

MAKING PORT CALLS MORE EFFICIENT

Careful analysis of data using the Qronoport platform can reduce wasted time for liquid bulk vessels during port calls

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➤ **A LIQUID** bulk vessel is sailing towards the Port of Antwerp, which is extremely efficient, and one of the world's most important chemical ports. The vessel is one of the 5,300 liquid bulk vessels that arrive at the port every year, making 8,700 berth calls at the different terminals. She first arrives at the pilot station at sea to get clearance to sail into the port, and is one of the 65% of liquid bulk vessels which have to wait for that clearance. Like one in three such vessels, the reason for her wait is that a berth isn't available.

In recent years at Antwerp, tankers have waited a total of around 73,900 hours at a pilot station at sea, with 25,850 of those hours spent waiting for a berth.

Clearance received, the vessel sails into the port. Of course, there is more waiting here, and a quarter of the time at berth is considered 'wasted'. There is idle time between the gangway going down and there being a surveyor on board, gaps between the lab results being received and cargo operations starting, and between the completion of operations

and the actual time of departure. The latter is often the largest gap, because it is the result of the unpredictability of the other activities.

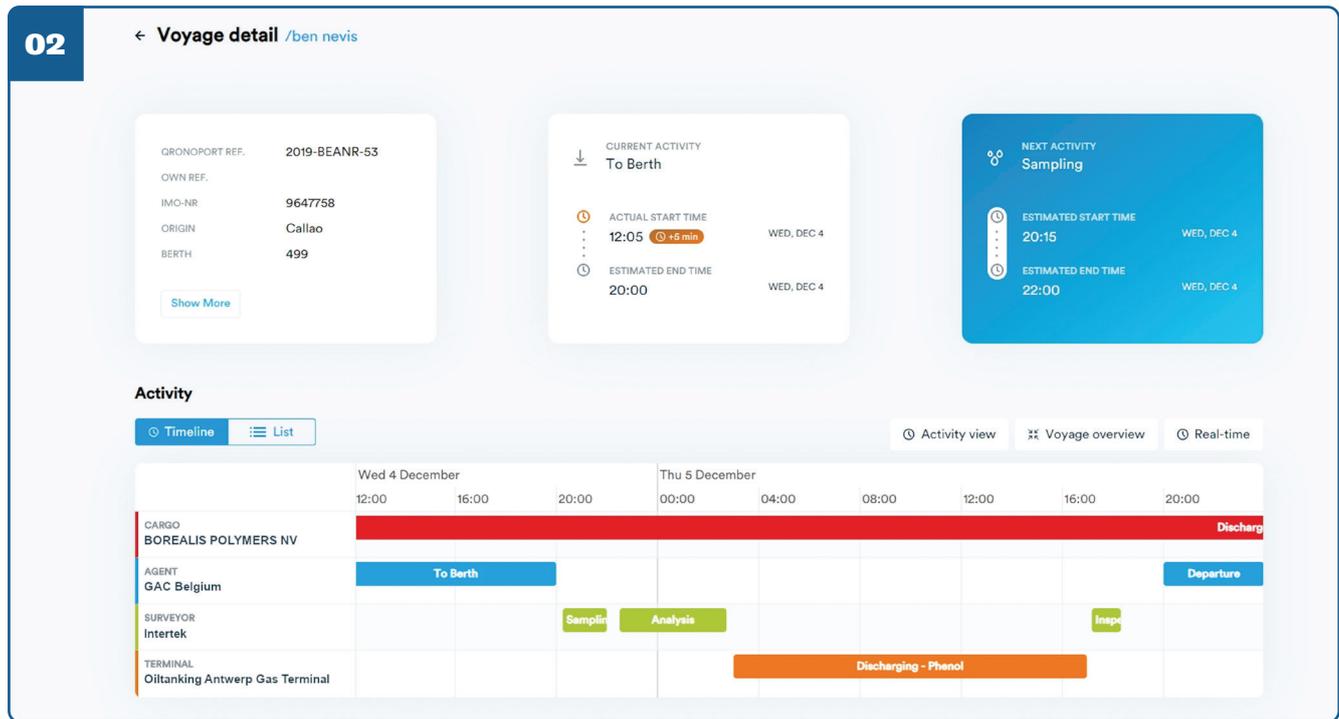
On average, the departure time of a vessel in the Port of Antwerp is changed three times, and 86% of liquid bulk vessels depart with a delay of more than two hours. Of those, the average delay is 9.6 hours. That's a lot of waiting.

WHAT IS CAUSING THE PROBLEM?

Port+ is a Belgian independent maritime information provider with a focus on creating data-based digital solutions that help the maritime industry become more efficient, including ship agents, surveyors, cargo owners, ship operators and terminals. The team there talked to stakeholders and port authorities and found that of all the vessels visiting the Port of Antwerp, the amount of wasted time is highest for liquid bulk vessels.

