



Services and solutions

Marine Surveys



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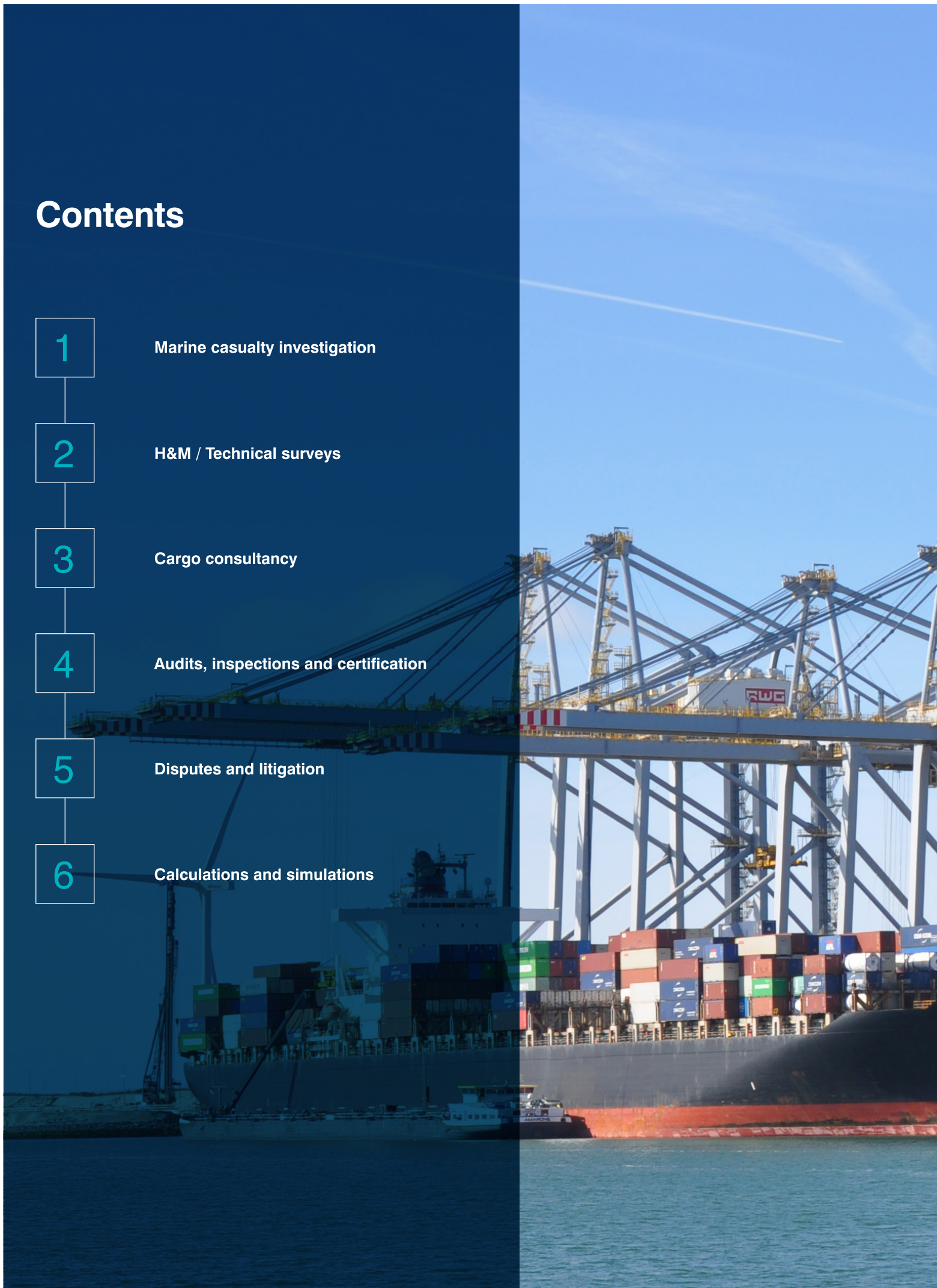
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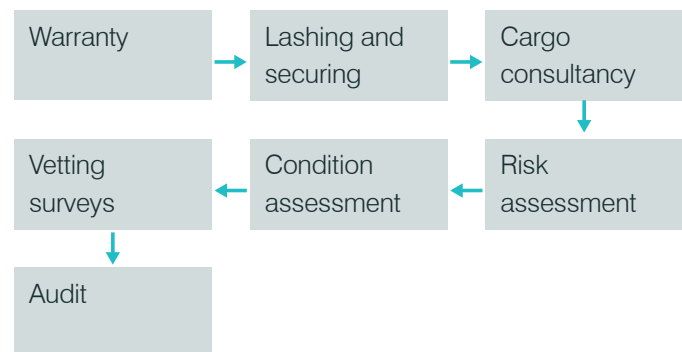




