ALBION MARINE SOLUTIONS

TRUSTED ENGINEERING PARTNER

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Our Mission

Albion Marine Solutions Ltd., Canada is dedicated to providing the shipping industry with reliable, professional and cost effective consultancy, engineering, site supervision, retrofit and project management services worldwide in the fields of all marine, offshore and oil and gas activities.

Our personnel have extensive experience in operations, maintenance, repairs and retrofits of tankers, FSO, FSRU, bulkers, LNG, general cargo, containers, tugs, shuttles and offshore vessels.

Albion Marine Solutions will deliver reliable and quality project management and engineering solutions at optimal Total Cost of Ownership.

Our unique combination of operational experience, broad engineering expertise and professional project management skills are at your service.

CHAMBER of SHIPPING

MESPAS

Find us on Ariba Network

Association of British Columbia MARINE INDUSTRIES

ISO 9001:2015 CERTIFIED

Canadian Ferry Association

The Society of Naval Architects & Marine Engineers

SHIPSERV

CISMART

EGCSA

Table of Contents

Contact information

Partners & Sales Agents

Global Service Network

Returning Clients

Project Management

Engineering Services

LNG, CNG AND LPG Solutions

Air Emission Reduction Solutions

Ballast Water Management

3D Modeling

Legislative Compliance Solutions

Offshore Oil & Gas Services

Naval Architecture Service

Asset Management

3D Laser Scanning and Engineering Services

Tank Cleaning

Fleet Operation Support

Contact Information

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- IShip Design, Ahmedabad India
- Marine Trade, Split Croatia
- AllFlo Technologies, Surrey Canada



Global Service Network:



Returning Clients:





























AHRENKIEL STEAMSHIP





















Project Management

Albion Marine Solutions Ltd. specializes in project management services to marine, offshore, oil and gas industries. Our specialists assist clients by taking on entire EPCM projects from inception to completion phase or by executing on specific tasks such as: Business Case Development, Tendering, Project Planning, Interface Management, Engineering, Procurement, Logistic, Construction Management and Commissioning.





Our expertise includes:

- Vessel conversions and installations: FSO, FPSO, FSRU and shuttle tankers.
- New equipment retrofits.
- Fleet upgrade programs.
- Legislation compliance refits.
- Ship propulsion re-powering.

Engineering Services

Albion Marine Solutions Ltd. Brings extensive operational expertise and collaborates with design outfits to provide clients with full range of design and engineering services. Our professionals specialize in design, operation and maintenance of the propulsion plant and other machinery systems found on all ocean-going ships. We are capable to provide reliable and cost effective “turn-key” solutions, that would include:

- Concept Design
- 3D Scan
- Feasibility Studies
- Basic Design
- Detailed Design
- Completion and Commissioning Plans
- Operation Procedures

Our specialists have background in concept design, feasibility studies, pre-FEED, FEED and detailed design of offshore installations and terminals.





LNG, CNG and LPG Solutions

Albion Marine Solutions team has an extensive new build, conversion and operational experience in use of natural gas as a fuel and carriage as cargo.

We have required expertise to develop the solutions in a variety of natural gas fields, including:

