

# International Conference on Smart Mobility and Logistics in Future Cities

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Jointly organized by:



## Digitalization and Maritime Transport: Technological progress will never be as slow as today



Hong Kong, October 2018, [Jan.Hoffmann@UNCTAD.org](mailto:Jan.Hoffmann@UNCTAD.org)



# Maritime transport

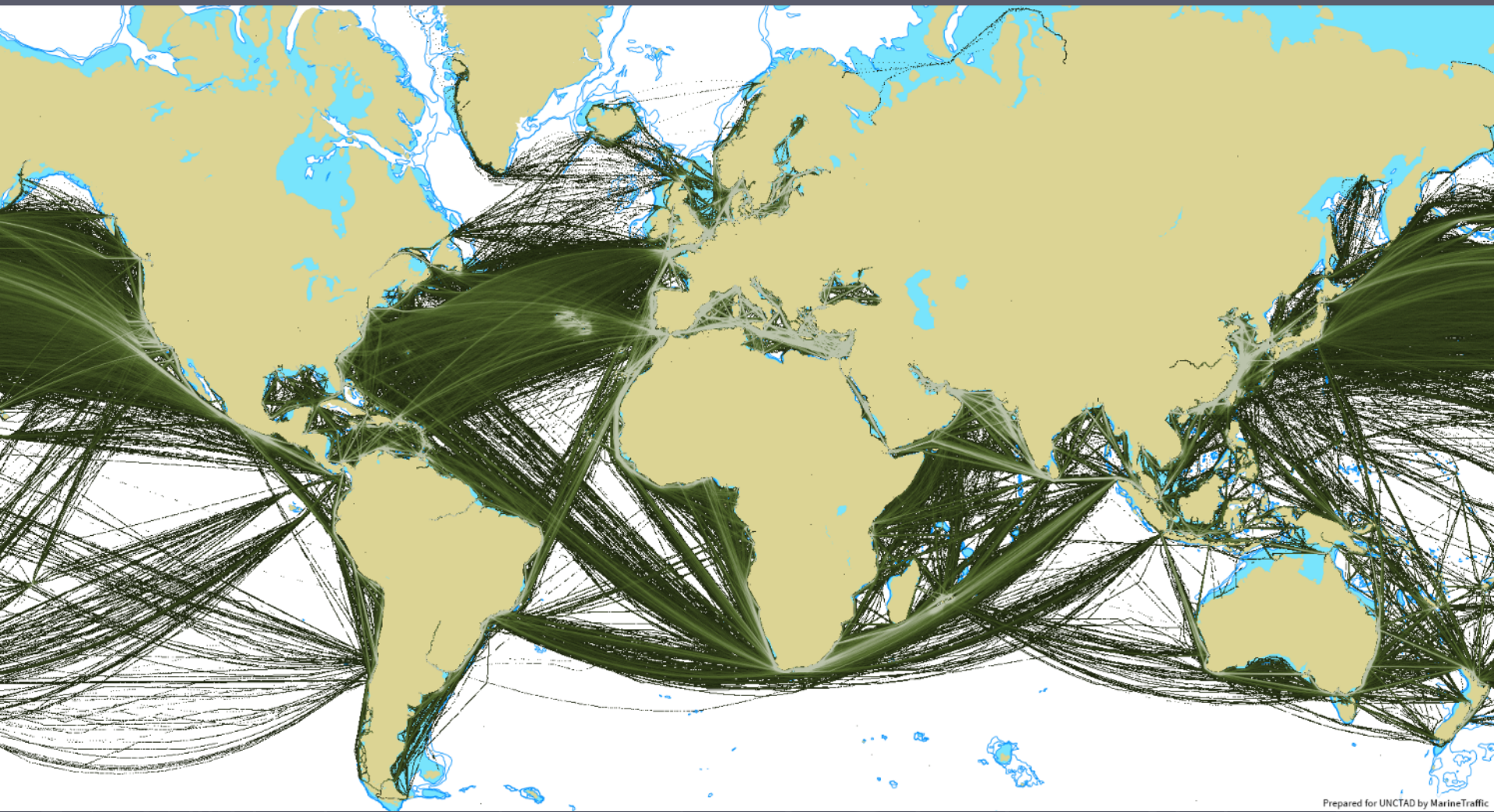
Worldwide, % change on a year earlier



Source: UNCTAD



## Density map of container ship movements



Prepared for UNCTAD by MarineTraffic

Source: Prepared for UNCTAD by Marine Traffic.

