Agenda

1. Prequel: Watertruck Interreg IVB (2010-2014)
2. The project Watertruck+
3. Concept and focal points
4. Standards, design and construction
5. Strategy - what’s next?
6. Application on the Danube region
7. Q&A
Watertruck: Interreg IVB NWE project (2010-2014)

Conclusions:

• Current fleet is not designed to operate in a systemic manner (fragmented and diverse)
• Investment is required but current market structure lacks the resources and banks are hesitant (residual value is unpredictable, long-term ROI)
• Current design of the fleet is suboptimal in terms of flexibility and payload
• Life aboard a small inland vessel is losing its appeal to the younger generations
Watertruck+ mission

- Improving the use of small waterways in Europe and connecting them to the TEN-T CORE network
- Attracting new flows for a modal shift from road to water
- Innovation within inland navigation
- Address the identified issues of Watertruck Interreg IVB
Opportunity to reactivate (small) inland navigation

With a new transport concept that meets:
- Reduction in labour costs (decoupling loading/unloading, crew does not live aboard the vessels,...)
- Sufficient supply
- Innovative design based on standardization and a broad scope for application
- Bridging the gap between (European) funding opportunities and the fragmented market
Watertruck+: the sequel

Connecting Europe Facility (CEF) 2014 project

Focus on:
- Building on the Interreg project
- Upscaling to an European level
- Establishing certain standards
- Reduction of impact on the environment
- Supporting potential investors

Agreement signed by the EC on 3/12/15

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Connecting Europe Facility
Watertruck+: Partners

- Beneficiary: Flemish government
- Implementing bodies:
  - Flemish waterway managers
  - Antwerp Management School
  - Special Purpose Vehicle “bvba Watertruck+”
- 1 Shipper
- 3-5 operators/private investors

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The concept...

Watertruck is an innovative transport concept where small vessels (push boats and pushed barges) are operated in a similar way as road transport (truck/trailer concept), whereby convoys are formed on large fairways and individual (self-propelled) barges or smaller convoys can penetrate the capillary network of small waterways.
...includes innovations...

- Logistic concept: convoy on larger waterways, self-propelled units or smaller convoys on smaller waterways
- Designed for various cargo types but keeping focus on cost of construction
- Plug-and-Play customizations to increase flexibility and applicability
- Designed for maximal payload capacity
...aims to reduce the environmental impact of IWT...

- Watertruck+ will:
  - Constrain emissions of pollutants \((\text{NO}_x \ \text{PM}_{2.5})\): comparable to the EURO VI norm of road transport
  - \(\text{CO}_2\): reduction of 25% compared to current values (EMOSS model)
  - Using next-generation engines, alternative fuel types, state-of-the-art after treatment systems
...focused on new flows and modal shift...

- Watertruck+ focuses on freight flows that are currently transported by road and on new flows, thereby increasing the market share of inland waterways in the European modal split.

- The size of the Watertruck+ fleet, after conclusion of the project (2020), will consist out of at least 21 units, which makes up 3% of the total Belgian fleet of dry cargo vessels, or 5% of the total number of the CEMT class I-IV. 
  < > each year 1% of this fleet disappears.
...will attract new skippers...

*Watertruck+ offers opportunities for young skippers on the smaller waterways*

- Create an attractive, local job on the water combined with a conventional lifestyle on land
- Attracts new workforce who prefer to work in shifts or daytime hours only
...and is being implemented as we speak!

- Determination of the standards (dimensions, coupling systems, facilities for extra equipment, ..) that permit the use on most of the European small waterways with various types of loads

- Construction of appr. 30 vessels (push boats and barges, of which some self-propelled)

- Pilots (appr. 500.000 ton, mainly new flows or modal shift)
- Project runs from end 2014 to mid 2020
Watertruck+ design and standards

- Development of standards for CEMT I-II: Q3-4 2015
  - European survey of stakeholders (waterway managers)
  - External/objective technical support and study with input of project partners
- Design process of barges (2016)
  - Standard design with possible customizations: propulsion fore and/or aft, wheelhouse, skid-based generator, hatches,...
  - Coupling system and choice of materials: in function of costs, flexibility, sensitivity and maintenance
  - Engines: in function of tendering process
  - Design checked with IACS and regional authorities
Watertruck+ barges

<table>
<thead>
<tr>
<th>General lines plan July 2016</th>
<th>Dimensions (afmetingen)</th>
<th>Payload capacity</th>
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<tbody>
<tr>
<td></td>
<td>LOA (lengte)</td>
<td>BOA (breedte)</td>
</tr>
<tr>
<td></td>
<td>(m)</td>
<td>(m)</td>
</tr>
<tr>
<td>CEMT I</td>
<td>38,50</td>
<td>5,05</td>
</tr>
<tr>
<td>CEMT II long</td>
<td>50,00</td>
<td>6,60</td>
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<tr>
<td>CEMT II short</td>
<td>40,00</td>
<td>6,60</td>
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Watertruck+ barges

