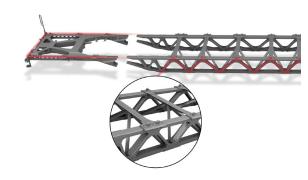






# Lightweight chassis for flexible logistics applications.



Lightweight chassis.

# 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

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Modular chassis offers flexible use for various transport tasks as well as for superstructures with higher service loads. Extensive manufacturing expertise enabled the transfer of lightweight structural engineering from the automobile to the rail and the application of more cost-effective manufacturing processes.

The innovative solution of a modular chassis consists of 3 parts. The two head sections can be combined with different middle section lengths and thus perfectly adapted for different superstructures. The innovative geometry of the head sections makes them usable for all types of couplings. We further developed our expertise from automated frame production for heavy commercial vehicles and transferred the result to rail. This enabled lightweight structural construction in timber-frame style. The iterative development dialogue in component development favoured structural and material lightweight construction. Highstrength structural components were joined by bending, roll profiling and deep-drawing to form an innovative supporting frame which, in combination with new developed heavy-duty pin, is now a sophisticated chassis.

# Company.

Since the company was founded in 1955, the family business Hörmann has grown steadily and has developed into a leading national and international group with approx. 3700 employees. Hörmann is a versatile and agile group of companies with innovative design solutions in rail vehicle construction. We offer a unique one-stop process chain in the areas of automotive, engineering, communication and service.

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