# Business model for administering platforms for sharing logistics information

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# Processes & use of e-Freight standards

# Process scenarios

*Scope & benefits*

Point of Origin | Port of Loading | Port of Discharge | Point of Destination

1

Arrival notification and Import manifest

**Sea/hinterland interface**

Container gate-out

Later closing time, pre-stacking support, …

Green light

Benefits for Planning

Benefits for Execution

2

CSD activation

**Secure trade lanes (Smart-CM)**

CSD deactivation

Visibility based on container tracking, terminal events & ship movements - security release

3

Shipment order

**Door-to-door co-modal transport chains**

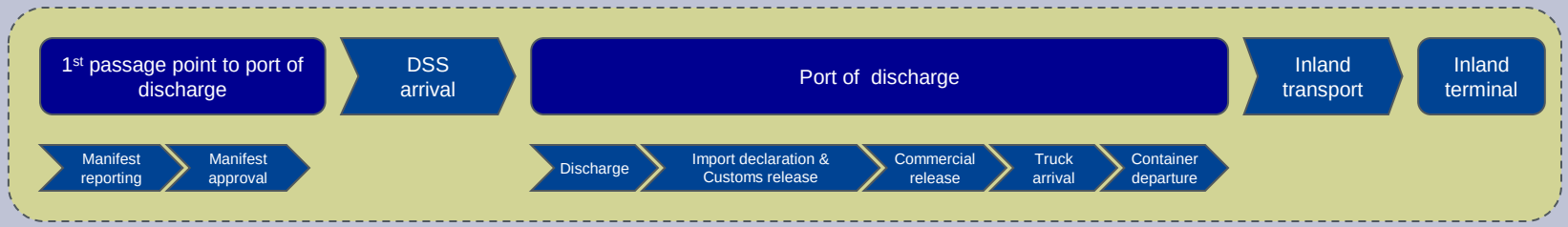
Proof of delivery

Cargo consolidation, rescheduling/rerouting

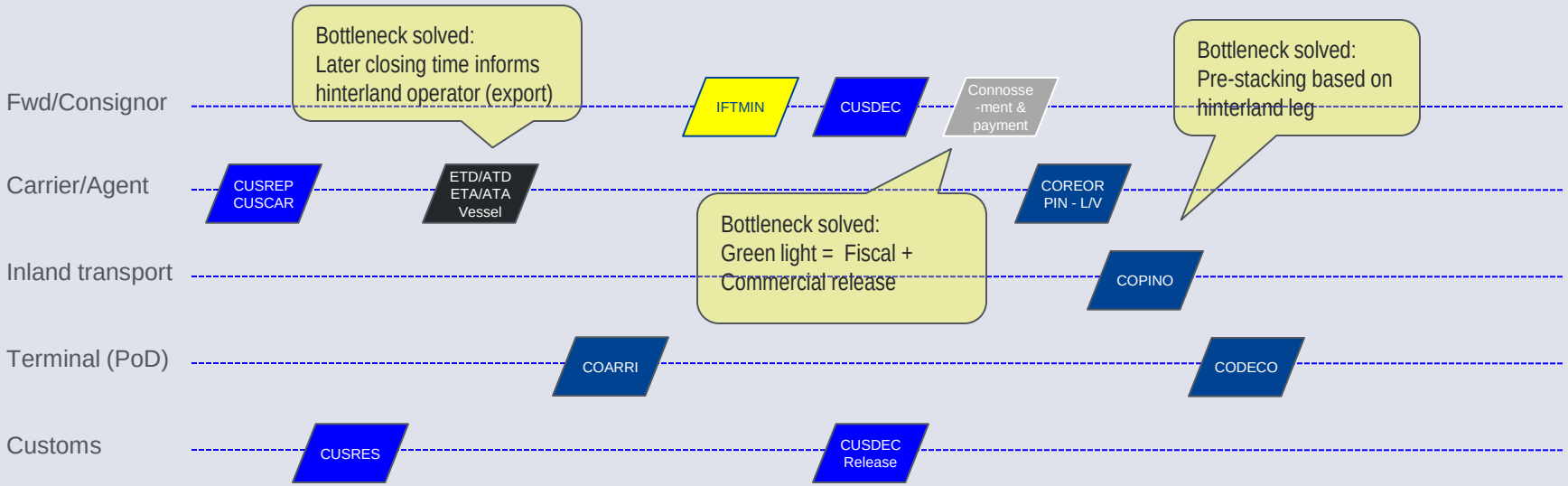
Visibility

# Sea / hinterland interface

Logistics Process



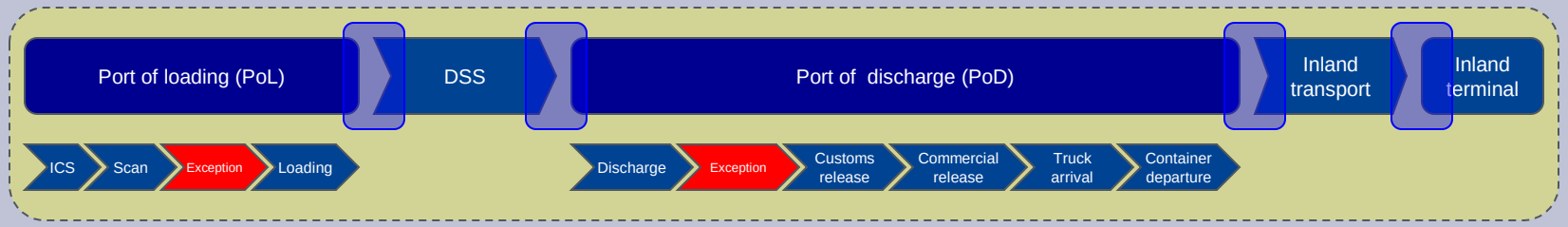

Information Process



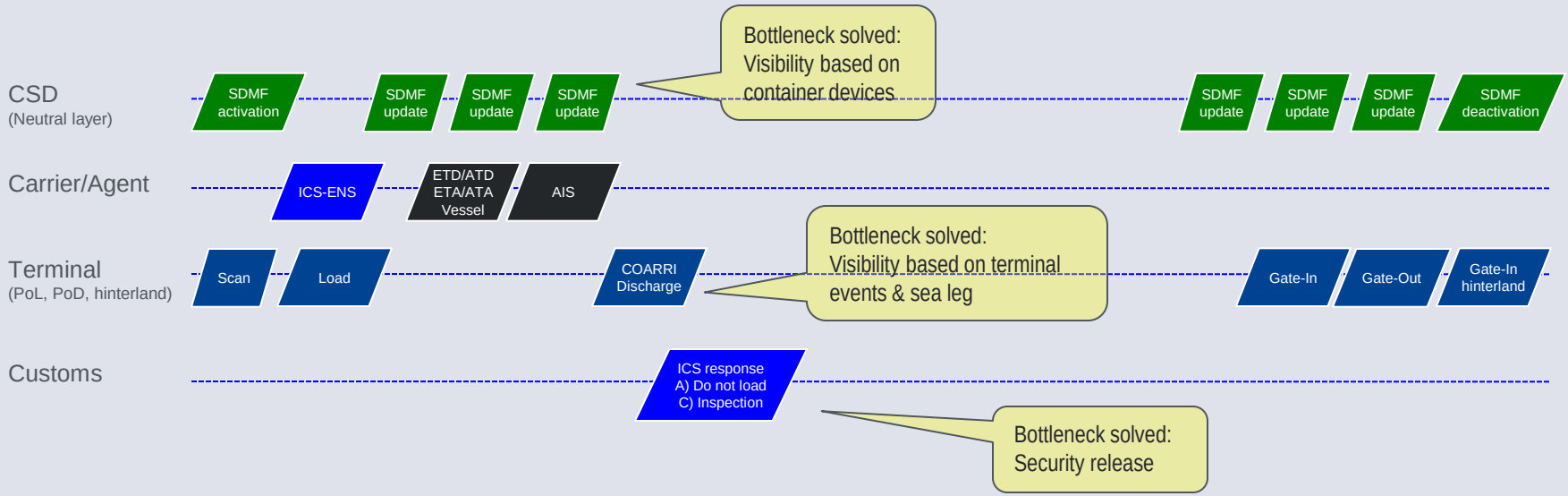
# STL: Secure trade lanes

## Smart-CM, Integrity

Logistics Process

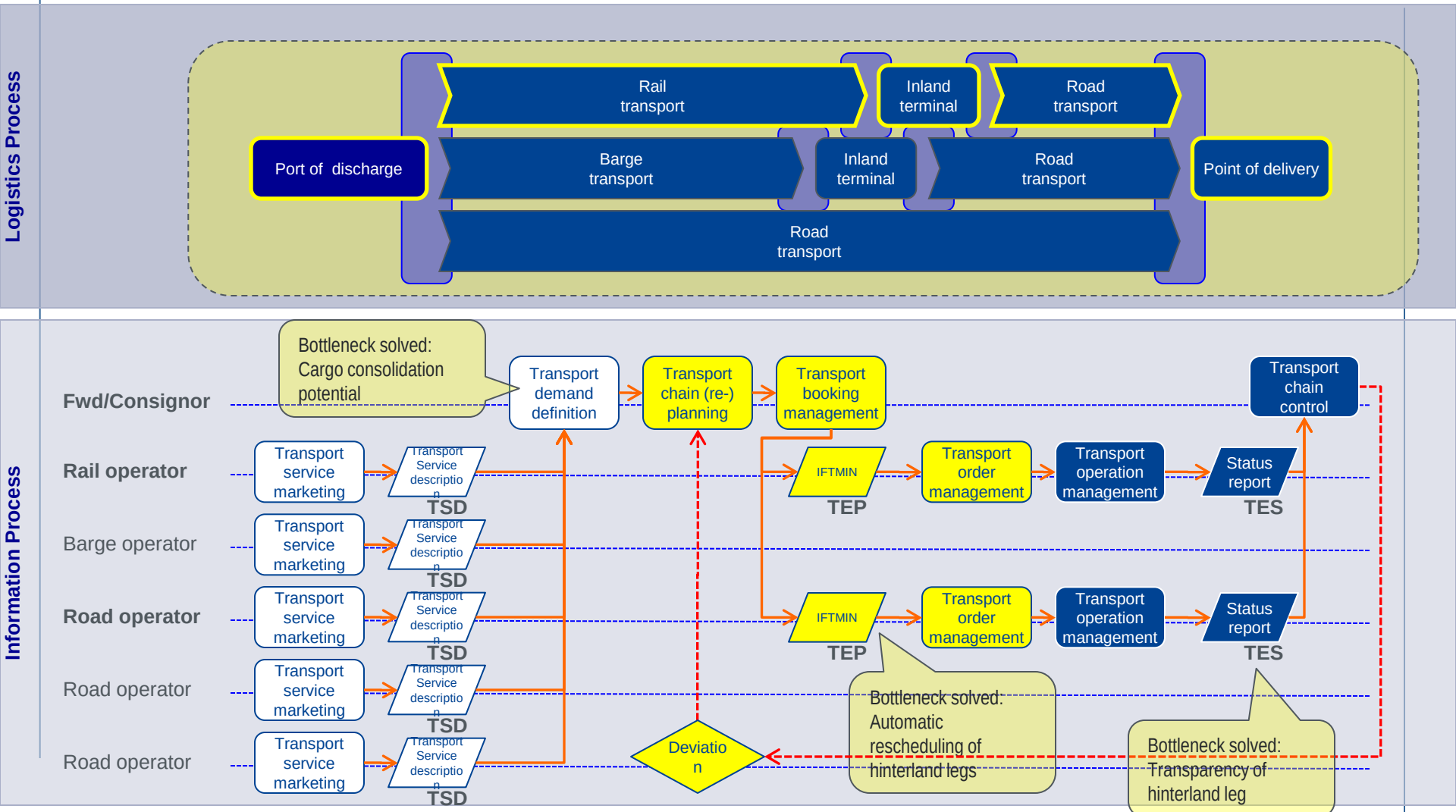



Information Process

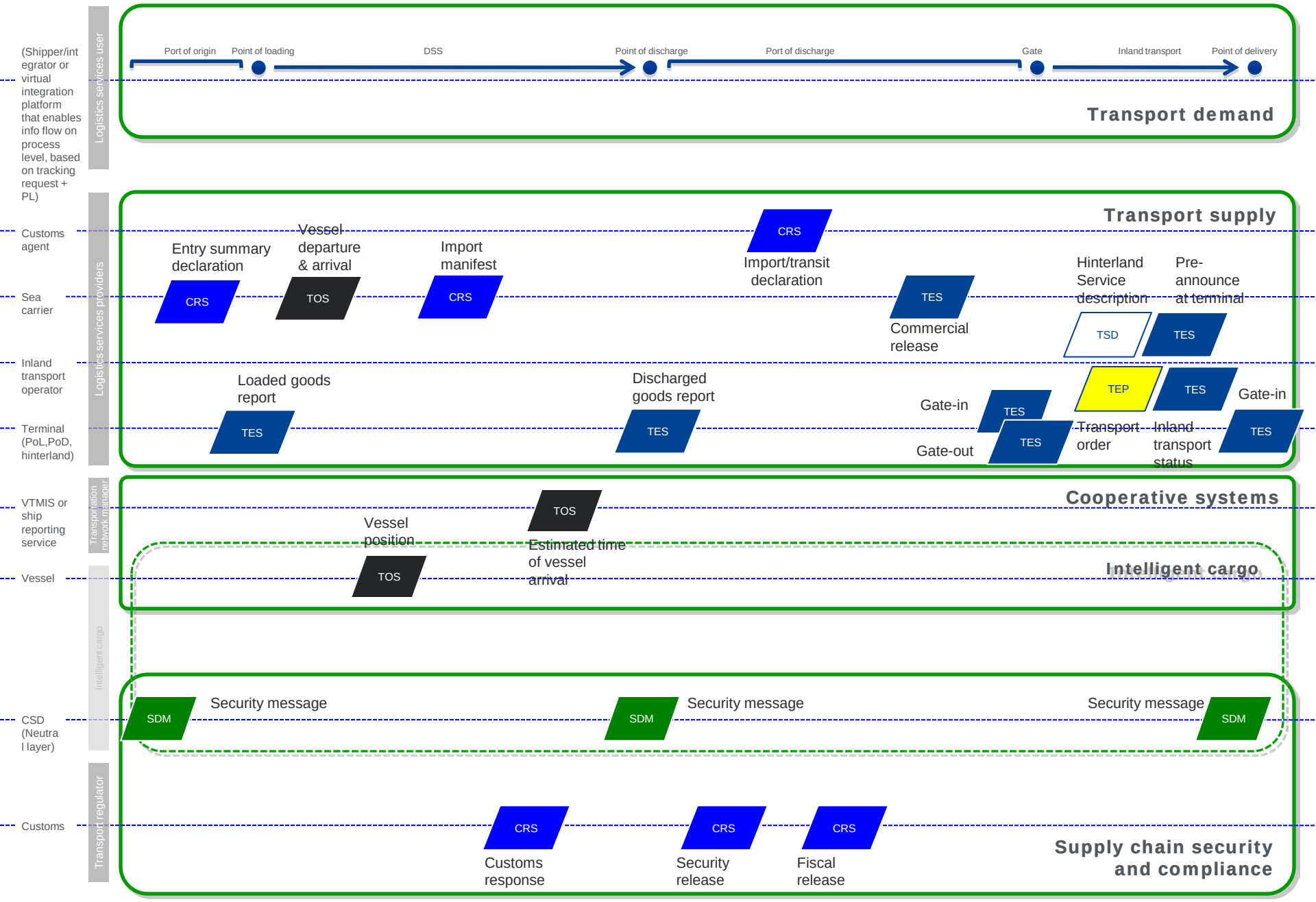


# Door-to-door co-modal transport chains

## Freightwise, DiSCwise



# Integrated scenario – *Using the Common framework*



# Quantified benefits

# Benefits

## *Average container values*

| Source | Average Value |
|---|---|
| Matthew O'Sullivan – IUMI 2006 | $80,000 - $210,000 |
| Munich Re: Estimate | $80,000 - $100,000 |
| XL Re Studies | $35,000 - $120,000 |
| Hyundai Fortune (Multiple sources) | $204,000 - $300,000 |
| MSC Carla (AIMU RI Committee Survey) | $74,000 |
| APL China (AIMU RI Committee Survey) | $211,000 |
| Guy Carpenter: Japan – LA | $90,000 |