Where will our knowledge take you?

BMT is a leading international multi-disciplinary engineering, science and technology consultancy offering a broad range of services, particularly in the energy and environment, defence and transport sectors. Through a global network of survey offices, BMT is able to offer survey services worldwide on a 24/7 basis. BMT's unique group of companies also provides access to a wealth of extra technical expertise including financial modelling, forensic investigation and simulation and modelling services.

Loss prevention



Causality



Marine casualty investigation

Marine casualties can occur for a number of reasons. We have expert surveyors and forensic investigators that are trained to identify the root cause of a casualty and provide recommendations to prevent future incidents.

Marine incidents and analysis

BMT's surveyors have investigated many serious and high-profile marine incidents and can respond quickly and efficiently to any type of marine casualty worldwide, 24/7. They can determine the cause and extent of the damage, assist in mitigating the loss, collect evidence, and provide expert advice to ship owners, operators, and underwriters.

For example, when a large container vessel grounded in Dutch tidal waters, BMT was instructed by the General Average adjusters to discharge the containers, assess the damage to the vessel, cargo, and containers, and assist in the cleaning operations.

Damage to cargo

BMT attend more than 2,000 cargo related surveys every year. Every cargo has unique properties and reacts differently to environmental factors like water, temperature, sunlight, and gases emitted by other cargoes on board.

BMT shares their cargo expertise free of charge through the online database www.cargohandbook.com.

Damage to cargo occurs on various types of modalities, and the expertise of BMT surveyors is not limited to ocean carriage only, but also includes inland, road, rail and air transport.

BMT was tasked to investigate the wetting of coal cargo caused by seawater ingress into the holds of a bulk carrier. Their investigations revealed that the weather and sea-state conditions during the voyage exceeded the recommended criteria of the International Association of Classification Societies. BMT's findings helped repudiate the claim made by the vessel's owners successfully.



Collision Investigations

BMT has a team of marine specialists who are experienced in investigating collisions, whether through on-site investigation or a review of collected data and information after the incident. BMT's surveyors are available 24/7 to attend sites worldwide, simulate collision incidents for specific vessel types, gather and safeguard evidence, collect crew statements, conduct data analysis, and provide necessary salvage and repair assistance services.

In one case, a tanker collided with an unlit barge towed by a tug with incorrect navigational lighting. BMT was hired by the tanker Owners' P&I Club to assess the damage to the tanker and investigate the cause of the collision. BMT used simulations and interviewed senior officers to determine that the crash was due to a sudden course alteration by the tug and the absence of additional navigational and towing lights on the tug and tow.

