

Design & Engineering Services for

Ship Owners, Operators & Shipbuilders



About Us

Cybermarine is a leading Marine Design & Engineering Enterprise with global operations. Cybermarine is headquartered in Singapore and controls the worldwide operations through the offices at Houston, UAE, Kuala Lumpur and Mumbai.

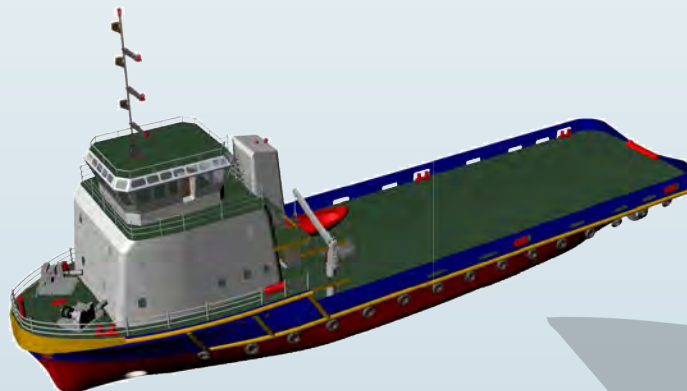
Cybermarine as a company built from scratch, has developed innovative technology and processes over the years and is in a position to deliver wide ranging design and engineering solutions to the upstream oil & gas industry. Cybermarine, by utilizing its proficiency in engineering & extensive design experience has successfully delivered a range of designs for on all types of Cargo Vessels, Passenger Vessels and landing crafts.

Projects are executed using innovative and well-developed technology, which include Work Break-Down, Design-Spirals and 3D Space Arrangements/Models. The execution is augmented by well laid-down processes consisting of work specification spreadsheets and process checklists.



Our technical teams are organized as project teams and operations' teams. Project teams comprise of project managers and project engineers responsible for project management and client interaction. Project teams are stationed in all our offices in various geographical locations.

Operations' teams comprising of Naval Architects/Engineers/Designers are responsible for project Deliveries and class approvals. They are stationed in Mumbai, India and Singapore. We also have an Offshore Division catering to the Design and Engineering of Drilling assets and Multi-purpose support vessels, cargo vessels and other special vessels used in dredging and marine construction.



Services Offered

We have successfully designed a variety of vessels taking account various constraints related to operations, the vessel dimensions and the water depth limitations that these vessels operate. These designs have been successfully used to build the vessels with considerable economy of the construction cost.

We offer Design services to Ship Owners, Fleet Managers and Shipyards extending to the following activities:

- Complete design of new vessels
- Modifications to vessels
- Conversion Design
- Vessel documentation towards Class and flag requirements

The design Services cover:

- Seagoing vessels
- River vessels
- Vessels operating in Great Lakes

We have designed about 100 vessels in the past few years and the types of vessels designed are as follows:

- Passenger Ferries
- Oil Tanker up to 3000 Cbm
- Bulk Carrier up to 5000t Dwt
- Landing Crafts up to 100m length
- Harbour Tugs, Towage Tugs, ASD Tugs
- Utility Vessels
- Oil Tankers of size up to 3000 cbm
- Container vessels up to 300 TEU
- Bulk Carriers up to 8000t Dwt
- General Cargo vessels up to 100 m length
- Landing Crafts up to 78m length



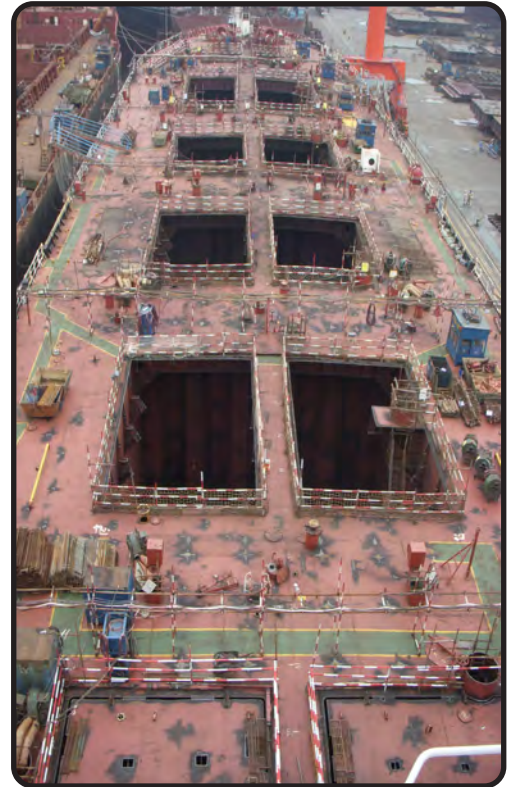
Services Offered

We have worked on Conversion design as follows:

- Conversion of Bulk Carriers to Tankers
- Conversion of Single Skin Tankers to Double Skin
- Conversion of Tankers to Bulk Carriers

We have carried out a large number of modifications on various vessels:

