

Liner shipping: Past present & future

Rolf Habben Jansen, CEO Hapag-Lloyd AG
Hamburg, 7 October 2022

years
175

TOGETHER
TOWARDS
TOMORROW

Hapag-Lloyd



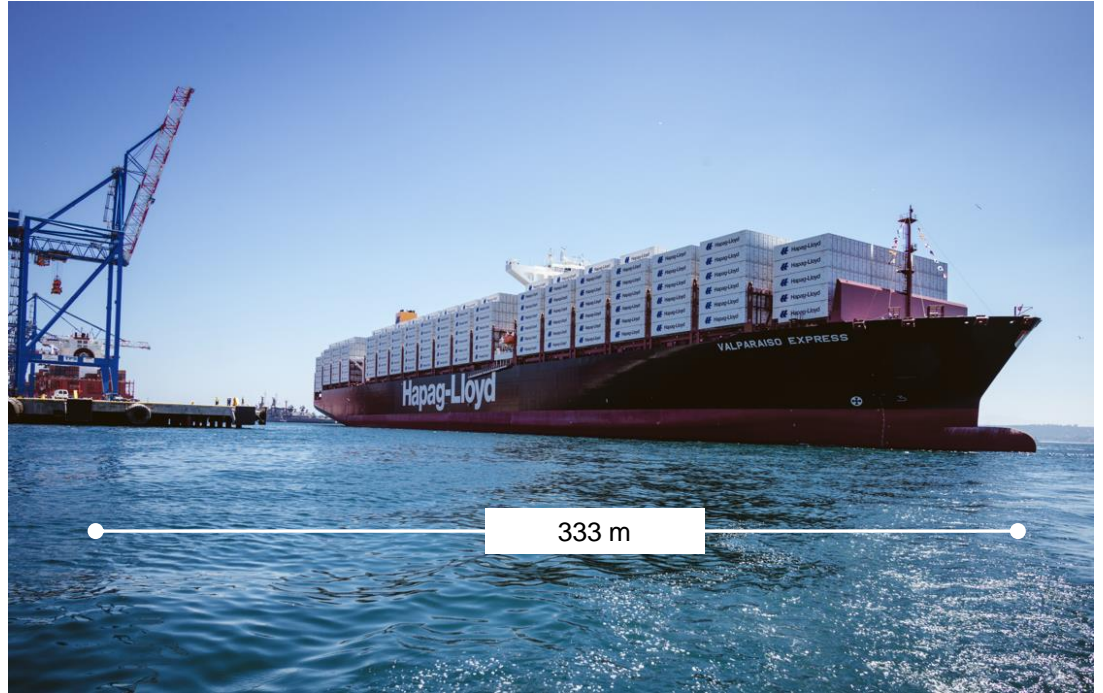
Today some of the ships that call in South America are taller than the Gran Torre Santiago

GRAN TORRE SANTIAGO



300 m

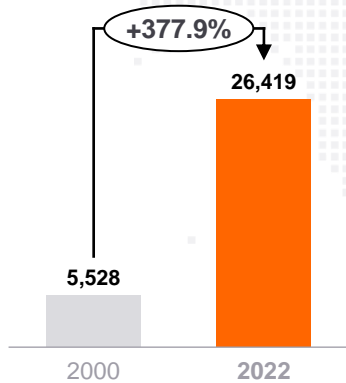
Valparaiso Express (11.519 TEU)



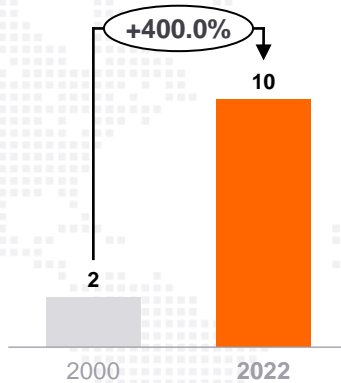
333 m

The liner shipping industry has changed tremendously ...

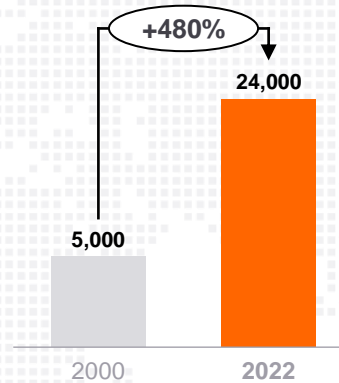
**TRANSPORT CAPACITY
(TTEU)**



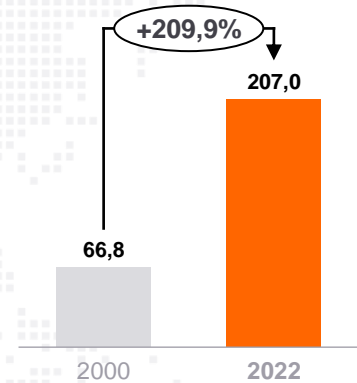
**NUMBER OF CARRIERS WITH
CAPACITY > 500.000 TEU**



**MAX VESSEL SIZE
(TEU)**

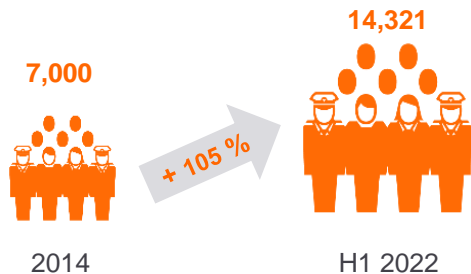


**CONTAINER TRANSPORT
VOLUME (MILLION TEU)**

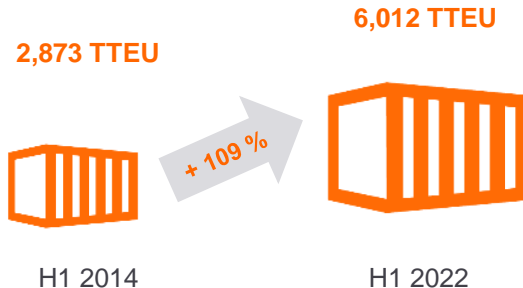


... so did Hapag-Lloyd, and it accelerated after joining forces with CSAV late in 2014 ...

