



# Racemics Insights & Trends in Global Logistics

April 2024



OUR PURPOSE

# Improving life for all by integrating the world



- The integration illustrated by five years of Automatic Identification System (AIS) transponder data from A.P. Moller - Maersk vessels registered in the company's scheduling system GSIS
- Gateway and hub terminals

A.P. Moller - Maersk is an integrated logistics company working to connect and simplify its customers' supply chains. As a global leader in logistics services, the company has 100,000+ customers, operates in more than 130 countries and employs around 100,000 people. A.P. Moller - Maersk is aiming to reach net zero emissions by 2040 across the entire supply chain with new technologies, new vessels and green energy solutions.

## Ocean



Green methanol-enabled vessels on order	24
Containers per annum (m FFE), serving over 475 ports worldwide	11.9
Container vessels deployed	670+

## Logistics & Services



7,800k+ sqm warehousing capacity worldwide across	460+ sites
Electric vehicles in operation; 200+ more on order	100+
Intermodal volumes managed (m FFE)	4.0

## Terminals\*

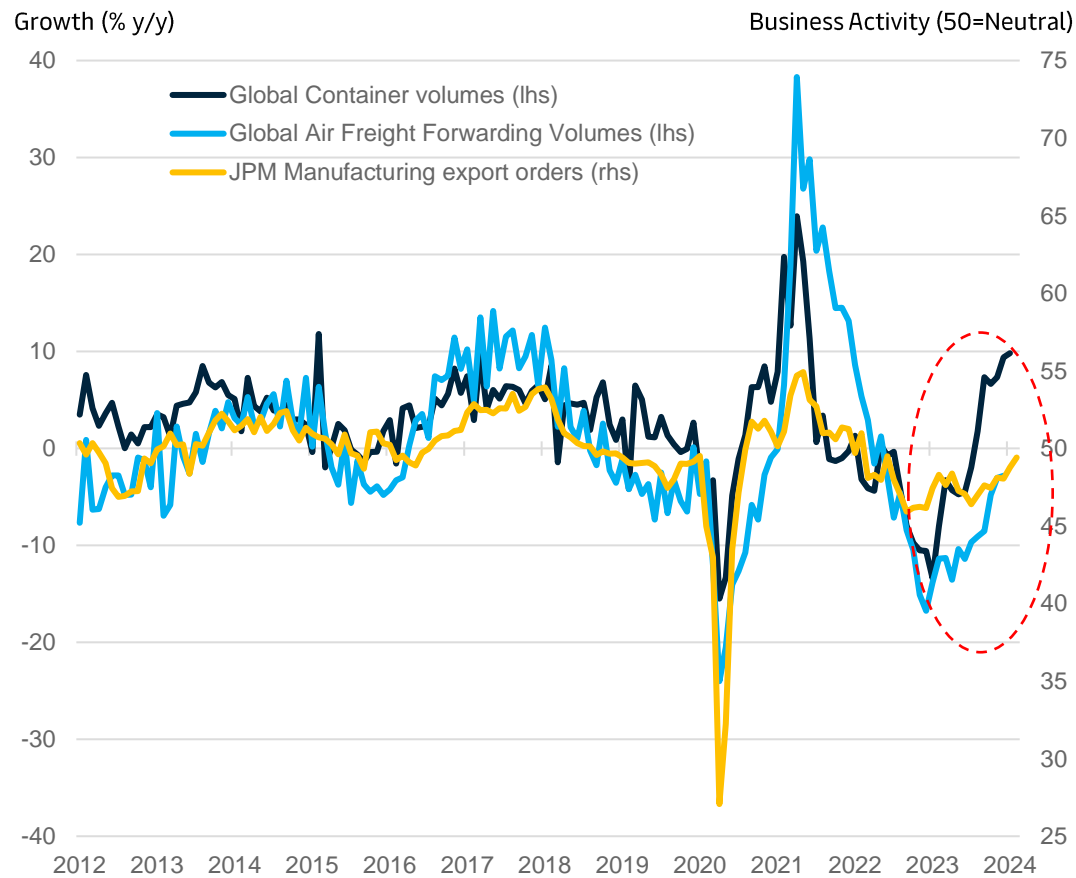


Moves in 2023	21.7m
Vessel calls	27,000+
Operating facilities across 35 countries; 3 new port projects	62

