LOGISTIIKAN HALLINTA EPÄVÄRAHMOIDEN AIKANA

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Global Supply Chain Crisis Flares Up Again Where It All Began

Ports face biggest crisis since start of container shipping

Coca-Cola turns to bulk vessels not coal to transport manufacturing materials

Windward: Fifth of World's Containerships are Stuck in Port Congestion

Russia Faces Drop in Cargo Traffic, Container Shortage as Shipping Lines Pull Out

Over $228 worth of cargo is stuck on container ships off California

"Kiiinasta on tullut täysin arvamaton" - Rahtilaivajonot kasvavat Shanghaiin satamassa: isku on suu koko maailman tuotantoketjuihin
Active container shipping supply has reduced due to congestion.

1. Chinese New Year factory closure and COVID-19 lockdown reduced sailing capacity annually.
2. Liners reduced sailing capacity in response to COVID-19 disruptions.
3. Liners added back sailing capacity as shippers looked to make up for delays and fill low inventories.
4. Congestion started to rise in ports globally as liners sought to deliver backlog of vessels.
   LA/LB saw first major congestion as delayed trade compounded regular volumes and COVID-19 reduced gangs.
5. Ever Given blocked the Suez canal.

Source: McKinsey DeepBlue
Ports are a mess but shipping company profits are at record highs

THE MARITIME TRANSPORTATION MARKET

Demand for vessels → Equilibrium → Freight level → Total supply of vessels

Notes on the chart
1. The area chart shows the daily cost of a "new" Panamax bulk carrier based on depreciation; interest plus spread; and OPEX. Cash costs are at the bottom and depreciation at the top.
2. The line shows daily earnings of a Panamax bulker. In the earlier years it is 1 year time charter rate and in later years spot time charter equivalent.
3. Comparison of earnings with costs indicates the severity of the troughs, most of which follow some sort of crisis in the world economy.

Figure 1 Panamax bulk carrier shipping market cycles, comparing costs and revenues 1970-2020
Source: UNCTAD calculations based on the GTCDIT developed by UNCTAD, the World Bank, and Equitable Maritime Consulting (accessed 24 June 2021).

Note: Grey colour indicates countries where import transport costs data are not available. Transport costs are aggregated by importing country. Importers’ maritime transport costs are summed up over all commodities and trading partners and, divided by the corresponding sum of the trade value (in FOB), for commodities and country pairs for which both maritime transport costs and FOB values are available.
We spent decades getting rid of the body fat in supply chains. Making them super-complex and just-in-time in every way. Now we are building less efficient supply chains. Geopolitical risk will ultimately push more supply chains out of China.

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If globalization is really over, what happens to supply chains?
The future of global supply chains is in flux. The pandemic was a game changer. Then came the war.
TAUSTA: MUUTOKSIA TOIMITUSKETJUISSA

- Suomalaisen yhteiskunnan ja elinkeinoelämän riippuvuus tuontituotteista, -puolivalmisteista ja raaka-aineista on lisääntynyt huomattavasti viimeisten vuosikymmenen aikana. Samaan aikaan kykymme hallita toimitusketjuja on vähentynyt.

Muutokset voidaan jakaa kolmeen ryhmään:

- Tuotantoa on siirtynyt yhä kauemmas halvan tuotannon maihin, kauemmas Suomen kontrollista.
- Tuotteet koostuvat yhä useammin osista ja komponenteista, joita jokaista voidaan tehdä eri maassa erilaisista raaka-aineista. Minkä tahansa osan tai komponentin puute voi pysäyttää koko monimutkaisen toimitusketjun.
- Just-in-time -ajattelun mukaan tuotannoista on viilattu turhat varastot pois, eli kokonaisista toimitusketjuista on tullut häiriöille herkempiä.
HUOLTOVARMUUDEN UUDISTAMINEN

- Suomen lipun alla olevan tonniston tukeminen huoltovarmuusnäkökulmasta on jo pitkään ollut riittämätön ja tehto noin toimenpide, sillä mahdolliset toiminnan häiriöt tapahtuvat yhä useammin kaukana merialueistamme ja koskevat vain pientä osaa tuotteista. Tonniston hallinta ei auta, jos tuotetta ei ole saatavilla.

- Mahdollisissa poikkeusoloissa kaikkien tuotteiden toimitusketjujen täydellinen hallinta on turhaa. **Tavoitteeksi tulee laittaa vain kriittisten tuotteiden ja komponenttien saatavuus.**

- Toimitusketjujen osien analysointi yritystasolla, mikä on kriittistä ja mikä ei, ja toimenpiteiden kohdistaminen juuri kriittisiin tuotteisiin, tulee olla uuden huoltovarmuuden peruspilari.
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MITÄ TULISI TEHDÄ?

- Tuotekohtaisia huoltovarmuuksia voidaan varmistaa monilla tavoilla. Perinteisesti toimitusvarmuutta on lisätty isoilla varastoilla.

- Lisäksi voimme myös vähentää riippuvuutta esim. muuttamalla kulutustotumuksia, käyttämällä useampia alihankkijoita, suunnittelemaan vaihtoehtoisia tuotteita, ennustettavuudella, tilauspisteen siirtämisellä mahdollisimman viime hetkeen ja hävikin vähentämisellä.

- Muita työkaluja toimitusketjujen hallintaan ovat kapasiteetin joustot, aikataulutuksen muutokset ja aikapuskurit sekä tiedonkulun nopeuttaminen kysynnästä tuotantoon.

- Merenkulussa huoltovarmuuden varmistamiseksi laivaston osalta voidaan miettiä myös kriisiaikojen sopimusjärjestelyjä varustamoiden kanssa.

- Avain on yritysten omat toimintamallit.
“In the next 20 years the maritime industry must rebuild its cargo fleet. If this is done with the radical technologies now available, it will lead to the biggest change in ship design since steam replaced sail in the 19th century.”
Figure 2 – International shipping emissions and trade metrics, indexed in 2008, for the period 1990-2018, according to the voyage-based allocation\(^1\) of international emissions\(^2\)

Source: Fourth IMO GHG Study 2020
A wide variety of design, operational and economic solutions

Achieving the goals of the Initial IMO GHG Strategy will require a mix of technical, operational and innovative solutions applicable to ships. Some of them, along with indication on their approximate GHG reduction potential, are highlighted below.

- **5-50%** Fleet management, logistics and incentives
- **1-10%** Voyage optimization
- **2-50%** Concept, speed and capability
- **5-15%** Power and propulsion systems
- **up to 75%** Extensive speed optimization
- **50-90%** Full electric
- **35%** Bio-LNG/LPG
- **90%** Biofuel 3rd generation
- **80-100%** Hydrogen and other synthetic fuels
- **1-10%** Energy management
- **2-20%** Hull and superstructure

Source: https://www.imo.org/en/MediaCentre/HotTopics/Pages/Cutting-GHG-emissions.aspx
Industry Leaders Collaborate to Develop Ammonia Shipping Fuel Guidance

World’s First Liquid Hydrogen-Powered Ship Delivered

Norsepower will fit Vale’s VLOC charter with rotor sails

Check out the Netherlands’ first electric – and gigascopically batteries

Wind-assisted, LNG-electric containership Trade Wings 2,500 wins BV’s AIP

World’s First Zero-Emission Wind and Hydrogen Power Cargo Ship

SPLASH
Maersk orders up to twelve methanol-fuelled 16,000 teu ships at Hyundai Heavy

Partnership aims to develop hydrogen ferry for Oslo-Copenhagen

DFDS and its partners have applied for EU support for development of a ferry powered by electricity from a hydrogen fuel cell which only emits water.