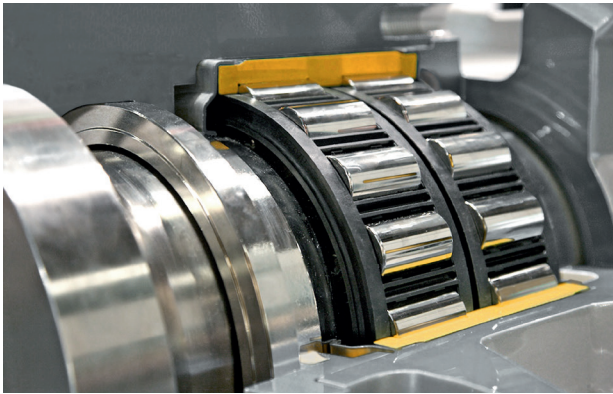


5L next –  
next generation of  
freight wagons.

Lifetime lubrication of wheel bearings  
in the railway industry.

Klüber Lubrication München

# Lifetime lubrication of wheel bearings in the railway industry.



Lifetime lubrication.

## 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](http://www.sbbcargo.com/innovation)

### Contact.

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**Lubricants play a key role in meeting the increasing mileage requirements of the railway industry. Our solution: a modern high-performance concept for lifetime lubrication of wheel bearings.**

Conventional lubricants based on mineral oil and lithium soap thickener are reaching their performance limits. Test rig results and corresponding calculations show that it is possible to design new lubricants customised to the requirements in terms of loads, speeds, temperatures and ambient conditions of wheel bearing lubricated for life.

Klübersynth BHE 46-403 shows its strengths in the linear contact of cylindrical and bevel roller bearings due to its high shear stability. It enables a high energy efficiency due to its very low starting torque. The synthetic base oil and a carefully selected additive package contribute to long-term stability and enable low wear despite high loads. The grease was examined on the FE8 test rig. The test conditions are well applicable to the requirements of the new wheel bearing concept of SBB, e.g. high load (20 kN), bevel roller bearings (test bearings: FAG 536048) and speed (750 rpm). Our grease passed all the performed tests according to DIN 12081.

### Company.

Klüber Lubrication – your global specialist. Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff, we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 85 years.

### Contact.

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