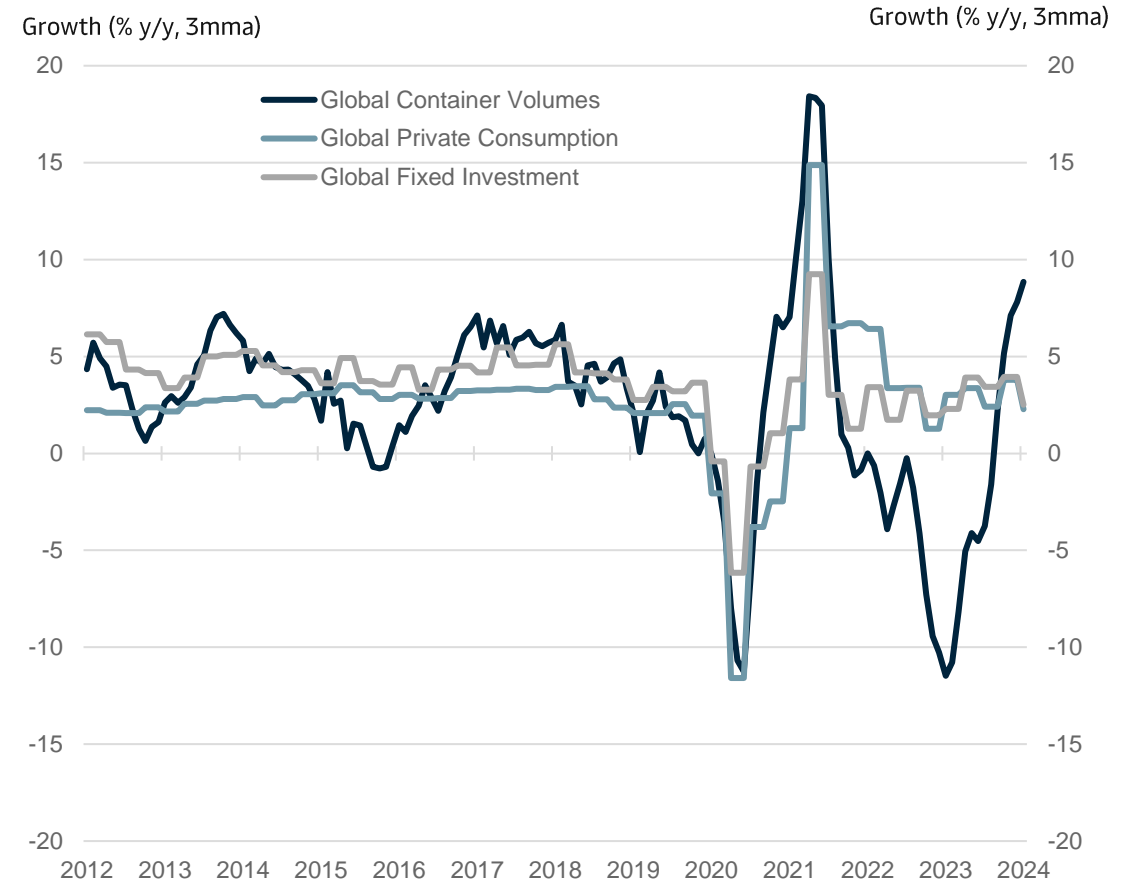
\* Gateway terminals and hubs

Container trade volumes have rebounded in recent months. Improvement in manufacturing activity will continue to support the recovery.

### Export Orders and Global Air/Container Trade



### Global Investment, consumption and container trade

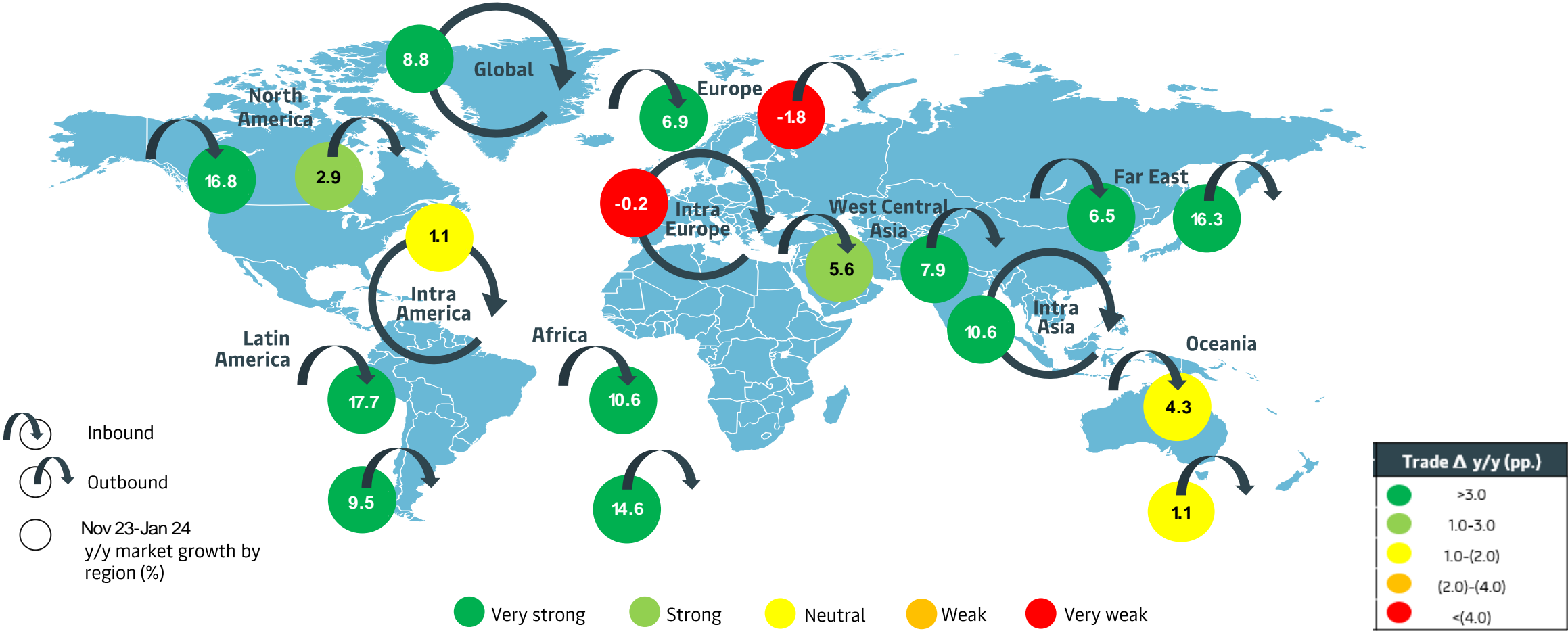


**Note:** 1) Global private consumption includes both goods and services 2) Q2 2023 data for Global Private Consumption and Global Fixed investment are estimates

**Source:** J.P. Morgan, Oxford Economics, Conference Board, Thomson Reuters, and Internal container market estimations as of Feb 2024.