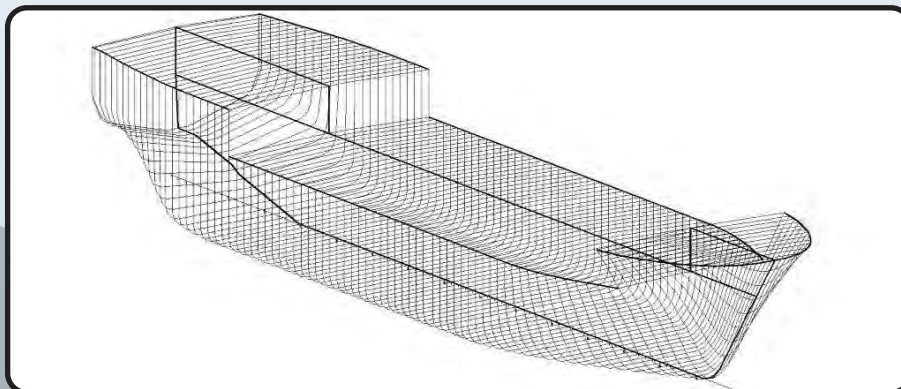
- Increase of draft & consequently deadweight
- Increase in carriage of Containers
- Increase of Tank top Strength
- Addition of heating Systems
- Modifications of Tanks
- Modifications in Safety Equipment – Addition of life saving equipment, up gradation
- of fire protection and up gradation of fire fighting equipment
- Modifications to mooring systems and rearrangement of bollards & fairleads including under deck strengthening
- Modifications to Cargo piping along with revision in Tank arrangements
- Upgradation of Electrical Power
- Upgradation of Propulsion Power



Vessel documentation

- Conducting Inclining Experiments/draft Surveys
- Intact & Damage stability booklets
- Loading Manuals
- Safety Plans
- Cargo Securing Plans
- Ballast Water Management Manuals
- Tank Sounding/Ullage Tables considering Heel/Trim corrections

These computations are done in line with Class requirements and Class approvals are obtained.



Domain Knowledge

We have strong teams in several disciplines as follows:

- Naval Architecture
- Structural Engineering
- Marine Engineering
- Electrical & Instrumentation
- Safety Engineering
- Regulatory Compliance

Naval Architecture

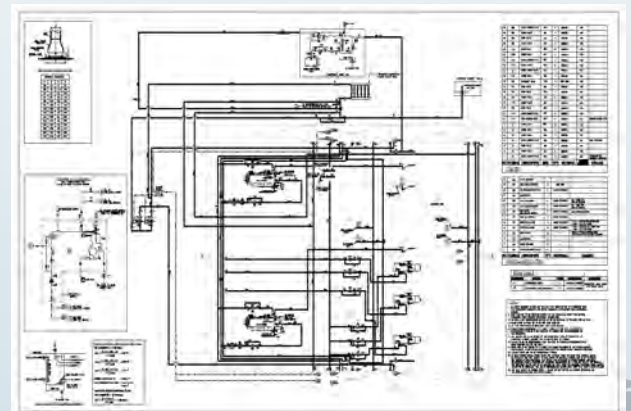
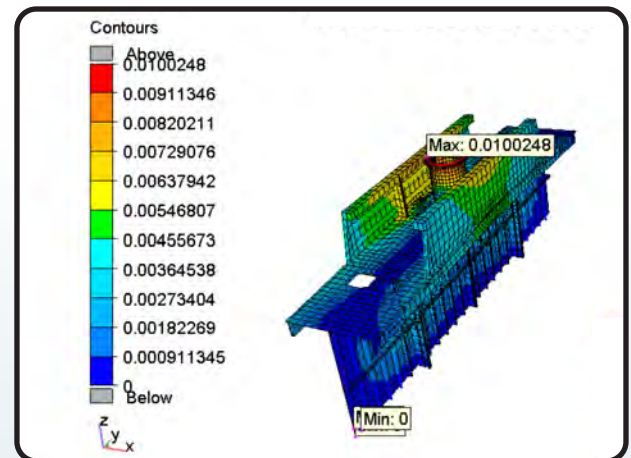
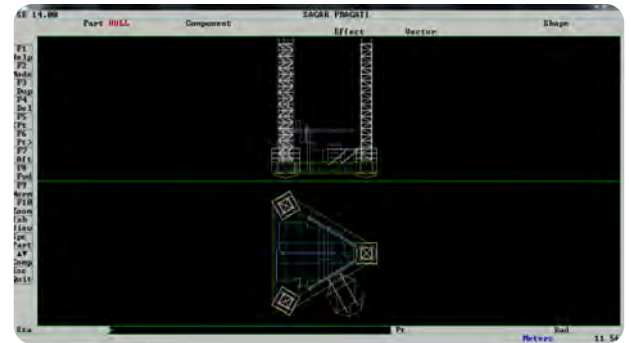
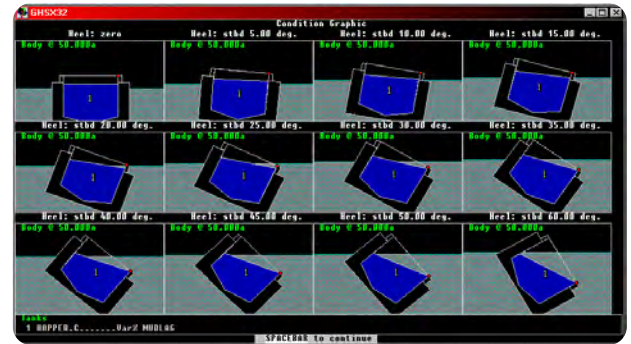
- Hullform
- Speed Prediction & Propeller Design
- Seakeeping & maneuvering
- Space arrangements
- Design for Loadline compliance (Freeboard/Bow Height)
- Design for watertight integrity & subdivision
- Intact & Damage Stability compliance
- Weight & COG determination/Monitoring

