BIPC 2021
제9회 부산국제항만컨퍼런스
The 9th Busan International Port Conference

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
UNCTAD

Digitalization for the future of ports

Jan.Hoffmann@UN.org

5 November 2021

- Trends in the digital economy
- Implications for ports
- Outlook

- Trends in the digital economy
- Implications for ports
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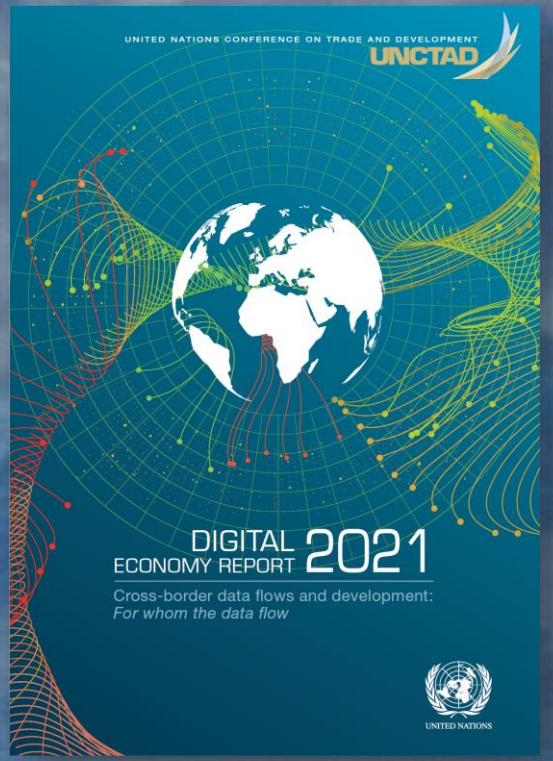
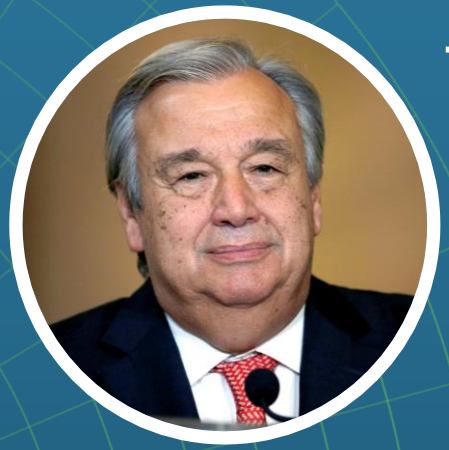


Data is an increasingly important economic and strategic resource



DATA

> Data have become a key strategic asset for the creation of both private and social value. How these data are handled will greatly affect our ability to achieve the Sustainable Development Goals."

António Guterres,
Secretary-General,
United Nations

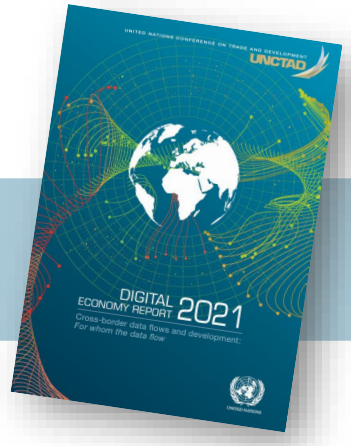
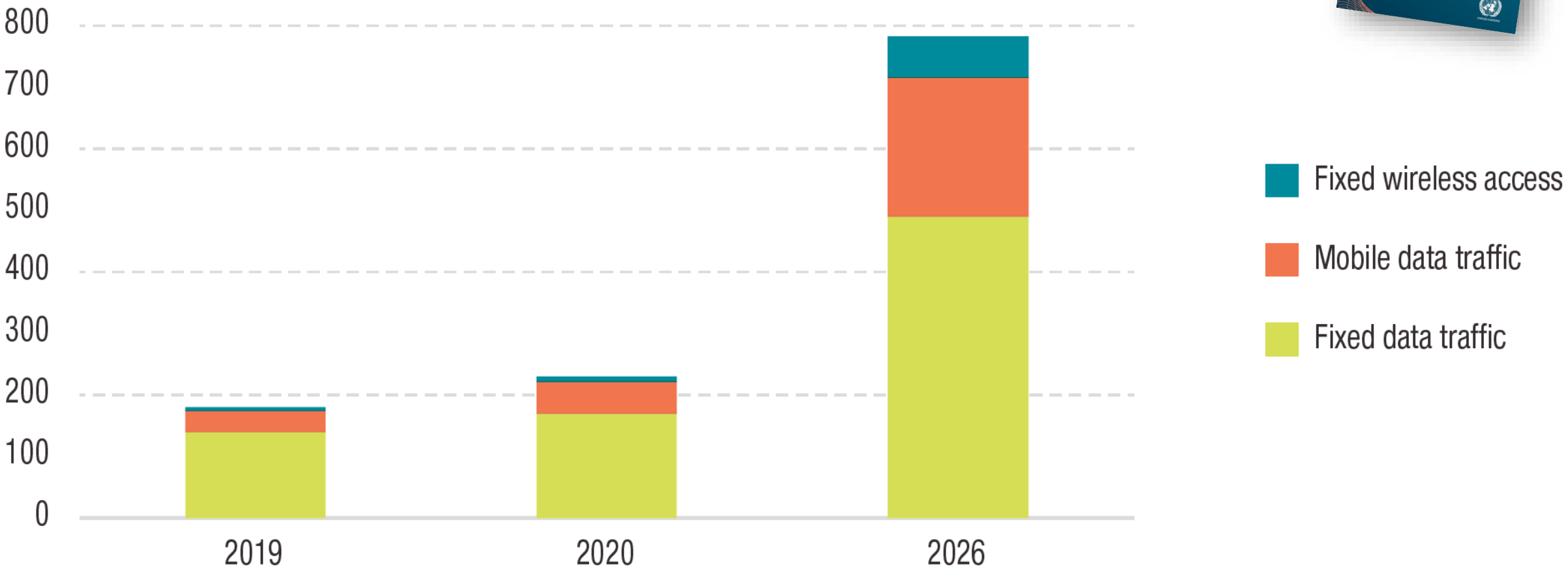
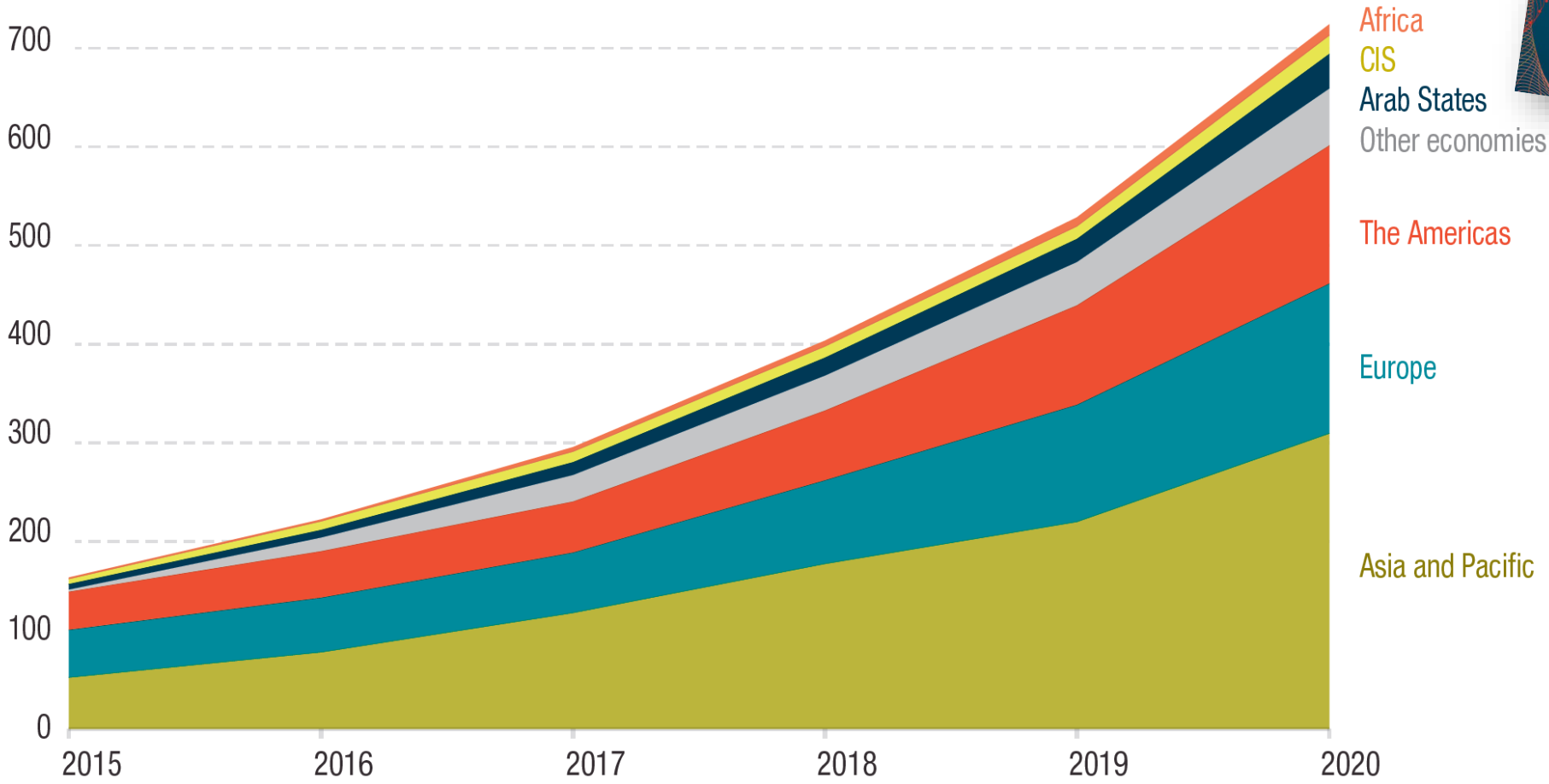


Figure I.9. Global data traffic, selected years
(Exabytes per month)



Source: UNCTAD, based on Ericsson (2020).

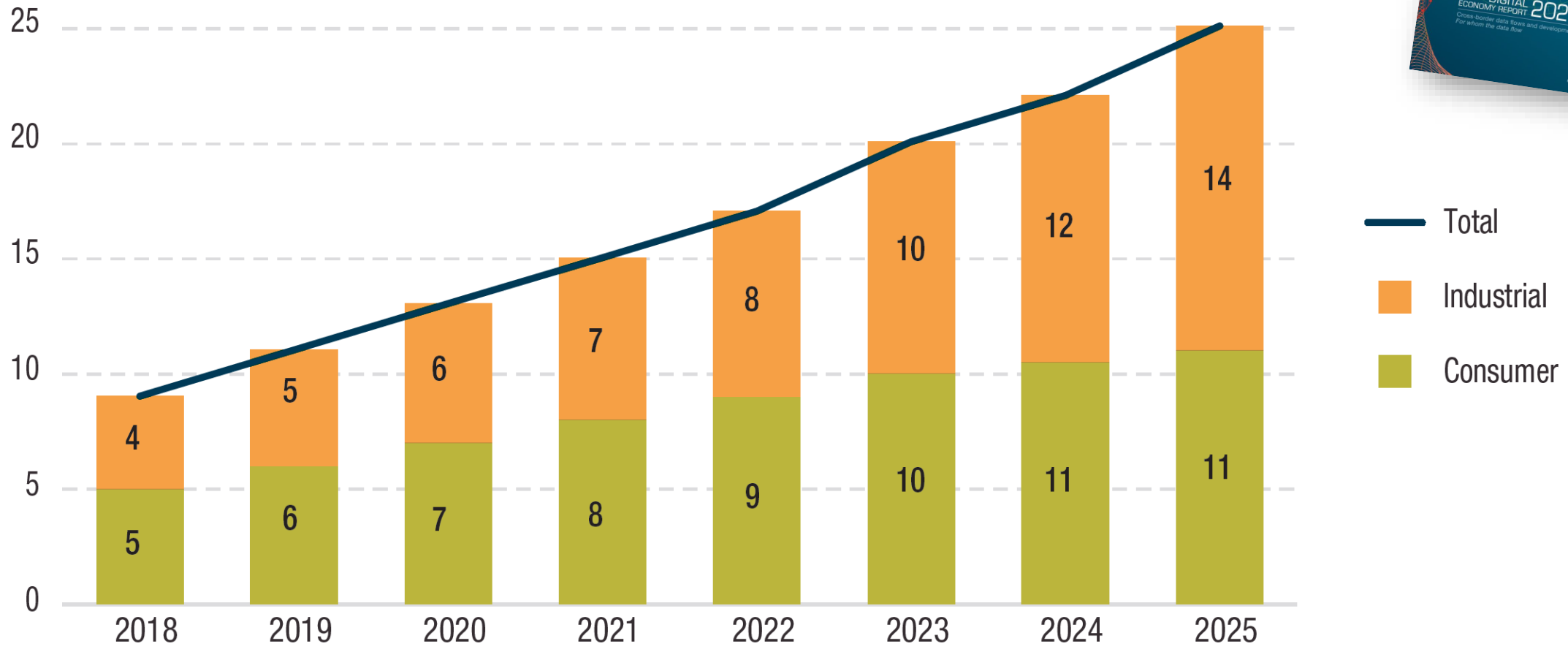
Figure I.11. International bandwidth, by region, 2015–2020
(Terabits per second)