# EUR exports and intra-EUR trade continue to be the negative spot in the global trade recovery.



**Note:** Colours embed information on the current dynamics relative to the 2011-19 average.

**Source:** Internal container market estimations as of Feb 2024.



# Disruptions in logistics -

## ECONOMIST IMPACT

Economist “Our research found that disruptions have incurred substantial financial costs (averaging 6-10% of annual revenues), as well as reputational costs—in terms of customer complaints and damage to brand reputation—as companies have struggled to maintain supplies of their goods. Indeed, firms were as likely to report damage to brand reputation as a consequence of supply-chain disruption as increased costs of operations

BUSINESS

# Cyberattack cost Maersk as much as \$300 million and disrupted operations for 2 weeks

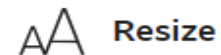
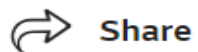
LOGISTICS REPORT

## Container Line CMA CGM Hit by Cyberattack

The shipping giant shuts down some networks in Asia to isolate what appears to be a ransomware attack

By *Costas Paris* [Follow](#)

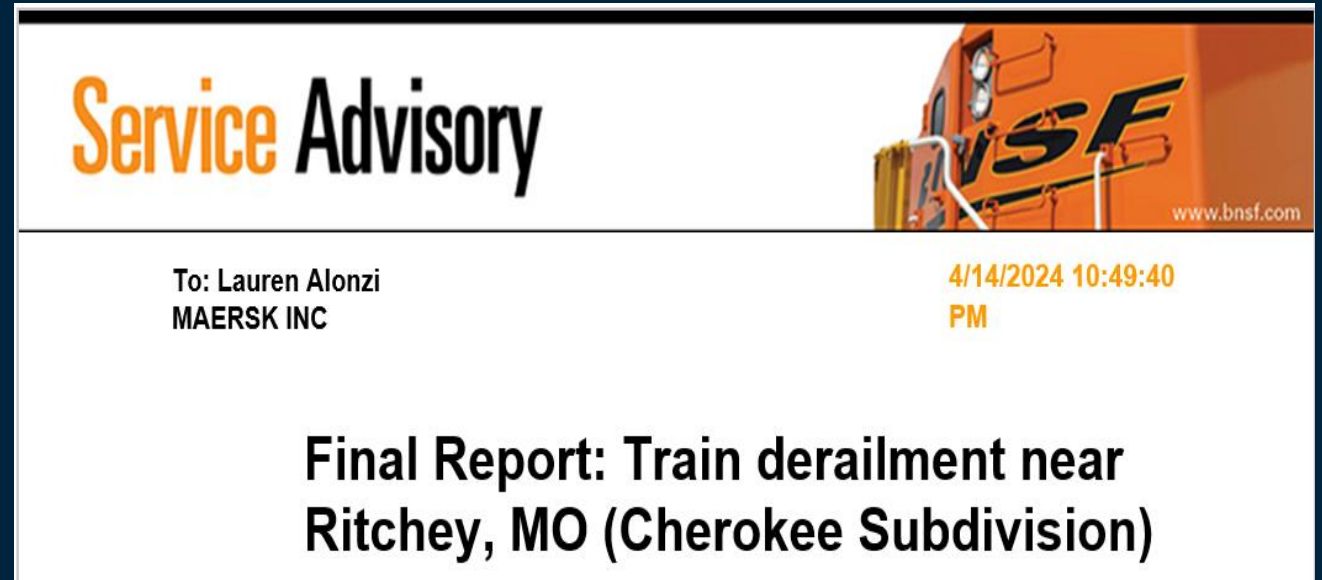
Updated Sept. 28, 2020 5:03 pm ET



# Disruptions in logistics -

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## Train derailment & Mud Slides



**Service Advisory**

To: Lauren Alonzi  
MAERSK INC

4/14/2024 10:49:40  
PM

**Final Report: Train derailment near  
Ritchey, MO (Cherokee Subdivision)**

www.bnsf.com

CN

We would like to notify you of an on-going disruption in Western Canada. There has been significant rainfall in British Columbia which resulted in multiple slides coming off of the mountains. Subsequently, washouts have occurred on the Yale Subdivision, in the Cheam View, BC area impacting both rail and highway traffic.

All intermodal and carload traffic northbound and eastbound from Vancouver, as well as traffic inbound to Vancouver from east/north of Kamloops is affected by this situation.

The washout is located at MP 59 (between Cheam View and Rosedale) and we also observed slide activity overnight between MP 50 and MP 60.

