Role Corvette MRC⁷⁸

- LARGE FLEXIBLE RORO MISSION / LOGISTICS DECK
- MULTI-MISSION HELICOPTER CAPABILITY
- SYSTEMS PACKAGED MISSION MODULES



- EXCLUSIVE ECONOMIC ZONE BORDER PATROL
- COMMAND & CONTROL
- INTEGRATION, SURVEILLANCE, RECONNAISSANCE
- AT-SEA REPLENISHMENT
- SEARCH AND RESCUE
- LAW ENFORCEMENT
- FISHERIES PATROL
- FORCE TRANSPORTATION
- SPECIAL FORCES SUPPORT
- ANTI-SUBMARINE WARFARE
- MINE HUNTING
- HYDROGRAPHIC SURVEY
- HELO FLIGHT TRAINING
- LIGHT SEALIFT
- LIGHT AMPHIBIOUS OPERATIONS
- AREA OF OPERATION THEATRE HOSPITAL
- HUMANITARIAN SUPPORT

Characteristics

Length :	78.5 metres LOA
Speed :	>25 knots sprint
Range :	6,000 nm
Deadweight :	320 tonnes
Mission Deck :	540 m ²
Flight deck :	MRH-90
Accom:	43 personnel



sales@austal.com
Tel +61 8 9410 1111
Fax +61 8 9410 2564

Australian Shipyard:
100 Clarence Beach Road
Henderson
Western Australia 6166

USA Shipyard:
100 Dunlap Drive
Mobile, Alabama 36602
United States of America

www.austal.com