

MIMOSA

D.5.1.4 – No. 1 Set of devices for border and port security screening in the Port of Split

Report: **final** (31/01/2023)

Working Package n:	WP5 – Developing tools and harmonizing services for a sustainable intermodal mobility
Activity (n. and description):	A 5.1 – Analyzing existing, re-use and development of new smart technological tools and advanced solutions
Deliverable (n. and description):	D.5.1.4 – No. 1 Set of devices for border and port security screening in the Port of Split
Responsible Partner:	PP13 – Split Port Authority
Deadline (as from the original AF):	11/2022
Finalized on:	12/2022

1. Background, scope and description of the pilot action

Through the MIMOSA project, it is planned to introduce a smart and innovative solution in the Split Port Authority, in order to achieve affordable and sustainable mobility in the Split port. Split Port is the biggest Croatian passenger port, whose annual arrival of passengers is 6 million, while the arrival of vehicles is 900.000 (data from 2022). In order to increase the level of safety, Split Port Authority implemented a technical protection system, which purpose is to maintain a high level of security with an emphasis on the safety of passengers through the City Port, as well as the preservation of public and private property. In addition, the protection system may in the future be used to monitor tourism trends, reduce congestion and create sustainable tourism policies.

The pilot equipment will significantly contribute to the increase of the safety of passengers. As already mentioned, the purpose is to maintain a high level of security with an emphasis on the safety of passengers through the City Port, as well as the preservation of public and private property.

The implementation of the pilot activities started with the deliverable 5.1.3 – *Study on the requirements for meeting the safety standard for passenger and luggage inspection in the Port of Split*. The Study was prepared in September 2021.

The main pilot project included the upgrading and modernization of the technical protection system in the Split port. In accordance with the Port Facility Security Code (ISPS Code), Private

Protection Act (OG 16/20) and the Regulation on the technical protection conditions and measures (OG 198/03), the necessities for upgrading and modernizing the technical protection system for monitoring purposes (video surveillance, burglary and access control, passage control, video archiving and integral protection of the local central monitoring point) are defined in cases such as movements in the protected area and individually protected premises.

Except already described purpose related to the improvement of the safety standards in the Split Port, the protection system may in the future be used to monitor tourism trends, reduce congestion and create sustainable tourism policies.

The following elements would comprise the integral parts of the technical protection system:

- access control
- video surveillance system
- IT equipment

All technical protection subsystems are integrated into the same platform, which simplifies management, supervision and central control.

The access control system consists of a central software solution, an IP master controller, a case for installing the controller, electrical receivers, magnetic contacts for displaying the door open status, panic buttons for emergency opening, hydraulic door closers, IP intercoms, automatic ramps, chain barriers, and RFID card readers on the MIFARE standard (13.56MHz).

2. Implementation of the pilot action (including a description of the externalized services/supplies/works)

The tender procedure was prepared in May 2022, and, after the tender procedure, the contract between Split Port Authority and the contracted side Electronic Security Ltd. was signed in July 28, 2022. The installation of the equipment lasted from July 28 to December 19, 2022.

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status, panic buttons for emergency opening, hydraulic door closers, IP intercoms, automatic ramps, chain barriers, and RFID card readers on the MIFARE standard (13.56MHz).

The software solution allows the user to monitor all happenings at the access control points, whether it is a door, an automatic ramp, or a chain barrier. The program allows the user detailed analytics and filtering by various parameters such as users, cards, tables, and the like. Viewing happenings is possible in real-time and through the history of events. In addition to the equipment that technically belongs to the access control system equipment, the Dalvin parking lot also has video cameras for reading vehicle license plates (License Plate Recognition), the video of which is used for permission to access the parking lot.

In addition to analytics and monitoring, the authorized operator can delete and assign access rights to employees at certain points. Given that the entire system works on the IP communication of the controller with the software solution, the exchange of information is almost instantaneous, so a lost card can be very simply removed from the system, and a new card becomes valid immediately without the need.

