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A View from the Other Side of a Crisis

The Maersk China case to mitigate the world's largest supply chain disruptor - COVID-19

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In today's highly connected global market, COVID-19 has presented large-scale disruption to supply chains that many were unprepared for. However, it's not too late for companies to introduce effective measures to mitigate the impact on their business.

The following outlines how businesses can best leverage Maersk's experience in maintaining supply chain continuity and minimising the impact on your business whether it is a global pandemic, cyber-attack or natural disaster.

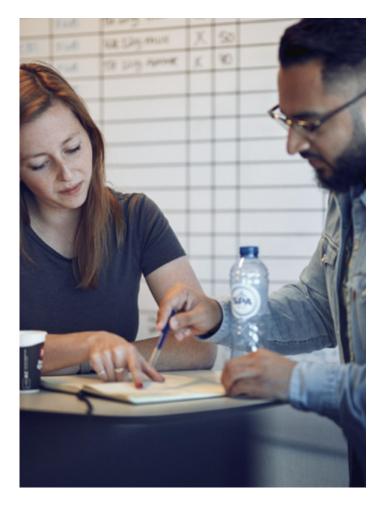
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Navigating a Threat to the Supply Chain

At the outset of the Coronavirus (henceforth COVID-19), Maersk China immediately established an executive team of functional experts. They spanned our entire business footprint to ensure business continuity and keep our customers fully informed of important developments as they unfolded. From the beginning, our key client teams continue to proactively work with customers to execute client-specific Business Continuity Plans (BCP). The trials that Maersk China had to face has provided a footprint for the rest of the organisation to focus on updates on logistics activities and stakeholder-related information such as governmental regulation, factory and vendor production status, carrier schedule and capacity updates, and airfreight and railway operational statuses. Continuity is key.



Continuity of Supply within the Chain

At origin, ensuring the flow of raw materials, both the upstream supply chain and semi-finished goods to factories, while keeping factories operating, is vital. So is maintaining the flow of finished goods to avoid lost sales. Businesses must maintain open communication with all direct suppliers to get a complete view of the supply chain and understand what exposure there is to production centres or logistical hubs in regions compromised by strict social distancing policies. Communication with suppliers should be daily to ensure any changes are swiftly incorporated into their BCP.

If multi-sourcing strategies are in place, then alternative suppliers can be activated and/or orders transferred where possible. The 2014-2015 US West Coast labour strike forever changed the supply chain balance between the coasts of North America and resulted in wide-spread distribution changes to mitigate risk.

Flexibility in transport options is a crucial tool to keep goods flowing. Companies are advised to utilise alternative routes and facilities to support the flow of materials and goods. Your supply chain provider should offer alternative freight options and warehouses that can transport cargo to operational locations that may be outside of your regular supply chain geography for faster lead times. While your standard warehouse location may be within minutes of the terminal, you could offset solutions at a slightly greater distance with added distribution or local drayage. Leveraging all-water options over mini-landbridge may offer you extended lead time to lengthen your supply chain. It is recommended that businesses contact us to determine which options will be the most effective for their BCP.

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Unforeseen Costs

It is likely that you, your vendors and your competitors will be experiencing added operational costs. Hopefully this will be short-term. However, you should be wary of additional costs that may not be immediately obvious. These could include:



Labour costs

The cost in additional human resources, overtime, medical expenses, external specialists, or costs incurred through hiring constraints



Adjacent costs

Potential that suppliers, etc. make temporary or complete cancellations



Logistics costs This might include unforeseen transportation costs from alternative routes