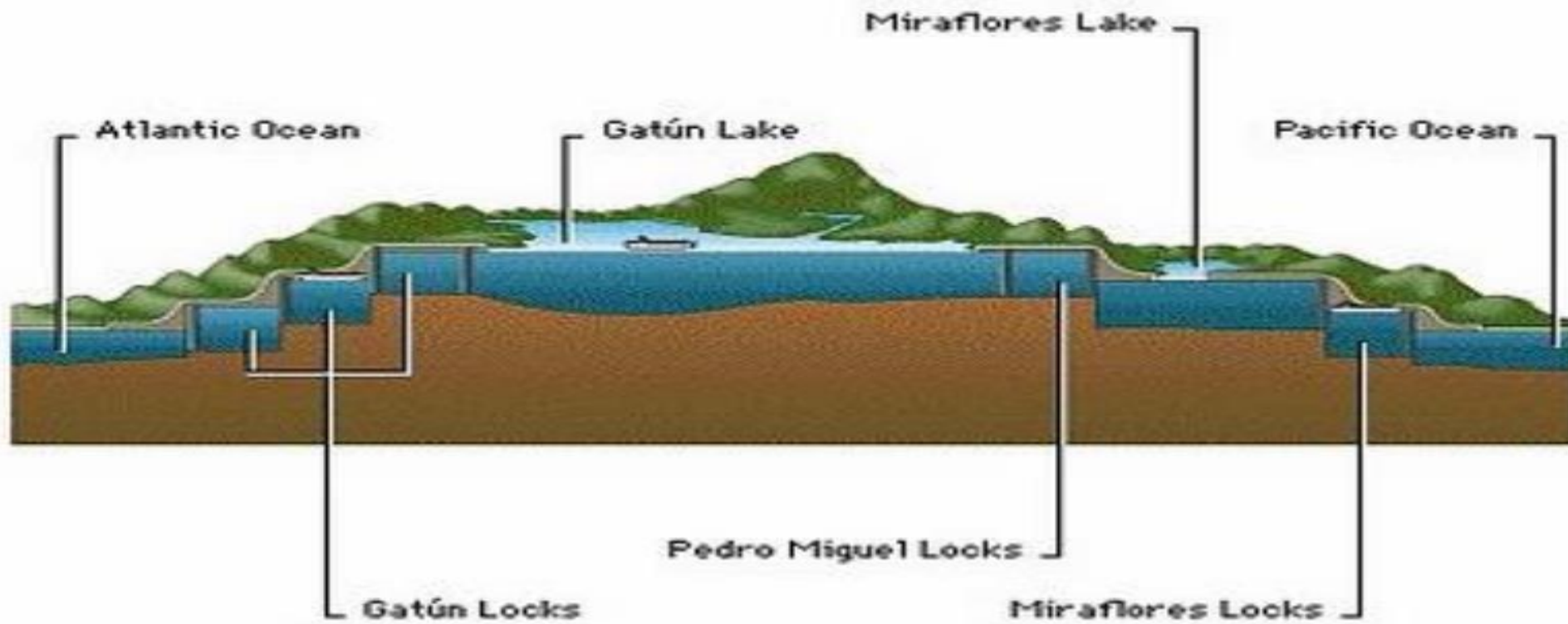
# Disruptions at Sea -

**Maersk Ship Fire and Evergreen Ship grounding in the Suez Canal**

**Maersk Alabama Somali Basin**







## Panama Canal Low Water Levels

# Red Sea / Gulf of Aden Service Disruptions

The Suez Canal plays a key role in global trade. It is the longest lock-free canal in the world and is a vital link connecting the Red Sea and the Mediterranean Sea.



It handles approx.

 30%

of all container traffic worldwide, facilitating the transportation of goods worth over \$1 trillion every year.

A key area and natural chokepoint in this shipping lane is the Bab al-Mandab Strait – the gateway to the Red Sea from the Gulf of Aden. This Strait is situated off the coast of Yemen.

Yemen has been experiencing internal and geopolitical turmoil. In line with this, the Houthi movement has seized the opportunity to intentionally disrupt global trade as a direct response to the conflict between Hamas and Israel.

Every day an average of

70 ships 

pass through the Suez Canal; approximately one-third are container vessels.

Attacks by the Houthis on maritime traffic and shipping carriers have halted operations through the Strait.

An international security initiative, Operation Prosperity Guardian (OPG), has been established in response to these attacks. We have also seen a coordinated response from both the US and the UK striking Houthi targets in Yemen in an attempt to disable their abilities.

Example of how  
Routes are Temporarily  
Being Diverted  
Around the COGH



# Resilience, Sustainability & Visibility

# Resiliency Insights

- The war in Israel, Red Sea attacks, and water levels in Panama Canal present new supply chain disruptions to which companies must adapt.
- Only 10% of companies are prepared to withstand supply chain disruptions
- The rest lack either the ability to respond quickly or the ability to absorb the impact in their operations.

