

KennisDC Logistiek



Greening
Corridors

KANSEN VOOR HET BLAUWE GOUD ONDERZOEK NAAR STEDELIJK VERVOER OVER WATER

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Lector Haven & Stadslogistiek

Trouw

Opinie Duurzamer vervoer

Waar een wil is, is een waterweg: tegen files

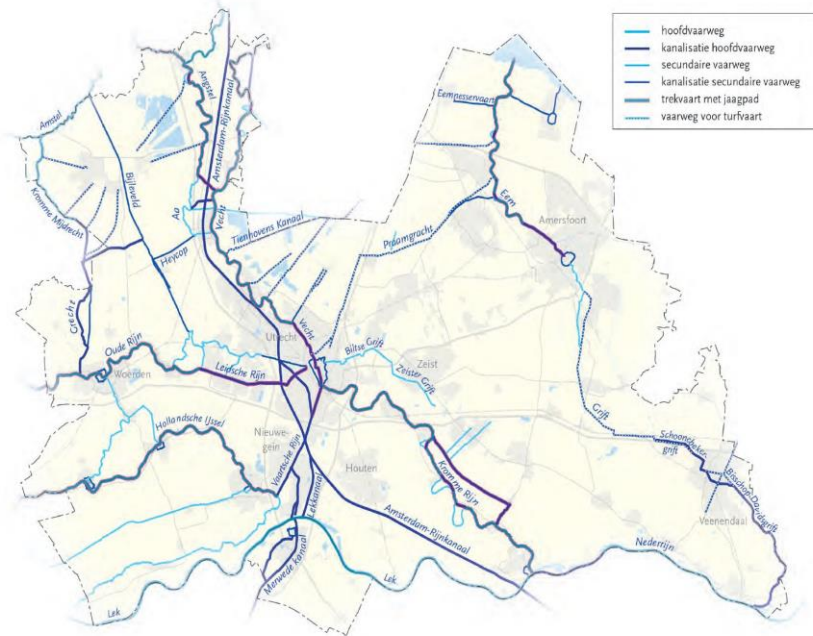
Benut de rivieren en kanalen in de bestrijding van files, betoogt Femke Brenninkmeijer. Want 'één gemiddeld schip staat ongeveer gelijk aan 55 vrachtwagens', schrijft Femke Brenninkmeijer bestuurs-voorzitter NPRC, coöperatie van binnenvaart-ondernemers en logistieke experts.

Femke Brenninkmeijer 28 november 2021, 10:57

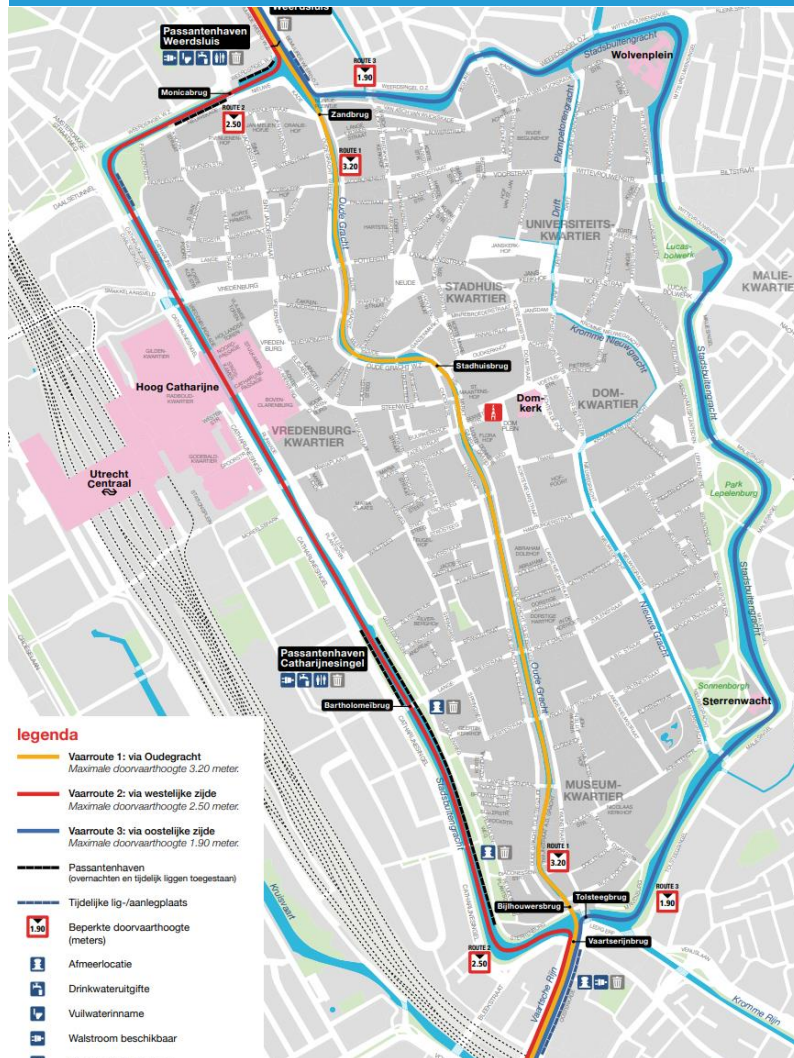
De filedruk was voor de recent weer aangescherpte maatregelen bijna weer op het niveau van vóór corona, constateerde ook demissionair minister-president Rutte. Van de thuiswerkrevo­lutie – voorspeld tijdens de eerdere coronalockdowns – is dus weinig