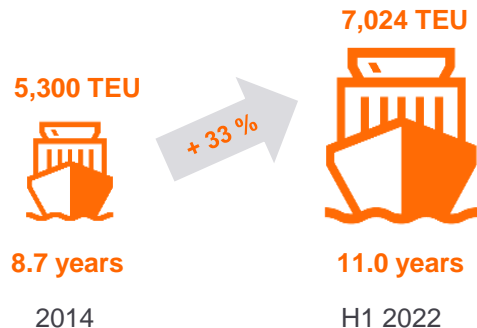
PEOPLE



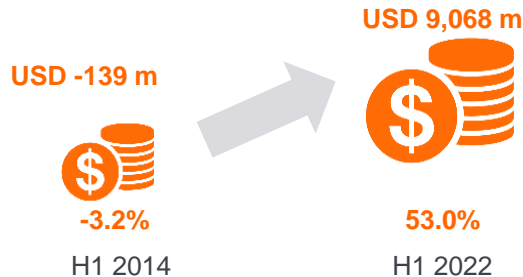
VOLUME



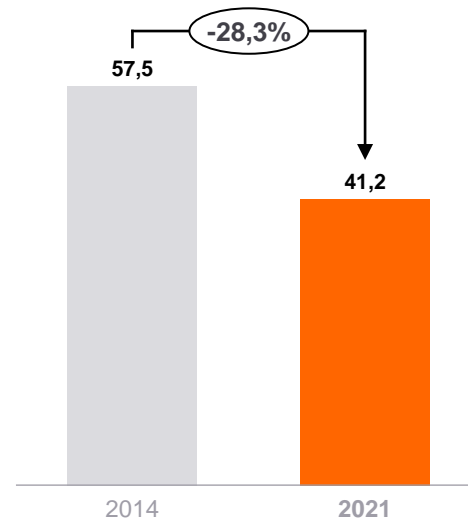
Ø VESSEL SIZE & AGE



EBIT & EBIT MARGIN

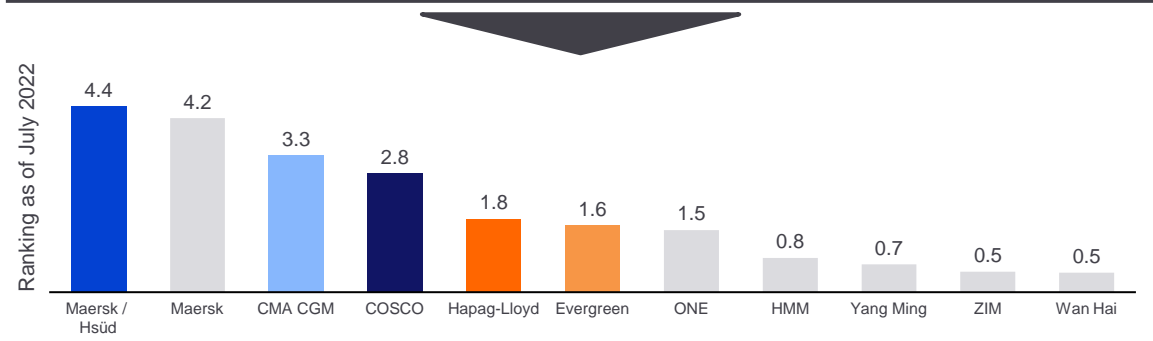
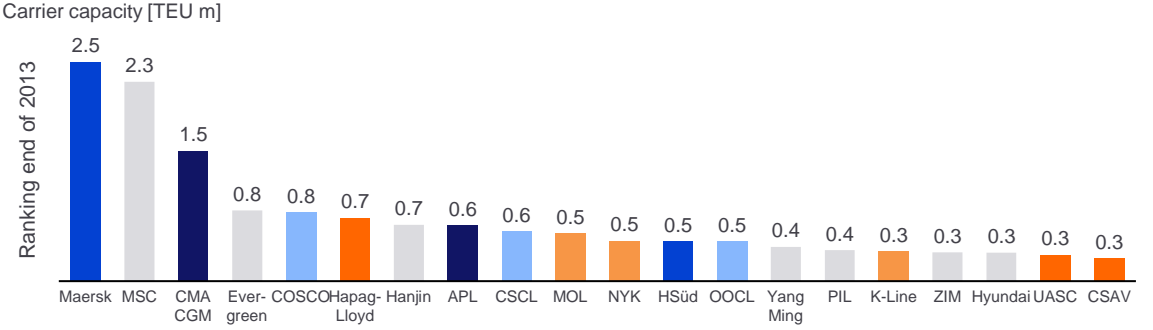


SPECIFIC CARBON EMISSIONS* (g CO₂/ TEUkm)

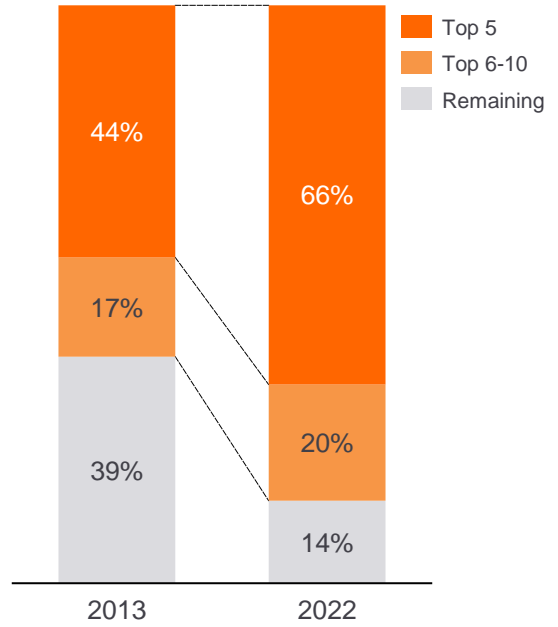


... and since then liner shipping has gone through a needed and unprecedented wave of consolidation, ...