Source: UNCTAD calculations, based on ITU (2020) and ITU interactive report Measuring digital development, Facts and figures 2020, available at www.itu.int/en/ITU-D/Statistics/Pages/ff2020interactive.aspx.
Note: Country groups are those of the source. Data for 2020 are ITU estimates.

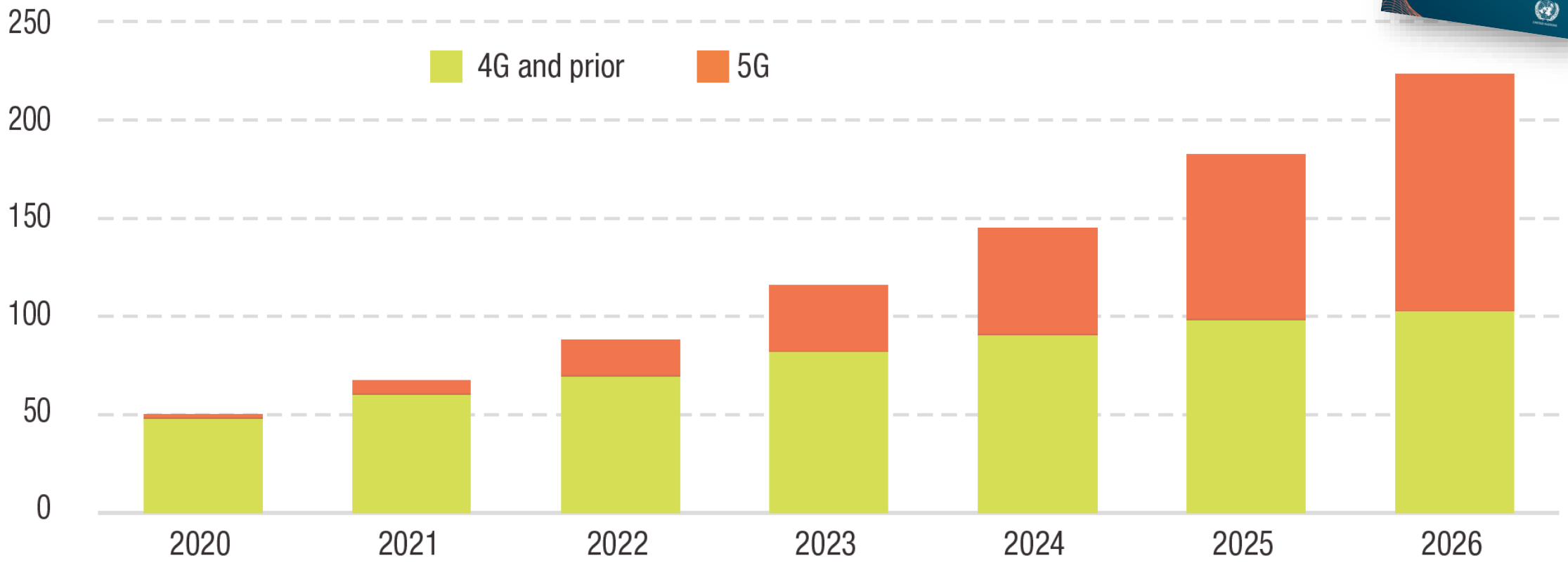
Internet of Things

Figure I.26. Global number of IoT connections, by sector, 2018–2025, billions



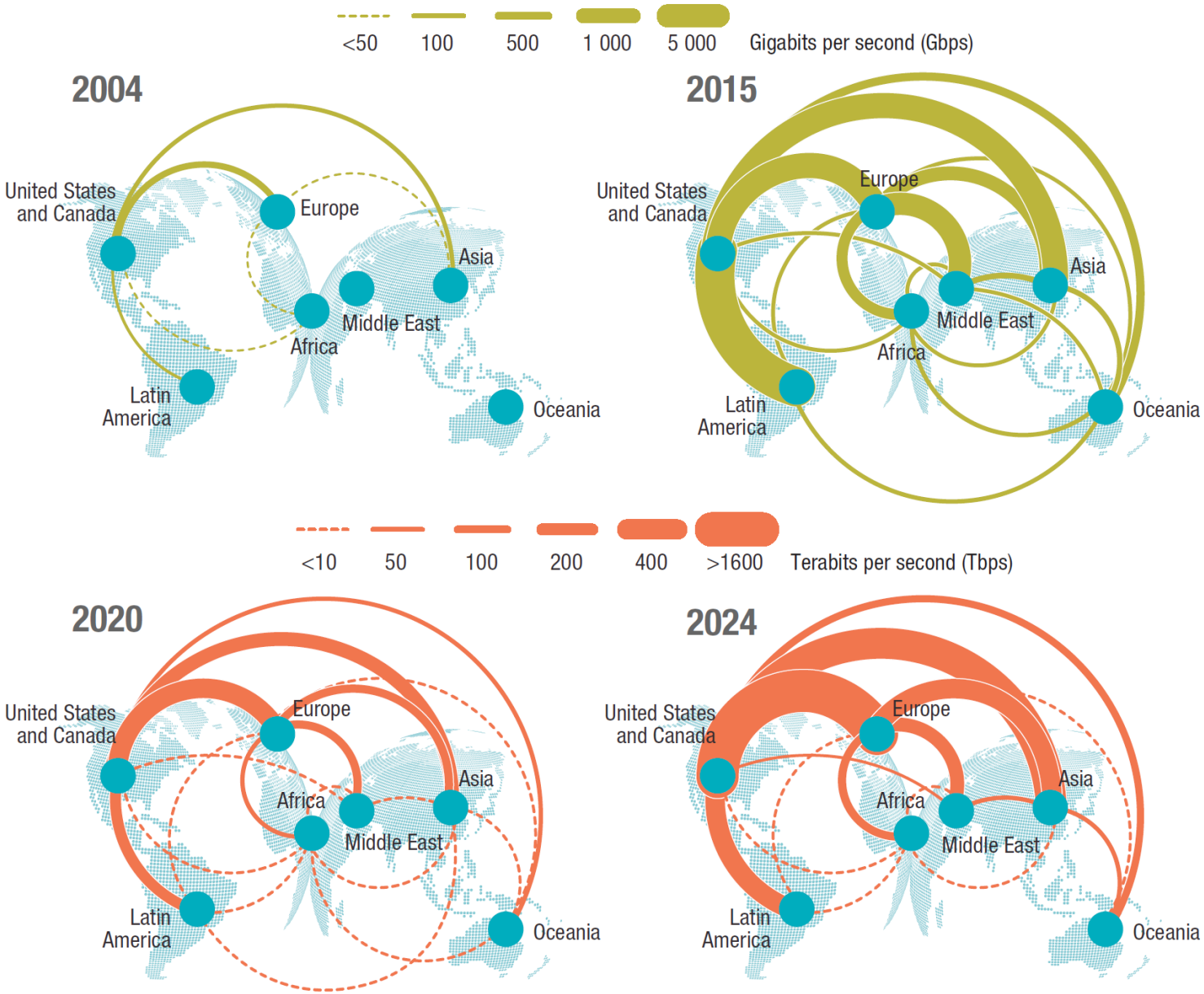
Source: GSMA (2019b).

Figure I.28. Global mobile data traffic projections, by technology, 2020–2026
(Exabytes per month)



Source: UNCTAD, based on Ericsson Visualizer, available at www.ericsson.com/en/mobility-report/mobility-visualizer?f=8&ft=2&r=1&t=1,20&s=4&u=3&y=2020,2026&c=3 (accessed April 2021).

Figure I.12. Evolution of interregional international bandwidth, selected years



Source: UNCTAD, based on TeleGeography (2015, 2019, 2021b).
Note: One Terabite is equal to 1,000 Gigabites. Data for 2024 are forecasts.

Fragmentation will hamper development gains from data

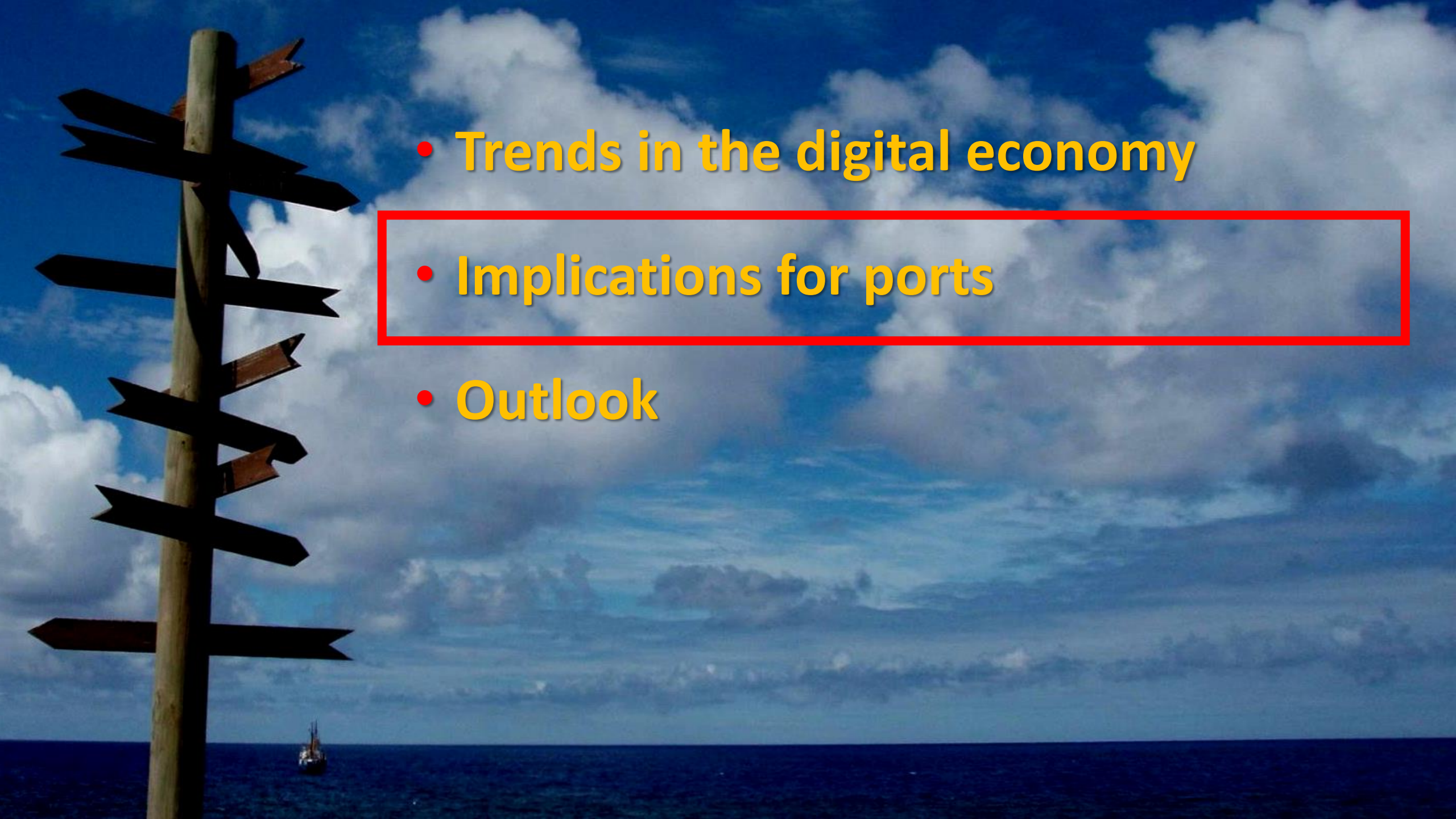
A silo-oriented, data-driven digital economy would go against the original spirit of the Internet and is not likely to work for the interest of developing countries.

