

“Where will our knowledge take you?”

Ship Design: Naval Architecture and Marine Systems Engineering

BMT Fleet Technology (BMT) offers design and implementation services for new vessels, conversions, in-service engineering change, and modernizations. We never lose sight that our designs are a means to meet your objectives. Whether your project demands unique, innovative approaches, or low technical, cost and schedule risk, BMT will provide appropriate solutions.

BMT provides ship design services in all stages of the vessel's life cycle.

Applicable ship design areas include:

- Defence
- Security
- Research
- Commercial



Support to Canadian Department of National Defence (DND)

BMT has significant depth in the defence industry having provided services to commercial and government customers for many years and employees who have served in the military or worked for defence contractors. The core competencies lie in naval architecture, marine engineering, combat systems engineering, information systems, risk, safety and environmental engineering, logistics engineering, project management, maintenance strategy, optimization and management, asset management, and business support.

For all types of vessels including:

- Naval warships and submarines
- Naval supply ships
- Naval auxiliary vessels
- Coast Guard vessels
- Icebreakers
- Research vessels
- Patrol vessels
- Crew and work boats
- Barges
- Passenger ships/ferries



BC Ferries

BMT has been extensively involved with the recent upgrades to six of the major vessels in the BC Ferries fleet. These upgrades include total strip out of all passenger and crew accommodations and refitting to latest comfort and fire protection standards. Modern technology life-saving systems were installed and significant mechanical modifications were undertaken.



Astro Barracuda

BMT designed the offshore patrol vessel *Astro Barracuda* to American Bureau of Shipping rules under a “design and build” contract with the shipyard. The vessel was built in Florida to Panamanian registration under Marad Financing and is presently in service in the South Atlantic off Brazil.

Services and Solutions

New Designs and Modification

New ship design and ship modification services include:

- Requirements framework development
- Requirements analysis and validation
- Concept design and its evaluation
- Preliminary design
- General arrangement development
- Cost models and estimates
- Design space analysis
- Cost-capability trade-offs
- System interface specification
- Design review and compliance assessment
- Equipment selection

Construction

- Acceptance tests and trials
- On-site supervision

Monitoring and Evaluation

- Vessel life span
- Maintenance programs

Conversions and Engineering Changes

- Surveys
- Performance assessment
- Cost/benefit analysis
- System design modification
- Equipment selection
- Modification drawings
- Design review and assessment



Oil Barge

BMT developed the design and produced detailed construction drawings for the bunker barge *Island Trader*. Staff stood by the build in China.

Other Services

- Project management
- Requirements management
- Expert witnesses
- Stability analysis
- Weight surveys and load line analysis
- Trim and inclines
- Hydrodynamics
- 3-D modelling
- Structural design
- Welding design and standards
- Standards development
- Supervisory services
- Deck equipment design
- Computerized testing
- Fluid mechanical analysis
- Material analysis
- Environmental studies
- Training



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