Note: Data depict container ship movements in 2016.

## Example: "Hoffmann Shipping":

- Owner: German
- Flag: Antigua and Barbuda
- Freight agent: Netherlands
- Seafarers: Poland
- Crewing agent: Cyprus
- Cargo: Turkey
- to Canada
- Fuel: Spain
- Insurance: United Kingdom
- Shipyard: Portugal







## ► Stages of digitalization

- Optimization
- Extension
- Transformation

## ► Challenges

- Interoperability
- Competition
- Development

# Three stages

- ▶ **Optimization**

Maximizing efficiency and reliability in existing processes

- ▶ **Extension**

Moving beyond efficiency to capture new sources of value

- ▶ **Transformation**

Reinventing the company's business model to capture new data-driven revenue streams

Source and further reading:

<https://t.co/vbHAdYaSWf>



# Optimization

## Example: Port call optimization

"Port Call Optimization is about optimizing speed, draught and port stay, leading to lower costs, cleaner environment, more reliability and safety for Shipping, Terminals and Ports".

<https://portcalloptimization.org/>



# Optimization

“An important driver for the **optimization of port calls** is that relevant data is shared in advance. This enables better planning of berth occupation, availability of equipment, labour resources, as well as stowage planning and the subsequent distribution and delivery arrangements (...).”

Source:

Digital Data Sharing: The Ignored Opportunity for Making Global Maritime Transport Chains More Efficient. Blog written by Mikael Lind et al. Article No. 22 for **UNCTAD Transport and Trade Facilitation Newsletter** N°79 - Third Quarter 2018

## Further reading:

MarineTraffic:

[www.marinetraffic.com/blog/](http://www.marinetraffic.com/blog/)

INTTRA:

[www.inttra.com/](http://www.inttra.com/)

Rotterdam PCO:

[www.portofrotterdam.com/en/shipping/sea-shipping/other/port-call-optimisation](http://www.portofrotterdam.com/en/shipping/sea-shipping/other/port-call-optimisation)

UNCTAD Transport and Trade Facilitation Newsletter:

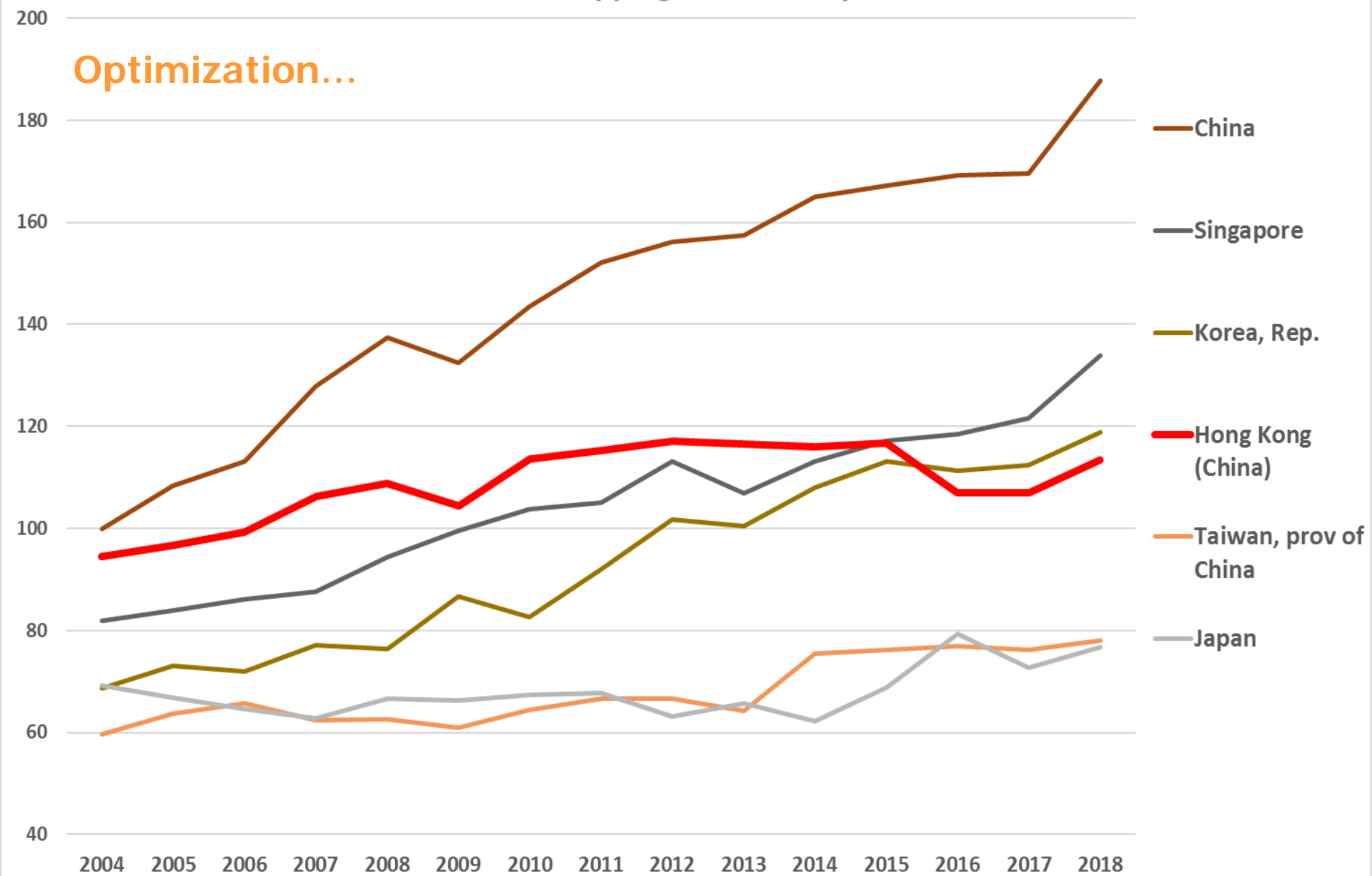
<https://unctad.org/en/Pages/DTL/TTL/Transport-Newsletter.aspx>