Compliance costs

Such as mandated quarantines or new reporting obligations

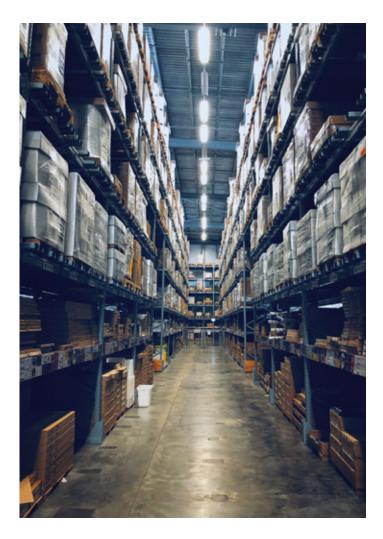
In the China scenario, we were met with a number of key impacts on supply chains. Some of these impacts are already being experienced in the rest of the world while others have not yet occurred. However, with China as our blueprint, companies should prepare for all the below impacts to eventually start affecting supply chains in the rest of the world.

Key impacts of COVID-19 on supply chains

What has impacted our supply chain:		What has yet to come for destination countries:	
<u>{</u>	Vendor low capacity		Truck/Capacity constraints
	Raw material shortages		Destination labour shortages
	Origin labour shortages		Quarantine of vessels at destination
	Airfreight impact	,	
<u> </u>	Volatile swings between over-demand and over-supply		Destination infrastructure closures
	Origin infrastructure closures		

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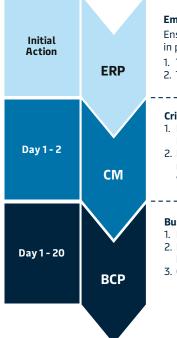


Recovering from Disaster

At the outset of this crisis, our Emergency Response teams in China and Copenhagen activated BCP protocols and client teams proactively worked with the customers to execute client-specific BCPs. While our Maersk China team had to pave the way, it provided the remainder of the world with a solid blueprint. This includes planning and validating alternative routes and shipping modes, utilising facilities in unique ways, connecting with vendors and stakeholders to collect work on schedule and production status, and providing prioritised PO planning.

We continue to ensure all customers maintain the highest level of visibility with regular and frequent updates on their logistics activities and stakeholder-related information. From changes to government regulations and factory/vendor production status, to continual updates on the operational and capacity status of terminals, warehouses, carriers, customs, and freight routes, we are working to make sure your supply chain continues to flow.





Emergency Response

Ensure trained personnel and infrastructure in place to protect 1. The safety of life 2. The infrastructure from major loss

Crisis Management

- 1. Provides a structured and trained Crisis Management Team
- 2. Provides communication protocols and materials to enable the CM decisions will be cascaded effectively

- Business Continuity Planning
- Includes a Business Risk Assessment (BIA)
 Provides prepared plans for when the business has to deal with identified risks
- 3. Governs testing, training and maintenance

Business Continuity Planning

Office BCP's

Documents continuation of business in case of incidents that impact the offices for a determined period

Operations BCP's

Documents continuation of business in case of incidents that impact the Maersk operated facilities and assets for a determined period

Process BCP's

Documents continuation of our business processes when our normal processes face IT service disruption

IT BCP's

Documents how we handle IT disruption and incidents which have the potential to disrupt Maersk IT services

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What we learned from the NotPetya Virus cyber-attack

In 2017, Maersk was faced with wide-scale disruption from the NotPetya malware virus which left almost all of our systems inoperable and needing to be rebuilt from scratch. Fortunately, as a global company operating a network of terminals and vessels to service our customers across all geographies, we have a team that is well-prepared to handle network disruptions and limit the impact on our customers.

We moved quickly and decisively with all colleagues involved from the outset. We realized that in the face of the crisis, we were the sum of our colleagues not just individuals. We mobilised all communication channels at our disposal to ensure customers received as clear and transparent communication as possible as the scenario unfolded, and we sought to be highly flexible in our solutions in order to circumnavigate affected systems and maintain a continuity of supply across our network.