Structural Engineering

- Structural Design & Arrangements
- Scantling calculations as per class rules
- Longitudinal & Transverse Strength Analysis
- Direct Analysis using Finite Element Techniques
- Analysis of Foundations/Crane Pedestals and other structures
- Hull Fatigue Analysis

Marine Engineering

- Ship Systems
- Cargo Piping Systems
- Propulsion System
- Cargo Heating System
- Pipe Flow & Piping System Design
- Pump Sizing
- Layout Engineering in 2-D & 3-D



Domain Knowledge

Electrical & Instrumentation

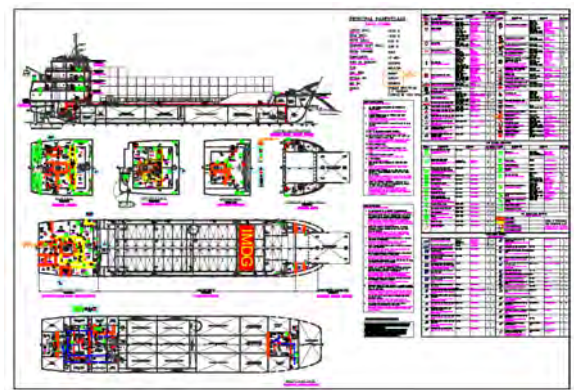
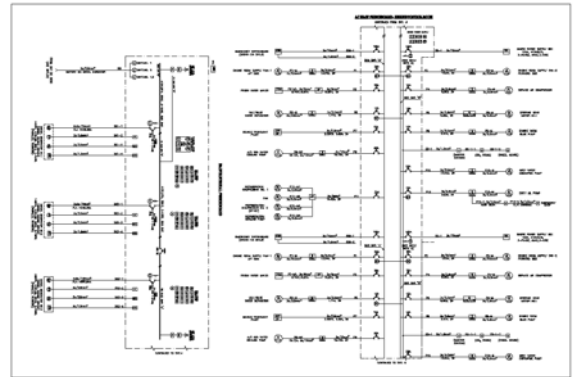
- Load Lists & Power Balance
- Cable Tray Routing
- Cable Schedules
- Control Room Design

Safety Engineering

- Safety Equipment Layouts
- Escape Routes as per SOLAS
- Accommodation Design along with Fire Detection & Protection

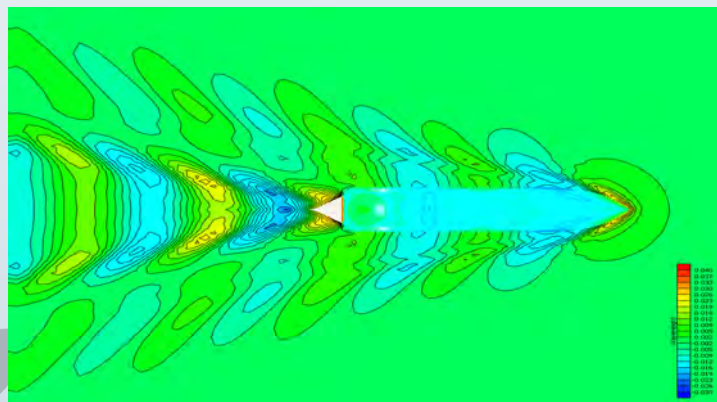
Regulatory Compliances

- Class Rule compliance
- SOLAS compliance
- MARPOL compliance
- IMDG compliance
- IBC code compliance
- Flag compliances – USCG & other Flag authorities



Our Design Services include development of concepts and solutions consisting of floaters to address precise offshore operational requirements. We take such projects to completion with our experienced Detail Engineering team. Our handling of Conversion projects covers right from generation of concept design to complete detailed engineering, our project gallery shows projects involving conversion of simple floaters into those capable of carrying out complex offshore operations. These include MPV, DSV, Well Stimulation Vessels and other offshore vessels.

Once concept is accepted by the client and frozen, hull form is optimized and refined using advanced CFD tools, and further model testing is carried out often to confirm expected performance and power requirements. Similarly DP performance and safekeeping performance is assessed through advanced techniques.