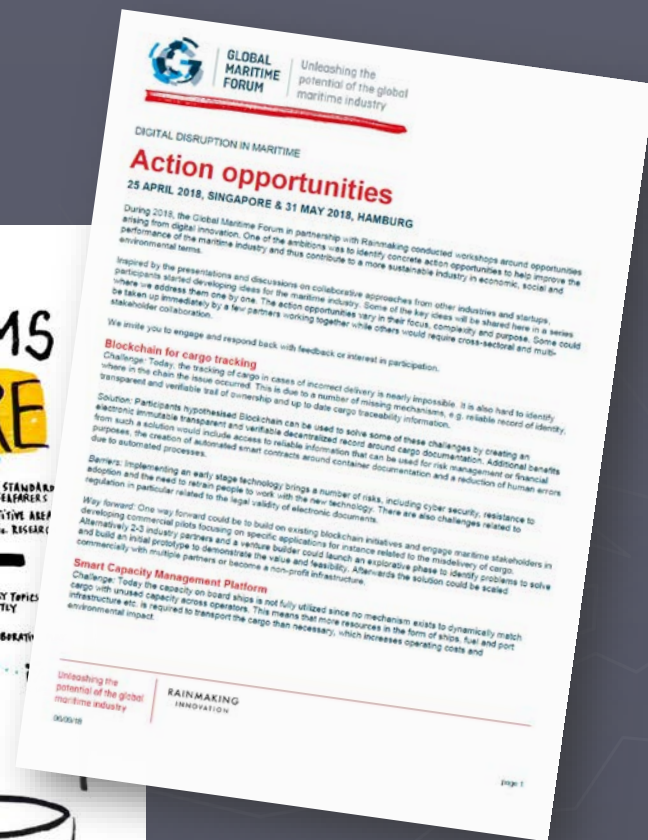
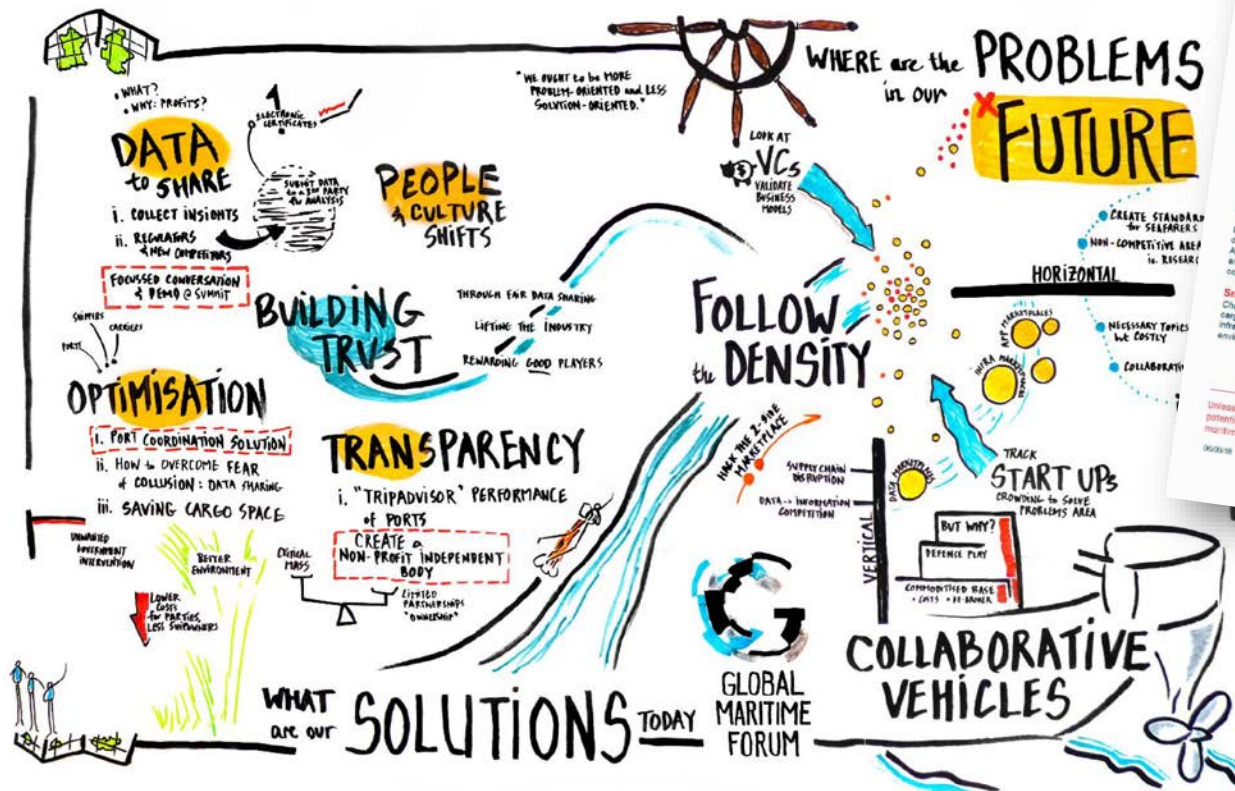
# UNCTAD Liner Shipping Connectivity Index - LSCI

