THREE WAYS TO MINIMISE CONGESTION AMID INCREASED BERTH WAIT TIMES

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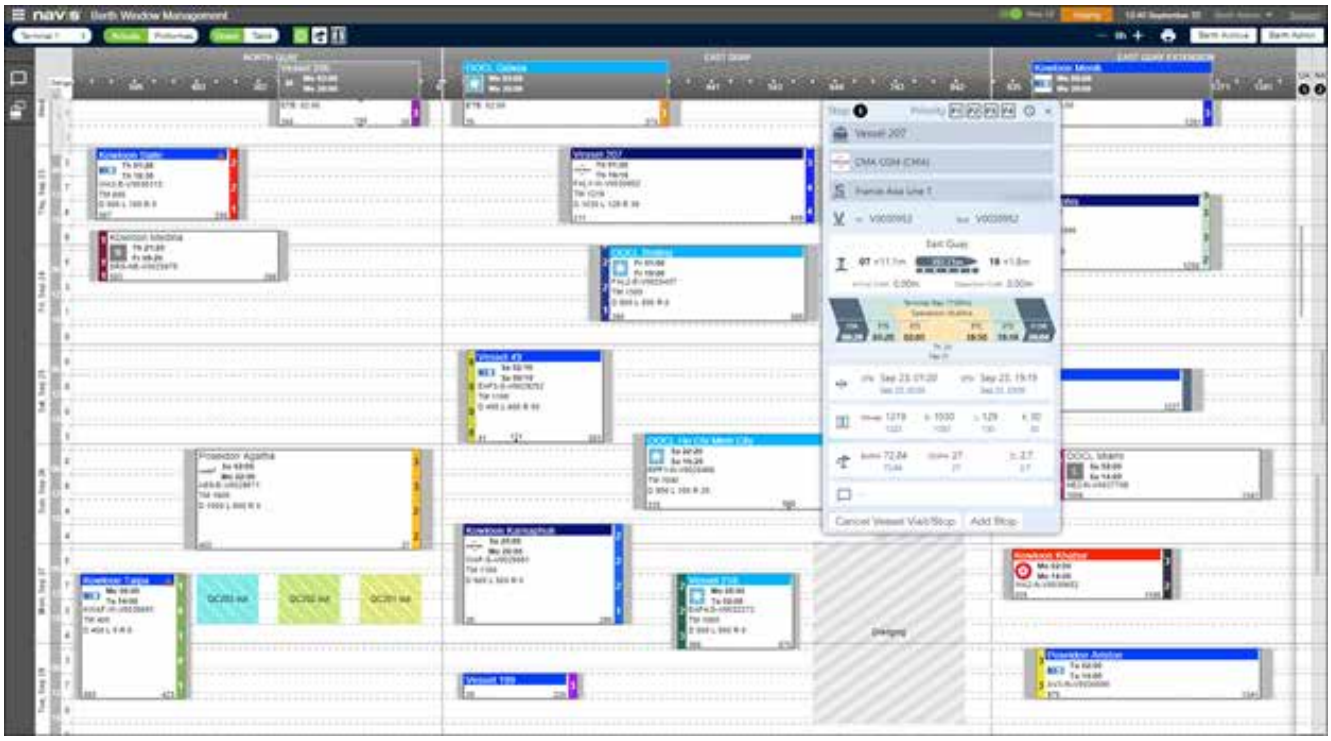
Imagine an airport that tries to operate without a control tower. Planes want to take off and land without any streamlined communication about which gate might be available or what traffic looks like on the runway, and control operators don't know why a plane might be late or even how far away it might be.

It seems unfathomable because, even in the midst of the COVID-19 pandemic, there were nearly 565,000 domestic flights in the US in June 2021. If there weren't strong communication, there would be endless wait times and far fewer flights because demand is so high.

That's essentially how many ports all over the globe are still operating. Consumption of goods has increased worldwide. Yet some port operators are still using archaic planning tools like whiteboards, spreadsheets, or even pen and paper. Berth wait times in North America have roughly quadrupled since May 2019, from approximately eight hours to 32 hours that a vessel anchors waiting for a berth to clear. This has become a worldwide issue that forecasters see continuing for more than a year. Reasons for these wait times are many and complex.

One big pain point is a lack of communication. Unless a port has real-time data and communication tools, vessel crews, carriers, and agents often don't have visibility into berth allocation or when a certain position in a port becomes available for them to dock, unload and load. It is up to the terminal to make those schedules based on their operations. Likewise, terminal operators often don't have visibility on when a vessel will arrive. With today's tools, it is possible to know where the vessel is, but more complicated to have an accurate ETA that allows the terminal to plan its berth space more efficiently. These issues and poor planning often result in wasted time and increased costs.

There are other factors that can cause congestion, as well. The Suez Canal, which was infamously blocked in March 2021, saw another ship get stuck in early September. When the canal that sees 10 per cent of the world's trade flow through it ends up with a traffic jam, there are huge consequences. Even once vessels get to port, terminal operations have seen a pandemic effect,



like many other industries. There are fewer people available to operate the cranes that load and unload cargo, which also leads to hefty delays.

Amid all the delays and interruptions, there are solutions that can help. Let's look at three ways that you can help decrease berth wait times and minimise congestion at ports.