Vaarwegen Provincie Utrecht



Utrecht waterstad? Jazeker



Buitenlands onderzoek Janjevic & Ndiaye (2014)

Waterborne urban freight transport initiatives in European cities

- (1) **the Beer Boat** (Utrecht) for deliveries to local shops, hotels and restaurants;
- (2) Mokum Maritiem (Amsterdam) for deliveries to local shops and waste transport;
- (3) **Vert Chez Vous** (Paris) for parcel deliveries;
- (4) **DHL floating distribution centre** (Amsterdam) parcel deliveries;
- (5) Franprix (Paris) Supermarket deliveries;
- (6) Sainsbury's (London) transport of food to supermarkets;
- (7) **POINT-P** (Paris) transportation of palletized construction material;
- (8) Paper recycling (Paris) by barge, Paris.

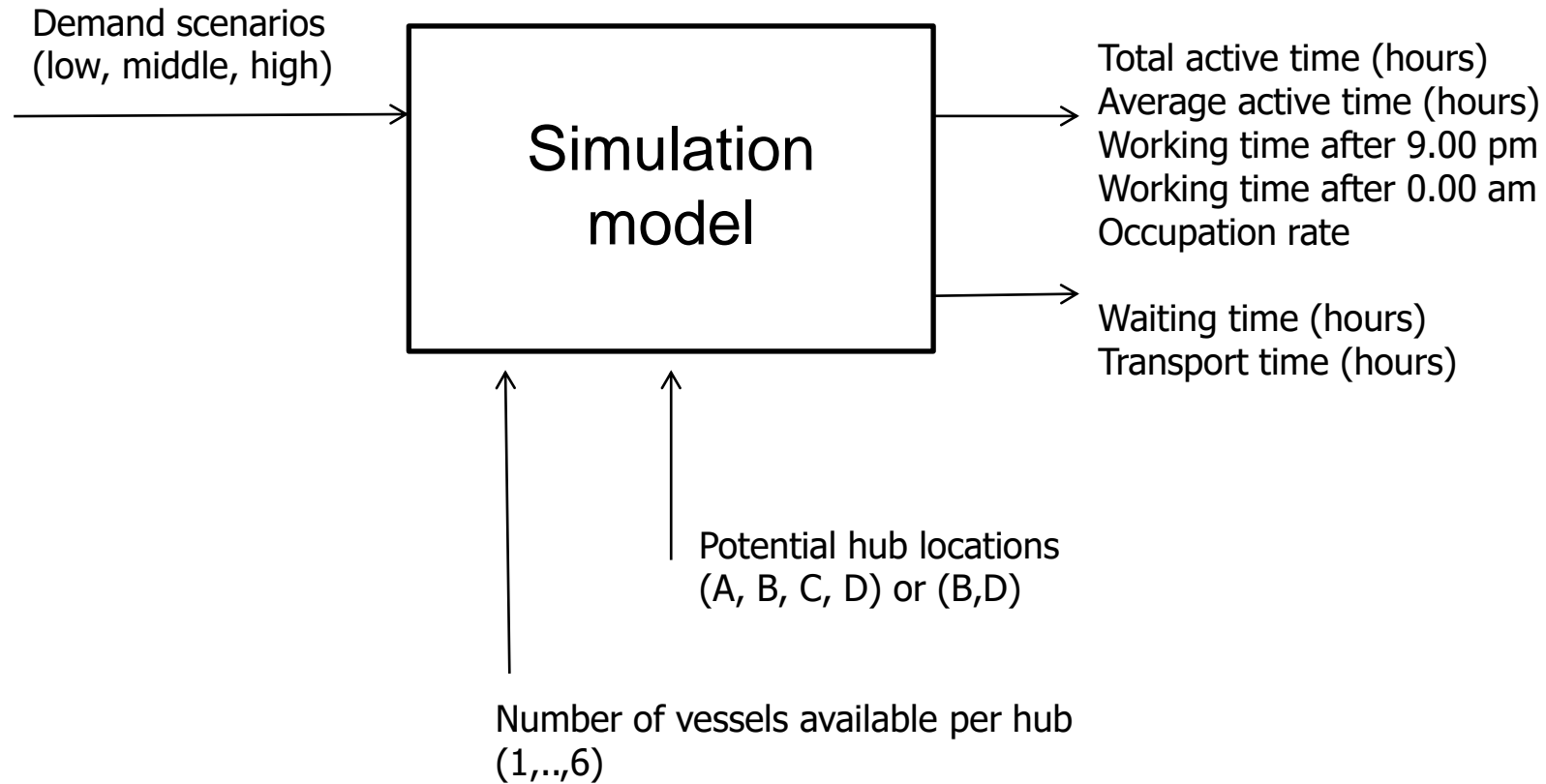


Onderzoek Amsterdam

Hoe groot moet de vlootmix zijn voor de bevoorrading van Amsterdam met behulp van de grachten en gebruikmakend van 2 tot 4 hubs zonder verlies van leveringskwaliteit?



Conceptueel Model



System parameters



HoReCa goods

Trolleys with a surface of 70 cm x 80 cm. On average each HoReCa shop receives one trolley per shipment

Vessel

Maximum speed of 7.5 (km/h), Headroom of 1.80 (m), Length of 20 (m), Width of 4.25 (m), Loading Capacity 85 (m³) = 65 trolleys, On-board crane max lift 15 (m) , maximum weight load 760 (kg).

