Hyperconnected Ports & Canals:
Their New Roles in the Physical Internet

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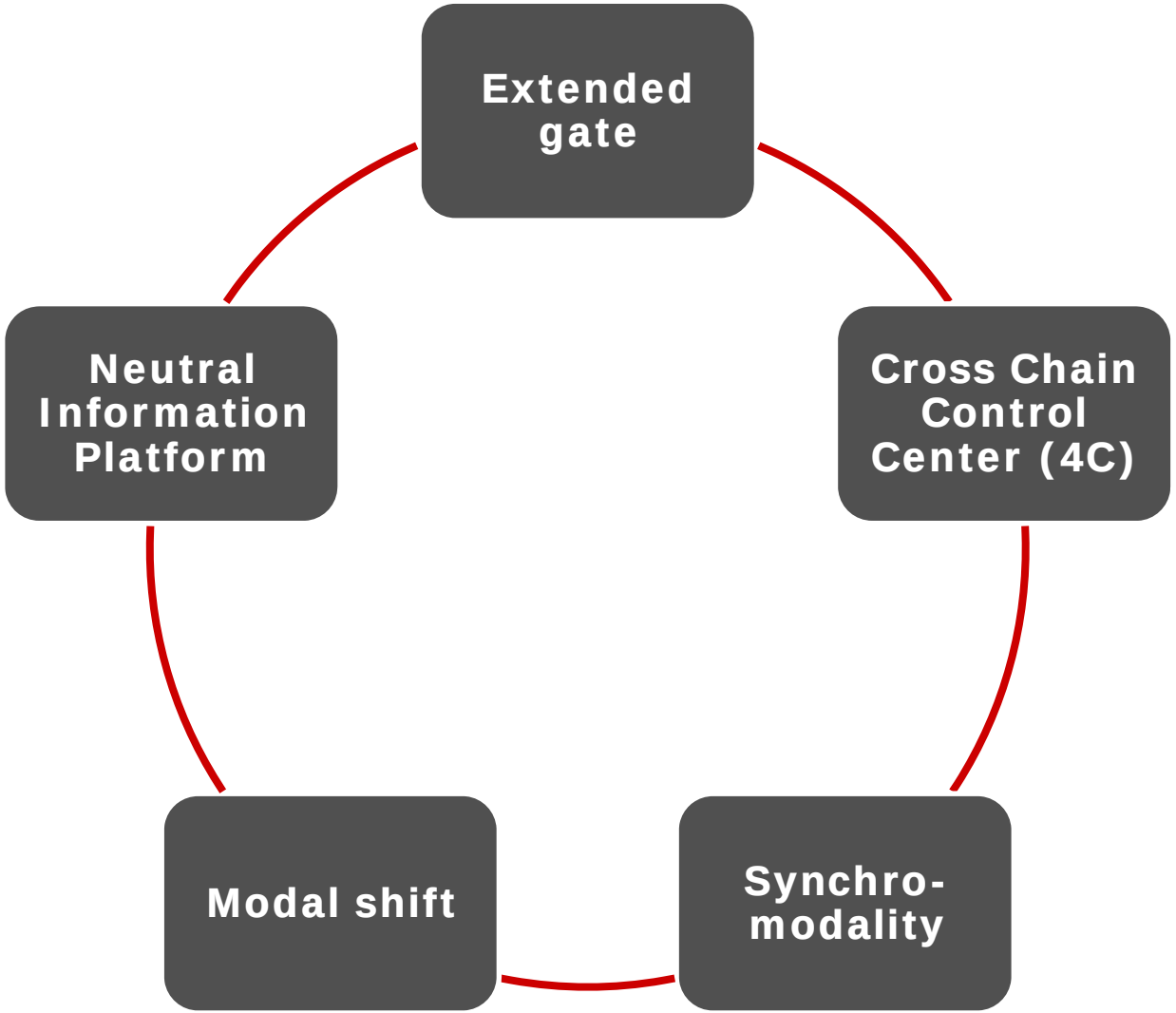
Developments in Europe



