



SMART Container Chain Management

*A “Single Window” Platform for
security & efficiency*



What is Smart-CM?

- An EU funded applied research project under EU 7th Framework Transport Research Program
among
- Industrial companies, Customs authorities and research institutes
in order to
- Acquire new knowledge on possible new solutions the technology can provide in solving real problems in d-t-d global chains security & efficiency.

in Global Container Chain Operation

World Container Trade 2006 (in mill TEU)



Globalization

- growth in developing world
- sourcing from low cost regions

Complexity

- complex supply chains with multiple actors

Competition

- drive for ever more cost efficient and responsive solutions

Growth ???

- continued surge of ocean container volumes on all trade lanes

Infrastructure

- port and hinterland bottlenecks impeding reliability of service

Energy

- decline of fossil fuel supplies
- efforts to mitigate climate change

Security

- post 9/11 legislation and regulation
- protection vs. theft & terrorism

Challenges in implementing security solutions

- Many Technologies available
- Different Procedures applied
- Lack of commonly accepted standards
- Fragmented business environment



Use technology for achieving increased security &.....

**transform the “burden” of regulation compliance to
an added value for transport industry...**

...through increased chain efficiency & visibility !



EU approach for Secured Trade

- **TOP – DOWN approach:** International cooperation Projects at governments level: The **EU-China SSTL project** between the European Commission (DGTAXUD) and the China government (China customs).
- **BOTTOM-UP approach:** Coordination among logistics & Technology Industry & authorities in the context of Applied Research Projects : **Smart-CM**, INTEGRITY,..... in order to :
 - Define Secured Trade requirements
 - Test efficiency of alternative technologies.
 - Identify viable business solutions for security
 - Achieve Standardization
 - Make Customs authorities & industry to choose what is better

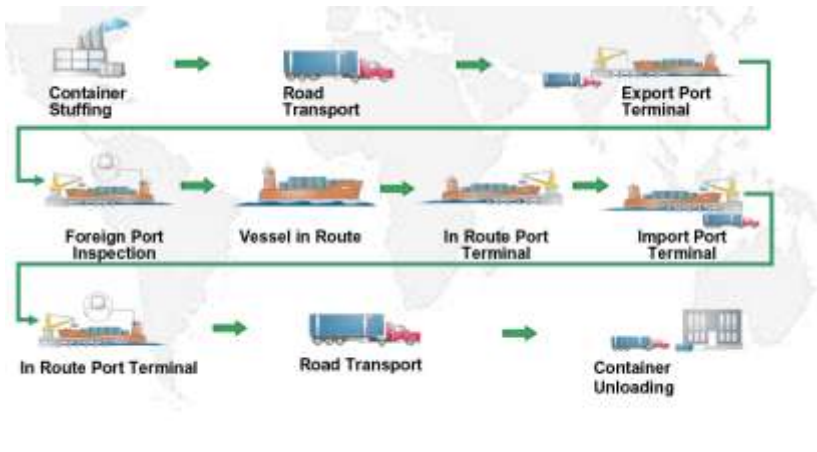
Green Lanes for Ocean Freight

WHY

- For logistics regions: Differentiation by logistics and technological innovation
- For industry: Lead time reduction, visibility, efficiency, reliability
- For government: Security, implementation of control measures