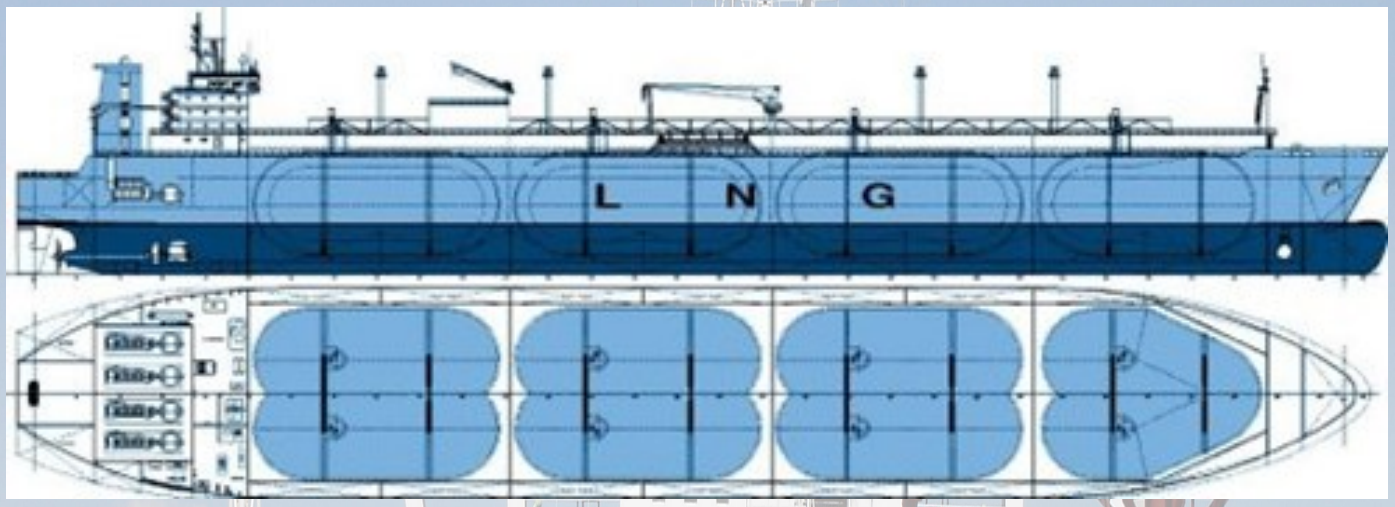
- LNG/CNG/LPG as cargo
- LNG and CNG as a fuel
- MEGI conversion
- LNG bunkering & ship to ship operations.
- LNG Terminals
- Offshore storage
- Onshore and small engine application

The interest in the conversions to LNG as a marine fuel is driven by stringent air emission reduction legislation and shipowners' focus on reduction of the bunker OPEX.



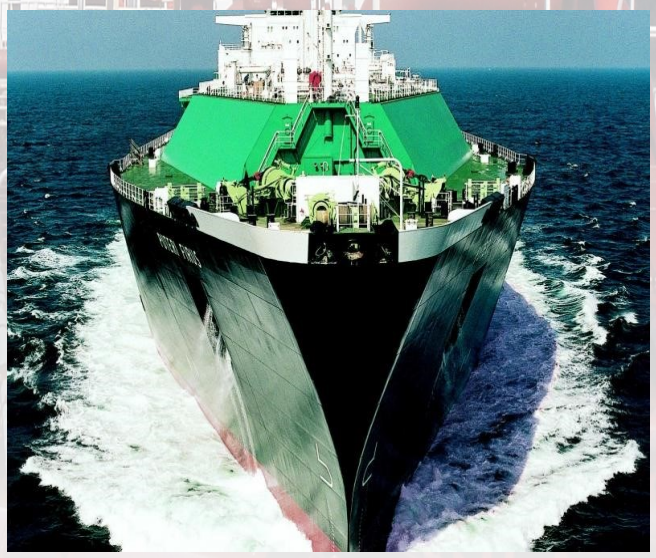


We provide consulting as well as “end-to-end” engineering and project management services for conversion of power, propulsion and steam plants to LNG. Our technical and cryogenic experts work closely with customers to select the most viable layout option.



When developing the project, specific LNG/CNG solution, there are several considerations to keep in mind, such as: boiler engine technology, auxiliary equipment, naval architecture, marine engineering, yard management, training and bunkering logistics.





Being ship management professionals ourselves, we know how to work with multiple stakeholders in order to deliver the project on time and on budget.

Air Emission Reduction Solutions

Our professional team is well prepared to plan, execute and support the retrofit of scrubbers, selective catalytic reduction and exhaust gas recirculation systems on client's vessels, while managing the operational and technology risks and sourcing the most cost-effective and reliable solutions from Capex and future Opex perspective.



Our experts can carry out a Feasibility Study and calculate pay back period based on vessel's operational profile. We are available to assist Owners in selection of most suitable equipment and provide engineering, fabrication, retrofit and project management service.

Ballast Water Management

We offer end-to-end solutions, managing all aspects of the project from selection and procurement of the suitable system to detailed engineering design, completion of modifications, installation, training and support.

Our team of professionals dedicated to your vessels will be composed of operational experts, design engineers and specialists in ballast water treatment systems, system deployment and piping, and specialists in engineering work and installation.





