Ports in the Physical Internet: research summary

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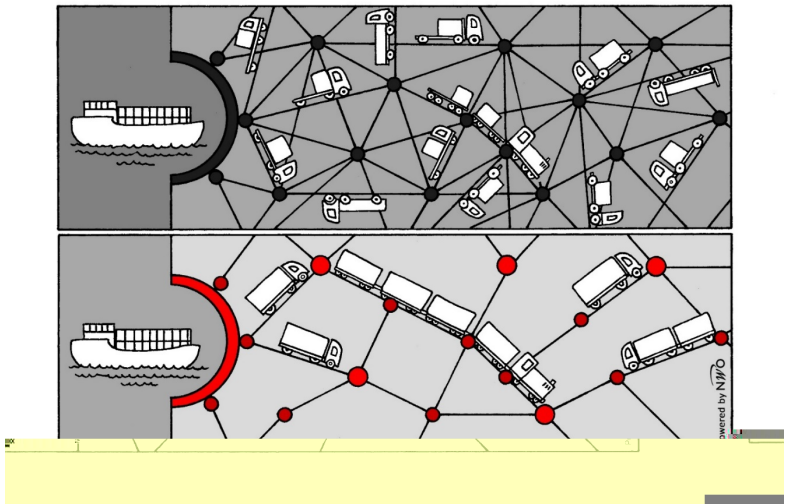

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Vision: Ports as cornerstone of the Physical Internet

- Ports and their hinterland play an important role in the design of sustainable logistics operations.
- Will ports get an important role in the Physical Internet?
- How can port authorities prepare best with regard to their role and operations?
- How do the planning and control of operations in PI networks co-exist with current logistics networks?
- What are the roles of other stakeholders?