Our key lesson from this incident was how crucial our preparation was in mitigating disaster. By having an experienced team already in place, Maersk was one of the first companies to emerge from the cyber-attack, managing to rebuild our network in just 10 days while keeping our customers' cargo moving – a remarkable feat given the extent of damage caused by NotPetya



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Planning for Future Disruptions



While the modern global supply chain brings vast benefits to the global and connected economy, the truth is that those rewards also come with additional risks. When we look at the supply chain holistically, with everything in the upstream and downstream supply chain connected globally, disruptions at a national or regional level are no longer isolated from the rest of the world.

From our experience, there are certain customer strategies we have seen that are successful when it comes to supply chain disruption. The following is a list of tips on how best to mitigate the negative impacts on your company.

- If you haven't done so already, create a core team of senior-level management leaders consisting of sales and operations planning that's cross-functional and enterprise-wide to address supply risks management, risk tolerances, controls, and decision making.
- Take a holistic supply chain approach that factors the processes and defines the necessary controls to ensure that supply chain disruptions risks are managed and that you protect your bottom line, not your procurement cost. Mitigation is key.
- Develop supply chain visibility. Visibility is an important key element that ensures that actions are timely, accurate and all information in the process stream is credible. This, in turn, enables organisations to take actions based on the data. Whether it be our Maersk tools such as MyMaersk for Supply Chain management, or a 3rd party platform, supply chain visibility is integral to your decision-making process.

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- Consider using more integrated supply chains where possible or using a company that does. This will increase the visibility you have over a supply chain during a crisis, making it easier to implement alternative strategies.
 For example, our combined use of Maersk service, terminal facility and dedicated trucker, reduces time to market in Los Angeles by three days using Maersk Accelerate. This means that, in an emergency, it is easier for us to make flexible adjustments to your plan.
- Consider multi-sourcing of parts/raw materials/finished goods, to improve your odds of getting finished goods to market. With regulations changing rapidly, there will be opportunities to quickly take up supply, and many companies have already instituted virtual quality control checks. While sourcing from one supplier or a handful of suppliers in the same country can provide cost benefits from scale and bargaining power, it creates additional risk for companies when crisis hits that country/suppliers. Companies with a diversified supply base are less exposed to the risk.
- Require your partners and vendors to adhere to transparent strategic supply management plans that clearly identify the risks, possible disruptions and forged strategies with contingency plans. Create a Plan B for every scenario.
- Enforce best practices for contract and supplier management that enable the company to monitor disruptions or other risks. This allows them to take more proactive actions and to have greater visibility.
- Continue to enact regular simulations of additional supply chain disruptions, even while we are already in the thick of the virus impact. This will allow the whole company to align with the mitigation strategies and/or identify which areas of investment need to be prioritised.
- Request that key suppliers provide their current strategies, policies, processes, organisational capabilities and skills, information for decision making, and data systems to meet your supply chain disruptions mitigation needs. Deftly evaluate your supply chain relationships with suppliers and partners today through audits and qualifications with the aim of assisting them in reducing risk.

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• Establish a Central Team (or 'war room') to monitor operation stability, workload, forecast and capacity across the supply chain.

- Make sure you (and your logistics providers) have full visibility of all your purchase orders/shipment orders, to understand if any are delayed/at risk. Consider integrating your key logistics partners as part of your extended team to enable faster communication. This will open up greater opportunities to mitigate the risks.
- Have a process for identifying and prioritising urgent shipments.
- Stay informed about all government/regulatory rules regarding the crisis/disruption.

During a Crisis

Whether you're in a scenario where 100% of your staff are already working from home or where the pandemic has yet to fully hit your country or region, you still have the opportunity to take important steps to mitigate the impact on your business.

- Be in daily contact with your suppliers/factories to understand when they will be returning to work, and to what capacity they can produce.
- Understand where your exposures lie in your supply chain.
- Line up contingency transport modes (i.e. air, rail, etc.) in case you need to expedite shipments, due to factory delays.
- Engage procurement to have these options/providers ready.

