

Executive Summary

This public report is the Deliverable from the ADMIRAL – Advanced Marketplace for Low Emission and Energy Transportation project, funded by the European Union (Grant Number 101104163). The ADMIRAL project seeks to develop and pilot AI-driven solutions for managing logistics supply chains, including related missions to reduce transport and logistics emissions and increase transparency, resilience of logistics supply chains, and stakeholder cooperation. ADMIRAL's objectives include streamlining supply chain operations, optimising existing assets, fostering sustainable sourcing and developing energy-efficient solutions.

The ADMIRAL project is developing a cutting-edge digital marketplace for multimodal logistics. This marketplace is developed in collaboration with the ADMIRAL pilots representing port operators, postal logistics, and road transport services, each having different requirements. The pilots provide the user needs, the first-hand user experience and guides the development. Each pilot contributes one or more advanced services or solutions to the ADMIRAL Marketplace. The ADMIRAL Marketplace and other developments are demonstrated and piloted in four regions: Portugal-Spain, Slovenia-Croatia, Lithuania, and Finland.

This report summarizes and evaluates the results of ADMIRAL pilots: 1) Digital & Green Multimodal corridor (Portugal-Spain), 2) Green Logistics: Optimizing Postal Sustainability Across Borders (Slovenia-Croatia), 3) Green Route: Emission Aware Logistics Management (Lithuania) and 4) AI-Based Optimization of Logistics for Sustainability (Finland). The purpose of each pilot is to increase utilization of current assets and increase the visibility of emissions of transport chain operations. These emissions will become visible in the multimodal logistics marketplace and are expected to impact positively decision-making of service buyers, enhancing collaboration and sustainability across supply chains. Logistic data collection, processing and analysis methods, test scenarios and selected digital technologies are developed in the pilots. The pilots also test, monitor and analyse the development of other parallel WPs, mainly results from WP3 (Business models for sustainable transports) and WP4 (Multimodal marketplace development). Each pilot is divided in two phases. In the first phase, the solutions are tested as standalone. Then in the second phase, the developed services and solutions are tested as a part of the ADMIRAL Marketplace.

This deliverable is a compilation report of the documentations of all four pilots. Each pilot section has the following subsections: 1) Overview of pilot, which includes the pilot environment description, challenges, purpose of the pilot and involved stakeholders; 2) Tested scenarios; 3) Tested systems, technologies and solutions; 4) Results of tests and 5) Summary of pilot. The purpose of a similar structure is to enable comparison of different pilots and to ensure that the pilots are documented in consistent and comparable manner. After pilot implementation descriptions, section 2 to 5, this deliverable shows the pilots integration with ADMIRAL Marketplace (section 6), collaboration with other pilots (section 7) and ends in the Conclusion section.

Services presented in this report and their integration to the ADMIRAL Marketplace, service catalogue continues in WP4 until end of the project. The pilots impact assessment will be done in parallel WP6 (Assessment of Solutions and Impact Assessment) and reported in public deliverable D6.3. Overall Impact Assessment of Project Results and Cross-Analysis of Pilots (M36).