


# Project Data Sheet

BASIC PROJECT DATA			
<b>Full project title:</b>	<b>Development of a Next Generation European Inland Waterway Ship and Logistics System</b>		
<b>Short project title:</b> (acronym)	NEWS	<b>Project logo:</b>	
<b>Project website:</b>	not available anymore	<b>Project ID:</b>	PA1A061
<b>Need and added value for Danube Region Strategy:</b>	<p>Central European inland waterways are presently utilized way below their carrying capacity. Although inland navigation is known as a transport efficient, safe and environmentally friendly transport mode, it faces strong competition with road and rail transport – although COOPERATION with other transport modes is highly desirable! IWT is demanding superiority in environmental friendliness as advantage. Having that in mind, the main objective of NEWS was to increase transport flows on inland waterways (especially container transport on the Danube) by developing a next generation European inland vessel and logistics system to make inland waterway transport more economical, more ecological, safer and time efficient: The NEWS Mark II vessel.</p> <p>Besides NEWS Mark II, the project's main results are a <b>target market for running the vessel and a viable finance and business plan</b>. The following technical and logistical innovations led to the project's overall objective, referring to the EUSDR and the NAIADES Action Programme (promote inland waterway transport in Europe):</p> <ul style="list-style-type: none"> <li>• Redundant gas-electric energy system for propulsion → reducing fuel costs and emission (Liquefied Natural Gas (LNG) is appr. 20% cheaper than diesel. Additionally, LNG provides a reduction of greenhouse gas emissions and other pollutants. The redundant energy and propulsion system with two propellers is optimized for shallow waters.)</li> <li>• Redesign of a (container) optimized hull → increasing transport capacity (cargo hold is designed to carry four containers in a row and three stacked, special purpose cargo, bulk cargo and cars)</li> <li>• Active ballast water system → increasing days of navigability (water depth can be increased by up to 0,7 m with 800m<sup>3</sup> by an active ballast water system tank in order to increase operation days with three layers at HSW)</li> <li>• Specially designed logistic system → adapted logistics &amp; supply system for market demands (possibility to use the ship in a liner service on two routes): <ul style="list-style-type: none"> <li>o Western route (Enns - Rotterdam) and</li> <li>o Eastern route (Enns - Constanta)</li> </ul> </li> <li>• Concepts of river ports infrastructure → holistic solution for increasing container traffic</li> <li>• Finance &amp; Business plan → offer for investors and promoters</li> <li>• NEWS route and cost-planning tool → make IWT more applicable</li> </ul> <p>The technical design of the vessel and the design of the logistical system were realised in reciprocal cooperation.</p> <p>There are various restrictions on the Danube that greatly influence navigation: The most important restrictions are water depth, bridge height, the size of locks and ecological aspects. While developing Mark II technically and logistically, such restrictions have been considered.</p> <p>Taking the Austrian, Hungarian, Slovenian, Slovakian, German, Romanian and Serbian position papers for the EU Strategy for the Danube Region into account,</p>		

