

DigLogs

Local and Regional Event Rijeka

Deliverable 2.4.1

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Meeting Overview

Local and regional event was organized by the lead partner, University of Rijeka, Faculty of Maritime Studies on Friday, 26th November 2021 at the partners premises. The participants were welcomed by the Lead Partner's (LPs) project manager Associate professor Edvard Tijan, PhD.

The objectives of the meeting were to introduce the DigLogs project results to participants.

Twenty-six participants, representing nine organizations participated in the event: University of Rijeka, Faculty of Maritime studies, Zorović d.o.o., Udruga pomorskih agenata Hrvatske, Bureau Veritas Croatia, Seaquest shipmanagement, Pomorski odjel sveučilišta u Zadru, Pomorski fakultet u Splitu, Sveučilište u Rijeci, Odjel za biotehnologiju, and Aksentijević Forensics & Consulting.

List of participants:

	First name and Last name	Institution
1	Edvard Tijan	University of Rijeka, Faculty of Maritime studies
2	Ivan Dovadžija	University of Rijeka, Faculty of Maritime studies
3	Valentina Šutalo	University of Rijeka, Faculty of Maritime studies
4	Dario Ogrizović	University of Rijeka, Faculty of Maritime studies
5	Vlado Frančić	University of Rijeka, Faculty of Maritime studies
6	Radoslav Radonja	University of Rijeka, Faculty of Maritime studies
7	Josip Dujmović	University of Rijeka, Faculty of Maritime studies
8	Igor Rudan	University of Rijeka, Faculty of Maritime studies
9	Goran Vizentin	University of Rijeka, Faculty of Maritime studies
10	Žuškin Srđan	University of Rijeka, Faculty of Maritime studies
11	Mladen Jardas	University of Rijeka, Faculty of Maritime studies
12	Matej Plenča	University of Rijeka, Faculty of Maritime studies
13	Neven Grubišić	University of Rijeka, Faculty of Maritime studies
14	Ana Perić Hadžić	University of Rijeka, Faculty of Maritime studies
15	Robert Mohović	University of Rijeka, Faculty of Maritime studies
16	Valter Nižić	Zorović d.o.o.
17	Jakov Karmelić	Udruga pomorskih agenata Hrvatske

18	Alen Poturić	Udruga pomorskih agenata Hrvatske
19	Damir Betić	Bureau Veritas Croatia
20	Radovan Perišić	Bureau Veritas Croatia
21	Michael Nikolić	Seaquest shipmanagement
22	Toni Bielić	Pomorski odjel sveučilišta u Zadru
23	Nikola Račić	Pomorski fakultet u Splitu
24	Zdeslav Jurić	Pomorski fakultet u Splitu
25	Petra Karanikić	Sveučilište u Rijeci, Odjel za biotehnologiju
26	Saša Aksentijević	Aksentijević Forensics & Consulting

1. Welcome and opening speech

Associate professor Edvard Tijan, PhD, as the project manager, opened the event and thanked the participants for their attendance. He presented the members of PFRI team with their respected roles and gave a few short words about the content of the event.

2. Seven project pilots

Associate professor Edvard Tijan, PhD named all 7 pilots and their respective responsible partners with a description of each pilot.

- PCS Automation - Deliveries Planning by PP6 Polo Inoltra and PP5 Actual
- WMS 4.0 by PP2 Elevante
- Innovative solution for access control by PP8 Port of Šibenik Authority
- Application for data flows management by PP7 Port of Rijeka Authority
- Mobile Safety/Security Pilot by PP4 University of Trieste
- Spatial Data Management System by PP1 CFLI
- M2M dialogue by PP9 Port of Rovinj Authority

2.1. PCS automation – Deliveries planning

Associate professor Edvard Tijan, PhD explained that the PCS Automation - Deliveries Planning pilot aims at creating and testing a Deliveries Planning module, which could in the future extend the PCS systems. The Deliveries Planning Technology aims at providing an improved knowledge for operators in the decision-making process for the shipment routing through comparison of multimodal services in terms of prices, transit times and schedules, matching ITUs requirements/compatibility with the vessel, shipment requirements and Dangerous Goods limitations, while providing re-routing options based on traffic & weather conditions.

