

Danube Inland Ports

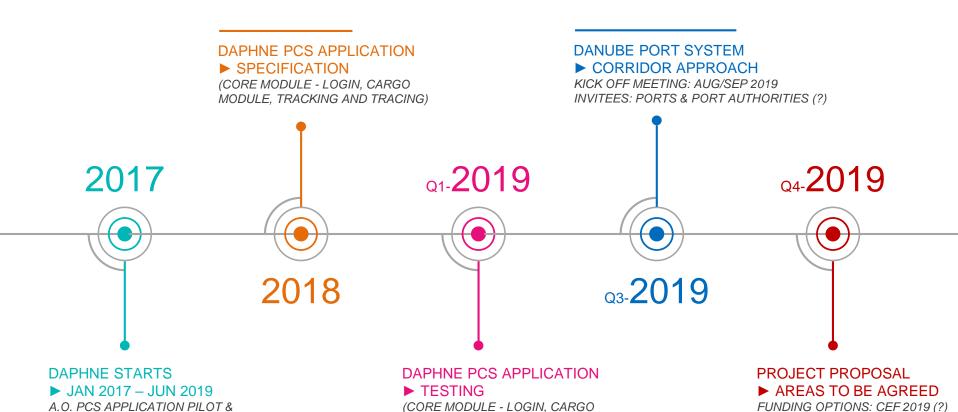
Danube Ports Information System: next steps

DAPHNE Final Event

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MODULE, TRACKING AND TRACING)

TESTING AT DANUBE PORTS



Rationale

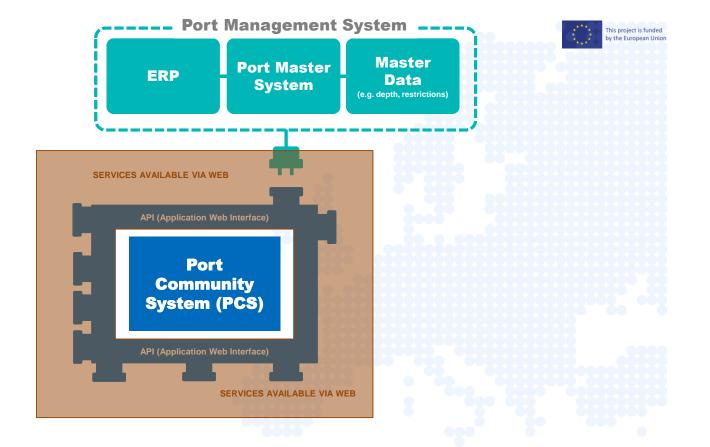
Integrated information systems are used to **enhance the efficiency of port/terminal operations and improve turnover**, thus helping to maintain and increase their competitive edge. The important competitive advantage of a port is to **move cargo quickly and safely through the port**.

Ports face range of operational challenges in management of highly complex, multi-actor port environments. **Digitalisation** enables a consolidated, reliable, flexible and secure flow of information and significantly contributes to the more efficient movement of cargo across international borders and is vital in order to provide quick, reliable and cheap services at (sea)ports.

Digitalisation creates value for private and public stakeholders involved in the logistic port sector and can be achieved through:

- eGovernment (single windows)
- Smart Ports: PCS, C-ITS (Cooperative Intelligent Transport Systems) and data generated from the IoT infrastructure









ACTORS

PORT USERS 2

Associations of port use

TERMINAL OPERATORS

Terminals & their operators: dry bulk • liquid bulk • containers • break bulk • passengers • ro-ro / ferry • passengers • barges & river tugs terminals ...

OTHER PORT USERS

Agents, Forwarders, Shipbrokers / Shipping Companies, (Exporters, Importers)

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HAULIER (CARRIERS)

- · Inland vessel operators
- (Maritime vessel operators)
- Road hauliers
- · Rail (infrastructure) operators / Rail hauliers

PORT AUTHORITIES (LEAD)

Port authorities of Danube (inland) ports

PCS

STAKE-

HOLDERS

COORDINATING AUTHORITIES & REGULATORY BODIES

NAVIGATION AUTHORITIES

Incl

- · RIS Authority / RIS Operator
- (where applicable) National Maritime Single Window Operator

PORT MASTER(S)

Port Masters of Danube (inland) ports

OTHER AUTHORITIES

- National Environmental Guard
- · Veterinary & Phytosanitary Authorities
- Transport Police Department
- Customs ...

INDIRECT ACTORS

Those not directly participating in port operations, e.g. banks, insurance companies, etc.



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PROJECT MANAGEMENT ADMINISTRATION



PROJECT OVERVIEW (selection ...)

DISSEMINATION COMMUNICATION & PORT MANAGEMENT SYSTEM

> ERP PORT MASTER MASTER DATA

PORT COMMUNITY SYSTEM

VESSEL PORT CALLS
CARGO PROCESSES
HINTERLAND TRANSPORT
etc.

EXTERNAL SERVICES & SUPPLIERS

RIS OPERATORS
MARITIME SINGLE WINDOW
EXTERNAL SERVICE
PROVIDERS
REFERENCE DATA etc.

SMART
INFRASTRUCTURE &
DIGITAL
WORKPLACES

WIRELESS INFRA • CCTV
SMART PORT ACCESS •
WEATHER DATA •
POLLUTION MEASUREMENT
• SENSORS IN INFRA •
DIGITAL WORKPLACES • ICT
INFRASTRUCTURE etc.

LEGAL & BUSINESS MODEL: GOVERNANCE, MAINTENANCE & PRICING

HUMAN RESOURCES FACTOR & DIGITAL SKILLS





Legal & Business Model: Governance, Maintenance & Pricing



PCS Governance concept

Defining the governance around the Port Community System and involvement / role of individual port community actors incl. who acts as the provider / operator of PCS.



PCS Maintenance concept

Defining the services to maintain the system and keep it running and operational and reliable and emergency procedures in case of failure.

- Hardware, software, network and security issues addressed
- Service levels for contracts with the suppliers, provider of the hosting data centre ... (standards & certification to comply with, response rates, system availability,...)
- Preventive monitoring & maintenance activities, responsive maintenance as well as emergency procedures
- Redundancies (of data centres, internet connections, etc.)
- Etc.



PCS Pricing concept

Various questions to be answered & business case for operation Port Community System elaborated

- · Non-profit vs. profit oriented
- Prices for offered services to make them attractive for stakeholders
- Pay for services that add value
- Etc.



(Cyber) Security concept

Defining processes and techniques in protecting computers, servers, mobile devices, electronic systems, networks, and sensitive data from malicious attacks.

- To prevent cyber-attacks, data theft, breaches, unauthorised access, etc.
- Defining rules for Security audits
- Etc.



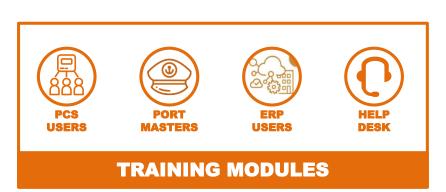


Human Resources Factor & Digital Skills

DEVELOP & EXECUTE TRAINING CLASSES

Digital trainings for various stakeholders & users are needed to accelerate adoption of new technologies, increase employee satisfaction, prevent avoidable errors, and multiply returns.

(all training programmes with the Train-the-Trainer option as a cost effective way to meet the training needs in the future)





Source: www.digital-transformation-influential.com







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INDanube - Centre for Innovation Transfer in the Danube Region

Welcome to INDanube, the facilitator and promoter of innovation in inland waterways transport on the Danube and its navigable tributaries.

More information