

Blue Line Logistics

The Problem



Solutions

Problem needs a cocktail of responses such as :

- *Road infrastructure Improvement*
- *Full cost of transport (environmental taxes)*
- *Higher urban density (resulting in higher use of public transport)*
- *Performant public transport*
- *Modal shift*
 - Train
 - Waterborne transport

Modal Shift : Pallet Shuttle Barge

Logistic System for Goods on Pallet or in Big Bag
with Flexible & Specialised inland barges

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Aims

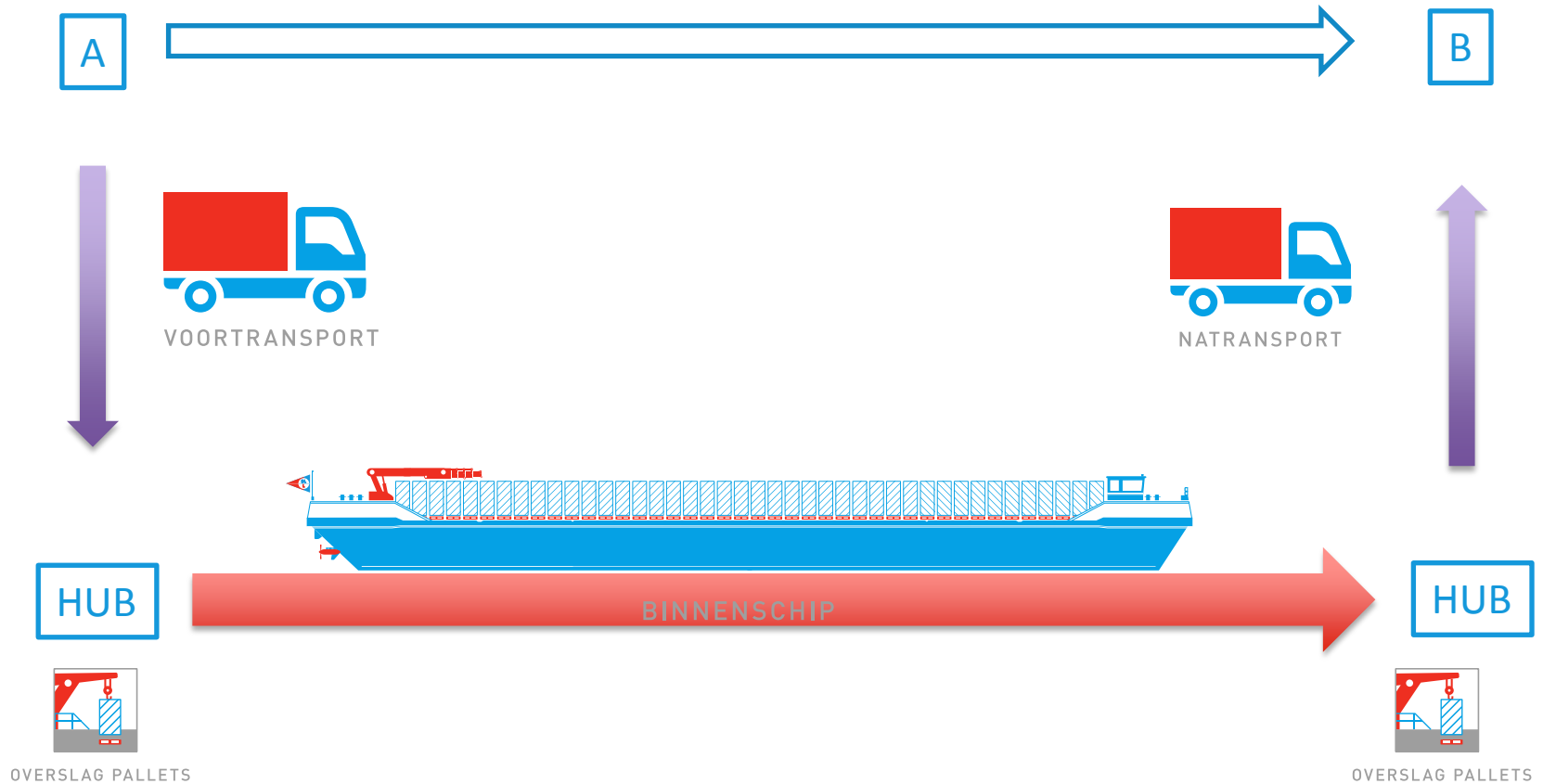
- Implementation innovative multimodal total-concept for door-to-door logistics of goods on pallets or in big bags, structured on a new type of small barge, active on short & medium distances, in complement to road transport
- A price competitive logistic solution versus road transport, making use of the inland waterway system in Belgium, the Netherlands and Northern France
- An integrated network of bi- & tri-modal logistic hubs with regional coverage
- A combination of ecology, safety, quality and flexibility