Optimization...



# Extension

## "Action opportunities"




Further reading: <http://globalmaritimeforum.org>



GLOBAL  
MARITIME  
FORUM

# Transformation

big think®  
Smarter. Faster.™

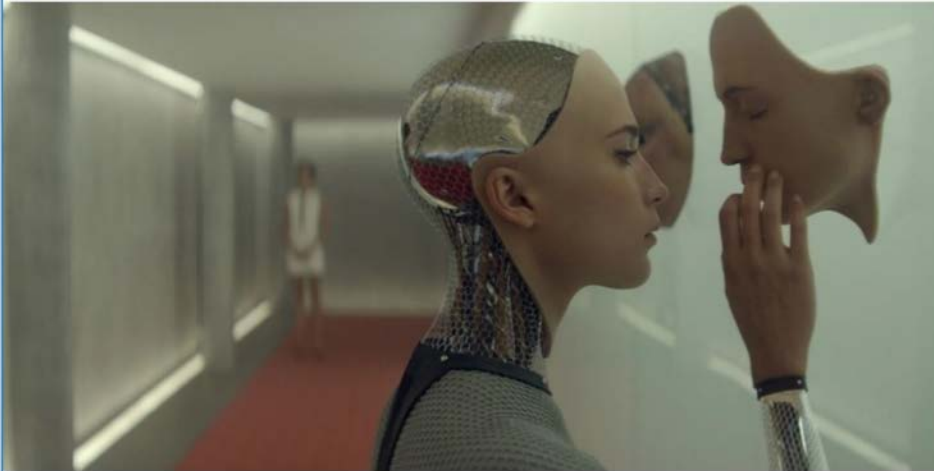
Q

DISCOVER VIDEO BIG THINK FOR BUSINESS

## Human-like A.I. will emerge in 5 to 10 years, say experts

A survey conducted at the [Joint Multi-Conference on Human-Level Artificial Intelligence](#) shows that 37% of respondents believe human-like artificial intelligence will be achieved within five to 10 years.