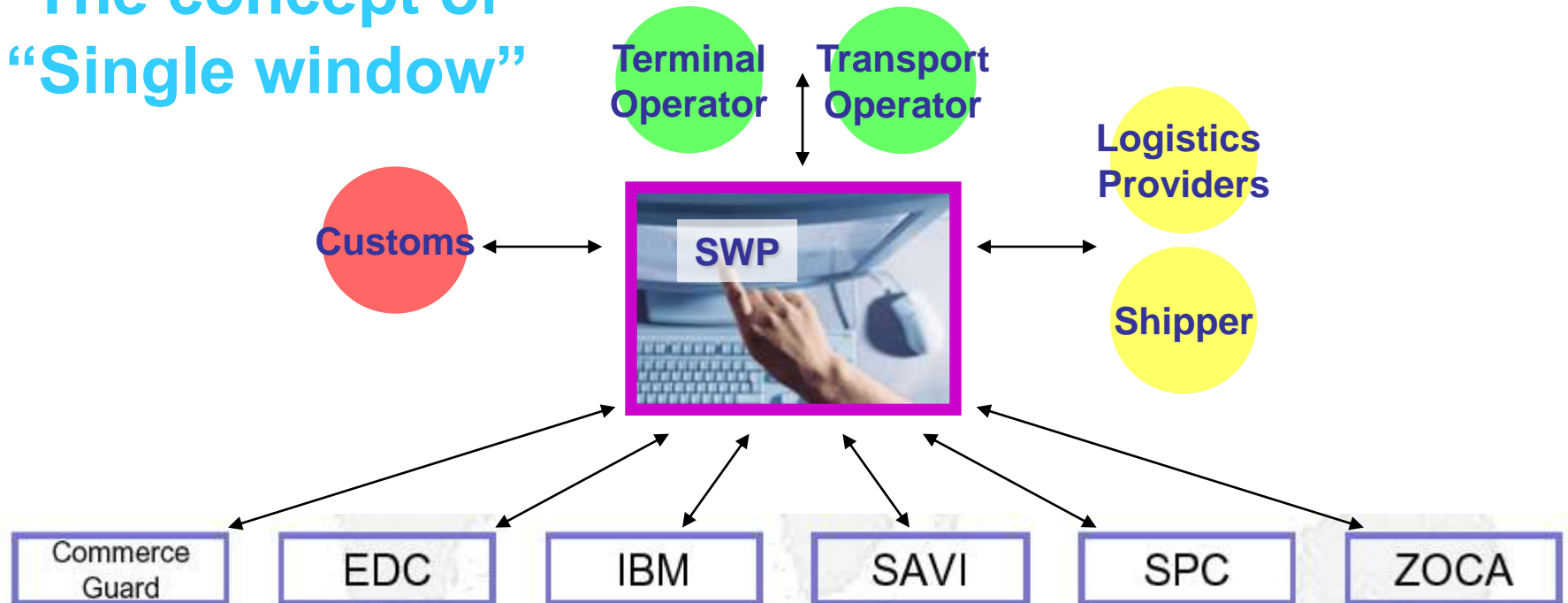
HOW

- Authorized Economic Operators
- Container stuffed, closed and secured with CSD's (container security devices) against unauthorized access en route
- Data transfer of cargo information for advance risk based assessment of inbound containers
- Accelerated customs clearance (green lane) of 'safe' containers on arrival
- Door-to-door monitoring and exception reporting on cargo flow and logistics activities



SMART-CM Response to challenges(2/5)

