



The European Very high speed Rail Freight Network

April 2013

CONTENT

Part 1

Concept

Part 2

Railports

Part 3

Equipements

Part 4

Actions





1. Concept

Using the existing very high rail network to carry air containers or pallets



1. Concept



- Modal shift of air cargo actually carried by truck and short/middle distance flights to high speed trains ...
- 300 km/h on a range from 300 to 800 km
- Rail terminal « Railports » located **near by** existing **high speed lines**
- Within **airport premises**
- Efficient road connection to major highways and motorways.



1. Concept

Genesis



- Project initiated in Feb. 2006 jointly by **private and public** sectors;
- **Air freight key players** are highly supportive : others expressed strong interest



- **EU supported project** also supported by local, regional and national government in each participating country.



1. Concept

Rationals

- An **innovative transportation mode** ;
- Using **the high speed rail network** for freight transport ;
- A solution to **the dramatic energy price increase** problem ;
- An enhance **security** for freight transportation ;
- **Reduced carbon footprint** ;
- **An business development agent** in the terminal area ;
- A solution to European strengthening of regulations :
 - **Night flight bans** ;
 - **HGVs traffic restriction.**



1. Concept

What type of freight ?

Relevant : - **Express Freight**

- **High added value goods** which can bear express rates.
- **Unitised** goods
 - **Perishable** goods
 - **Expensive** goods requesting **anti theft security** (computers...)
 - Examples : fresh food / medical products - spares - ...

Non relevant : - *Heavy or bulky freight*

- **Low priority** freight
- **Hazardous** goods



1. Concept

A sustainable project

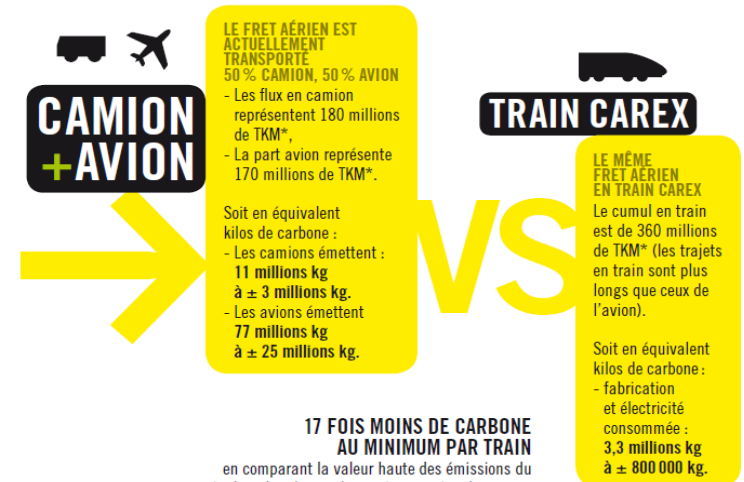


→ Highly positive carbon footprint

CAREX trains will generate minimum **17 time less carbon** than similar truck and air transport.

Comparing the highest range of values of the trains to the lowest range of truck and planes, **the ratio** amounts **52 times** in favour of **train CAREX**

(carbon footprint analysis made by the French environmental agency ADEME in 2006)



Source : Etude de faisabilité/2006/Elcima/Sigma

*TKM : tonne-kilomètre : unité de mesure de quantité de fret.



1. Concept

3 SERVICES

→ **EXPRESS :**

Unitised or palletised flows with reservation on a dedicated train, **D+1 delivery**, with guaranteed delivery time and volume commitment

⇒ **Highest rate, similar to air transported air freight**

→ **FAST :**

Unitised or palletised flows with reservation on a dedicated train **upon availability, D+1 delivery**,

⇒ **Rate = to van + 15 to 20 % to target road transported air freight**

→ **DIFFERED :**

Flows without booking, **D + 1 to D + 3 delivery, non guaranteed delivery time upon availability**

⇒ **Lowest rates targeted to compete conventional trucking**





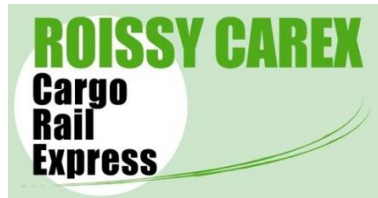
The future European very high speed rail freight network Eurocarex

- **First phase: 5 locations**

- ✓ Amsterdam Schiphol
- ✓ Liège Bierset
- ✓ London
- ✓ Lyon Saint-Exupéry
- ✓ Paris-Roissy CDG