Industry consolidation



Global capacity share [%]

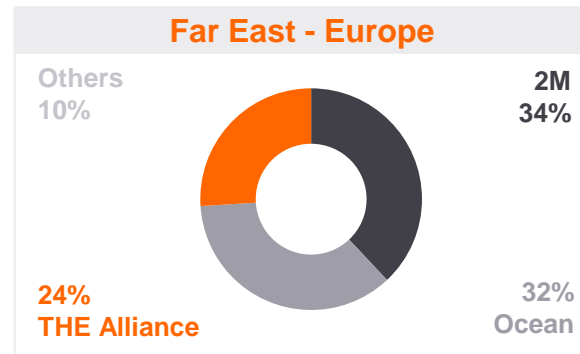
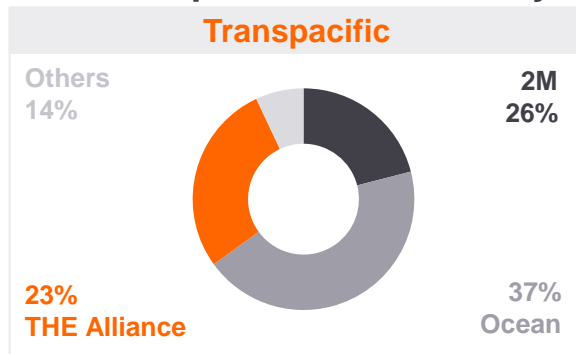
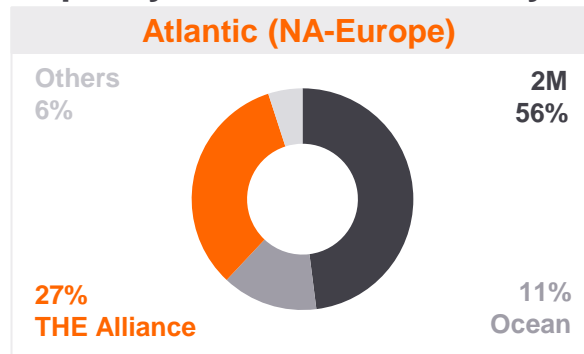


... and Alliances have been formed which helped to further increase supply chain efficiencies, particularly in the main East-West trades

Alliance members

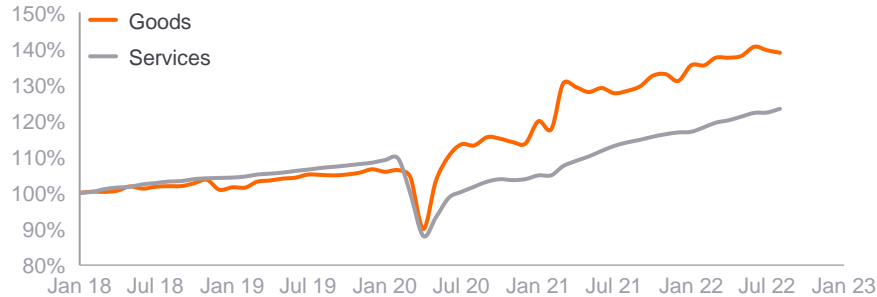


Capacity consolidation on key trades has improved substantially due to alliances

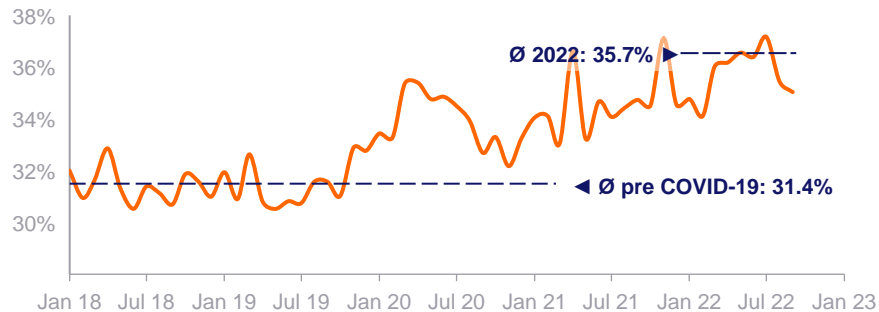


The coronavirus pandemic and a significant shift in consumer demand mid 2020 tested the robustness of global supply chains, ...

US CONSUMPTION EXPENDITURES [%]



PORT CONGESTION INDEX [%]



PRESSURE ON SUPPLY CHAINS



COVID-19 pandemic has **shifted consumer behavior** from services to more consumer goods mainly produced in Asia



High demand and COVID related labor shortages led to **supply chain disruptions**



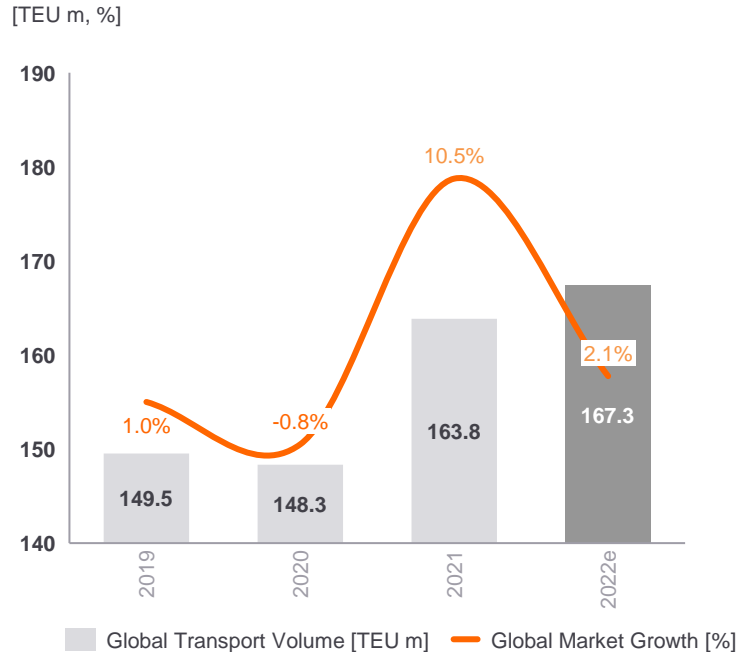
The **service quality** in the entire industry was under heavy pressure



