

The following is a translation of the press release at <http://www.hsb-wr.de/news/news-details/artikel/kollisionswarnsystem-fuer-die-HSB-auf-der-messe-innotrans-praesentiert/> from German to English

Collision Warning System for HSB presented at InnoTrans fair

Company from Gilching developed new safety system based on aerospace technology

Wernigerode - The train operator Harzer Schmalspurbahnen GmbH (HSB) has a narrow gauge network of a total length of 140.4 kilometers. Annually, more than 1.1 million passengers use the historic steam trains and railcars on the Brocken-, Harzquer- and Selketalbahn. The network is only single track and consists of numerous crossing opportunities. The sections Wernigerode - Brocken and Nordhausen - Ilfeld Neanderclinic are equipped with signals, on all other sections classic train control is based on radio clearances.

After the serious rail accident in Hordorf in January 2011, the legislature has mandated a train control system equipment for normal gauge networks on which more than one passenger train is on the way. To increase the safety of trains running on single-track narrow gauge networks, the Ministry of Regional Development and Transport of Saxony-Anhalt and the operator Harzer Schmalspurbahnen were looking for alternatives to the very cost-intensive equipment of locomotives and railway infrastructure with train control.

They identified a collision avoidance system that completely dispensed with the classic train control. The innovative company Intelligence on Wheels located in Gilching near Munich has developed the novel system based on aerospace technology. It monitors the operation of trains in addition to any existing security systems on site. All components are housed on board the trains. In contrast to the classic train control, no costly equipment to the track infrastructure is thus needed.

The system gathers all parameters of a train relevant for collision avoidance such as the exact location, speed, or even the braking efficiency. The information is directly communicated wirelessly to all equipped trains within range. If the system detects a critical situation, the train driver is warned acoustically and optically in good time before the possible collisions so the driver can thus stop the train in time.

A pilot installation at the Harzer Schmalspurbahnen – for the time being without formal safety responsibility – was tested in recent months, under supervision of the responsible railway authority. The steam locomotives 99 7236 and 99 7247 were equipped with the necessary components and performed special test and measurement rides in addition to the several daily regular scheduled runs. The aim of this pilot was to test the general applicability of the new safety overlay system under the very special conditions here, such as the daily steam train operation as well as the exceptional climatic and topographic conditions around the Brocken mountain and their impact on the availability and quality of the radio communications.

The new train collision avoidance system is currently presented at InnoTrans, the international fair for transport technology in Berlin. Today the Minister of Regional Development and Transport of Saxony-Anhalt, Thomas Webel, and media representatives have informed about the system itself and the successful pilot application at the Harzer Schmalspurbahnen. "Such an innovative safety system in historic trains will certainly arouse interest even beyond the borders of Saxony-Anhalt. We are proud to play a leading role here", said the Minister of Transport. Ultimately the tourism in the Harz region would benefit from all these efforts too.

The roll-out of the system to the whole fleet of Harzer Schmalspurbahnen is expected to take place by 2016, and will take effect on the single track sections first.



Were convinced about new the collision warning system at the exhibition stand at InnoTrans (left to right): Matthias Wagener (CEO of HSB), Thomas Webel (Minister for Regional Development and Transport of Saxony-Anhalt), Jörg Bauer (chief railway operations officer of HSB), Manfred Behrens (Member of Transport Committee of the Bundestag), Dr. Thomas Strang (CEO of Intelligence on Wheels) and Stefan Karnop (Head of Unit for public transport and railways in the Ministry of Regional Development and Transport of Saxony-Anhalt) (Photo: HSB / Dirk Bahnsen)