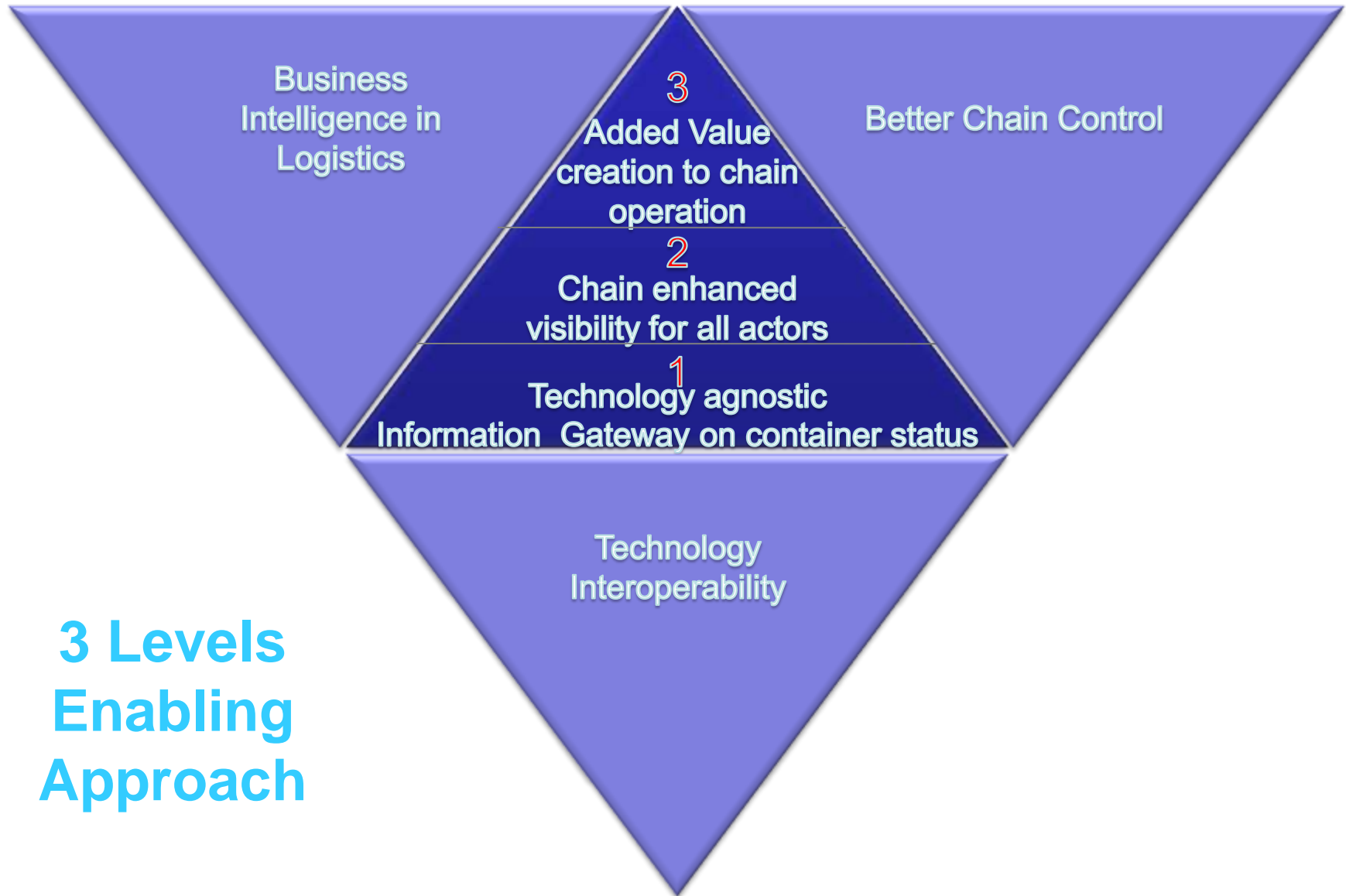
The concept of “Single window”



Container Security Technology (CST): active RFID / satellite comms / multi-sensoric units



SMART-CM Response to challenges(3/5)



Cross sectors Key requirements

Data requirements of customs and logistics actors

- Container integrity status based on CSD : **Container Security Devices**
- Details of cargo within the container
- Information on the executed transport chain
- Commercial and customs release status



Functional requirements of the logistics industry

- Transparency & visibility in the end-to-end logistics process
- Exception/event management
- Consolidation of entry/exit summary information



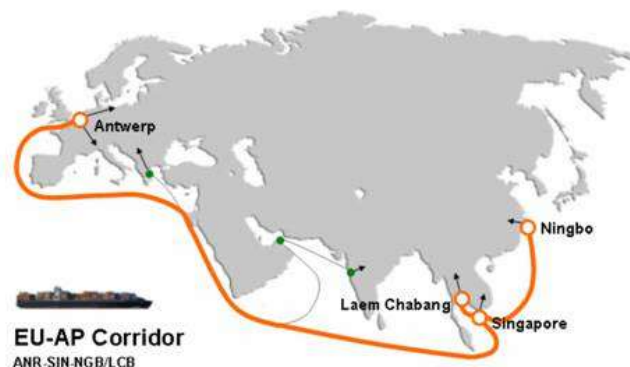
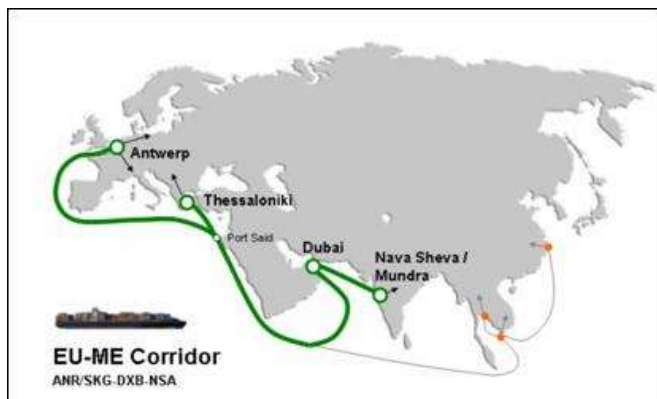
Functional requirements of customs