**STEPHEN JOHNSON** 26 September, 2018







# Transformation

"...urgency among leaders to embrace digitalization, to better understand the implications, and to transform the enterprise to respond to the new reality."

UNCTAD RMT 2018

## Further reading:

[www.weforum.org/system-initiatives/shaping-the-future-of-digital-economy-and-society](http://www.weforum.org/system-initiatives/shaping-the-future-of-digital-economy-and-society)

[https://twitter.com/W\\_Lehmacher](https://twitter.com/W_Lehmacher)





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For your Agenda:  
Geneva  
21-23 November  
UNCTAD Expert Meeting



The background image shows a large-scale port operation. A massive container ship is docked at a pier, with its side marked 'ZPMC' and 'N'. Several yellow gantry cranes are positioned along the pier, some with containers being loaded or unloaded. In the foreground, there are stacks of red and blue shipping containers, some with 'ZIM' logos. A yellow truck is parked near the containers, and a worker in an orange vest is visible. The sky is overcast.

# Interoperability

How can we ensure interoperability?

- ▶ Challenge of cybersecurity
- ▶ A role for global standards?
- ▶ A role for the public or private sector?

Further reading

[www.unece.org/cefact/](http://www.unece.org/cefact/)

[https://transportgeography.org/?page\\_id=11661](https://transportgeography.org/?page_id=11661)

[www.linkedin.com/in/crammartos/](http://www.linkedin.com/in/crammartos/)



# Competition & Cooperation

We want to encourage technological progress without creating monopolies



Further reading:  
Global Maritime Logistics Dialogue:

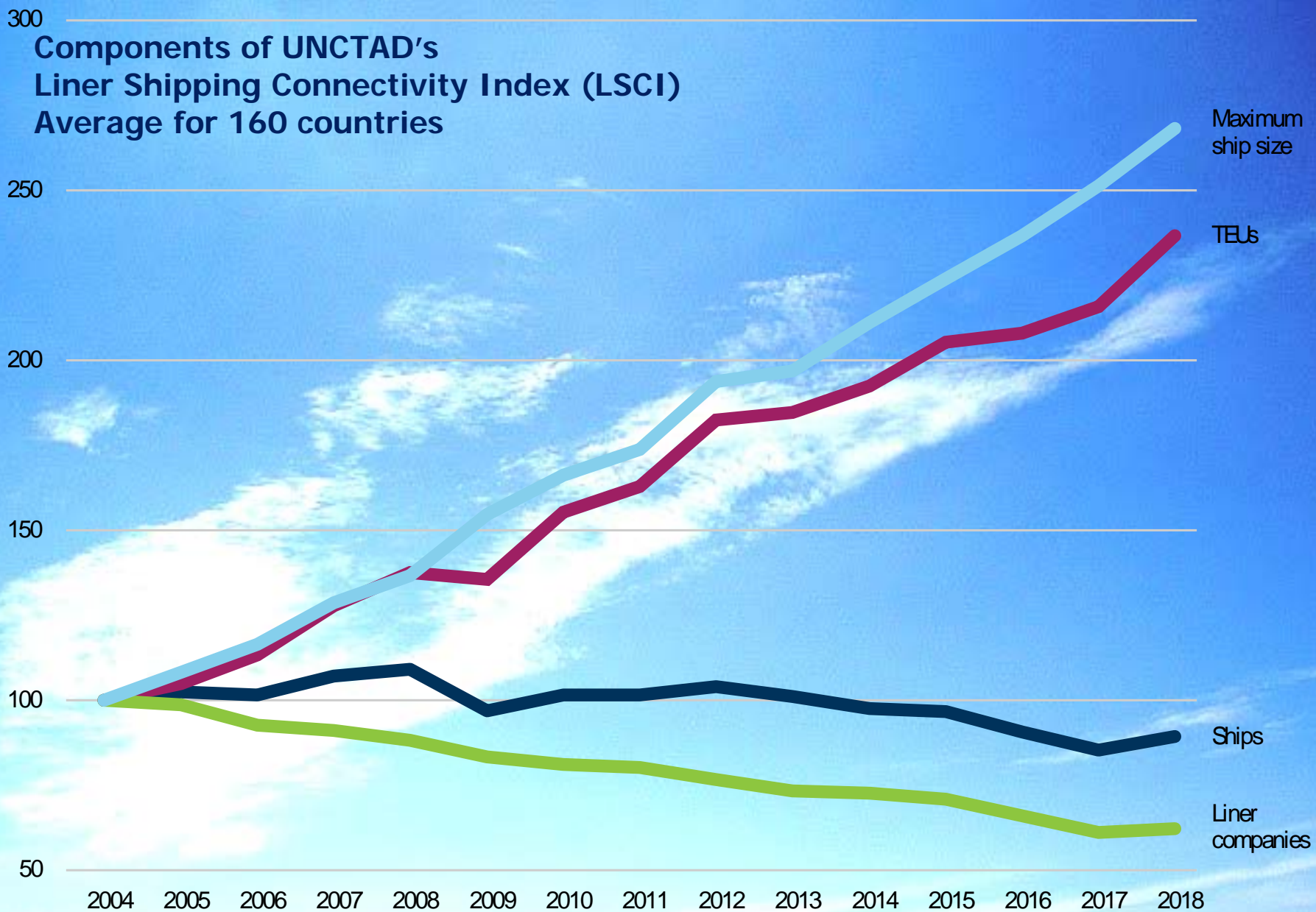
<https://2018.itf-oecd.org/global-maritime-logistics-dialogue-towards-holistic-governance-maritime-logistics-chain>