The Port+ team found that there are a number of reasons for the large amounts of wasted time for liquid bulk vessels:

- **There's no real schedule** – Most liquid bulk vessels don't have a fixed planning and schedule, and when they do, it can change at any time. This makes long-term planning nearly impossible, but it highlights the need for clear and swift communication.
- **The operations at the terminal are complex and less predictable than for other cargo types** – Operations can also vary a lot based on the products that are handled and the vessels that carry them.
- **The number of stakeholders that are involved is much higher for liquid bulk vessel port calls** – It makes communication much harder, creating and maintaining a complete overview near impossible, and makes planning very difficult.
- **Not all stakeholders have contractual relationships** – Sometimes stakeholders aren't even known to other stakeholders and thus have no obligation to communicate proactively.



- **Stakeholders have to ask each other for information** – A lot of time is spent on calling other stakeholders to get the information they need. And even then, the information can be inaccurate or outdated.
- **There's no single source of truth** – Because stakeholders base their planning on information they got from a phone call or an email, chances are that information is easily outdated or inaccurate. So different stakeholders are often using different data.
- **Some stakeholders may have other interests** – Not everyone is necessarily interested in every part of the port call going efficiently. Some stakeholders could benefit from delays.
- **It's difficult for anyone to get a complete overview of the port call** – Because of the combination of several of the issues above it's difficult for anyone to have and maintain a clear overview of the complete port call. Not having an overview makes it very hard to make good decisions and adapt when necessary.

Can these problems be overcome? The Port+ team believes the digitalisation is the answer. Its experts have developed the Qronoport platform as an answer to the problem of wasted time in ports.

THE QRONOPORT SOLUTION

Qronoport is a shared collaborative platform that endeavours to make the 'pitstop' of a liquid bulk vessel in a port more efficient by combining data from

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various sources, including from port community systems, AIS data, and operational data and timestamps about planned, ongoing and finished activities directly from the stakeholders. It uses open data sources, Port+ data and machine learning algorithms, as well as company data.

The combination of these data sources gives stakeholders in the process a highly accurate and real-time overview of the different activities taking place – both planned and completed – increasing the efficiency of their planning and operations. This results in an increased predictability, a decrease in waste in between activities and hence a decrease in turnaround times for vessels through the port.

A lot of the problems are caused by difficulties in communication between the stakeholders. By putting all the necessary information on one central platform, Qronoport, these problems are greatly reduced.