- **Start of services 2015 / 2017**





HST CARGO SCHIPHOL



2. Railports

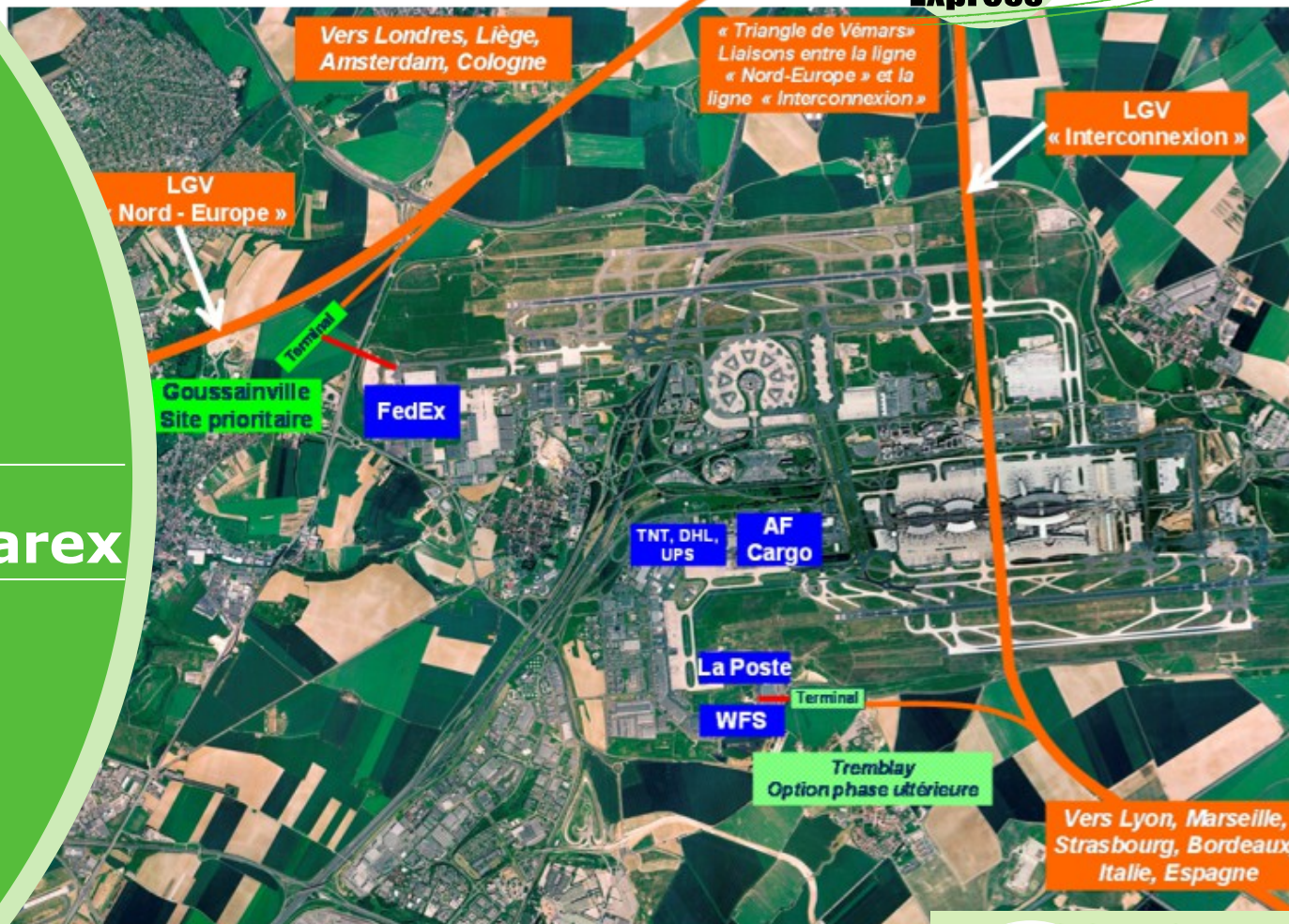
→ Key players

→ Local structures
integrating public and
private sector.



EURO CAREX

Cargo Rail Express



Roissy Carex

ROISSY CAREX

Cargo Rail Express



2. Railports



ROISSY CAREX

« association loi 1901 à but non lucratif » , federation
established 8 feb 2006

→ **President :** Yanick Paternotte, Mayor

→ **Directors :**

→ **Local politicians**

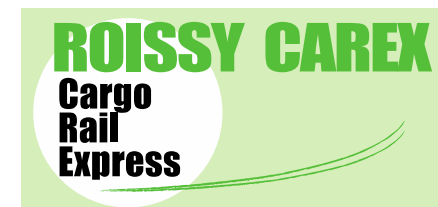
Roissy Développement, Agence de développement économique de la Communauté de Communes Roissy Porte de France, Ville de Goussainville, Ville de Tremblay-en-France, Conseil Général du Val d'Oise

→ **Roissy-CDG industrial players:**

Air France, FedEx, Groupe La Poste, WFS, TNT, UPS, Aéroport de Paris

→ **Members :**

RFF, Conseil Régional d'Ile-de-France, Agence Régionale de Développements, Comité d'Expansion Economique du Val d'Oise, Conseil Général de Seine-Saint-Denis, Conseil Général de la Seine et Marne, EPA Plaine de France, Direction Régionale de l'Equipement d'Ile-de-France, TLF, CCI, ...



2. Railports

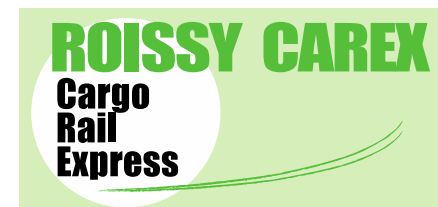
ROISSY CAREX
Existing studies



- **Technical and economical feasibility studies**, (2006-2008): definition of CAREX core network following customers assessment.
- **Réseau Ferré de France study (2009-2010)**
 - **Rail connection study**
Co financed by RFF, Région Ile-de-France / Direction Régionale de l'Équipement (Etat) / Roissy Carex
 - **Localisation of terminal and dimensioning**
- **Planning and land acquisition study**



Carte
Raccordement CDG



2. Railports

ROISSY CAREX – Supported by French Authorities



- **Carex site included in CDT** (Contrat de Développement Territorial)
- **Subvention voted in State-Region framework** : 1 million €
- **Project with « Grenelle de l'Environnement »** label
- **Included in SNCF** rail freight recovery plan



Lyon Carex



TGV station
Lyon-Saint Exupéry

Zone CargoPort

« Railport » CAREX



2. Les Railports



LYON CAREX

association loi 1901 à but non lucratif,
established 24 sep. 2008

- **President** : Salvatore Alaimo, Chairman and CEO of Dimotrans
- **Deputy Vice-President** : Philippe Meunier, MP of Rhône
- **Public members board** :
 - Communauté de Communes de l'Est Lyonnais
 - Chambre de Commerce et d'Industrie de Lyon
 - Chambre Régionale de Commerce et d'Industrie Rhône-Alpes
 - Département du Rhône
 - Grand Lyon
 - Région Rhône-Alpes
- **Private members board** :
Aéroport de Lyon – Air France Cargo – FedEx – Groupe Dimotrans – Groupe La Poste – TNT – TLF – WFS