**Proposed standards for CEMT III and IV barges**

<table>
<thead>
<tr>
<th></th>
<th>LOA</th>
<th>BOA</th>
<th>Draught</th>
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<tbody>
<tr>
<td>CEMT IIIS</td>
<td>35</td>
<td>8,20</td>
<td>2,80</td>
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<tr>
<td>CEMT IIIL</td>
<td>70</td>
<td>8,20</td>
<td>2,80</td>
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<tr>
<td>CEMT IVS</td>
<td>65</td>
<td>9,50</td>
<td>3,00</td>
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<tr>
<td>CEMT IVL</td>
<td>80</td>
<td>9,50</td>
<td>3,00</td>
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Watertruck+ pilot fleet

- Construction of barges including some customizations
  - Public tendering procedure started in July 2016
  - Conclusion of procedure anticipated shortly
  - Construction starts Q3 2017

- Design process of pushers
  - Part of the design-to-construct public procurement procedures
  - Conclusion of procedure anticipated shortly
  - Construction starts as from Q3 2017
Watertruck+ : Strategy

The results of the pilot cases and financial investment instruments are the backbone of the master plan for the roll out of the concept towards a European fleet.

- Financial toolbox - via ao European Advisory Hub, EIB, ESIF, EFSI, EIAH, etc.
- Costs and results of the test pilots (construction costs, revenues, savings)
- Support of European stakeholders with setting up business cases following the Watertruck+ concept
Watertruck\(^+\) : Application on Danube region

- Danube region part of analysis excercise
- Excellent example of the Watertruck+ principle:
  - Convoys on Danube
  - Small pusher/barge combo or self-propelled barges on side rivers (CEMT II-III) Prut, Tisza, Sava, Váh
  - Dniester

<table>
<thead>
<tr>
<th>Section length (km)</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V &lt;</th>
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<tr>
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<td>381</td>
<td>1.495</td>
<td>739</td>
<td>568</td>
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Questions?

Contact:

Naam
E-Mail
Back-up slides
## Project budget

<table>
<thead>
<tr>
<th>Description</th>
<th>m€</th>
<th>%</th>
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<tbody>
<tr>
<td>Operational preparations, design, pilots,...</td>
<td>0,96</td>
<td>4%</td>
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<tr>
<td>Construction</td>
<td>18,60</td>
<td>81%</td>
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<td>Master plan, communication and dissemination</td>
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<tr>
<td>Project management</td>
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<td>9%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>23,01</strong></td>
<td><strong>100%</strong></td>
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Of which CEF contribution: 11,51 (50%)
Of which private investors: 9,30 (40%)
Others: 2,21 (10%)

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Connecting Europe Facility
Watertruck+ animation movie

https://www.youtube.com/watch?v=75St6sC0qTI

Keep up to date on www.watertruck.eu !
Origin & challenges

• Challenge 1: shortage of small ships
• Challenge 2: lack of staff and skippers
• Challenge 3: limited use of small inland waterways
• Challenge 4: improve inland navigation in city centres
### Evolution Belgian fleet

**marketshare, number en loading capacity per classe**

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<thead>
<tr>
<th>YEAR 2000</th>
<th>YEAR 2010</th>
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<tbody>
<tr>
<td><strong>tonnes</strong></td>
<td><strong>number</strong></td>
</tr>
<tr>
<td>250-450</td>
<td>440</td>
</tr>
<tr>
<td>451-650</td>
<td>180</td>
</tr>
<tr>
<td>651-850</td>
<td>125</td>
</tr>
<tr>
<td>851-1000</td>
<td>79</td>
</tr>
<tr>
<td>1001-1400</td>
<td>202</td>
</tr>
<tr>
<td>1401 and up</td>
<td>132</td>
</tr>
<tr>
<td><strong>totals</strong></td>
<td><strong>1158</strong></td>
</tr>
</tbody>
</table>

- **= decrease by more than 50%**
- **= decrease by more than 30%**
- **= increase by 80% - 100%**
- **= difference < 11%**

**Source:** COMiSOL on basis of ITB data
## Evolution Belgian fleet

market share, number en loading capacity per classe

<table>
<thead>
<tr>
<th>tonnages</th>
<th>2000</th>
<th>2015</th>
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<tbody>
<tr>
<td></td>
<td>number</td>
<td>%</td>
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<tr>
<td>250-450</td>
<td>440</td>
<td>38%</td>
</tr>
<tr>
<td>451-650</td>
<td>180</td>
<td>16%</td>
</tr>
<tr>
<td>651-850</td>
<td>125</td>
<td>11%</td>
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<tr>
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</tbody>
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= decrease by more than 50%

Source: COMiSOL on basis of ITB data
Origin & challenges

- Challenge 1: shortage of small ships
- Challenge 2: lack of staff
- Challenge 3: limited use of small inland waterways
- Challenge 4: improve inland navigation in city centres