- Assignment of the cargo data to the container
- Detecting secure status of container in last terminal before EU

Operational requirements

- Single window to support unified operational procedures for authorized opening and closing
- Single window to support unified operational procedures for activation and deactivation

SMART-CM Response to challenges(5/5)



Real World Assessment of project solutions

Terminal, Transport Operators



Logistics Providers



Customs & Authorities



Researchers & Consultants



Technology Providers





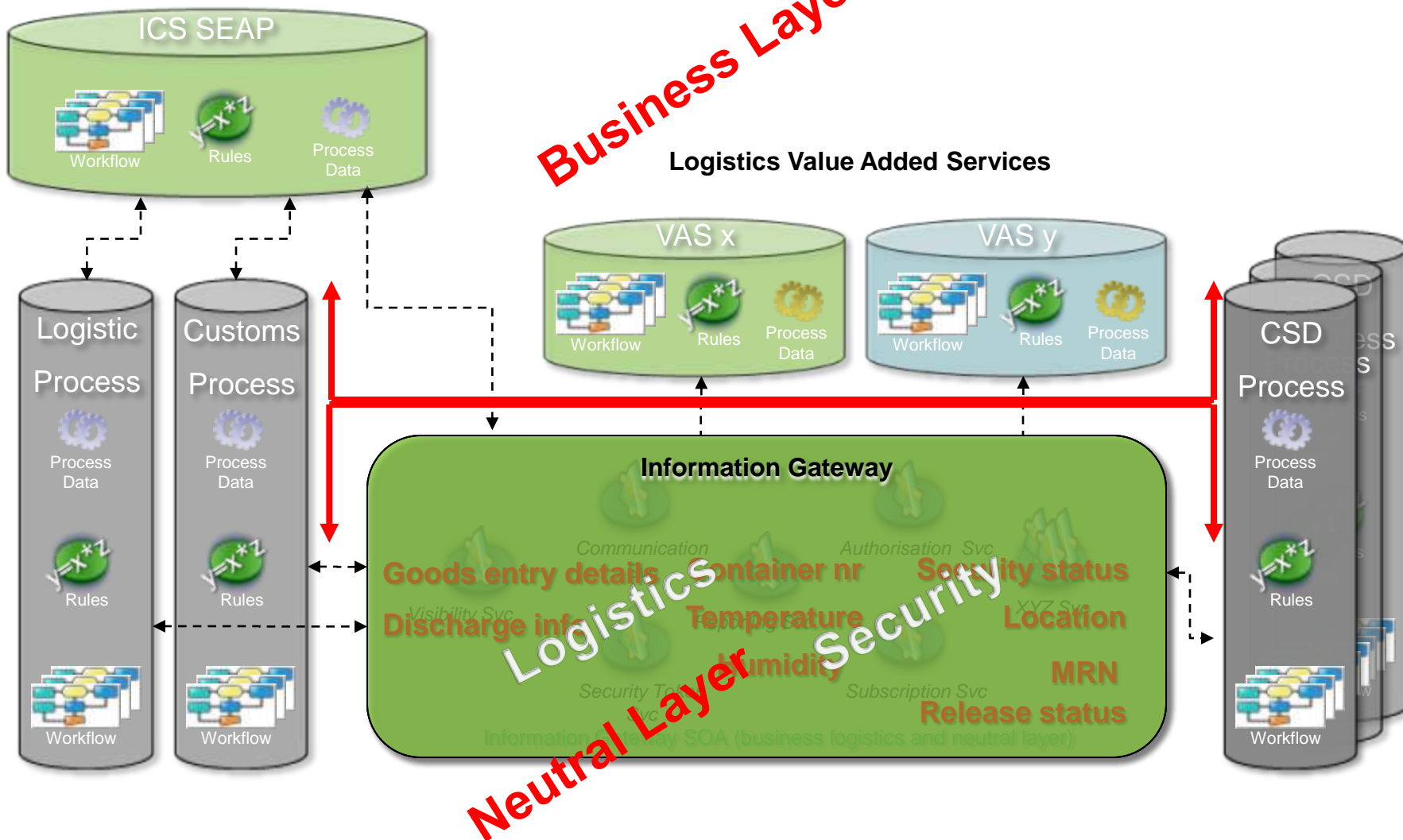
HOW WE DO IT...?

