

BALTPORTS-IT

Project overview and general objectives

- Dissemination of research knowledge gained during the execution of the **EC projects AMCAI, DAMAC-HP and SPHERE** and regional project in the area of IT-solutions and simulation of harbour managing Set-up of the **Baltic sub-regional Competence Center** for promoting and supporting the distribution of research knowledge in the field of advanced IT-solutions and simulation with maritime applications, Riga (Latvia) Industrial customization and exploitation of the project results from **AMCAI, DAMAC-HP, ITMK and SPHERE** by involving user groups in the Baltic region Development of recommendations for the application of results and thus, creating new markets opportunities
- Creating opportunities for the training of specialists in maritime information systems design and port logistics by using **web-based technologies** and open-distance learning courses

BALTPORTS -IT: RESEARCH AND DEVELOPMENT GENERAL TOPICS

<ul style="list-style-type: none"> • LIS Technology for Maritime Information Systems Design • Simulation System of the Baltic Container Terminal • Simulation model of shunting trains • Information System for Marine Insurance • The book "Managing and Controlling Growing Harbour Terminals" • The book "Simulation and Information Systems Design: Applications in Latvian Ports" 	<ul style="list-style-type: none"> • Computer-based Generic and Customisable Simulation System for small and medium sized Ports. • Evaluation Methodology for Port Processes related to throughput and efficiency of container, Ro-Ro, dry and liquid bulk terminals. • Alternative Scenarios for the Operation and organization of Small and Medium Sized Ports. 	<ul style="list-style-type: none"> • Simulation system of Klaipeda Oil Terminal • Computer evaluation of conceptual project of Gdansk Container Terminal
Participants of BALTPORTS-IT consortium		
From AMCAI + DAMAC-HP	From SPHERE	From ITMK
<ul style="list-style-type: none"> • Fraunhofer IFF/FhG, D • Riga Technical University, LV • LIS, LV • OvG University Magdeburg, D 	<ul style="list-style-type: none"> ➤ University of Ulster, UK ➤ Warsaw University of Technology, PL 	<ul style="list-style-type: none"> ➤ Kaunas University of Technology, LT

Project SPHERE

Small/medium sized Ports with Harmonised, Effective Re-Engineered Processes

Objectives of the Project

The main project objective was to apply the principles of **“Business Process Re-engineering” to Small/Medium sized Ports (SMPs)**, i.e. to redesign the port processes so that these:

- are simpler, more effective, transparent and flexible;
- can fully exploit the competencies of modern information/communication technology;
- reflect the general shift from push (supply-driven) to pull (demand-driven) structures and, therefore, can better serve the SMP users.

On the basis of the re-engineered processes, a **generic operational and organisational framework was developed** (incorporating infrastructure, service and administration suggestions) for the efficient, reliable and flexible operation of SMPs as

- transshipment
- distribution service centres.

This framework supports the integration of SMPs into the **Trans-European Network** and the effective organisation and management of ports' logistics processes.

EDI as a ship port information interface - status of development and implementation in 2001 in Poland

1. Introduction and aims to be achieved

- Many Polish companies involved in shipping and transportation have been preparing to perform a trade of cargoes and shipments on-line: using structure and standards of EDIFACT messages, XML standards and Secure Internet (Web Forms).
- Currently there are about 40 various external “pilot” users of the port data bases in Gdansk area but many others are being connected all the time.
- There are many advantages for users of the Port Community Network:
 - saving time and administrative time
 - simplified clerk procedures and reduced working flow
 - getting new business and customers
 - creating new domestic and international business relationships
 - simplifying of customs and immigration cargo and ship clearance procedures etc.