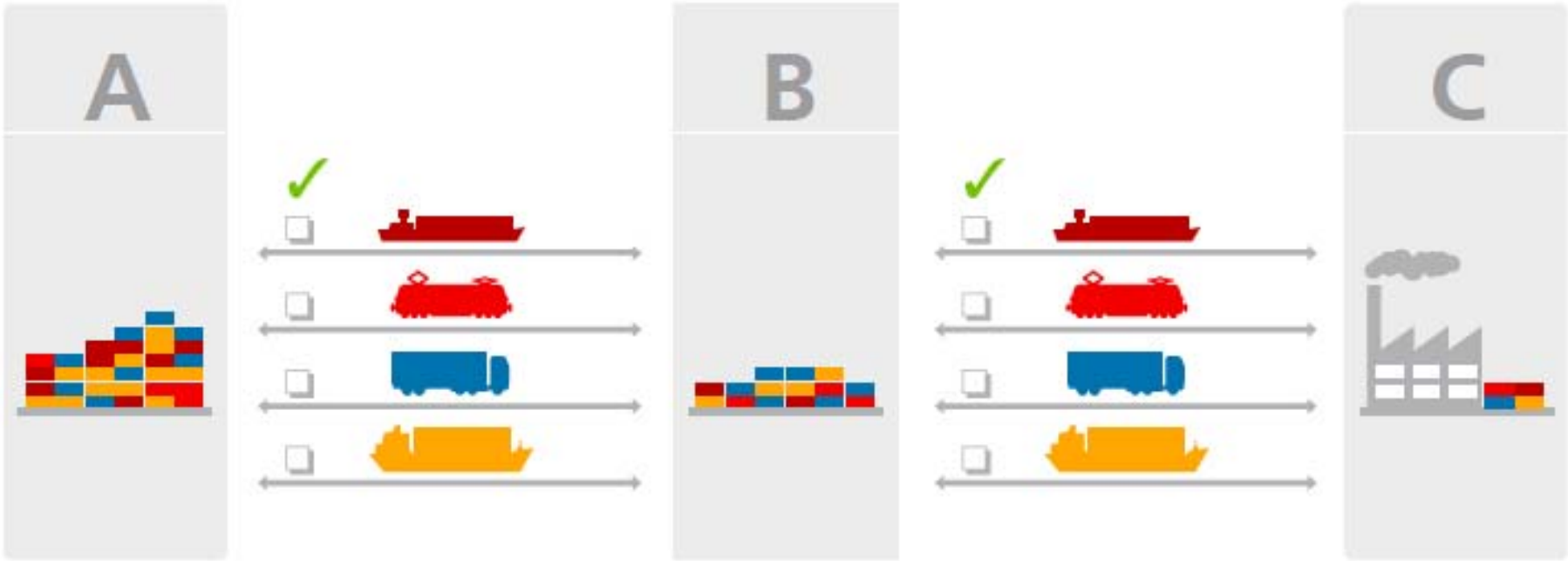
Extended Gate

Source: http://www.europeangatewayservices.com/en/#view=home

4C

Source: http://www.dinalog.nl/en/themes/cross-chain-control-collaboration-4c-en/

Synchromodal transportation



Synchromodal transport: moving products from A to B, choice for a mode of transport can be made any time based on real-time information.
(source: Topteam Logistiek)