In economic terms, **interoperability** should generate better outcomes.

Fragmentation would hamper technological progress, reduce competition, enable oligopolistic market structures in different areas and allow for more government influence.

Fragmentation would also mean more obstacles for **collaboration across jurisdictions.**

In the absence of an **international system regulating data flows,** some countries may see no other option than to restrict them with a view to meeting certain policy objectives.


• Trends in the digital economy
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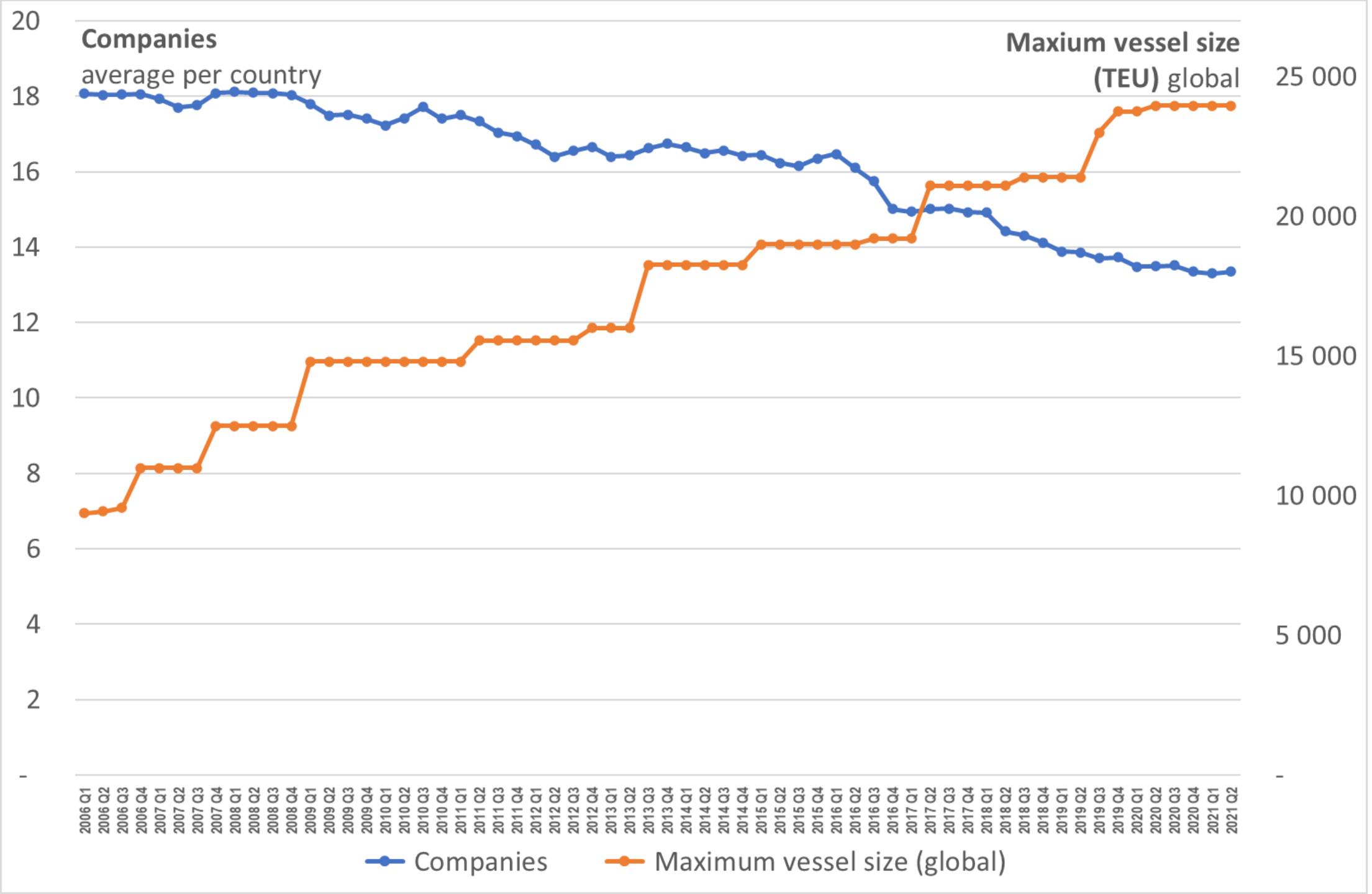
Growing digitalization

- Demand: More e-commerce, more volume:
  Do we need bigger ships?

- Supply: New opportunities
  Does digitalization also drive consolidation?



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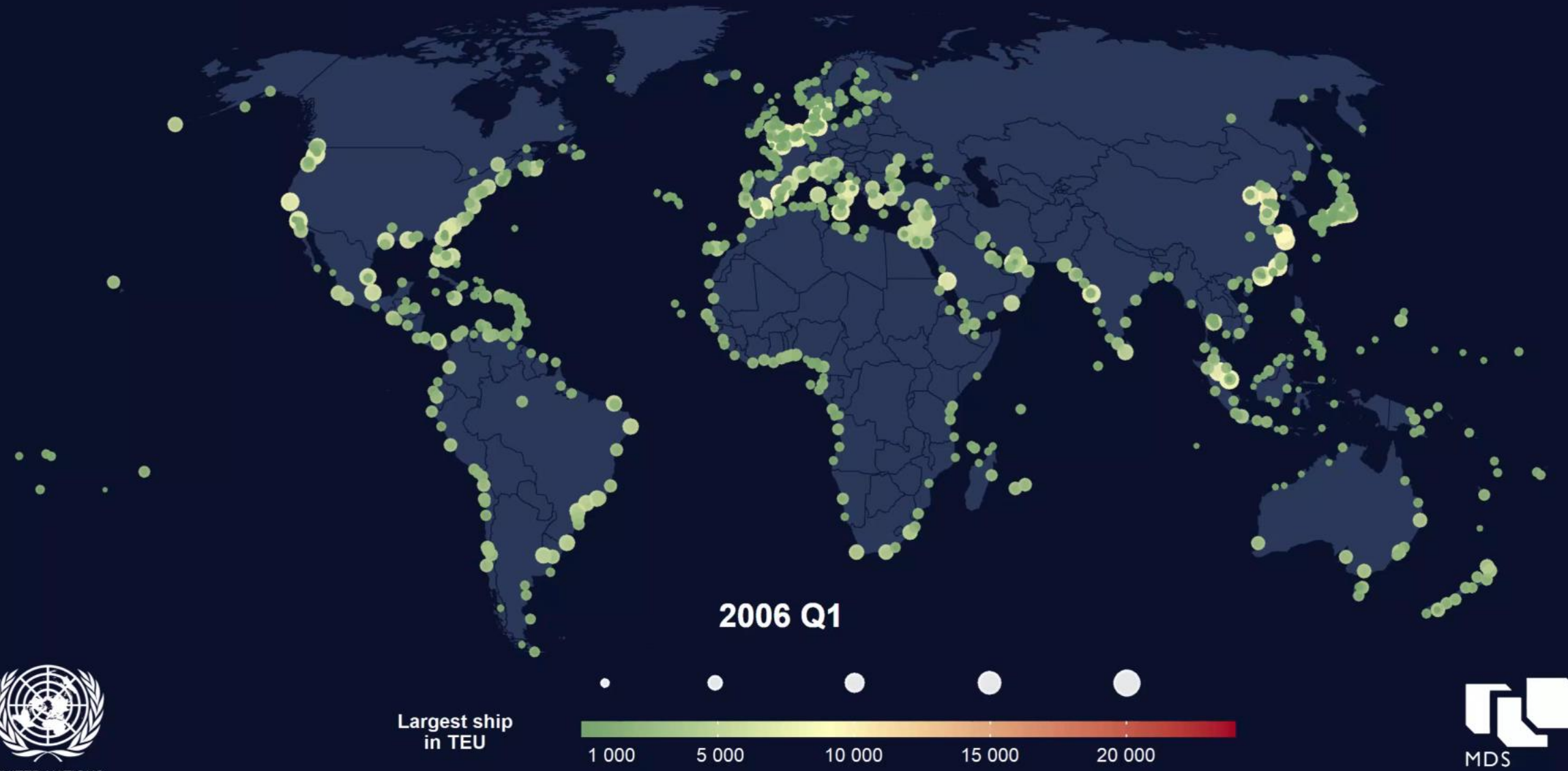
MDS Transmodal

Where do the largest container ships call?

Size (TEU) of the largest ships deployed in each port. First quarter 2006 to fourth quarter 2020.



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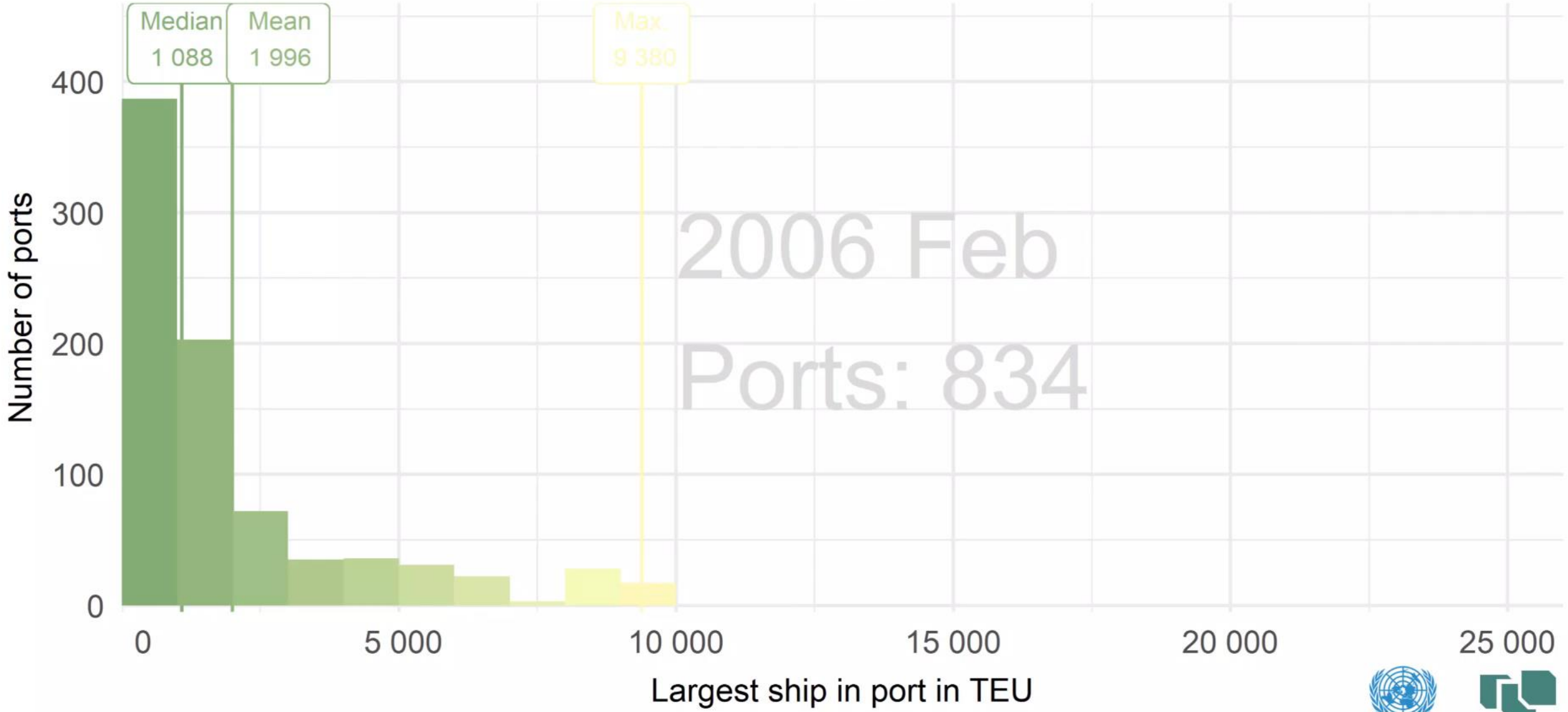
MDS Transmodal

Source: UNCTAD based on MDS Transmodal, Containership Databank 2020 - visualized by Julian Hoffmann

Distribution of ports by largest container ship deployment

Size (TEU) of the largest ships deployed in each port. First quarter 2006 to fourth quarter 2020.



