A European Project supported through the Seventh Framework Programme for Research and Technological Development.
Overview:

- SUSTRAIL enters its second year of activities
- What happened in the last six months – Work package highlights
- Save the date: Mid-Term Conference – Why attend the conference
- Next events where SUSTRAIL will be presented

Content

Sustrail enters its 2nd year of activities

The SUSTRAIL project “The sustainable freight railway: designing the freight vehicle – track system for higher delivered tonnage with improved availability at reduced cost” is an initiative co-funded by the European Commission, started in June 2011 and ending in May 2015.

SUSTRAIL entered its 2nd year of activities in June 2013. This event was celebrated by the SUSTRAIL General Assembly held in Bucarest (Romania) on May 29-30, 2013.

More than 20 people, representatives of the 29 SUSTRAIL partners, attended the General Assembly meeting that was hosted by the Romanian Railway Authority (AFER). The meeting was the occasion to present the technical activities carried out in the last six months, as well as the occasion to kick-off the Work Package 6 activities that are related to technology demonstration. Indeed on Day 2 of the General Assembly, the partners visited AFER’s Testing Facilities in Făurei – the Făurei test track – where SUSTRAIL innovations on vehicle and track will be demonstrated.
What happened in the last six months – Work package highlights

Work Packages 3, 4 and 5 are now turning into their core technical activities towards the achievement of the project milestones and results.

WP3 is working on the “Freight Train of the Future”, having as its main objective to come up with solutions for freight vehicle innovation at different levels: an improved conventional vehicle using optimised existing technology; and a futuristic design of a sustainable freight bogie utilising technology which has not yet been proven in the railway field but has great potential. Investigations have been made on new wheel profiles and improvements in suspension design for a mixed traffic railway; traction and braking systems for high-speed, low-impact freight operations; novel materials for lightweight, high-performance freight wagon body and bogie structures; advanced condition-based predictive maintenance tools for critical components of both railway vehicles and the track.

WP4 is on the other side, working on the “Sustainable Track”. Building upon the duty requirements defined within WP2, optimised track design and maintenance approaches have been investigated to move towards the ‘zero maintenance requirement’ goal. Track failures have been identified and prioritized by means of a Failure Mode and Effect Analysis (FMEA) to determine where to focus activities. The outputs from the FMEA have resulted in a number of solutions being considered for further investigation and to support whole life analysis by the business cases to be carried out in Work Package 5.
Indeed, WP5 “Business Case”, which builds upon the identification of innovations and upgrades in both freight vehicles and infrastructure, aims at providing, on a qualitative and economical basis, the potential costs and benefits for end users of the proposed SUSTRAIL innovations. Recommendations for whole-system implementation, including phasing-in of novel technologies and strategies for the equitable redistribution of whole-system savings, have been the subject of a preliminary study.

Finally, several dissemination actions were carried out in the framework of WP7 “Dissemination and Exploitation”. Among these, an article on the SUSTRAIL project has been published in the November issue of the Romanian magazine “Railway Pro” (www.railwaypro.com). The article describes the past activities of the project and the recent highlights.

Sustrail Mid-Term Conference
The Mid-Term Conference of the SUSTRAIL project is being held at UIC Headquarters in Paris on December 4th, 2013.

This event offers the opportunity to discover the main results achieved by the project over the last 24 months, including the initial outcomes from the combined approach SUSTRAIL is working on that integrates vehicle and track innovations for a more sustainable freight railway. Also, the event is the occasion to plan for the project’s forthcoming activities and to pave the way for the exploitation of the project results.

Why attend the conference
The conference is the occasion to disseminate the holistic approach and the integrated methodology (i.e., innovations in both freight vehicles and track infrastructure components) adopted in SUSTRAIL to support the freight railway to regain a primary position in freight transport.

The following are the conference topics:

- Integrated approach for an increased performance in the freight rail system (Network Rail, D’Appolonia)
- Current and future trends in freight systems and freight traffic flows (Newrail, Network Rail, Adif, Marlo)
- Novel wheel profiles and improved braking systems (Lucchini, Politecnico di Milano, KES)
- Improved bogie design and lightweight body shell (Newrail, University of Huddersfield)
- 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)
LCC and RAMS analysis (Lulea Technical University)

Novel business models, including user and environmental benefits, and technical implementation (University of Leeds, Network Rail, Grupo Clas)

For more information about SUSTRAIL, visit us at www.sustrail.eu

Next events where SUSTRAIL will be presented

**IAVSD 2013**
SUSTRAIL will be presented at the International Symposium on Dynamics of Vehicles on Road and Tracks, IAVSD 2013 (http://www.raillynews.com/tag/iavsd-vehicles-on-road-and-tracks/), to be held in Qingdao (China) in August 19-23, 2013, with an article entitled:

- The ‘SUSTRAIL’ high speed freight vehicle: Simulation of novel running gear design

**RAILWAYS 2014**
SUSTRAIL will be presented at the 2nd International Conference on Railway Technology: Research, Development and Maintenance, Railways 2014 (http://www.civil-comp.com/conf/railways2014.htm), to be held in Ajaccio (France) April 8-11, 2013, with an article on:

- Investigating the railway infrastructure through numerical analysis: guidelines for reinforcement and ground stabilization

**TRA 2014**
SUSTRAIL will be presented at the Transport Reseact Arena TRA2014 (http://tra2014.sciencesconf.org/), to be held in Paris April 14-17, 2014. Two articles will be presented there:

- The SUSTRAIL high-speed freight vehicle: innovations and the assessment of the benefit and costs
- Numerical Investigation of Railway Infrastructure Through Ground Stabilisation Techniques