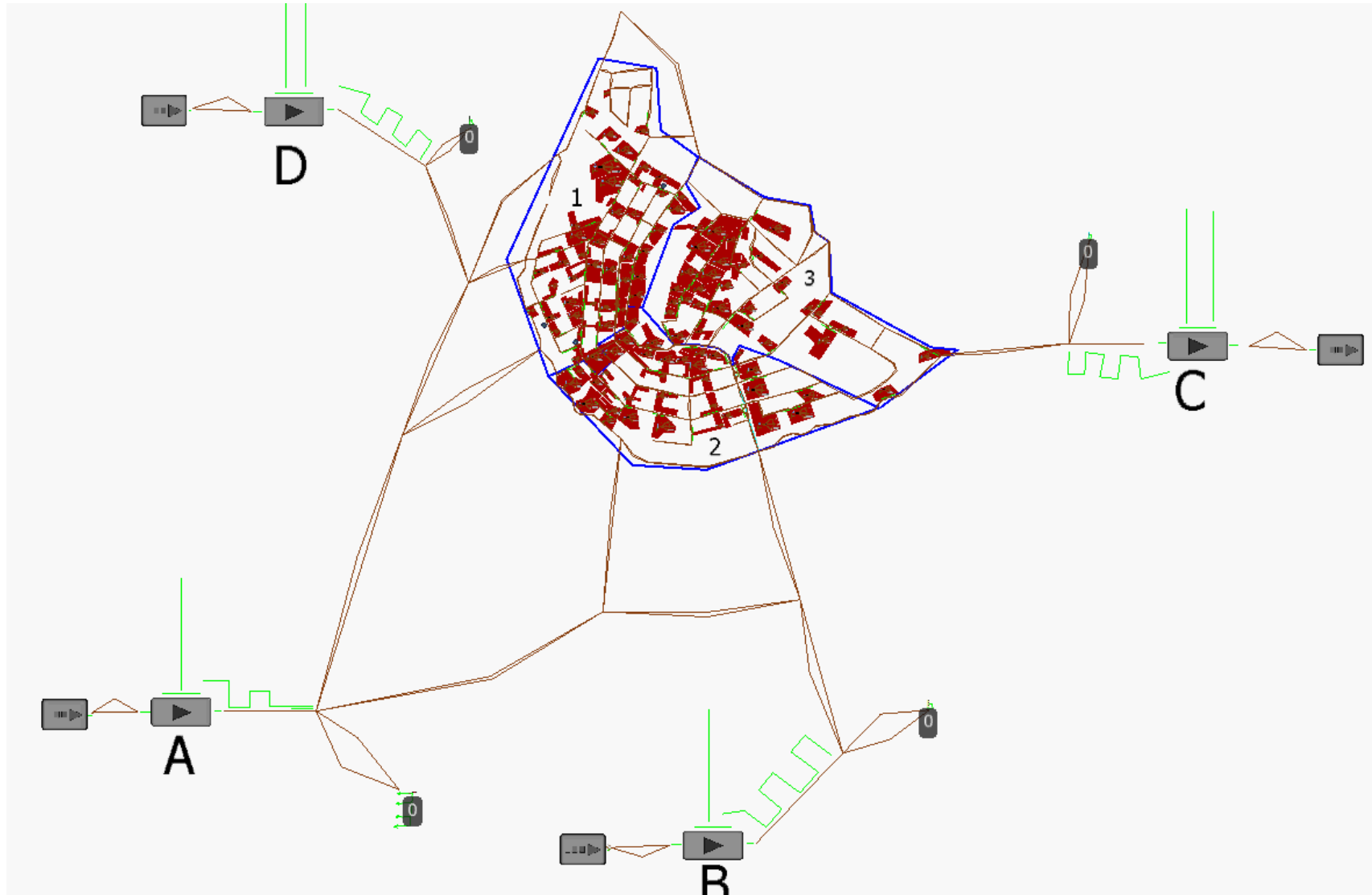
'Mover' sometimes placed on board. Transhipment of the trolley = 2 minutes, 1 minute is added for mooring the vessel.



