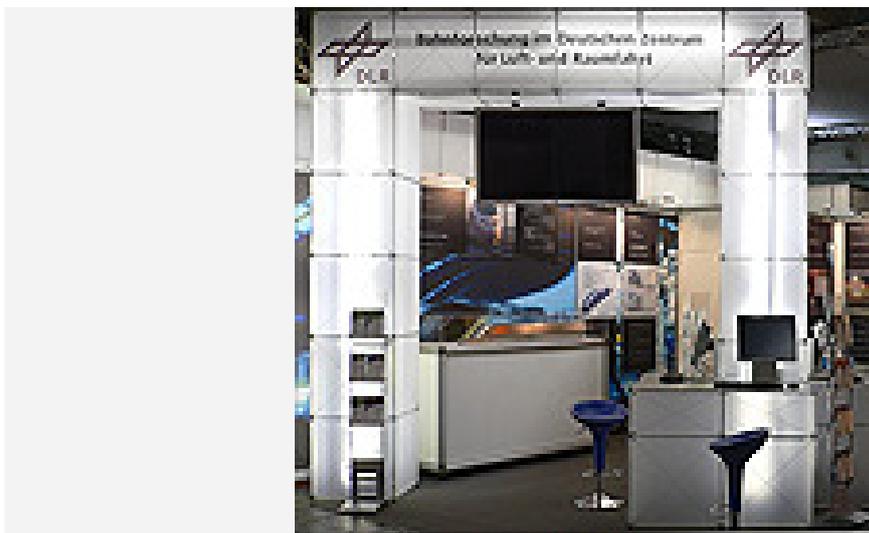

News Archive Transportation until 2007

DLR rail research on show at InnoTrans, Berlin

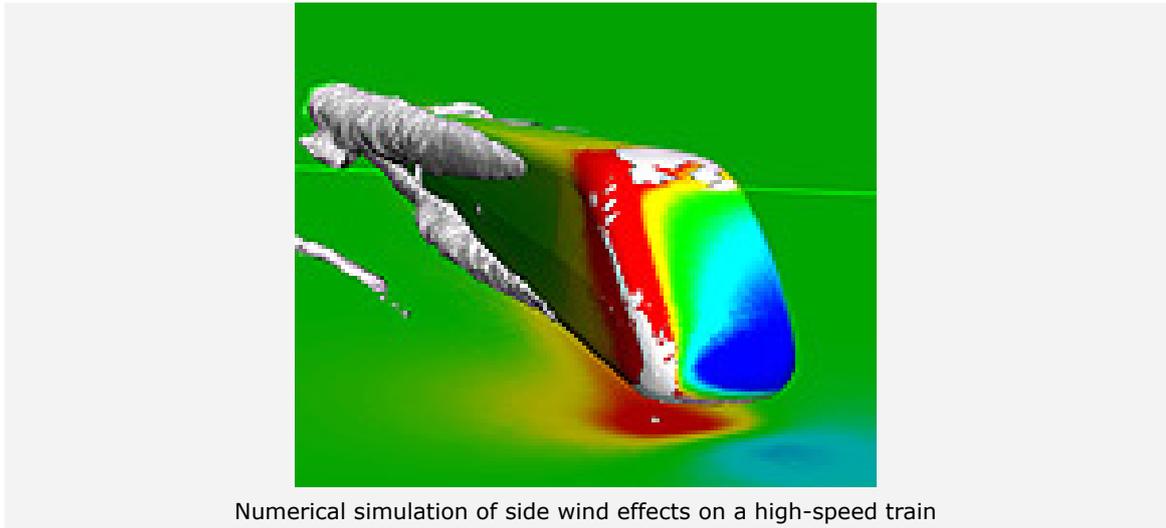
18 September 2006



Meet us at the InnoTrans! 19-22 September 2006, Messe Berlin, Hall 4.1, Stand 129

The aerodynamics of trains is just one of the topics from the German Aerospace Center (DLR) that will be on display at InnoTrans, the international trade show for rail traffic technology, from 19-22 September 2006, in Berlin. In addition, DLR scientists will highlight wind tunnel research, which was used to design the shape of ICE 1 trains. Also on display will be the newest optical measuring techniques for wind tunnels, all as part of the "Rail Research at the German Aerospace Center" showcase.

During the four-day Berlin InnoTrans event, DLR will showcase a wide spectrum of rail transportation research activities. One highlight of recent research work will come from the DLR Institute of Aerodynamics and Flow Technology, in Göttingen. Institute scientists have equipped special wind tunnels with the latest modern optical measuring equipment. For the first time, air flow and density field surveys for high-speed train models are being tracked in the Cryogenic Wind Tunnel, in Cologne, and in the High-Pressure Wind Tunnel (HDG), in Göttingen (both are part of the German-Dutch Wind Tunnels (DNW) programme), providing a realistic simulation of the Reynolds number, a physical quantity used by engineers to characterise the flow of air around a moving object.