Traditional Inland Waterway Transport

- Traditional Inland waterway transport cannot offer a response to shippers for
 - *Efficient*
 - *Qualitative*
 - *Safe*

transport of goods on pallets or in big bags
- Existing solutions raise a number of specific problems
 - *Operational need for large loads and limited types of goods*
 - *Not a one-stop solution, needing extra administration & management*
 - *A large amount of manipulations of pool- or one-way pallets resulting in high incidence of damages*

Base concept



TRUCK versus BARGE

ELEMENTS

- Critical differentiating elements
 - *Loading/unloading cost*
 - *Transport cost*
- Total Chain needs to be considered

BARGE can be competitive on selected tracks.

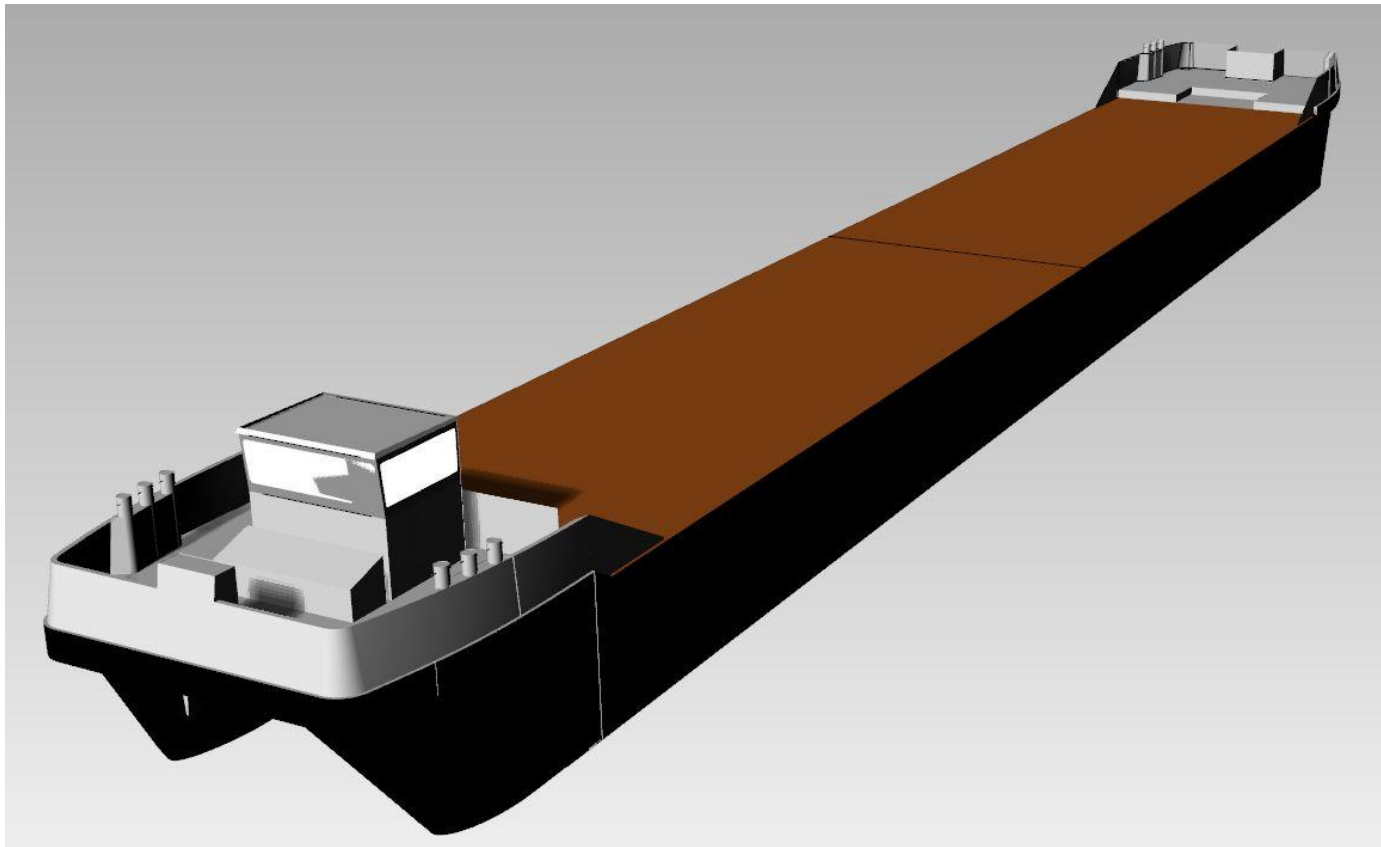
TRUCK versus BARGE

To make Barge competitive

- *Reduce costs loading/unloading*
 - Crew operates equipment
 - No harbour infrastructure
 - Load on deck (ease of operation)

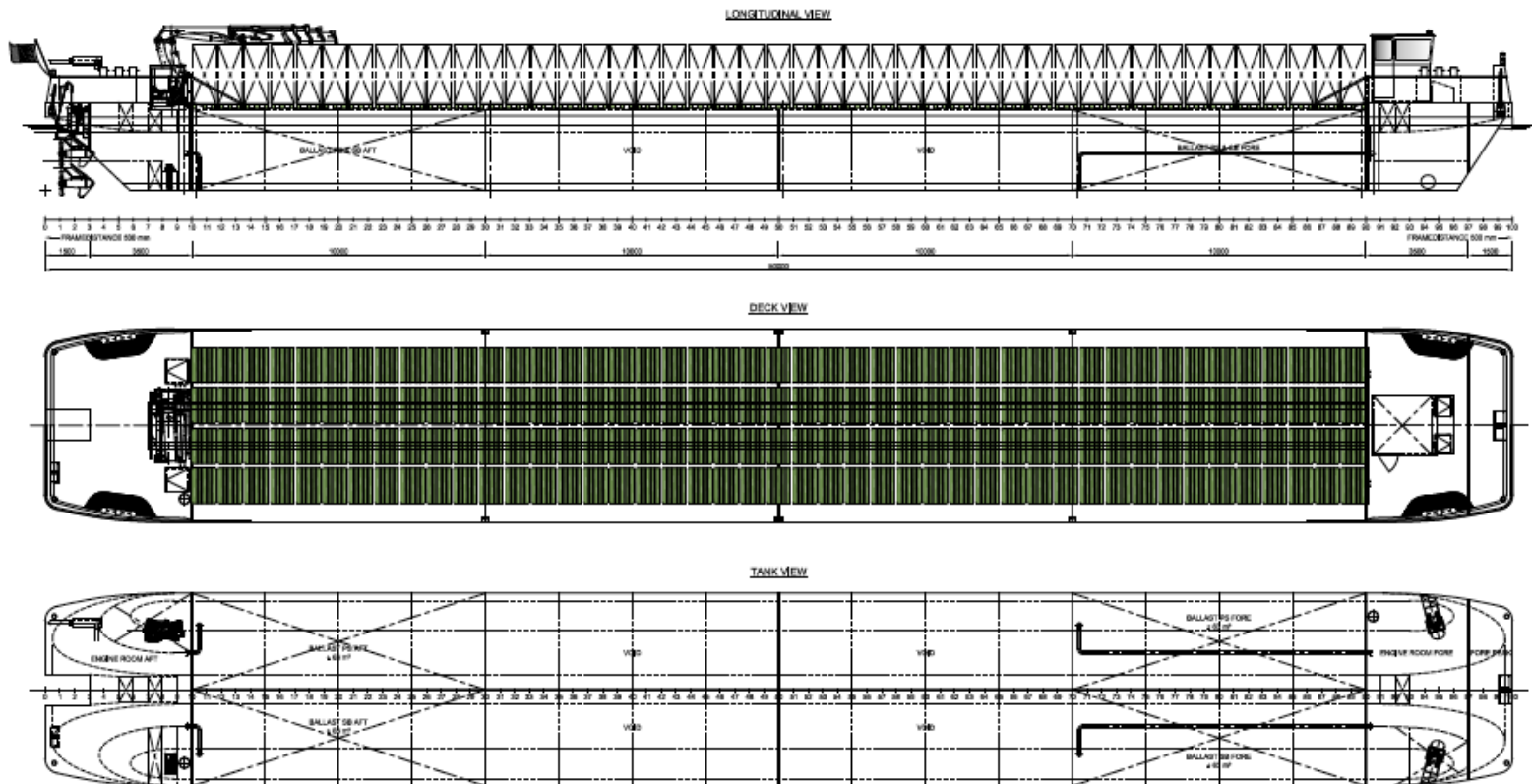
- *Reduce operating costs*
 - Limit size
 - Simple construction – low investment
 - Easy maintenance
 - Crew limited to 1 person
 - No accommodation
 - Extensive use of data-communication