Personal injury incidents

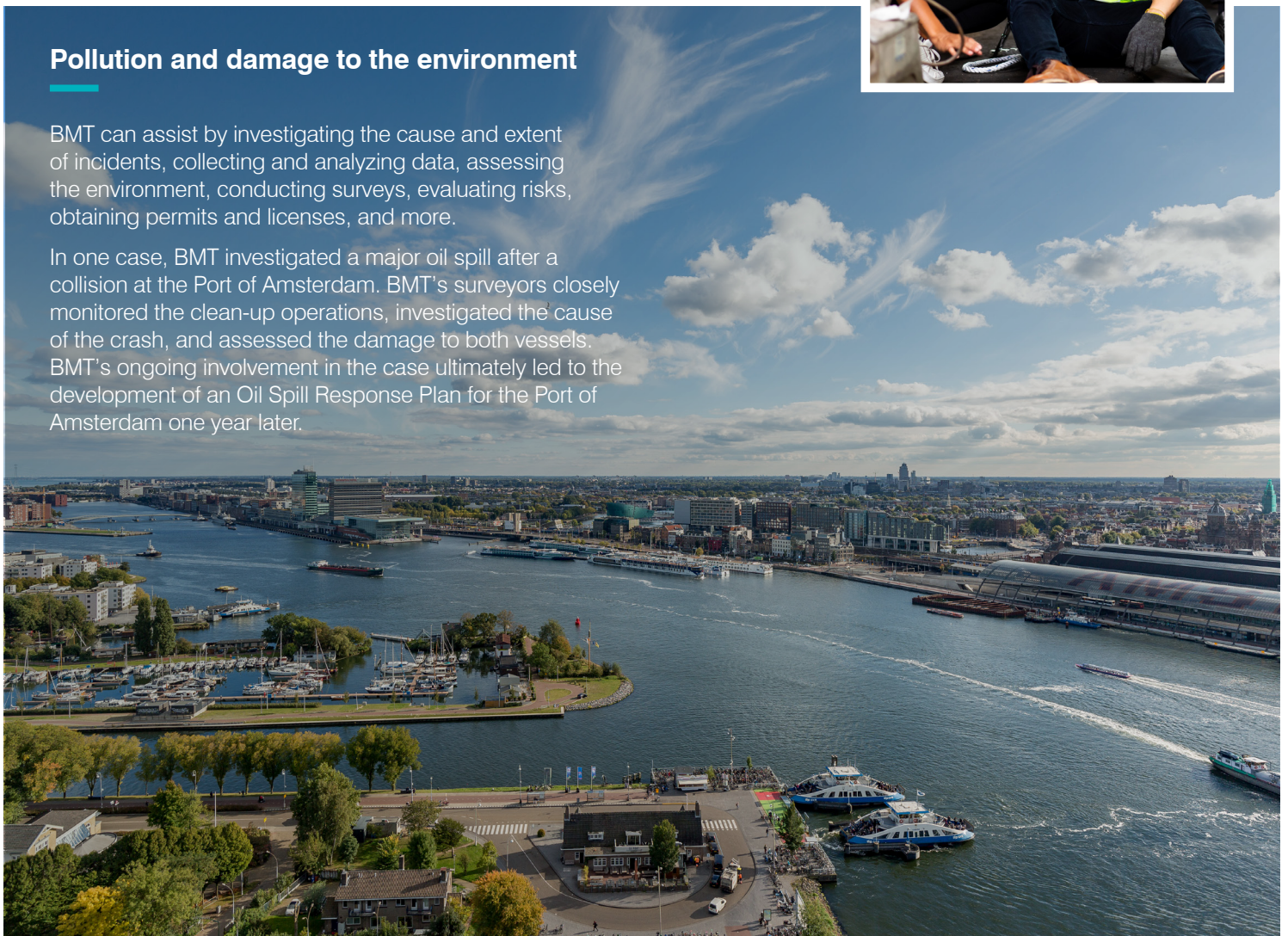
BMT can conduct impartial investigations into incidents involving personal injury or death of crew members or visitors on board ships. These investigations can help to reduce the trauma of such incidents. BMT's investigations also involve reviewing local and International Maritime Organization (IMO) regulations related to safety and working conditions and assessing the application of and adherence to these regulations.