We provide a wide range of independent services in the field of Ballast Water Management: project management, engineering, consultancy, fabrication, installation and site supervision. Our expert portfolio combines an operational experience, technical expertise and a legislative knowledge.

We maintain an extensive technical and commercial database of BWTS currently available on the market. Albion Marine Solutions closely collaborates with a number of BWTS suppliers. Our personnel are trained by equipment manufacturers, have marine background and hands-on experience in project management of fleet upgrade programs





Shipowners benefit from our unique “turnkey” BWTS retrofit package or part of it, which includes, but not limited to:

- Project planning
- BWTS selection
- Crew training
- Operation support
- Ballast Water sampling services

3D Modeling

Albion Marine Solutions provides 3D laser scanning, 3D modeling, design and drafting services to offshore, construction, maritime and oil and gas industries.

Our designers use the latest 3D CAD Modeling software to prepare 3D Concept models and detailed fabrication drawings for ship conversions, and plant up-grades including custom part and assembly modeling, prototype design, complex construction design, structural layouts and machinery.

Our team carries extensive research before conceptualizing the final job. This help us to offer accuracy while identifying the clients' needs.





As-Built Documentation

Our team has expertise to provide services for large scale scanning such as ship building, process industry, steel plants, power plants, piping layouts, platforms, oil rigs, civil engineering, digital factories and much more. We use 3D Scanning Technology to obtain Point Cloud data.

3D Laser Scanning

We utilized top of the line scanners with sub-millimeter accuracy. A number of 3D Scans are combined in a Point Cloud and represent the exact geometrical de-tailed of the surrounding objects. From a Point Cloud the designers develop a model of the machinery, plant, piping, structure, equipment for the concept de-sign, basic, detailed and as-built engineering.

Laser Track Measurement

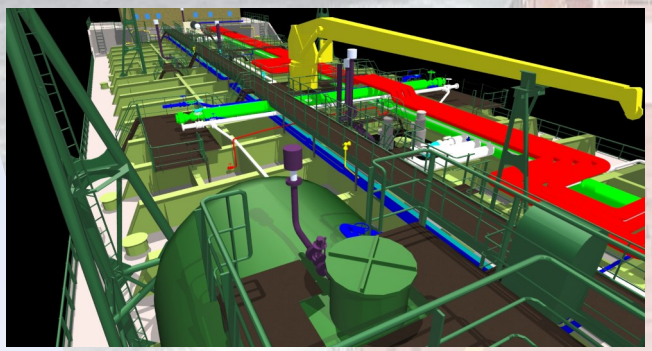
Using Laser Track our team offers our clients an unmatched range of measurements. The laser track uses CAM2/Measure X measurement software that enables CAD based analysis.

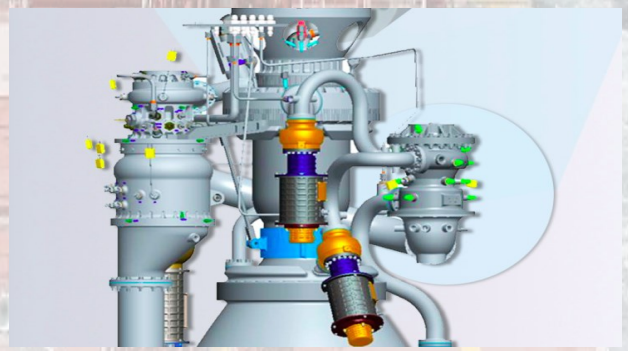
Engineering Drafting

The 3D laser scan data is an irreplaceable tool in developing engineering design packages. Our designers combine the processed scan data, 3D models, existing arrangements, engineering design, and client requirements to create the required engineering deliverables: Conversion Specifications, Plans, and Detailed Fabrication drawings.

Reverse Engineering

Albion Marine Solutions offers reverse engineering services which include drawings of the physical object. Our high technology software enables us to apply manufacturing skills, functional skills and knowledge to deliver product model and quality drawings.





Product Development

We offer our clients product development and design engineering services, which includes 2D to 3D conversion, concept design, 3D modeling, reverse engineering and surfacing model. Our team works closely with our clients to understand their design requirements to offer a feasible solution.

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Forensic

3D scanning of a crime scene prior to evidence collection is an important part of documentation .