2. Current situation

- Delays in information production and transfer should be reduced if the proper agreement is reached to make the maximum use of modern information and communication technology, e.g. the use of computers to prepare the required documents, sending copies over the Internet, by e-mail or through EDI. More needs to be done to facilitate the information flows.
- No tools for monitoring and controlling the movement of goods, the transfer of services and information flow as it was done in western ports that implemented Port Community Information Systems in 1980ties or 1990ties.
- Even there were not studied diverse requirements for information concerning cargo, goods and services by all involved parties in the value and transportation chain in Poland.
- quite a number of public authorities in Poland, small shipping and forwarding firms still maintain requirements which run contrary to these facilitation efforts, because of historical precedents, commercial inertia, difficulty in adjusting the methods of their control bodies, or ignorance of solutions that have been developed elsewhere.
- actual information flows - as it is in many countries - are at a point midway between signed and authorized paper documents still often filled in by hand, and the computerized handling of information. Most documents produced by computers are still sent by the traditional post office or fax to the other involved party.
- It still happens frequently that the goods arrive at the destination before the necessary information is available to enable the respective administrative officers or operators to perform their function.

3. Before implementation of computer-based information systems many tasks had to be performed, i.e.

- analyzing the processes,
- simplifying the requirements, harmonizing procedures and documentation,
- standardizing practices and introducing agreed codes for the representation of information elements.
- The benefits that could be derived from using electronic forms of the aligned FAL documents should be clear in that the respective formalities, documentary requirements and procedures are simplified and minimized manual work, “physical inspection of goods/containers” etc.

4. Scope of computer implementation in ports and their customers

4. 1. Subjects - main parties involved and computerized systems

A. Two Polish Maritime Offices and Harbour Masters (Szczecin-Łwinoujście, Gdańsk-Gdynia): *PHICS - Polish Harbour Information and Control System* - including such subsystems, as:

- VTS - Vessel Traffic System
- Identification System of objects on the Baltic Sea (external ports areas)
- Safety on the Sea, Dangerous Cargo monitoring etc.

B. Three Port Authorities: Szczecin-Łwinoujście, Gdańsk and Gdynia: *DYSPORT - Port Dispatcher's System* - including such subsystems, as (full internal implementation in Port of Gdańsk, only - being implemented in Port):

- Vessel Information System (cooperating with VTS system in the near future)
- Status of the ship and cargo service in ports
- Status of ship and cargo clearance (Immigration, Customs and other state administrative bodies)
- Planning of loading and unloading process
- Controlling of loading and unloading progress
- Inventory control of the port stores and shades
- Operational and reporting statistics etc.

C. Regional Customs Authorities Offices and:

ESOC - customs declaration and electronic SAD documents - including such subsystems, as (Port of Gdansk, only):

- Electronic announcements of goods (by forwarding agencies) to be prepared for customs inspection (non-standard EDI messages)
- Automatic updating of the customs office regional data base for analysis and statistics (using X.400 Protocol for electronic mail)
- planning of cargo clearance (according to documents or physical inspection by customs officers)
- *"electronic clearance of goods" is being prepared by Central Customs Office for the whole country.*

WOC - Port Free Zone in Gdansk-including such subsystems, as:

- Data base of all partners authorized to be active in Port Free Zone and agreements
- Customs cargo In/Out procedures
- Cargo loading/unloading
- Industrial activities within Port Free Zone
- Direct cargo handling (Ship-railway wagons, ship-truck etc) and control
- Check-In/Check-out gate procedures
- Inventory control of all goods within Port Free Zone etc.

4.2 EDI messages used or being implemented

A. Ship announcement and berth management (Port of Gdansk, only):

- EDIFACT message
- APERAK - to acknowledge the message

B. Container movements (Port of Gdynia, only):

- orders for loading/unloading operations

C. FAL Forms - XML format and Internet forms (being prepared in Szczecin and Gdansk):

First stage:

- General Declaration
- Cargo Declaration
- Ship's Stores Declaration
- Crew's Effects Declaration
- Crew List
- Passenger List

Second stage:

- Dangerous Goods Manifest
- Cargo Manifest

Business activities in maritime applications	User groups (Industrial partners)
Container terminal operations	BCT, IC*, KVJUD
Liquid chemical cargo terminal operations	VM
Liquid fuel terminal operations	Portgdansk, KVJUD
General cargo terminal operations	Portgdansk, IC*, KVJUD
Services operations supporting maritime activities	IDC IT

* IC – is an IT-organisation dealing with the maritime applications in the Tallinn Commercial Port Area.