Pollution and damage to the environment

BMT can assist by investigating the cause and extent of incidents, collecting and analyzing data, assessing the environment, conducting surveys, evaluating risks, obtaining permits and licenses, and more.

In one case, BMT investigated a major oil spill after a collision at the Port of Amsterdam. BMT's surveyors closely monitored the clean-up operations, investigated the cause of the crash, and assessed the damage to both vessels. BMT's ongoing involvement in the case ultimately led to the development of an Oil Spill Response Plan for the Port of Amsterdam one year later.





Salvage consultancy

BMT provides specialized advice and assistance for various salvage and wreck removal operations. Our core salvage team comprises experienced salvage masters and naval architects. Additionally, our surveyors are available 24/7 worldwide for on-site emergency response, offering advice on salvage and wreck removal, towage approvals, salvage tenders, and expert assistance in disputes and litigation.

In a specific instance, shortly after departure from the docks, a general cargo vessel ran aground north of IJmuiden. BMT was appointed by the vessel's Owners' P&I Club and H&M underwriters to investigate the cause of the grounding, assess the nature and extent of the damage sustained by the vessel, and evaluate any damage possibly sustained by power lines of a nearby offshore wind farm. We were also tasked with assisting and supervising the salvage operation.

Fire Investigations

BMT specializes in investigating fires on vessels and providing clear conclusions to customers through various services such as investigation, reconstruction, fire analysis, disputes and litigation, and technical advice on cargo damage and handling. Several BMT surveyors have obtained or are obtaining qualifications for Certified Fire Investigator under IAAI to expand our expertise in this area.

In one case, a trawler experienced a fire in one of its factory decks during the final stages of a cooling plant revision and conversion. BMT was hired to monitor the firefighting efforts and investigate the cause of the fire. BMT's investigation revealed that the fire was caused by unsupervised hot work.

H&M / Technical surveys

Our surveyors have experience in a broad range of disciplines. They can advise and conduct inspections in many areas to assist with insurance and damage claims and litigation. Besides surveys on marine equipment, BMT also provide such surveys for non-marine equipment.



Hull and machinery

BMT has been active in the H&M industry since its early days of existence back in the 1920s, with a significant track record for surveys in all kinds of damage, whether hull or machinery-related, on board deep-sea vessels, floating installations, inland navigation vessels, and more.

BMT was requested to carry out a survey on behalf of the charterers on a bulk carrier after the carriage of a consignment of sulfur. During the survey, it was ascertained that the steel plating of the bulkheads and tank tops of several holds had been heavily corroded due to the vessel's crew not correctly applying the protective coating on the steel plating in the holds.



Fuel and consumption

With the increasing bunker prices, we have recently seen a rise in the number of claims related to quality. BMT has specialist knowledge in the field of claims and disputes related to both the quality and quantity of marine fuels. They can provide a wide variety of services to assist the industry, ranging from testing to acting as an expert witness or arbitrator. BMT also regularly carries out performance evaluations of vessels against charter party agreements.

BMT surveyors have provided expert witness statements in several arbitration cases.



Yachts

BMT offers focused surveying services a large yacht market with the capacity to deal with the entire range of yacht sizes, from the semi-custom 24 - 45m, through to the full custom 45 - 70m and the unique 70 - 160m segment.

Whilst sailing near one of the islands of the Pacific Ocean, a yacht reportedly collided with a submerged object and sunk shortly after that. The underwriters of the yacht instructed BMT to locate the vessel and investigate the nature, extent, and cause of its damage and sinking. The investigations revealed that one hose in the engine compartment had been cut, and another hose was found to be partly cut or holed. BMT's report enabled the underwriters to repudiate the claim of the yacht owner.

Hull and machinery

BMT can carry out surveys and simulations for various types of vessels, including but not limited to ferries, cruise vessels, container barges, push barges, tankers, and dry cargo (bulk) barges. Barge incidents often stem from improper loading conditions, leading to cargo distribution issues.