Source: UNCTAD based on MDS Transmodal, Containership Databank 2020 - visualized by Julian Hoffmann

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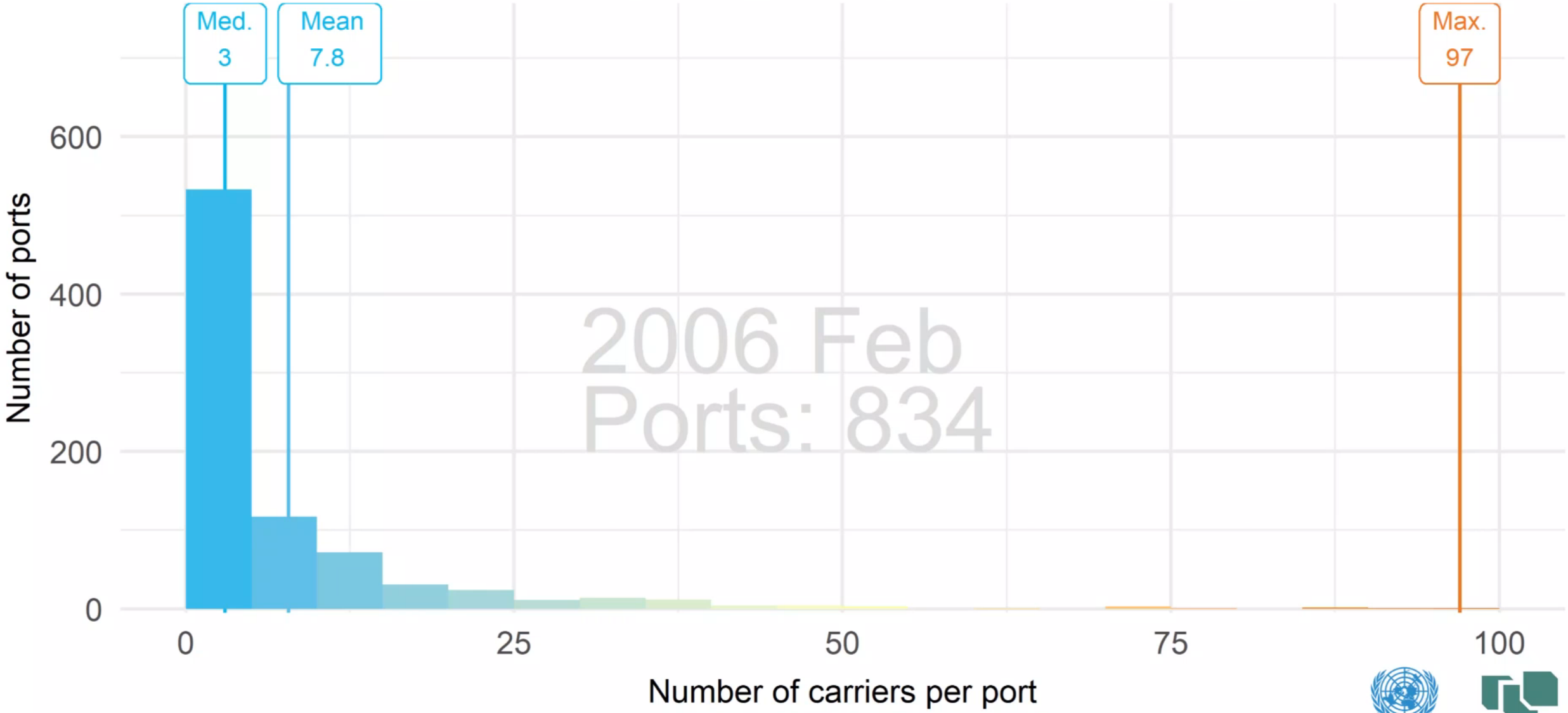
MDS Transmodal

Distribution of ports by number of companies

Number of carriers providing services per port. First quarter 2006 to fourth quarter 2020.



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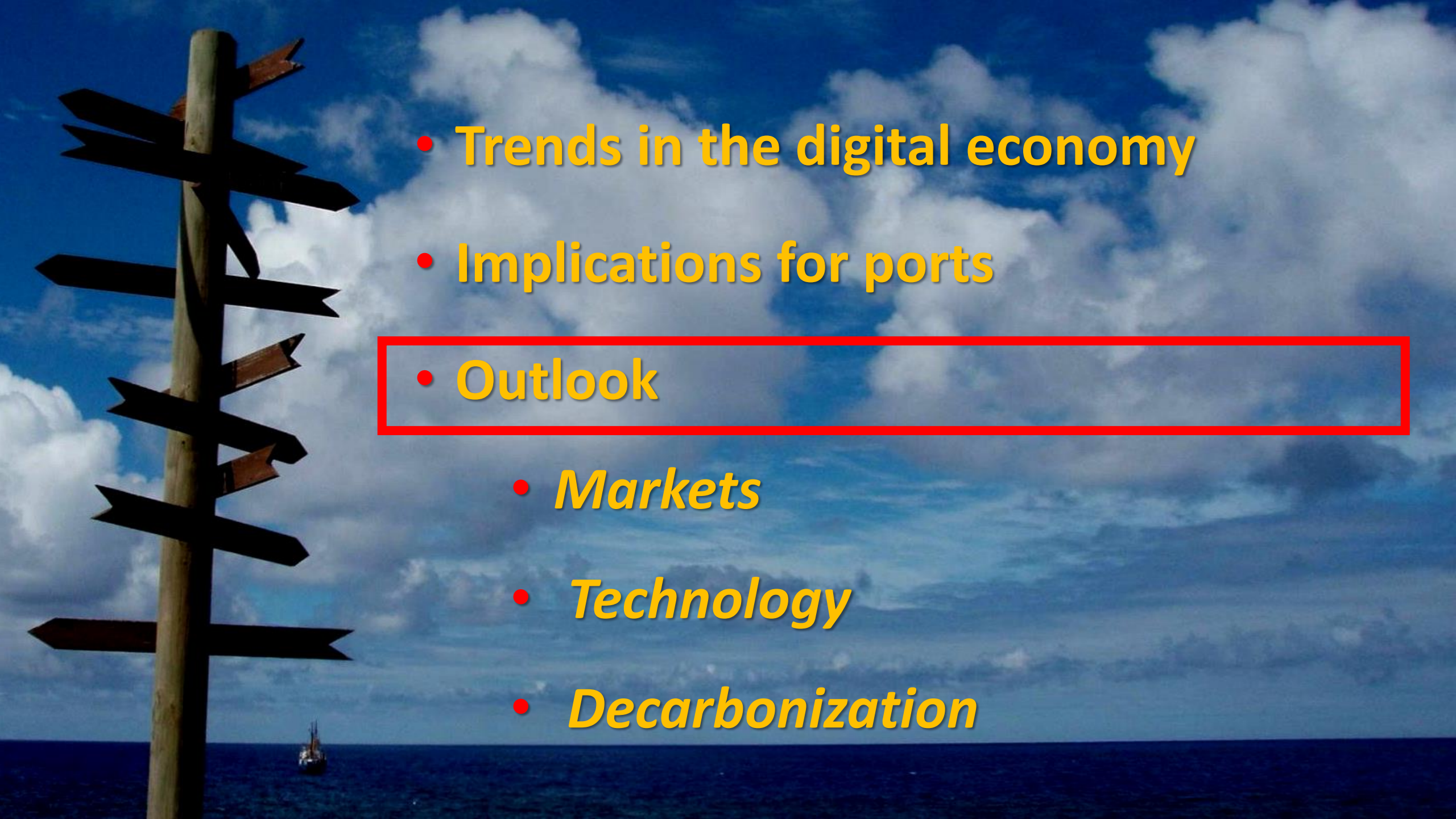
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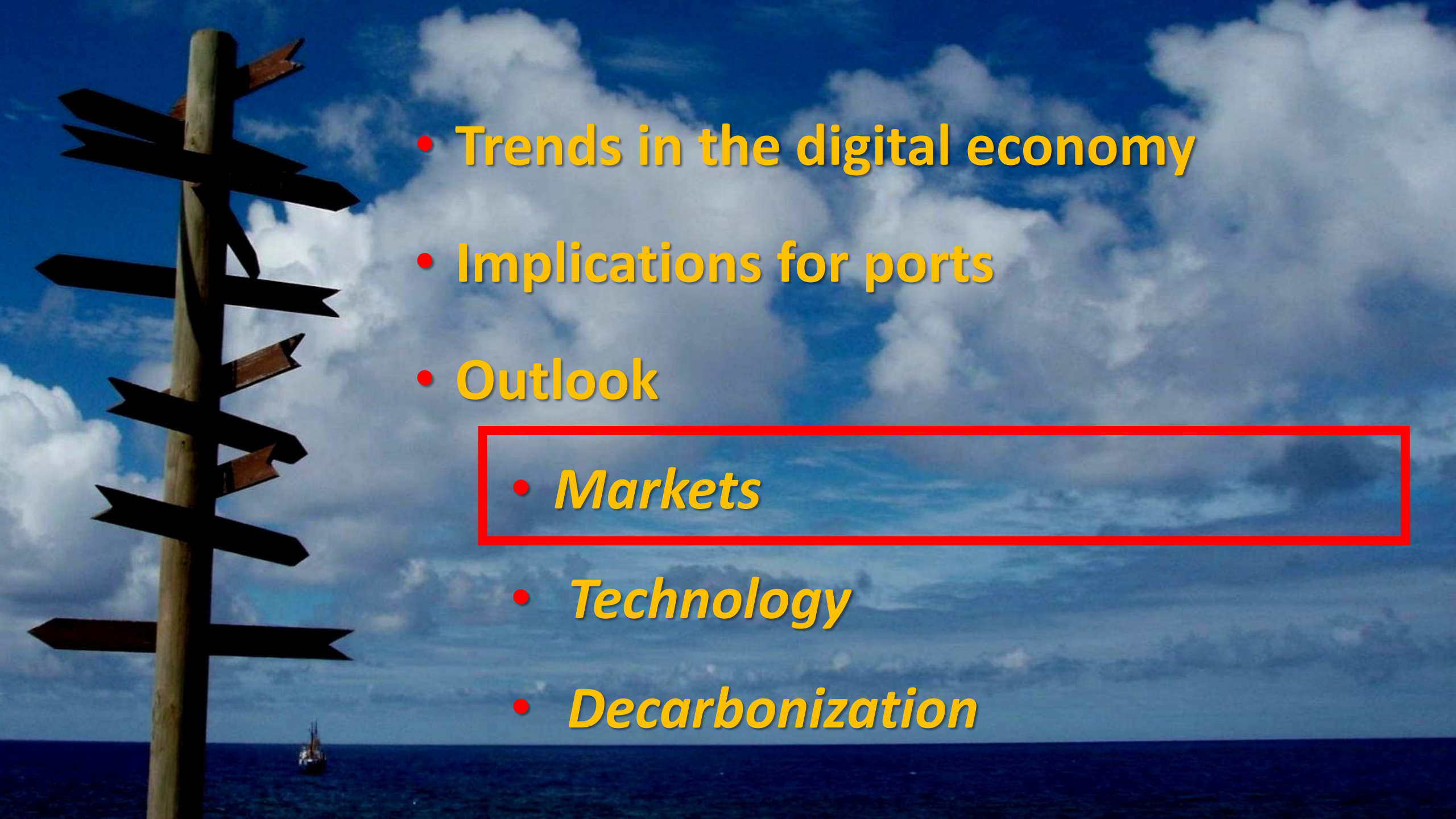
• *Markets*
• *Technology*
• *Decarbonization*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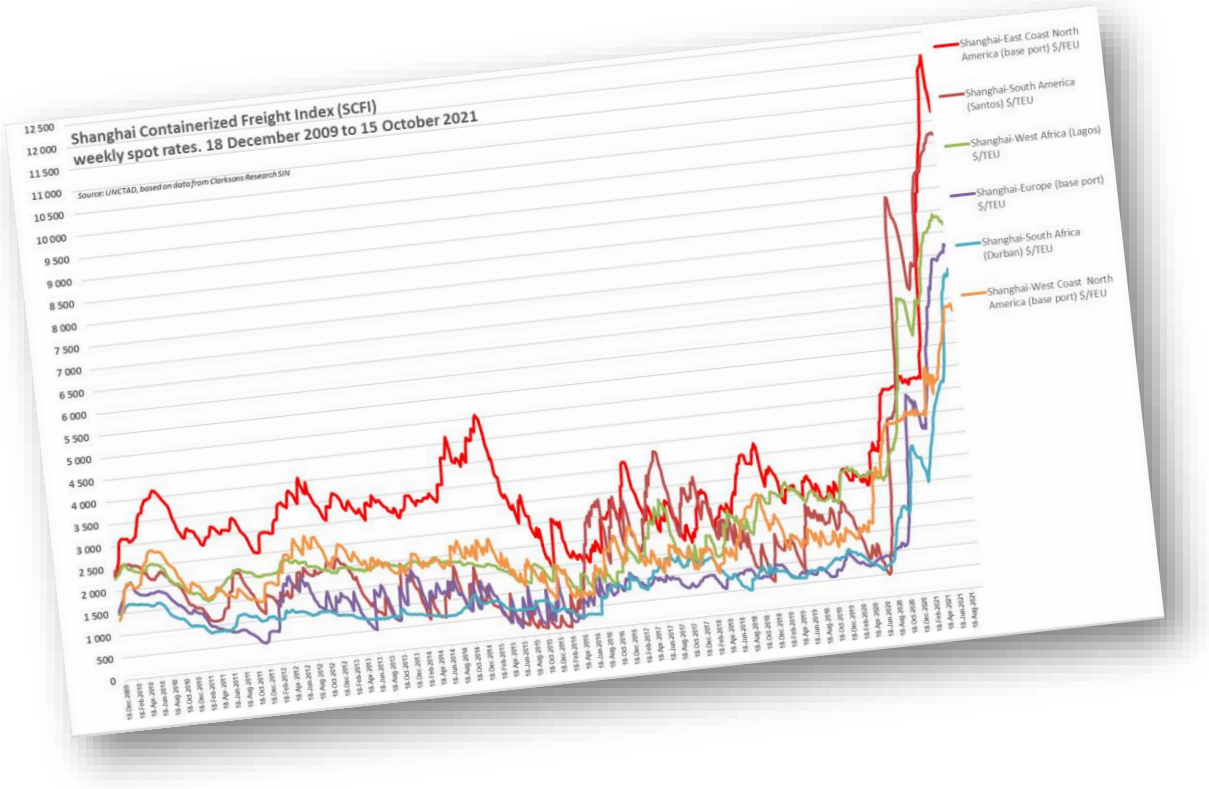
5 reasons why freight rates are likely to remain higher than over the previous decade

