

5L next –
next generation of
freight wagons.

Intelligent Modular Electronically Con-
trolled Pneumatic (ECP) Brake

Wabtec Freight Europe

WagonFlexx Intelligent Modular Electronically Controlled Pneumatic (ECP) Brake.



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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 light-weight 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

WagonFlexx is a modular ECP Brake. The SBB Cargo version is an Overlay architecture ensuring the ECP brake functionalities in a bogie-controlled arrangement including Wheel Slide Protection with a pure pneumatic UIC back-up for emergency brake but also compatibility with existing wagons.

Freight Trains are still using the historical pneumatic brake principle from Georges Westinghouse. This safe system has limitations in Europe (UIC) such as train length, longitudinal forces generation, non-optimized brake distances and no intelligence. The WagonFlexx ECP brake overcomes those limitations. It allows a uniform brake application and release along the Train thus reducing significantly the longitudinal stresses. Other benefits are numerous like homogeneous load distribution on the brake system and wheelsets (reduced wear, LCC), better speed control (energy saving), automatic brake test (train preparation, efficient automation) or continuous brake monitoring. Longer, heavier and faster trains can be operated. Digital Automatic Coupler and Train communication line backbone additionally enable the train integrity control, the propagation of customized alerts (derailment, hot box) which are the path to ATO, remote commands, logistic related data. WagonFlexx CAN-open protocol and modularity allows different emergency/safety/back-up strategies and can be adapted to customer specifications or future Interoperability European Normalization.

Company.

Wabtec is a diversified, global leader in equipment, components, services, software and systems for the transportation industry. Drawing on nearly four centuries of collective experience across Wabtec, GE Transportation and Faiveley Transport, the company is paving the way in safety, efficiency, reliability and productivity. As an integrated solutions partner, Wabtec provides innovative solutions for the transportation industry by improving interoperability, efficiency and competitiveness for customers.

Contact.

Wabtec Freight Europe
3, rue du 19 Mars 1962 – 92230 Gennevilliers CEDEX
freighteurope@wabtec.com, www.wabtec.com
Christian Holler, Sales & Marketing Director
+43 664 88715035, +43 (0) 1 89049 87 15