5L next – next generation of freight wagons.

Power Line Communication Train Backbone PTB.

plc-tec AG

Power Line Communication Train Backbone PTB – cost effective data communication on freight trains.

Power Line Communication Train Backbone PTB.

5L next – next generation of freight wagons.
Market changes, such as the fast-paced innovation on the roads or rising customer demands, are posing major challenges for European rail freight companies. But opportunities opened up by new technology offer great potential for developing the efficiency of freight services.

Innovative freight wagons are key to being able to take full advantage of the Internet of Things (IoT) and automation. As part of the 5L initiative, SBB Cargo, Hupac, VTG and the Federal Office for the Environment (FOEN) as well as many suppliers are developing the next generation of freight wagons.

The next generation is being completely redesigned. The chassis, for example, is considerably lighter than that of a conventional standard flat wagon. The middle segment is not welded but riveted and bolted – just like the lightweight production methods from the lorry sector. SBB Cargo's extensive modernisation steps offer major benefits for customers, wagon keepers, railway undertakings and infrastructure. Find out more at www.sbbcargo.com/innovation

Contact.
SBB Cargo AG, Olten, Switzerland
media.relations@sbbcargo.com / www.sbbcargo.com

PTB - data communication backbone based on high-reliable real-time power line communication allowing transmission of critical data over the electric power train bus bar of freight trains – saving the costs for separate data lines in wagons and on couplers.

PTB is based on plc-tec AG's own power line communication technology PLUS (Power Line data BUS) . PLUS was originally developed for mission- and time-critical applications in avionics, ensuring the fulfilment of real-time and high-reliability requirements. Such design goals are similar to the ones for PTB. With PTB an important step towards an integral communication solution as part of the intelligent freight train is made, enabling the following innovations:

- Cost-efficient automatic coupling

PTB will allow for a cost-efficient coupling solution where besides the coupling of mechanics and air only an electrical coupling needs to be realized. The communication link is automatically established via PLC as soon as the electrical connection is made. No separate coupling of data lines is required.

- Automation of train operations

The introduction of electrification and communications enables automation systems such as automatic brake testing, train integrity checks, automatic coupling, etc.

Company.
plc-tec AG, a spin-off of the Lucerne University of Applied Sciences and Arts, is a highly innovative Swiss SME combining more than 50 person year experience in PLC. It provides their clients PLUS System-on-Chip IP cores (firmware), system designs and knowhow for integration into their system products, providing them a substantial differential advantage in terms of savings in weight, space, costs and maintenance, for avionics, train, automotive and Smart Grids markets.

Contact.
plc-tec AG
Panoramastr. 5, 5607 Hägglingen, Switzerland
Phone +41 79 330 4151, info@plc-tec.ch
www.plc-tec.ch