Smart-CM system vs others

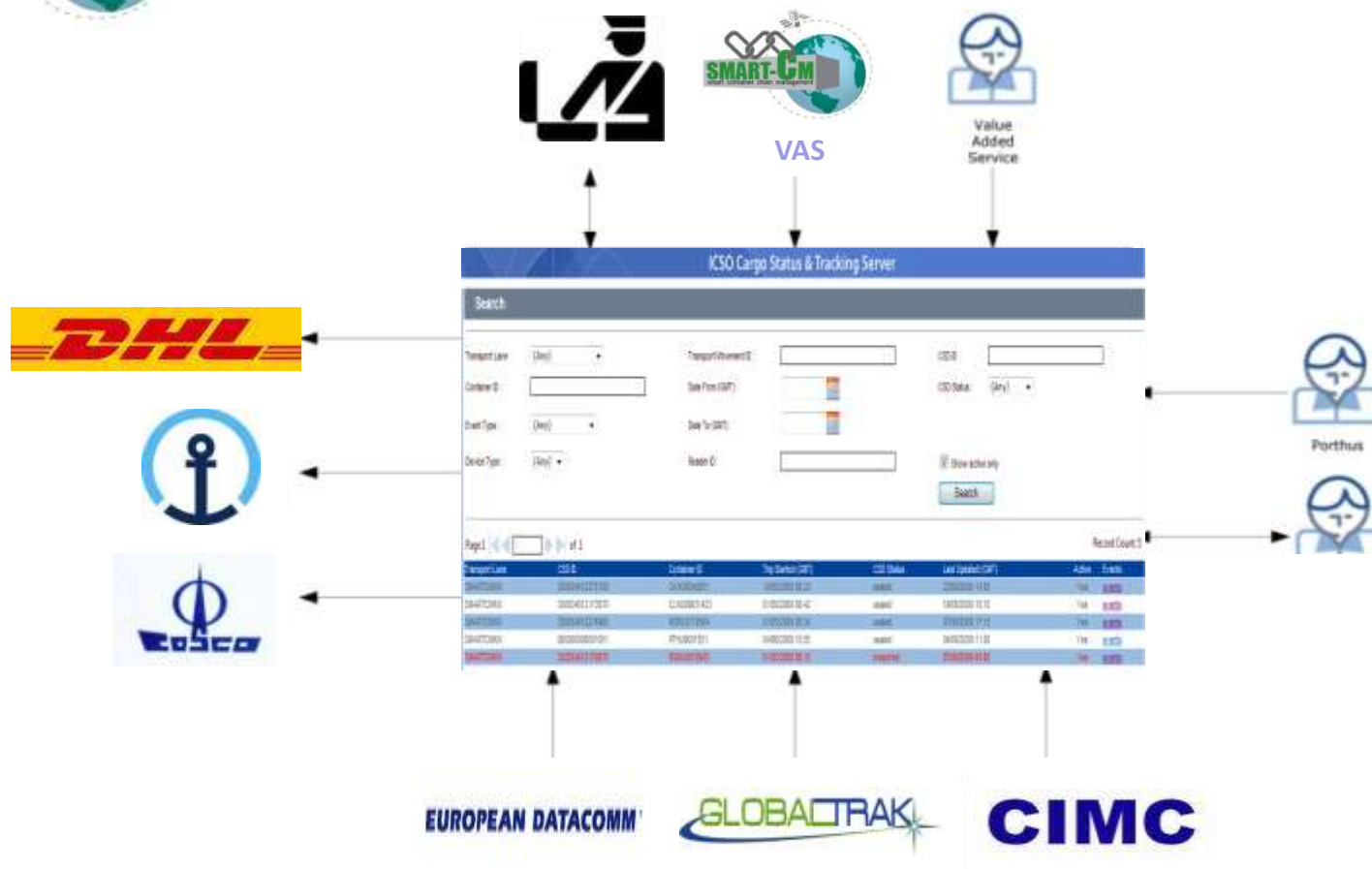
Import Control System - Single Electronic Access Point