Innovative concept Fleet & Hubs



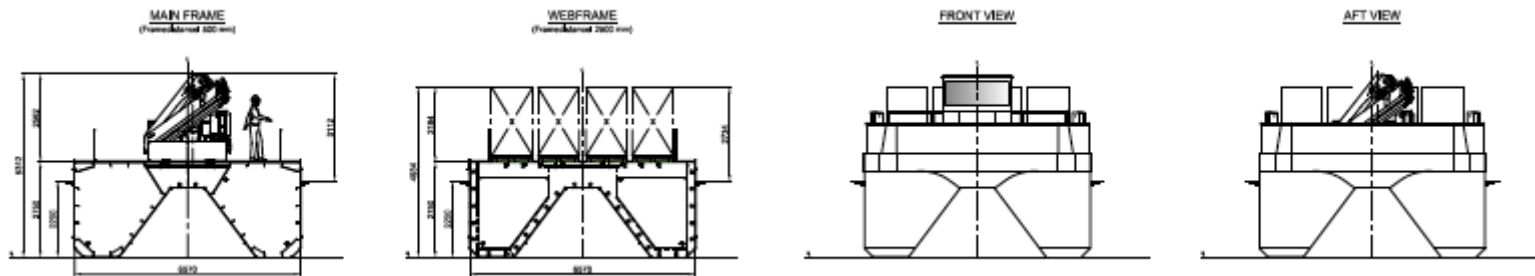
Pallet Shuttle Barge (PSB 1.0)

Basic lay-out



Pallet Shuttle Barge

Basic lay-out



Pallet Shuttle Barge

Technical

Construction

- *Steel*
- *Modular*
- *Length 50 m, width 6,6 m, draught maximum of 2,20 m*
- *Production in large quantities, with standard dimensions*
- *Design focused on simple & fast maintenance or part replacement*

Dedicated versions

- *Possible for specific loads*
- *Specific handling equipment*

Crew

- *1 FTE*
- *No living quarters/accommodation*

Pallet Shuttle Barge

Technical

○ Load

- *platform 210 m² on 4 meter height (due to height restrictions)*
- *198 EuroPallets on one layer*
- *Maximum Tonnage 300 ton*

○ Motorisation & Propulsion

- *Diesel or other hybride propulsion, driving hydraulic power*
- *1 shuttle motor (250 HP)*
- *2 horizontal bowthrusters*

