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MAGPIE
SMART GREEN PORTS

DEMO 6 AUTONOMOUS E-BARGE

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Introduction

Aim - Demonstrate how autonomous and small sized barges & terminal cranes (Kiss & Rides-concept) contribute to making port operations for multi-modal hinterland transport more efficient and flexible.
Value proposition - The flexibility, high frequency and short lead times that small, autonomous inland vessels and cranes can makes inland shipping more attractive and stimulates modal shift. Zero emission transport by inland shipping is more energy-efficient per TEU than zero emission road transport.

KPIs

- **Capex –** investment in autonomous mobile cranes, autonomous barges with a physical mooring devices
- **Opex –** reduction in crew costs
- **GHG –** reduction in GHG due to modal shift from diesel trucks to electric barges
- **Energy consumption**: barge transport is more energy efficient than road transport
- **Serive Level:** improved reliability and higher freqency of interterminal transport services

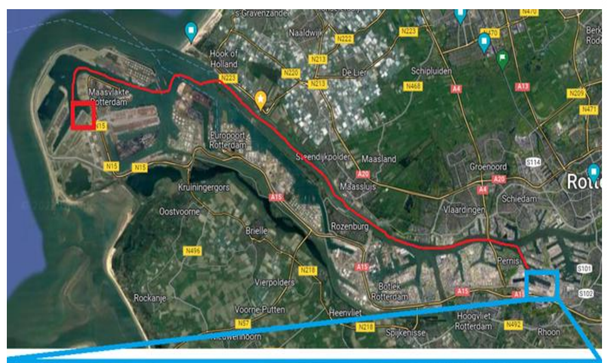
Lessons Learned

Barriers: work in progress

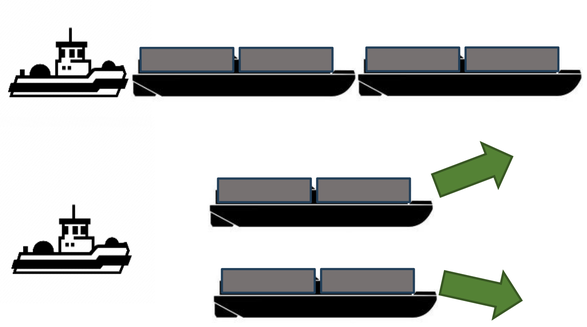
Scaleability: work in progress

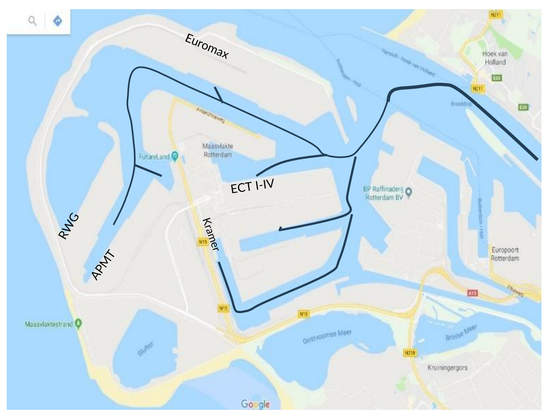
Currently: Kiss & Ride concept performance simulation completed; Automooring/Anti collision control and autonomous mobile crane tested in lab; Intention sharing, autonomous control, anti-collision warning tested in pilot area

Inter-terminal transport



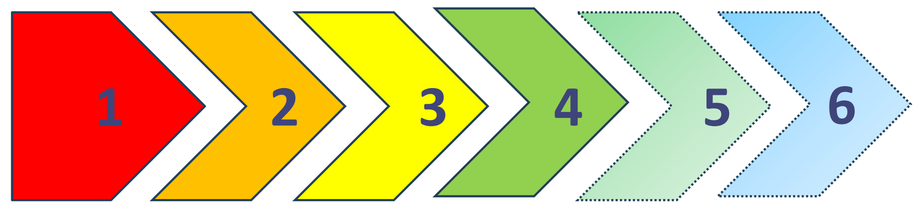
Hinterland transport





Current Progress Status

1. Launch of demonstrator; 2. Elaboration of KPIs, Operation characterization and modelling, and ongoing studies; 3. Testing phase in lab and data collection; 4. simulations and testing phase in pilot area; 5. results and commercially available; 6. ready to scale up



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