2. Railports

LYON CAREX



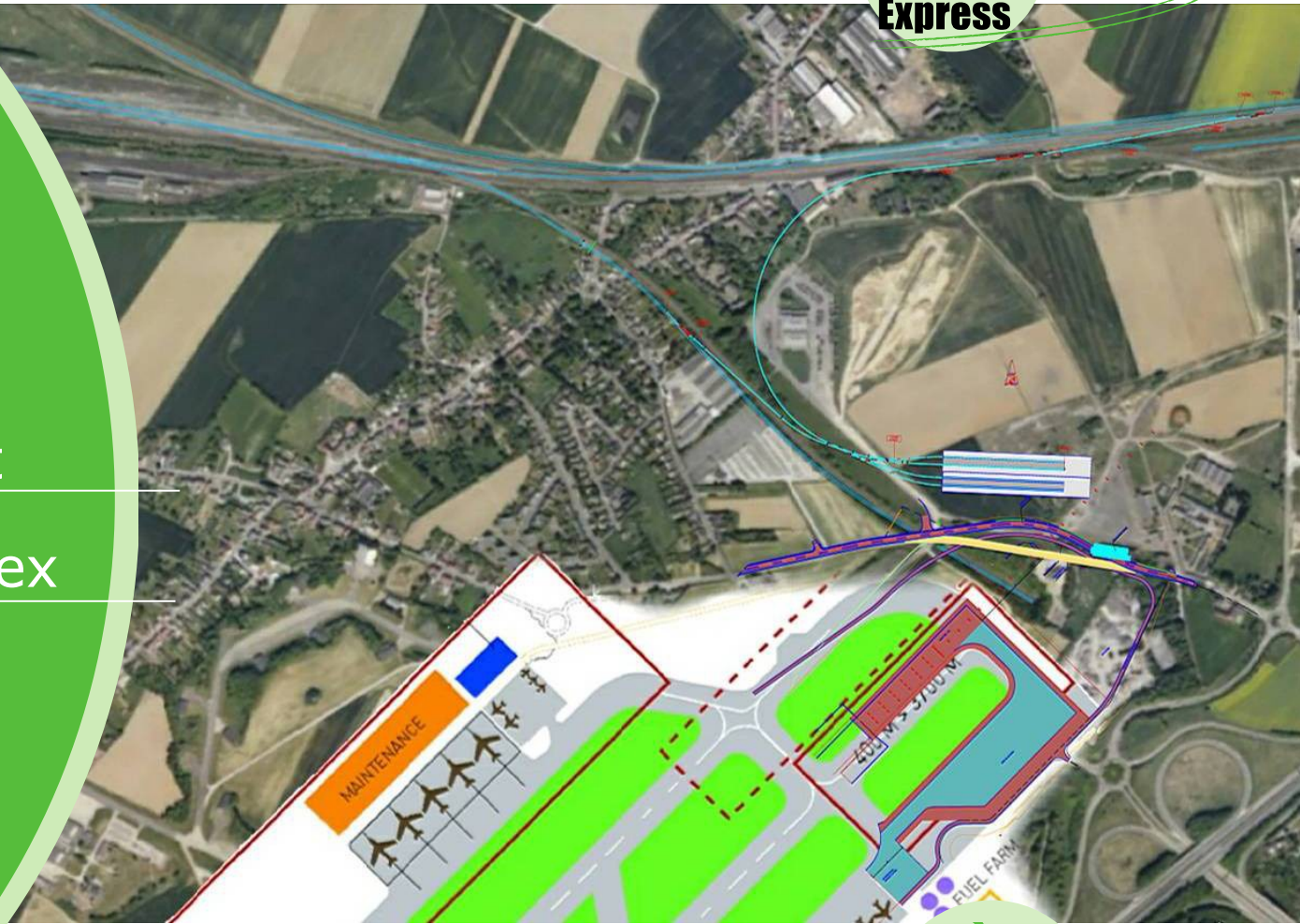
Studies

- Site definition on the CargoPort zone
- RFF rail siding study
- Market definition enquiry 2009



EURO CAREX
Cargo
Rail
Express

Railport
Liège Carex



LIÈGE CAREX
Cargo
Rail
Express



2. Les Railports

LIEGE CAREX
association sans but lucratif,
Established 21 March 2008

- **President :** Jean-Pierre Grafé, former minister
- **Public bodies :**
 - Ministry of Economy
 - Local development agencies (GRE and SPI)
 - SNCB Holding
 - Infrabel, Infrastructure manager
 - Sowaer, Société Wallonne des Aéroports
- **Private bodies :**
 - Logistics in Wallonia (Walloon logistic cluster)
 - Liege Airport,
 - TNT Airways



2. Les Railports

LIEGE CAREX



Studies

- Ernst & Young market enquiry(2007)
- Air / Rail / Road interface study (2009 / 2010),
- Infrabel rail connection study (2010)
- Infrabel pathing study in cooperation with other IM's



2. Railports

LIEGE CAREX



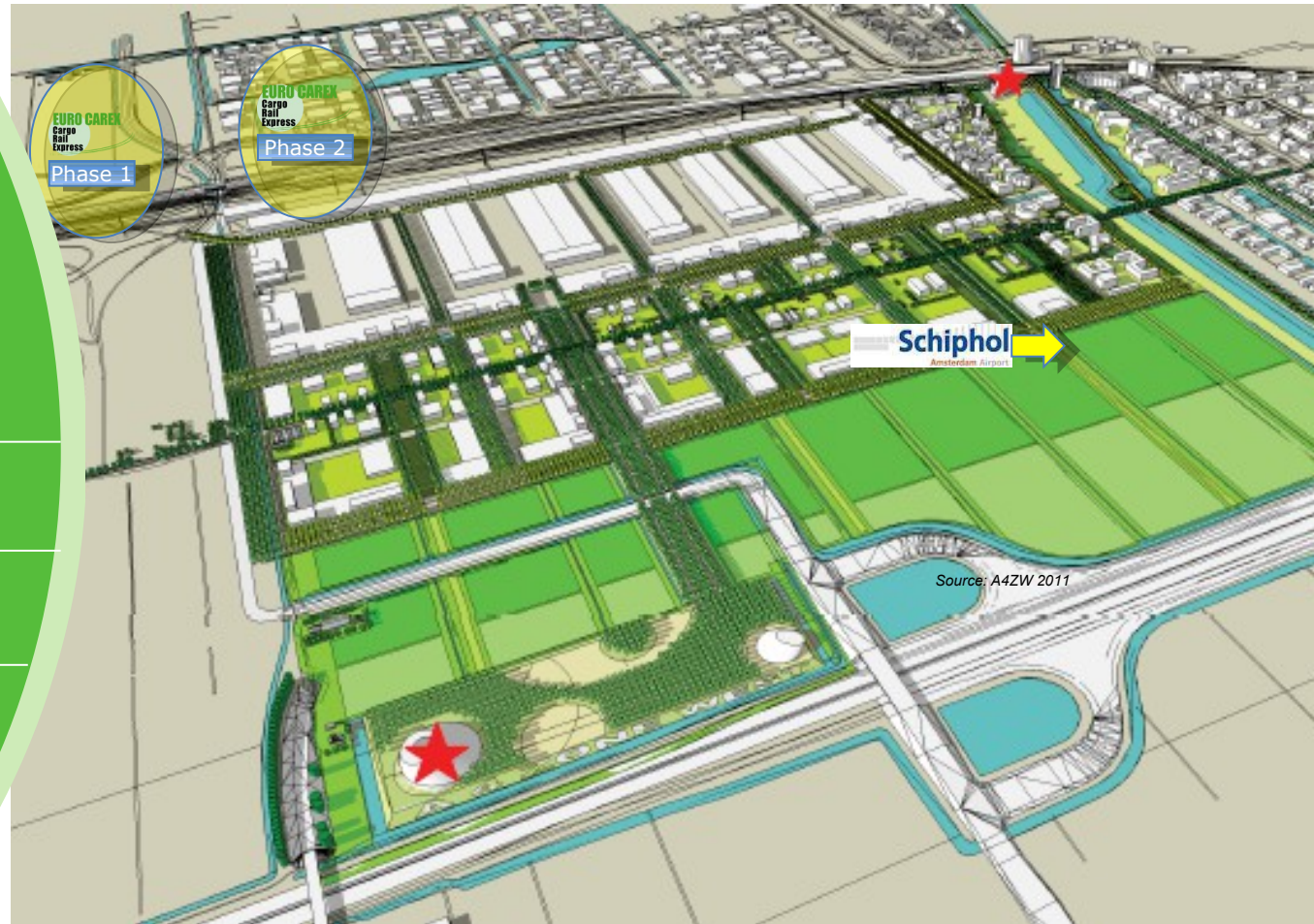
Ongoing

- EU tender for detail planning and work supervision (2011 / 2012)
- EU funding TEN-T call for tender proposal (april 2012)



