

**MID have the proven capability and technical expertise in the assessment, review and approval of docking arrangements. MID also have technical knowledge and proven professional involvement in the design, assessment and review of slipping systems, floating docks and lifting appliances.**

Bringing a floating object safely onto the land, by lifting on a floating pontoon, pulling a ship up onto a slipway or lowering into a dry-dock is a very technical exercise.

The consequences of making any mistakes can be catastrophic and the potential costs and losses to both the slipway/dry-dock and the owner of the ship can be very significant.

As a result, the insurers behind these operations often require those involved to demonstrate due diligence and independent professional assessment. This is where MID's expertise and professional experience and technical support is highly valued and often essential.

### **Naval Architecture, stability and safety**

The transition from the water to the land can represent some very specific risks to the stability of the vessel, any floating pontoon or lifting/slipping system. Knowledge of the hazards and risk mitigation methods is essential to ensure a safe and predictable operation.

Floating docks, and any systems for transferring a vessel from a floating dock to the adjacent quay, need to be very carefully designed to ensure that the intended operations can be carried out in a practical manner, and strict operational parameters and safe working limits applied so that safety is ensured at all stages of the procedure.

### **Review and Approval of Vessel Docking Arrangements (for the Dock or the Owner)**

Calculations to approve vessel docking arrangements are undertaken to internationally recognised standards to ensure the vessel is secure, that sufficient docking blocks are arranged and that the safety criteria for wind loading and earthquake loadings are met.

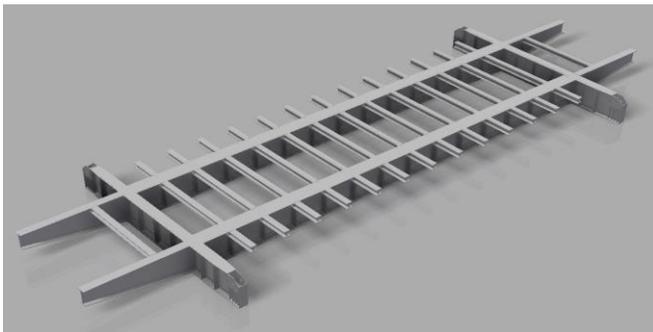
A potential point of failure to a drydocking can be the crushing of an overloaded docking block due to unusual spacing of the blocks or unusual loading condition for the ship. A professional report on the suitability and safety of a proposed arrangement can be instrumental in avoiding risk, improving safety and demonstrating 'all practical steps' and due diligence.



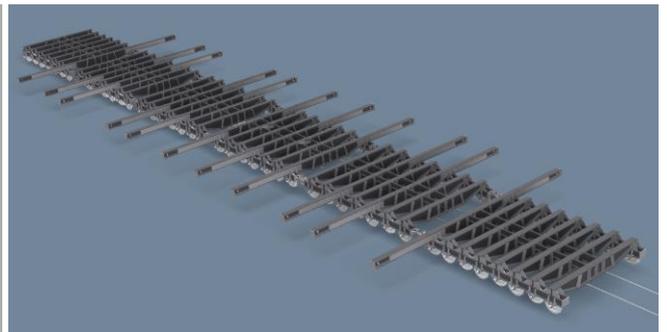
**Design and review of vessel slipping systems and lifting appliances.**

MID is experienced in the designing of vessel slipping and docking appliances (to BS6349-3) and in ensuring that Lifting Appliances are designed to Classification Society Standards.

Past projects include the Upgrade and Safe Working Load (SWL) review of a 1900t Slipway and the SWL calculation for a 230t vertical 'Synchrolift' mechanical lifting system.



SWL Calculation of Vessel Synchrolift



Marine Slipway Upgrade and SWL Calculations

**Development of Detailed Docking Plans and 3D models**

Knowing exactly where all a ship's hull penetrations, drain plugs, overboards and seachests are, is essential to planning and maintenance. Accurate Vessel Docking Plans can be generated during dry-dock visits using 3D scanning of the ship's hull, enabling the preparation of accurate drawings and plans.

3D scanning of the hull can also assist in the accurate hull modelling of the ship to prepare for design work or to support configuration management of your assets.