Operational costs went up clearly due to rising charter rates, longer storage durations and lack of hinterland transport capacity

... but the liner shipping industry has managed to cope with increasing transport volumes, also thanks to numerous countermeasures

GLOBAL TRANSPORT VOLUME AND MARKET GROWTH



HAPAG-LLOYD SPECIFIC COUNTERMEASURES

NETWORK



Employed every possible vessel and moved capacity to high demand trades



Further optimised service network and Chartered in additional vessels

ASSETS & PEOPLE



Around 600,000 TEU Containers ordered



Around 400,000 TEU additional vessel capacity ordered

STRATEGY & QUALITY



Introduced new digital solutions & significantly added IT capacity



Launched new premium product “QFP” (Quality Freight Product)

How about the post pandemic global economy?

NETWORK

Since several years and partly driven by trade regulations/ tariffs, we are seeing production shifting, for example from China to Vietnam, Thailand or other countries in Southeast Asia, but also to places like Turkey and Egypt

GEOPOLITICAL TENSIONS

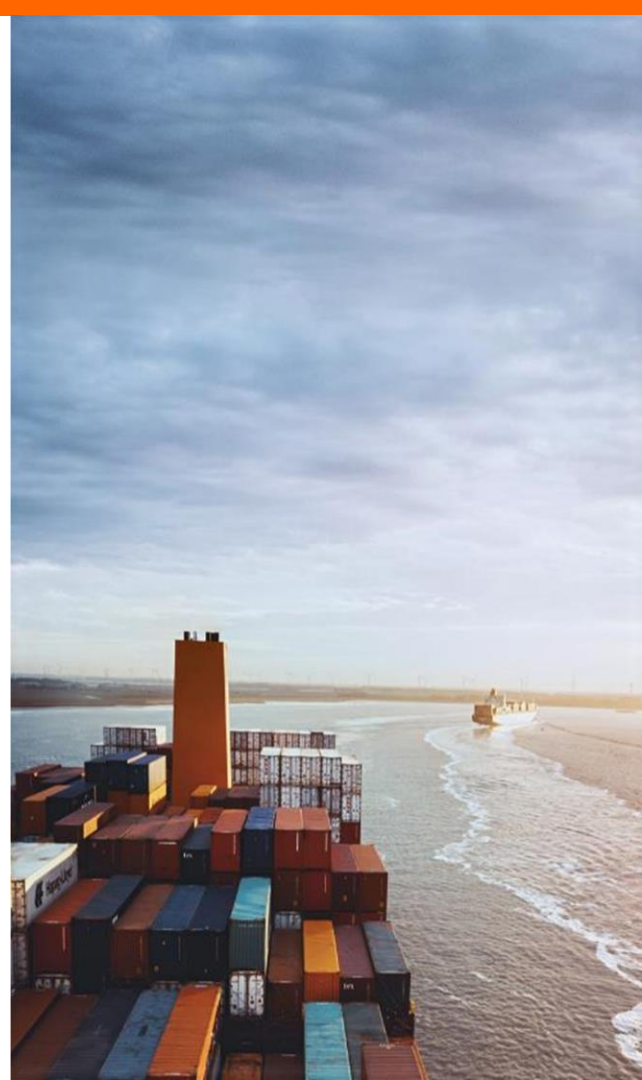
The War of Russia in Ukraine as well as the tensions between China and the US will impact trade flows but international trade will remain - even if maybe on different lanes

NEAR SHORING

We might see more nearshoring on critical products, such as medicines or computer chips, for example. However, we expect that FDI will be driven by economic principles also in the Future