Daily updates

To stay up to date on the latest developments of the COVID-19 situation, please bookmark our advisory page to check our daily updates. https://www.maersk.com/stay-ahead

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Alternative Solutions Case Examples

Global Chemical Company

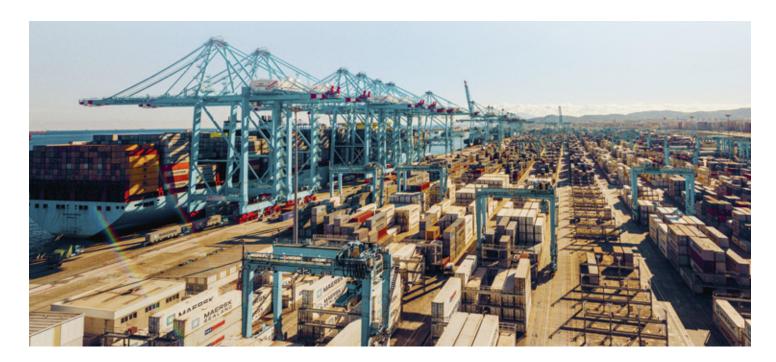
Maersk has coordinated across the customers' many supply chain partners and factories to provide clear order impact and timely visibility allowing the prioritising of critical orders to mitigate sales loss. We have been proactive in helping to speed up the priority cargo movement through transport alternatives such as domestic barges and intercontinental rail from China to Europe due to the lead-time advantage over ocean shipping.

Leading Global Retailer

To protect on-time arrival of product at destination markets, full visibility of all the retailers' purchase orders and shipments was crucial. From the outset of COVID-19, Maersk provided full daily visibility and planned various scenarios for alternative operations and transport modes. We worked closely with the Retailer to plan backup sourcing factories in various countries and created onboarding plans for new suppliers in case of late recovery scenarios in China. We coordinated across Maersk's integrated global supply chain network to commit transport capacity and operation readiness at short notice (2-3 weeks) throughout South East Asia and the Indian sub-continent.

Leading Global Retailer

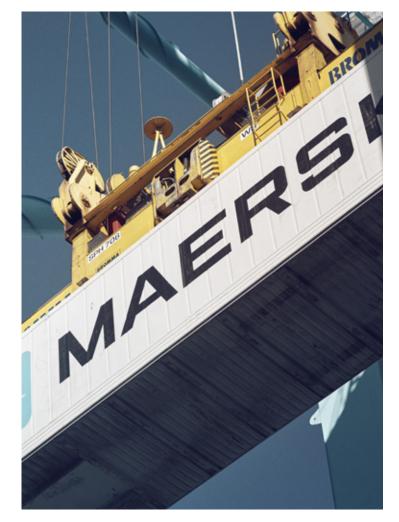
We focused on hyper-care of their critical seasonal product lines by close follow-up with vendors, daily updates of market dynamics, and proactively proposing solutions for volume movement. We also proposed a solution to carry samples from various factories in China through Air/Courier/Cross Board Truck into Maersk's Hong Kong distribution centre. This enabled the client's US-based buyers to review the product in Hong Kong rather than China.



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Transport Combinations Bring You Flexibility

While we often speak about the options for your cargo transport (air, sea, rail and truck), it is just as important to consider the interchange points where your cargo will either flow through a warehouse and be distributed, or remain for a longer period of time, while you slow down your supply chain. The connected alternatives give you flexibility.







Rail









Stay in Contact

If you haven't already, we advise that you contact us to understand what potential impacts there are on your business.

- 1. If you have a dedicated account owner or customer service team, please contact them directly.
- 2. Case Management: login to Maersk.com and raise a case. Our customer service agents will handle your case as quickly as possible.
- 3. Contact your local office: https://www.maersk.com/contact.
- 4. Chat with us online: https://www.maersk.com/help/support /#/chat?liveChat=true.
- 5. Keep your business moving during the COVID-19 situation: https://www.maersk.com/stay-ahead.

