Interreg - IPA CBC
Italy - Albania - Montenegro
EUROPEAN UNION
EFINTIS

T2 PILOT PROJECTS

Version final

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1 Ex-ante situation – Background of the pilot action

In the port of Durres, several ICT systems have been implemented to increase security and facilitate administrative procedures, that have significantly increased the quality of service provided by the port today.

The Port Authority is monitored 24 hours a day with the camera system, making the port of Durres a high security area. Systems for financial management, cargo processing, performance monitoring, fire protection system, weighing system of moving vehicles, energy network monitoring, ship monitoring systems, etc. have been implemented. The following is a list of the main ICT systems in the Port of Durres

Durres Port Authority Main IT systems:

- **ISPS code related systems –> Physical Access Control, CCTV and Radio communication** communication network.
- Central management for access control on person and vehicle.
- CCTV, LPR cameras on all gates.

Functions:

- Compliance with ISPS requirements.
- Central control and monitoring on port territory.

I. Logs collection

Components:

- Central Monitoring Site (FSPD).
- Radio
- on all entrances on port.
- Logs on rejected access.
- Register CCTV imaged for more than 45 days.

II. Electronic Checking and e-Transit control

Components:

- On-line communication with agencies, real time update of bookings.
- Control on verification and embarkation process.

Functions:

- Passenger and vehicle improved processes.
- Boarding and embarkation control.
- Procedure control on all embarkation.
- Automatic control on income.

III. Gate access control

Components:

- Central system for the administration of vehicle access and parking Electronic improvement and deny on access.
- Electronic control on income Gate access control of APD through RFID readers (used for long-term permits) and barcodes (used for short-term permits).
- Turnstiles (skidata and axess tmc).
- UHF key tag detectors for distance reading and identifying of vehicles in entry /exit gates.
- Workstations, scanners and printers for printing permissions.

Functions:

- Electronic system for application, approval, issuance, renewal, revenue collection as well as cancellation of daily and long-term permits.
- Online application for port entry permit to APD.
- Offer port entry and exit control as well as in the internal areas of port (different terminals).
- Provide support for electronic invoice and reconciliation with bank payments.

IV. Office Automation – Mail Server, Print Server, File Servers Web Site

Components:

- Mail server.
- "Content filtering" for security and content control inside and outside the port.
- Files and printers exchanging.
- IP telephony, direct phone for every number, telephone traffic control.

Functions:

- E-mail exchange between employees and connected institutions outside.
- Security control as well as communication content inside and outside the port.
- Billing for each internal number.

V. ESRI/GIS – Territory Management on the Port

Components:

- ESRI – GIS editor and web GIS View for GIS information on Port Assets .
- Consolidation and centralized view on port building and territory.

Functions:

- Better control on building and investments.
- Connection between assets and location on port area.

VI. Protocol and archive electronic system

Components:

- Central system for recording written documentation in the protocol and the APD archive.
- Centralized database for information storage.
- Scanning equipment and licenses.

Functions:

- Management of Documents and communication processes DMS (Document Management System), which serves for the electronic archive of documents and technical documents of APD (from 2012 up to date).
- System for storing, distributing written protocol documentation (incoming, outgoing and internal documents) and technical for APD.
- Workflow information system that serves to reflect / convert electronically the internal practices of APD.

VII.Human Resource Monitoring System

Components:

- Time attendance system – PTM.
- Workplace presence reading terminals installed in APD– Axess TMC.
- Central Data Recording System for APD employees.
- A system for calculating employee salaries by the time they are present at work.

Functions:

- The system measures the time and the presence in work of APD employees.
- It has a central database for registration of the APD organigram, appointment of employees, personnel data such as: name, surname, birth year, time of commencement of work, trainings, evaluations etc.
- Payment Calculation System.

VIII. Financial management System, and Business Intelligence Reporting

Components:

- Modern integrated Web Platform.
- Accounting, Budgeting and Cash Management.
- Electronic Invoicing and Revenue collection.
- Financial Reporting over Oracle BI.
- Procurement Management.
- Inventory Management.

Functions:

- Real time control over Enterprise Resources (inventory, cash, Asset ect.).
- Follow-up on real-time over planned budget .
- Consolidated reporting on overall Enterprise activities (Oracle BI).

IX. Asset inventory System

Components:

- Central system for storing data on internal and external assets.
- Asset labeling printers.

Functions:

- Keeps asset data such as asset code, denomination, value, and location.
- Is interfaced with “JDE oracle” system for financial asset data.
- Linked to GIS for evidencing asset location in APD territory.

