

## PRESSE RELEASE

### Wagonload logistics in rail freight transport: Process improvements due to telematics

**The objectives of the European research and development project ViWaS (Viable Wagonload Production Schemes) are ambitious. The participating companies, research institutes and universities from Belgium, Germany, France, Italy and Switzerland are aiming jointly at the development of innovative and at the same time practical solutions in order to ensure a sustainable wagonload transport. A few solutions were presented at the ViWaS workshop „Telematics in wagonload transport“ on 22nd October in Munich.**

About a year after project launch, 30 representatives of companies and committees participating in ViWaS as well as other stakeholders of wagonload transport and the European Railway Agency met at the workshop. “On the one hand, the market share of wagonload transports has decreased in the past years throughout Europe – as a result of high production costs and non-competitive quality standards”, explained Niklas Galonske, ViWaS project manager of the consulting and software company HaCon. “On the other hand, wagonload transport is still a vital transport chain component in some industries such as the chemical industry.” The focus of the workshop at Deutsches Museum, Transportzentrum was on telematics applications. “We have legitimate expectations that their employment will lead to a regain in market shares for rail transport“, Galonske said. “Modern telematics systems are able to improve the process stability and competitiveness of rail transports significantly.”

Reports from users, such as HIM GmbH (former Hessische Industrie Müll GmbH), are exemplary for the necessity of telematics applications in wagonload transport. The company HIM incinerates nearly 120,000 tonnes of hazardous waste per year. This requires the right waste composition to “feed” the furnaces with. “Otherwise, the incineration would not be consistent, low-emission and would first of all be unprofitable”, explained Dr. Eckart Schultes, the former company’s Managing Director. In order to meet these requirements, the dispatching generates so-called incineration plans. “For the co-workers it is important to know the position of a certain delivery by rail in order to be able to compensate deliveries in case of a delay.” More frequently, the customers of logistics companies themselves demand for tracking of wagonloads in their bid invitations. According to Dr. Schultes, “clients that reorganise large hazardous waste dumps call for permanent tracking of involved wagons and respective loads” HIM has been able to meet this requirement. Based on Eureka’s telematics system it was possible to realise a target/actual comparison of the transport process for the individual rail wagons.

Victor Behrends of the Munich based Eureka Navigation Solutions AG who was responsible for design of this system, explained the concept behind: “aJour” is a new, energy autonomous GPS/GSM tracking system which enables transport monitoring. The telematics units are installed either outside or hidden inside of a wagon and deliver GPS and GSM positions via mobile radio to the Eureka host system. Here the information is been processed and directly delivered to the client’s dispatching systems. This data that is collected independently from railway infrastructure companies enables a transparent transport chain and meets modern logistics requirements regarding reliable information supply. “The combination of extremely

low-energy electronics, high-capacity batteries and an intelligent device software is very important for the system”, explained Behrends. Only the system’s batteries have to be replaced after a four to eight years usage.

But there is more than simple tracking behind the current development, revealed Behrends. “In order to detect damages, sensors are able to measure impacts within defined threshold values”. This is particularly useful“ when it comes to to recourse and liability cases. With telematics it can be determined when and where damage has occurred – it increases the transparency of rail-based transport chains majorly.”

Another telematics application example was presented by SBB Cargo. The Swiss Split concept allows container transports from North Sea ports through Swiss terminals up to client’s railway siding. In 2012, more than 51,000 sea containers were transported within this particular wagonload network. In order to optimise this transport chain further, new technical solutions are being developed within the project to improve loading and unloading at railway siding. Whereas today, containers are being transported by conventional flat wagons, in the future regular container wagons shall be combined with a new loading platform. These platforms bridge the gap between the container, the wagon floor and the loading ramp to make easy transshipment by fork-lift possible. For dispatching purposes, they are equipped with appropriate tracking devices. “This enables an uninterrupted monitoring of platforms at each location”, explained Katharina Litwin (SBB Cargo AG).

Examples like these show the demand and the scope of telematics applications. A fact that has been emphasized by Thomas Heydenreich from the International Union of Wagon Keepers (UIP). The focus of the companies represented by the UIP is lying more on the mileage recording. “If the operators know how many kilometres their wagons are running, they are able to plan the maintenance considerably more accurately.” The wagons are thus – assuming an appropriate system exists – only pulled in a workshop when it is actually necessary. This eliminates the inherent risk with fixed intervals that maintenance is conducted either way too early or way too late.

However, it cannot be denied by looking at existing solutions that European support is needed in order to achieve an extensive market penetration for telematics systems. According to the specialist’s credo during the subsequent discussion, the challenge for the next years will be to embed the new applications in a framework that meets the requirements of every company involved in the transport chain - and that actually meets market demands. “This framework will be built on European level based on the Technical Specifications of Interoperability (TSI) which will guarantee an efficient data exchange between operators in rail freight transport in the future”, referred Rodrigo Gutierrez of the European Railway Agency (ERA).

### **Abstract:**

Companies, universities and committees from Belgium, Germany, France, Italy and Switzerland that are involved in the European Research and Development project ViWaS (Viable Wagonload Production Schemes) are developing jointly innovative and at the same time practical solutions to ensure sustainable wagonload transport. At the Munich ViWaS workshop on 22<sup>nd</sup> October, specialists involved in the project presented how these solutions could look like. The focus was on telematics applications in rail freight transport. “We have legitimate expectations that their employment will lead to a regain in market shares for rail transport“, Galonske said. “Modern telematics systems are able to improve the process stability and competitiveness of rail transports significantly.”, said Niklas Galonske of the consulting and software company HaCon. “During the presentation moderated by Dr. Thomas Rieckenberg (International Railway Technology Consulting, Berlin), it became obvious that the issue of cost distribution for investments and operation of telematics systems still needs to be clarified. According to Rieckenberg, railway data users must agree on an adequate business model where data can be cumulated.

**Overview on ViWaS:**

Duration: 3 years, September 2012 – August 2015  
Budget: approx. 4.2 Mio. Euro, there of approx.  
Subsidies: 2.9 Mio. Euro, 7th EU Research Framework Programme  
Coordination: HaCon Ingenieurgesellschaft mbH, Hanover (Germany)  
Partners: Bentheimer Eisenbahn AG, Nordhorn (Germany)  
Eidgenössische Technische Hochschule, Zurich (Switzerland)  
Eureka Navigation Solutions AG, Munich (Germany)  
Fret SNCF, Paris (France)  
ConsortioIB Innovation, Bologna (Italy)  
NEWOPERA Aisbl, Brussels (Belgium)  
SBB Cargo AG, Basel (Switzerland)  
Technische Universität Berlin (Germany)  
Wascosa, Lucerne (Switzerland)

**About HaCon:** Traffic, transport and logistics are the main topics which HaCon focuses on for more than 25 years. A motivated team of meanwhile 190 employees which are experienced in informatics and traffic planning, turned HaCon into one of the leading specialists in planning, disposition and information systems. Furthermore, HaCon consults and supports its clients during the realisation of projects in rail and in combined transport.

**About Eureka:** The Eureka Navigation Solutions AG is an internationally oriented development, production and service company which develops and provides energy autonomous positioning, communication and smart-sensor system solutions for logistics and maintenance applications. Beside the satellite-based telematics system aJour for monitoring wagons and containers, Eureka also provides compact wireless sensors such as RodoTAG® which counts wagon and wheelset mileage and transmits the data automatically to the corresponding wagon keeper or user.

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