Antwerp Port System

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1. Introduction on the PoA
2. The 4 basic port processes
3. The Antwerp Approach
4. Example applications
Location
The Port of Antwerp today

- Total area: 13,057 ha
- Quay length: 151 km
- Railway: 1,055 km
- Roads: 352 km
- Covered storage space: 545 ha
Second-largest European port
Employment

183,106 jobs

64,870 direct

118,236 indirect

Economic engine

- 19 billion euros of added value
- = 9,5% of Flemish GDP
- = 5,5% of Belgian GDP

Multifunctional port

- Logistics
- Cargo handling
- Industry
Containers:
European market shares per continent 2009

Antwerp | Bremen | Hamburg | Le Havre | Rotterdam | Zeebrugge

Europe

Asia

C/S America

North America

Africa
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PCS distinguishes 4 basic port processes

1. The nautical process
2. The notification of dangerous cargo
3. The customs process
4. Cargo transportation process
1. APICS: complex nautical process

- Antwerp Port Information & Control System

- Complex nautical process; many users involved:

  ⇒ Innovative port information system needed that:

  - Allows for efficient and safe traffic management
  - Reduces waiting times
  - Monitors all traffic in and around the port
  - Coordinates the planning of all related infrastructures (locks, bridges, …) and all related chain partners (sea, river & dock pilotage, river & dock towage, boatmen, …)
Scenario for a sea-going vessel approach
APICS

• 2 Member states
• 3 geographical areas
• 4 points of nautical entrance
• 7 locks
• 19 bridges

• AND

• > 800 users:
  – Port Authority services
  – Nautical chain partners
  – Governmental services
  – Port services
Daytime screen APICS
2. Dangerous Cargo

- Use of EDI mandatory
  - Messages:
    - IFTDGN: International Forwarding and Transport Dangerous Goods Notification
    - CANMES: Cancellation Message
    - APERAK: Application Error & Acknowledgement Message

- Operations to be notified
  - Pre-carriage, on-carriage (freight forwarders)
  - Loading, discharging, transshipment, transit (agents)

- “Complementary“ notifications
  - Freight forwarders and agents
    (aprox. 600 companies)
Dangerous cargo notification process
Existing dangerous goods application

| BERICHTNR | HAPAG 0010031 59 |
| INTERN NR | 104629299 aangifte |
| KORRESP.  | HAPAG HAPAG LLOYD BELGIUM |
| DOSIERNR  | Binnen 10/09/04 1516 |
| CNI NUMMER| 1 |

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<th>TOESTAND EN GEVAARSEIGENSCHAPPEN</th>
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B-Bijk. info  C-Cargo tank cleaning  E-EMS  G-Toestand & gevaar  H-Toel.HKD  O-Opmerking  R-Radionactiviteit  T-Techn. benaming  X-Detail  Z-Outen
NOTIFICATIONS

First level control
- Flashpoint does not correspond to the given class
- UN number and class are not corresponding
- Name of authorised person is not given
- ....

Second level control
Control on the contents of the messages:
- Reference to second party
- Name of the vessel is wrong
- Notification is not complete
- "TBN" items are not completed
- Quantity limitations not followed
- Are the special requirements on the operation followed?
  - Direct Transfer
  - Fire watch present
  - All parties involved notified

Third level control
Reports on alleged violations
Containers with dangerous goods on berth:
- No notification has been made
- Content of the notification is not correct or not complete
- Old labels are still on the containers
- Given containernumber is wrong
3. Customs Process

- PLDA = Belgian e-customs application

- In Belgium, importers, exporters and customs brokers are required to fulfill their customs formalities with the aid of automated customs clearing systems.