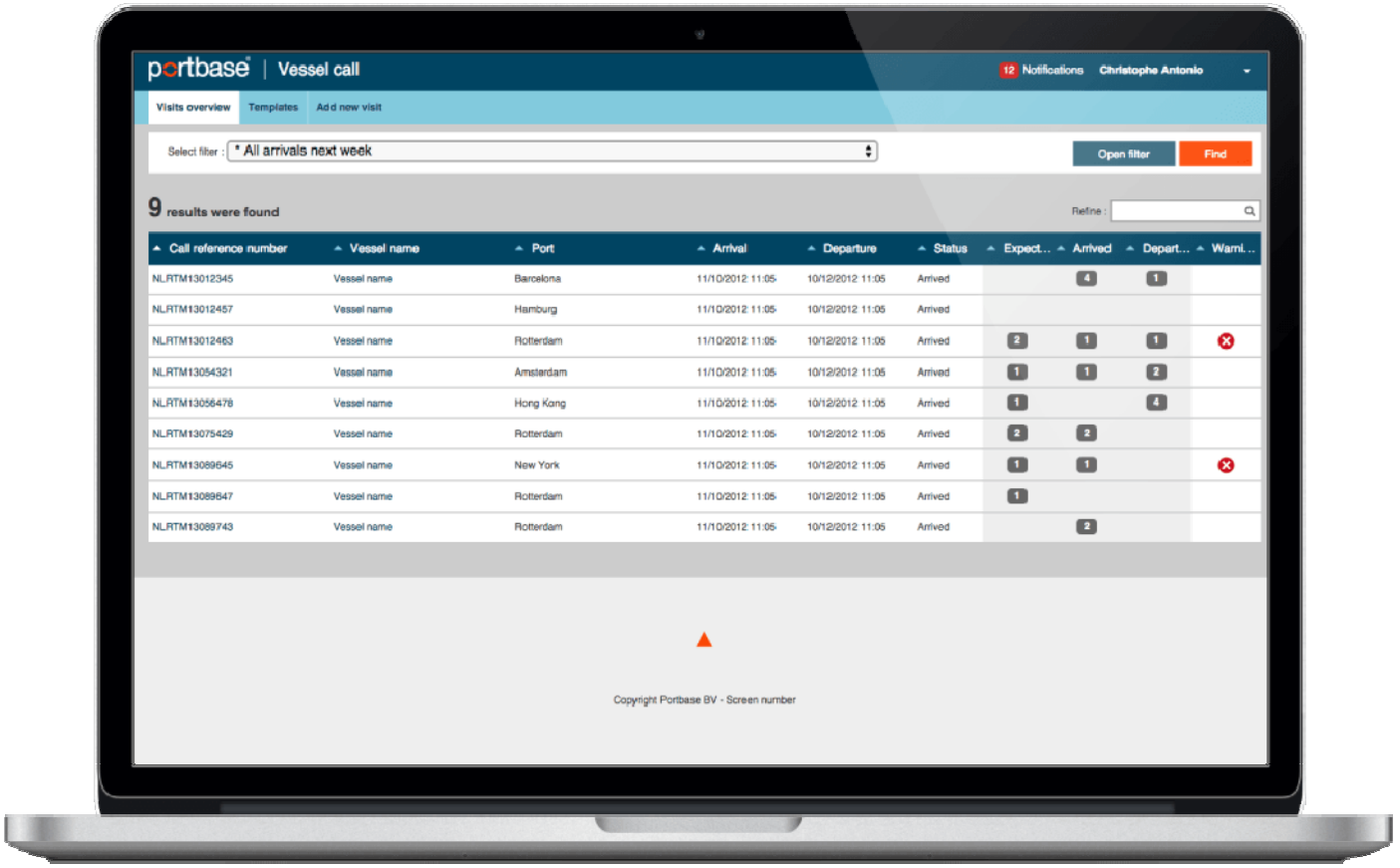
Source: http://www.topsectorlogistiek.nl/?p=674

Modal shift

- In 2030 > 30% of transport over distances > 300km should be performed by train/vessel (European committee)
- In 2050: > 50%

Data sharing

portbase®



Source: https://www.portbase.com/

From synchromodal transport to PI

- **PI initiative extends synchromodality by:**
  - individual containers,
  - their contents,
  - door-to-door.

Joint research in Groningen - Delft

› NWO/TKI Dinalog project: **Towards virtual ports in a Physical Internet**

› Aim: to conceptualize the future roles of ports in PI networks and to design decision-support systems for PI-enabled port logistics and hinterland operations to be used in the short to medium term.

› Focus on

- strategic decision making of port authorities with regard to their role and operations.
- impact of positions and volumes transshipped in ports
- the planning and control of operations in PI networks co-existing with current logistics networks.

Ports as corner stone of PI networks

- Ports and their hinterlands are key in the design of **sustainable** logistics operations
- Role of a port in a larger network (e.g., extended gates) and corner stone of PI networks.
- In port visions for 2030 PI is not taken into account.
- How should ports prepare?
- Discussions