**NEWS**

**Development of a Next generation European Inland Waterway Ship and logistics system**

**Funding:** European (7th RTD Framework Programme)
**Duration:** Mar 2013 - Aug 2015
**Status:** Complete with results
**Total project cost:** €2,241,287
**EU contribution:** €1,760,097

**Call for proposal:** FP7-SST-2012-RTD-1
**CORDIS RCN:** 107662

**Background & policy context:**

At the moment, waterways as a transport mode are not used to their full potential; hence cargo transported on the Danube is only 10-20% of that transported on the Rhine (cf. DG REGIO leaflet ‘The EU Strategy for the Danube Region’, December 2010). The NEWS project will be able to contribute to the Danube Region Strategy’s (EUSDR) aim to increase cargo transport on the river by 20% by 2020 compared to the year 2010, by making container transport for inland waterways eco-friendly as well as transport-, volume- and energy-efficient.

Additionally, the economic situation of companies operating inland waterway transport is, amongst other factors, characterised by:

- an over aged fleet;
- eroding profit margins;
- a high dependency on fuel costs;
- and/or infrastructural bottlenecks causing delays in running-times.

To support an increase of transport flows on inland waterways (especially container transport on the Danube) and to contribute to a significant modal shift, operators have to be able to improve their economic position. There are several ways to meet this challenge. One way is to develop an innovative, container-specified inland vessel and logistics system which allows to meet operator’s targeted costs, optimise time-management (reliability), answer to inland shipping-specific bottlenecks, improve carbon footprints and thus successfully interact efficiently with road and railway transport.

**Objectives:**

The proposed project Development of a Next generation European Inland Waterway Ship and Logistics System aims at:

1. developing and validating a novel container ship (hull) which will include the following TECHNICAL INNOVATIONS:
   - re-design of a standard inland ship hull = increase of transport efficiency (+ 100%)
   - adaptable draught = crossing below even low bridges and react to altering water-levels = increase of days of navigability (+88% - 320 days instead of 170 days)
   - an adjustable diesel-/gas-/LNG-electric energy- and propulsion system = increase of resource efficiency (up to 30%), decrease of harmful exhaust emissions
   - tailoring a specially designed and integrated logistics system which will include the complying logistical innovations:
     - An adapted logistics and supply system for the respective demands of market in the catchment area
     - Enlargement of the European inland waterway system for container transport = adapting the novel
container ship for use on UN-classes III and IV and making secondary waterways in Europe accessible
- New river ports infrastructure concepts;
- Re-evaluation of multimodal activities.

In conclusion, the novel container ship will be able to meet operators targeted costs, optimize time-management (reliability), answer to inland shipping-specific bottlenecks (e.g. low bridges, shallow waters), improve carbon footprints and thus successfully compete with road and railway transport. A significant modal shift is aspired, especially to the Danube and its hinterland. One of the main results will be a finance and business plan to bring the novel ship AND the required logistical concepts to the market, designed to reach the 2011 EU White Paper and to strengthen the Danube region. The consortium herewith applies for European funding as both technical AND logistical innovations are designed to support cross-border European challenges for an optimized waterborne transport, which clearly points to the need for an European approach.

Methodology:

The project consists of nine work packages (WP) encompassing two main fields of competence to make NEWS successful: Ship-Building and Mechanical Engineering” combined with ‘Logistics Management’. The work packages follow the structure of the project, whilst each field of competence is covered by at least one WP. Additionally, there is one WP for Project Management and one for Dissemination. To a large degree, the work packages reflect the core competences of the involved partners. Overall, the work plan has been designed for exact monitoring of progress.

Parent Programmes:
**FP7-TRANSPORT - Transport (Including Aeronautics) - Horizontal activities for implementation of the transport programme (TPT)**

Institute type: Public institution
Institute name: The European Commission
Funding type: Public (EU)

Lead Organisation:

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<th>Technische Universitaet Wien</th>
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<td><strong>Address:</strong> Karlsplatz 13</td>
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<td><strong>EU Contribution:</strong> €473,620</td>
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Partner Organisations:

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<th>Richard Anzbock</th>
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<td><strong>Organisation Website:</strong> <a href="http://www.wien.gv.at">http://www.wien.gv.at</a></td>
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<td><strong>EU Contribution:</strong> €254,189</td>
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<tr>
<td><strong>EU Contribution:</strong> €53,800</td>
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<td>Organisation Name</td>
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<tr>
<td>Univerzitet U Novom Sadu Fakultet Tehnickih Nauka</td>
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<td>First-Ddsg Logistics Holding GmbH</td>
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Intermodal Concepts & Management Ag

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EU Contribution: €194,520

Dirk-Paul Lindenau

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EU Contribution: €192,052

Technologies:

- Alternative fuels
- Multi-fuel ship propulsion
  
  **Development phase:** Research/Invention

- Ship design and manufacturing
- Hull design optimisation
  
  **Development phase:** Research/Invention

- Freight transport technologies
- Inland waterway logistics
  
  **Development phase:** Research/Invention

- Freight transport technologies
- New river ports infrastructure concepts
  
  **Development phase:** Research/Invention

Key Results:

**Increasing the flow of Europe’s inland waterways**

Central European inland waterways are underutilised due to factors such as an ageing fleet, low profits, high fuel costs and long delays. An EU initiative looks to boost traffic by designing innovative technical and logistical solutions.

To meet the cross-border European challenges for optimised inland waterway container transport, cargo handling needs to be fully integrated into the EU transport and logistics chain.

To help achieve this, the EU-funded 'Development of a next generation European inland waterway ship and logistics system' (http://www.news-fp7.eu/(NEWS)) project aims to render container transport on inland waterways more cost and time efficient.

By 2020, the project seeks to help to increase cargo flows along the Danube River by 20 % and transform ports on the Danube River Basin into logistics centres and efficient terminals. Its result, a new vessel type, will also minimise carbon dioxide emissions from container transport and make transport...
links across continental Europe more accessible, particularly bottlenecks along the major freight route Rhine/Meuse–Main–Danube.

Project members defined the concept and validated the technical specifications of a novel inland waterway container ship. They designed ship hulls enable efficient container transport in shallow and low-level waters. They also developed an electric propulsion system that uses alternative energy sources and fuels. This will boost resource efficiency by up to a third and lower harmful exhaust emissions from ships.

The Upper Danube between Germany and Hungary was identified as the most promising area to operate the system. The team then analysed the target area's logistical network and integrated the vessel into intermodal transport chains within the Danube Region. This will enable the assessment of current transport chains and the planning of potential new ones with the system.

Team members are developing a logistics system that will be combined with the container ship technologies.

By combing advanced technologies and logistics management approaches, NEWS should raise the competitiveness of the inland waterway shipping industry and drive traffic along its routes.

Documents:
- Periodic Report Summary 1 - NEWS (Development of a Next generation European Inland Waterway Ship and logistics system)

**STRIA Roadmaps:**
Transport electrification, Vehicle design and manufacturing, Low-emission alternative energy for transport, Infrastructure

**Transport mode:** inland

**Transport sectors:** Freight transport

**Transport policies:** Digitalisation

**Geo-spatial type:** Other