X. Asset Management - Main Saver:

Components:

- Asset maintenance over main assets of port.
- Asset maintenance schedule.
- Inventory used records.
- Keep information on all records.
- Follow buying process.

Functions:

- Follow asset maintenance and consumed inventory.
- Follow maintenance costs and performance on privatized maintenance services.
- Account asset expanses by cost centers.
- Check inventory availability.

XI. WIM – Management and Control

Components:

- LPR and Access control integration Integrated WIM.
- Central database for WIM results and link to the LPR and Access control Logs.
- Speed process, quicker result access to agencies and authorities.

Functions:

- Integrated and logs on all activity.
- Electronic check on overweight (over 12 Tons for Axe).
- Full control on income.

2 Pilot action description

The main objective of the pilot action was the realization of a procurement procedure with all the necessary elements for the implementation of an Information System for the Port Community of the Port of Durres in order to increase the speed of communication, organizational interaction of the port community with the result of increasing quality., transparency in decision-making and strengthening institutional "memory".

Establishment of a Port Community System, as an information system for the management of port logistics operations with open possibilities for fully electronic connection with operations management systems in terminals (TOS) as well as national systems with single maritime windows (NMSW);

The procedure included the first phase of implementation and consisted of the establishment of a central Core system for operations management; providing secure and scalable access to the system for key port operators as well as implementing the basic function related to movement management, and allowing navigation tools focused on collecting, processing and exchanging information related to operational processes of goods processing.

The full implementation of PCIS carried out in several stages.

PCS modules covered by EFINTIS project were divided in two parts:

PCS CORE APPLICATION MODULE.

VESSEL & CARGO MODULE

The procurement procedure that APD included the two main modules of a PCIS system:

PC CORE APPLICATION MODULE was installed in test environment platform at the end of October and its parameterization continued throughout November 2022.

- The PCS Core application store all information passed through the Message Broker/Controller and entered through the PCIS Web tier into the system's database (RDBMS).
- Display information related to PCIS and implement all required business logic, supporting the processes covered by PCIS.
- The data source for the PCIS core application are the messages exchanged between members of the port community via the Message Controller (PCS Integration Platform), which are recorded in the database (RDBMS).
- The PCS Core application is designed as a 3-tier WEB application, dividing the Presentation, Business and Data layers into components that perform their dedicated functions.