○ Weather protection

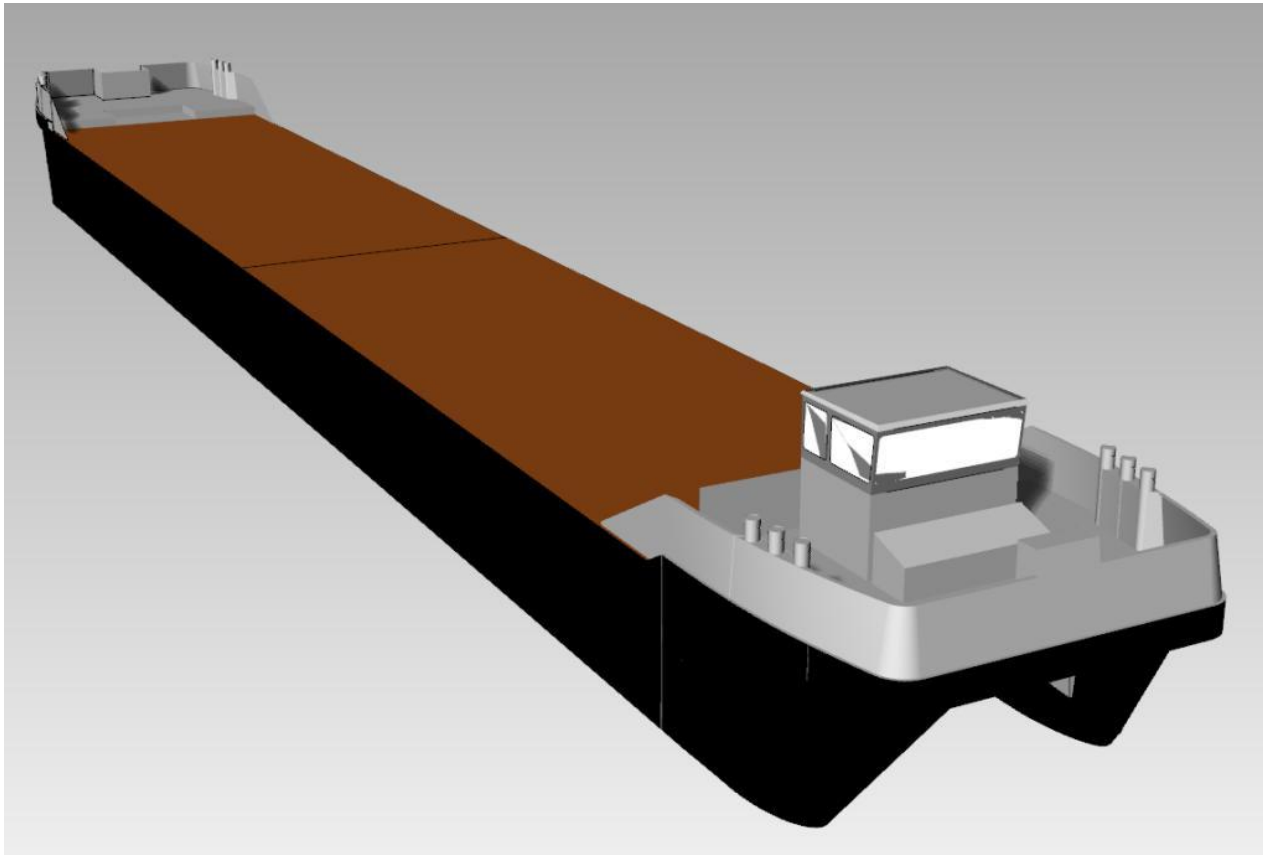
- *Hood*

Pallet Shuttle Barge

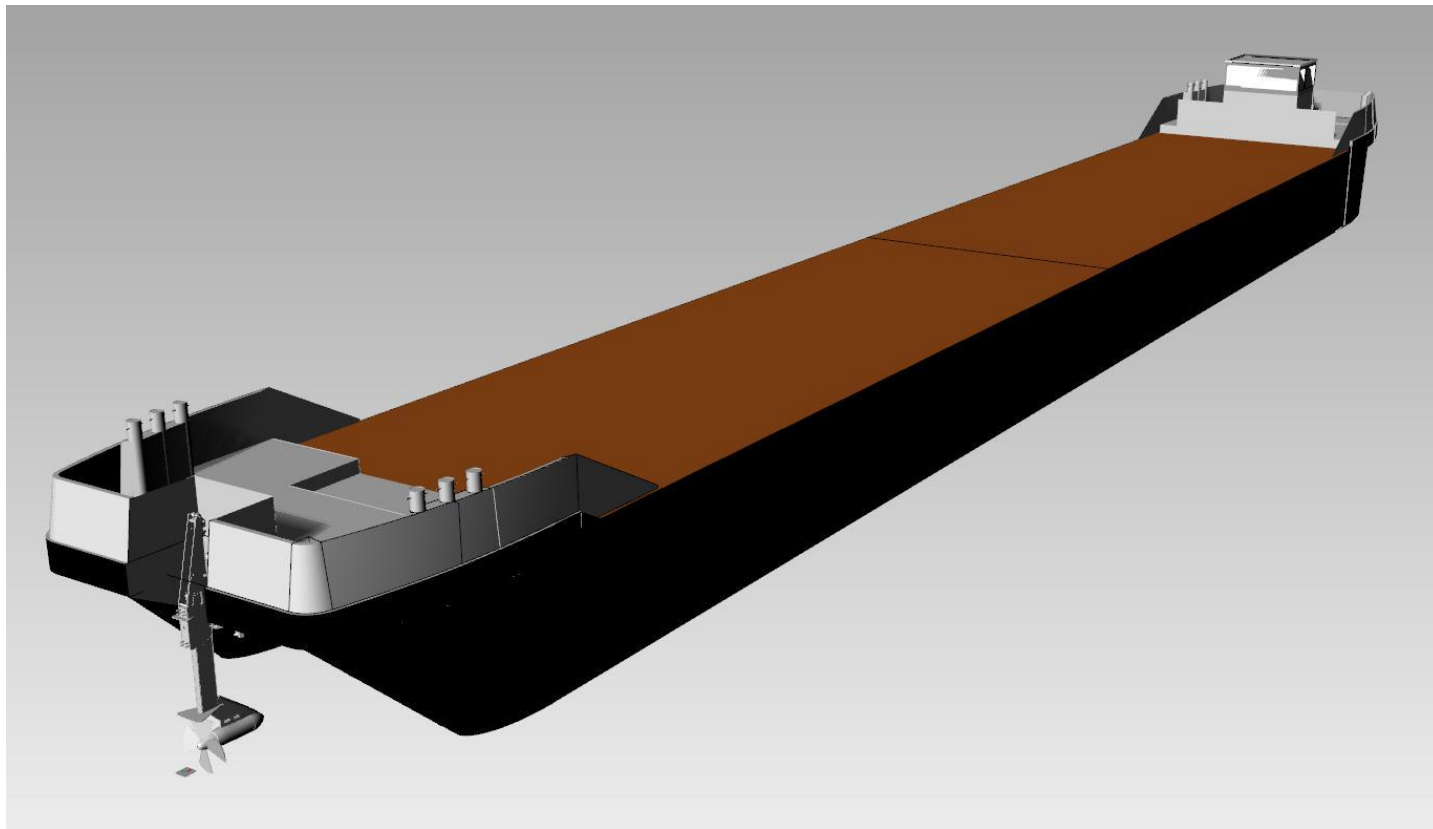
Technical

- Crane
 - *PSB has on-board crane to load/unload independently*
 - *Capacity 2 ton at 12 meter*
 - *Radio controlled operation*
- Reduced need for Quayside equipment
 - *PSB can berth unassisted*
 - *PSB has spud-poles*
 - *Fork-lift sized cargo*
- Control & Steering
 - *Joystick, automatic pilot, AIS en/of GPS*
 - *Radar (optional) and depth control*
 - *Use of bar-coding, RFID, ...*