EURO CAREX

Cargo Rail Express



Amsterdam

Carex



2. Railports



HST CARGO SCHIPHOL - AMSTERDAM CAREX 2007

- **Project management: SADC** – Schiphol Area Development Company under leadership of HST Cargo Schiphol group

- **Key members private / public :**
 - Schiphol Group, airport manager
 - Noord-Holland province
 - Haarlemmermeer municipality
 - KLM Cargo
 - ProRail, Dutch infrastructure manager
 - Local logistic operators



2. Railports

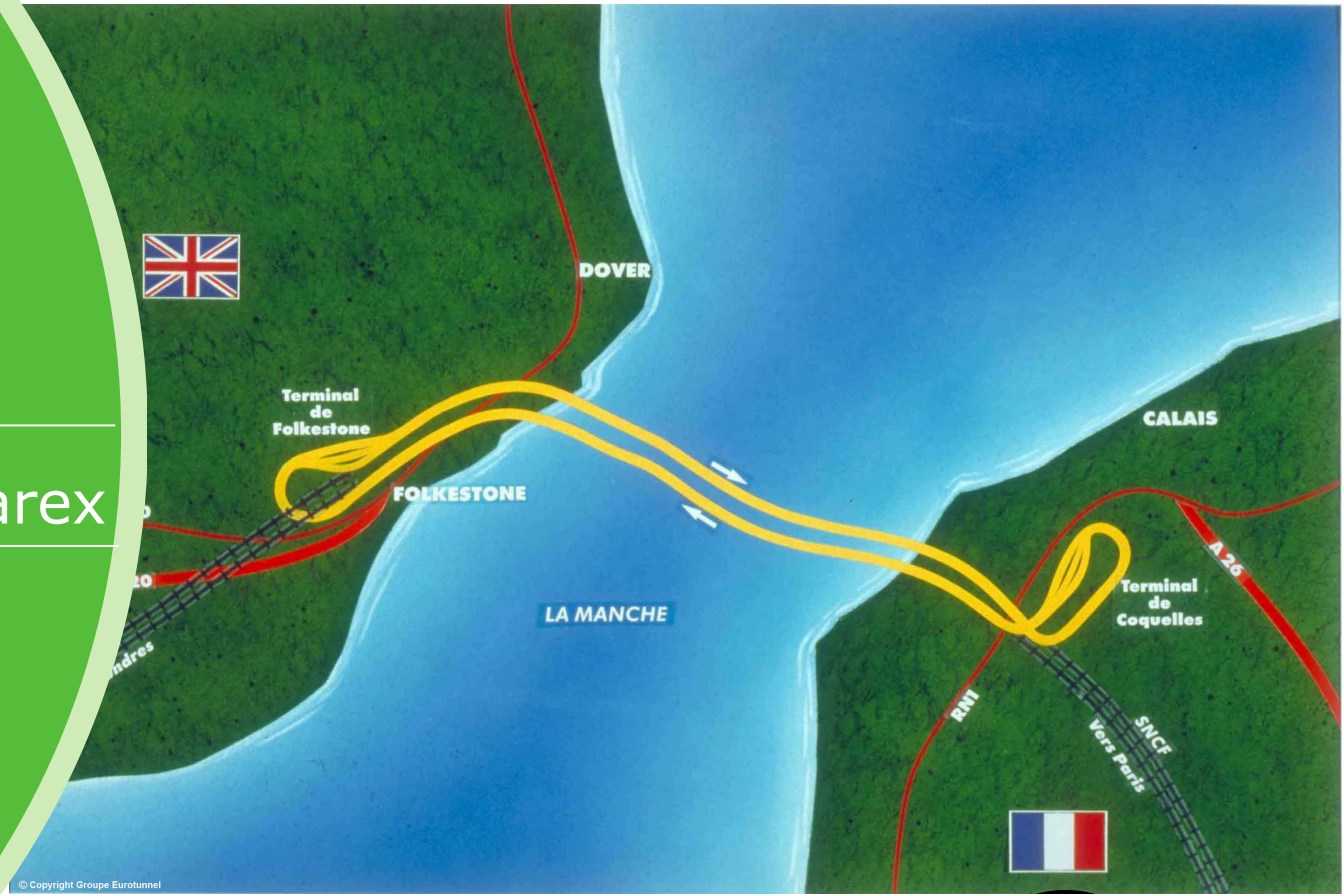


HST CARGO SCHIPHOL - AMSTERDAM CAREX
Update

- **SADC Feasibility study** (2007 / 2008)
- **ProRail study** (2009 / 2010)
 - Freight on high speed line
 - Connection study
 - Terminal lay-out



London Carex



2. Les Railports

LONDON CAREX Ltd, established 29 November 2007



- **London Carex Ltd** a 100 % Eurotunnel subsidiary. **100 % private financing**
- **President :** Jacques Gounon, Chairman & CEO of Groupe Eurotunnel.
General Director: François Coart
- **London Carex will not be located on airport premises.** Unlike continental Carex airports, London airports are not connected to the high speed network.



2. Les Railports

LONDON CAREX



- **Site** : London Carex will be directly connected to HS1 the first British high speed line. It will be alongside the M 20 (coast to London and close to the M (London ring motorway)
- **Study**: preliminary site assessment (Dec 2012) co funded by HS1 and London Carex





3. Equipments

→ Rolling Stock

→ Railports basic principles



3. Equipments

Rolling stock ?