Business Layer

Logistics Value Added Services

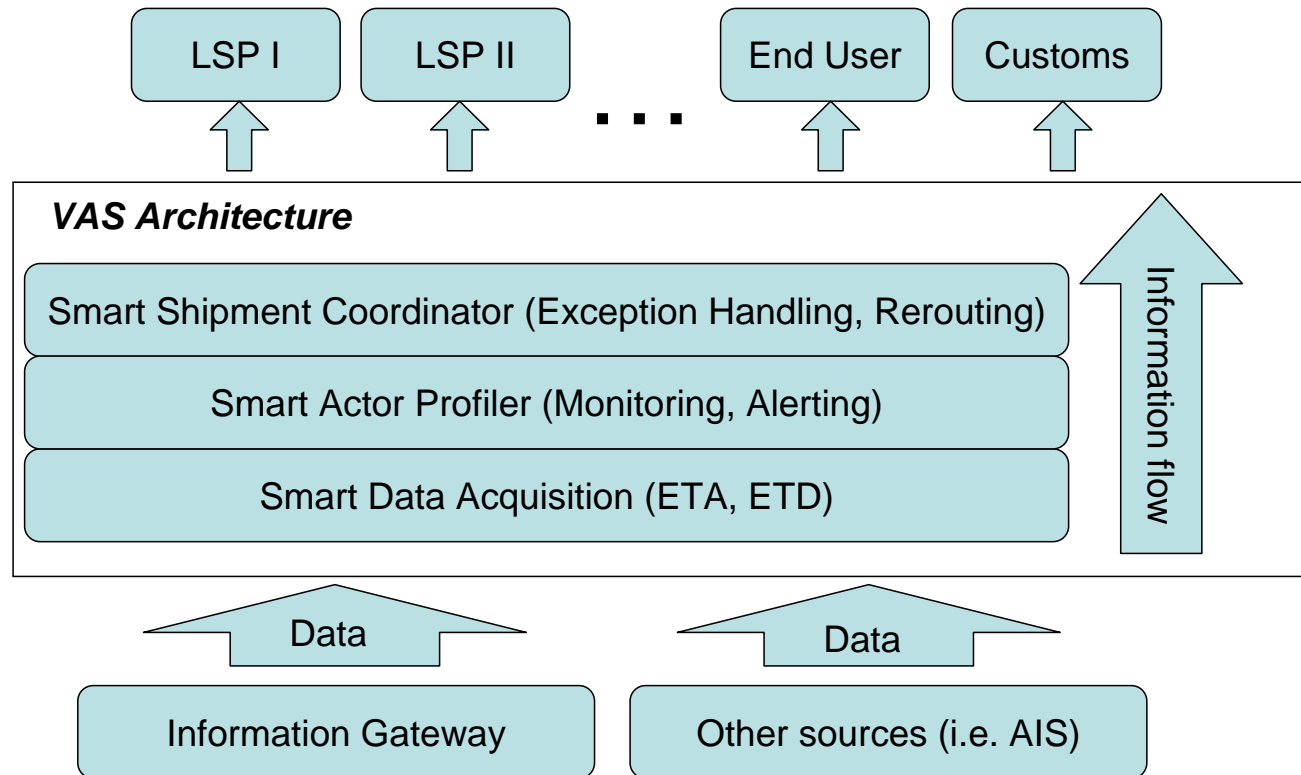


SMART-CM Platform in demonstration ...