	<p>especially</p> <ul style="list-style-type: none"> <li>• Priority Area 1a – Danube Navigation (AT/RO)</li> <li>• Priority Area 8 - Network of clusters, cooperation of enterprises and research and technology development (RTD) for enhanced competitiveness (AT)</li> <li>• Improving transport in the Danube region (HU)</li> <li>• Development of multimodal corridors in the Danube region (SK)</li> <li>• Support for economic development and competitiveness (SK)</li> <li>• "Transport greening" policy (SLO)</li> <li>• Provide modern transportation on the Danube, basis for economic growth (RO)</li> <li>• Provide inter-modality by turning the ports into logistical centres for the inter-modal transport (RO)</li> <li>• Shifting more goods traffic to the Danube (GER)</li> </ul> <p>were supported by NEWS.</p>
<p><b>Objective(s) of project:</b></p>	<ul style="list-style-type: none"> <li>• Developing and validating a novel container ship which includes the following <b>technical innovations</b>:             <ul style="list-style-type: none"> <li>○ re-design of a standard inland ship hull → increase of transport efficiency whilst maintaining standard technical and infrastructural dimensions</li> <li>○ adaptable draught → crossing below even low bridges and react to altering water-levels → increase of days of navigability</li> <li>○ an adjustable diesel/gas/LNG/electric energy and propulsion system → increase of resource efficiency and decrease of harmful exhaust emissions</li> </ul> </li> <li>• Tailoring a special-designed and integrated logistics system which includes the complying <b>logistical innovations</b>:             <ul style="list-style-type: none"> <li>○ an adapted logistics and supply system for the respective demands of market in the catchment area</li> <li>○ enlargement of the European inland waterway system for container transport → adapting the novel container ship for a use on waterways UNECE classes III and IV and making secondary waterways in Europe accessible</li> <li>○ new river ports infrastructure concepts</li> <li>○ re-evaluation of multimodal activities</li> </ul> </li> </ul> <p>Concluding, the objective of the project was to develop a vessel that is able to meet operator's targeted costs, optimise 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 was aspired, especially to the Danube and its hinterland.</p> <p>When elaborating NEWS' logistical system, the most promising catchment and operation area for NEWS had to be identified before micro-regional strategies concerning a re-organization of logistical network structures and container liner service routes were developed. Afterwards, suitable Danubian inland ports as ports of call have been analysed and a handbook for port enhancement was elaborated.</p> <p>The container liner service routes were defined based on the macro- and micro regional analysis elaborated within the WPs 3 and 4. For both routes, the Finance- &amp; Business Plan were developed (WP 6). The plans considered two scenarios: ideal and real scenario.</p> <p>The ideal scenario (WP 2) was based on following assumptions:</p>

- Constant ship draught of 2,5 meters and loaded with three layers of containers all over the year on the entire route
- Port performance on a 24 hours operation 7 days a week
- Preferential treatment of container ships at locks to avoid waiting times exceeding 30 minutes per passage
- Lock chambers with heating to avoid ice formation in winter and constant use of icebreakers especially on Channels
- Upgrading of all locks on the route to 2 chambers, which would enable overhaul and repair without closing times

The real scenario (WP 7) had the following assumptions:

- Ship draught of 2 meters
- Present navigational conditions and infrastructure allowing 2 layers of containers only

**The NEWS Finance - & Business Plan showed that in current navigational conditions (real scenario) even a perfectly designed inland vessel like NEWS Mark II cannot remedy the shortcomings of the inland waterway on the evaluated routes and enable a competitive and profitable operation.**

Although NEWS has great advantages, its price is too high for the existing cargo flows resulting in a long return investment time.

However, as the project design of selected NEWS' modules, i.e. an installation of particular systems (such as aft ship under water ship lines, energy production, propulsion or ballast systems) on existing fleet could be a reasonable and payable investment, especially if there will be offered financial support by the EU or national governments to the shippers for environmental and energy efficient consciousness in transport operation in accordance with EU White Papers.

In accordance with the development of the NEWS analysis of liner service routes, an assessment of the current situation of Danubian inland ports and services was carried out (WP 5). The analysis showed that the container transports on the Danube are concentrated on the Upper Danube area with its industrial centres located in South Germany, Austria and Hungary, while the container handling points located at the Lower and Middle Danube only handle a small amount of containers. Additionally, in this area no specialised container terminals exist. The container handling points in this area are all located in general cargo terminals with combined handling equipment. Due to this, a layout cluster for the container terminals with significant container handlings at the Upper Danube was developed and exemplary ports for each class were selected and described. These reference ports were transformed into simulation models for further analyses. With the use of the simulation it was possible to identify bottlenecks in the material flow of the exemplary ports.

Furthermore, various expert interviews in existing successful trimodal container terminals showed that, beside the standard general services and value added facilities which are offered by all of the analyzed terminals in the Upper Danube area, the integration of individual logistic chain services, developed exclusively on the demands of a customer, are a huge factor of success for respective terminals and are the type of services that are missing in the terminals of the Lower and Middle Danube.

