Press Release

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EU PROJECT "IW-NET" PROMOTES INNOVATION IN INLAND NAVIGATION

AIT part of a broad international consortium

Vienna (AIT): The increased use of inland waterway transport is an important element in achieving the European Commission's ambitious goals for reducing transport-related greenhouse gas emissions. By 2050, CO2 emissions in this sector are to be reduced by around two thirds. With the recently launched research project "IW-NET" (Innovation Driven Collaborative European Inland Waterways Transport Network), a broad-based consortium is now supporting the strategic efforts of the EU through comprehensive international cooperation. Various concrete innovations for European inland navigation are being developed and tested. The 36-month project, which runs under the Horizon 2020 funding programme, is coordinated by the Bremen Institute of Shipping Economics and Logistics (ISL). The AIT Center for Mobility Systems and five other Austrian research and implementation partners are part of the "IW-NET" project.

Digitalisation, optimised infrastructure management and innovative ships

In total, the broad-based consortium consists of 26 companies, research institutions and public organisations from the Netherlands, Belgium, France, Spain, Italy, Austria, Greece, Romania and Germany. The common goal is to promote innovation in inland navigation and thus contribute to a sustainable, forward-looking transport network.

The project focuses on the following key areas:

- **Digitalisation**

Proactive and forward-looking transport planning in transport logistics - regardless of the modes of transport used - is essential. However, for the integration of inland waterways it is necessary to consider additional framework conditions and needs. Special attention is therefore paid to the planning of inland waterway operations in urban areas as well as long-distance transport - on the one hand with demand forecasting routing (e.g. in urban areas) and on the other hand with data-driven optimisation with regard to navigability in uncertain water conditions (e.g. during floods).

- **Sustainable infrastructure and intelligent traffic management**

Along inland waterways, bottlenecks such as locks impede free navigation. Therefore, the focus is on intelligent lock management strategies to reduce uncertainties in freight transport, for example by increasing the reliability of the estimated time of arrival. On this basis, berth planning (including the planning of shore power supply and other services) will be optimised.

- **Innovative vessels**

Due to the changed requirements for inland navigation, adjustments are necessary in the vessels used. This concerns, for example, automation in urban freight distribution. Changing environmental conditions, such as longer and more extreme high and low water seasons, must also be taken into

account. The development of new push boats and barges that increase capacity and thus (cost) efficiency along the inland waterways are part of the project, as is the integration of the GALILEO navigation system.

Living Labs: Demonstration of the results in real operations

At the heart of "IW-NET" are so-called "Living Labs", which will serve as a test environment for the technological and organisational approaches and include several application scenarios in Germany, Belgium, France and Austria. On the Danube in Austria, the development of new push boats and the data-driven planning of navigation will be investigated in order to be well equipped to deal with the increasingly extreme high and low water seasons.

The aim of the project is not only to ensure continuity on the inland waterway, but also to optimise the interaction with other modes of transport. "Only by taking a holistic view of the mobility system is it possible to design sustainable, future-proof European freight transport," Dr Matthias Prandtstetter, Thematic Coordinator for Transport Optimisation and Logistics and Senior Scientist at the AIT Austrian Institute of Technology, is certain. "The inland waterway plays an important role, especially in the European context, has sufficient capacity to enable an ecological shift and also reduces the costs of trans-European transports," adds Prandtstetter and is looking forward to the cooperation in the international consortium.

In Austria, in addition to the AIT Austrian Institute of Technology GmbH, FH OÖ F&E GmbH, Skillz GmbH, Nothegger GmbH, TTS-Group GmbH and Ingenieurbüro Anzböck are participating in the project.

Further information about the Center for Mobility Systems: https://www.ait.ac.at/mobilitysystems/

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