Watertruck+

Danube Commission

June 8th, 2017

Budapest

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

Approval received in June 2015; formal approval and Grant Agreement signed by the EC on 3/12/15

Focus on:

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

Co-financed by the European Union
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

Co-financed by the European Union
Connecting Europe Facility

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 capillar 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

Co-financed by the European Union
Connecting Europe Facility

...aims to reduce the environmental impact of IWT...

- Watertruck+ will:
  - Constrain emmissions of polluants (NO_X $PM_{2,5}$): comparable to the EURO VI norm of road transport
  - 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

Co-financed by the European Union
Connecting Europe Facility

...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 het total number of the CEMT class I-IV.

  < > each year 1% of this fleet disappears.

Co-financed by the European Union
Connecting Europe Facility

...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

Co-financed by the European Union
Connecting Europe Facility

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 imput 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

Co-financed by the European Union
Connecting Europe Facility

Watertruck+ barges

General lines plan July 2016	Dimensions (afmetingen)						Payload capacity				
	LOA (lengte)	BOA (breedte)	Height (holte)	Airdraft (vrije hoogte)	Light ship (casco)	Max draft	Hold volume	Hold length	Max payload	TEU	TPC / immersion
	(m)	(m)	(m)	(m)	(ton)	(m)	(m^3)	(m)	(ton)	(TEU)	(ton)
CEMT I	38,50	5,05	2,95	3,70	86,00	2,80	486	29,75	416	8	1,87
CEMT II long	50,00	6,60	2,95	4,20	119,80	2,80	899	41,25	751	24	3,23
CEMT II short	40,00	6,60	2,95	4,20	100,70	2,80	681	31,65	550	20	2,55