For example, BMT investigated the case of a barge that collapsed and sank only ten minutes from its berth. BMT conducted simulations and interviews and concluded that the barge was incorrectly loaded with heavy steel plates, causing it to bend, the sides to bend inwards, and the hatch coaming to buckle heavily.

Dredging

Several of the world's largest dredging companies and their underwriters employ the services of BMT to conduct investigations and damage assessments on their vessels, barges and equipment. BMT's global surveyor network makes it easier for dredging companies to hire the services of a local surveyor.

Non-marine

With their background and experience in marine engineering, BMT's surveyors have developed expertise in many areas of non-marine equipment and rolling stock including damage cause and extent investigation, calculation of forces, metallurgy, testing and repair advice.



Cargo Consultancy

Each type of cargo requires specific handling procedures, and damage can be concealed until the container reaches its final destination.

BMT is a world leader in providing guidance and advice for all cargo handling types. Cargo underwriters requested BMT to investigate and assist an insured in addressing a moisture and mould formation issue that occurred during containerized transit. BMT identified several key problems and drew up recommendations. After implementing these recommendations, the number of claims significantly decreased, almost to none.

Calculating Lashing and Securing Forces

The stowage of containers, as well as any other deck cargo, relies heavily on complex force calculations, for which computer programs and lashing software are recommended. BMT has trained staff capable of performing these calculations. A wide range of tests and simulations can be conducted on a laboratory scale, but the real test always occurs at sea. Testing may include force calculations, testing of lashing equipment and containers, hydrodynamic modelling, market intelligence and trend analyses, as well as expert witness and case reviews for lawyers and arbitration.



Container collapse

BMT has extensive experience investigating container stows' collapse and a remarkable record of providing independent advice to ship owners, liner companies, P&I clubs, or underwriters for loss prevention and claim/litigation procedures. Our investigations have revealed various causes, ranging from failing lashing systems to overloaded containers and improper stowage of containers on board the vessel.



Food and perishables

In case of damage to perishable cargo, BMT can conduct investigations to determine the nature, extent, and cause of the damage. BMT can also provide performance reviews of reefer containers and vessels by analysing reefer data and performing a thorough nautical survey.

For comprehensive advice on cargo carriage, please visit www.cargohandbook.com.

