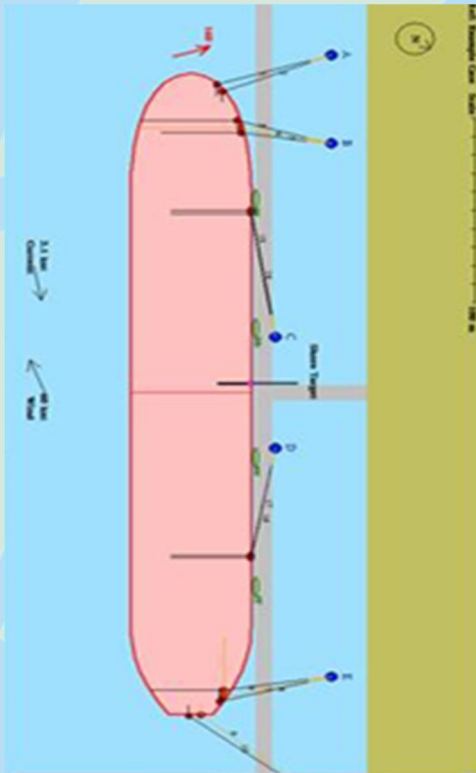


“Where will our knowledge take you?”

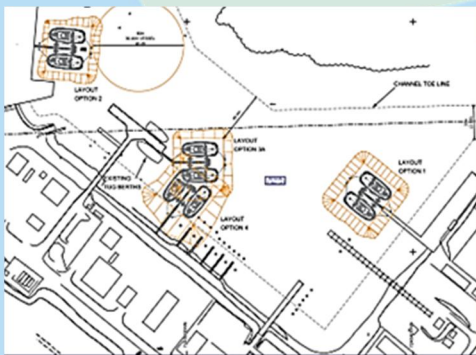
## General Port and Harbour Engineering

### Mooring and Berth Operability Studies



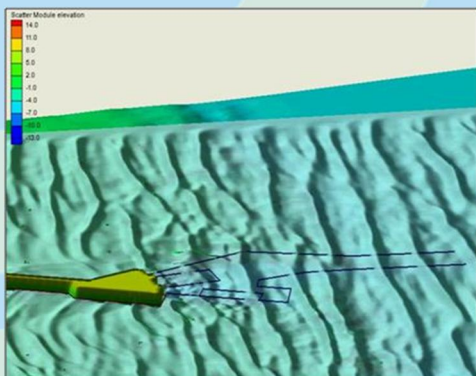
“ Based on knowledge of local winds, waves, wakes and currents, BMT JFA engineers can calculate and model mooring line loads for determination of the number and type of lines required for a given vessel. ”

The design of wharves and berth structures considers a range of forces and movements acting on vessels tied to the berth. A gust of wind, ocean swell, wake waves of passing ships, change of tide and freeboard can exert significant loads on mooring lines and bollards which may lead to failure and sudden vessel movement.



Proper analysis of the adequacy of a vessel's mooring gear and the wharf side mooring points and arrangement can substantially reduce the risk of accidents and damage to marine infrastructure.

BMT group has a partnership with Tension Technology International (TTI), the focus of which is to develop improved functionality of the OPTIMOOR mooring analysis computer programme, which is one of the most widely used software packages for assessment and calculation of mooring loads.



BMT JFA also provides determinations of berth availability and downtime analysis due to metocean conditions as well as traffic throughput simulation

modelling services.

BMT JFA can also provide project management services for structural engineering design and the supervision of the construction of wharves and berths.

#### Key Capabilities

- Mooring load analysis , arrangement and design
- Berth utilisation
- Berth downtime assessments
- Project management of structural design studies.

#### Related Projects

- Carnarvon Boat Harbour Tug Berth Feasibility
- Dampier Service Wharf
- Cape Lambert HOF, Berth Operability Studies
- Oakajee Panamax Berth Study
- Southdown/Albany Port Expansion Project.

#### Services Offered

- Development of mooring arrangements
- Analysis and calculation of mooring loads
- Fender and bollard design
- Prediction of sea keeping
- Development and documentation of port marine design criteria
- Simulation of ship manoeuvring , investigation of ship wake and naval architectural
- Layout design of ports and terminals.

#### Software

- OPTIMOOR
- SHIPMO
- AQWA
- EXTENSIM.