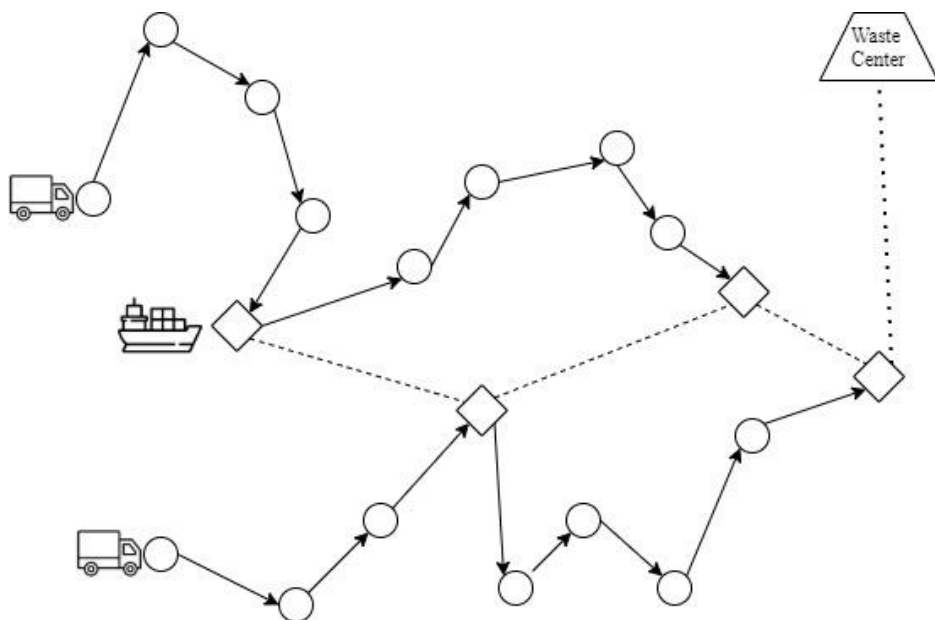
Canal

Wide canals a speed of 7.5 (km/h), smaller canals a speed of 6.0 (km/h). The delivery by vessels starts after 8.00 am if the vessels are sufficient loaded. Deliverance process lasts until 6.00 pm, but delivery until 0.00 pm is also possible

Simulation model



Waste collection



Two-echelon problem:

- Street level: small electric cars
- Water level: (autonomous) electric vessels