| Guy Carpenter: LA – Japan | $30,000 |
| AIMU Reinsurance Committee | $95,000 |

| *Route* | *Average Value* | *Standard Deviation* |
|---|---|---|
| North America – Asia | $17,795 | $102,163 |
| North America - Europe | $28,480 | $76,081 |
| Europe - Asia | $21,663 | $89,863 |
| Europe – North America | $26,424 | $55,020 |
| Asia – North America | $30,477 | $41,517 |
| USA – China | $10,840 | $64,077 |
| USA – Japan | $77,144 | $301,929 |
| USA - Australia | $22,065 | $51,267 |

Best assumption we can make is that, for the Europe – Asia route:

- The average container value on the Europe – Asia route is EUR 20.000
- 70% of these container values will be smaller than EUR 85.000 (average +/- $\sigma$)
- 95% of these container values will be smaller than EUR 150.000 (average +/- $2\sigma$)

# Benefits

## *Short term benefits*

| Savings area | |
|---|---|
| Hinterland operator – Truck<br>*Less waiting times at terminal* | Applicable to 15-20% of import containers<br>x 20 minutes on average per container<br>x 50 Euro/hr waiting costs<br><br>*Calculation example:*<br>*Assumptions: Applicable to 15% of import containers*<br>*Result: Waiting time savings = 15% x 20 min x 50 Euro/hr*<br>*= 2,5 Euro per container* |
| Hinterland operator – Barge<br>*Less waiting times at terminal* | Savings are expected to be higher, as a single delay for 1 specific container can impact multiple containers in the barge, even though the waiting costs per container are less;<br><br>*Cal*<br>*Res* |
| Sea container terminal<br>*Less container moves* | 10-2<br>x 14<br><br>This<br>join<br>As s<br>qua<br><br>Cal<br>*Assumption:*<br>*- Applicable to 10% of import containers*<br>*- 15% less container moves*<br>*Result: Terminal savings = 15% x 10% x 144 Euro = 2,16 Euro* |