Concluding, based on the overall NEWS project outcomes, the following recommendations for further development of IWT on the Danube and its surrounding waterway system could be given:

- Implementation of action plans for rehabilitation and maintenance of the Danube as a waterway. These actions require less investment and provide much more benefits than investments in road and rail transport (see Fairway Rehabilitation and Maintenance Master Plan within the EUSDR)
- EU regulations to provide more encouragement and support to the IWT as an environmentally favourable mode of transport

	<ul style="list-style-type: none"> <li>• Encouragement to the development of logistics infrastructure and know-how in the less developed countries of the Danube region</li> <li>• Providing support for transformation of Danube ports into logistics centres which will offer more comprehensive logistics services</li> <li>• Harmonization of legislation and encouragement of uniform application of EU legislation in the area in order to avoid retention of cargo flows at the state borders</li> <li>• Increase of safety of cargo transport</li> <li>• Accelerate the introduction of line services, in particular for container transport, through the EU research and development projects.</li> </ul>
<p><b>Conducted project activities:</b></p>	<p>The project consisted of ten work packages (WP) encompassing two main fields of competence to make NEWS successful: “Ship-Building and Mechanical Engineering” combined with “Logistics Management”.</p> <p>The work packages followed the structure of the project, whilst each field of competence was covered by at least one WP. Additionally, there was one WP for Project Management and one for Dissemination.</p> <p>To a large degree, the work packages reflect the core competences of the involved partners. Overall, the work plan was designed for exact monitoring of progress.</p> <div style="border: 1px solid gray; border-radius: 15px; padding: 10px; margin: 10px auto; width: 80%;"> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>WP 6 Development of a finance and business plan</p> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin: 5px;"> <p>WP 1 Technical development and validation of a novel container ship</p> </div> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin: 5px;"> <p>WP 2 Technical development of an adjustable LNG-propulsion system</p> </div> <p>Ship-building and Mechanical Engineering</p> </div> <div style="text-align: center;"> <p>WP 7 Implementation Scenarios</p> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin: 5px;"> <p>WP 3 Market analysis systemic trans-boundary and spatial impact</p> </div> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin: 5px;"> <p>WP 4 Logistical network structures and intermodal integration</p> </div> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin: 5px;"> <p>WP 5 New river ports infrastructure concepts</p> </div> <p>Logistics Management</p> </div> </div> <div style="margin-left: 20px; margin-top: 20px;"> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin-bottom: 10px;"> <p>WP 0 Project Management</p> </div> <div style="border: 1px solid gray; border-radius: 5px; padding: 5px;"> <p>WP 8 Dissemination</p> </div> </div> </div>
<p><b>Transboundary impact:</b></p>	<p>Hinterland of the Danube, entire Danube region.</p>
<p><b>Project beneficiaries / target groups:</b></p>	<ul style="list-style-type: none"> <li>• Small/medium-sized shipping companies and ship building companies profit from increased transport volume</li> <li>• Investment houses</li> <li>• Political institutions and organisations</li> <li>• Forwarders, operators, ports</li> <li>• Local communities</li> <li>• Regional authorities</li> </ul>

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	<ul style="list-style-type: none"> <li>• Port and container terminal operators</li> </ul>		
STATUS AND TIME FRAME			
<b>Current project phase:</b> (please tick a box)	<input type="checkbox"/> Definition (e.g. project idea, abstract) <input type="checkbox"/> Preparation (e.g. project proposal, feasibility study) <input type="checkbox"/> Implementation <input checked="" type="checkbox"/> Completion		
<b>Start date:</b>	03/2013	<b>End date:</b>	08/2015
<b>Notes:</b>	project was co-funded by the EU under the FP7 Programme – (Call SST-2012-RTD-1 “Sustainable Surface Transport: Innovative fleet for efficient logistics chain”)		
PROJECT TEAM			
<b>Project leader:</b>	Vienna University of Technology / Austria		
<b>Project partner(s):</b>	<ul style="list-style-type: none"> <li>• DI Ziviltechniker Anzböck / Austria</li> <li>• Kühne &amp; Nagel Euroshipping / Germany</li> <li>• Regional Development Agency of the West Region Romania / Romania</li> <li>• Lindenau Maritime Engineering and Projecting / Germany</li> <li>• University of Duisburg-Essen / Germany</li> <li>• TU Dortmund University / Germany</li> <li>• University of Novi Sad / Serbia</li> <li>• Intermodal Concepts &amp; Management AG / Switzerland</li> <li>• Projektkompetenz.eu / Austria</li> </ul> <p>The following institutions have agreed to act as associated partners for NEWS and declared to be available for implementation scenarios in WP 7, to take note of the project results, to be interested to participate in the workshops and conferences organized by NEWS.</p> <p>Inland ports:</p> <ul style="list-style-type: none"> <li>• Port of Vienna</li> <li>• Port of Novi Sad</li> <li>• Port of Enns</li> <li>• Port of Moldova Noua</li> </ul> <p>Forwarders:</p> <ul style="list-style-type: none"> <li>• SENATOR INTERNATIONAL</li> <li>• DHL Global Forwarding GmbH</li> <li>• Cpt. Gerard van Winssen</li> </ul> <p>Associations:</p> <ul style="list-style-type: none"> <li>• INE (Inland Navigation Europe)</li> </ul>		