DIGITISE VESSEL BERTH PLANNING AND MANAGEMENT

The marine terminal industry is one of the last industries to adopt new technology. Most vessel planning and operation management today is still done manually. Relying on emails, phone calls, and spreadsheets doesn't allow for real-time changes and can lead to costly mistakes. When there is no way to see data in real-time, there is no possibility of vessel arrival optimisation or preparing for a delay in berth arrivals.

Digitising the vessel planning process allows terminals to eliminate manual tasks associated with scheduling and gain visibility into real-time information to make smarter decisions. That allows vessel crews to manage planning activities like delayed arrivals, shift priorities, and prepare appropriate resources.

MAKE DATA AVAILABLE FOR VENDORS AND CUSTOMERS

Strong communication isn't enough to solve all potential problems at port. Evolving toward real-time data exchange will allow for true collaboration among all the stakeholders involved in moving cargo. If one side has visibility into the other with real-time data, it reduces last-minute calls and emails.

If the terminal knows in real time that a particular vessel is delayed or ahead of schedule, it can either accommodate the vessel in a slot that fits its arrival time, or communicate with the agent so the vessel adjusts its speed to the corresponding schedule.

The same is true for departure. Greater visibility of a vessel's estimated completion time of operations enables agents to close tasks, allows the port's technical-nautical resources to be available at the appointed time, and

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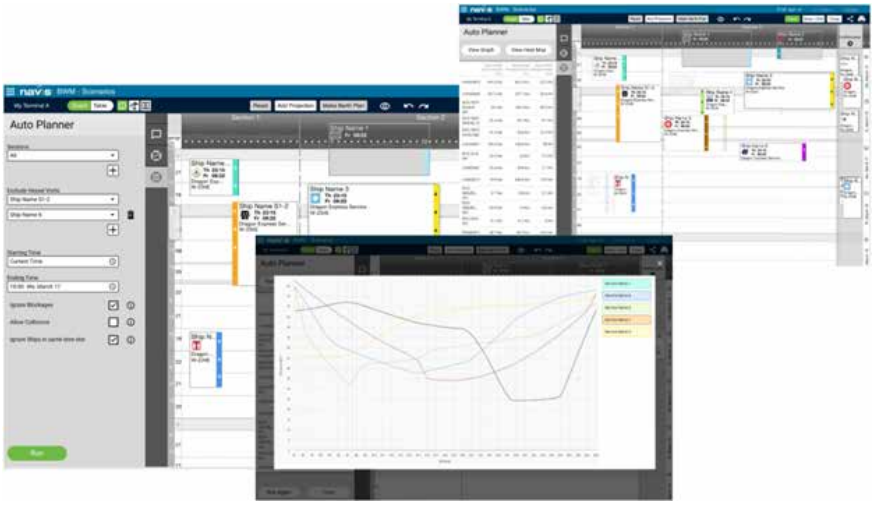

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makes it easier for the next port to optimise its operations.

One of Australia's biggest port and supply chain operators with multiple terminals solved this problem with a cloud-based, multi-terminal management system. After implementation, the port has real-time visibility of the consequence of a late- or early-arriving vessel and any delay in terminal. Management, maintenance, and monitoring are all centralised and communicated digitally, which reduces manual tasks.

Terminals can make use of idle time on their quays by preparing for upcoming vessels and housekeeping their yards. With enough notice, they can even rebook their labour, providing cost savings for the end customers. If terminals have a better sense of what cargo will make cutoffs, they can improve their yards to avoid future unproductive moves and better utilise their space.

Data sharing offers a more complete picture when optimising operations, reducing the distances traveled by the cargo handling equipment (CHE), optimising the number of gangs, and maximising berth occupancy. Cloud-based tools enable real-time visibility between terminals and vessels, which makes that technology among the most valuable pieces of the puzzle for a terminal as it streamlines operations.

LEVERAGE AI AND ML

In addition to digitising operations, it's essential to leverage artificial intelligence (AI) and machine learning (ML) with Terminal Operating System (TOS) data. The connection between vessel planning and the TOS is the first key to managing the operations. To take it a step further, terminals can leverage AI and ML algorithms to learn past behaviors, trends, and recurring issues and predict and prevent possible future issues. As ML continuously learns, your system may be able to automate resolutions to particular issues if there has been a consistent way of resolving that same issue.

There are many solutions out there leveraging AI and ML. An example would be relying on an optimisation engine that takes into account new data points and comes up with a suggestion on where to berth your vessel in a big terminal with long quay miles. Using ML, a large terminal can save up to 20 per cent in CHE driving distances, lower fuel consumption, and reduce operational costs.

With wait times continuing to drag on longer and longer, and forecasters predicting these lags will persist, now is the time to take action. These proven solutions can help reduce the chaos and bring organisation to terminals that are busier than ever.

ABOUT THE AUTHOR

Ajay Bharadwaj is Senior Director, Product Management at Navis. He's responsible for Navis's cloud initiatives, SaaS application offerings and Carrier and Vessel Solutions. Ajay brings 15+ years of experience in building and launching products, cloud, security, pricing and licensing models. Ajay has degrees in Computer Science and a MBA from the University of California, Los Angeles.

ABOUT THE ORGANISATION

Navis is a provider of operational technologies and services that unlock greater performance and efficiency for the world's leading organisations across the cargo supply chain. Navis combines industry best practices with innovative technology and world-class services, to provide comprehensive management of the supply chain for safer, smarter and more efficient cargo operations. Navis Rail offers a SaaS suite for the planning and optimisation of freight railroads including the network, schedule, traffic cars, locomotives and crew. www.navis.com

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