The use of 3D scanning technology allows investigators to preserve a permanent digital copy of a scene that can be viewed virtually. Police and insurance companies can use 3D scanning to take measurements, inspect evidence, and much more.

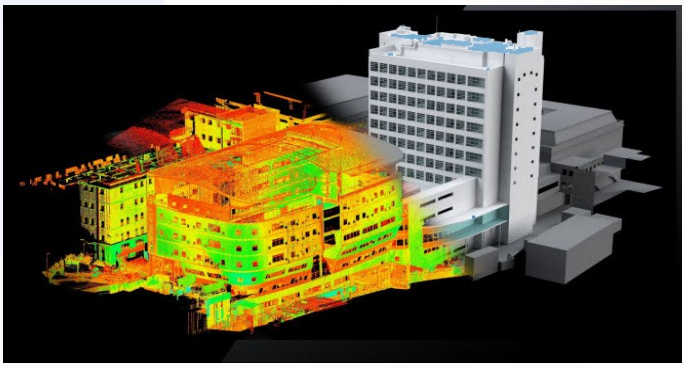
A 3D scanner works smoother and faster than photography at a crime scene, providing critically important data.



Construction

From the design stage to the inspection stage, 3D scanning and measurement is an integral element of architecture, engineering and construction.

For contractors, laser scanning lowers risk by ensuring complete and accurate as-built drawings and exposing any inaccuracies early in the process.



Mining

Our scanning services provide civil engineering and construction firms representations of mines and mining machinery. Accurate as-built documentation helps engineers determine measurements, and ensure standards for safety.

3D Laser Scan is designed to measure and monitor the stability of rock faces and slopes to improve safety. This provides an early warning of movement and therefore potential failures in the active mining area that may impact on production, cause damage to equipment or even cause injury to personnel.

From the design stage to the inspection stage, 3D scanning is an integral element of architecture, engineering, and construction applications.



Oil & Gas

Our team provides 3D laser scanning services in oil and gas applications to produce reliable and high quality data. Laser Scanning is safe, accurate and fast. Our team members accurately and efficiently capture data in locations where accessibility is difficult and areas are unsafe. 3D Scan provides reliable, accurate as-built information for facility upgrades and expansions.

Legislative Compliance Solutions

Albion Marine Solutions Ltd. assists ship owners and operators in compliance with looming marine environmental legislation. Insufficiently robust solutions can have a detrimental commercial and operational impact.

Our professionals assist owners in selection and implementation of the reliable legislation compliance at optimum total cost of ownership.





We provide consultancy, market research, feasibility studies, equipment selection, engineering package, project management and yard supervision/riding crew retrofit services.

Our independent expertise extends to:

- Machinery and ship systems conversion for operation on low sulfur distillate fuels.
- Bilge water and sludge handling optimization.

Offshore Oil and Gas Services

Albion Marine Solutions supports our customers through the entire FSO/FPSO/FSU conversion project life cycle: business case development, tendering, planning, procurement, engineering, construction, commissioning and installation.

Our team has a proven track record of the successful completion of offshore projects. This is achieved through the robust EPCM life-cycle framework:

- Diligent portfolio selection at the beginning
- Investment commitment in design and planning stages
- Setting adequate PMO, organization of project teams and partners
- Interface management between engineering and construction.
- Contractual risk sharing between client, owner/operators, EPCM and vendors
- Effective tools for performance management project control







Albion Marine Solutions Oil and Gas services include:

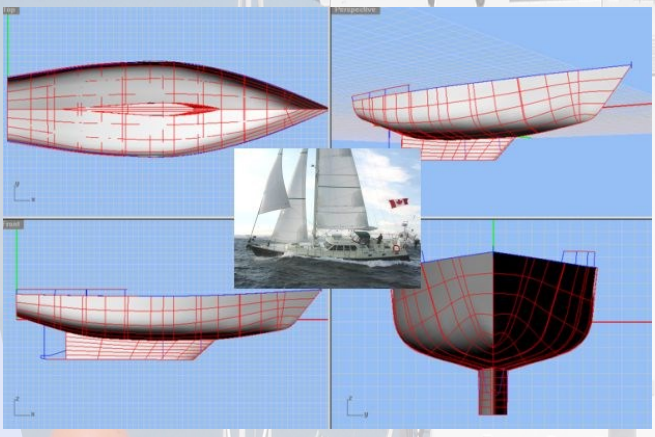
- Asset integrity assessments
- Static and dynamic structural strength and fatigue analysis
- Life extensions and analysis
- Heavy lift analysis
- Transportation and installation engineering
- Concept jacket and topside engineering