For guest access control, a video intercom is used, which, in addition to the option of video and audio communication, also manages access control points.

For the successful implementation of access control, the main contractor also carried out all electrical installations and other preparatory works provided for in the implementation project.

The video surveillance protection system consists of a central software solution with advanced analytical capabilities, IP cameras in dome and bullet versions (for indoor and outdoor installation), connection boxes for mounting, system management equipment (USB joystick with control panel), and related IT equipment. Cameras using IP infrastructure communicate with network switches, which communicate directly with the central software solution. All videos are archived on hard disks in the server room, without saving to external locations (cloud). The software solution uses the possibility of self-learning to detect and possibly alarm unusual and atypical behaviors. As a simple example, it can be mentioned one recording microlocation, where employees walk every day when arriving / leaving work, but if at some point one of the employees ran through the video recording, the system would register it as atypical behavior and raise an alarm. In the same way, it is also possible to track vehicles, and through a few simple filters (eg color and shape of the vehicle), it is possible to automatically track the movement of vehicles through the entire area monitored by IP cameras of the built-in video surveillance protection system.

Access to the software solution of video surveillance protection is allowed only to authorized persons, who use their own access keys data in the form of username and password. In this way, it is possible to monitor the operator's activities within the system.

IT equipment used for the implementation of the technical protection system consists of client computers, monitors, uninterruptible power supply devices, network switches, wireless links, cabinets for housing the equipment, and associated electrical installations. The IT equipment was delivered for the purpose of reliable communication of equipment in the field with workstations, central applications and operators.

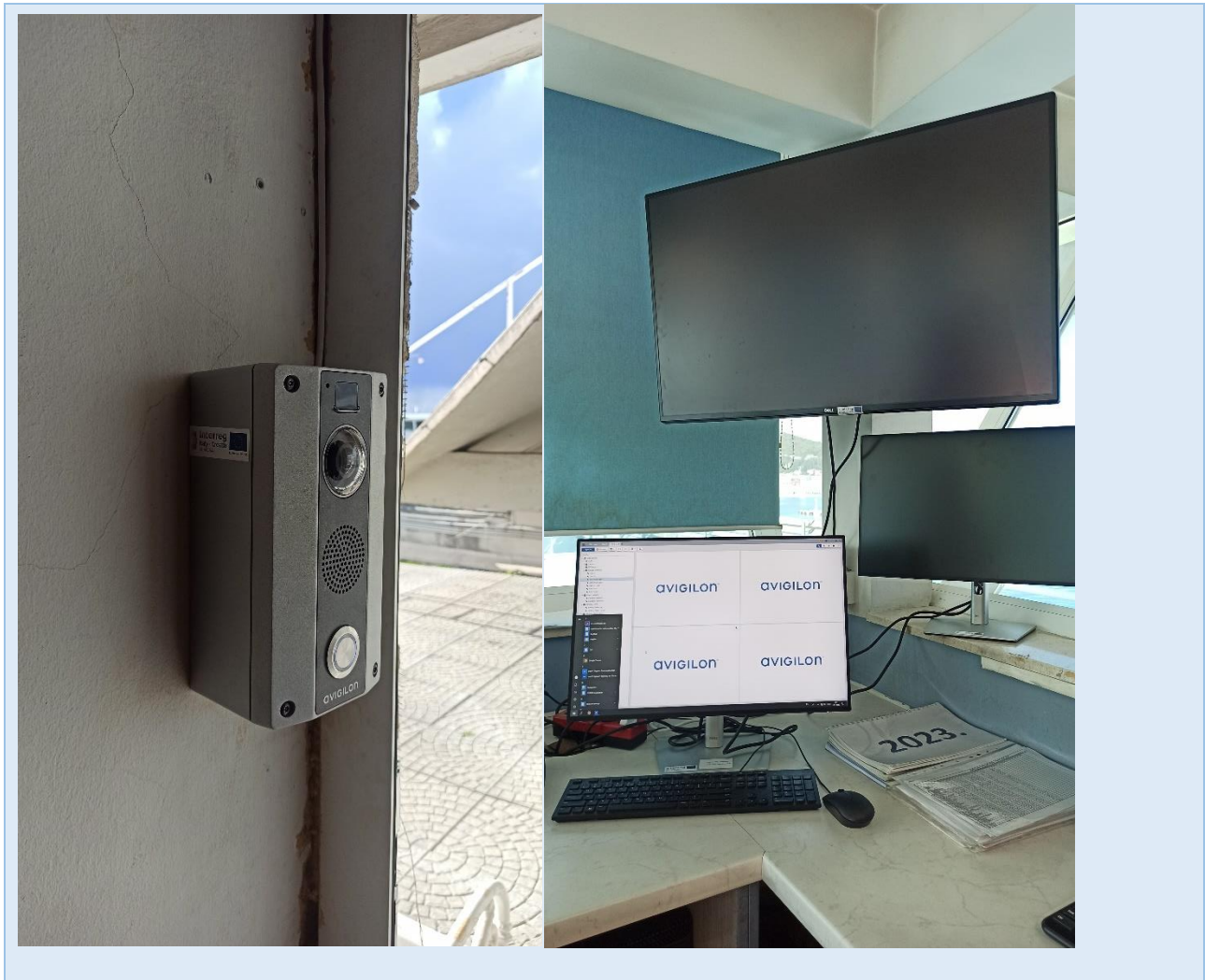
The obligations were duly fulfilled within the agreed time, and after the implementation, the representatives of the Split Port Authority checked all activities related to implementation and concluded that all delivered equipment is in accordance with project and technical requirements and the planned cost list. The contracted side delivered to the Split Port Authority all associated documentation:

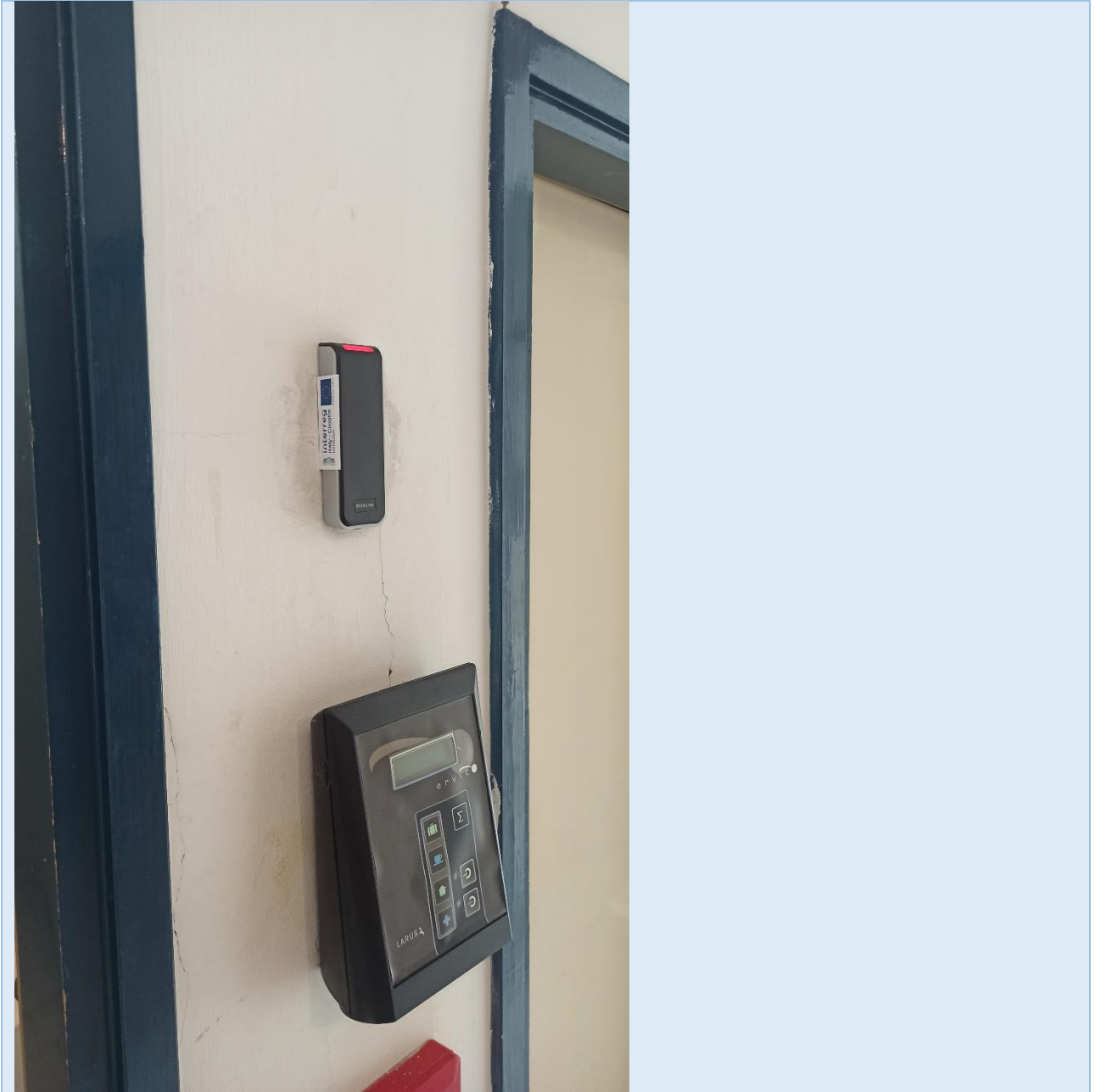
- final status project
- record and certificate defined by the Ordinance on conditions and methods of implementation of technical protection (OG 198/03) and the Law on Private Protection (OG 68/03, 31/10 and 139/10)
- provision of the system to the user with complete certification documentation in accordance with the regulations of the Republic of Croatia for each individual device
- proof of completed training
- written instructions for operating and maintaining the system
- examination of the performed installation of the technical protection system
- examination of the installation, insulation and permeability of the structural cabling of the technical protection system
- construction diary of works
- list of dismantled equipment of the existing video surveillance protection/access control/IT equipment system
- maintenance plan
- list of passwords, installation media and installation procedures for the system in question, as well as the necessary license certificates
- final report on performed installation of the technical protection system