Dry Bulk

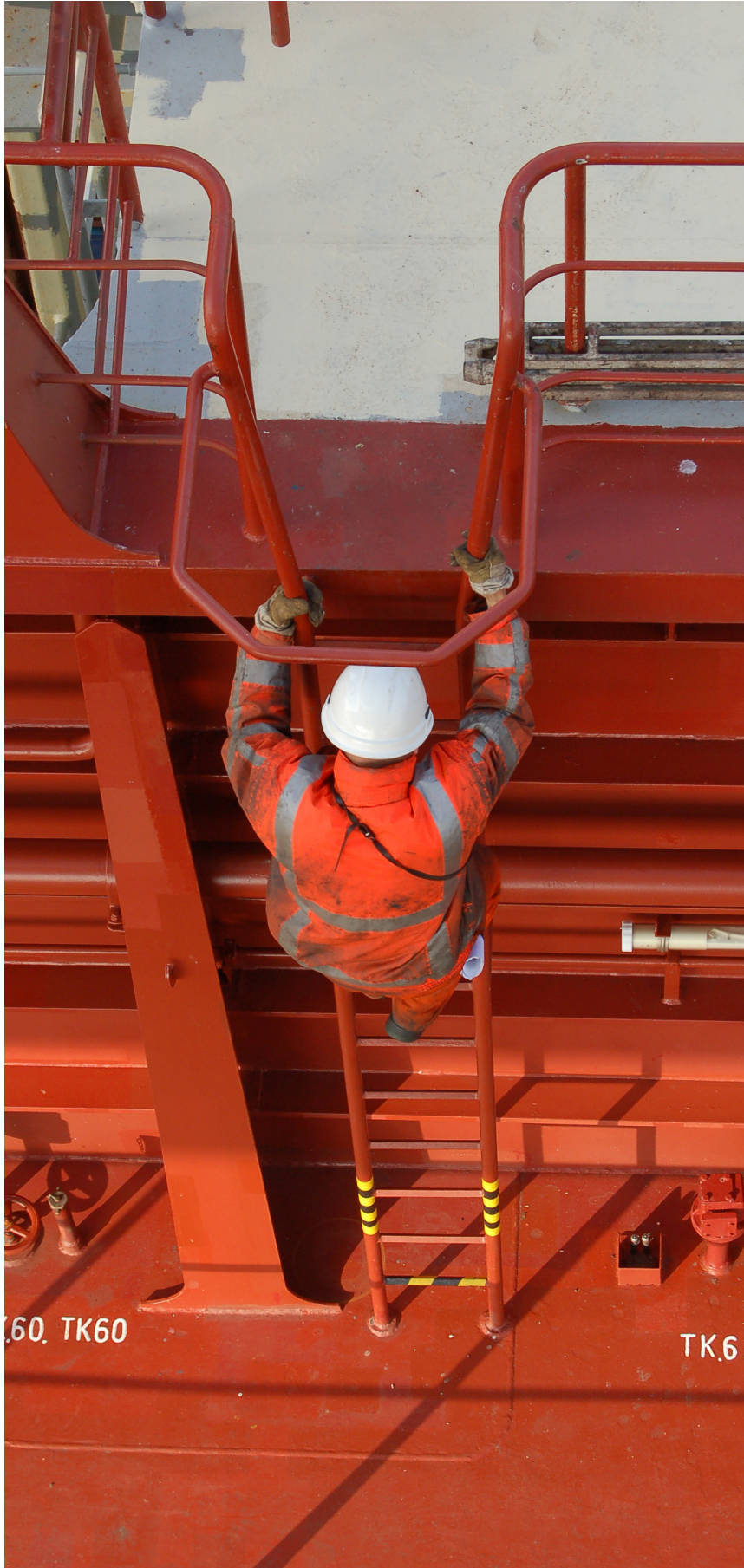
Bulk carriers, also known as bulkers, are ships primarily designed for transporting solid bulk cargoes directly into their cargo space without any intermediate containment and are typically uniform in composition.

BMT offers a range of services for bulk carriers, including ship inspections, risk assessments, investigations into the nature, extent and cause of damage, ultrasonic hatch cover testing, sampling and testing, advice on dry bulk transport and storage requirements, and the liquefaction of cargoes.

BMT was instructed by cargo underwriters to investigate a claim of a deviating smell on 49 containers of long-grain rice shipped on two different vessels from South America to Europe.

After investigating the claim concerning a deviating smell on 49 containers with long grain rice shipped on two vessels from South America to Europe, BMT discovered that the rice was loaded with excessive moisture content. This allowed the insured to claim the loss with the shippers, and thanks to BMT's intervention, the claim was significantly reduced.





Heavy lift and project cargo

Heavy lift and project cargo transportation involve the shipment of heavy and voluminous loads, which requires special care and preparation. BMT provides various services to enhance the speed, efficiency, and safety of these cargoes. These services include inspections, calculation of forces and required lashings, strength calculations, towage approvals, route analyses, weather and sea state forecasts, and advice and supervision on stowage and sea fastening.

Oil, gas and chemicals

Investigating claims requires an analytical approach when it comes to liquid bulk cargo. This involves using specialized laboratories to sample and analyze the cargo and checking the extensive records kept by the crew during pre-loading and transportation. BMT offers a range of services for liquid bulk cargoes, including incident investigation, investigations into the cause and extent of cargo claim/loss, investigation into quality, quantity, and condition disputes, fire and explosion investigations, bunker quality disputes, environmental impact studies, tank cleaning and inspections, and spill clean-ups.