Oil Tanker

We have designed a 62m oil tanker for transportation of oil products worldwide. This vessel is capable of carrying oil (Flash point above 600c) and has a capacity of 1400t.



Landing Craft

This 78m/2100t Dwt Landing Craft is used for transportation of containers, heavy vehicles, plants and machinery, refrigerated marine products on the main deck and diesel fuel and fresh water cargo in the tanks below Main deck. A number of such vessels have been built by the Malaysian Shipyard with our design.



Casino Vessel

The Luxurious 250 passenger vessel has mobile casino facilities and can accommodate 250 passengers in its plush interiors. This vessel is used for Recreational Travel and as Floating Mobile Casino.



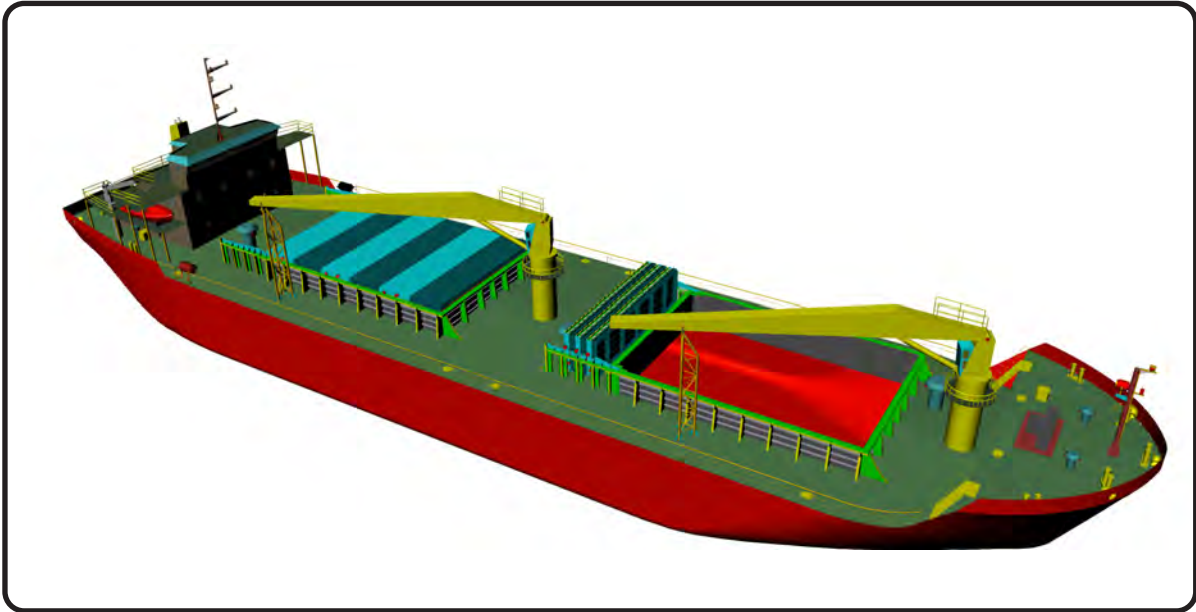
Passenger Catamaran

We have designed a 32m catamaran with a 220 passenger capacity and is used for public transportation in sea waters around Bangladesh.



General Cargo Vessel for Indonesian Waters

This 84m General cargo vessel, with carrying capacity of around 3200MT is engaged in Inter Island trade in Indonesia. This geared vessel has twin holds and is powered by 2 x 600 HP Engines.



