Daily Maersk

They said it couldn't be done

Absolute reliability has until now been deemed impossible by both the shipping industry and logistics experts. Maersk Line took on the challenge and is reinventing the industry.

It is conventional wisdom that industry leaders never reinvent their own industry. As a result, they fall prey to younger and nimbler competitors. But knowing that reliability is the number one priority of its customers, Maersk Line decided to make the quantum leap from an industry norm of 56% reliability to absolute reliability.

Stopping the overbooking spiral

Throughout its history, shipping has required many adjustments from customers due to the industry's low rate of on-time delivery, resulting in inefficiencies. For example, it has become customary for shipping lines to overbook vessels – sometimes by up to 180% – to avoid empty vessels due to bookings not showing up or being cancelled at the last minute.

If 120% of the cargo shows up, 20% might be 'rolled', meaning the boxes are transferred to the next vessel – usually sailing a week later.

As a response to this practice, customers have felt forced to book more cargo than they actually plan to ship to make up for the 'rolling'. For example, if they plan to ship 50 containers, they might book 75. Many customers even book the same shipment with several carriers to ensure that at least one of them will actually be able to load the cargo at the time agreed.

This has become a vicious circle, only resulting in more delays and unreliability with even less efficiency in port operation.

The conveyor belt approach

It has taken a change in mindset to reinvent the industry and get back to basics after decades of tweaking. But now, Maersk Line is rebuilding the whole set-up with Daily Maersk, trusting that it will be better for business – for both the customers and Maersk Line.

By introducing transportation time through Daily Maersk's conveyor-belt approach, overbooking is no longer the customer's problem. Vessels will still need to be slightly overbooked, as sometimes cargo just doesn't show up at the port in time due to late production, customs or other issues – and vessels still have to be fully loaded.

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But there will now be 'controlled overbooking', meaning that every booking made after the vessel reaches 100% utilisation will be monitored. The Daily Maersk conveyor belt will always have another vessel arriving to cater for the overbooking.

Maersk Line promises a fixed cargo availability date based on the agreed cut-off – and transportation time is always the same from each port. From a customer's perspective, the primary reasons to overbook are then eliminated, because even if a container is transferred, it will not be delayed at destination, but just put on another vessel arriving on time. We have added extra capacity to the Asia-North Europe corridor to make sure cargo is always available on time at its final destination.

Managing all ports at the same time

An issue often resulting in unreliability is 'one port at a time' management. On the Asia-North Europe trade lane, vessels start loading cargo in Ningbo, followed by Shanghai, Yantian and Tanjung Pelepas. When leaving Tanjung Pelepas, heading for Europe, it is crucial that the vessel uses 100% of its capacity. But no liner company has ever planned the end-to-end capacity of every vessel.

In each port, the vessel has a slot time, the so-called berthing time, for example 14 hours, which equals 2,000 containers to be on- or off-loaded. But if more containers are left at the port when the berthing time is over, the liner company is left with a difficult choice: should it leave the cargo, risking that it will not be able to fill the vessel? Or should it load the rest of the cargo and accept the delay? It will usually run the chance of a delay.

This is also a problem when entering Europe. Today, vessels do not make sure at origin that the amount of cargo to discharge in a given port equals the berthing time given in that port. So if the schedule leaves time for discharging 2,000 containers, but the vessel carries 3,600 containers, the vessel might be late for the next port.

In the past, buffer time has been added for eventualities, such as port lock-downs due to bad weather or more time spent on- or off-loading cargo. But the buffer time added is often insufficient and if a vessel is delayed from one port, it will be even more difficult to get into the next port at the given time slot. As terminal berthing windows are increasingly becoming a bottleneck and other vessels will be waiting in line, it is difficult to swap port call times, so arriving late will further delay the shipment.

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Today, vessel schedules are always very tight in order to be able to promise customers the best transit times. Until now, the shipping industry would rather promise tight schedules – knowing it would fail to deliver – than lose customers to companies with a better promise on paper. It has become a standard of the industry to over-commit to fast transit times.

Daily Maersk manages the cargo for every vessel through all four load ports on the rotation at the same time, making sure that the vessels leave the port when their time slot is over, without risking that they are not fully loaded when heading for Europe. This intense shipment planning also means it is always possible to prioritise cargo that requires it in order to make it to destination on time – and eventually, based on the Daily Maersk network set-up, find alternative vessels that will also make it.

When managing cargo for each vessel, it is even taken into account where the cargo is bound to be discharged. There is no longer a risk that a vessel carries more cargo for a port in Europe than can be unloaded in the slot time allotted in that particular port.

Schedules are no longer as stretched as previously. A time buffer for every vessel's slot time has been added in order to diminish the risk of being delayed for the next port. Time is money; hence buffer time is an expense. But being late can be even more costly to the shipping line, as catching up two days' sailing from Asia to Europe costs several hundred thousand dollars in extra fuel. More importantly, it can be costly for customers, since they have to spend time on re-planning their inventory.

The first results

The Daily Maersk set-up has been tested for three months, and an interesting result of the new shipment planning is that on several occasions during the test period, containers were loaded earlier, even though they had been booked for a later vessel.

This is definitely new to the industry, but it results in filling up the vessel in port, freeing up space on the planned vessel – and making the cargo available for the customer more than a week before promised. That is, if the customer wishes to pick it up before – otherwise Maersk Line 'just' delivers it on time.

Note to the editors:

Berthing time: The time reserved for a vessel for loading and unloading cargo in a port.