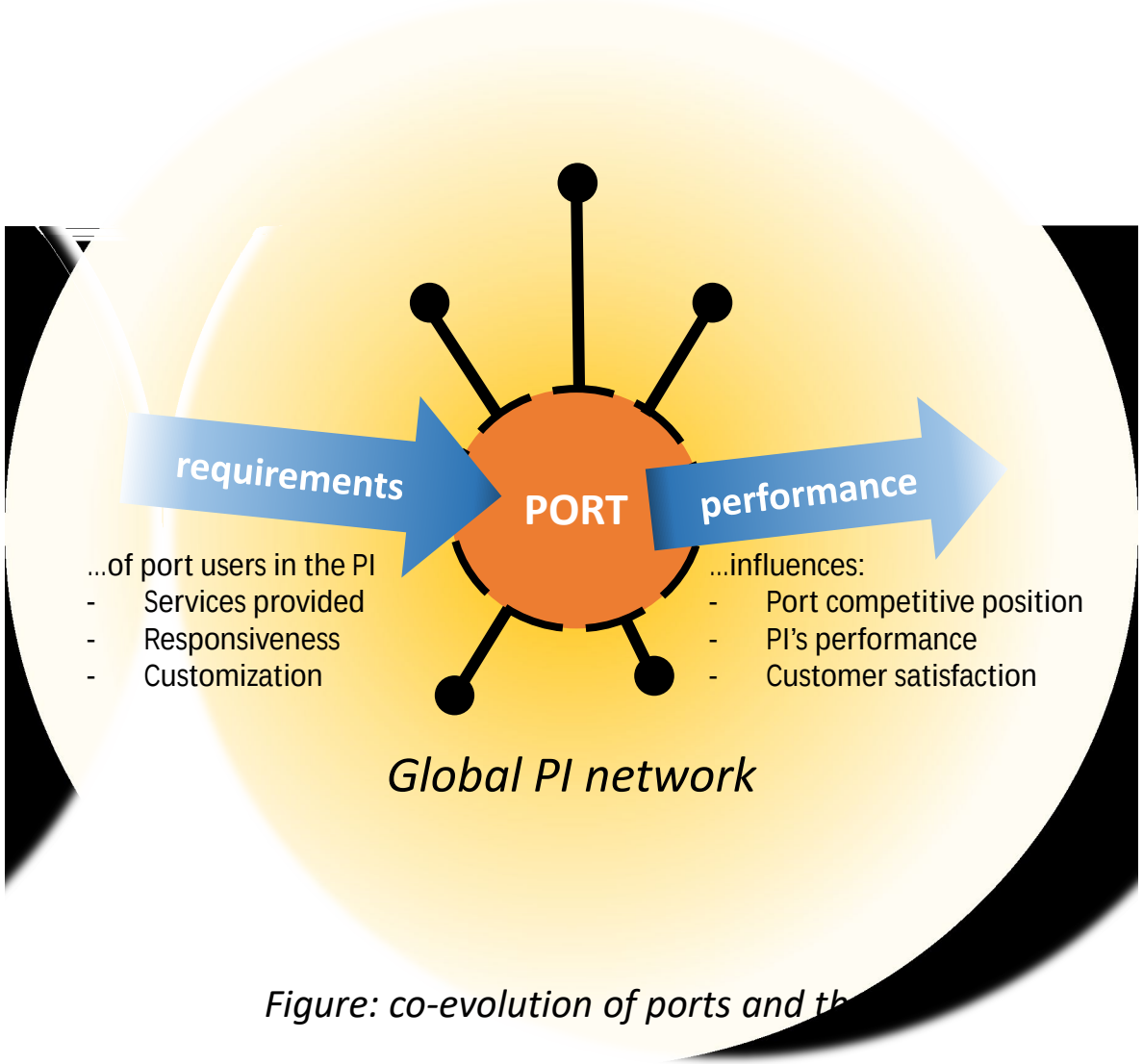
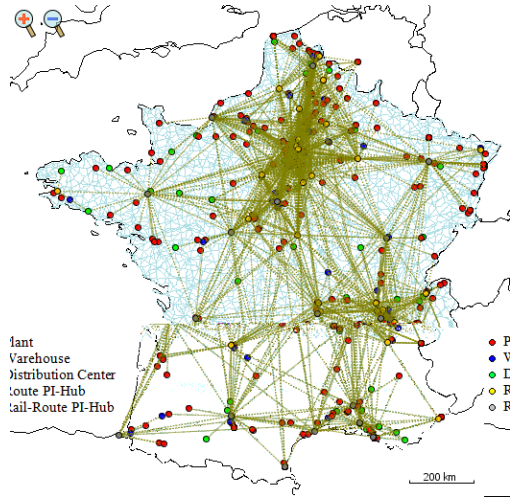
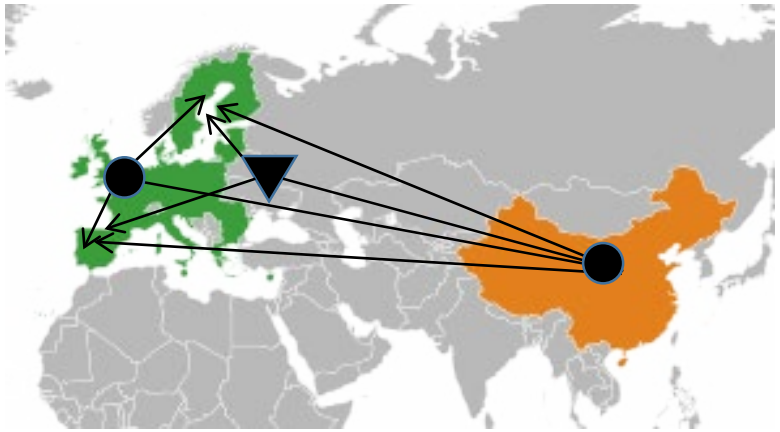