- Only routing information according to preconfigured policies
- Advanced security model ('claims based security') and a service oriented architecture (SOA) to safeguard interoperability and security of data provisioning
- Single window facilitating unified operational procedures

Logistics VAS of SMART-CM platform



- Combine different sources of information regarding container position and status (e.g. CSD information, AIS, logistics stakeholders' input regarding loading/unloading etc.)
- Provides updates on transport chain progress (e.g. ETA updates)
- Exception handling mechanism to also notify on deviations (e.g. time/location/status thresholds deviations)

Neutral Organization for Guaranteeing Neutrality

Neutral interoperability

- No bias towards specific CSD technology providers
- No bias towards customs or businesses

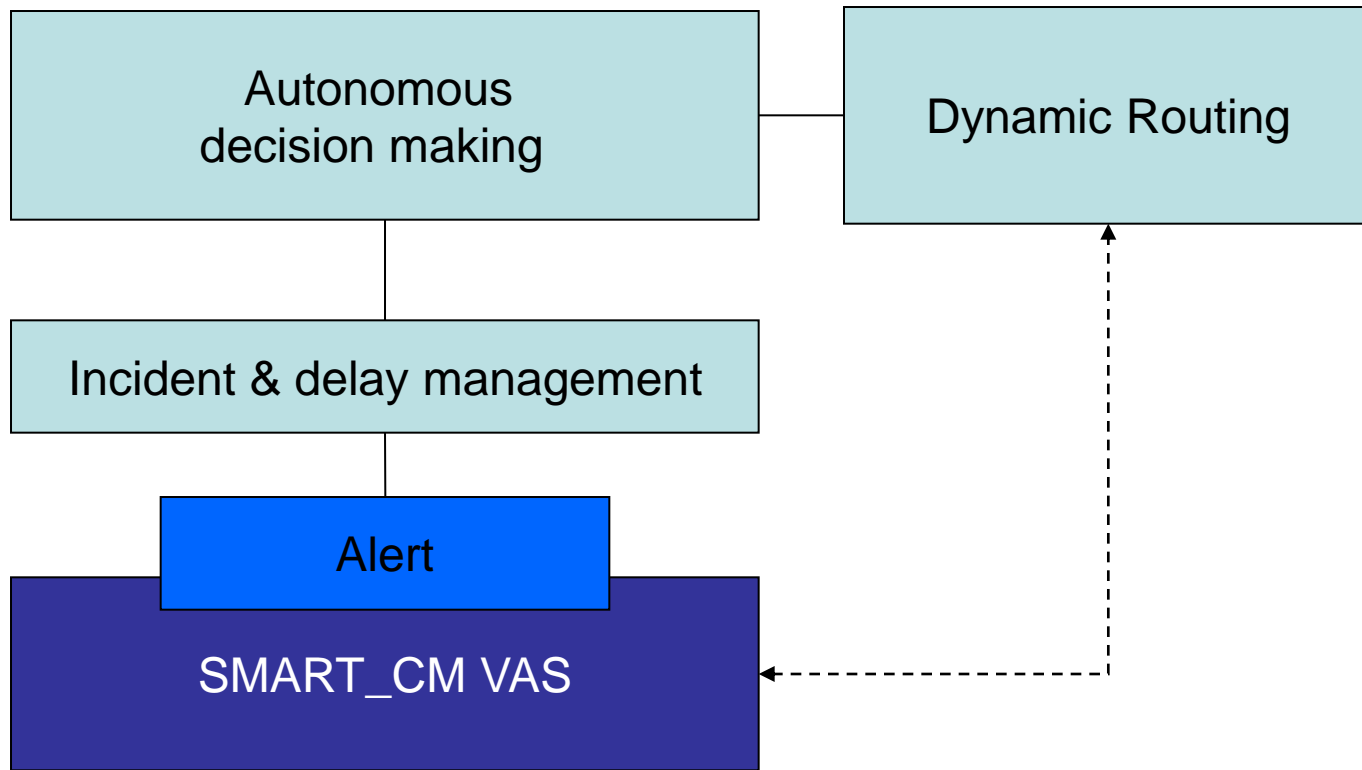
Neutral implementation

- testing data integrity along the whole process of security related container info gathering