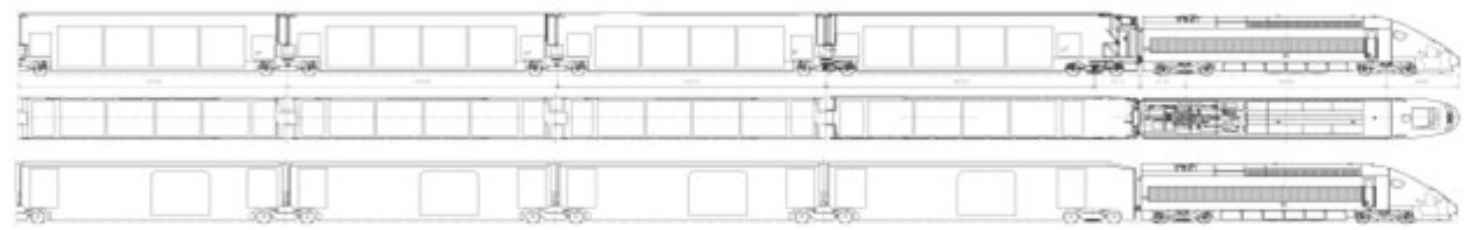
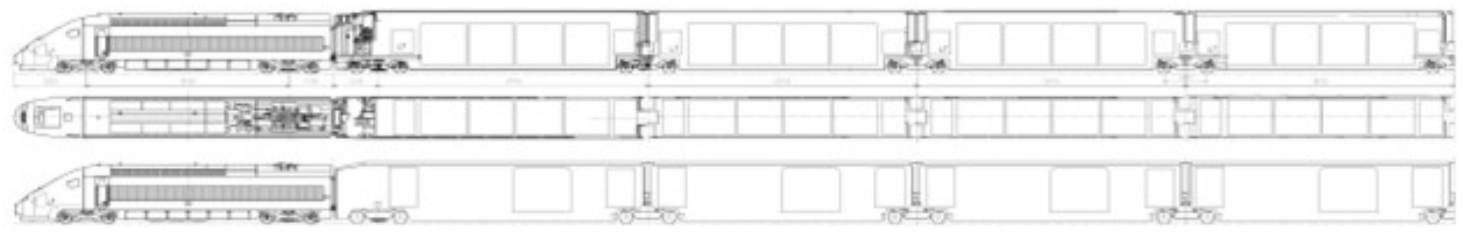
- EU Competitive dialogue – 2 proposals : **ALSTOM et SIEMENS**
- Average load between **100 and 120 tons (metric) per unit** equal to :
 - 1 Boeing B747-400 Freight
 - 3 Airbus A310 Freight
 - 5 à 9 semi-trailers
- **Palette** : 3170 mm x 2440 mm x 2900 mm (L x w x h)
- **Container « AMJ »** : 3180 mm x 2440 mm x 2440 mm (L x w x h)
⇒ de 32 à 42 par unit
- Simultaneous loading and unloading
- EU Interoperability – max speed : **320 to 350 km/h**



3. Equipments

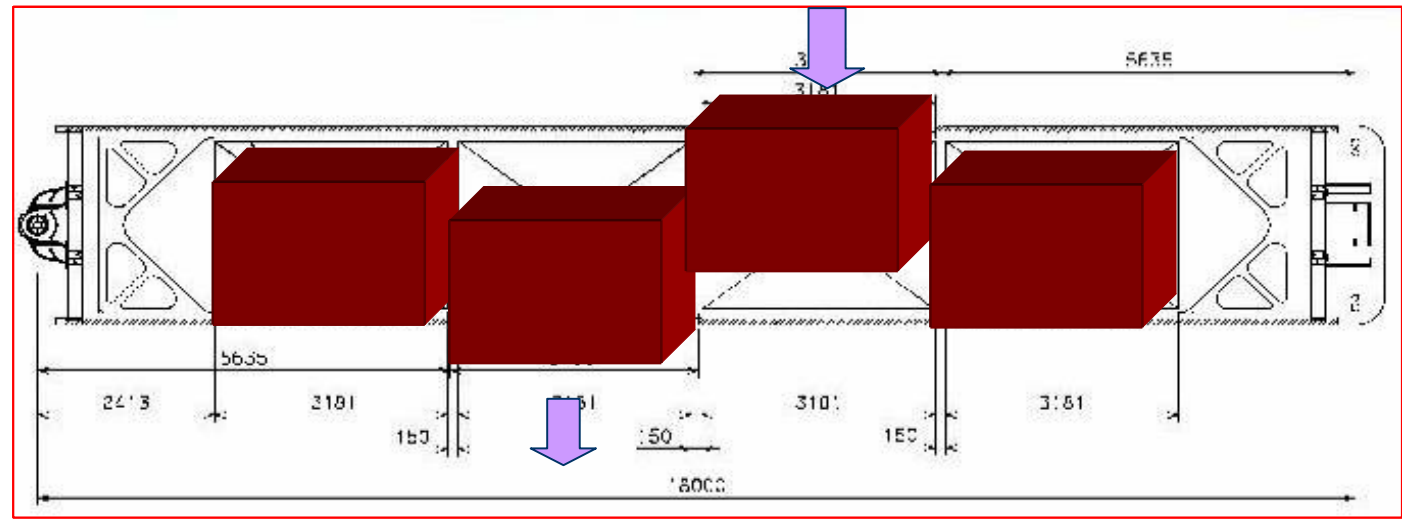
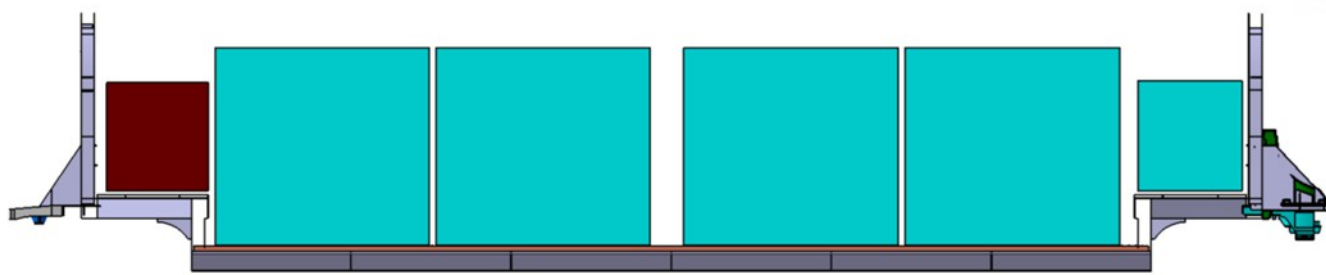