Focusing on: designing the system (capacities, fleet size, time-windows) based on an optimization model



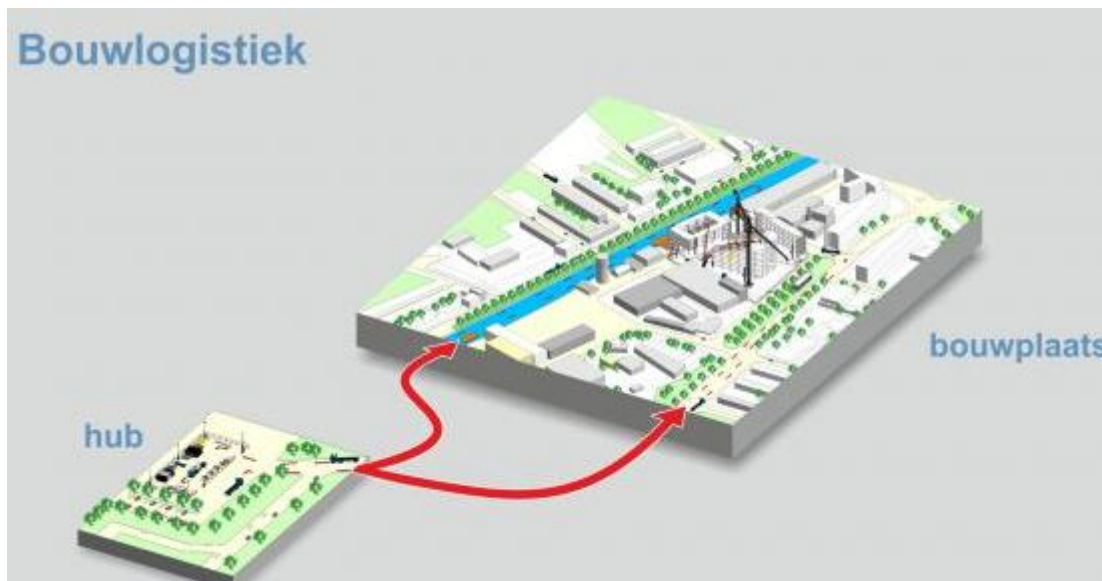
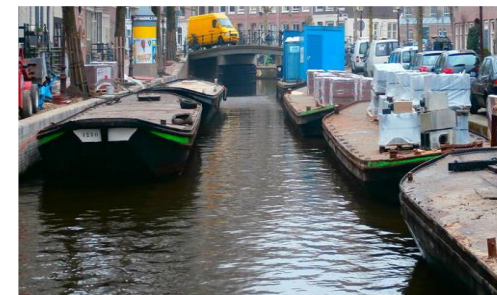
TU Delft

Gemeente Amsterdam



Construction hub

94% loading degree

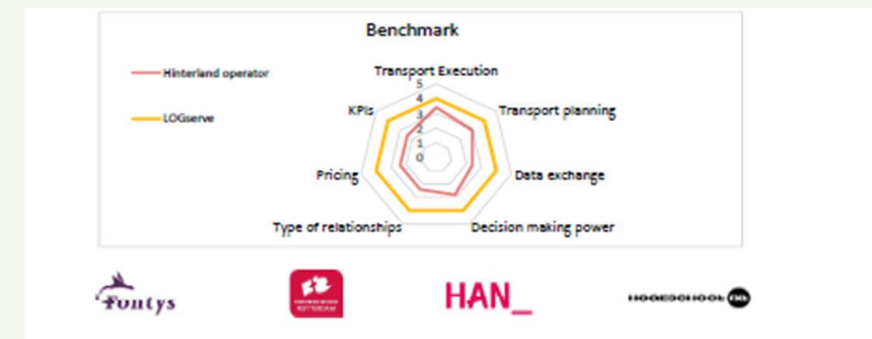




Linking to the Corridors

Synchro maturity model enables the vetting of Joint Corridors and makes the next developments steps visible.