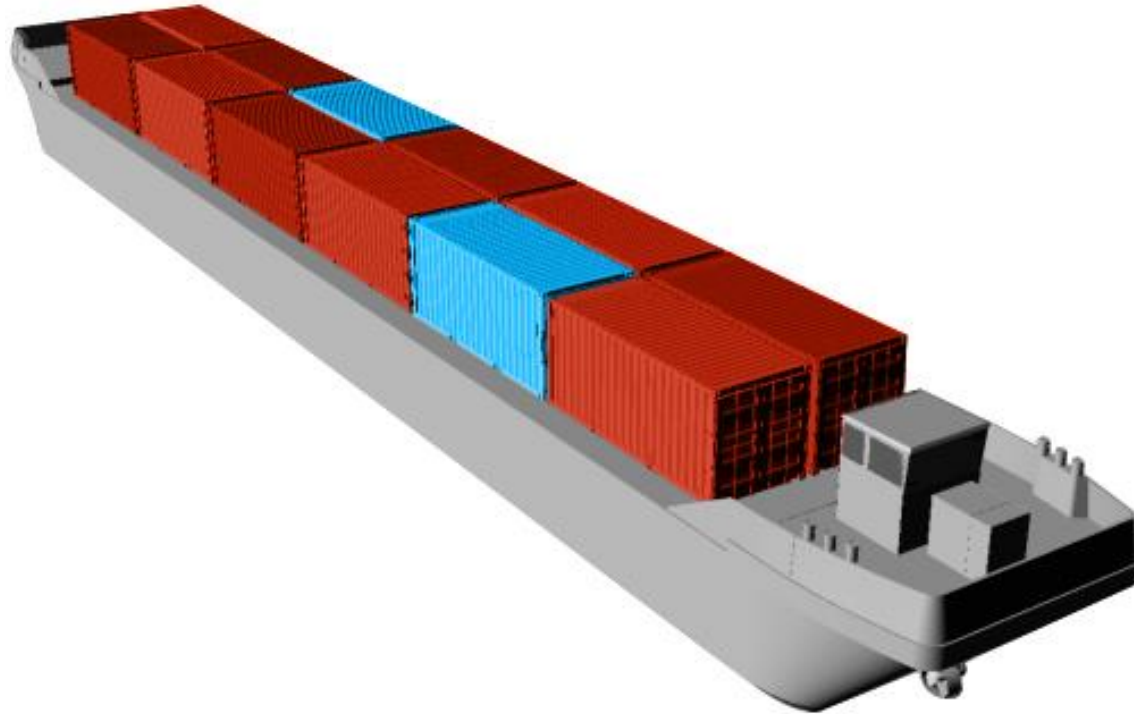
Starboard Fore View



Starboard Aft View



Pallet Shuttle Barge Containers



In Operation



In Operation



In Operation



In Operation



Antwerpen

In Operation



Wintham

In Operation



Niel



In Operation



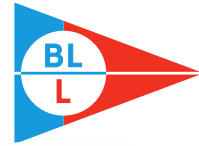
AB Inbev
Brussel

In Operation

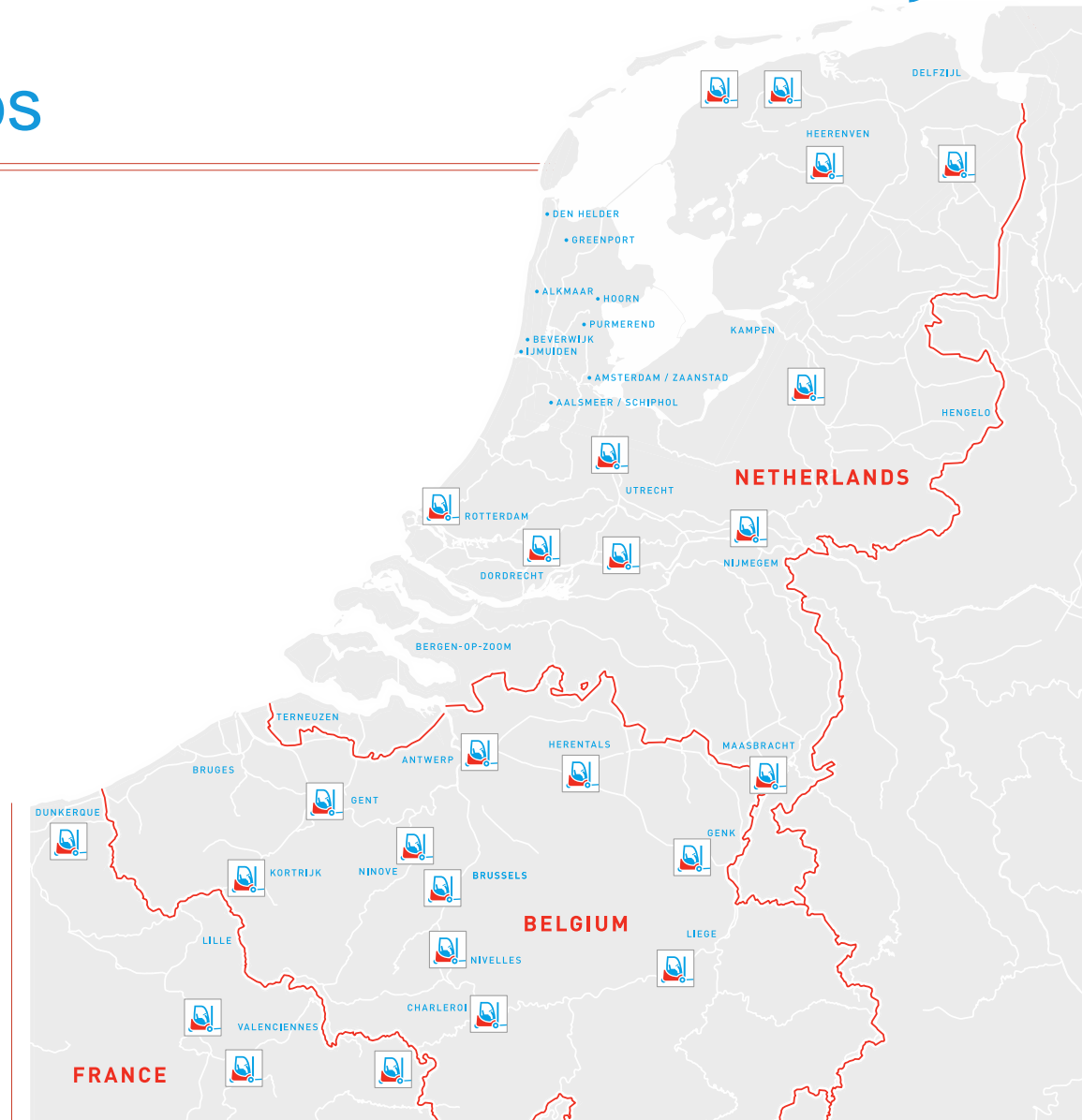


Network of regional hubs for transshipment & distribution

- Setup of network of hubs (terminals), with bi- or tri-modal functions
- Hubs also to be used as warehouse and distribution center
- Hubs situated with shippers or on dedicated sites
- Hubs specialized in goods on pallets or in big bags
- “All weather” hubs



Network of regional hubs



Network van regional hubs

○ Extensive network

- *Belgium*

- Large cities : Antwerpen, Brussel, Charleroi, Gent, Hasselt, Kortrijk, Luik, , Mons, Namen,)
- Regional Hubs (Aalst, Andenne, Brugge,, Genk, La Louvière, Leuven, Oostende, Rumst, Tessenderlo, Tournai, Vilvoorde, Wevelgem, Wielsbeke, Zeebrugge, ...)

- *Netherlands*