GLOBALISATION

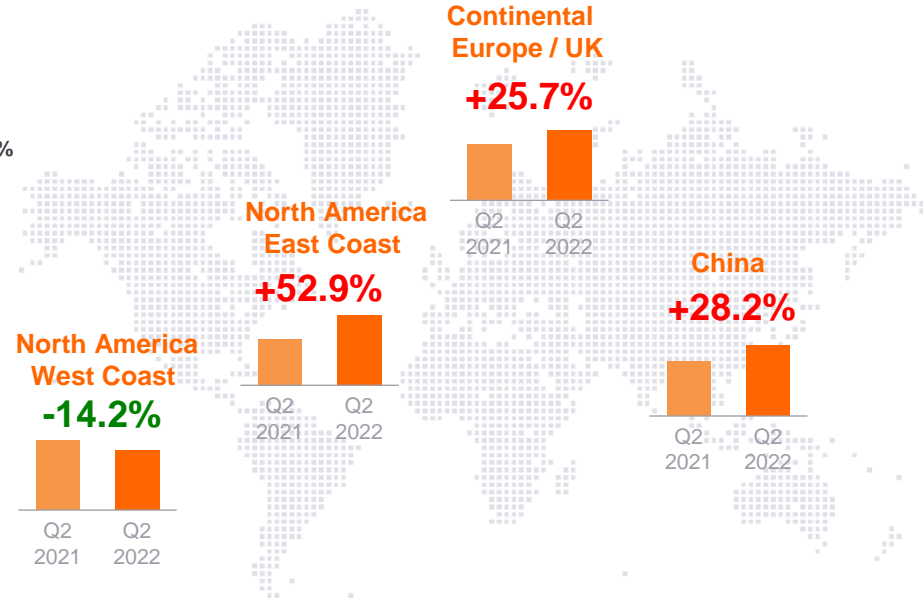
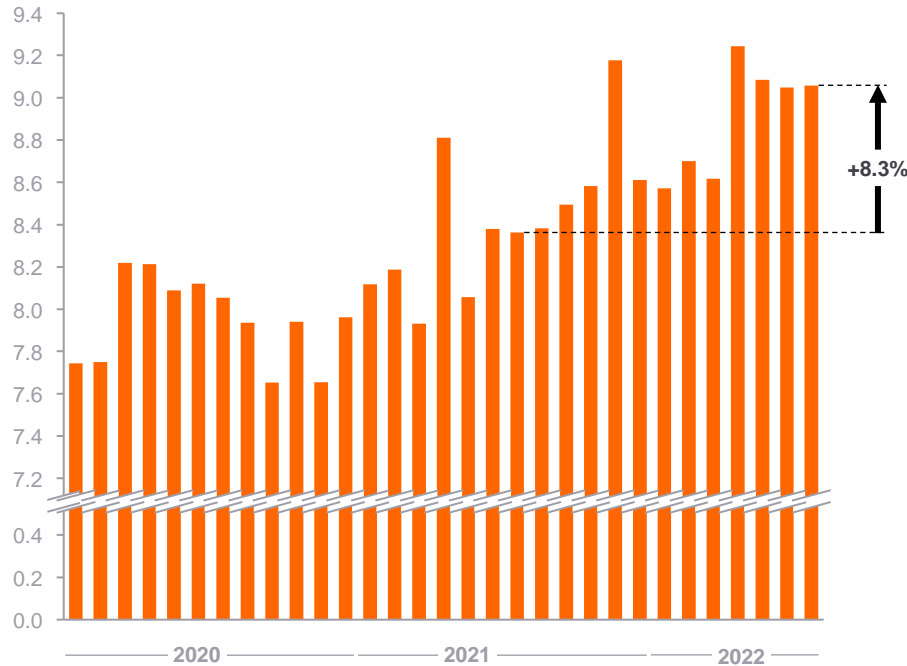
We will not see the end of Globalisation. Globalisation brings wealth to developing countries. We are a global Player and adjustments of our service portfolio are an integral part of our day to day business



Today congestion in Asia and the US West Coast has eased, but the situation in parts of Europe, and the US East Coast is still strained, ...

GLOBAL PORT CONGESTION INDEX

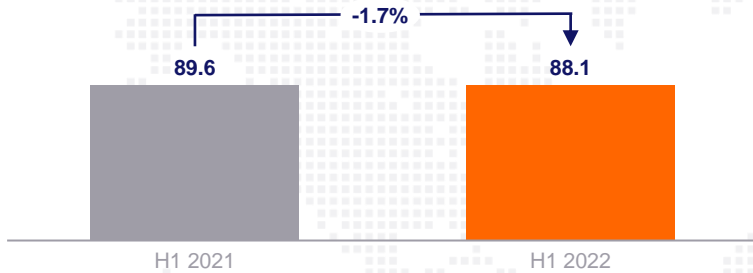
[TEU m, 7dma]



... looking at volumes and rates, there are clear signs of normalisation as demand is easing and spot rates are down significantly

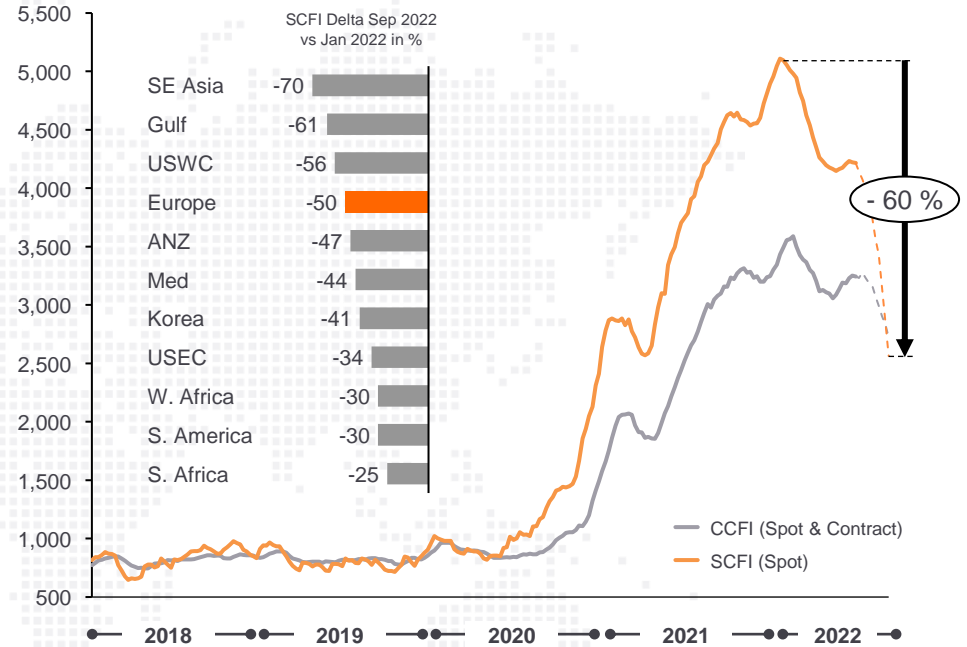
GLOBAL TRANSPORT VOLUME DEVELOPMENT

[TEU m]



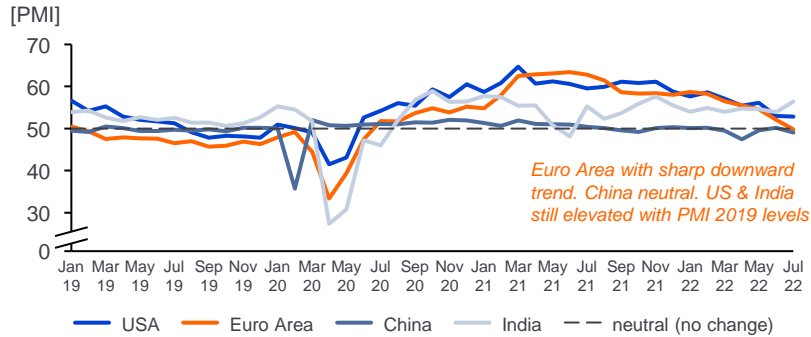
Shanghai Containerized Freight Index (SCFI)