In addition, it introduces new companies and students to the power of multimodal transport and Joint Corridors in particular.



Application

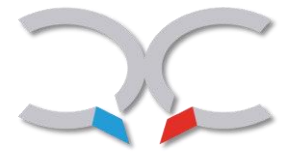
- Structured questionnaire developed based on maturity model
- +/- 150 students
- More than 100 companies approached
- 41 interviews at 41 companies conducted in Netherlands and 12 Belgium
- 12 teachers, 3 researchers, 1 applied research professor, 4 universities
- Raise awareness about possibilities synchromodal transport
- Contribute to more intermodal transport
- Help companies with an individual advise and benchmark based on maturity model

Published articles

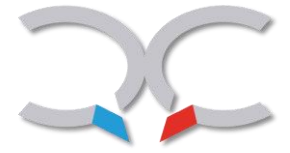
- Alons, K. , Somers, G. , & van Duin, R. , (2019). In vier stappen van intermodaal naar synchromodaal transport. Web publication/site, Vakmedianet
- Alons-Hoen, K., Somers, G., & van Duin, R. (2019). Moving from intermodal to synchromodal transport: A maturity model applied to a case study in North Western Europe. In *Proceedings of 2019 TRB Annual Meeting* (pp. 1-10). Transportation Research Board (TRB).
- van Duin, R., Warffemius, P., Verschoor, P., de Leeuw, A., & Alons-Hoen, K. (2019). Synchromodal transport: From theory to practice: Case study port of Rotterdam: Identifying the success/fail factors. In *Proceedings of 2019 TRB Annual Meeting* (pp. 1-11). Transportation Research Board (TRB).
- Alons-Hoen, K., van Duin, R. & Somers, G., (2019). The current state of Synchromodality: an application of a synchromodal maturity model on case studies. *LOGISTIEK + Tijdschrift voor Toegepaste Logistiek* (8), 116-131
- Alons-Hoen, K., Somers, G., & van Duin, R. (2021). The current state of synchromodality: An application of a synchromodal maturity model on case studies in the Netherlands and Belgium . In *Proceedings of the 100th Annual Meeting Transportation Research Board* (pp. 1-11). Transportation Research Board (TRB)

Prices

- TRB Washington, (2019)
Annual Private Sector Applicability paper award



KennisDC Logistiek



Toekomstig onderzoek

NWA onderzoek met veel universiteiten naar **Floating Future;**

HR + EUR, **Floating Ports**

(Is wonen op het water het antwoord op de stijgende zeespiegel? Nieuw groot onderzoek moet dat aantonen)

EenVandaag (avrotros.nl))



Toekomstig onderzoek

Leading the transition towards the platformization of transport networks for a truly integrated and sustainable logistics (NWA-project)

Betrokken partijen

Delft University of Technology , Fontys Hogeschool, HZ University of Applied Sciences, Tilburg University, Erasmus University Rotterdam, Eindhoven University of Technology, Rotterdam University of Applied Sciences, University of Antwerpen, Wageningen University & Research, University of Twente.