## Trends in Supply Chain Resiliency

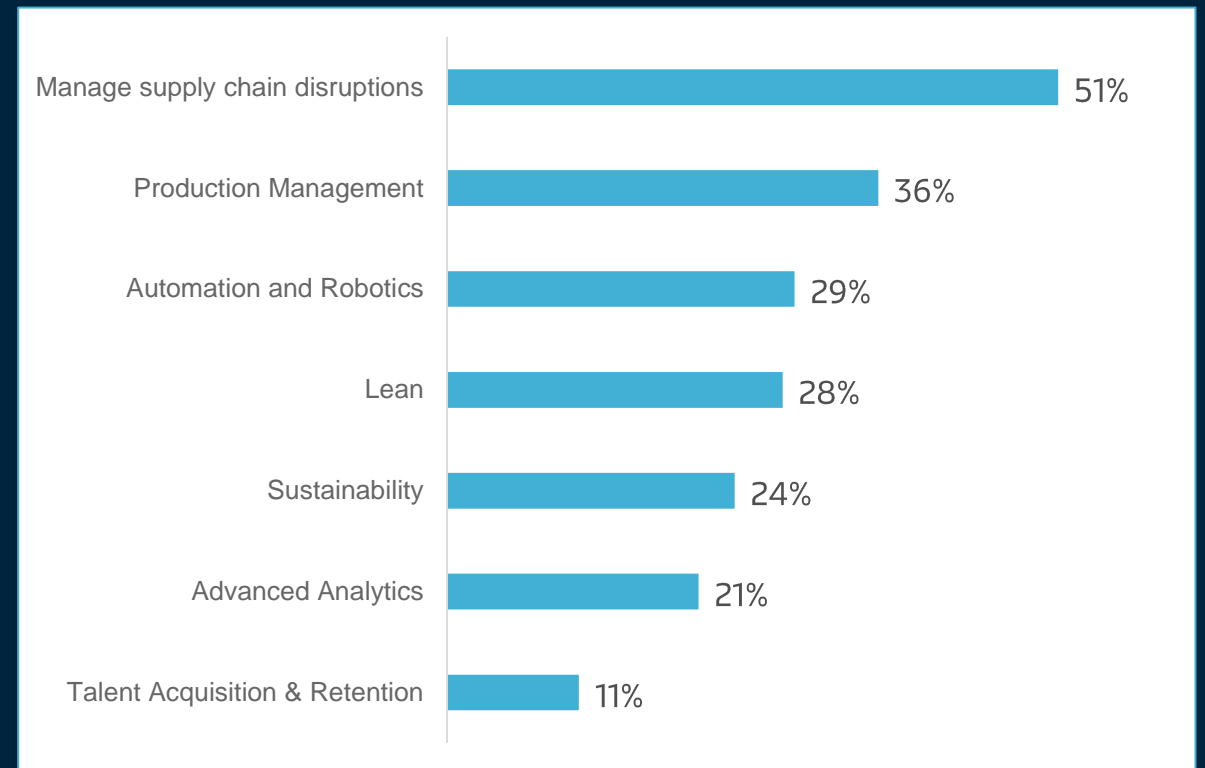
Supply Networks

Labor Retention

Nearshoring

## Top Focus Areas in Manufacturing

*-APQC 2024 Supply Chain Priorities and Challenges*



# Sustainability Insights

- Nearly half (48%) of companies report increased pressure to adopt more environmentally responsible and sustainable practices.
- Emissions produced from supply chains can make up over 90% of a company's GHG emissions, and transport accounts for 23% of global carbon dioxide emissions.
- Over a third of companies (35%) globally have net-zero goals in place.
- Scope 3 emissions\* are most challenging to reduce or even measure due to definition differences, measurement gaps, and visibility gaps in the supply chain.