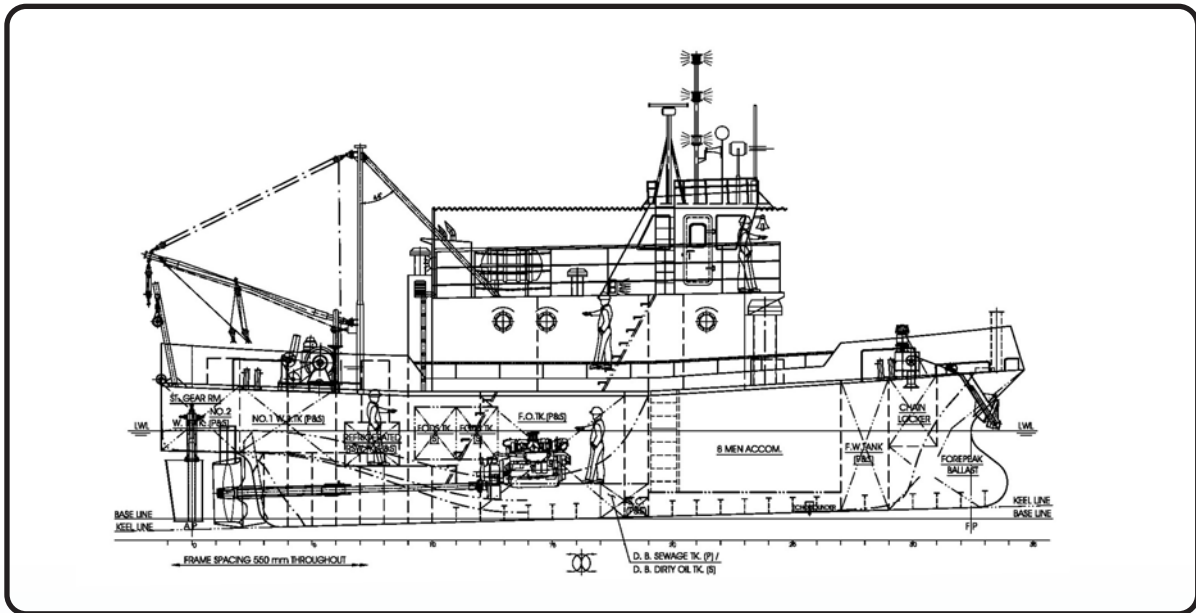
Mini General Cargo Vessel

This 72m multipurpose General Cargo Vessel designed by us has a carrying capacity of around 800MT and is used primarily for carriage of oil in packaged form with flash point varying from 35–60 degree celsius. Two of these vessels are deployed in inter island trade Andaman Islands of India.



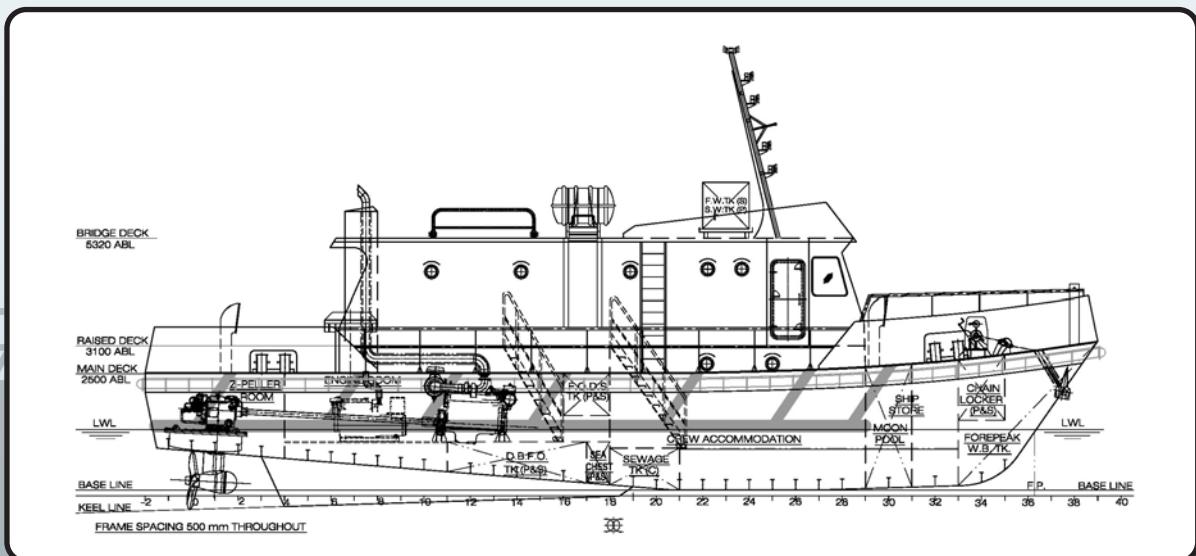
Fishing Research Vessel

This 20m vessel is equipped with equipment and laboratory facilities to store fish samples and carry out research for fisheries department. Rigging arrangement and the winch can support 3 different types of fishing net handling capabilities. She can go out in unrestricted waters and has performed to the satisfaction and comfort of all the officials and the crew that have boarded her.



Survey Vessel

This 21m highly maneuverable vessel is equipped with sophisticated Survey equipment to carry out seabed survey and sampling. She is equipped with azimuth thrusters for high maneuverability and moonpool to operate the survey equipment.



LPG Cylinder Carrier

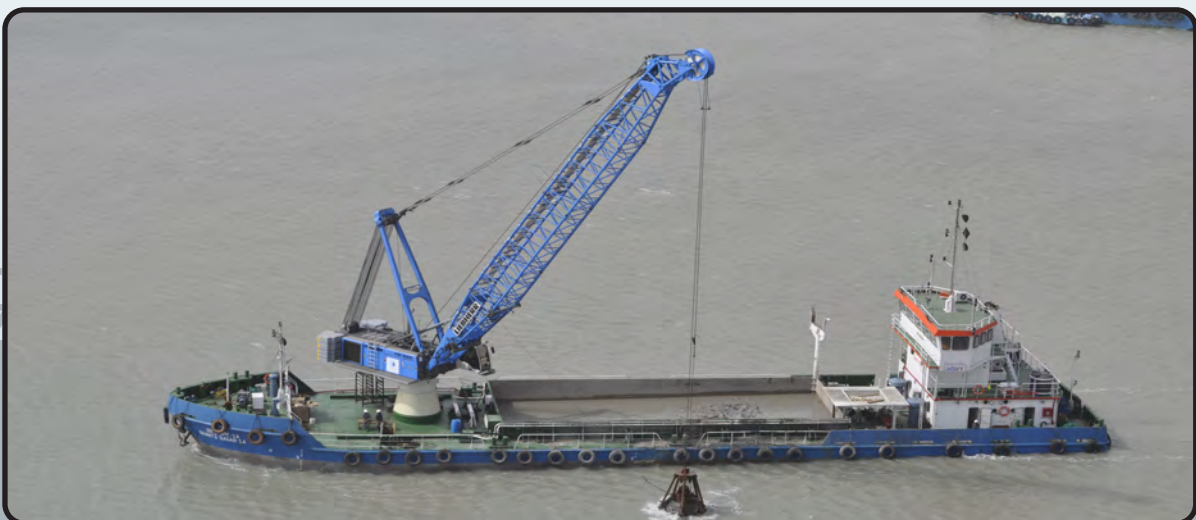
We have designed a 40m LPG Carrier vessel capable of carrying 2000 LPG cylinders/pack petroleum products on the deck and is also capable of plying along the coast or doing inter island.