[SCFI USD/TEU, monthly]³⁾

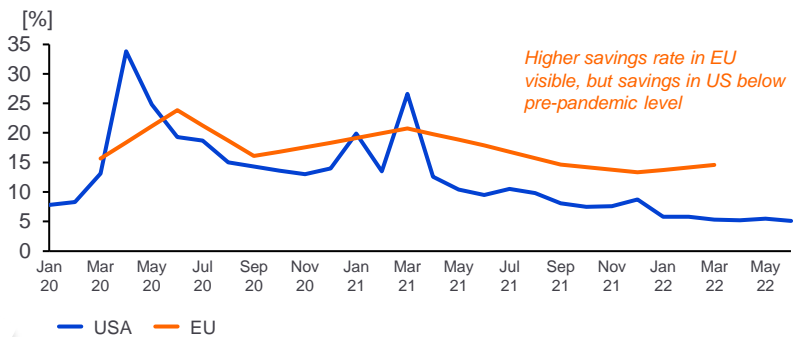


Economic indicators reflect the more muted outlook, particularly for Europe – US still with better momentum

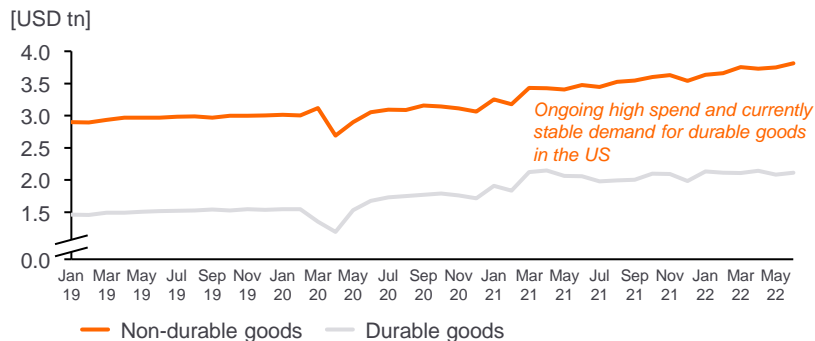
Purchasing Managers' Index (PMI)¹⁾



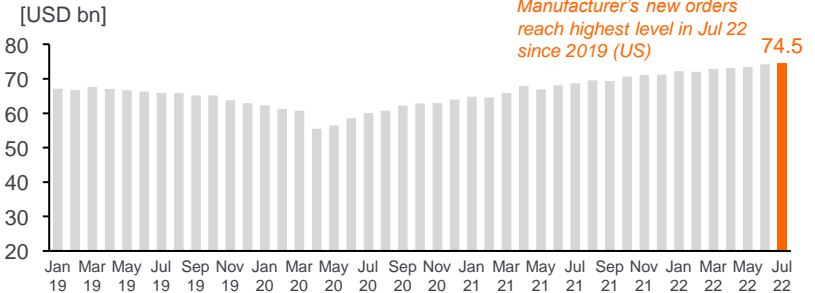
Savings rate of private households⁴⁾



Personal Consumption Expenditures (PCE)³⁾



Manufacturers' New Orders²⁾



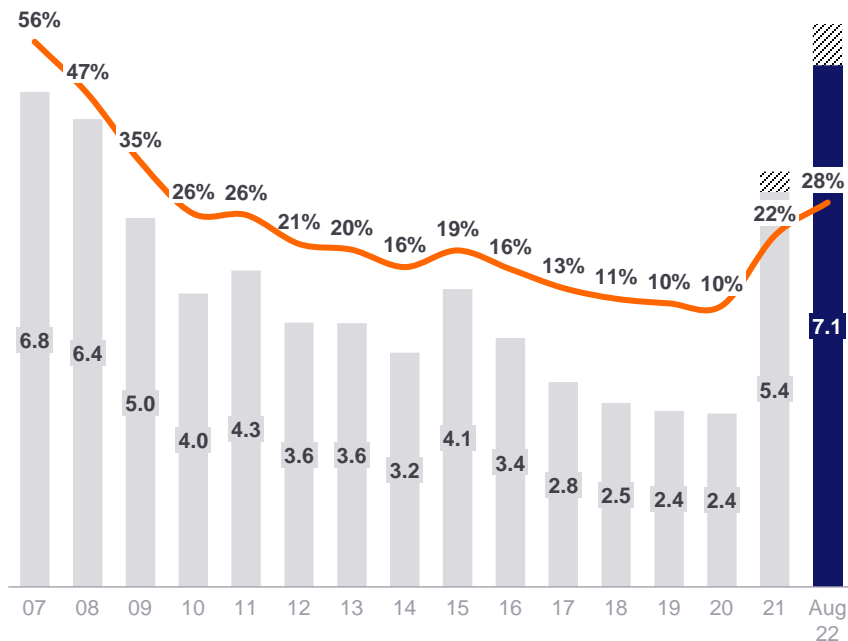
1) Economic indicator derived from monthly surveys of private sector companies indicating the prevailing direction of economic trends in the manufacturing and service sectors compared to the previous month 2) Nondefense capital goods in US excl. aircraft; Source: FRED 3) Personal consumption expenditures measure consumer spending (US) for a period of time 4) Source: US: Statista, EU: Trading Economics

Orderbook is up to 28% and newly placed orders rose to 1.8m TEU. Until very recently vessel availability was very tight, however ...