## Trends in Sustainable Supply Chains

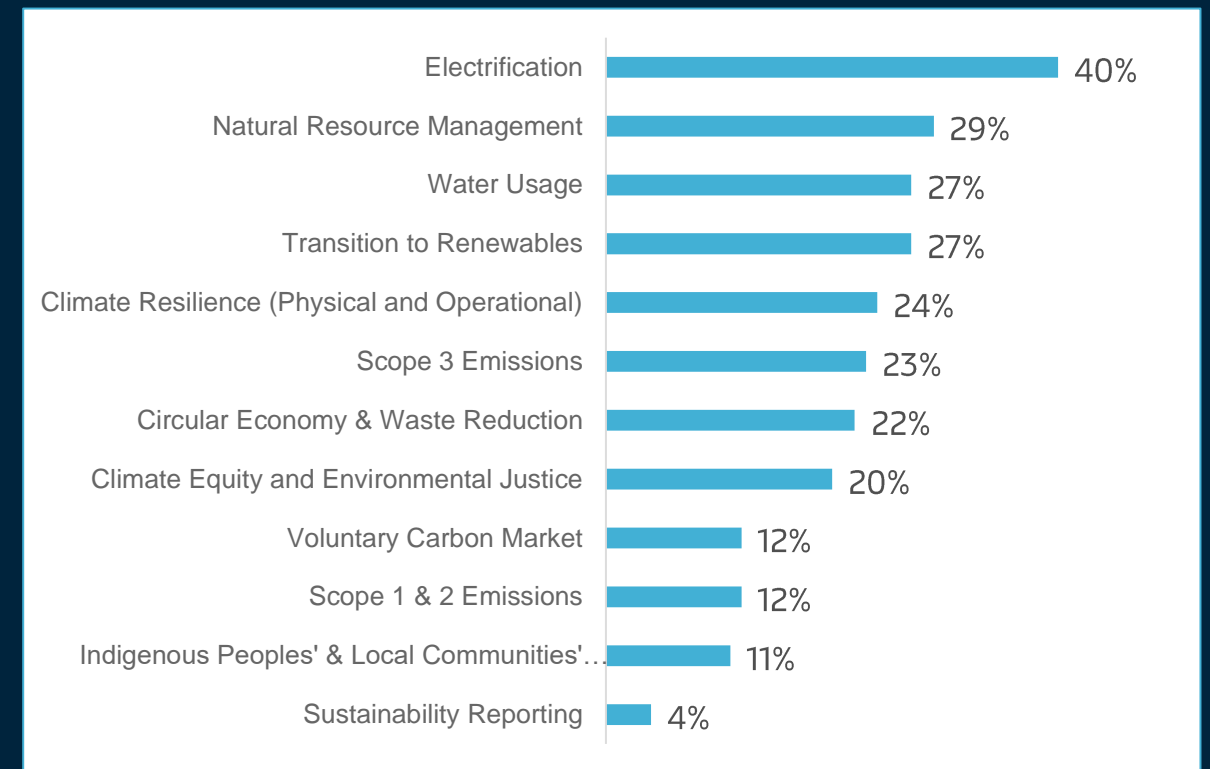
Electrification

Regulatory  
Pressure

Supplier Scrutiny

## Focus of Supply Chain Sustainability Efforts

-The Responsible Supply Chain, MHI 2023 Annual Industry Report



# Visibility Insights

- Supply Chain Visibility can improve inventory management and reduce inventory costs by as much as 20% and improve forecasting by as much as 25%.
- Lack of visibility into the full supply chain raises risks for meeting regulatory requirements and being able to predict and react to disruptions.
- To reduce these risks, companies are investing in technology for forecasting and planning (30%), collaboration and connectivity (27%), real time visibility and tracking (24%), and process automation (18%).