CAREX units -ALSTOM proposal



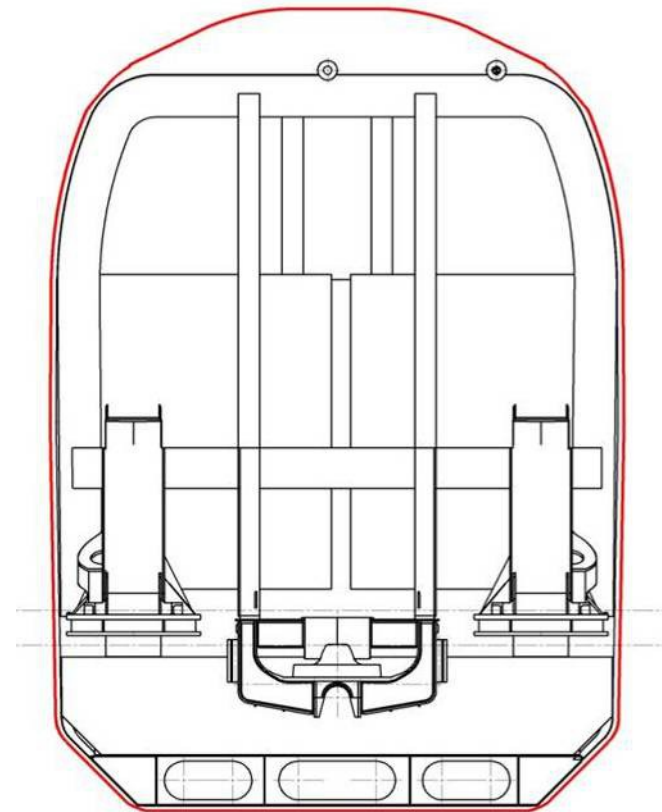
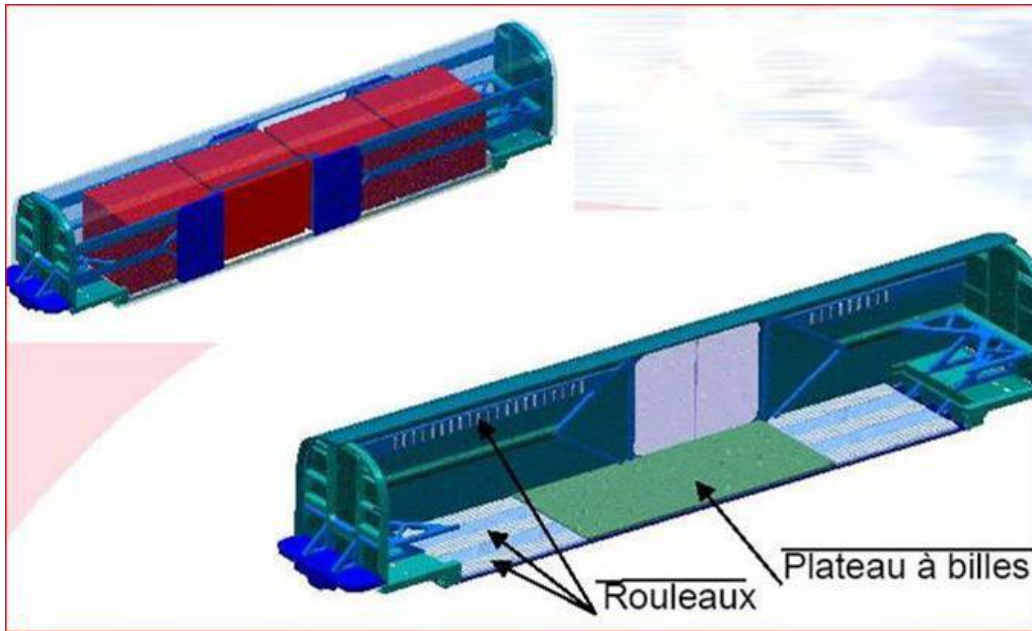
3. Equipments