That the full scope of the Deliveries Planning innovation system aims at guiding the operator with an automatic booking process (including Custom Declarations and Dangerous Goods processing), then follows the shipment through a Track&Trace system, giving a real-time updated ETA, and finally provides emission certificates at the end of the journey. The pilot application is going to focus its scope on the route selection algorithm, exploring all the parameters that might affect the selection and establishing the criteria for prioritizing optimal route selection. It will then examine the circumstances and parameters that might cause rerouting at each node along the chosen route. Finally, he explained that it will examine KPIs for calculating route performance and provide comparison reports among different available options, as well as comparison between planned (nominated) and completed (travelled) route performance. Pilot application is going to limit its scope to the nominal booking, Track&Trace simulation and calculated approximated ETA and CO2 emission, as well as defining the interface data structures towards potential future system integrations. If proven feasible, the fully scoped system in the future would aim at automated booking, real time Track&Trace system with real time ETA and CO2 emission calculations, and integrations with external systems, which is all beyond the pilot scope at the moment.

2.2. WMS 4.0

Regarding the WMS 4.0 Associate professor Edvard Tijan, PhD explained that it is the Pilot Action carried on by Elevante in the framework of DigLogs Project, which took place in the intermodal rail-road terminal of Gorizia (SDAG), Friuli Venezia Giulia Region, Italy with the overarching aim to demonstrate how multimodal transport arrangements among an heterogeneous set of logistics operators including carriers, logistic providers, transport operators and authorities can be thoroughly and conveniently optimised by exchanging real-time information concerning planned delivery schedules.

Furthermore, he explained that the WMS 4.0 foresees a Decision Support System, the so called DSS, that is be linked to SDAG Warehouse Management System (WMS) enabling the interconnection between Multimodal Transport Operators (MTO), terminal operators, carriers in one single digital access platform allowing them to be timely informed and synchronise their delivery schedules, thus optimizing the final leg of the intermodal transport chain (i.e., from the SDAG terminal to the final destination) from both operational, economic and environmental perspectives.

2.3. Innovative solution for access control

Due to an CEF-cofinanced project of a national PCS (Port Community System) implementation, initially as a pilot project in the port of Rijeka that started in April 2018. that has been fully completed by end of 2021. The project is well underway and executed on time under supervision of TA (Technical Assistance) team comprised of subject matter experts. Initially, the project should have been completed by the end of 2020, but has received a one-year extension. PCS implementation project does not envisage a separated module for access control, rather, it relies on the data exchanged with already existing systems. Port of Šibenik does not have automated IT solution for this purpose, and especially not for the passenger traffic segment, hence motivation for the proposed content of the pilot project.

Projects goal was to establish a new, innovative and automatic solution for passenger and physical persons ID card issuing, tracking and management within remit of Port of Šibenik Authority with particular focus on passenger traffic. This need greatly increased with the fact that creation of a national PCS system was ongoing and that it does not have a dedicated system for access control.

2.4. Application for data flows management

Associate professor Edvard Tijan, PhD explained that as a part of DigLogs project, Port of Rijeka Authority has decided to upgrade the existing maritime traffic control system in order to improve information system functionalities related to vessel traffic monitoring. This upgrade referred both to upgrade of VTS/VTMIS system, and also extended newly derived services towards passengers as end users by means of a novel video feed service, increasing the level of their satisfaction and passenger traffic safety.

2.5. Mobile Safety/Security Pilot

The mobile technology can help in reducing the time required for the ship evacuation and abandonment procedures. During an emergency, escape routes might be blocked due to fire or flooding, forcing persons who are following evacuation signs to turn back and search for alternative routes. A mobile application, guiding passengers through the proper direction in the current situation might reduce such problems while avoiding congestions. Such a technology shall be based on the localization of passengers (smartphone, smartwatch, or other mobile devices) based on an infrastructure sustained by ship emergency grid and/or an independent source of power.