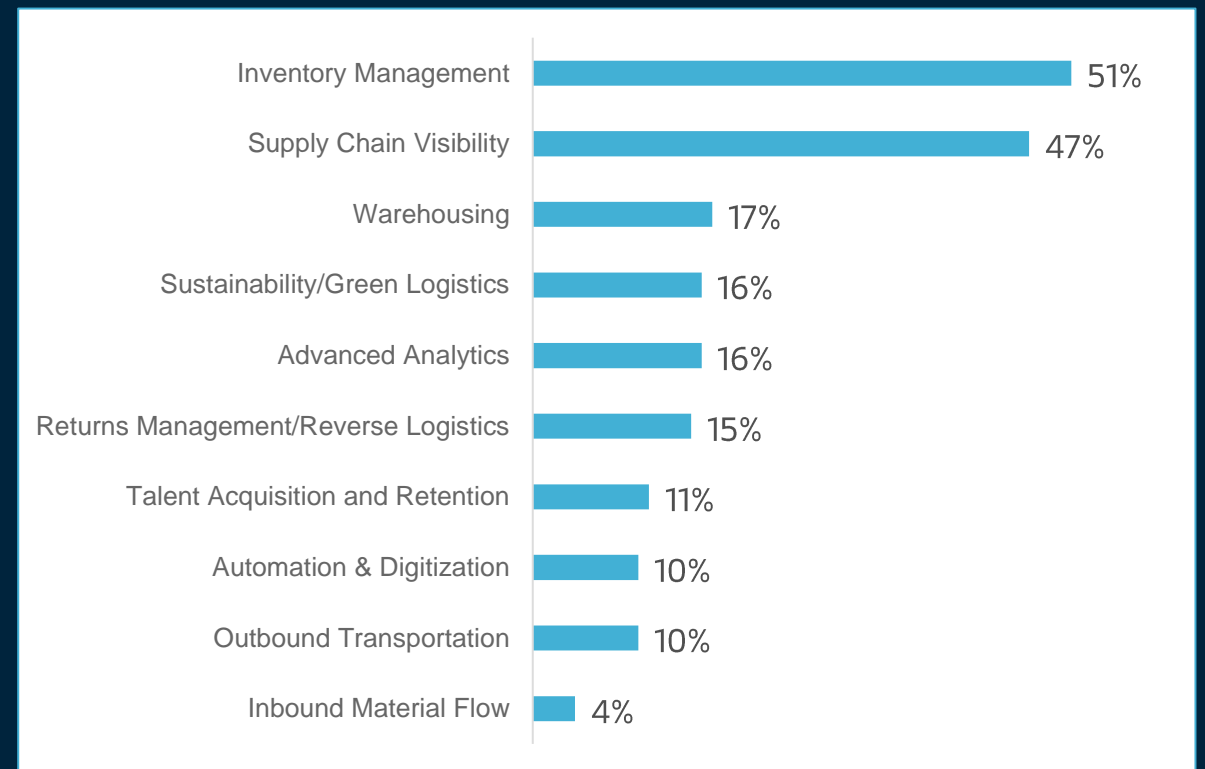
## Trends in Supply Chain Visibility

Control Towers

Increased Outsourcing

Logistics as a Strategy

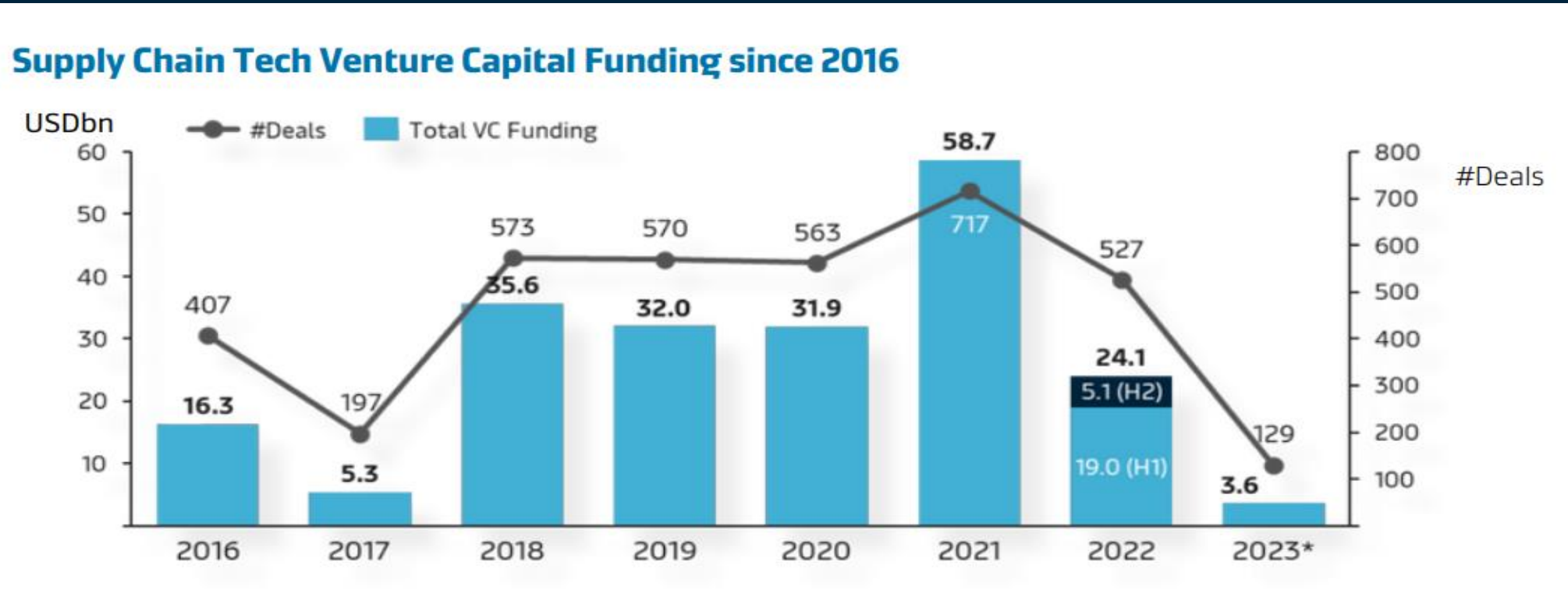
## Top Focus Areas in Logistics and Inventory Management -APQC 2024 Supply Chain Priorities and Challenges



# Technology Trends and logistics



Technology Investments have been robust in the Supply Chain but have peaked



# AI-powered Supply Chain Startups is on a Boom and Signaling an AI Platform Shift

Accurate upstream demand/production forecasting

Dynamic and outcome driven route planning

Predictive scenario planning/simulations

Automation & autonomy of the physical flow

Workflow automation covering above & more

# Maersk, CMA CGM join \$80 million funding round into project44

Kevin Saville, Managing Editor | Nov 03, 2022 5:31PM EDT



project44's latest funding round comes just 10 months after a \$240 million investment and brings the company's valuation to \$2.7 billion. Photo credit: Shutterstock.com.

Maersk and CMA CGM are among the participants in an \$80 million funding round announced Thursday by visibility provider project44, a cash injection the company said it will use to build a system for measuring so-called Scope 3 supply chain emissions.

## Our Competitors Both Invest/Partners with AI Providers that are Beyond their Core Business

Competitors	Partnerships with AI providers	Investments in AI-powered startups
	<b>C3.ai</b> Deliver Enhanced AI Solutions to AWS	<b>SPAN</b> "Smart" electrical panel to enable electrification
	 <b>LUMINOZO</b> NLP provider powering AWS solution	 <b>VIMAAAN</b> Provide full warehouse visibility and management
	 <b>scale</b> Extracts info from logistics do. at above 95% accuracy	<b>KARGO</b> Supply chain visibility company
	 <b>NTG</b> Partner to offer customers visibility and control across their SCs	 <b>Parsyl</b> Insurance and risk mgmt. for essential supply chains
	<b>nuro</b> Last-Mile Logistics with Autonomous Vehicles	 <b>BERKSHIRE GREY</b> Provide broader AI robotic automation capabilities
	 <b>Microsoft</b> New cross-platform logistics solution for ecommerce	 <b>FOURKITES</b> FedEx and FK joined forces to offer clients a smarter, more resilient supply chains
	 <b>infor</b> Deliver a comprehensive supply chain solution	 <b>VOLOCOPTER</b> Heavylift drone firm Volocopter doing LM in Hamburg for DB Schenker
	 <b>Geek+</b> Geek+ supplied +200 AMRs to one WH facility in Spain	 <b>GIDEON</b> Deployed Gideon AMRs in their facility in Leipzig
	 <b>tu simple</b> Collab to leverage its own facilities as terminals	 <b>SmartHop</b> TMS software made for small fleets
	 <b>TURVO</b> Cloud TMS provider powering RyderShare, Ryder's EZE solution	 <b>EcoCart</b> Algorithm estimates order's carbon footprint in real-time
	 <b>Google Cloud</b> UPS uses Google Cloud to build the global TMS	 <b>optoro</b> UPS and Optoro Partner to Boost Reverse Logistics Services
	 <b>Microsoft</b> UPS Bot runs on the Microsoft Bot Framework and Azure	 <b>tu simple</b> UPS bought a minority stake in TuSimple