1. COVID-19
2. Shipping Cycle
3. Consolidation
4. Decarbonization
5. Will we have enough ships?



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Source: Dr. Chaichan Charoensuk, Chairman, Thai National Shippers' Council
UNCTAD webinar 13 de Julio 2021 - https://unctad.org/meeting/maritime-webinar-series-container-shipping-crisis-its-impact-and-why-it-different-anything

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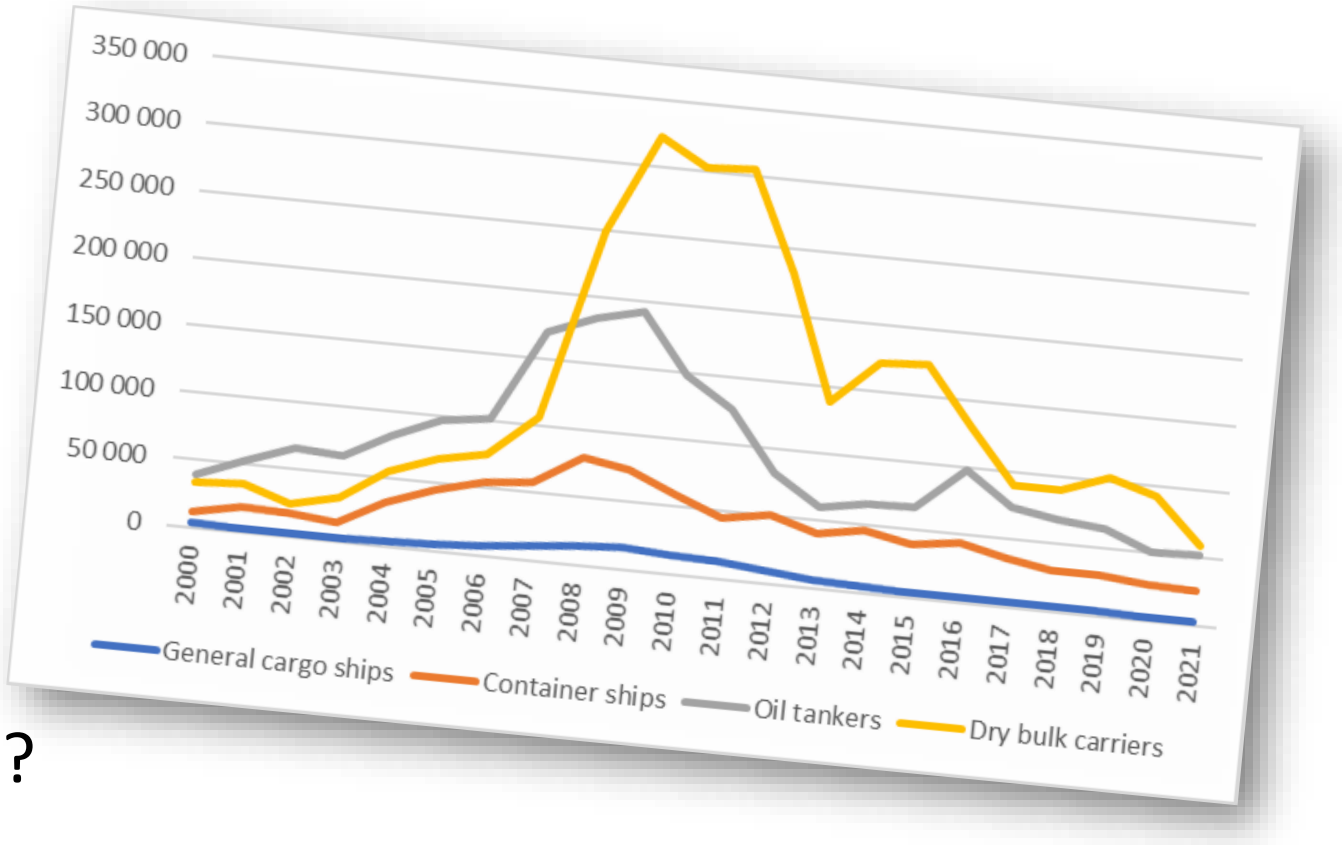

ORDERBOOK (beginning of year data)
Source: UNCTAD, with Clarksons Research data

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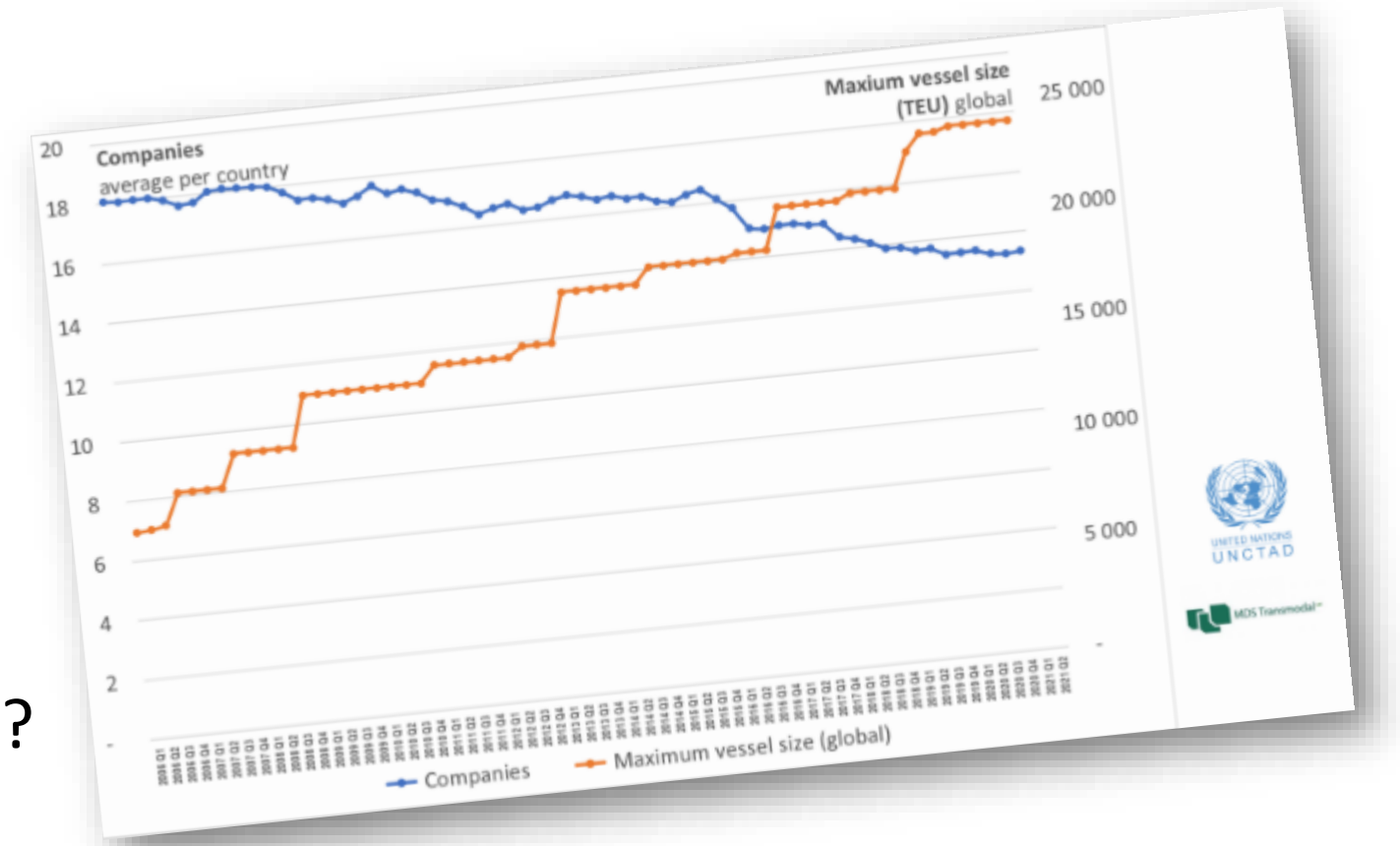