Partners

Uturn, Quicargo, Contargo, evofenedex, Poort8, Cofano, 4shipping, ACN, TLN, Fenex, Smartport, Hallocontainer, Van

Berkel Logistics

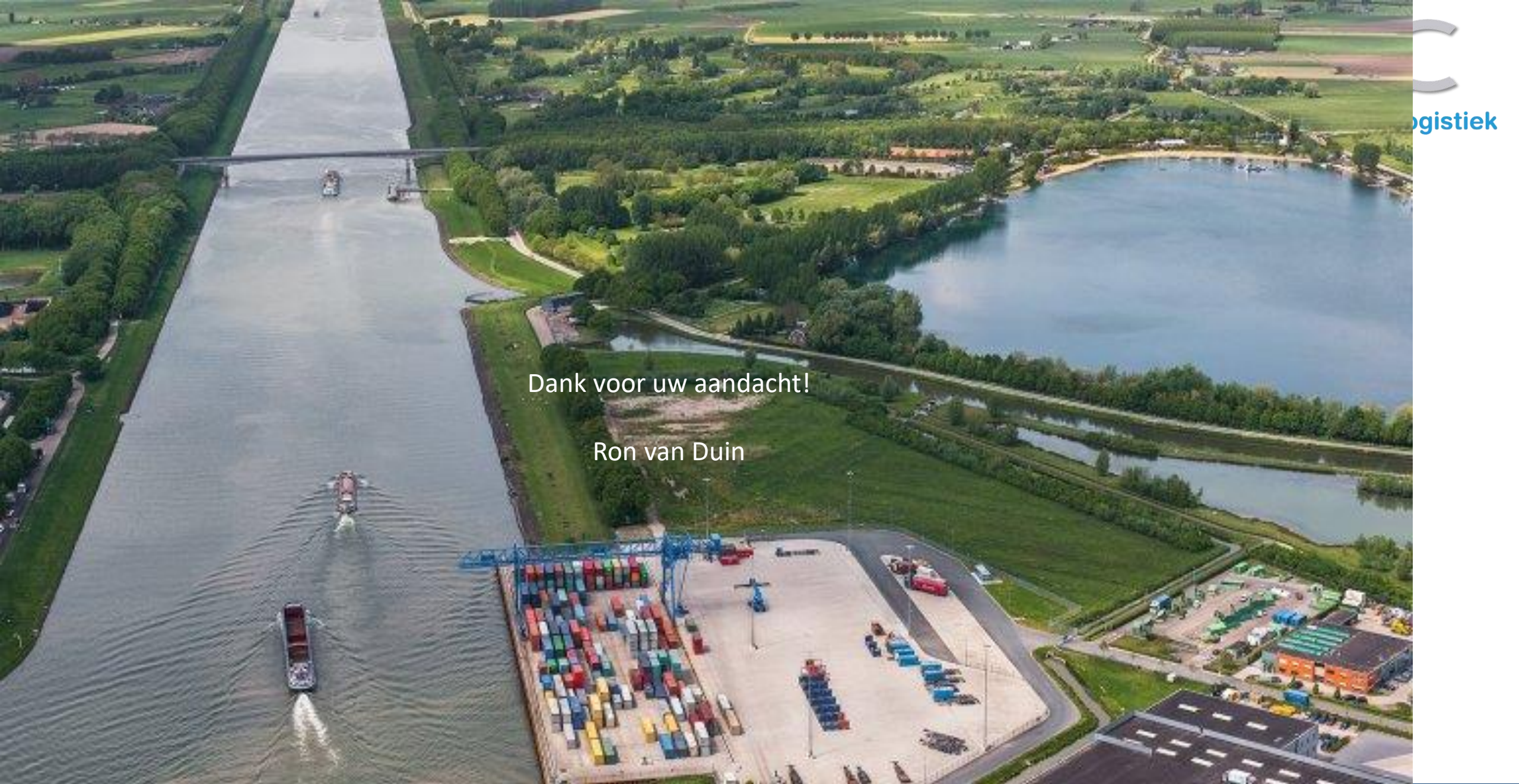


Toekomstig onderzoek

PATH4ZERO (Paving THE way for Zero Emission and RObust inland shipping) (NWA)

- The initiative will develop holistic pathways for the effective and efficient achievement of zero-emission inland shipping. Based on fundamental studies of the hardware (ships, locks, port infrastructure) the organization of a smooth low impact transition towards zero emissions is created. To achieve this objective, it requires a holistic approach that will address the economic, technical, environmental, safety, policy, contractual, market composition and cultural dimensions and impacts including their inherent uncertainties in development.
- EICB, TU DELFT, HR, EUR, TUT
- Partners: op zoek.....





Dank voor uw aandacht!

Ron van Duin