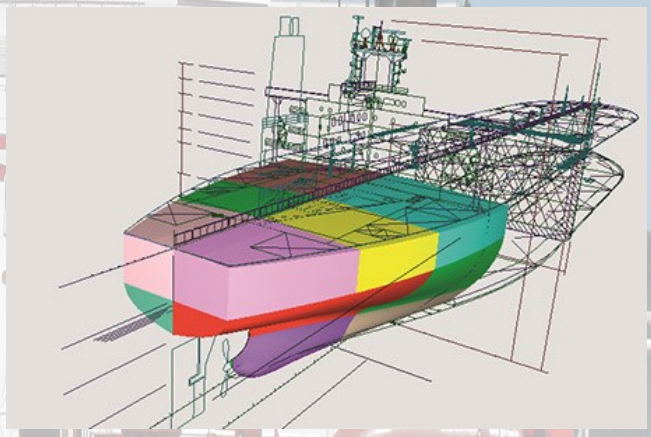


Naval Architecture

Albion Marine offers vessel design services from initial concept through contractual design documentation to a final production working drawings and procurement support.

Our naval architects have gained experience working abroad ships and in shipyards. We partner with owners to design vessels that are ideally suited to a specific purpose by applying engineering solutions.





Our team has experience in design, optimization, conversion, repowering and various retrofit of passenger's vessels, ferries, tugs, tankers, FSO, FPSO, FSRU, barges, tankers, bulk carriers, LNG and specialized vessels.

We provide a unique combination of seagoing and shipbuilding practical experience in the commercial marine industry with innovative design capabilities to produce highly efficient solutions for our clients.

We support clients through shipyard qualification and selection, bid review, contract negotiations and new build construction management.

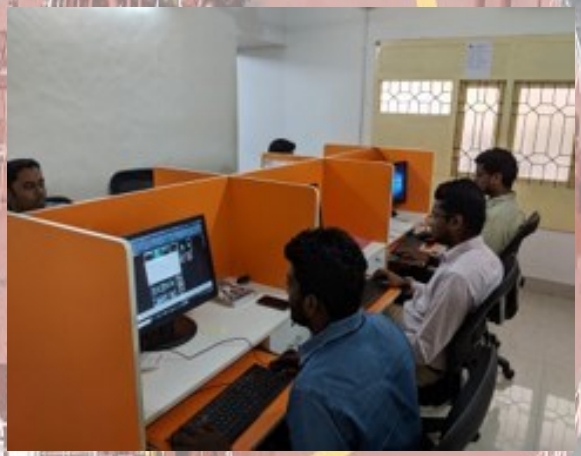
Our naval architecture services include:

- Concept, Preliminary, Contract and Functional Design
- Design Study Reports and Feasibility Studies
- Repower Design Studies and Engineering
- Vessel Conversion Studies and Engineering
- Tonnage Support
- Hull Development, Definition and Fairing
- Structural Design and Advance Analysis including FEA and CFD
- Model Development

Ship Design

We have an experienced, professional staff of Naval Architects capable to face innovative design challenges. Our team has the experience, capabilities and capacity for any project. Albion Marine Solutions scope of services ranges from concept studies through design documentation, to production working drawings and procurement support.





Asset Management

Albion Marine Solutions Ltd. Is committed to providing robust and cost effective technical services to a variety of industry clients— ship operators, owners, underwriters, P & I clubs, law firms and flag states.

Our surveyors safeguard client interests by being on site and carrying out purchase and sale vessel inspections. Our superintendents prepare dry docking specifications and lead dry-dock repairs.





Albion Marine Solutions Ltd. provides professional teams to support owner new building program from tendering through specification review, drawing approvals and FAT to site supervision and commissioning. We provide trained and certified electricians, mechanics, pipe fitters and technicians to ensure safe and efficient repairs and retrofits on board of the ships at sea or in ports.

3D Laser Scanning and Engineering Services

Albion Marine Solutions provides 3D laser scanning, 3D modeling, design and drafting services to maritime, offshore, construction and oil and gas industries.





