Port Community Systems

IMO MTCC GMN Digital Week
Trieste 1/4/19
• Port Community System
  • What is PCS?
  • How Players communicated without PCS
  • How Players communicated with PCS
• Typical PCS Service
• Main characteristics
• Advantages
• Technology Used
What is PCS

PCS is a neutral and open electronic platform enabling intelligent and secure exchange of information between public and private stakeholders in order to improve the competitive position of the sea and airports’ communities.

Optimises, manages and automates port and logistics processes through a single submission of data and connecting transport and logistics chains

Port Community Systems can, and will, play a major role as Countries move towards the Single Window environment;

will be working together to provide expert opinion on proposed new regulation and contribute to the harmonization and coordination of reporting formalities, processes and procedures
How players communicated without PCS
How players communicated with PCS
PCS in general provide a huge range of services and key features which can be summarized as follows:

- Easy fast and efficient EDI information exchange, re-use and centralization, available 24/4/365
- Customs declarations
- Electronic handling of all information regarding import and export of containerized, general and bulk cargo
- Status information and control, tracking and tracing through the whole logistics chain
- Processing of dangerous goods
- Processing of maritime and other statistics
Main characteristics (1)

Establishment of Total Logistics Information system to support easy decision making for logistics group

**Web Site Integration**
- Need web site providing information related to maritime logistics information
- Need improvement of maritime logistics information service
- Consider user experience and reduce information search step and cost

**DB Optimization and Contents update**
- Need new data demand for maritime logistics information
- Need update information for liner analysis and policy making support system
- Need updated domestic and foreign logistics information DB
- Contents organization based on integrated web site
Main characteristics (2)

1. Move Goods & Money Faster Cheaper and Secure

2. Move Information from Anywhere at Anytime in a Trusted and Secure Way

3. PCS is playing a key role as facilitator but its importance is growing due to the new trends

Technologies
- Big Data -> Better Forecast
- AI -> Risk Assessment
- IoT -> Container Digital Shadow
- RFID -> GeoLocation
- Blockchain -> Secure Transfer, tracing and tracking

Processes
- Link Operational Process with Payments
- Link Export Procedures
- Import Procedures
  - Single submission of information
  - Digital Certificates

Regulation
- International Regulations
- Homologation of regulations (nations/áreas)
Advantages

- Standardized information flow and messages
- Reduction of in Transaction Cost, Paper, time and Human Efforts.
- Improvement in Data Quality and Integrity.
- Transparency of Information and reduction in frauds
- Improvement in Port security, Global Logistics Chain, Access to Information and better Communication with in the stakeholders.
- Process Automation and Standardization.
- Improved Track & Trace of Shipment / Consignment.
- Ready Availability of Accurate Information.
- ONE SYSTEM connecting ALL the cargo interests, there by saving multiple connectivity issues and.
- REDUCE TRANSACTION COST.
- AVAILABLE 24 X 7
Technology Used – state of the art

Port Community System Consists of Three Parts

• The Application Layer with the services
• A platform with the facilities common to all the services
• A central Database in which all the information that the companies & Govt. Authorities exchange via PCS

Systems are based on

• Standard n-tier
• Database (Oracle, Windows SQL)
• Web enable, browser based interface.
• Standard messaging types compliant with UN EDIFACT & XML
• Transport Standards (SMTP & FTP)
SERVICES PROVIDED THROUGH PCS - examples

- Vessel Schedules, Vessel Arrival / Departure Info, Port Call Announcement.
- Container / Cargo declaration, Cargo Loading / Unloading real time Information.
- Transhipment & Dangerous Cargo Declaration.
- Customs Manifests, Import and Export Advance Lists for Containers
- Information Relating to Customs declaration, clearance, Transit permits Container / Cargo Inspection,
- Cargo / Container Gate in/out information, Truck / Rail / Barge Pre arrival notification.
- Vehicle Booking System for Import / Export Container Receipt / Delivery
- Container Release
- Status of Container / Track & Trace,
- Booking Request / confirmation & Shipping instructions & generation of B/L
- Basic Information service for Ports, Customs, Statistics, Charts & Regulations
- Billing & Invoicing.
PCS provider – Portic - Barcelona

CRYSTAL BOX
Real-time information on the status of documents and the physical situation of a container through traceability of all relevant stages (date summary declaration activated, date of departure from terminal, inspections, SAD, etc.).

SHIPMENT CONFIRMATION
Real-time information on shipments included in the summary declaration.

CALLS
Information on port-call permit numbers granted by the Port Authority of Barcelona (anticipated calls and modifications).

STATISTICS
Personalized statistics on container traffic in the Port of Barcelona.

HAZARDOUS CARGO
Information about authorization of hazardous-cargo containers.

DATABASES
Updated information on all codes used by the Logistics Community.
PCS provider - Portic

**Tangible Advantages**

**Efficiency**
Loss of time required to search for and exchange information; fewer documentation errors, etc...

**Operating Costs**
Loss need for couriers, phone calls, etc. and resources for managing files.

**Technology Costs**
Costs of developing and maintaining applications reduced by using a platform that allows for connecting the different formats of different systems.

**Security**
Legal security by establishing a legal framework for the parties; commercial security by ensuring users in each company receive all necessary authorizations; and security in terms of data confidentiality by preventing unauthorized access.

**Growth**
Increased capacity to handle cargo by planning and programming in real-time, proactive management of incidents, etc.

**Customer Value**
Excellence in customer service achieved by offering new services, real-time information on the status of cargo, possibility of modifying transport services at any time, etc.
The PCS includes three main components:

1. The application layer services.
2. A platform with common facilities for all services.
3. A central database where all the information comes together that companies and governments exchange via Portbase.
PCS provider – Portbase - Rotterdam

MAIN BENEFITS

Greater efficiency, reduced costs

Through the Port Community System, Portbase offers over 40 different services for all links in the logistic chain. Each year, participation creates added value of up to €245 million for companies and removes the need for 30 million phone calls, 100 million emails and 30 million truck kilometres.

Open platform

Moreover, the Port Community System is an open platform. Other parties who serve a general logistic interest can also use it to provide services which deliver added value for the port community.
PCS provider – Dakosy - Hamburg