



Running Gear

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Texelis Transport

SILK, Texelis Transport's Innovation that Gives a New Future to Regional Train Lines

Regional lines have always been a critical part of the French railway system, a vital link between urban and rural areas. However, over time, these lines became a symbol of an ageing, under-maintained and fragmented network. TELLi (French project for an Innovative Light Train) and its essential transmission element SILK is meant to bring revolutionary concepts to address this issue.



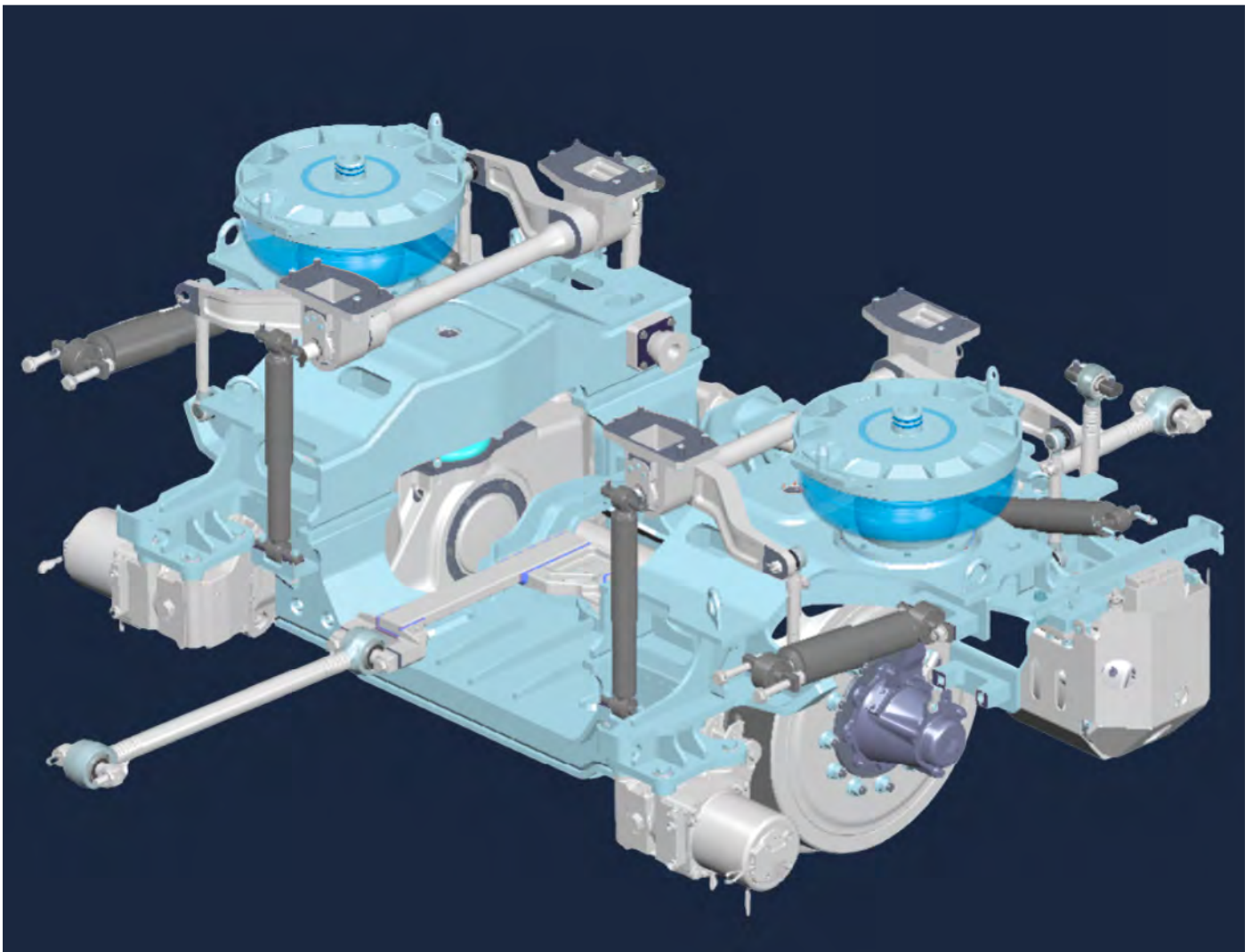
TELLi: Regional Trains, Renewed Focus of the Rail Industry

With its 7,500km of local rail lines, France has a unique rail network in Europe. But these lines, which are essential for rural areas, have often become synonymous with high costs and declining ridership. The TELLi project is a consortium of 11 partners (Hitachi, Texelis Transport, CAF, Railenium, Wabtec, ALSTOM, FerroCampus, Capgemini, Cerema, Ektacom) driven by SNCF (French

mobility group) to reverse this trend. The ambition is to offer a lighter, economical, modular, energy-efficient, carbon-neutral regional rolling stock.

TELLi's challenge: significantly lowering operating and maintenance costs while reaching a range of 200km and a top speed of 120km/h.

The train-to-ground connection, a fundamental element of the train, had to be fully redesigned by Texelis Transport to reach this ambitious target.



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SILK: The Innovation that Changes Everything

Texelis Transport is working in its Limoges premises on a simple but disruptive idea: switching to an independent motorised and single-axle wheel architecture. This concept led to SILK (which stands for Sustainable Innovative Low wear Kinetics), a lighter, smarter and easier to maintain solution compared to conventional bogies.

SILK represents a technological breakthrough, that offers the following significant benefits:

- Reduced wheel-rail wear, a major challenge for ageing regional lines
- Real-time adjustment of the axle position on the tracks through control of wheel differential speed, to minimise wear and wheel slip
- 30% reduction of weight, with positive impact on track load and thus on maintenance requirements
- Challenged maintenance, notably with bolted wheels and electrical motors that are easier to remove without dismantling other components

This means lower operating costs, increased availability and greater network resilience for regional rail operators.

A Train More Accessible to Everyone

Thanks to SILK, the TELLi will be able to offer a globally flat floor. The train also automatically adjusts to the height of the platform before entering a station, ensuring compatibility with 95% of existing docks. This leads to improved accessibility for passengers with specific needs (wheelchairs, people of reduced mobility, strollers, bicycles, luggage). TELLi also allows infrastructure cost savings, as it doesn't require costly docks retrofit for implementation.

The main driver for SILK design was to reduce ownership costs (operating and maintenance costs) by 30% over the entire lifecycle, through onboard sensors, predictive maintenance, modular architecture... everything has been designed to make life easier for operators.

Real-Life Trials to Validate the Revolution

Texelis Transport has launched heavy testing on a full-scale demonstrator, representing half a TELLi, to prove expected benefits and to confirm that SILK meets consortium and future regional operators' expectations.

A Key Role in the Revival of Regional Railways

With SILK, Texelis Transport is doing more than just introducing a technical innovation. The company is proposing a new way of thinking about regional rail, with the aim to be lighter, more affordable and more adaptable to passenger needs. This is Texelis Transport's vision to contribute to the necessary revival of regional rail lines, as a driver of regional development, ecological transition, and sustainable mobility.

The target is to have the first trains on tracks by 2032.

InnoTrans 2026

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Texelis Transport will be in **HALL 20, booth 570** and will exhibit a 1/2-scale model of SILK.

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