We specialize in 3D laser scanning for maritime and industrial engineering and design applications. Every scan measures millions of discrete points and each point is allocated its precise position in space. The 3D Point Cloud that is created can be navigated, drafted, and modeled in popular CAD and other applications. The possibilities are endless; from site surveys, damage investigation to conversion plans, reverse engineering, conceptual designs and detailed engineering.

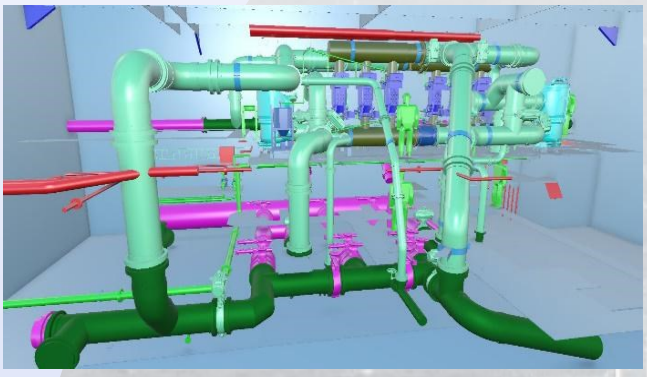
Our team are factory trained and experienced professionals specializing in 3D scanning. We utilize top of the line scanners with sub-millimeter accuracy. A number of 3D scans are combined in a point cloud and represent exact geometrical detail of surrounding objects. From a point cloud, the designers develop a model of the machinery, plant, piping, structure, equipment for the concept design, basic, detailed and as-built engineering.

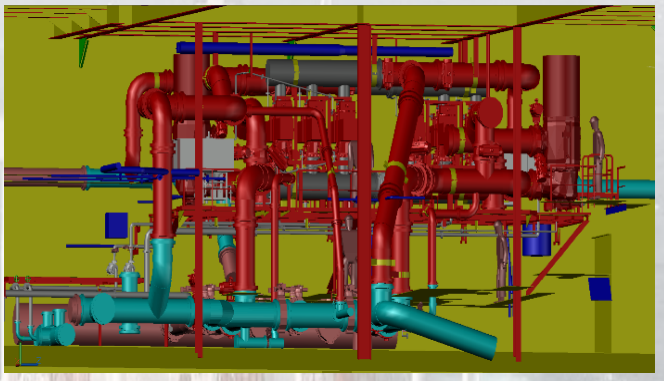


3D scanning and modelling is a valuable tool in complex, multidisciplinary projects, where precise cut out and fitment of new offshore equipment is a common Scope of Work.

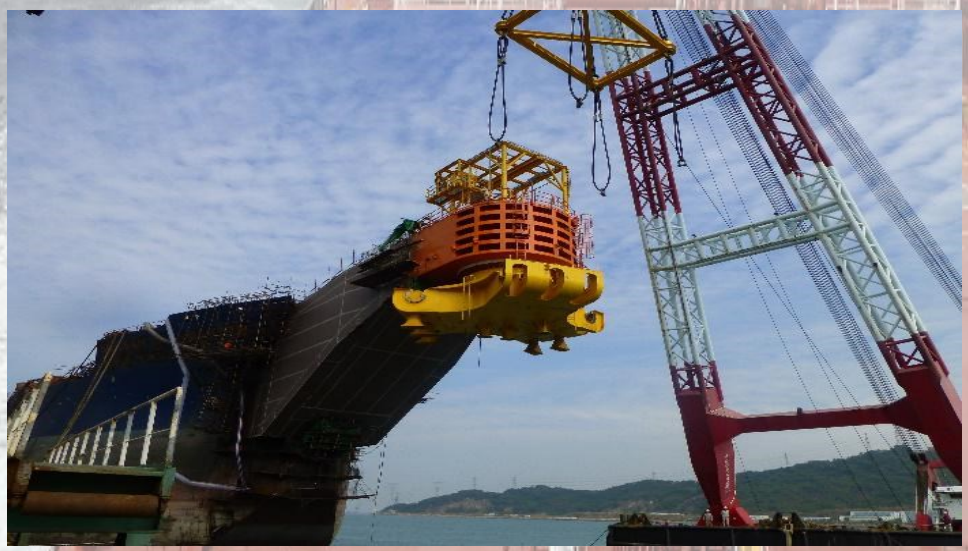
Our personnel have extensive experience in offshore conversions and new builds: FSO, FPSO, FSRU, shuttles, oil rigs and platforms.