# Consolidation in the container market

## ► Mergers and Acquisitions

"As of January 2018, the top 15 carriers accounted for 70.3% of all capacity. Their share has increased further with the completion of the operational integration of the new mergers in 2018, with the top 10 shipping lines controlling almost 70% of fleet capacity as of June 2018."





Source: UNCTAD RMT 2018, on the basis of data from MDS Transmodal





# Development

Challenges and opportunities for Developing countries

- ▶ Leap frogging?
- ▶ Open up or protect?
- ▶ The right mix of global and national rules?



Further reading:  
E-Commerce Week <https://unctad.org/en/conferences/e-week2018>

# Trade facilitation trade-off?



# TF measures help!

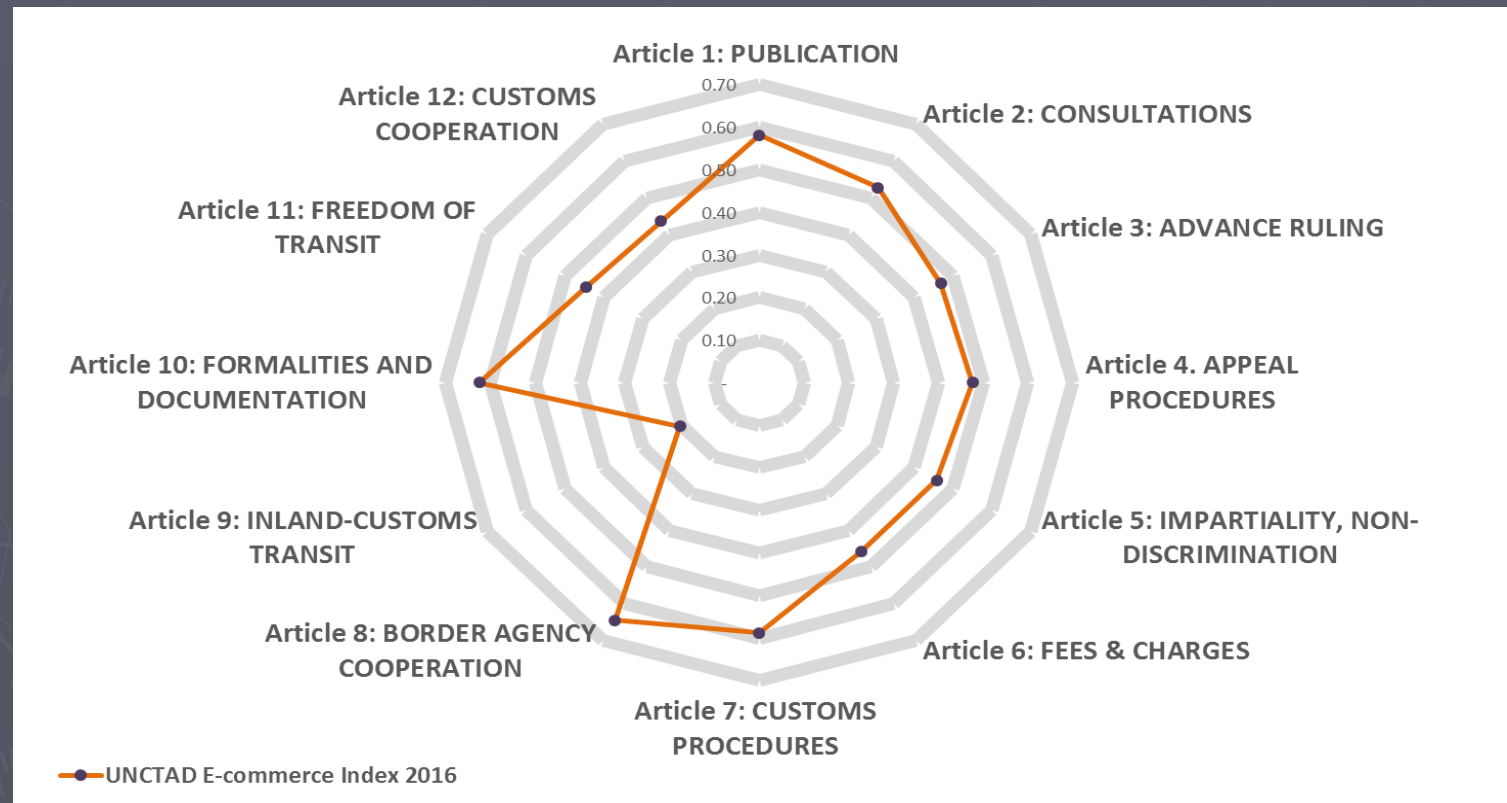
- Improve revenue collection
- Improve controls
- Improve security





# Trade Facilitation for E-Commerce

- All 37 trade facilitation measures included in the TFA have a positive correlation with e-commerce



# Trade Facilitation for E-Commerce

The top 4 measures with the strongest statistical “impact” (correlation) on the UNCTAD e-commerce index:

- ▶ Border agency cooperation (Article 8): **+77%**
- ▶ Publication (Article 1.1): **+71%**
- ▶ Single Window (Article 10.4): **+ 66%**
- ▶ Expedited shipments (Article 7.8): **+61%**

# The mindset

- How to set today's rules for the future?