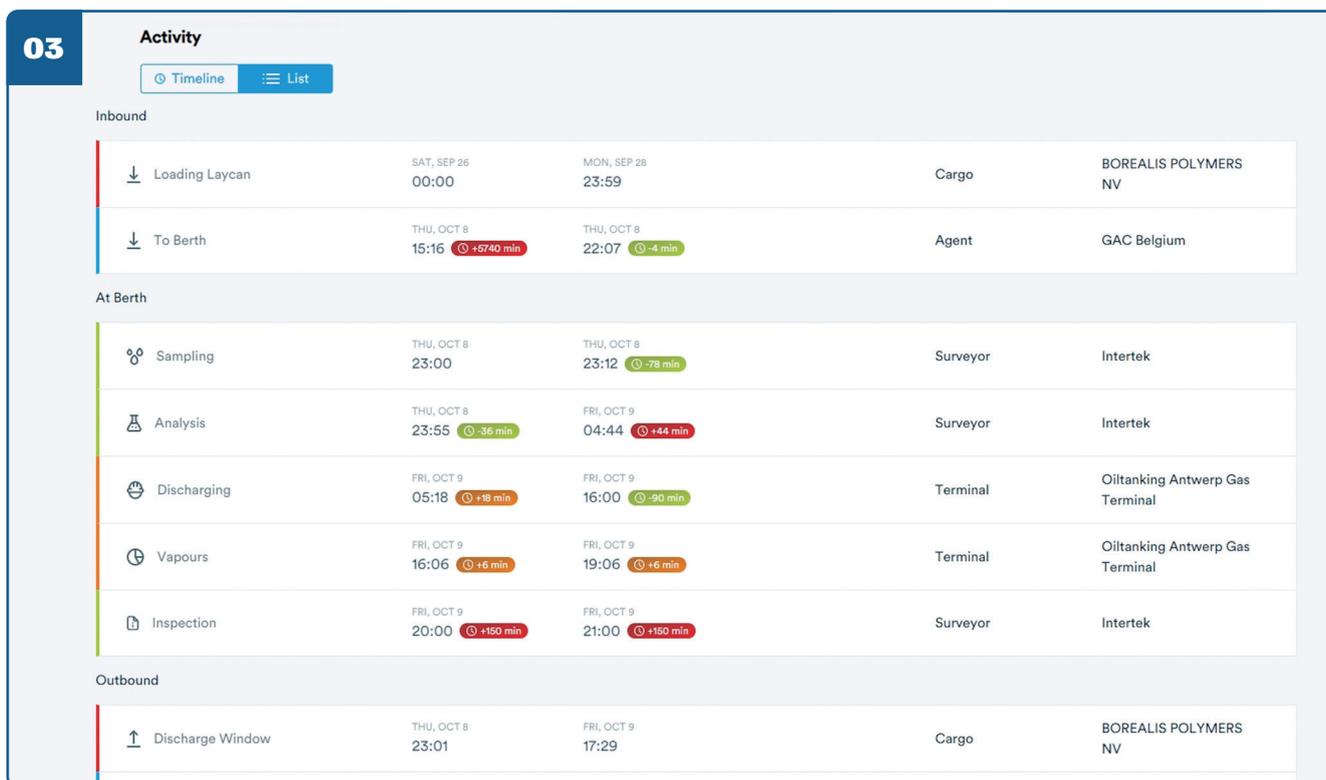
DIGITAL COLLABORATION

While digitalisation is often touted as the answer to industry's ills, it doesn't help much if collaborating entities are all using different systems and software. The foundation should be standardisation, increasing the ease of integrating different systems and decreasing the risk of errors.

One of the big time-wasting activities in a lot of maritime operations is telephone calls. It's often the fastest way to get the latest information, when real time data sharing is not available. Most of the time information has to be 'pulled', wasting time at both ends of the telephone. And even then, there's a high risk of getting incorrect information. Data sharing and digital collaboration can reduce the need for telephone calls by pushing data to all stakeholders, giving everyone the same information at the same time, lowering the administrative pressure and freeing up time.

Sharing data with other stakeholders though one platform allows for a single source of truth. Data that is pushed to a platform and visible and usable for other stakeholders is used by all those stakeholders. Shared data that is incorrect or outdated will be spotted and corrected much faster.

Sometimes it can be hard and time-consuming to analyse operations afterwards, with data scattered in different documents and systems. Having all the necessary data in one place allows a company to analyse port calls much easier and faster. The data and the analysis can be the basis for further improvements. And when enough



historical data is available it might be possible to make better predictions.

BENEFITS FOR STAKEHOLDERS

Cargo owners – The cargo owner is the first to know which cargo will be moved from where to where, and by whom. The cargo owner is also mostly the stakeholder that pays the bill, and especially endures the cost of delays (e.g. demurrage). By providing data early on in the process and sharing that data with known stakeholders, the cargo owner can give those stakeholders the advantage of better planning, which in return will result in a more efficient port call and less demurrage. The fact that data from all stakeholders is combined gives the cargo owner the additional benefit of being able to analyse port calls more in depth, and create insights into possible bottlenecks in the supply chain.

Terminals – The terminal is pivotal, being where most of the action takes place. By sharing data, both of operational planning and of the actual execution of operations, they give other stakeholders the ability to swiftly adapt to changes and plan better. A surveyor depends on information from the terminal to know when to perform an analysis. A ship agent depends on information from the terminal to know when the ship is ready to depart. The terminal will get far fewer telephone calls, and will be able to optimise its jetty planning even further, because when

‘By sharing data about operations and planning through one platform ... all stakeholders involved can better plan their own operations’

other stakeholders have better planning and execution, so does the terminal.

Surveyors – Especially in liquid bulk, the role of the surveyor is key. Without their sampling and analysis, operations grind to a halt. A surveyor often knows how long sampling and analysis will take, and they usually have a good idea of their own operational capacity. Knowing the duration of an analysis, or knowing that the availability of a surveyor is limited (at night or during weekends) is crucial information for other stakeholders. Knowing in advance when a surveyor will be at the terminal and how long the survey will take can give an extreme advantage in planning. However, a surveyor will often get contacted last minute which makes it hard to create a good operational planning. Having insight into the planning of other stakeholders will give surveyors a much more accurate view of reality, allowing realistic and efficient planning.

Ship agents, ship operators, pilots, barge operators, bunker providers, tugboat services, waste collection companies and many others can all benefit from having

all the necessary information at the fingertips and the reduced administrative burden, allowing them to provide an optimal service for their customers.

‘By sharing data about operations and planning through one platform with all other stakeholders involved in the ‘pitstop’ of a liquid bulk vessel, all stakeholders involved can better plan their own operations and reduce the time a vessel spends in the port and at a berth. For a tank terminal that means fewer telephone calls and emails, more accurate planning, more transparency and a higher service level to customers; and at the end of the day more throughput, and more revenue,’ says Hans De Hondt, digital solutions, Port+.

For more information:

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- 01** A tanker alongside the jetties, perhaps waiting, as many tankers do. But laying idle too long is often avoidable
- 02** Qronoport gives a clear and interactive visual overview of the complete port call*
- 03** By taking both planned and actual times, Qronoport indicates delays, notifying the affected stakeholders*

* The data in the screenshots is fictional and only for illustrative purposes