Press release

Bosch heads up research project

**IT solutions to stabilize connected logistics systems**

Using real time data from production and logistics to aid decision making

- ProveIT project receives funding from German Federal Ministry for Economic Affairs and Energy
- Focus on developing a software platform for informed manual interventions in connected logistics systems
- Aim: cost-effective and reliable supply chains

Stuttgart – Industry and commerce now depend more than ever on reliable logistics. In practice, however, supply chains face numerous challenges from disruptions such as traffic jams, technical issues, missing goods, and any number of other unforeseeable circumstances. This then calls for manual correction. In the ProveIT project (production plan based recovery of vehicle routing plans within integrated transport networks), researchers are now developing an IT platform that will give dispatchers the tools they need to make objectively assessed and dependable interventions in connected logistics systems. The aim is to build up reliable, cost-effective supply chains that are not disrupted due to misguided reactions and interventions. Following approval by the German parliament, the research project is receiving funding of 2.8 million euros from the German Federal Ministry for Economic Affairs and Energy. Robert Bosch GmbH is acting as the lead partner.
Logistics chains and the butterfly effect
The logistics sector still lacks this sort of decision aid. As supply chains become more and more complex, covering large areas and running according to tight schedules, any disruption – as well as any reaction to a disruption – has a knock-on effect on the entire logistics network. Without access to a reliable set of data and a high-performance IT platform, it is extremely difficult for logistics employees to assess what corrective action makes sense in any given situation. The ProveIT platform will supply dispatchers with the information they need to respond correctly to disruptions. It is also designed to restore disrupted transport networks to their normal operational state quickly. Reliable logistics networks are also a core component of connected industry (industry 4.0).

Incorporating production data
The project team is drawing on a range of familiar technologies, including vehicle tracking using GPS and software for transport planning. What's new is that production information is also incorporated into the decision making process. How urgently does the auto plant, say, need the materials it ordered? Is it a case of topping up supplies, or will production break down if the materials are not delivered promptly? Big data relating to unit sales of products and the traffic situation can also be incorporated into the platform, which will pool all this information and provide users – both companies and logistics service providers – with a range of services for planning and managing logistical processes. For instance, if actual data begin to depart from target data, the platform will warn users and display appropriate responses. The responses offered will take into account the implications for the whole transport network, considering actions holistically rather than in isolation. To enable the platform to factor in real-time data such as vehicle position or delivery status, the project partners are also developing an application that truck drivers can use on their mobile devices.

Bringing together partners from industry, IT development, and research
Together, the members of the project consortium possess all the expertise needed to develop and run the ProveIT platform. Robert Bosch GmbH is heading the project and, like ZF Friedrichshafen AG, is an industrial user of the platform. The logistics service provider Geis has assumed responsibility for the planning of transport operations and operational implementation. The IT providers LOCOM and PTV are developing system solutions for transport planning and management, while the Research Center for Information Technology (FZI) at the Karlsruhe Institute of Technology (KIT) is overseeing the components used to manage irregularities and disruptions. Responsibility for the global concept and scientific approach lies with the Institute for Materials Handling and Logistics (IFL).
at the KIT. In the first phase of the project, the consortium will build up a common system architecture, which will then be tested and refined in pilot operation.

**More efficient logistics**

ProveIT won’t just benefit industry and its suppliers; commerce and transport companies stand to gain as well. The project provides improved tactical support by stabilizing logistics systems in the event of disruption and bringing them back on schedule. This makes supply chains more cost-effective – the project partners anticipate that ProveIT will be able to reduce total mileage by 5 percent for a given transport volume, with all the savings that brings in terms of energy, costs, and CO2 emissions. The project is due to run until fall 2016.

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**Project partners:**
Robert Bosch GmbH  
ZF Friedrichshafen AG  
Geis Transport und Logistik GmbH  
LOCOM Software GmbH  
PTV Planung Transport Verkehr AG  
Research Center for Information Technology (FZI) at the Karlsruhe Institute of Technology (KIT)  
Institute for Material Handling and Logistics (IFL) at the Karlsruhe Institute of Technology (KIT)

**Contact person for press inquiries:**
René Ziegler,  
phone: +49 711 811-7639

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The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as “Workshop for Precision Mechanics and Electrical Engineering.” The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. 92 percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

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