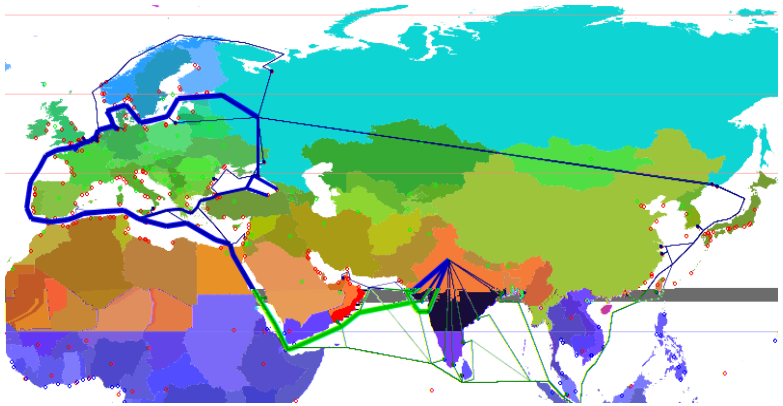
Figure: co-evolution of ports and th

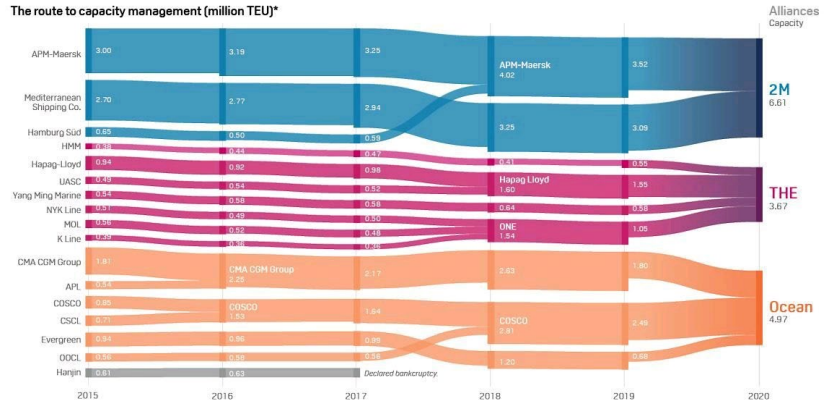
Challenge: How to respond to changes?

- Companies will be running the network differently – how?
- Supply chain optimization platforms will want ports to join
- Ports will need to access shipment information
- Dynamic and adaptive routing at global level – service flexibility!
- New technologies for handling new loading units
- New priorities and preferences of customers
- Dynamics & uncertainty => ports need to agile, informed, adaptive









Sources: SeaconAZ project/Tavasszy et al., 2011/S&P Global Platts website/Ballot et al., 2018

Our Project

Towards Virtual Ports in a Physical Internet

Academic partners: Delft University of Technology
Main industry partners: Port of Rotterdam; Groningen Seaports
Duration: January 2016 – June 2021
(Co-)funding: 85% by NWO through the program “Vitale logistiek”; 15% by the industry partners