Audits, inspections and certification

We have extensive expertise in conducting various types of audits, inspections, and certifications to ensure safety and cost-effectiveness for our customers.

Vetting and fleet compliance

Several of the largest shipping lines in the world rely on BMT for specialist advice and audits to promote safety, operational efficiency, and asset protection. BMT can assist with risk assessments, specific audit programs, procedure reviews, ship vetting services, onboard audits, data collection, and trend analyses. BMT has even helped develop a survey form, which several P&I Clubs have eventually adopted.

360 Quality

BMT is fully authorised under the 360 Quality Association's rules to perform audits on specialised reefer ships and coldstore terminals. The Association requires specialized reefer vessels and terminals to be audited and certified according to its guidelines.



Vessel condition surveys

BMT has the capability to perform inspections on any type of vessel worldwide upon receiving an instruction. Our team of surveyors can provide entry and condition surveys for P&I and H&M insurance, surveys to ensure company compliance, surveys for sale and purchase transactions, condition surveys for vessel valuation, cargo hold cleanliness inspections, ultrasonic hatch cover testing, delivery and redelivery surveys, and engine room and office management and condition surveys.



Tanker and terminal safety

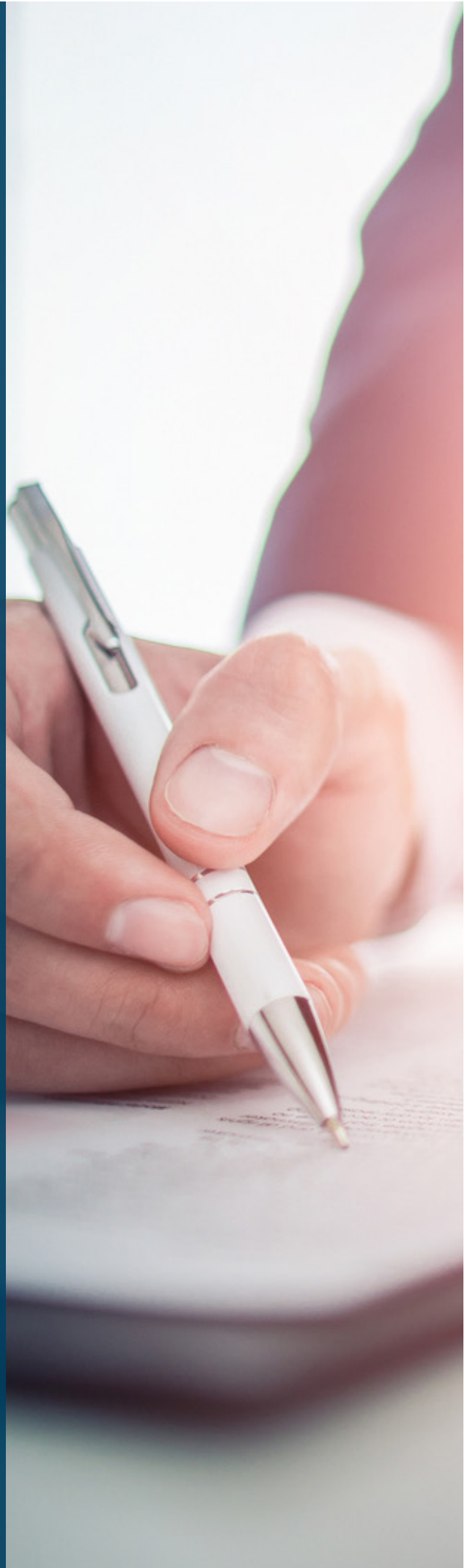
BMT is a member of INTERTANKO and has a dedicated team of tanker specialists with many years of practical experience in tanker operations. They have served at different command levels on seagoing board vessels and held senior management positions at storage terminals.

