MAGPIE

SMART GREEN PORTS

Press release

MAGPIE Demonstrator Event: When Ships Talk

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Press release

When Ships Talk

"Demonstration of Intention Sharing for Inland Vessels"

Rotterdam, Netherlands – October 15th, 2025

The MAGPIE project (Port of Rotterdam, MTS and Argonics) and Rijkswaterstaat collaborated with Periskal, Tresco Engineering, Argonav GmbH, Tidalis, QPS, Topcorridors, Rotterdam Mainport Institute in the public event "When Ships Talk: Demonstration of Intention Sharing for Inland Vessels" in Rotterdam (the Netherlands). Following two days of successful technical tests and workshops, the public event took place on and along the Nieuwe Maas, highlighting the role of digital intention sharing in the development of automated inland shipping.

The program included a series of technical demonstrations, Vessel Traffic Services (VTS) scenarios, and public sessions. Together, these activities showcased how shared intentions can enhance onboard collision warning systems and be integrated into VTS systems to improve situational awareness for inland barges and VTS-operators

The demonstration targeted professionals from the maritime sector, educational institutions, and the general public. Two sessions took place on the 15th, one in English in the morning and one in Dutch in the afternoon. There, the participants witnessed first-hand how vessels automatically share their sailing intentions, an innovation set to transform the future of inland shipping.

Event Overview:

- **Date**: October 13th-15th, 2025
- **Location:** Westerkade, Rotterdam, Netherlands.

Summary of topics addressed:

Intention Sharing: The Missing Piece in Automated Navigation

The Port of Rotterdam participated in the demonstration as the leader of the MAGPIE project, which focuses on making the ports of the future more sustainable. As part of this initiative, the introduction of autonomous, unmanned, electric inland vessels aims to make Rotterdam's hinterland transport chains more environmentally friendly. However, fully automated, unmanned shipping requires high safety standards on the water. In this context, the digital sharing of sailing intentions between vessels presents new opportunities for addressing safety challenges.

To navigate and manoeuvre safely in the port, autonomous vessels need sailing intentions in digital form. Autonomous vessels will also digitally inform other ships of their own intentions.

"An unmanned, autonomous vessel doesn't reach for the radio to find out what other ships are planning." Thierry Verduijn (lead Demo Autonomous E-barge)

The MAGPIE demo showcased how intentions can be used to generate collision warnings and alarms. This allows skippers to be informed earlier and more accurately about potential collisions. As a result, incidents caused by misjudging the actions of other vessels will hopefully soon be a thing of the past. The demo also made clear that the intentions

generated by the current generation of track pilots are not yet sufficiently accurate and reliable for automated navigation in ports.

"For automated navigation in the port, it is essential that intentions are shared for the entire journey from quay to quay. That is the next step in development," Thierry Verduijn (lead Demo Autonomous E-barge)

Collaboration Between Barge Operators, System Vendors, and Authorities

The Port of Rotterdam contributed from two perspectives. The Harbour Master's Division, responsible for safety on the water, examined how automated navigation would affect its operations, while Port of Rotterdam NV focused on sustainability and competitiveness. Oscar van Veen, Director of Innovation, emphasized that an active contribution in both roles is crucial for the successful development and implementation of intention sharing and the transition to autonomous navigation in the Port of Rotterdam.

The demonstration on Tuesday, October 14, explored how automated shipping can strengthen inland navigation through information exchange between vessels, authorities, and nautical service providers. The intentions of the four vessels participating in the demo were presented live in the VTS systems of Tidalis and QPS. VTS operators, pilots, and representatives from the Port of Rotterdam, North Sea Port, and Port of Amsterdam took part in discussions on the added value and conditions of using intentions in vessel traffic management in ports.

Enabling digital intention sharing requires all parties to be both willing and able to exchange information. The demonstration therefore, focused not only on the technical feasibility of this innovation but also on creating the conditions for broader deployment of smart vessels by emphasizing the importance of interoperability and collaboration.

The event concluded on Wednesday with a public event, where MAGPIE and its partners demonstrated live how intentions are shared between vessels and contribute to the future of smart and safe shipping. The demonstration also serves as a prelude to the upcoming Kiss & Ride concept demonstration, scheduled for spring 2026. This concept is an innovative logistics model that uses small, autonomous electric container vessels to provide a sustainable and flexible transport solution.

"The Port of Rotterdam will contribute to the further development of automated navigation by bringing parties together, facilitating the process of reaching agreements, and providing experimental environments." (Oscar van Veen, director of Innovation)

About MAGPIE:

MAGPIE (sMArt Green Ports as Integrated Efficient multimodal hubs) is a European project focused on developing, testing and demonstrating solutions for sustainable and smart port logistics. By demonstrating and implementing smart solutions in the realm of digitalization and automation, we facilitate the decarbonization of port related transport. The project brings together 45 partners from the Netherlands, Germany, France and Portugal.

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