Work package 1

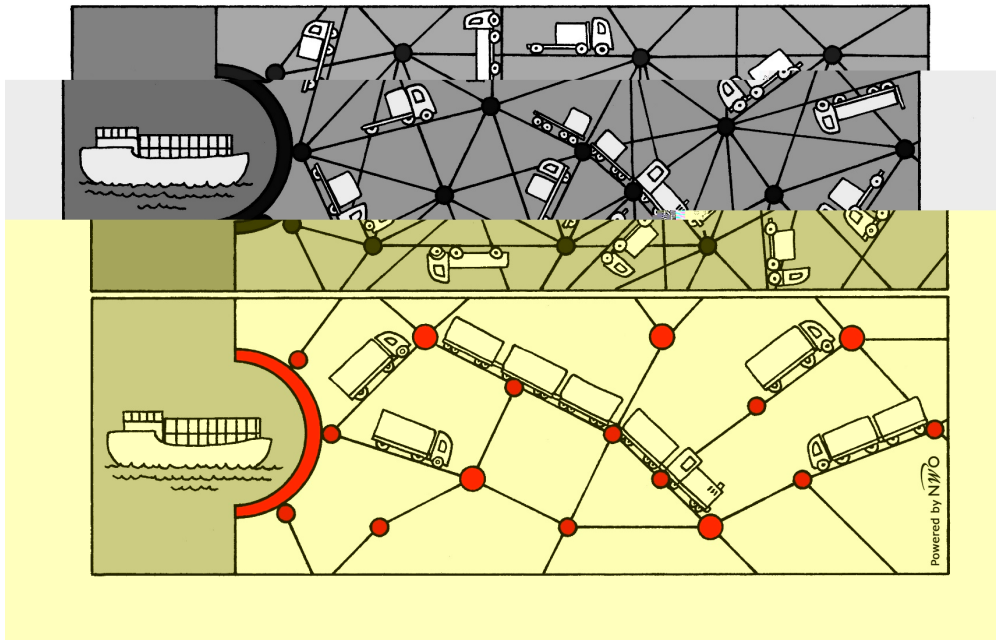
Concepts for the new role of ports

Work package 2

Design planning and control policies for the physical internet hinterland network

Work package 3

Stakeholder engagement and knowledge dissemination on the PI initiative

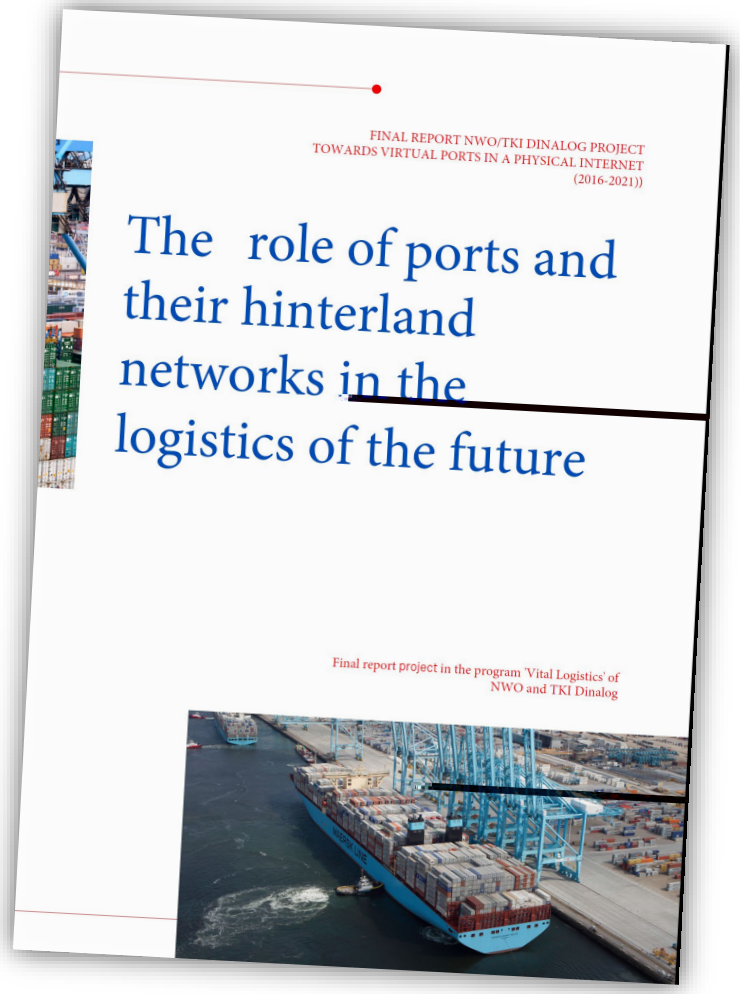


Key results

7	Academic publications in scientific journals
44	Master Theses
1	PI lab opened
5	(nominations) for Awards
4	Conferences and round-tables organised
3	PI Challenges organised

Key results (up next)

- The evolution of ports in the Physical Internet
  - PI-Port scenarios, port choice, port ICT, policy directions
- Effective decision-making in Physical Internet Hinterland networks
  - Dynamic demand fulfilment, network flexibility, collaborative trucking
- Stakeholder roles in a Physical Internet
  - Overview; case of customs



Project Summary publication