# How is Maersk using Tech?

Digital Twins – Warehousing & Ocean Terminals

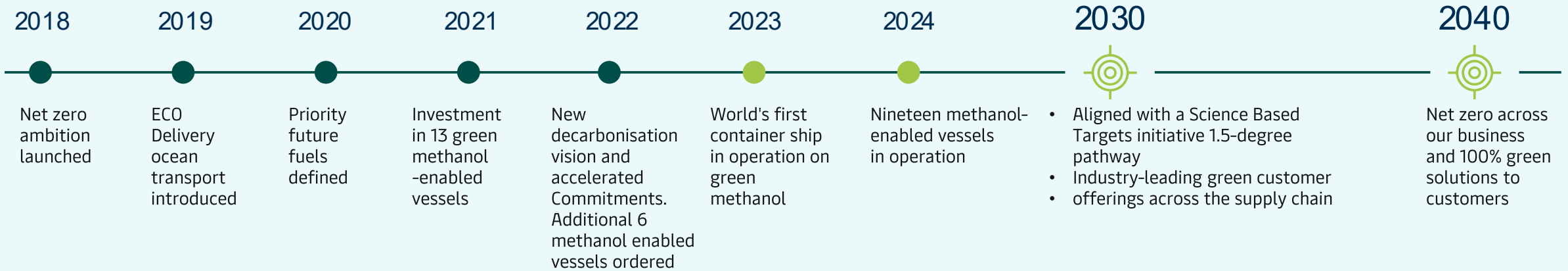
Supply Chain Management Software –  
Robotics

Drones



# Energy Transition

# Roadmap to deliver net zero by 2040



## OUR DECARBONISATION COMMITMENTS



### 2030: Industry-leading green customer offerings across the supply chain

- Ocean: Min. 25% of cargo transported with green fuels.
- Air: Min. 30% of cargo transported with Sustainable Aviation Fuels.
- Contract logistics and cold chain: Min. 90% green operations (scope 1 and 2).
- Inland transportation: Min 20% of customer cargo moves on renewable electricity and/or green fuels.



### 2030: Aligned with a Science Based Targets initiative 1.5-degree pathway

- Ocean ~50% reduction in emission intensity (2020 baseline).
- Terminals ~70% absolute reduction of scope 1 and 2 emissions (2020 baseline).
- Natural Climate Solutions used above and beyond 1.5-degree target to sequester at least 5 million tonnes GHG in 2030.



### 2040: Net zero across our business and 100% green solutions to customers

- 100% green solutions to our customers.
- Net zero greenhouse gas emission across all scopes and businesses.
- Aligned with the Net Zero criteria of the Science Based Targets initiative and a pathway to limit global warming to 1.5 degree resulting in emissions reductions of at least 90% from 2020 levels.

Our **customer commitment** to decarbonise their supply chains in time and...

...a **societal commitment** to act and drive impact in this decade



# Landside Energy Transition



Port Everglades

<https://www.porteverglades.net/articles/post/orange-...>

## Port Everglades Terminal LLC Tests Orange EV Yard Trucks

Dec 20, 2023 — As part of a trial run that began in December of 2023, PET added four **electric yard trucks** to its fleet. The HUSK-e® vehicles are used to move ...



## Maersk to deploy 300 electric trucks in partnership with ...

Mar 24, 2022 – A.P. Moller - **Maersk** (Maersk) will add 300 **electric trucks** to its North America network – making it the largest heavy-duty **electric truck** ...



Ocean Carriers are choosing their path to 0 carbon

Biofuel	Green Methanol	Green Ammonia
Current ECO D fuel	From July 2023 onward	Potential future fuel
<ul style="list-style-type: none"> <li>• Purchased on commodities market</li> <li>• Maersk has a ~50% market share</li> <li>• Can be used as a drop in fuel in existing ships</li> <li>• Strict procurement policy (i.e.: only second-generation feedstocks, no palm oil derivatives, etc.)</li> <li>• Price pressures due to competing demand</li> <li>• 82% emissions reductions**</li> </ul>	<ul style="list-style-type: none"> <li>• Maersk has long-term offtake agreements with 10 global suppliers, giving us transparency and stability in pricing and supply</li> <li>• Requires new engines/vessels (the first container ship in the world set July 2023 – it’s ours!)</li> <li>• Expected 91% emissions reductions**</li> </ul>	<ul style="list-style-type: none"> <li>• Fully zero emissions fuel</li> <li>• Can be produced at scale</li> <li>• Would require new engines/vessels</li> <li>• Safety and toxicity challenges still need more innovation to overcome – potentially commercially viable in mid 2030s</li> </ul>



ASTRID MÆRSK is the second of Maersk's 18 large methanol-enabled vessels



# Engine Room & Wheelhouse



# Ocean Regulatory Landscape

## EU Emissions Trading System (ETS)

- Beginning January 1, 2024, any cargo with an origin or destination in an EU designated port will have an emissions surcharge applied
- Will cost the industry \$3B in 2024 – cost will be passed on to customers as a mandatory, standalone surcharge on top of contracted rates
  - Other carriers are doing the same
- Surcharge adjusted quarterly, like BAF
- Phase in period:
  - 40% 2024; 70% 2025; 100% 2026
- The only way around this surcharge is to stop emitting on the water (ECO Delivery)

## IMO 2027

- Member states voted unanimously to set a net zero target for the entire industry by/around 2050
- Focus on zero/near zero fuels
  - Implicitly excluding offsetting and LNG
- Discussion around an emissions pricing mechanism



Thank you



**ALL THE WAY TO ZERO**