| Container carrier<br>*Shorter stay in port* | More efficient terminal handling will also lead to shorter stays in the port, resulting in less port dues;<br><br>*Calculation example:*<br>*To be prudent, we assume such savings not to be made on short term, as fewer container moves will probably first benefit the land-side not the sea-side.* |

Savings are in the magnitude of +/- 5 Euros per container as a result of efficiency gains for individual transport & logistics service providers

Best applicable to containers of less average value (10.000 Euro)

# Benefits

## *Long term benefits*

| Savings area | |
|---|---|
| Safety stock<br>*The reduction of stocks held in order to cope with variability in lead time* | Container value<br>x 7% p.a. (per annum)<br>x deviation multiple Z (= 2/3/4 for a 95/97/99% service level)<br>x reduction in lead time variability (σ)<br>+ 25% additional inventory carrying costs |
| Pipeline inventory<br>*The reduction of stocks held during transport* | |
| Service charge<br>*The costs charged by transport operators in the door-to-door chain esp. on-carriage services that have to be rebooked after deviations occur* | |
| Administrative labour<br>*The costs of forwarding, including the collection of status information and the use of that information when managing deviations; also the costs of compliance can be included* | |
| Pilferage, thefts<br>*The costs of goods lost or damaged* | x anticipated percentage reduction in insurance/liability costs due to device use (1%)<br><br>*Calculation example:*<br>*Container value = 100.000 EUR*<br>*Result: Pilferage/theft savings = 10 EUR per container* |

Long term benefits have focussed on improvement of the reliability of the logistics process. Examples:

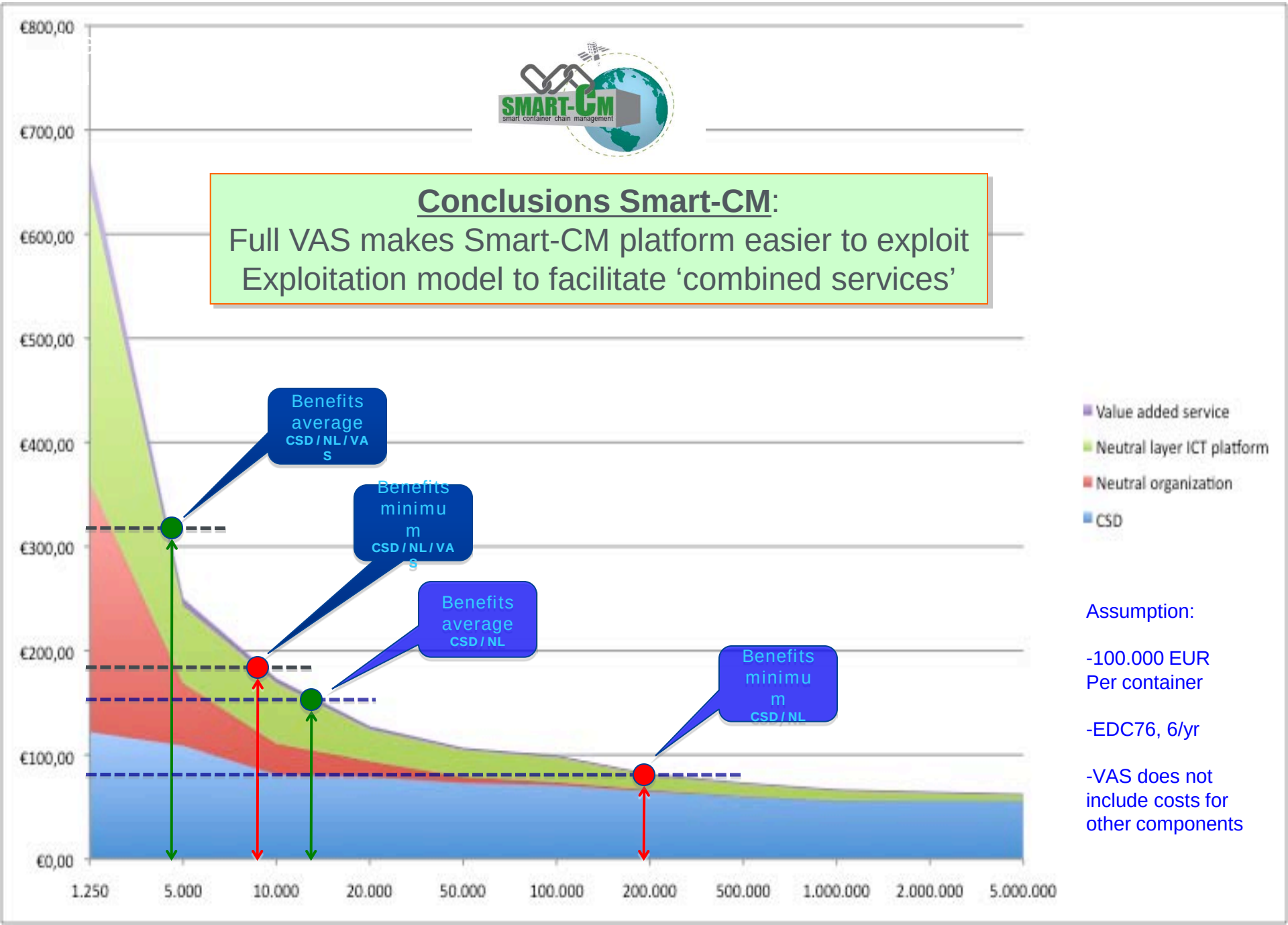
Ship missing, i.e. container misses loading on planned vessel
Unscheduled transhipment (to other vessel, late arrival in same PoD, changed PoD)
Delayed departure at PoL or arrival at PoD
Release status of the container
Timely gate-out at PoD

Savings potential is in the magnitude of +/- 300 Euros per imported container of value 100.000 Euro. Most of these (70-80%) are financial gains as a result of reduced pipeline & safety stocks, directly depending on the average container value. This affects working capital requirements.

This applies mostly to the shipper or beneficial cargo owner (BCO). If realized by the logistics integrator, he **may** be able to sell his services with a premium to shipper or BCO.

*It requires data that goes beyond the port. This is done either by deploying container tracking devices or by collecting alternative status data from transport providers and terminal operators in the chain. It may apply to a limited part of the imported containers.*

# Allowable costs




**Conclusions Smart-CM**:

Full VAS makes Smart-CM platform easier to exploit

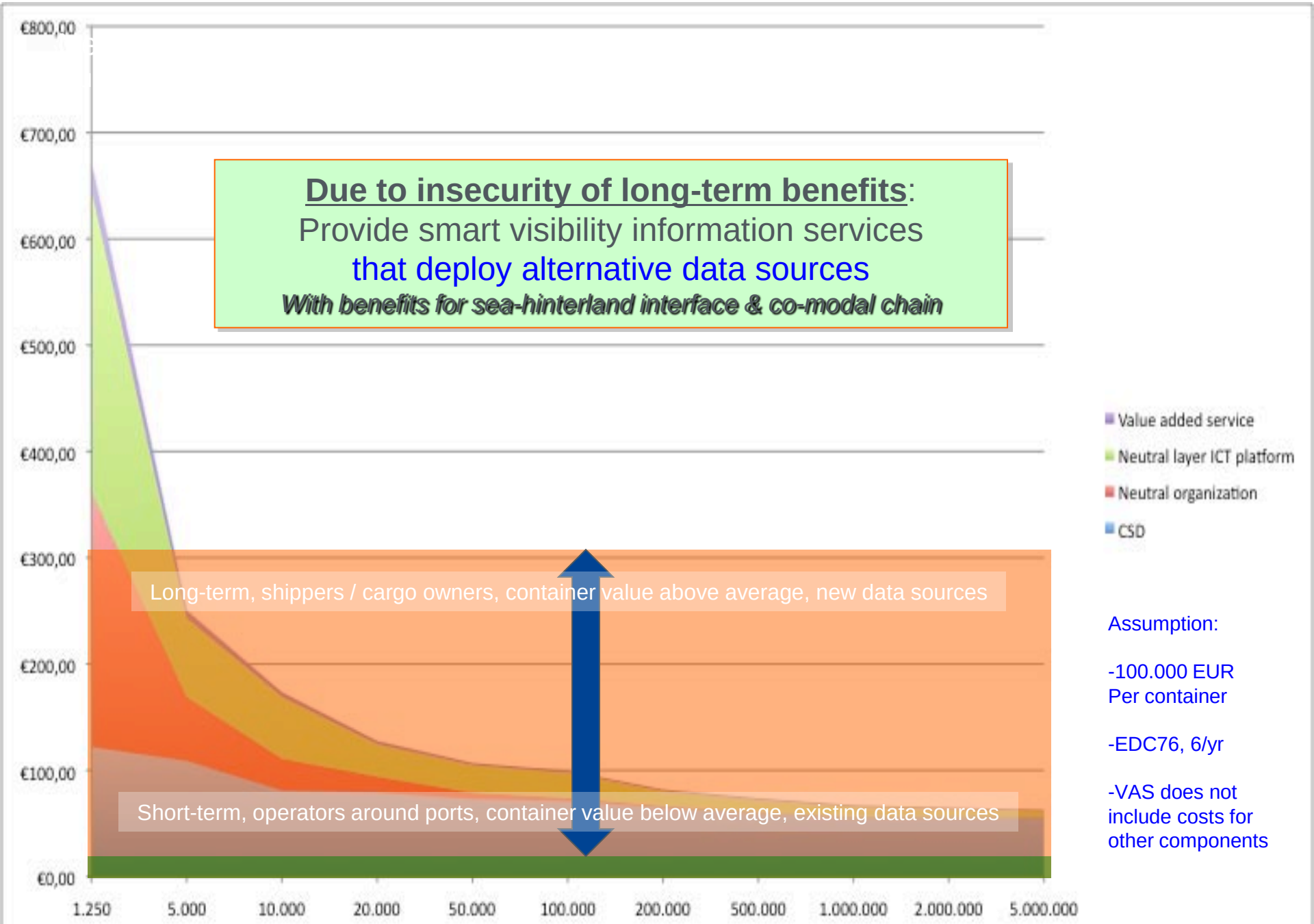
Exploitation model to facilitate 'combined services'