Localization data can be useful also during normal operation. It can be used to early detect unauthorized access to restricted areas, allowing fast reaction of the onboard security team. Moreover, in case of onboard infections, the localization records, normally not accessible in order to protect passengers' privacy, could be put at disposal of medical officers. The movements of infected passengers can be analyzed to identify the passengers that came in contact with them. Then, through the adoption of test and quarantine, it will be easier to contain the infection growth onboard. Finally, localization can be useful also for commercial purposes, such as allowing big data analysis, providing push notifications related to the passenger position and providing guidance onboard to reach desired destinations.

Before the development of this promising technology, the technical feasibility of a system based on Bluetooth beacons on a ship has to be proven. Besides, the effect on the evacuation time due to the usage of mobile technology should also be studied to prove the benefit of the system. Therefore, a test on a small test population is advisable to compare the standard evacuation time with the one related to the adoption of mobile technology. This was the main objective of the pilot action carried out by UNITS within the framework of the DigLogs project. For this purpose, a tender procedure was prepared to select the developer of the pilot system. The test environment included an area covering 2 decks connected by multiple staircases on a RoRo pax vessel, which was under construction. The pilot system was composed by a mobile application to be installed on mobile devices and a backend application to configure and monitor the system from the ship bridge. The APP exploited a beacon net to enable mobile devices localization.

2.6. Spatial Data Management System

Associate professor Edvard Tijan, PhD explained that this pilot action was implemented in the context of the North Adriatic Sea Port Authority and that it regards the adoption of a centralized and interoperable spatial data repository aimed at giving a robust structure to the information and data used within the internal processes and to provide services to external operators and institutions.

The pilot belongs to the innovation named “Maritime Big Data / Data management” aimed at obtaining the best results from integrating different data sources in terms of added value in knowledge and management capability.

The pilot action envisaged by the DigLogs project for the Venice port community concerned the creation of a so-called "Spatial Data Infrastructure" (SDI) at the Port Authority. A Spatial Data Infrastructure is an integrated data system that allows centralizing the information and digital maps used by different Port Authority offices and also external actors, allowing both, efficiency in management and maintenance of each dataset, and shared access by multiple operators.

The current situation at the Venice Port Authority was such that the use of the available dataset generates several copies and reprocess data within many different and inhomogeneous systems. This kind of management reduces performance and the overall quality in usage and updating of data among various operators makes decision making process significantly inefficient. The Spatial Data Infrastructure (SDI) performs both, data storage and processing functions, making copies no longer necessary and allowing processing to be archived, both in the form of new data archives and as algorithms that provide results in real time, allowing operators to maintain the known methods and tools thanks to the interoperability protocols.

The pilot action envisaged by DigLogs project for the Venice context includes both the technological implementation and a special training program for the personnel of the Port System Authority.

2.7. M2M dialogue

As part of DigLogs project, Port of Rovinj Authority has decided to upgrade the existing maritime traffic management system to improve information system functionalities related to vessel traffic monitoring, while also including all the related activities that enhance the port’s performance. This upgrade refers to the enhancement of the traditional PCS system, which will serve its purpose as an intermediary between the given software and the National Maritime Single Window – CIMIS. The advantage of having this kind of solution would greatly exceed its nominal value and it would offer best experience to all of its stakeholders.

3. Conclusion

Associate professor Edvard Tijan, PhD finished his speech by saying how all the pilot projects have been successfully implemented. He said how each of these pilots has the potential to bring advancements in both the passenger and freight sector and how he believes the project to have been very successful. Associate professor Edvard Tijan, PhD asked if any of the participants had any questions. After overcoming the initial ice and a few questions by partners, a heated discussion regarding the project outputs ensued. After which he thanked everyone for coming and ended the event.

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LOCAL AND REGIONAL EVENT



University of Rijeka, Faculty of Maritime Studies

is pleased to invite you to the:

LOCAL AND REGIONAL EVENT



WHEN

November 26th 2021, 10:00 AM



WHERE

University of Rijeka, Faculty of Maritime Studies

The event will feature all the achieved results and challenges leading up to the final version of the pilots implemented by the DigLogs project partners. A presentation of passenger and freight logistics processes digitalization, and an open "questions and answers debate" for all who are interested in knowing more.