Technological progress will never be as slow as today

WTO OMC



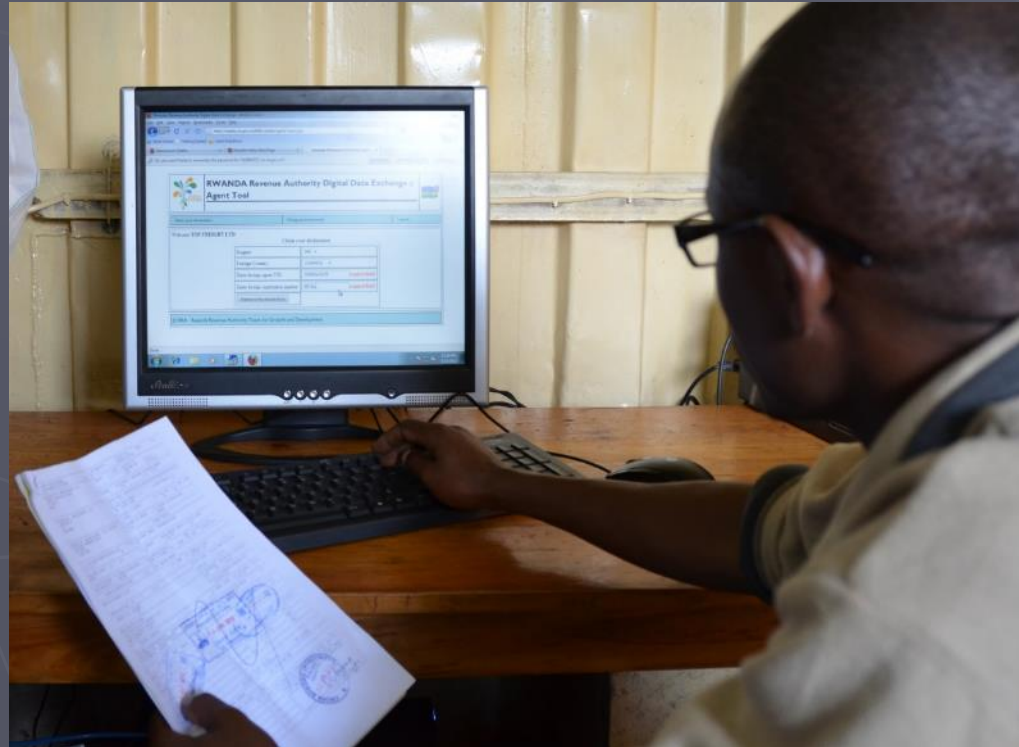


- ▶ The negotiation, ratification and implementation of conventions take time
- ▶ Need to commit to **whatever** is the best [future] technological solution



# Out of date already?

- In the future the concept of “copies” versus “originals” as per Article 10.2 TFA will become obsolete as processes focus on **data** rather than on documents.





# Out of date already?

- ▶ The same will apply to “information technology to support the single window” as per Article 10.4, as focus shifts to data and information on a **distributed** ledger.





# A dynamic dimension in the TFA

- In the **long term**, Article 10.1 will gain in importance, it does not prescribe any specific technological solution.



# A dynamic dimension in the TFA

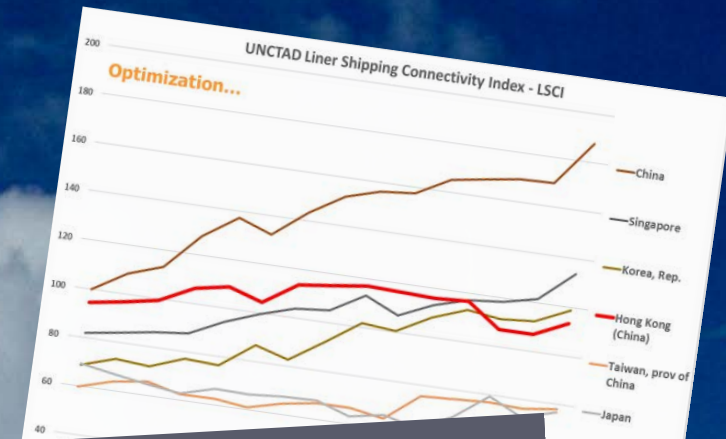
- ▶ In the long term, Article 10.1 will gain in importance, it does not prescribe any specific technological solution.
- ▶ Progressively, various provisions will become antiquated or obsolete and we will just want to *minimize* "the incidence and complexity of import, export, and transit formalities"; continuously "*review*" requirements; keep "*reducing* the time and cost of compliance for traders and operators"; and always choose "the *least* trade restrictive measure" (10.1 TFA)





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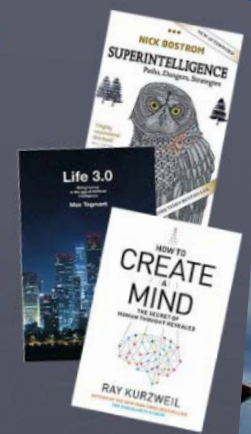
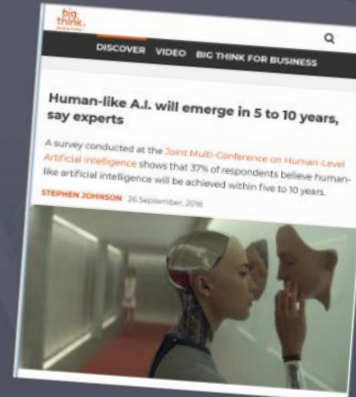
## Extension

"Action opportunities"



Further reading

## Transformation





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### Interoperability

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Global Maritime Logistics  
<https://2018.int-oecd.org/global-m>

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