Co-financed by the European Union
Connecting Europe Facility

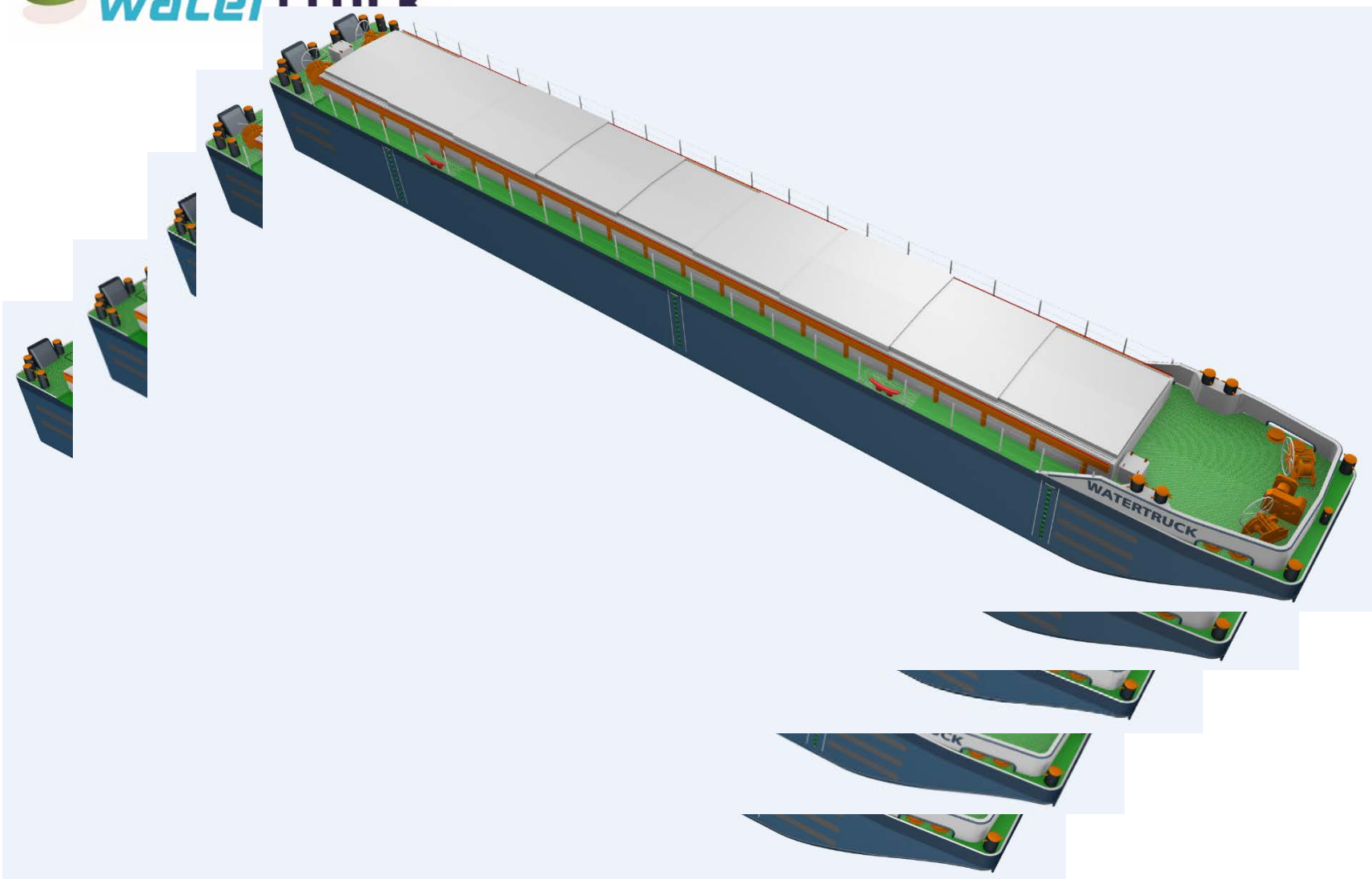
Watertruck+ barges

Proposed standards for CEMT III and IV barges

	LOA	BOA	Draught
CEMT IIIS	35	8,20	2,80
CEMT IIIL	70	8,20	2,80
CEMT IVS	65	9,50	3,00
CEMT IVL	80	9,50	3,00

Co-financed by the European Union
Connecting Europe Facility

watertruck+



Co-financed by the European Union
Connecting Europe Facility

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

Co-financed by the European Union
Connecting Europe Facility

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

Co-financed by the European Union
Connecting Europe Facility

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

	I	II	III	IV	V <
Section length (km)	381	1.495	739	568	3.027
			3.183		3.027

Co-financed by the European Union
Connecting Europe Facility

Questions?

Contact:

Naam

E-Mail

Back-up slides

Project budget

	in m€	in %
Operational preparations, design, pilots,...	0,96	4%
Construction	18,60	81%
Master plan, communication and dissemination	1,32	6%
Project management	2,14	9%
Total	23,01	100%
Of which CEF contribution	*11,51*	*50%*
Of which private investors	*9,30*	*40%*
Others	*2,21*	*10%*

Co-financed by the European Union
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 loadingcapacity per classe

	YEAR 2000				YEAR 2010			
tonnes	number	%	capacity (tonnes)	%	number	%	capacity (tonnes)	%
250-450	440	38%	162422	17%	196	23%	72241	7%
451-650	180	16%	103374	11%	87	10%	49525	5%
651-850	125	11%	90524	9%	78	9%	56757	5%
851-1000	79	7%	73487	8%	55	7%	51175	5%
1001-1400	202	17%	245524	25%	209	25%	254947	24%
1401 and up	132	11%	296240	30%	221	26%	591838	55%
totals	1158	100%	971571	100%	846	100%	1076483	100%

= 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

marketshare, number en loadingcapacity per classe

	YEAR 2000				YEAR 2015			
tonnes	number	%	capacity (tonnes)	%	number	%	capacity (tonnes)	%
250-450	440	38%	162422	17%	135	19%	49559	5%
451-650	180	16%	103374	11%	75	11%	42587	4%
651-850	125	11%	90524	9%	56	8%	40894	4%
851-1000	79	7%	73487	8%	34	5%	31590	3%
1001-1400	202	17%	245524	25%	187	26%	231534	23%
1401 and up	132	11%	296240	30%	219	31%	591974	60%
totals	1158	100%	971571	100%	706	100%	988138	100%

= 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