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European Project SUSTRAIL on rail freight systems presents its results during its Final Conference in Brussels

The sustainable freight railway: Designing the freight vehicle - track system for higher delivered tonnage with improved availability at reduced cost

(Brussels, 21 May 2015) The SUSTRAIL consortium and the International Union of Railways (UIC) held the SUSTRAIL Final Conference today at the Royal Flemish Academy in Brussels, offering issues for debate to participants – including railway suppliers, research groups, railway operators (undertakings and infrastructure managers), the chance to discover the main achievements of the projects and to be informed of the use of the project's results, guaranteeing that project solutions will satisfy user needs and fulfil railway requirements, railway organisations at EU and international level.

Launched in June 2011, and ending on 31 May 2015, SUSTRAIL is a four-year collaborative R&D project co-funded by the European Commission within the FP7, with the overall objective to support the freight railway in regaining a primary position in the market, accounting for:

- The increase in demand of the total freight transport volumes: about 40% (in tonne-kilometres) by 2030 and 80% by 2050;
- The shift of 30% of road freight over 300 km to other modes such as rail or waterborne transport by 2030 (50% by 2050) as targeted by the European Commission.

Mr Hans-Günther Kersten, Director of the UIC Freight Department, gave an introductory speech on behalf of UIC. He highlighted UIC's important role of disseminating the project results, as dissemination is an integral part of its core business of sharing knowledge with its Members. He said: *"SUSRAIL set itself some very ambitious goals which have been successfully achieved. The project was guided by a systemic approach which is becoming standard in all research projects. This systemic approach and consideration for the interaction between vehicle and track has produced a tangible innovation in the shape of a track-friendly bogie, which is aimed at limiting vulnerability to which infrastructure is subjected due to rail traffic."*

Dr Gerhard Troche, representing the European Commission, gave an opening address in which he spoke of the key challenges of rail freight in terms of quality, cost, service, and securing political support. He stressed the importance of the White Paper on Transport – the 2050 vision for rail freight – outlining the use of energy-efficient modes and the importance of reinforcing cooperation among infrastructure managers, improving capacity, harmonising standards and providing rail freight services of good quality to meet customer needs. He added that it was a key initiative of the Commission to revitalise the European rail freight system and to achieve the objectives of the White Paper on Transport.

Highlights of the programme included:

- Integrated approach for an increased performance in the freight rail system (D'Appolonia)
- The freight train of the future (Huddersfield University)
- Novel wheel profiles and (Lucchini, Politecnico di Milano,
- Improved braking systems (KES GmbH)
- Lightweight solutions for bogie and wagon structures (Newrail)
- Condition monitoring for the freight rail vehicle and for the rail track (Mermec)
- Performance based design principles towards a "zero" maintenance track (Network Rail, D'Appolonia)
- Supportive ballast and substrate (D'Appolonia)
- Switches and crossing (University of Huddersfield)
- Track based condition monitoring (Mermec)
- Establishing the business case (Univesrity of Leeds)
- LCC and RAMS analysis (Lulea Technical University)
- User and environmental benefits, (University of Leeds),
- Technical implementation (Network Rail, Gruppo CLAS)

Under the theme of the freight train of the future, the work package leaders were able to present the results of their studies and tests carried out on a prototype bogie. Tasked with designing a rail freight vehicle which is environmentally-friendly, lightweight, low-noise and improved running gear, the work package leaders showed the testing of the bogie and described the main parameters, concepts and challenges throughout the design and testing process. They explained how they were able to implement a new and improved braking system.

By taking a holistic and integrated approach, the SUSTRAIL project was able to achieve successful results. What now remains to be done is to translate the project's results into standards – into Technical Specifications for Interoperability, EU legislation and European Standards from European Committee for Standardization Controls (CEN), and more generally into guidelines and recommendations from UIC.

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