Grab Dredger

Cybermarine has designed a number of Grab Dredgers and Hopper barges ranging from 1000CBM to 2050CBM and Self Propelled as well as Non Propelled. Typically they are provided with remotely, hydraulically operated Hinge type bottom doors, which are used to flush the hopper content.

Grab Dredges are provided with Grab Cranes Barges are used together with pontoon based Cutter suction dredges to store the dredged soil in the hopper and discharge it at designated site.



Feed Water Barge

This 56m long vessel is designed by us for Indian Navy. She has a carrying capacity of 500t of feed water and has a length of 56m. Feed water barge is used to supply Feed waters to their warship fleet by Indian Navy. Feed Water Barge is carrying stainless steel tank fitted for this purpose.



Transloader Crane Pontoons

A Number of Transloader Crane Pontoons designed by us are in operation and are engaged in transferring imported Coal from Cape sized & Panama sized mother vessels to barges at anchorage Points in various harbors along Indian Coast. Some of them are equipped with Jet type thrusters which assist in station keeping as well as short journey from jetty to anchorage.



Self Unloaders - Proposals, Crane Barges

We have designed 125m x 30m x 8m self unloader for proposal for the function of transfer of dry bulk cargo from one vessel or barge to another.

This can be utilized cargo unloading from ocean going Bulk Carriers into Barges.



Utility Vessels

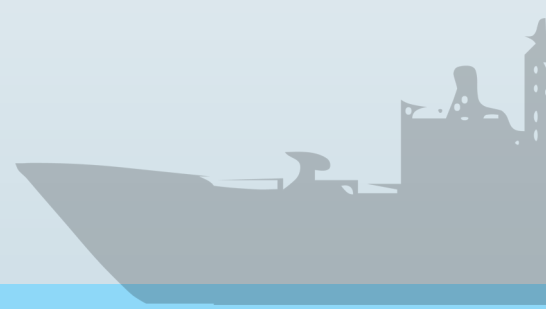
A large number of utility vessels have been designed for support for offshore platforms & marine work application with length ranging from 30m to 50m.



TUGS

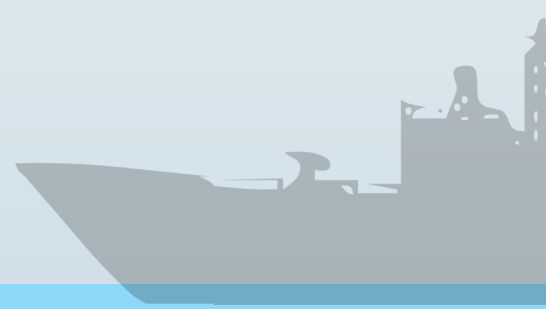
A large number of Tugs have been designed. These tugs have been used for various operations like Towing, Mooring, Barge handling & Dredging support.

We have the range of Tug length around 14m to 40m and Bollard pull ranging from 6t to 60t with conventional as well as azimuth propulsion.



LNG Carriers

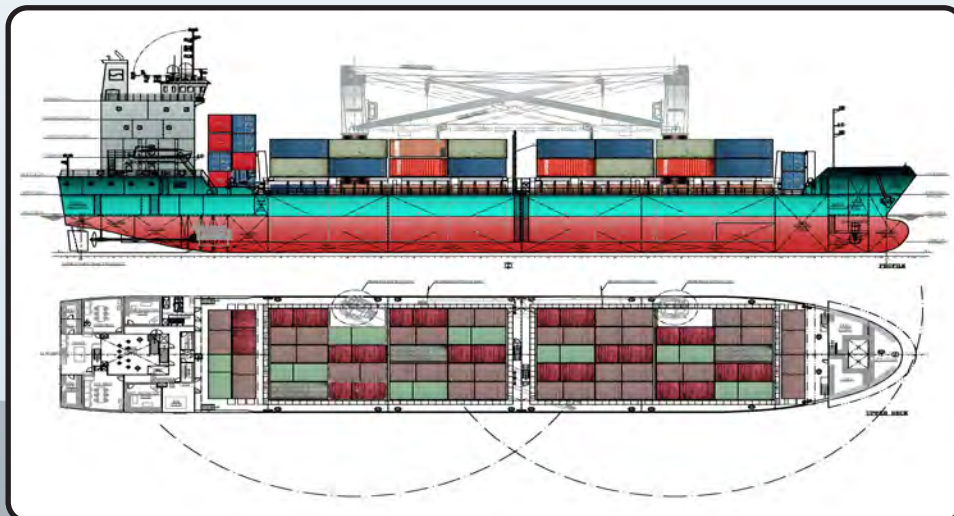
We have evolved designs for small LNG Carriers after studying a number of Coastal distribution requirements of LNG in a number of regions and developed solutions keeping in mind the draft constraints and loading unloading features. We have put together our solutions after evaluating technically as well as commercially various LNG components, the credentials of the vendors located across globe. These vendors come from Asian Countries, Europe and USA. We are therefore able to provide the solution together with our package of major LNG components and their vendors as well as recommend a few shipyards who have been evaluated by us.