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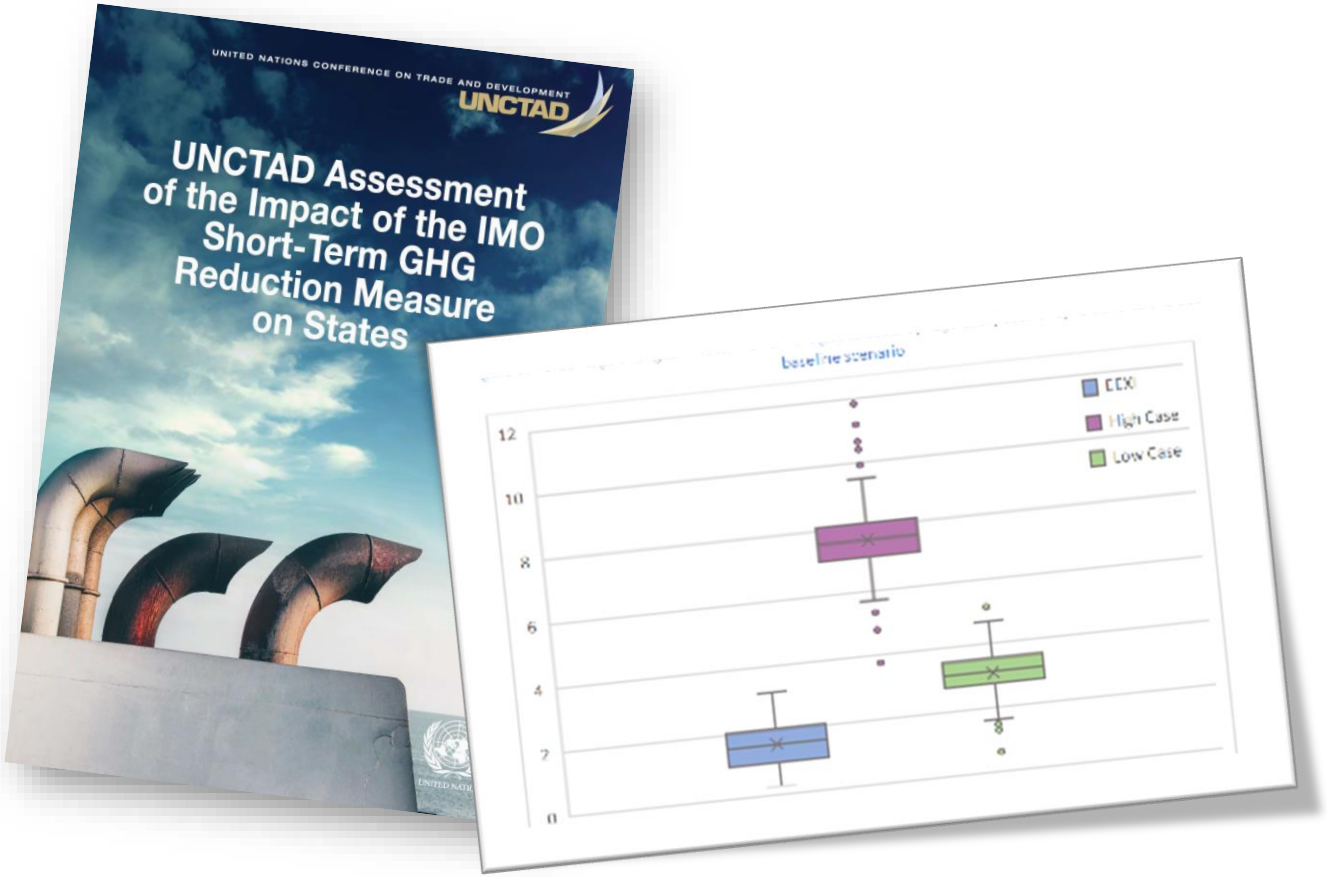

Source: UNCTAD
https://unctad.org/news/vulnerable-countries-need-help-adjust-carbon-cuts-maritime-transport

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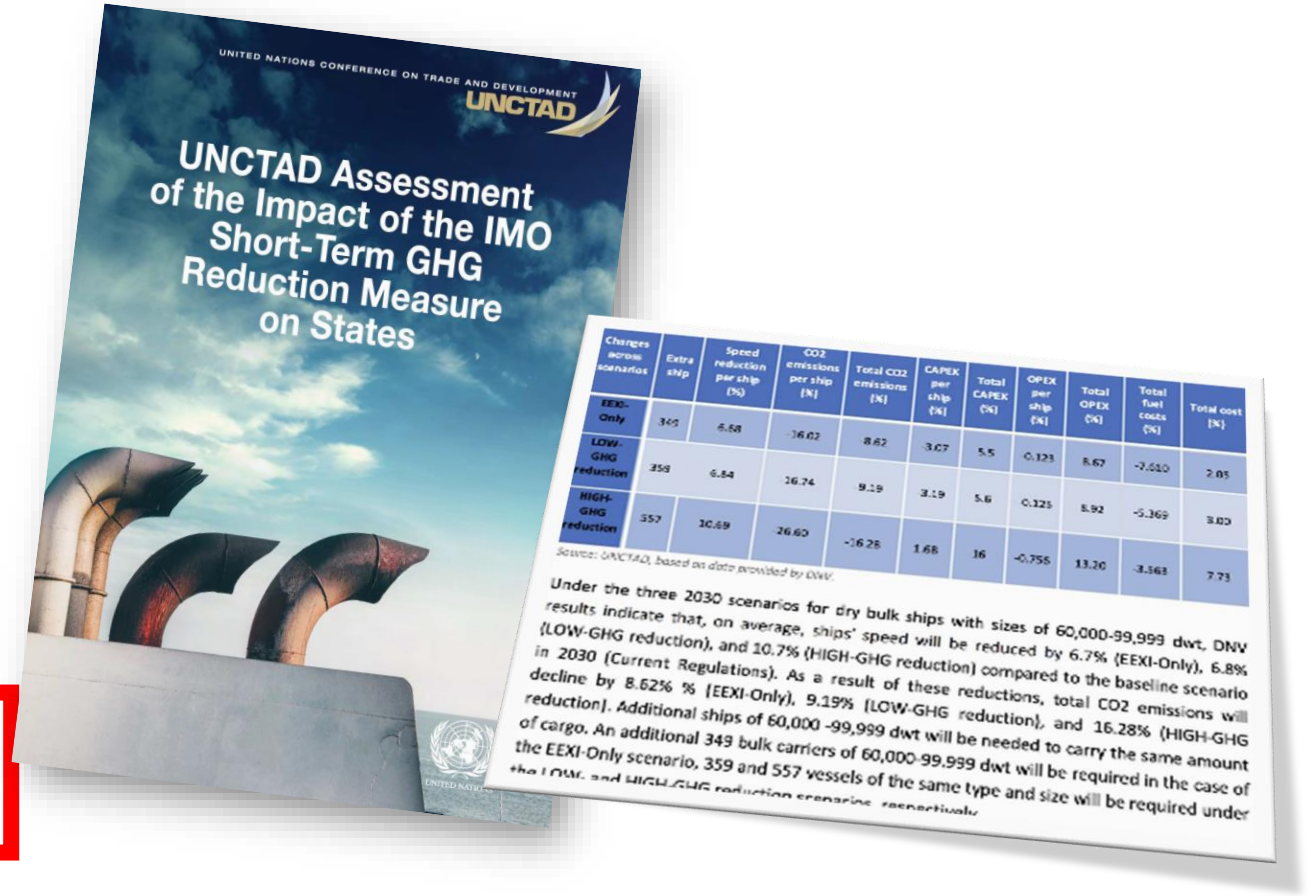