One of the world's largest oil traders uses BMT's expertise to assess and manage risks during Ship-to-Ship and Ship-to-Shore transfers.

BMT has developed a three-day tanker and terminal course that provides participants with a complete view of liquid product transport, handling, and operational procedures.

Disputes and litigation

BMT's surveyors are skilled in providing oral and written evidence in court and arbitration proceedings throughout all claims, disputes, and litigation stages. Many of our surveyors have significant experience giving evidence in arbitration and court proceedings at various locations worldwide and are well-equipped to handle such situations. If mediation is required, we can also provide technical assistance

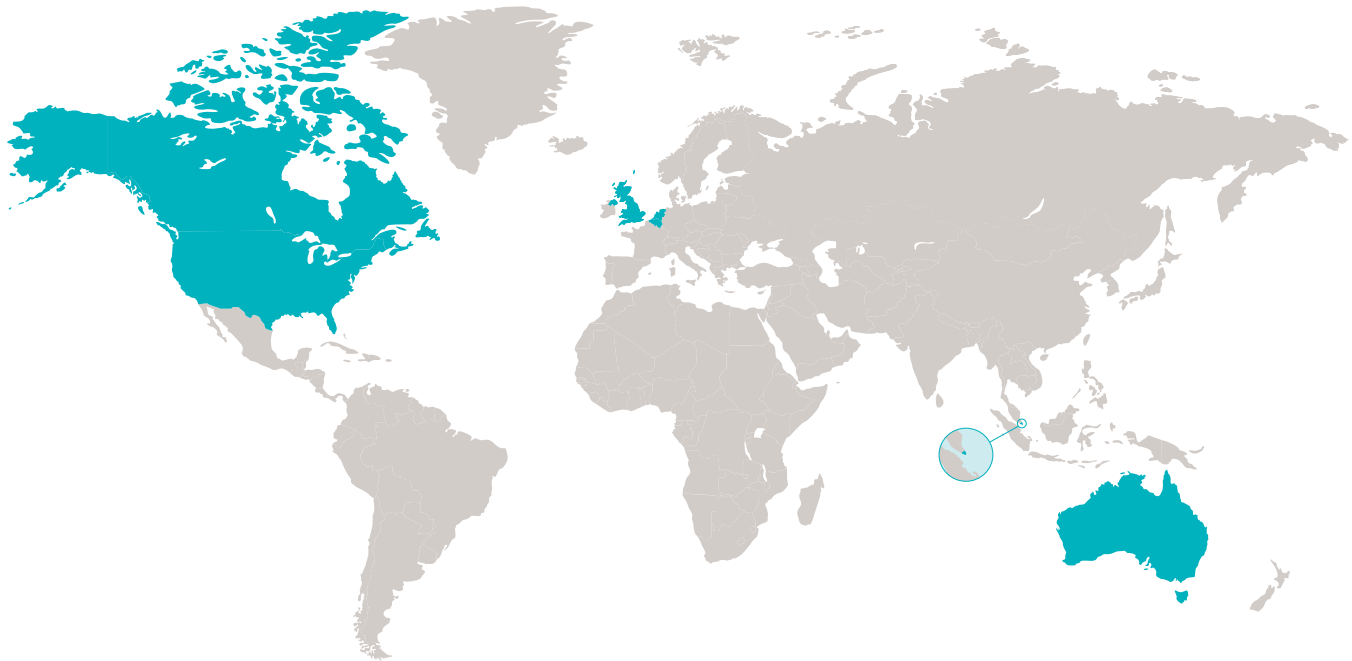


Calculations and simulations

BMT offers a vast array of calculation, simulation and visualisation services using software that we have either developed in-house or of which we are fully licensed users.

Furthermore, we have collaborated with companies that offer specialised support for investigations, salvage operations, or simulating and visualising incidents using state-of-the-art software.





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