Assumption:

-100.000 EUR
Per container

-EDC76, 6/yr

-VAS does not include costs for other components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Due to insecurity of long-term benefits:
Provide smart visibility information services
that deploy alternative data sources
With benefits for sea-hinterland interface & co-modal chain
Long-term, shippers / cargo owners, container value above average, new data sources
Short-term, operators around ports, container value below average, existing data sources
Value added service
Neutral layer ICT platform
Neutral organization
CSD
Assumption:
-100.000 EUR
Per container
-EDC76, 6/yr
-VAS does not
include costs for
other components

# Collaborative information services

# Collaborative information services

*Driving forces for 'go to market' strategy*

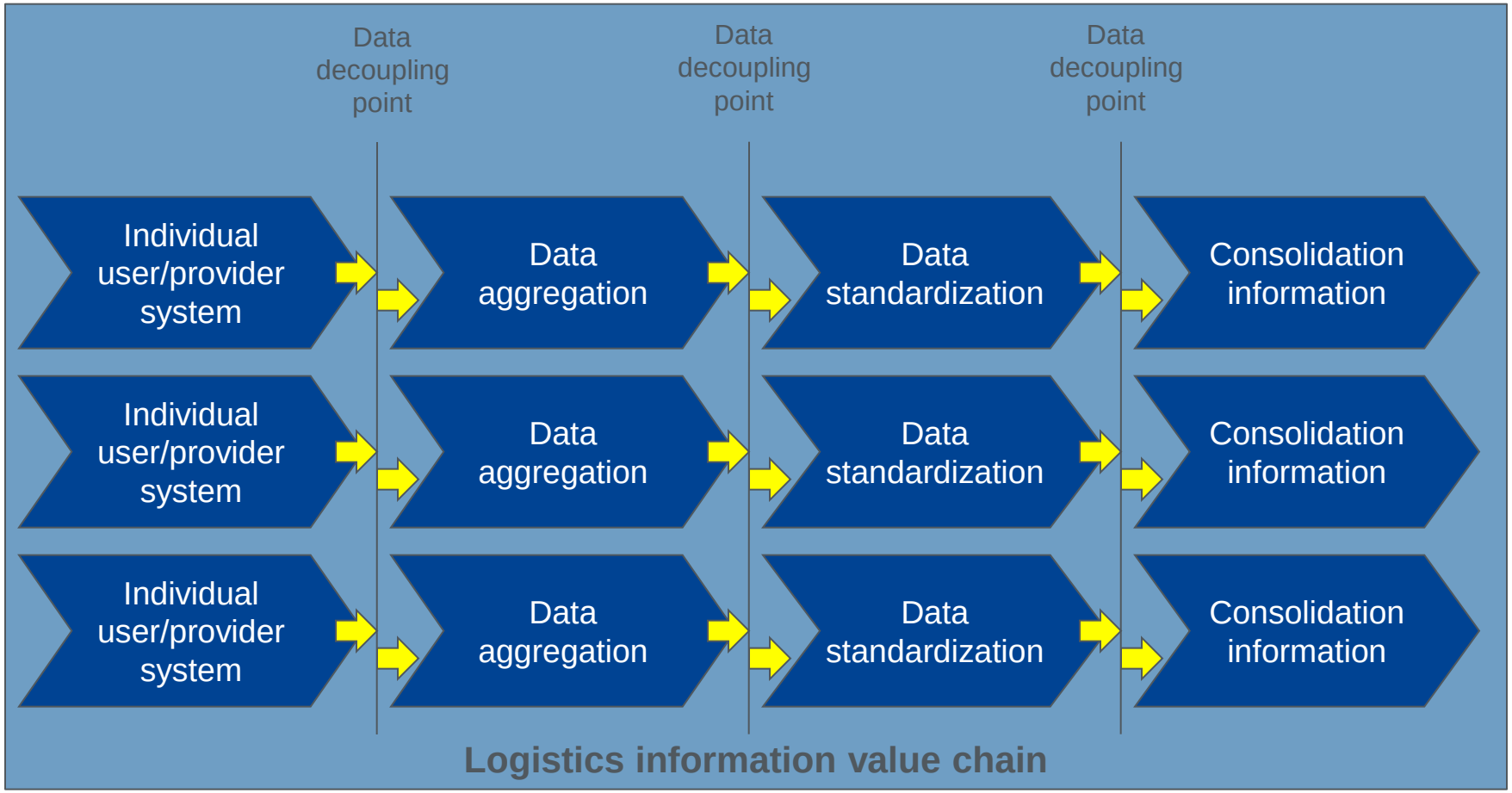
***Specialization to reduce development costs**:* Each of the product components mentioned has substantial costs for development. Specialization is a method to reduce such costs by creating economies of scale.

***Ensuring critical amount of data access**:* Access to data providers is important in order to make value added services functional. If there is no data to populate the VAS, then the functionality of the VAS itself cannot be used.

***Create footprint towards potential market**:* Apart from access to specialized data provides, access to large numbers of transport & logistics operators increases the amount of data that can be captured directly from the operators. It also simplifies sales if large numbers of shippers, beneficial cargo owners and transport & logistics operators are already connected.