Neutral information administering organization

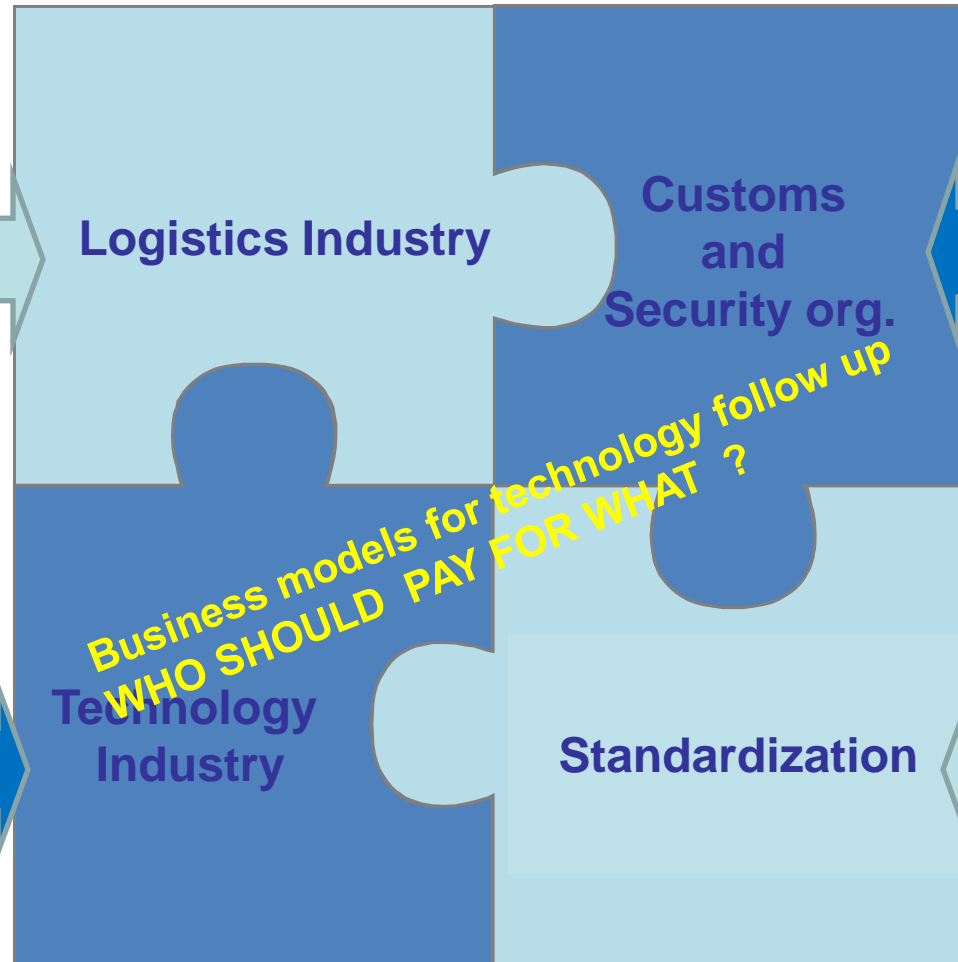
- Managing the platform and provisioning information from the neutral layer to the stakeholders

SMART-CM Advanced Logistics VAS



- *React on events and alter routing of the chain while chain is operated*
- *Provide a set of alternatives for modes of transport, service provider, storage grounds,..*
- *Value transport chain with alternative methods and criteria*

Project outcomes for each stakeholder



Comparative analysis of technologies

Technology independent solution for chain visibility

Customs ENS requirements independent solution

Logistics Value Added Services

Minimum characteristics of CDSs for complying with chain security & efficiency requirements

Results of Green lane concept implementation at global level

Technical solution for supporting common Customs procedures i.e. authorized opening of containers

Common Customs procedures

Standards for information exchange



The platform is operational...

porthus[®] ICSO Cargo Status & Tracking Server

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Logistics Visibility

Logistics Visibility

Logistics Visibility BETA

Map

Map Satellite Hybrid Terrain

deviation

Leg_Order

Origin	Destination	Transport Mode	Current Status	Event	ETA	ETA	Deviation	Leg_Order
Bonn	Bonn	Sea	OK	N/A	14/11/2009 12:00	N/A	0%	1
Bonn	Bonn	Road	OK	N/A	14/11/2009 12:00	N/A	0%	2

Further Information

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THANK YOU FOR YOUR ATTENTION