I. PCS CORE APPLICATION MODULE IMPLEMENTATION

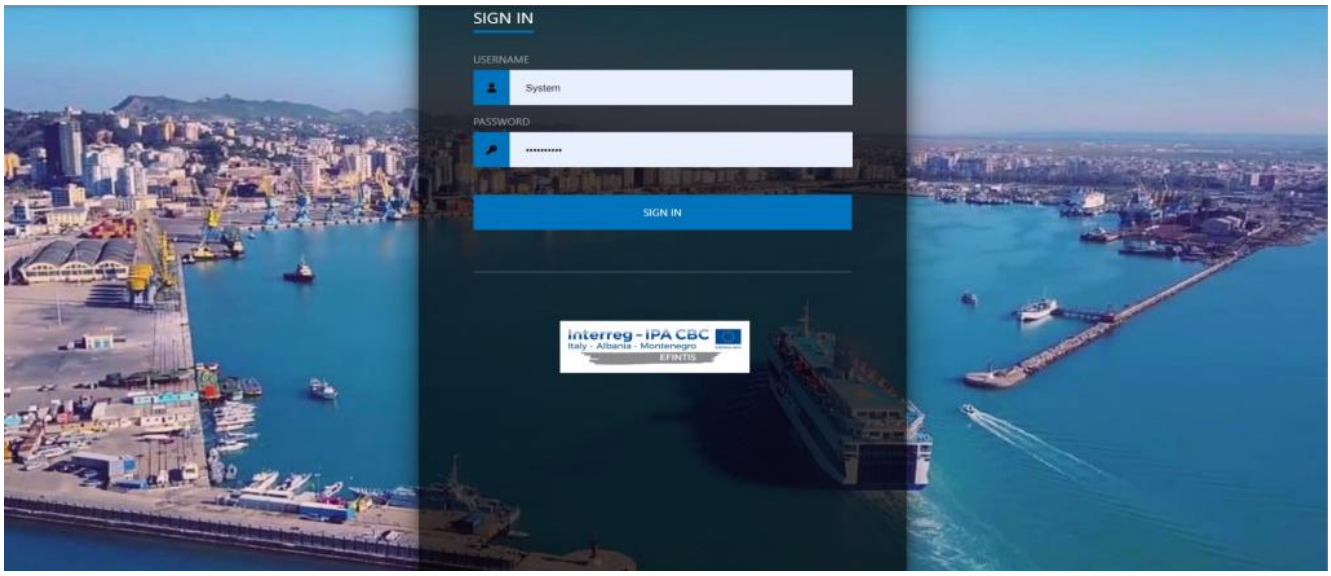

Figure 1: PCS core application module log in page

II. Vessel & Cargo module. Application module for ships and cargo in PCS

Ship Related Functionalities

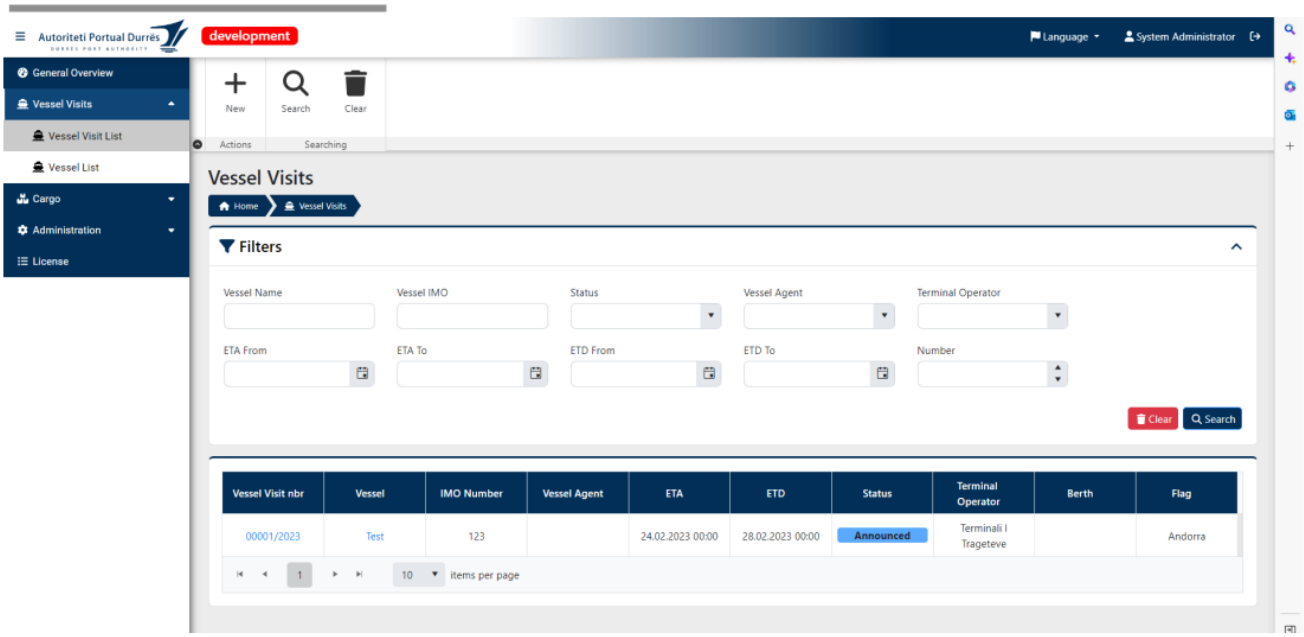

Figure 2: Vessel & Cargo module

1. Vessel Schedule.

The solution required by PCS software provide users with various vessel tracking options to view and examine pending vessels, vessels in port and vessels that have departed.

2. Management of ship data and information flow

Ship registration ang ship management procedures that serve for the guidance of the ship agent, port dispatcher, port operations or entities others related to the management of the process of the ship's stay in the port, through further steps to fulfill all the formalities and requirements for the ship's stay.

3. Vessel Visit Registration

The agent initiate the registration of the vessel's visit/arrival by submitting the notification letter electronically, including the following information regarding the arriving vessel:

- ⇨ The name of the ship
- ⇨ Date of arrival
- ⇨ Arrival time
- ⇨ The ship's flag
- ⇨ IMO Number ….Etc.

4. Statistical reports related to ships

The system provide standard reports, and specific asked reports to the port community.

5. Ship operations and ship procedures.

- ⇨ Custom clearance document (customs clearance)
- ⇨ Valid agreement (contract)
- ⇨ Cargo manifest (cargo manifest)
- ⇨ Cargo plan (Cargo plan)
- ⇨ Notice of readiness (Notice of readiness)
- ⇨ Proof of tons

6. Departure of the ship

The vessel operations module provide to the vessel agent the ability to electronically submit to PCIS a vessel release request along with all mandatory documents required by the Port Terminal Operator and other relevant organizations. Such documents are, for example, the captain's statement, the list of crew members at the departure of the ship, the list of passengers at the departure of the ship, the cargo - loading plan, etc.