# Collaborative information services

*Logistics information value chain*



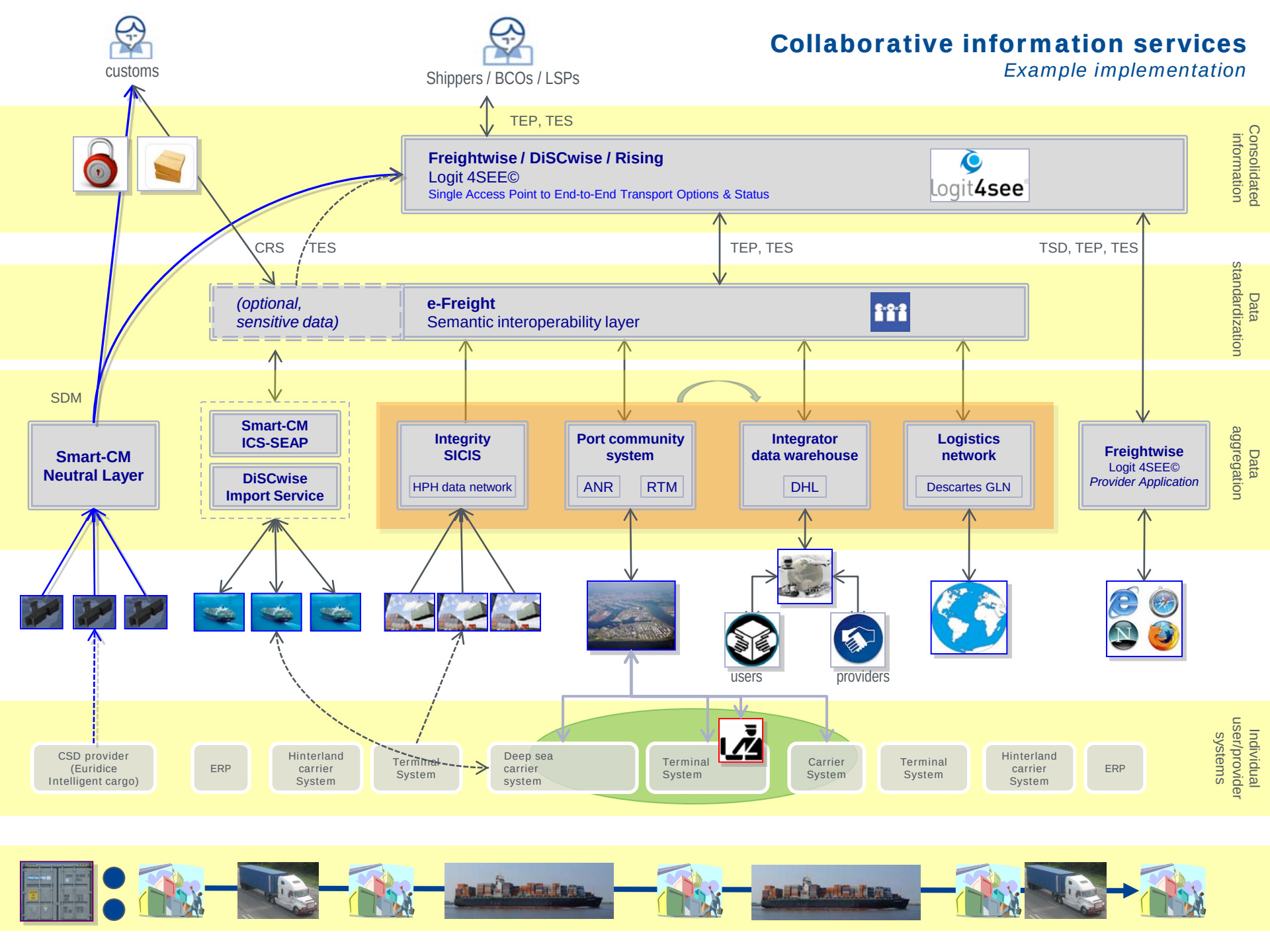

Added value:
Access to data
Access to users

Added value:
Low cost entry
Low cost substitution

Added value:
Higher-value information
Single access point

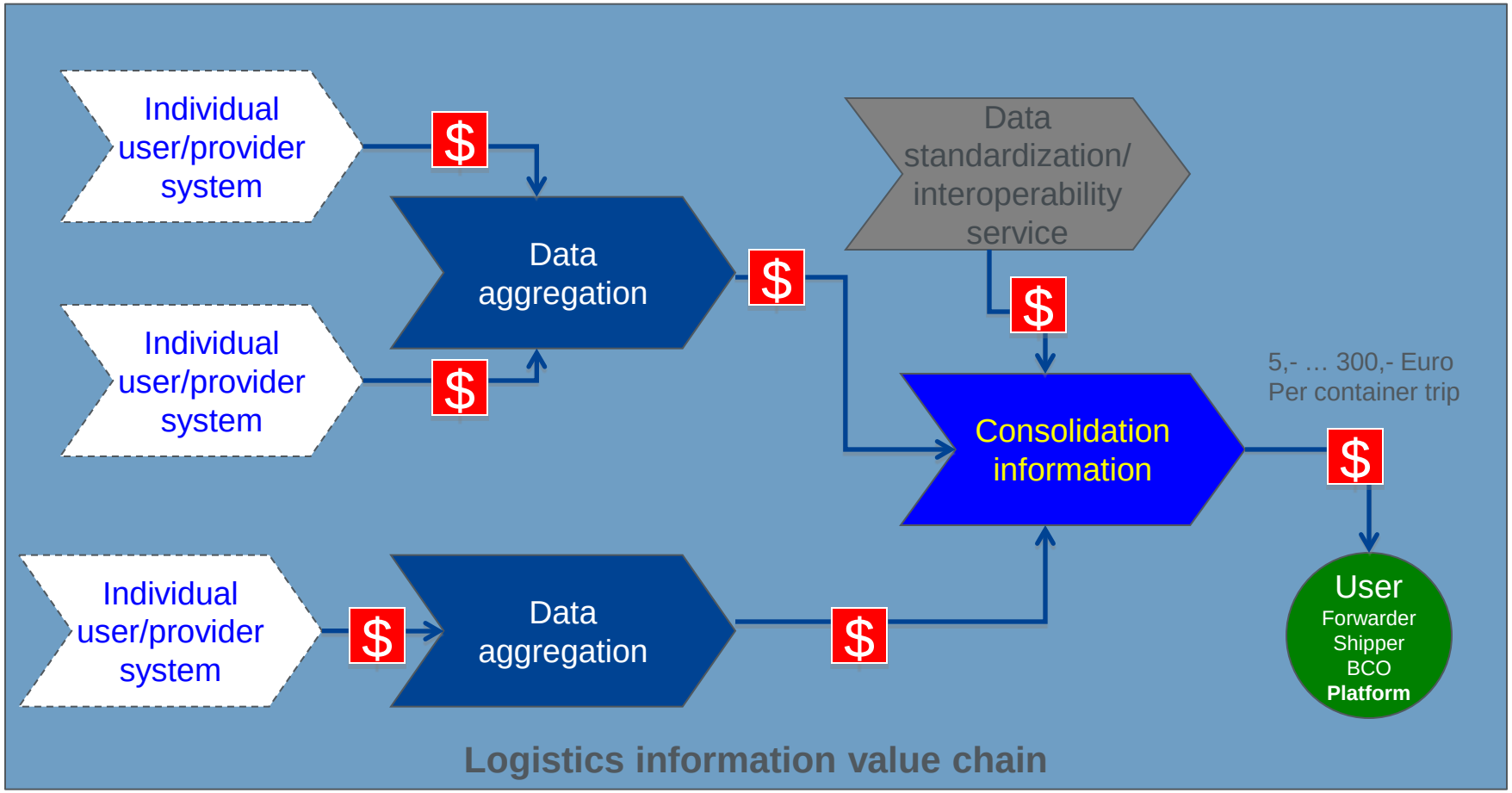
# Collaborative information services

*Example implementation*