GLOBAL ORDERBOOK

[TEU m; % of world fleet]

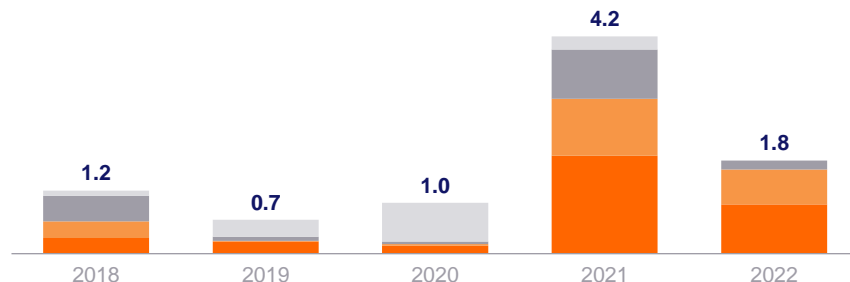
Orderbook Share of world fleet



NEWLY PLACED ORDERS

[TEU m]

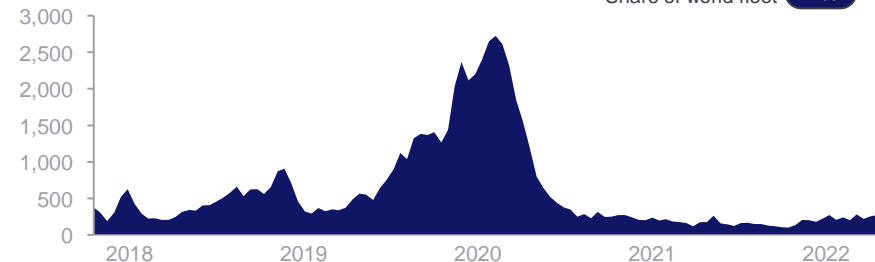
Q4 Q3 Q2 Q1



IDLE FLEET

[TTEU]

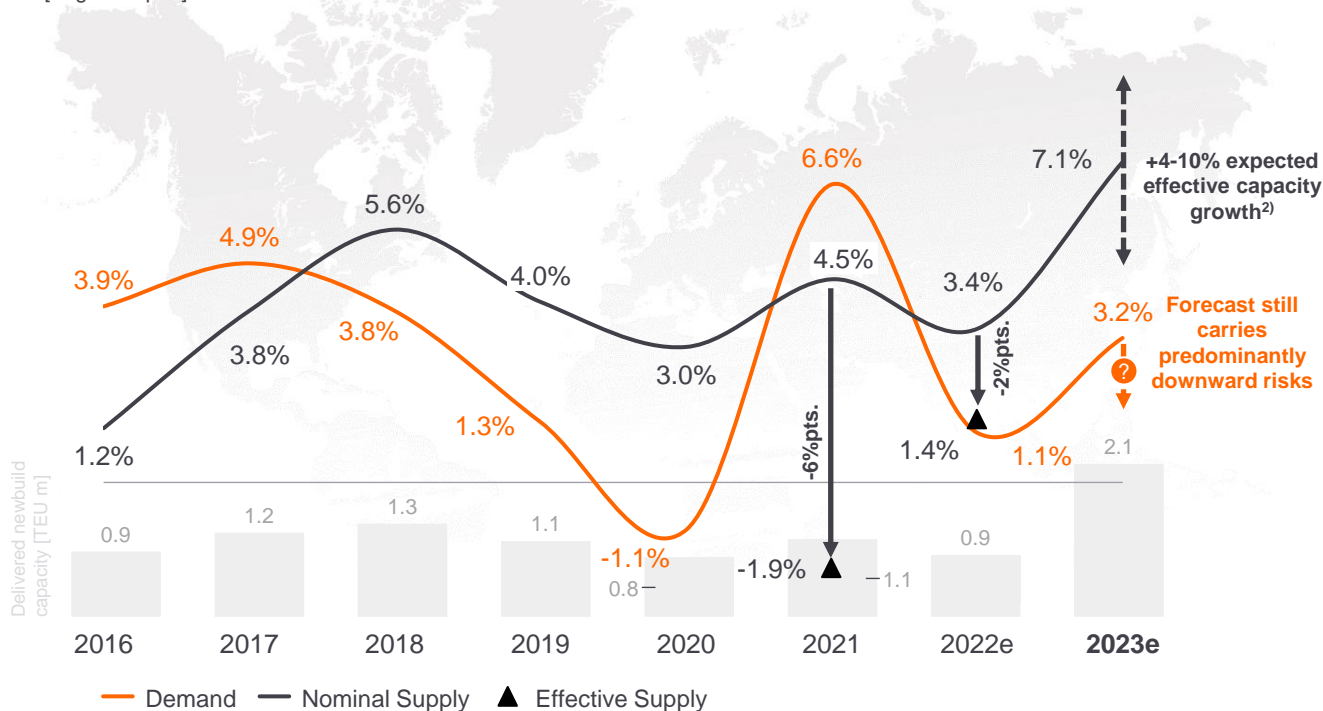
Share of world fleet 1.1%¹⁾



... in 2023, effective supply growth will outpace demand growth as congestion eases and environmental requirements increase

Supply / Demand growth¹⁾

[% growth p.a.]



- The orderbook now represents 29% of the existing fleet with supply exceeding demand in H2 2022
- 2023 is expected to see ~2 TEU m capacity being delivered (+7% current fleet)
- Impact from environmental regulations expected to kick in from 2023, effectively reducing expected 5-10% of overall fleet capacity
- In case port congestions will ease, effective capacity available towards end 2023 will likely exceed demand putting pressure on freight rates
- High downward risks in demand forecast in light of current economic situation

Looking into the future – Shipping will have to accelerate the efforts to decarbonise, and new regulations kick in as from January 2023 ...