CAREX units -ALSTOM proposal



3. Equipments

CAREX units -ALSTOM proposal



3. Equipments



CAREX units – SIEMENS proposal

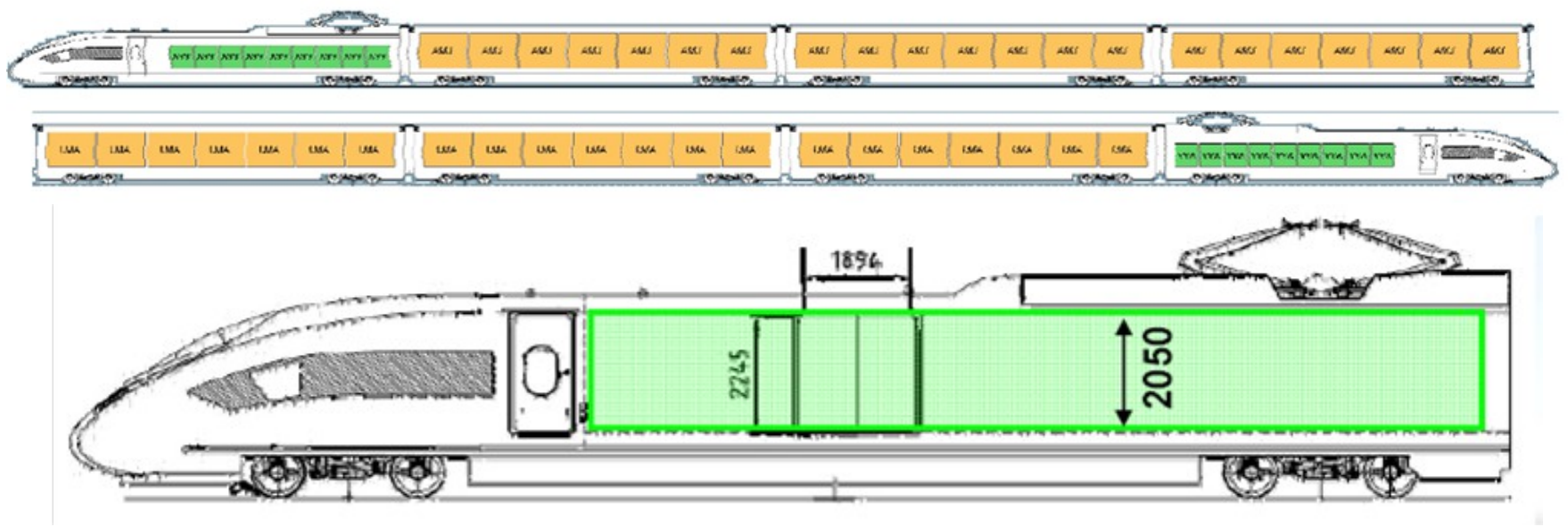
SIEMENS



3. Equipments

CAREX units –SIEMENS proposal

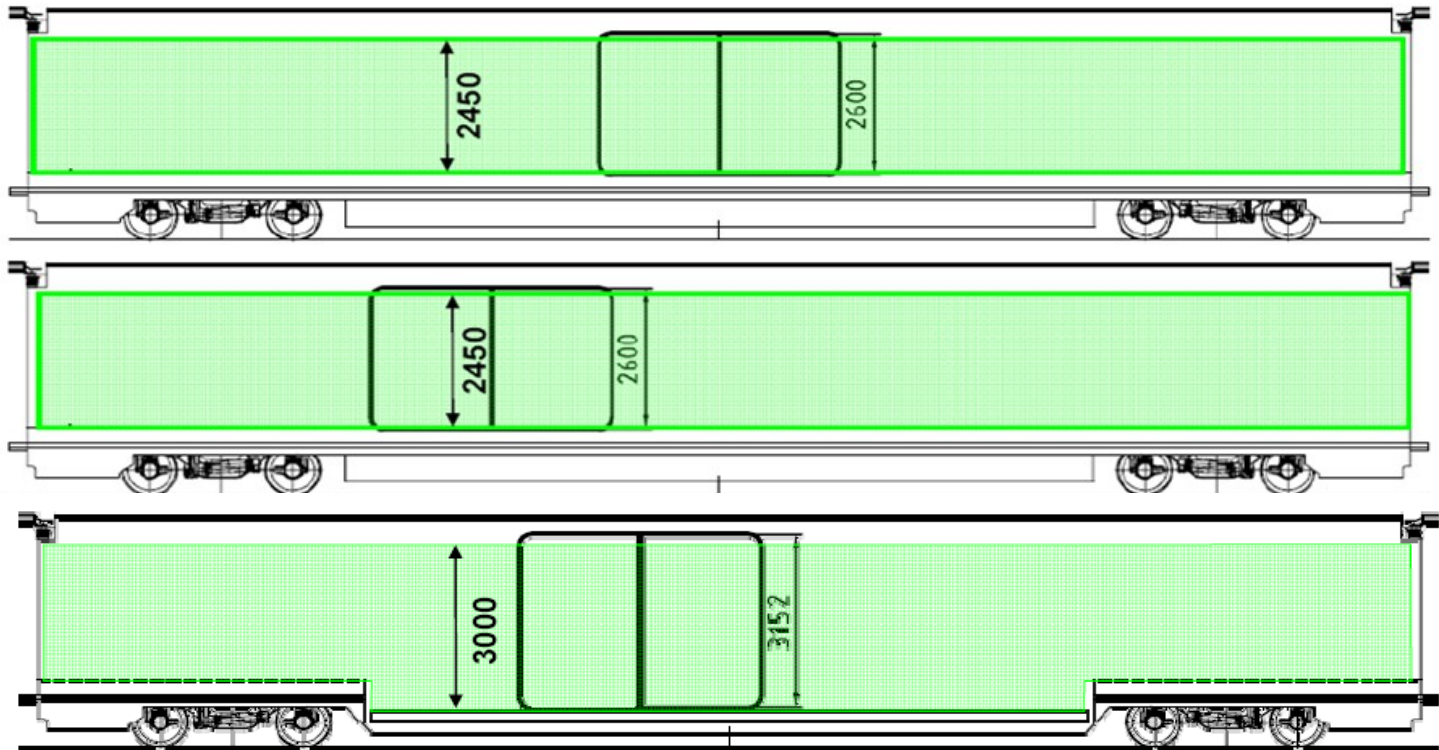
SIEMENS



3. Equipments

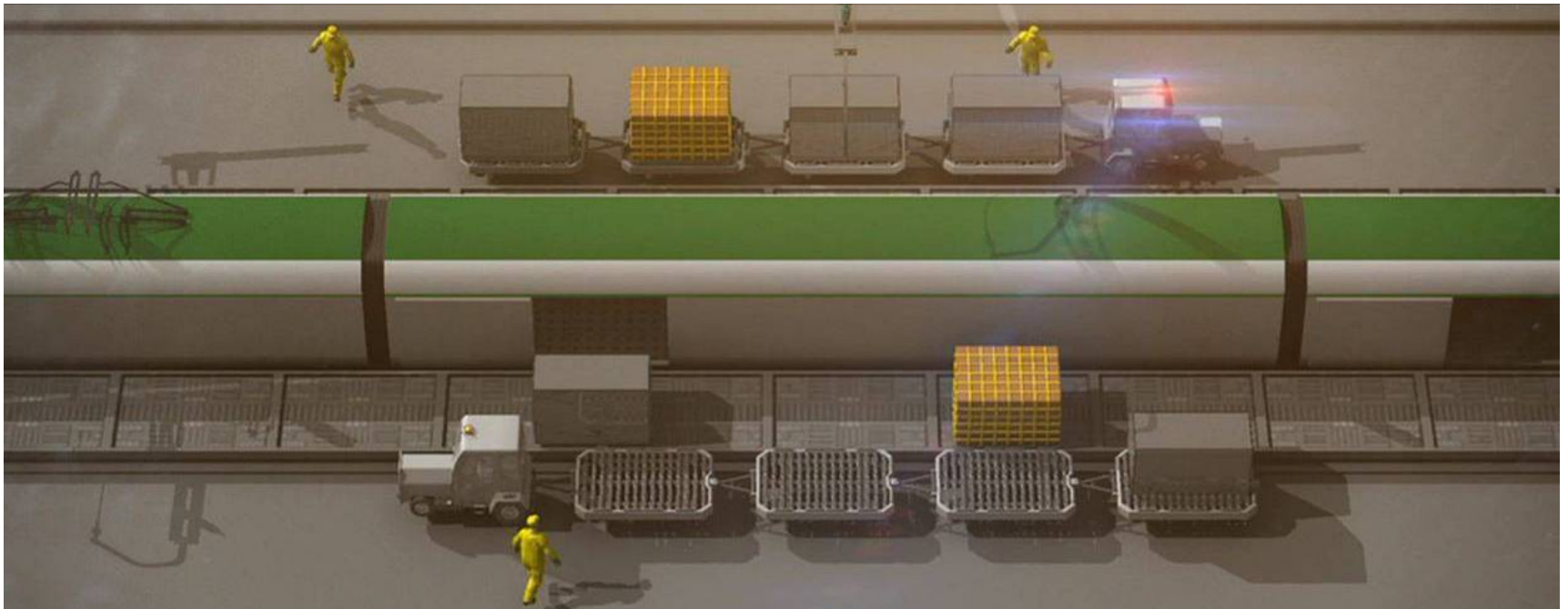
CAREX units –SIEMENS proposal

SIEMENS



3. Equipments

Infrastructures :
« Railport » operating basic principles

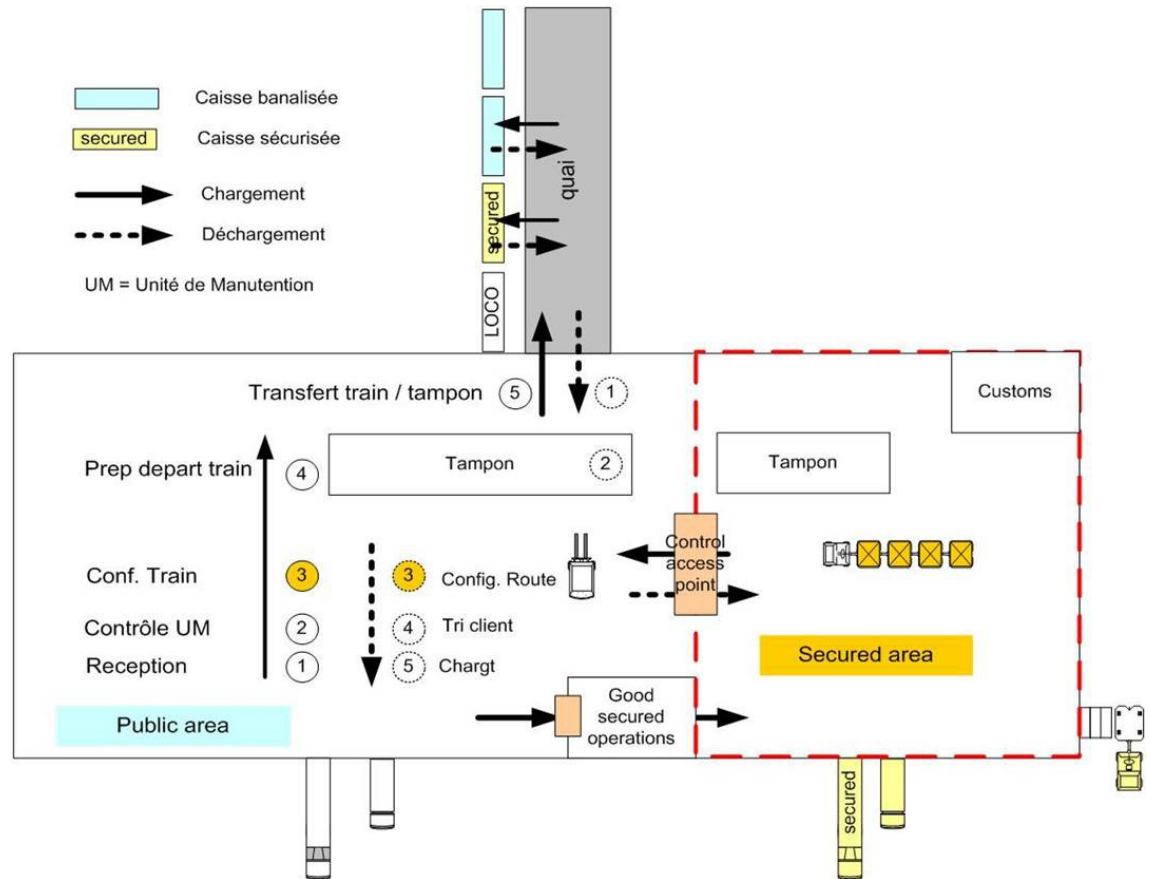


3. Equipments

Infrastructures :
« Railport » operating basic principles

Example

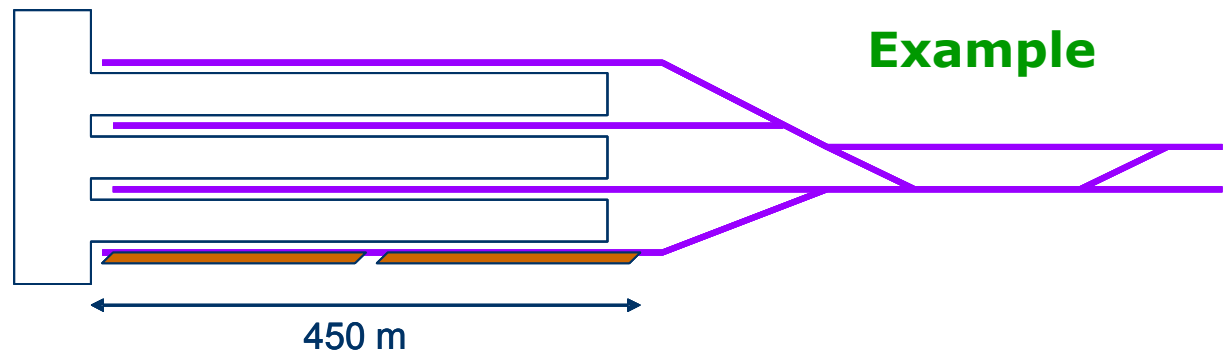
Source :
SIGMA Conseil / Era-Net
"HSCT - High Speed Cargo Train"



3. Equipments

Infrastructures :
« Railport » dimensioning

- Up to 4 tracks to stable 8 units + 1 optional track for maintenance and stabling
- Platform with of 10 to 15 m allowing simultaneous loading and offloading
- Security zone



4. 2011 / 2013 actions



SNCF GEODIS / EUROPORTE market assessment

- Phase 1 : theoretic analysis -> site location validation and statistic review -> ended.
- Phase 2 : market interviews -> ended -> truck road identification UK - Germany and Amsterdam – Lyon (high road modal shift).
- Phase 3 : business plan -> ongoing
- ⇒ *Independent study carried by Frost et Sullivan confirming the Express night air freight represents the key market of EURO CAREX.*



4. 2011 / 2012 actions



→ **European Business Plan** Euro Carex and **Transportation Plan**

→ **Detailed engineering studies :**

- Connections to high speed network
- Railports

→ **End of the European study for paths allocation :**

Coordination **Réseau Ferré de France** (RFF) and **Infrabel, ProRail, Eurotunnel, HS1** et **DB Netz**

→ **Land acquisitions**



4. Actions 2011 / 2013

- **Environmental impact** study
- Customers **formal commitment**
- **Operational cost analysis**
- **EU financing program tendering.**
- **Pilot line launch**

→ ***Event : TGV test train on 20 & 21 March 2012 between Lyon-Saint-Exupery, Paris-Roissy-CDG et London-Saint-Pancras with active support of all Euro Carex partners.***



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**Thank You
for
Your
attention**

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