# Collaborative information services

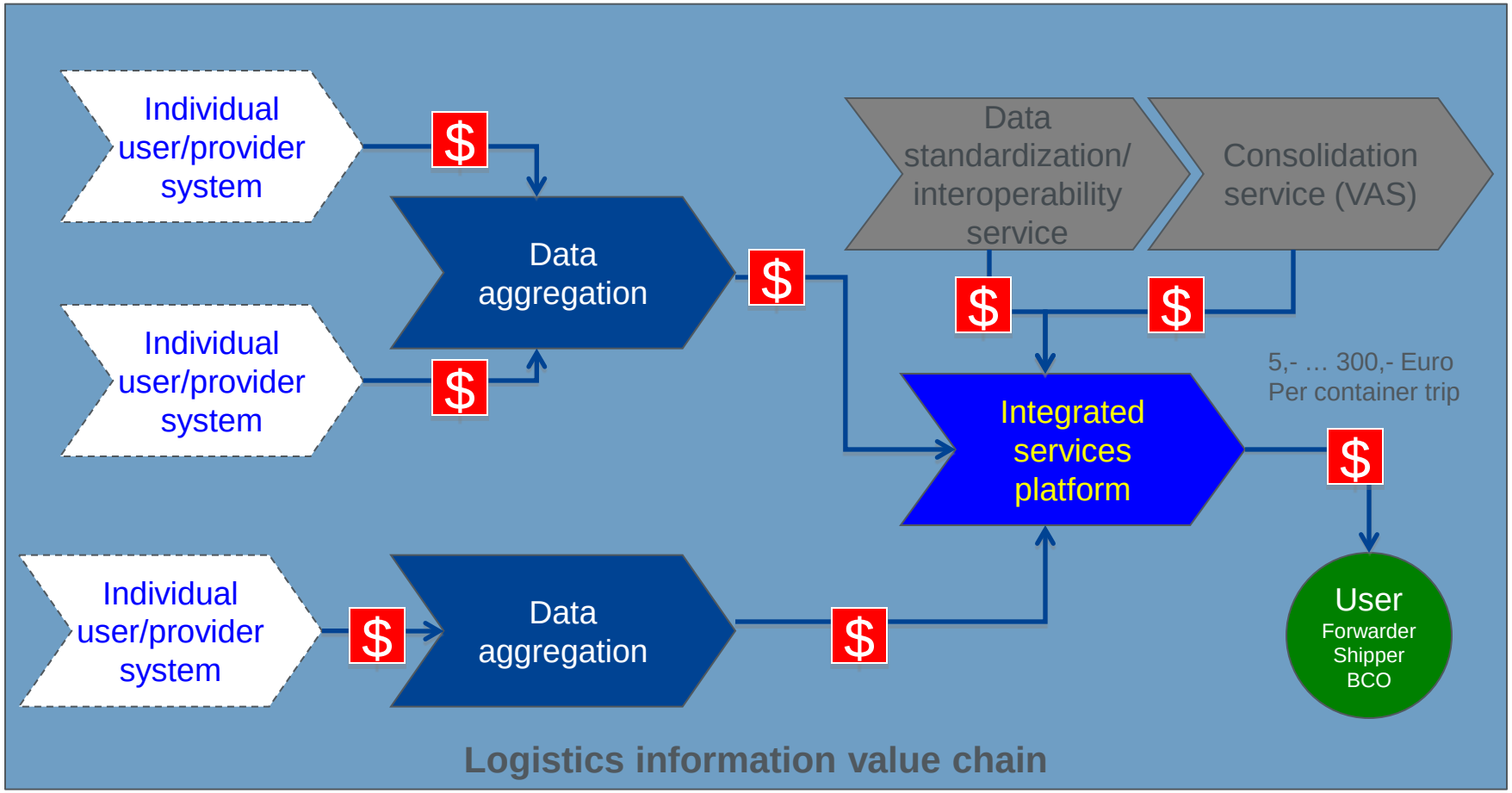
*Possible charging mechanism A – Functional integration*




COMCIS (26-1-2011)

# Collaborative information services

*Possible charging mechanism B – Integration based on footprint*



# Collaborative information services

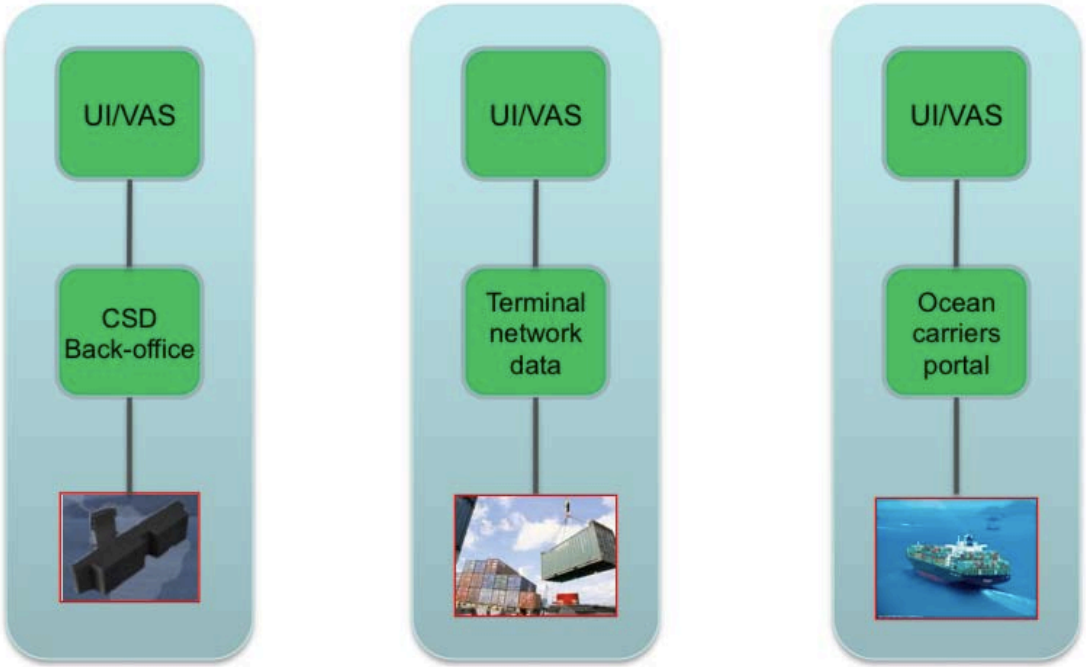
*Phases in approaching the market*

Short term:

A **bundling of product components** that ensures access to data & value added services;

Providers of individual product components are few;

Bring an offer to the market where all relevant components are included;



# Collaborative information services

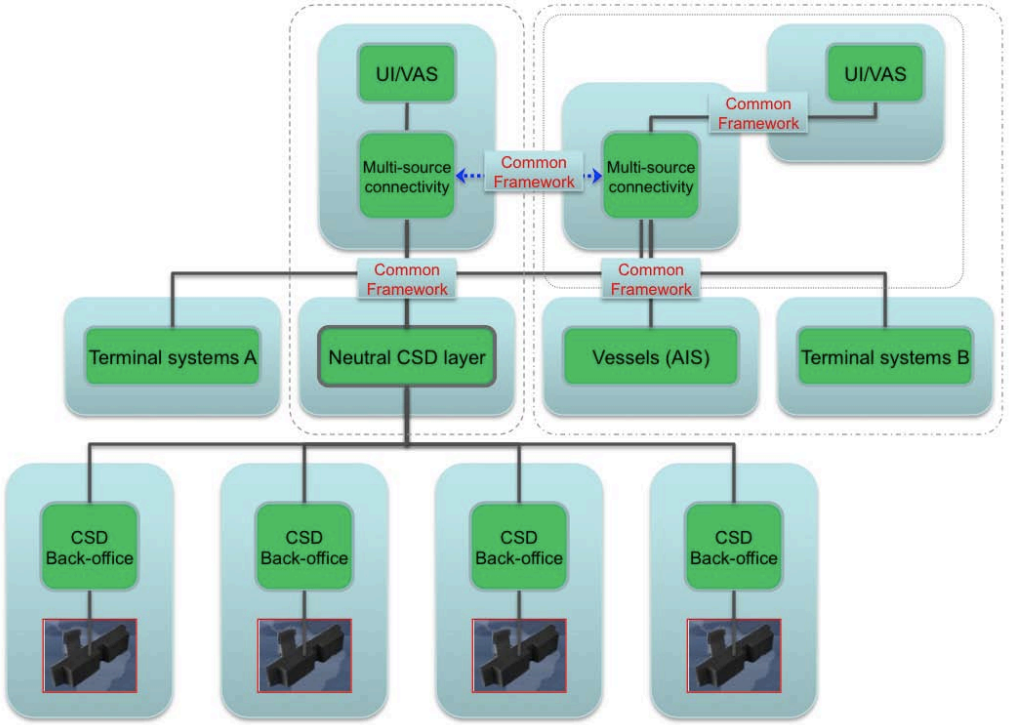
*Phases in approaching the market*

Mid term:

An **interoperable market** in which value added services establish **coalitions** (and agreements) for longer periods with data sources and connectivity services;

This enables **specialization** but at the same time ensures them of sufficient **marketing channels** to enable them to invest in further development of their specialized products;

As time goes by the interfaces between the individual product components will be more and more **standardized**;

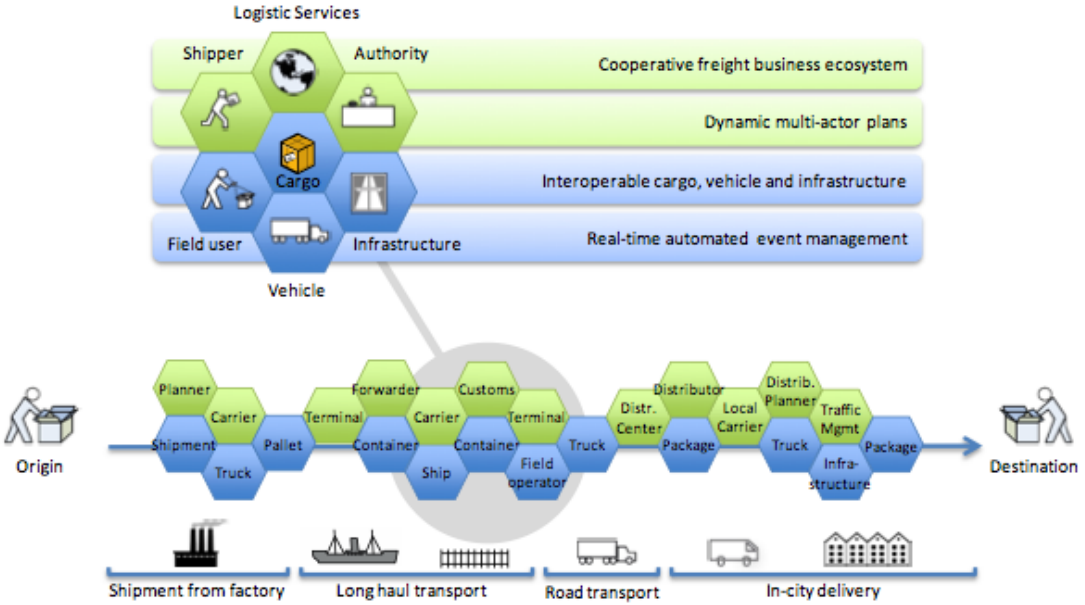


# Collaborative information services

*Phases in approaching the market*

Long term:

An **open spot market** in which value added services can be used to **discover** intelligent load and cargo units**,** data sources and applications, **configure** which data sources to use for which client or shipment, **settle on the terms** of use of data sources, and complete the cycle by enabling aggregated **billing** to the end-user;



# Collaborative information services

*Points of attention*

- **Data protection & sharing:** This should follow agreements between provider and user of data. One particular issue is reusing/reselling of data.
- **Accuracy & reliability of data:** This is a key aspect, as we are consolidation multiple data sources into information that should be able to support decision making processes.
- **Configurability:** The user should be able to select, dynamically, what data sources, services and features to deploy for specific containers, customers, trade lanes. In this way he can select data and features that match the expected benefit.
- **Quality of data:** In case multiple conflicting data sources are used, the user should be able to select which sources has preference. An audit trail should be provided as to what data was used to support which decision.

logit4see™

**One snapshot for logistics**
Consolidating data in the transport chain

**One single service**
to plan and follow up multi modal logistics chains
**Aggregation & correlation of data**
to cover blind spots & support decisions
**True visibility**
to proactively reduce impact of deviations

Thank you for your attention!