More than a game of battleships.

Improving the effectiveness of your harbor management.

It's more than "battleships"

For a port manager, coordinating berth allocation and the associated harbor services sometimes appears to the outsider as akin to playing "Battleships"; simply placing your craft into a requisite spot. However, anyone involved with harbor management knows it is infinitely more complex, and that a smart approach can transform the efficiency of their operations.

Managing the complexity

Before a ship even enters your harbor there are a myriad of factors to consider: The incoming ship needs to be matched to the available facilities. The more information you can source, the more optimized berthing can be—length and draught, any issues with pilotage, lifting gear sited on the vessel, what sort of cargo with what sort of equipment required, are there any unusual cargo or hazardous items on the ship that need to be factored in?

Then it is about ensuring this process coordinates well with the unloading onto the quayside and onto the transport system.

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Having the right equipment and labor in place (or coordinating with the right people to provide this) to service each vessel is also important. This means estimating processing time and how that will impact on other berth bookings. You need to know how much cargo is being discharged and how long will it take to discharge, so you can calculate occupancy. The same applies with the loading process.

You also need to allocate a berth that ships can safely maneuver into. Tidal flows are often an important consideration, having a significant impact on where vessels can be berthed and for how long. The berth schedule needs to be dynamic, adjusting if weather or other issues at previous ports cause delays.

When the vessel has left your harbor, the challenge is to gather as much data as possible, such as turnaround times, berthing usage, resource consumption etc. This information can be analyzed and used to make the process more efficient.

Getting all of this right has a big, but sometimes under–appreciated, impact on the overall efficiency of the port. Even for a small harbor operation it is a complex logistical challenge, which has traditionally been managed in different ways, from using blocks of wood on a tray to whiteboards, or computer systems.

As computer technology has become both more affordable and more powerful, software is the logical solution for almost any port operation to help them make better, faster harbor management decisions.

The challenge becomes: what sort of solution will meet your needs?
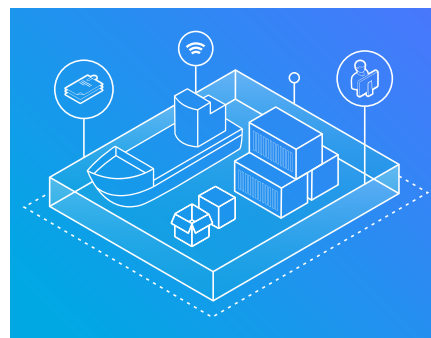
Evaluating the technology

What do you need to consider when evaluating software to manage your berth allocation and wider harbor services? Apart from all the normal aspects of vendor credibility in the market, cost and quality of service, there are a few practical considerations.

The first and foremost is functionality to manage vessels. A modern system should provide a rich graphical interface where vessels can be 'dragged and dropped' around the screen, providing a 'virtual' harbor for pilots or other staff to use easily.

This visual should be able to schedule visits as far into the future as required, including accounting for tidal models and automatically responding to other arrival and departure movements. It should dynamically manage any number of extra vessel movements between berths, wharves or harbors, understanding how changing one affects how the others are arranged.

Scheduling resources is another key piece of functionality. Vessels typically have a number of resources allocated to them, such as water supply, garbage collection, warehouse, berth preferences, cranes, tugs, pilot vessels and pilots, stevedores (or longshoremen), telephones, electricity, etc. These should be all managed by your system, as well as offering the opportunity to define other resources or services unique to your operation.

Managing these logistics effectively is one thing, but to have a real effect on efficiency, the software needs to be able to help you communicate effectively to all relevant parties. Shipping agents, stevedores, customs authorities and other parties should all be able to access data relevant to them through an online portal, and via direct email or text messages. Being able to segment and manage information is important, so you can provide the right information to the right people, without disclosing confidential information.

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Increasingly, it is critical that these systems are available on multiple platforms, including mobile devices like smart phones and tablets. Communication around the port is significantly enhanced by this.

Lastly, ensuring all harbor management activity flows through to the billing process ensures the best contribution to the bottom line. A good harbor management system will ensure all marine services are captured, sent to the financial systems and billed to the appropriate entity.

How do you know if it works?

Harbor management is an operation, the complexity of which is often underestimated. You can't simply apply a "Battleships" type approach to allocating berths and associated services.

Doing it well results in a number of benefits, the most visible of which are:

- improvements in berth utilization rates
- improvements in port processing efficiency
- improvements in recovery of marine services costs from customers
- reallocation of administrative resource from coordinating and billing marine services to more value–add functions
- improved customer and stakeholder satisfaction, especially through better communications.

About Master Terminal from Jade Logistics Group

Designed to handle all cargo types in one integrated system, Master Terminal is the world's leading terminal operating system (TOS) for mixed cargo ports.

Master Terminal is licensed at over 120 terminals worldwide, from vehicle terminals in Italy to steel terminals in North America.

Implementation is the key to success, and our implementation record is second to none in the industry. Our proven and robust methodology, partnership approach, thorough training and unrivaled implementation timeframes deliver tangible results fast.

Jade Logistics has been designing, building, and supporting innovative logistics software since 1993. Our experienced people understand the global logistics industry and are the foundation on which we build long-term relationships with our customers.

We have offices in New Zealand, Australia, USA, the Netherlands, the United Arab Emirates, and Indonesia.

For more information, visit us at **jadelogistics.com**

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