Our designers use the latest 3D CAD modelling software to prepare 3D concept models and detailed fabrication drawings for ship conversions, and plant upgrades, including custom part and assembly modelling, prototype design, complex construction design, structural layouts, and machinery.





The laser scans of the plant, machinery, electrical cabling, piping systems and structure are extracted from the point cloud to create isometric drawings. Our designers use AutoCAD software to create these plan drawings.



We use 3D modelling to develop an engineering design package and conversion specifications. Engineers prepare detailed machinery, steel work, pipe piece design and layout.

Tank Cleaning

In anticipation of Sulphur Cap 2020 many shipowners opted not to go for scrubbers for some of their vessels. The compliance for these vessels would be achieved by operating on low sulphur distillate fuel while gradually converting to compliant blended fuels.

Tank cleaning is the key to avoid compatibility and stability issues while transforming from Heavy Fuel Oil (HFO) to 0.50% Heavy Fuel Oil (Global Fuel).





Classification societies, flag authorities and P&I Clubs are warning about the risks associated with residual fuel contamination. There is a high risk of undetected residue of non-compliance fuels remaining in tanks when switching from HFO to a Global Fuel. If there is a fraction of the HFO left in the tank, then it will contaminate the new product and will become a non-compliant. Therefore, the tank and piping system should be fully flushed, clearing out all last remnants of HFO before filling it with lower sulfur fuel.

Albion Marine is providing experienced riding teams for cost-effective, reliable and safe tank cleaning services worldwide





Technical considerations for continuous operations on compliant fuels

There are some important technical considerations for continuous operations on compliant fuels which may involve, among other, fuel tankage allocation and separation, fuel handling system upgrades, handling of excess steam, auxiliary boilers upgrades.

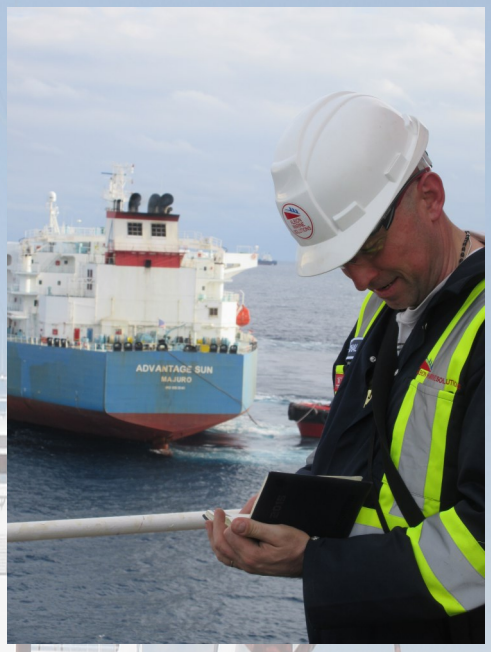
We utilize a holistic and methodical approach to development of cost-effective and reliable solution for each type of vessels.

Albion Marine expertise is available in case you need any assistance with the review, studies or planning for Sulphur Cap 2020.

Fleet Operation Support

Crew Training and Planned Maintenance Systems

The crew training in operation and maintenance of the shipboard equipment and systems are the essential requirements under STCW 2010, other international conventions and national standards.



Albion Marine Solutions team can develop the vessel- and equipment-specific crew training manuals and computer-based training programs. The training program would be tailored to customer-specific needs.

Albion Marine Solutions can also develop a maintenance program for the newly installed equipment. The maintenance program would include a maintenance schedule, OPEX cost projections, a detailed list of spare parts and of installed components, as well as a list of critical spares. The maintenance program would be designed to satisfy Class requirements and would also be customized for the Customer's maintenance standards and policies.

Our team has extensive experience with various models of Planned Maintenance Systems (PMS), including DNV GL, NS5, AMOS, RAST, Neptune, InfoShip, TM Master, GL Shipmanager, Maximo, Bassnet, Star IPS and TeoMaki. We can develop and manage complete PMS and Dry Dock Management system.