Self Propelled Barges - Bulker, Tanker & Container Vessel

We have designed large number of Bulk Carriers, Tankers and Container Vessels.

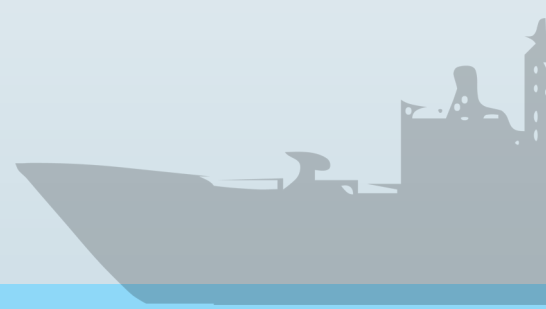
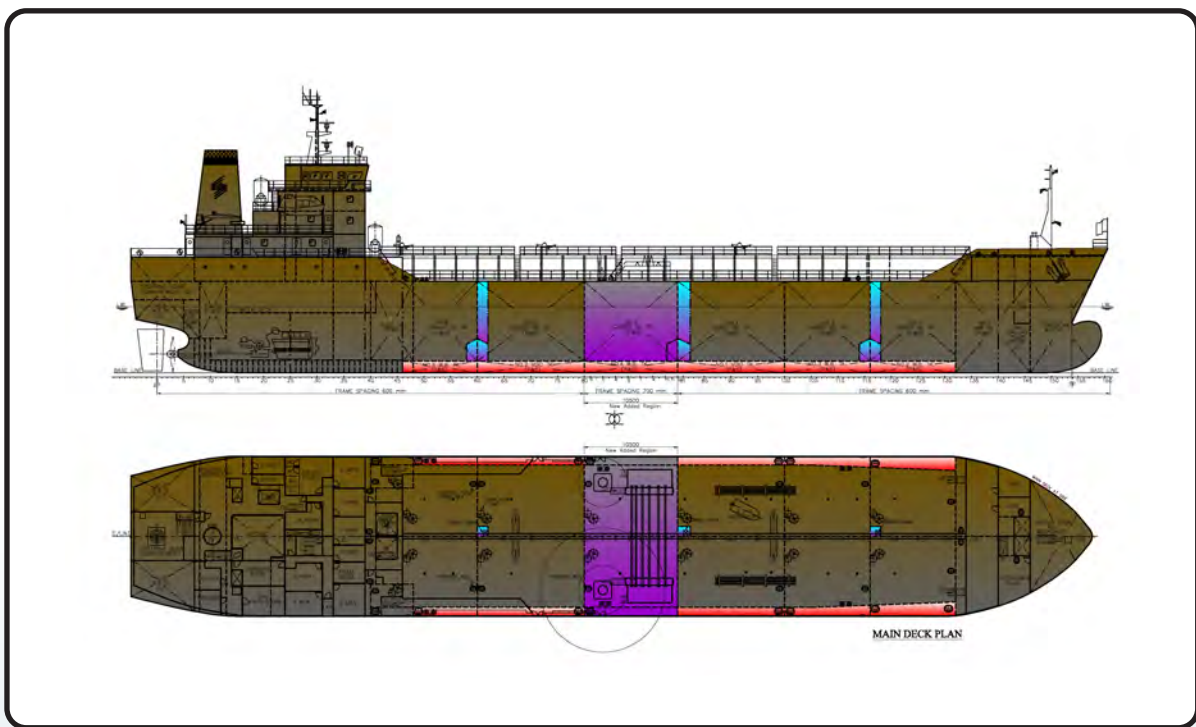
The carrying capacity of these is ranging from 1000dwt to 3600dwt. with speed of 6 – 8 Knots. The range of the loaded draft is 2.8m to 4m. Also we have carrying range of containers from 70 to 200.



Jumbosiation & Conversion From Oil Tanker to Chemical Tanker

95m Long Single Hull Tanker underwent a Conversion involving following aspects, all of which were Conceptualised and Engineered by Cybermarine.