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	<ul style="list-style-type: none"> <li>• SPC (ShortSeaShipping Promotion Centre)</li> <li>• via donau</li> </ul> <p>Companies:</p> <ul style="list-style-type: none"> <li>• Gas Natural Europe</li> </ul> <p>Shipyards:</p> <ul style="list-style-type: none"> <li>• Hitzler Werft</li> </ul> <p>The consortium's Advisory Board consisted of the following members:</p> <ul style="list-style-type: none"> <li>• Dr. Erhard BUSEK, former Vice-Chancellor of Austria and President of the Institute for the Danube Region (IDM)</li> <li>• Mag. Otto SCHWETZ, President PIANC Austria, Chairman of Corridor VII (Danube)</li> <li>• Dr. István VALKÁR, General Director of the Danube Commission</li> <li>• Anton van MEGEN, Director of European United Barge Owners and Nautical Services</li> <li>• Dr. Andreas TOSTMANN, CEO Volkswagen Slovakia</li> <li>• Dr. Werner KNOLL, Chief Consultant Inland Waterway Shipping, Deutsche Binnenreederei Aktiengesellschaft (Berlin / Germany)</li> </ul>	
<b>Contact person:</b>	<b>Name:</b>	-
	<b>Organisation:</b>	Technische Universität Wien
	<b>Address:</b>	Theresianumgasse 27, 1040 Wien, Austria
	<b>Phone:</b>	-
	<b>E-Mail:</b>	-
	<b>Website:</b>	<a href="http://www.imw.tuwien.ac.at">www.imw.tuwien.ac.at</a>
<b>FINANCING</b>		
<b>Available:</b> (please tick a box)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Partly <input type="checkbox"/> No	
<b>Total budget:</b>	2,212,916 EUR	
<b>Source(s) and amount (potential sources for project ideas):</b> (please tick a box and provide further info)	<input type="checkbox"/> National/regional funds:	
	<input checked="" type="checkbox"/> EU funds:	2,212,916 EUR (FP7 – SST-2012-RTD-1 Sustainable Surface Transport)
	<input type="checkbox"/> IFI loans:	
	<input type="checkbox"/> Private funds:	
	<input type="checkbox"/> Other:	

PROJECT ENVIRONMENT	
<b>Project cross-reference:</b>	Upgrading of Inland Waterway and Sea Ports (INWAPO), CEE - Project
<b>Cross-reference ID(s):</b>	PA1A060
<b>Strategic reference:</b>	<p>As NEWS was able to surpass existing bottlenecks such as low bridges, locks and/or altering draughts between the ports of Constanta and Rotterdam (axis Rhine/Meuse-Main-Danube), it enabled unobstructed transport links across continental Europe. By connecting the Black Sea Region to the North Sea Region and the ARA ports, an extensive Trans-European impact has been achieved regarding traversed regions as the Danube region. This objective is clearly following the TEN-T Priority Project 18. The Meuse and the Rhine constitute the entrance gates for the Belgian and Dutch inland waterway systems to this Priority Project corridor, linking the ports of Rotterdam and Antwerp, but also offering a connection towards the Seine-Northern Europe Canal, part of PP30. The Rhine-Danube corridor is one of the longest in the Trans-European Transport Network and crosses both, EU countries and non-Member States.</p> <p><b>The need for a European approach</b></p> <p>NEWS was designed to support European targets for an optimized waterborne transport. The consortium joined expertise with regard to two fundamentally important aspects. It comprised of:</p> <ul style="list-style-type: none"> <li>• partners and countries from the Black Sea (Lower Danube) up to northern Germany and the Lower Rhine covering a wide range of geographic and waterway-related conditions</li> <li>• technology providers, developers, intermediaries, incumbent operators of infrastructure, and users from five EU-countries who are jointly capable of implementing the fourfold approach of the NEWS project: technological – logistical – economic – geographic/spatial</li> </ul> <p>The fact that unobstructed and uninterrupted container transport on inland waterways especially for UNECE waterway classes III, IV and VI (and therefore the major part of the European waterway system) is technically not realizable up to now, clearly points out the need for a European approach. It is therefore necessary to involve several international experts to capture all requirements. Only within the internationally composed NEWS consortium it was possible to develop, validate and implement NEWS, as otherwise technical (existing patents as basis, LNG engines for inland ships) and logistical expertise would be missing. Additionally, NEWS international cooperation activities will benefit of the following activities:</p> <ul style="list-style-type: none"> <li>• Market attraction (e.g. connecting inland shipping networks and services at national and international level) and</li> <li>• Opportunities to access and acquire science and technology that is complementary to current European knowledge and of mutual benefit, especially regarding knowledge transfer to East European countries (see work Programme Transport 2012).</li> </ul>
<b>Relevant legislation:</b>	–
<b>Other:</b>	–
EUSDR EMBEDDING	
<b>Relation to other Priority Areas of the Danube Region Strategy:</b>	<input checked="" type="checkbox"/> PA1b: To improve mobility and multimodality – Road, rail and air links <input type="checkbox"/> PA02: To encourage more sustainable energy <input type="checkbox"/> PA03: To promote culture and tourism, people and people contacts