- EDI-messages:
  - CUSREP: customs conveyance report message
  - CUSCAR: customs cargo report message
  - CUSRES: customs response message
  - CUSDEC: customs declaration message
The complexity of the customs process

Same regulation and messages in the EC but large differences between member States in several domains

- Business logic
- Message standards
- Communication protocols
- Certification processes

<table>
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<th>Member state</th>
<th>System</th>
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<td>PLDA</td>
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<tr>
<td>France</td>
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<td>United Kingdom</td>
<td>Chief</td>
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NCTS is the common EC system for transit goods
Customs Process
4. Cargo transportation

Private companies IT-systems

- Container business is most automated, in the breakbulk sector there is still a lot of work to do

- EDI messages: examples
  - IFTMAN: notice of arrival
  - CODECO: gate report
  - COREOR: container release
  - BAPLIE: stowage position
  - COPRAR: loading/discharge instruction
  - COARRI: loading/discharge report
Cargo process

- Inland transportation
- Loading instruction containers or breakbulk

**Shipper**

- Booking of seafreight
- Booking confirmation
- Status information
- Shipping instructions B/L
- B/L

**Forwarder**

- Loading instruction breakbulk
- Sea-going vessel (permis d'embarqement)

**C-handler**

- Loading instruction breakbulk
- (permis d'embarqement)
- Loading instruction containers

**Liner Agent**

- > booking report containers on terminal & gate report
- <- gate in/out confirmation
- > Loading instruction containers and Breakbulk for sea-going vessels
- <- loading report (confirmation)

**Terminal operator**

- Booking confirmation
- Booking of seafreight
- Status information
- Shipping instructions B/L
- B/L

- Loading report incl stowage position / baylist

- Terminal operator arrival

- Pre-arrival notification (barge, truck, rail)
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What is the Antwerp Port Community System?

The Antwerp PCS is a cooperation between:
- Antwerp Port Authority
- Alfaport Antwerpen - Federation of Port Companies and Logistic Service Providers
- Private IT-sector (Descartes – Porthus)

The Port Community System gathers the network of existing systems and IT solutions who services electronic messages and information between:
- G2G
- B2G
- B2B
A seaport is more than a transit hub

- A seaport is partner in the total logistic chain
- Competition with other ports is about logistics and transport networks
- Customer wants a total supply chain solution
APCS: Mission

- APCS aims at:

  Enhancing the interaction between all actors in the logistics chain by facilitating and stimulating the **electronic exchange of information**

  Establishing more standardization by stimulating the **use of the existing ICT portfolio**

  Creating added value by improving the **efficiency of communication**

  Reducing costs and delays by improving the **efficiency of transport and cargo handling procedures** in the port of Antwerp and between the port and the hinterland
APCS

- **Development of a strong IT portfolio**
  
  - **Existing applications**: Bundling of already existing ICT applications and functionalities
  
  - **APCS applications**: Market-driven development of new applications, in cooperation with the private sector
APCS: website

– Today a wide portfolio of IT applications already exists

– This portfolio has been developed by:
  – Port of Antwerp in-house IT department
  – Private ICT companies
  – Individual port companies and service providers

➤ APCS will bring together all these applications under 1 umbrella, the “APCS website” (live May 30)
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1. E-Balie

- MASP – ECS: Confirmation “Arrival at Exit”: Terminal operator -> Customs office at exit
- Original application developed by a private company (terminal operator)
- White label application managed by APCS
- Facilitation of communication: Structures massive amount of information flows, links the container number with the movement reference number (MRN)
- Standardization in exchange of information: uniform platform for all terminals and clients
2. Customs release message

- Release message to the terminal operator
- No existing application => White spot application
- Scoping & functional analysis: APCS + CCS + Customs Authority
- Technical analysis, application building & testing: Private IT company
- Application management: Customs Authority
**Example: Customs release message**

1. **Declaration**
2. **Acceptance + Release**
3. **No link between Customs office and Terminal Operator**
4. **Customs release message**
5. **Consignee or customs agent**
6. **Terminal operator**
7. **Forwarder or Transport co.**
8. **Carrier or Agent**
9. **Port authority**

The process involves multiple parties interacting with a Customs office, releasing consignments through various stages, and ensuring compliance with regulations.
3. Pre-arrival notification

A. Pre-arrival notification trucks on container terminals

Trucking companies need status information about the container

The terminal operators need status information about the transportation planning of the trucking companies

Several container terminals now have their own IT tool to optimize this process.

The trucking sector asked for one uniform portal. APCS will build one portal for all the Antwerp container terminals

B. BTS2 pre-arrival notification barges on container terminals
Conclusion

ICT portfolio Port of Antwerp

APCS website

Inhouse IT dept
Port of Antwerp

Private IT companies

Port companies

Existing applications

Existing applications

Existing applications

APCS applications