EEXI
(Energy Efficiency EXisting Ship Index)

addressing the technical efficiency of ships

CII
(Carbon Intensity Indicator)

addressing the operational efficiency

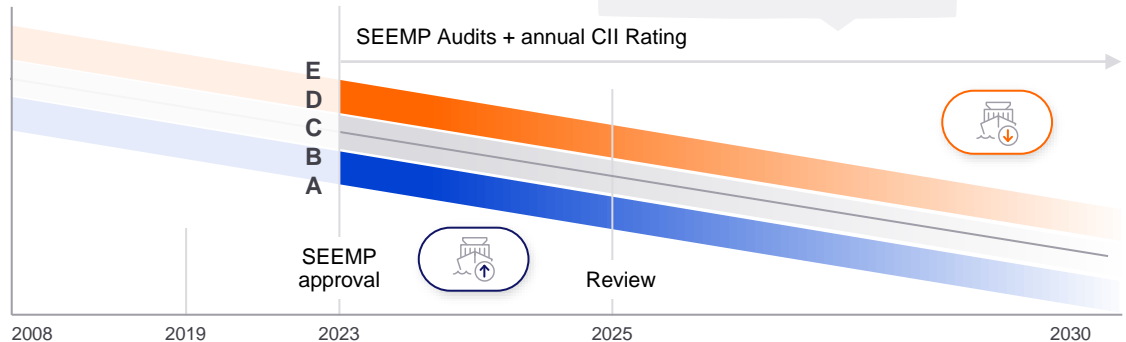
SEEMP
(Ship Energy Efficiency Management Plan)

Enhanced SEEMP addressing management system

CARBON INTENSITY INDICATOR (CII)
measures how efficiently a ship transports goods

$$\text{CII (A-E)} = \frac{\text{Annual fuel consumption} \times \text{CO}_2 \text{ factor}}{\text{Annual distance travelled} \times \text{Capacity}} \times \text{Correction factors}$$

Implications



... which will require us to pull all 3 available levers: invest in better assets, seek sustainable fuels and become more efficient, ...

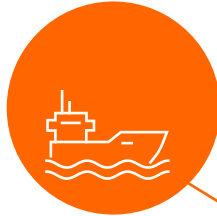
New vessels

- ✓ **Alternative propulsion** technology
- ✓ **Efficiency improvements** e.g., (materials, hull form)

Existing vessels

- ✓ **„No regret“ efficiency measures**, e.g.,
 - ✓ Hull coating
 - ✓ Bulbous bow
 - ✓ Waste heat recovery
 - ✓ Main engine improvements
- ✓ **Retrofits** (to dual-fuel propulsion technology)
- ✓ **Loadability push** (e.g. lashing bridges)

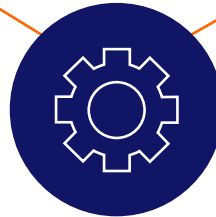
✓ Assets



✓ Fuels



Key Sustainability drivers



Fossil fuels vs. bio-/e-fuels

- ✓ **Biofuels** for existing vessels (e.g., Brown-grease, UCOME, ...)
- ✓ **Bio-Methane** for LNG new builds
- ✓ **Alternative bio/e-fuels** (e.g., Methanol, Ammonia) for other new builds

Operations

Operational efficiency within network

- Speed profile (planned speed, speed-ups)
- Cargo utilization
- Port rotation / schedule
- Weather routing

We aim to becoming net-zero-carbon by 2045 and initiated numerous measures that will help us to further decarbonise our fleet



We have **12 highly efficient 23,500 TEU dual-fuel vessels on order**, allowing us to also use LNG and **reduce carbon emissions by up to 25 % and Sulphur dioxides and particles by more than 90 %**



We have been **testing Biofuels** since 2020, **piloted them with customers**, and **secured 100,000 t** for 2022. Biofuels allow **to reduce greenhouse gas emissions over 80 %** compared to standard fuels



We will **slow steam** a significant number of **vessels to further reduce** bunker consumption and **greenhouse gas emissions**



We have started our **fleet upgrade programme** (new propellers, hull coating, bows, ...) recently for **more than 150 ships to lower fuel consumption**, and **thereby CO2 emissions**

Navigating through the digital era and continuously offering new added value to customers is becoming a necessity rather than a choice, ...

Website & Business Suite:
39M sessions



Quick Quotes



Quick Quotes Spot



Online Business Suite



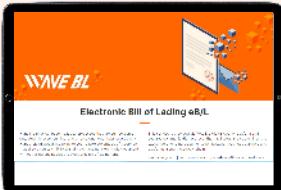
Smart Web Booking



...



Additional Freetime



Digital Bill of Lading



Shipping Guarantee



Online BL Draft Approval

... which is why we also decided to equip our entire container fleet with real-time tracking devices



Tracking of standard containers through permanently installed IoT devices



Powered by battery & solar panel with a lifetime of min. 5 years, likely even longer



Transmitting in real-time through cell network (LTE, NB-IoT) with global roaming



Our Industry's dependence on modern technologies grows while supply chains are changing and digital is an increasingly important driver

Delivering better scalable **cloud-based** business outcomes, even in times of change.

For today's global supply chains, **disruption is inevitable**. From tariffs and trade wars to a nearly unpredictable pandemic, the future is uncertain and therefore **agility is key**.

Supply chain leaders are using **AI** to make smarter decisions faster.

Artificial Intelligence (AI) is enabling companies to do more with data, **make better real-time decisions**, and take **more-informed actions faster**.

IoT & Data is helping supply chain leaders better understand the state of things and act.

The convergence of **Internet of Things (IoT)**, Data and AI is enabling supply chains to access and correlate more diverse data sets to **see events and scenarios as they occur**.

Multi-enterprise networks with **blockchain** are creating trust and transparency across the supply chain.

There's only **one version of the truth**. Blockchain is the way to **unlock it**.

Wrapping things up!

- The **liner shipping** industry has **changed tremendously** over the **last decade**
- The **strong demand** due to the coronavirus pandemic has **caused massive supply chain disruptions**
- We have seen two years of **boosted earnings**, but a **normalisation** of **volumes** and **rates** has started
- There are **less favorable market conditions ahead** and we need to be **cautious on costs**
- **Digital and environmental progress** will remain of **utmost importance to remain competitive**

**Thank you for
your Attention &
Happy Birthday
CSAV!**