II. Vessel & Cargo module. Application module for ships and cargo in PCS ship related functionalities.

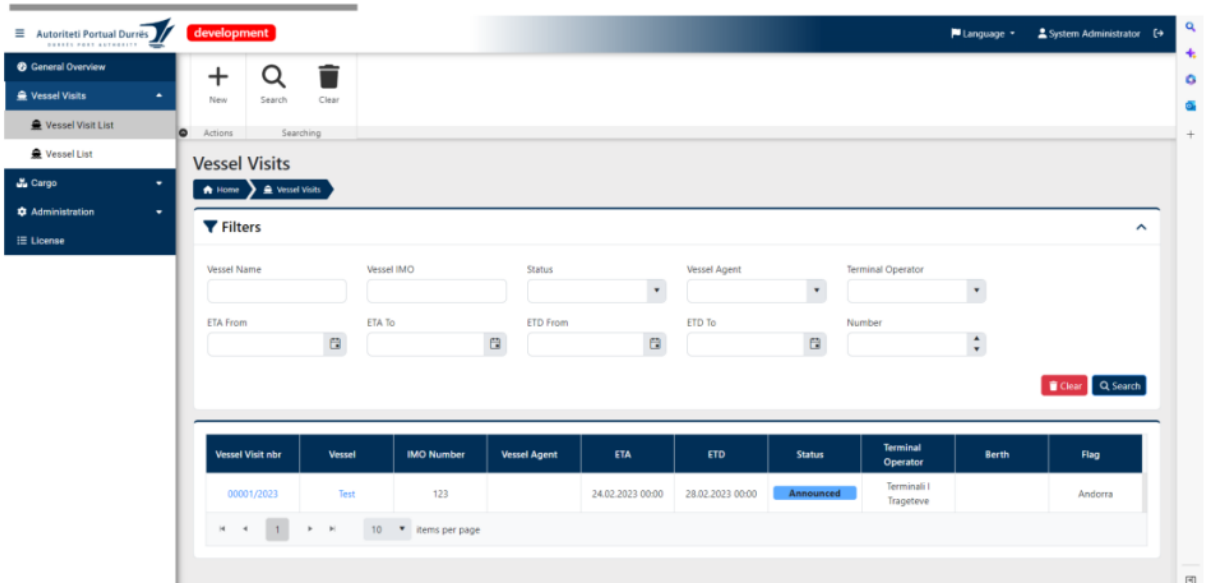

Figure 3: PCS ship related functionalities

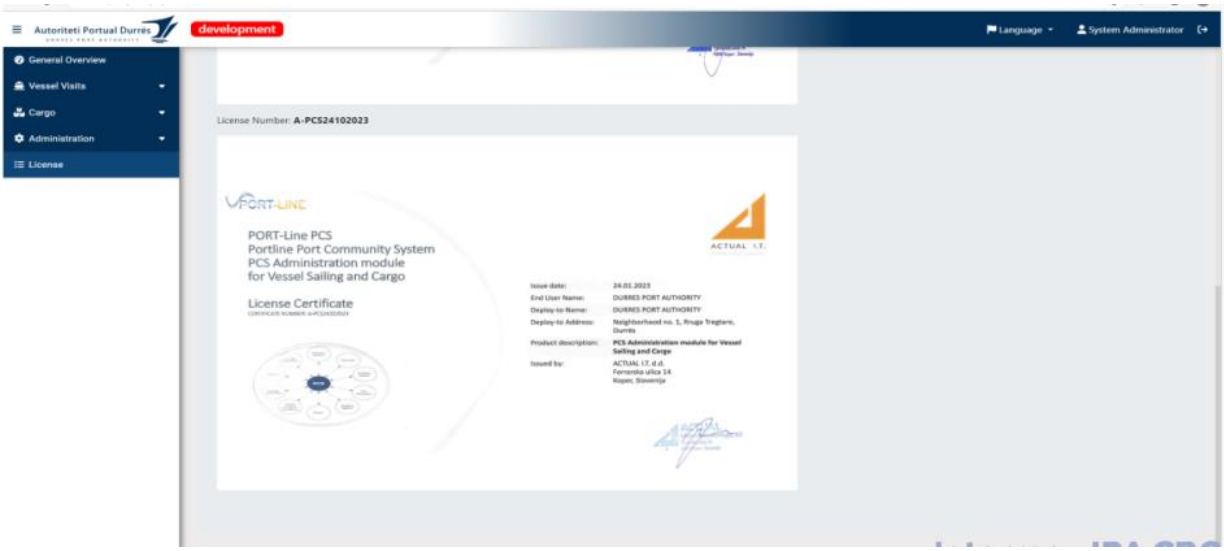

Figure 4: PCS licence

FUNCTIONALITIES RELATED TO CARGO PROCESSING (CARGO)