	<input type="checkbox"/> PA04: To restore and maintain the quality of waters <input type="checkbox"/> PA05: To manage environmental risks <input type="checkbox"/> PA06: To preserve biodiversity, landscapes and the quality of air and soils <input type="checkbox"/> PA07: To develop the knowledge society through research, education and information technologies <input type="checkbox"/> PA08: To support the competitiveness of enterprises, including cluster development <input type="checkbox"/> PA09: To invest in people and skills <input type="checkbox"/> PA10: To step up institutional capacity and cooperation <input type="checkbox"/> PA11: To work together to promote security and tackle organised and serious crime
<b>EUSDR COMPLIANCE</b>	
<b>Compliance with targets of the Danube Region Strategy:</b>	<input checked="" type="checkbox"/> Increase the cargo transport on the river by 20% by 2020 compared to 2010. <input type="checkbox"/> Solve obstacles to navigability, taking into account the specific characteristics of each section of the Danube and its navigable tributaries and establish effective waterway infrastructure management by 2015. <input checked="" type="checkbox"/> Develop efficient multimodal terminals at river ports along the Danube and its navigable tributaries to connect inland waterways with rail and road transport by 2020. <input type="checkbox"/> Implement harmonised River Information Services (RIS) on the Danube and its navigable tributaries and ensure the international exchange of RIS data preferably by 2015. <input type="checkbox"/> Solve the shortage of qualified personnel and harmonize education standards in inland navigation in the Danube region by 2020, taking duly into account the social dimension of the respective measures.
<b>Compliance with actions of the Danube Region Strategy:</b>	<input type="checkbox"/> To complete the implementation of TEN-T Priority Project 18 on time and in an environmentally sustainable way. <input type="checkbox"/> To invest in waterway infrastructure of Danube and its tributaries and develop the interconnections. <input checked="" type="checkbox"/> To modernise the Danube fleet in order to improve environmental and economic performance. <input type="checkbox"/> To coordinate national transport policies in the field of navigation in the Danube basin. <input type="checkbox"/> To support Danube Commission in finalising the process of reviewing the Belgrade Convention. <input checked="" type="checkbox"/> To develop ports in the Danube river basin into multimodal logistics centres. <input type="checkbox"/> To improve comprehensive waterway management of the Danube and its tributaries. <input checked="" type="checkbox"/> To promote sustainable freight transport in the Danube Region. <input type="checkbox"/> To implement harmonised River Information Services (RIS).



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	<input type="checkbox"/> To invest in education and jobs in the Danube navigation sector.
<b>Affiliation to thematic working group of Priority Area 1a of the EUSDR:</b>	<input type="checkbox"/> Waterway infrastructure and management <input checked="" type="checkbox"/> Ports and sustainable freight transport <input checked="" type="checkbox"/> Danube fleet <input type="checkbox"/> River Information Services <input type="checkbox"/> Education and jobs
<b>OTHER RELEVANT ISSUES</b>	
<b>Project requirements:</b>	–
<b>Follow-up project:</b>	–
<b>Any other issues:</b>	–