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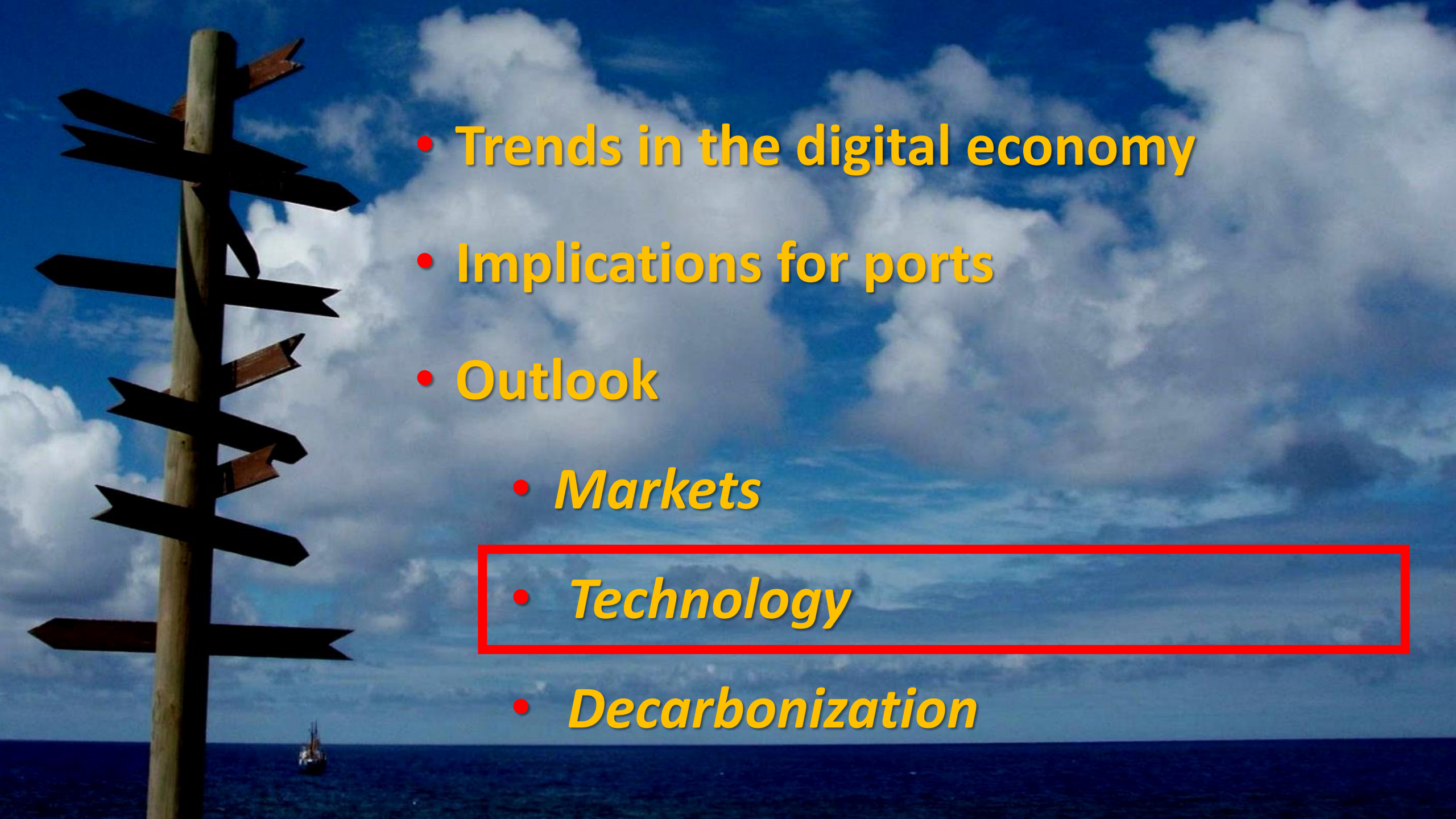
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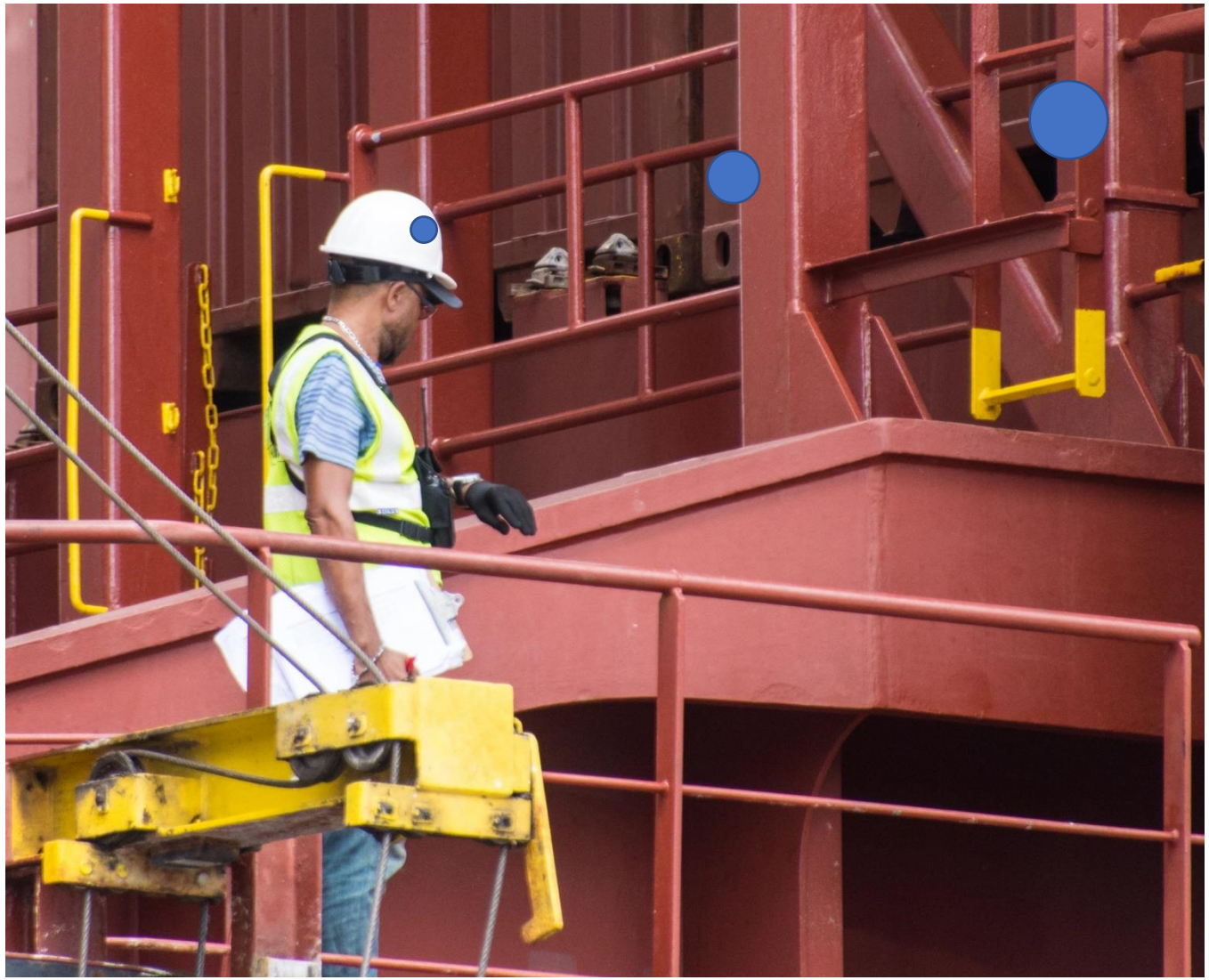
How to set today the rules for the future of maritime transport?



Technological progress will never be as slow as today

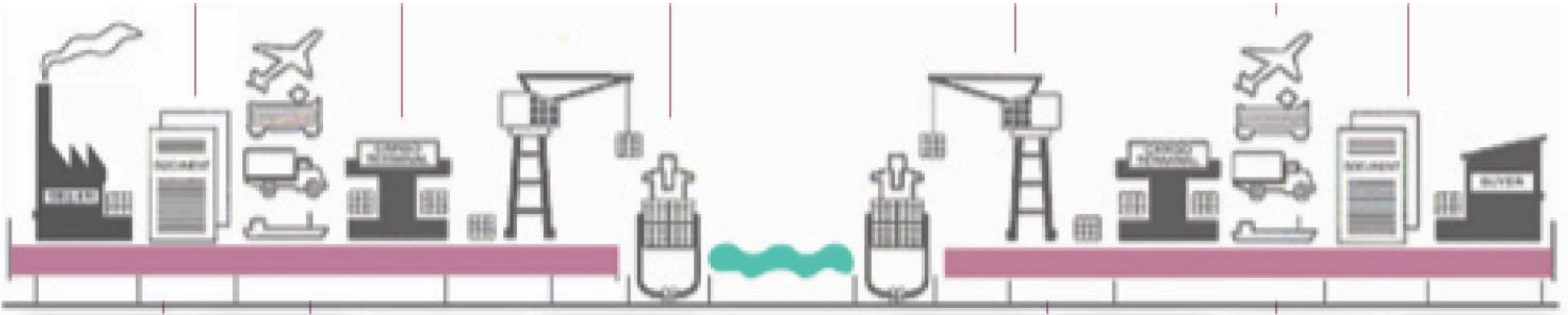
Who leads the IT reforms in your company?

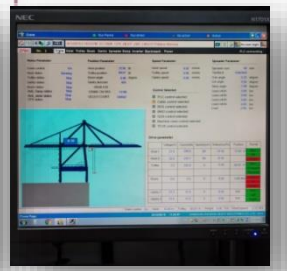
- ☐ The CEO
- ☐ The CTO
- ☐ Covid-19

Shipping in times of COVID19

A 10-point action plan

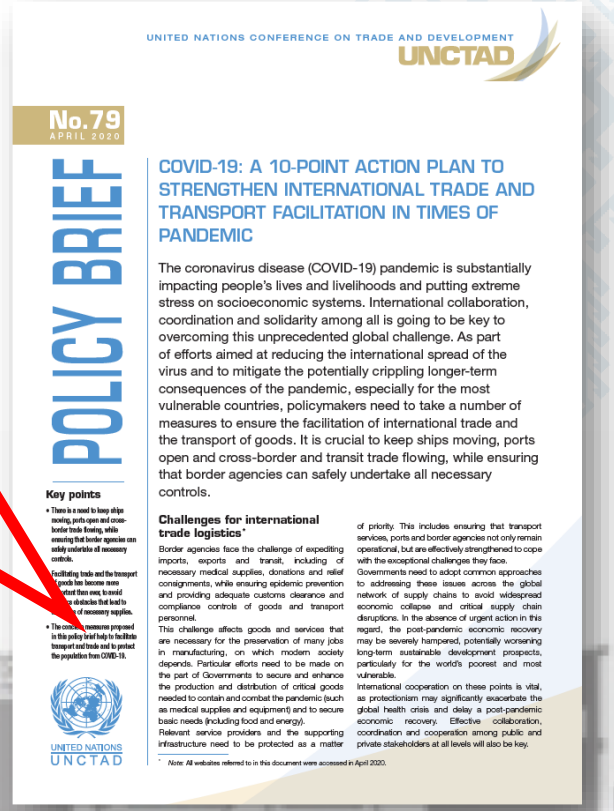
https://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=2713





Is there a trade-off between controls and trade facilitation?

The concrete measures proposed in this policy brief help to facilitate transport and trade and to protect the population from COVID-19.



UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
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No.79
APRIL 2020

POLICY BRIEF

COVID-19: A 10-POINT ACTION PLAN TO STRENGTHEN INTERNATIONAL TRADE AND TRANSPORT FACILITATION IN TIMES OF PANDEMIC

The coronavirus disease (COVID-19) pandemic is substantially impacting people's lives and livelihoods and putting extreme stress on socioeconomic systems. International collaboration, coordination and solidarity among all is going to be key to overcoming this unprecedented global challenge. As part of efforts aimed at reducing the international spread of the virus and to mitigate the potentially crippling longer-term consequences of the pandemic, especially for the most vulnerable countries, policymakers need to take a number of measures to ensure the facilitation of international trade and the transport of goods. It is crucial to keep ships moving, ports open and cross-border and transit trade flowing, while ensuring that border agencies can safely undertake all necessary controls.

Key points

- There is a need to keep ships moving, ports open and cross-border trade flowing, while ensuring that border agencies can safely undertake all necessary controls.
- Facilitating trade and the transport of goods has become more important than ever, to avoid [illegible] obstacles that lead to [illegible] of necessary supplies.
- The concrete measures proposed in this policy brief help to facilitate transport and trade and to protect the population from COVID-19.

Challenges for international trade logistics*

Border agencies face the challenge of expediting imports, exports and transit, including of necessary medical supplies, donations and relief consignments, while ensuring epidemic prevention and providing adequate customs clearance and compliance controls of goods and transport personnel.

This challenge affects goods and services that are necessary for the preservation of many jobs in manufacturing, on which modern society depends. Particular efforts need to be made on the part of Governments to secure and enhance the production and distribution of critical goods needed to contain and combat the pandemic (such as medical supplies and equipment) and to secure basic needs (including food and energy).

Relevant service providers and the supporting infrastructure need to be protected as a matter of priority. This includes ensuring that transport services, ports and border agencies not only remain operational, but are effectively strengthened to cope with the exceptional challenges they face.

Governments need to adopt common approaches to addressing these issues across the global network of supply chains to avoid widespread economic collapse and critical supply chain disruptions. In the absence of urgent action in this regard, the post-pandemic economic recovery may be severely hampered, potentially worsening long-term sustainable development prospects, particularly for the world's poorest and most vulnerable.

International cooperation on these points is vital, as protectionism may significantly exacerbate the global health crisis and delay a post-pandemic economic recovery. Effective collaboration, coordination and cooperation among public and private stakeholders at all levels will also be key.

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* Note: All websites referred to in this document were accessed in April 2020.






