EU Strategy for the Danube Region

Priority Area 1a – To improve mobility and multimodality: Inland waterways

7th Meeting of the Working Groups for Priority Areas 1a of the EUSDR

Bucharest, Romania
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MINUTES

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Venue: Parliament Hotel, 106 Strada Izvor, 5th District, 050564, Bucharest, Romania

Attendants: 30 attendants representing public authorities, shipbuilding industry, the private shipping companies as well as non-governmental organizations and representations of interest in the field of inland navigation (see attached list of attendants)

1. Welcome and introduction to the 8th Meeting of Working Groups of Priority Area 1a

Mr. Gert-Jan MUILERMAN, the representative member of the Technical Secretariat for Priority Area 1a, welcomed the participants of the 7th Working Group meeting of the EUSDR PA1a. The agenda of the meeting and a short introduction to the activities of Priority Area 1a was presented.

2. Working Group on Fleet Modernisation

THEME: Solutions to green the inland shipping industry: the H2020 EU project PROMINENT

Speaker: Mr. Juha SCHWEIGHOFER (viadonau / WP1 Leader of PROMINENT project)

Mr Schweighofer presented the core contents produced within the first year of implementation of the PROMINENT project (co-funded within the HORIZON2020 programme). The work carried out so far includes:

1. State of the art and promising technologies: greening technologies and concepts for inland vessels
   - Long list of promising technologies
   - Short list of promising technologies
2. Best available greening technologies and concepts for the European inland fleet
   - Detailed assessment criteria
   - Main European fleet families and their requirements towards greening technologies and concepts
   - Description of the best available greening technologies and concepts
3. Conclusions and recommendations

Fact sheets of the most-promising technologies have been developed:

- LNG
- SCR, DPF
- Energy-efficient navigation
- Installation of new engines (assessment: measurements, simulations)
- Hybrid and right sizing concepts (assessment: measurements, simulations)
- GTL (monitoring of vessels).

THEME: Topofahrt – energy-efficient navigation

Speaker: Mr. Benjamin Friedhoff (DST)

Mr Friedhoff presented result so the Topofahrt project. He explained the main physical principles explaining behind the power demand and vessel speed (including fuel consumption). Power demand rises disproportionately with speed in inland navigation. Within the Prominent project (SWP 5.4) BAW, TNO, DST and others have teamed up to:

Develop a novel trip advisory tool

- Optimization based on detailed waterway and ship data
- Comparison of sailing policies
- Constant speed through water/over ground. Different strategies:
  - Constant power
  - Constant RPM
  - Minimized average depth Froude number
  - Optimized speed profile

Combining different measures offers high potential for improved energy efficiency.

Discussion:

- The presentation mentioned effects of fuel reduction under circumstances of 3m draught. This might be relevant for the Rhine area, but for the Danube corridor this might be seen as optimum circumstances. Some Danube stretches have only 2 metres fairway depth in low season.
- PROMINENT should also show the effects of shallow water sections on fuel consumption and emission profiles. This is relevant information for policy makers, who should be made aware of the effects of infrastructural improvements on draught but also on fuel consumption and emissions to air.
- Regarding smart steaming: the effects of synchronised lock operations (“green wave”) should also be analysed.
- The reason why fuel efficient navigation was selected for a Prominent pilot is its potentially wide applicability. It can also be applied on a large majority of existing vessels.

THEME: Developments in the usage of LNG as fuel in inland waterway vessels

Speaker: Mr. Bas Kelderman (EICB)

Mr Kelderman introduced the main activities of the Expertise and Innovation Centre on Inland Navigation (EICB) in the Netherlands. One of the main merits of this institution is the close link to private industry and the ministry. The EICB has promoted LNG right from the beginning. The mts Argonon was the first newly built LNG tanker. Ms Nordwand is the first retrofitted LNG vessel in operation. Efforts have also been aimed at extending the land-side LNG bunkering infrastructure (e.g. Antwerp). From the regulatory side the CESNI standards have now included technical standards for LNG on inland vessels (in cooperation with CCNR).

The EICB innovation lab aims at the greening of 4.100 inland vessel engines, which currently do not meet CCNR II standards. EICB is one of the main drivers behind the European Inland Barging Innovation Platform (EIBIP).

Discussion:

- Key recommendation for the Danube Region would be to promote LNG and its bunkering infrastructure. Based on the LNG Masterplan the first LNG terminal in Ruse will start operations soon. Furthermore, investments in bio-LNG and liquefication of ordinary natural gas would be ways forward.

THEME: Innovative inland waterway vessels for the Danube region

Speaker: Mr. Vasile Giuglea (Ship Design Group)

Mr Giuglea introduced three innovative vessel concepts under development by SDG:

- LNG fuelled pusher
- High-efficient passenger vessels
- Research for non-conventional hydrodynamic solutions

Discussion:

- Could incoming water be used to generate electric energy on board (in addition to solar power)? Not yet possible, but interesting idea.
- Reduction of energy consumption is a matter of further developmental work. For instance LNG vessels would need to be adapted to the specific Danube needs.
- Another weak point in Danube navigation is the occurrence of debris in the fairway.

THEME: Modernisation of the inland waterway fleet in the Danube region – activities performed by NAVROM

Speaker: Mr. Roman Igor (NAVROM)

Mr Igor of NAVROM presented the ship owners view on fleet modernisation. The self-propelled fleet of NAVROM includes:

- 26 pushers, power range between 1600-3500 HP;
- 10 pushers, power range between 560-1100 HP;
- 5 tugboats power range between 150-550 HPP;
- 2 motor vessels of 1975 tons each.

The benefits of fleet modernization for NAVROM were:

- Rise up to 30% navigation speed;
- Emission class rise to CCNR 2;
- Reduce fleet crew member for 20%;
- Reduce time for regular reparation for 20%;

All presented benefits result in a decrease of operational costs.

Discussion:

Good cooperation between R&D and commercial fleet operators like is NAVROM is key to success.

THEME: Fleet modernisation: What do we finally need for a successful realisation?

Speaker: Mr. Manfred Seitz (Pro Danube International)

Mr Seitz of Pro Danube International presented views on how to implement the available modernisation technologies. The support to modernization of Danube fleet is concentrated on three main topics:

- Propose & implement EU funded initiatives and projects for higher efficiency of operations & environmental performance
- Promote development of long-term public funding schemes for fleet renewal
- Promote & support implementation of LNG as fuel as well as cargo for Danube navigation

Discussion:

- PDI proposes to create a policy umbrella with the name Green Deal for Danube River Transport, in order to also mobilise political forces. Under this umbrella, also fleet modernisation projects should take place, such as the Green Danube Fleet Action Programme and a Ports Development Strategy & Action Plan (Daphne as first implementation project).

Enclosures

(1) Agenda

(2) List of attendants

(3) PowerPoint Presentations