- Conversion from a Single Hull to a Double Hull Tanker
- Increase in Length by 11m to compensate the loss in capacity
- Conversion from an Oil Tanker to a Chemical Tanker

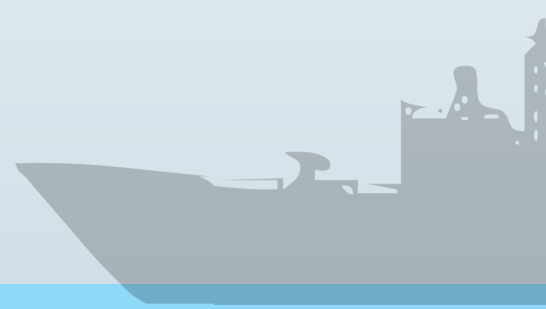
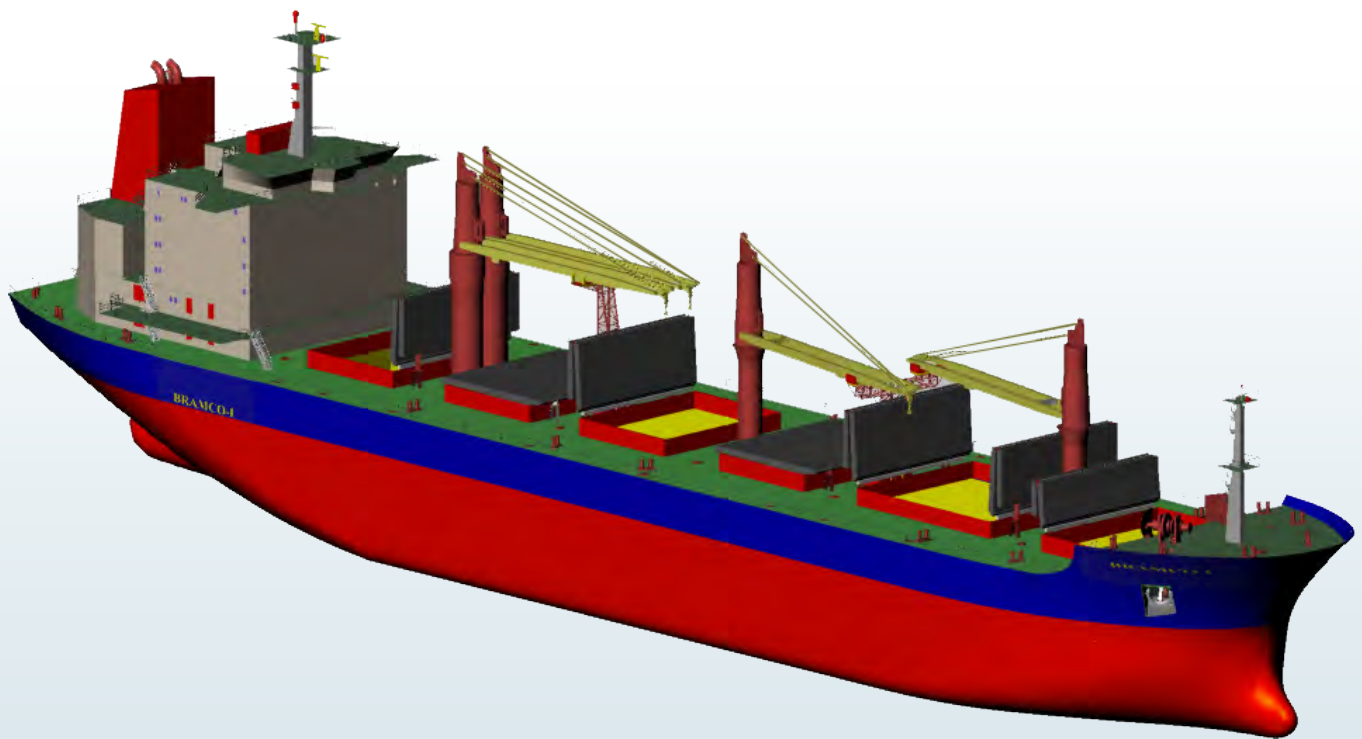


Conversion of Tanker to Bulk Carrier

A 180m tanker with a two longitudinal bulkhead configuration was converted to a Geared Bulk Carrier. It is very well known that addition of hatch openings in a tanker reduces the longitudinal strength considerably. This problem is compounded by the fact that even the longitudinal bulkheads which contribute to longitudinal strength had to be cut to create a Cargo hold. Suitable hold arrangements were evolved after an extensive longitudinal strength analysis with minimum steel additions.

The major scopes under the conversion are:

- Volumetric capacity of 32,500m³ achieved
- Dwt of 46,000t achieved despite addition of steel (conversion), equipment and cranes Installation of 3 nos. high capacity Cargo cranes, which includes one Double Boom crane
- Installation of Forecastle, enabling the vessel to meet Load line requirements
- Latest MARPOL, SOLAS and URS compliance
- Introduction of Upper wing tanks for Fuel Oil storage in way of Cargo Holds





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