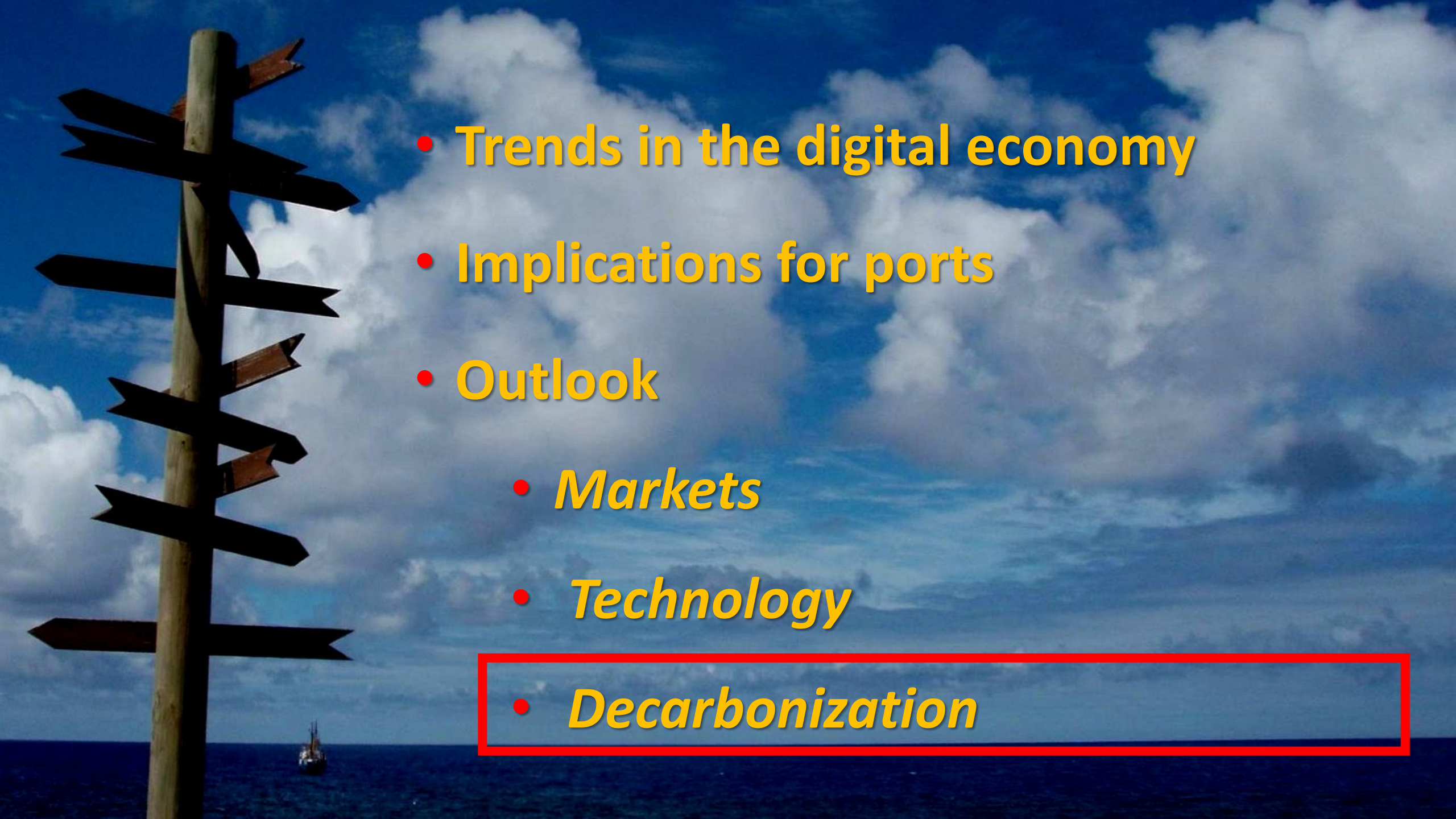
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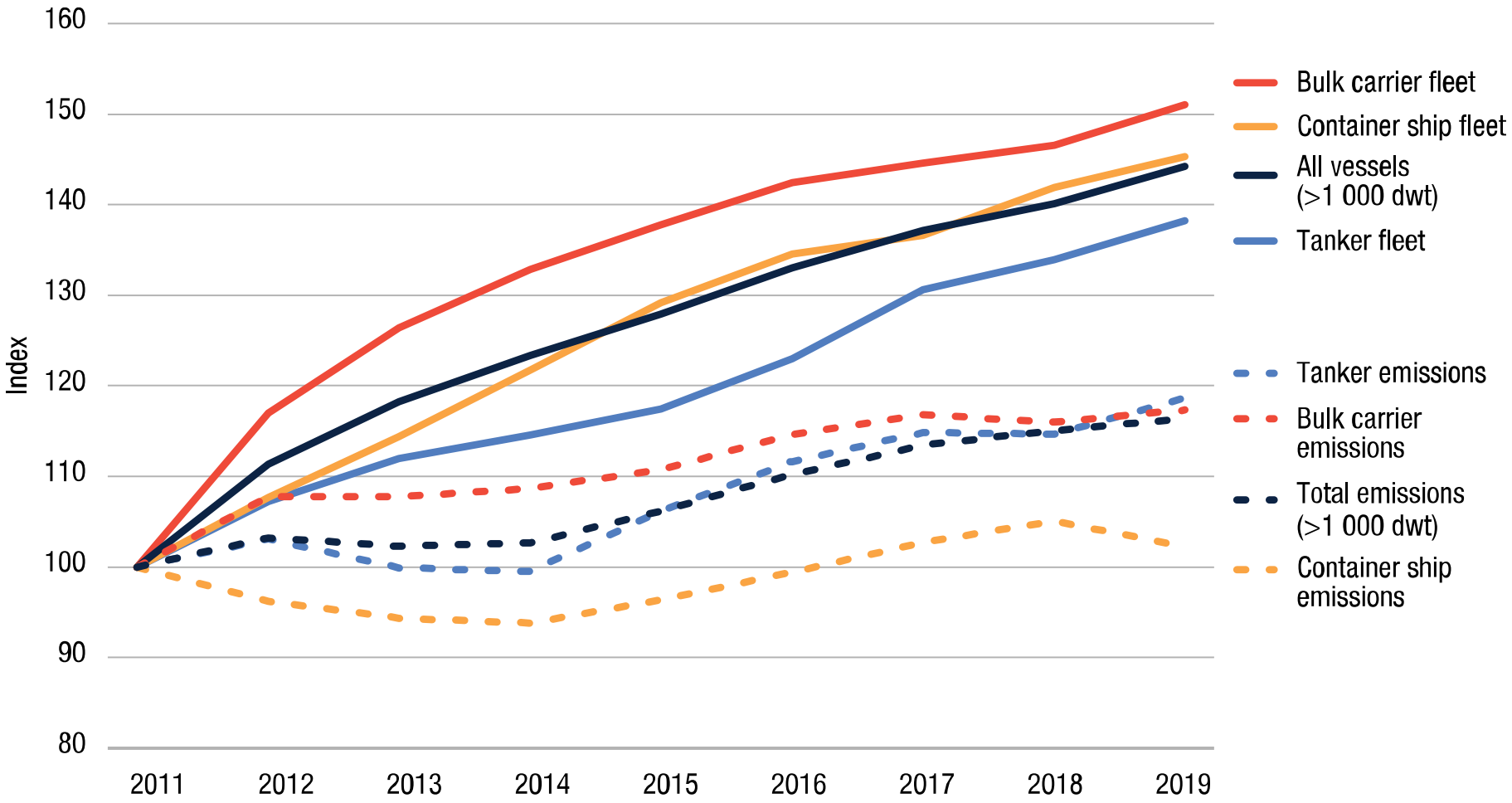
Figure 3.29 Comparison of dead-weight tonnage of respective fleet and carbon-dioxide emissions from bulk carriers, container ships and tankers, 2011–2019
(2011 = 100)



Source: UNCTAD, based on Marine Benchmark.
http://unctad.org/RMT

MARINE BENCHMARK

REVIEW OF MARITIME TRANSPORT 2020

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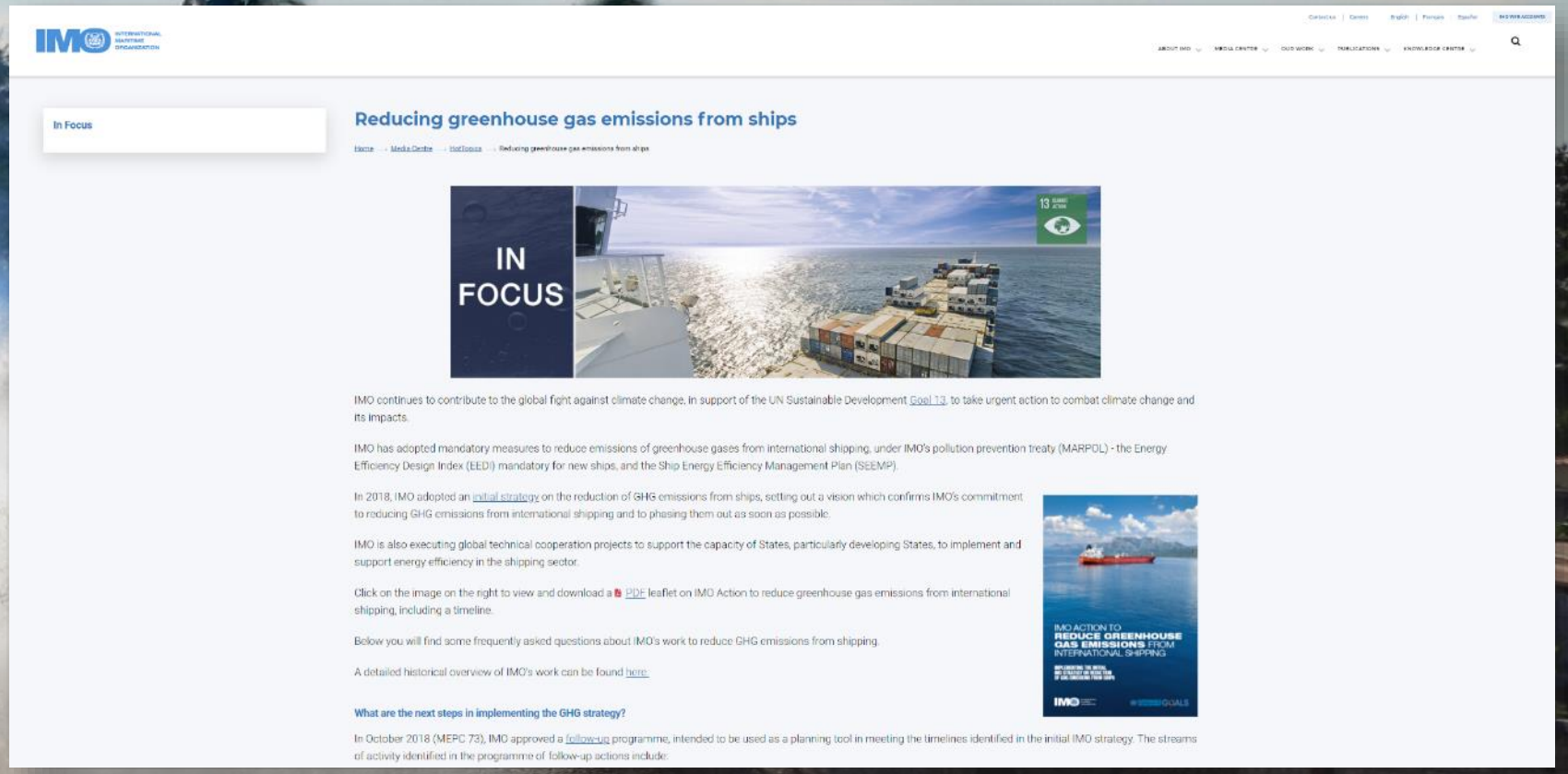
Decarbonization

The biggest long-term challenge for the future of maritime transport



In Focus

Reducing greenhouse gas emissions from ships

Home → Media Centre → HotTopics → Reducing greenhouse gas emissions from ships

IMO continues to contribute to the global fight against climate change, in support of the UN Sustainable Development Goal 13, to take urgent action to combat climate change and its impacts.

IMO has adopted mandatory measures to reduce emissions of greenhouse gases from international shipping, under IMO's pollution prevention treaty (MARPOL) - the Energy Efficiency Design Index (EEDI) mandatory for new ships, and the Ship Energy Efficiency Management Plan (SEEMP).

In 2018, IMO adopted an initial strategy on the reduction of GHG emissions from ships, setting out a vision which confirms IMO's commitment to reducing GHG emissions from international shipping and to phasing them out as soon as possible.

IMO is also executing global technical cooperation projects to support the capacity of States, particularly developing States, to implement and support energy efficiency in the shipping sector.

Click on the image on the right to view and download a PDF leaflet on IMO Action to reduce greenhouse gas emissions from international shipping, including a timeline.

Below you will find some frequently asked questions about IMO's work to reduce GHG emissions from shipping.

A detailed historical overview of IMO's work can be found here:

What are the next steps in implementing the GHG strategy?

In October 2018 (MEPC 73), IMO approved a follow-up programme, intended to be used as a planning tool in meeting the timelines identified in the initial IMO strategy. The streams of activity identified in the programme of follow-up actions include:

To achieve decarbonization we need

- A predictable, multilateral regulatory framework. And we need it fast.
- The right price for carbon
- Digitalization will help improve energy efficiency

Implications for ports? Opportunities!

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