In the framework of this project, the PCS system offer a minimum of the functionalities for reporting from the ship to Cargo loads and is focused on:

- ⇨ Service requests,
- ⇨ Warehouse documents
- ⇨ Stock records

The implemented PCS system offer the possibility in the future for integration with TOS systems for at least:

- ⇨ Work orders for Cargo loading/unloading;
- ⇨ Confirmation of operations;
- ⇨ Operations related to Cargo vehicles;
- ⇨ Blocking as well as blocking of cargo as a result of the need for inspection or similar by the Authorities;
- ⇨ Reporting on the level of operation

The Vessel & Cargo module is installed at the beginning of January 2023 is operational in the test environment. A preliminary workflow for Vessel & Cargo in Durres Port and has been defined and part of its operation is being verified in the field.

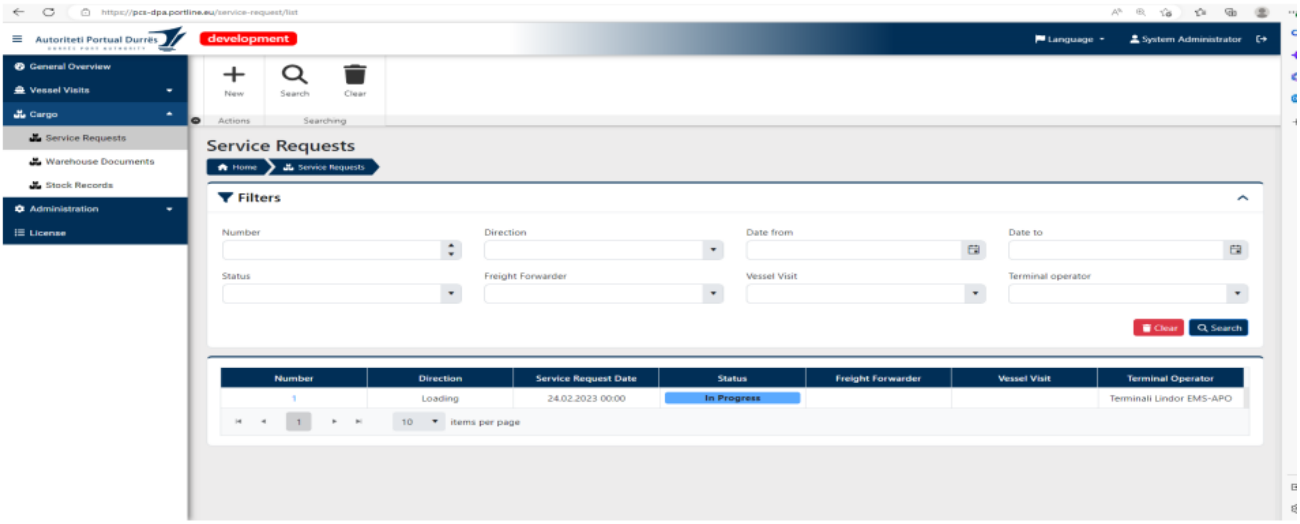

Figure 5: Service request in PCS

3 Stakeholders

The first phase of the PCS platform has been implemented thanks to the EFFINTIS project. It includes two initial modules: the PCS Core application and the vessel and cargo module. Various stakeholders, such as shipping agencies, freight forwarders, carriers, pilotage service, Durres Port Authority Dispatching Center, and General Cargo Terminal, are involved in this phase of the project.

The electronic platform created by the PCS system in the Port of Durrës connects port community members securely and intelligently. This platform enables stakeholders in Durres Port to exchange information, plan in real time, and manage port operations and business processes efficiently.

The system automates the exchange of information between actors in the port community, enhances logistics and port operations, and improves the efficiency of intermodal transport flows. It will also be the primary IT system for exchanging information and documentation, messages with users, and other external systems of stakeholders in the port community.

4 Resources

The two software modules selected for the first phase of PCIS implementation (PCIS-Core Module; ship module) are funded by the EFINTIS project while the hardware componentsare funded by APD. The tender has been published on 24.08.2022 and the winner has been selected on 19.09.2022. The contract was signed on 24 October 2022 with the company "ACTUAL I.T. D.D“.The Vessel & Cargo module began installation in early January 2023.

5 List of figures