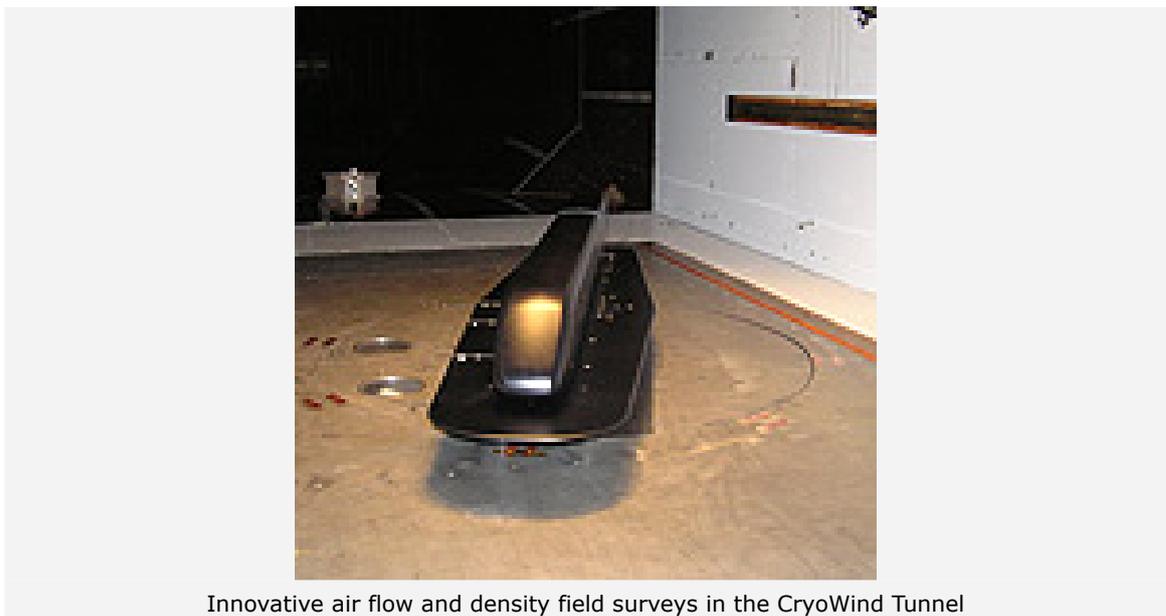
Numerical simulation of side wind effects on a high-speed train

Due to the increasing importance of high-speed rail transportation, DLR is now focusing not only on aerodynamic optimisation for trains, but also on sustaining and improving safety and boosting environmental friendliness. Significant aerodynamic investigations are thus being accomplished both in the context of framework programme research projects and in close co-operation with train manufacturers.

A second element of the DLR presence at InnoTrans will be provided by DLR's Institute of Traffic Management and Vehicle Control. Scientists from the Brunswick, Germany-based institute will showcase their activities directed at traffic management and safety technology, including their railway simulation laboratory, dubbed RailSiTe®, which provides modular real-time simulation.

RailSiTe® enables new systems and components to be tested for intercompatibility and safety, independent of individual manufacturers. The uniform European Train Control System, which is scheduled to replace the 16 different systems now in use in Europe, places emphasis on research and development in the face of diverse challenges. DLR aims to provide important enabling technologies, including new components and systems, and develop deployment strategies in which migration can take place efficiently and effectively

The Stuttgart-based DLR Institute of Vehicle Concepts will also display rail-running vehicles of the future. The aim is to inform InnoTrans visitors of their present state of development, new technologies and driving mechanisms. Included in the presentation will be the latest composite construction elements and modular train car structures. In Stuttgart and other research institutes, energy flows within vehicles are being successfully modelled with the aim of deploying a working hybrid energy storage system.



Innovative air flow and density field surveys in the CryoWind Tunnel

Further, train transportation applications based on the Galileo satellite navigation system are being developed by DLR's Institute of Traffic Management and Vehicle Control, working together with the Institute of Communications and Navigation, located in Oberpfaffenhofen, Germany. The Galileo system will be capable of providing precise location information, which, for example, could be used to validate train integrity or to avoid collisions.

Focusing on passenger and freight traffic, InnoTrans, with its prime focus on rail transportation technology, is considered to be the top international venue for vendor and user communities alike. DLR aims to promote itself at the trade show in Berlin, home to some 220 transportation engineering companies, as a reliable partner for a diverse and growing range of transportation research activities.

Related Contacts

Vera Neumann

German Aerospace Center
Institute of Transportation Systems
Tel: +49 531 295-3405
Fax: +49 531 295-3402
E-Mail: vera.Neumann@dlr.de

Cordula Tegen

Deutsches Zentrum für Luft- und Raumfahrt (DLR) - German Aerospace Center
Corporate Communications
Tel: +49 2203 601-3876
Fax: +49 2203 601-3249
E-Mail: Cordula.Tegen@dlr.de

Contact details for image and video enquiries as well as information regarding DLR's terms of use can be found on the DLR portal imprint.