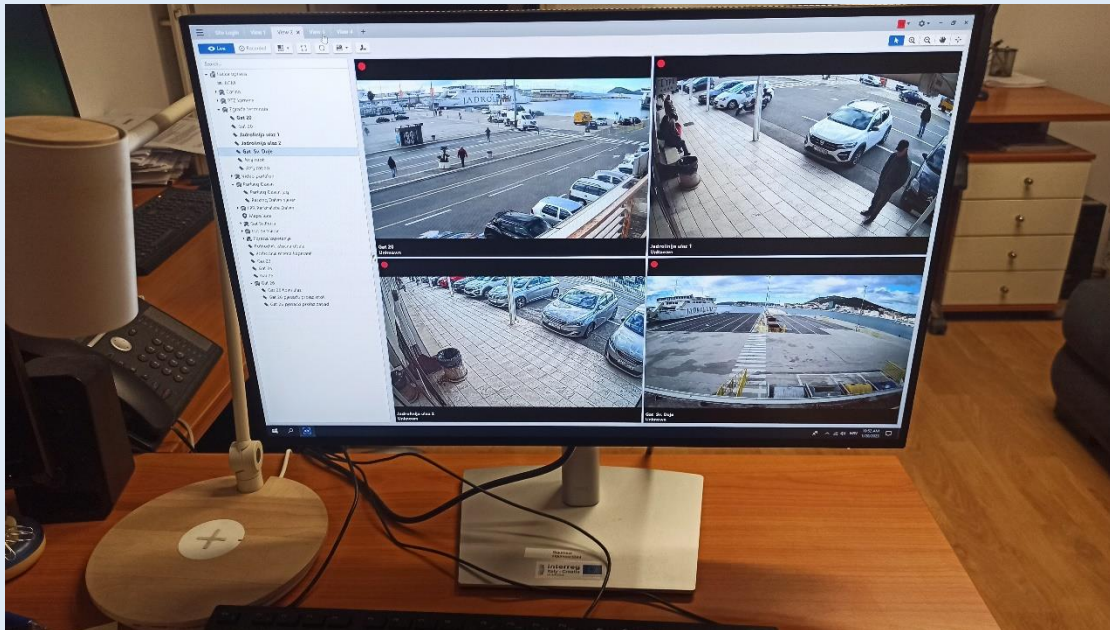






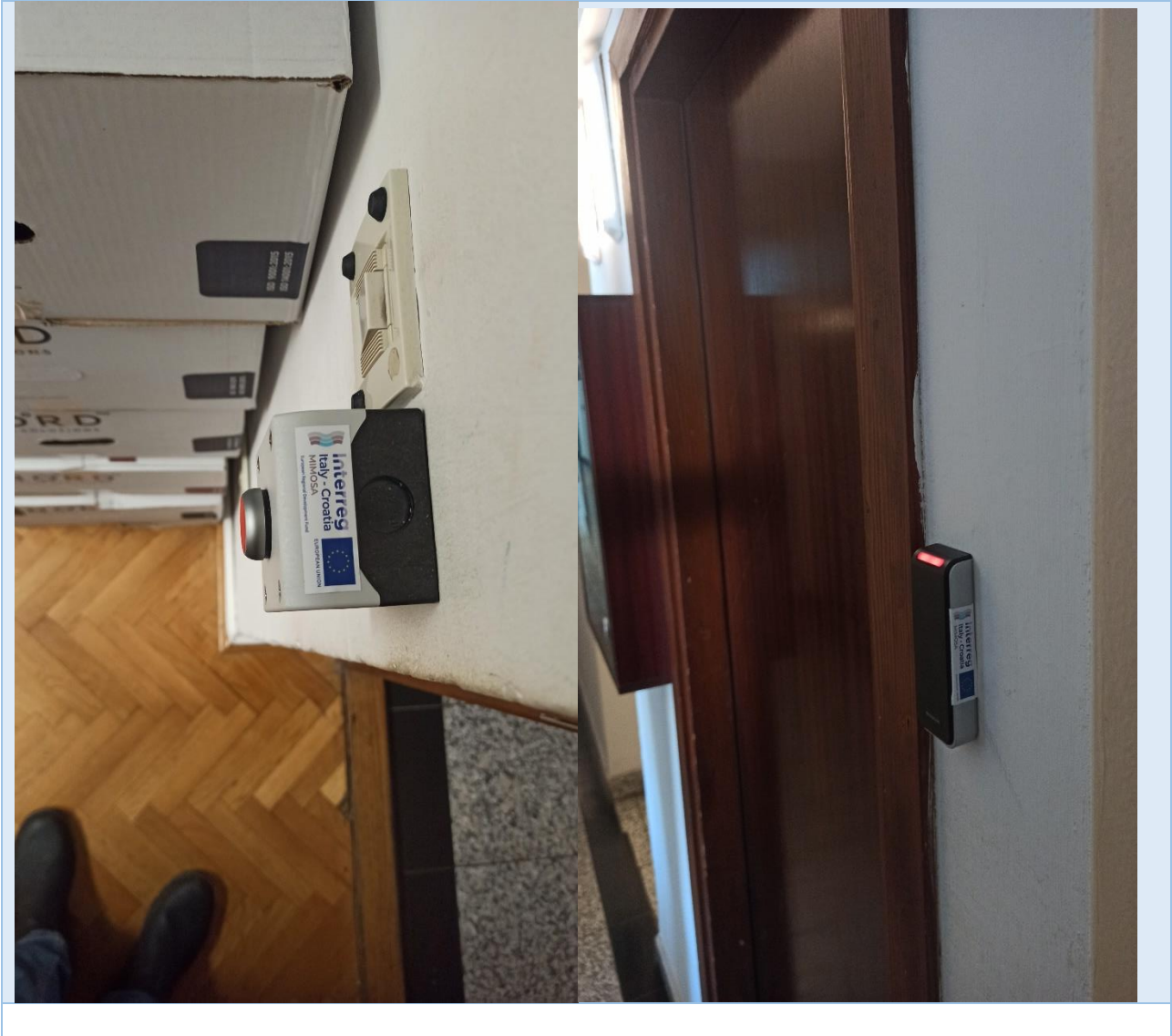












3. Information about stakeholders role/involvement

The stakeholders weren't directly involved in the realization of the pilot activity, as it is realized for the purpose of security improvement in the Split port and the Split Port Authority is the only owner and user of the equipment. Still, the stakeholders that have directly benefited from the pilot equipment are shippers, agents, customs officers, police and other port service providers,

as the use of pilot equipment significantly increases safety, and reduces crowds and waiting when embarking and disembarking in the Split port. In this way, the flowability of all types of vehicles is increased, congestion in the port is reduced, the safety of the covered port area is increased, and CO2 emissions are reduced.

4. Lessons learnt and conclusions

With this pilot equipment, it is possible to obtain an overview of the flow of passengers and vehicles in the City Port in real time, considering the amount of traffic in the port. Traffic control and management of traffic flows in the port is enabled - (surveillance and review of cameras and access control is provided by the security office and the Port Operations Center - POC). The POC manages and determines the ship mooring schedule, and therefore the place of disembarkation of passengers and vehicles. With the help of this system, he has real-time insight into the situation on the ground in traffic in the port, and accordingly determines and adjusts the mooring schedule of ships, all in order to reduce congestion in the port (waiting for passengers and vehicles to board) and ensure better traffic safety passengers and vehicles.