- Amsterdam-Zaanstad (Aalsmeer, Alkmaar, Beverwijk, Den Helder, Greenport, Hoorn, IJmuiden, Purmerend) , Breda, Bergen op Zoom, Hengelo, Kampen,, Nijmegen, Rotterdam, , Venlo, Utrecht,...

- *Northern-France*

- Lille, Valenciennes, ...

○ Short & medium distance routes

Goods

- Goods on pallet or in big bags
 - *Building materials*
 - *FMCG (drinks,, ...)*
 - *Semi finished products*
 - *Packaging*
 - *...*
- City distribution
 - *All types*
 - *Specific containers*
 - *Small scale distribution*
- Projects
 - *Large building sites & infrastructure works*

Planning operations

- Planning & real-time follow-up of
 - *Barges*
 - *Crew*
 - *Loads*
- Software (routing, track & trace) for
 - *Simulations*
 - *Routing software*
 - *Routes*
 - *Pallet Management*

Present Situation

- ZULU 01 is operational
- ZULU 02 is operational
- Review of design : optimisation
- ZULU 03 & 04 expected in 2015.
- More ZULU's

ZULU ?

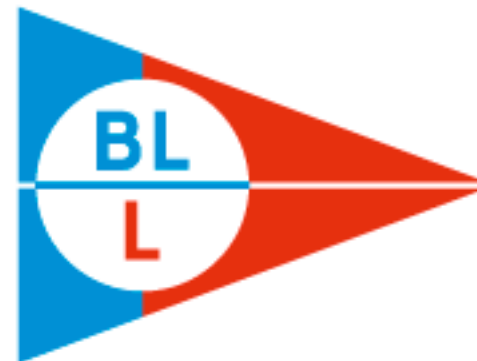


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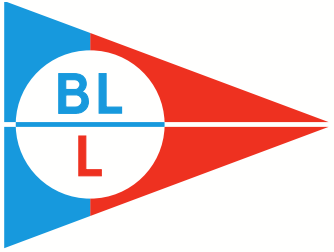
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Thank You for your Attention





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