High-quality traffic management in the port area of the City Port of Split has been available, as well as the ability to manage traffic within the port in order to increase the flow and safety of boarding and disembarking passengers and vehicles. This pilot activity increased security by upgrading and reconstructing the video surveillance system and controlling the entry or exit of people and vehicles from/to the port area.

On the basis of security, the pilot activity complies with legal requirements - because the port of Split is open to international traffic according to its purpose of public service provider, and according to its size and importance, it is a port of special (international) economic interest for the Republic of Croatia.

5. Problems found and adopted solutions

The Split Port Authority pilot activity originally contained the equipment that was supposed to significantly accelerate the inspection procedures of the passengers and their luggage while embarking/disembarking in the cross-border lines with Italy. As this equipment had to be installed in the new passenger terminal in the City Port of Split, and its construction was late, the mentioned equipment had no conditions to be installed. For that reason, PP13 changed the

description of pilot activity, which was adopted by the LP and JS in March 2022 and the modification was considered as a minor change.
During the performance of the works, no irregularities were observed that would affect the usability and functionality of the pilot equipment.

6. Expected follow up (after project closure)

After the project closure, based on this pilot, the preparation of project and technical documentation for the future implementation of technical protection of other pools in the port area of the port of Split will be started.

Long-term: monitoring of the entire area, integral access control in the entire port area, automatic entry/exit in the port area, procurement of new monitoring and control systems, connection with other stakeholders responsible for traffic management and control etc.