

Media Release

Voith Group

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Voith starts drive modernization for 50 light rail vehicles at Stuttgarter Straßenbahnen AG

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- The successful commissioning of the first modernized traction inverters took place with the completion of the type test series.
- The replacement of the power electronics in a total of 50 vehicles will significantly increase system availability.
- This ensures future-oriented and environmentally friendly rail traffic in Stuttgart.

STUTTGART/ST. POELTEN. In spring 2019, Stuttgarter Straßenbahnen AG (SSB) commissioned Voith to modernize and renew the electric traction inverters of 50 light rail vehicles. Now, the first vehicle with the modernized traction inverters has been commissioned. The major project is to be completed by the end of 2025, thus ensuring the long-term availability and attractiveness of sustainable and climate-friendly local transport in Stuttgart.

SSB currently operates 204 light rail vehicles of the specific Stuttgart design S-DT 8. The four traction inverters are being modernized for a total of 50 vehicles of the S-DT 8.10 and S-DT 8.11 series. Due to Stuttgart's topographical location, these drive all axles of the vehicle to ensure operation on gradients of up to 8.5 percent. The ongoing modernization for the overhaul of a total of 210 traction inverters of the light rail vehicles allows a significant reduction in susceptibility to faults and a consistently high availability of the vehicles for the second half of their service life. As part of the modernization, both the mechanical refurbishment of the housings, switching elements, braking resistors and chokes as well as the replacement of the power electronics are being implemented.

Modernization during operation

The challenge in this project is to ensure that the entire process from preliminary tests to series production conversions can be carried out without stopping the vehicles. "An essential requirement is to take the existing vehicles out of service for as short a time as possible. That is why we replace the units on a rolling basis with the help of existing replacement

traction inverters," confirms Alfred Gmeiner-Ghali, who heads the sales department for electric drive systems at Voith in St. Pölten, Austria.

All newly installed components and technical solutions must fit perfectly into the existing technical environment of the vehicles. Voith has therefore developed a power module that draws on proven components but also takes into account all mechanical and electrical interfaces of the existing inverter. Targeted optimization measures led to a significant reduction in noise levels. "We are very pleased that additional weight has been saved. An improvement in the ventilation concept was also implemented," explains Roland Jauß, who works in the Systems Engineering staff department at SSB.

The special technical solutions developed by Voith are optimally designed for the demanding conditions of Stuttgart's public transport system and, with the modernization, contribute to future-proof and energy-efficient operation.

About the Voith Group

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, the company today has more than 19,000 employees, sales of € 4.3 billion and locations in over 60 countries worldwide and is thus one of the larger family-owned companies in Europe.

The Group Division Voith Turbo is part of the Voith Group and a specialist for intelligent drive technology, systems as well as tailor-made services. With its innovative and smart products, Voith offers highest efficiency and reliability. Customers from highly diverse industries such as oil and gas, energy, mining and mechanical engineering, ship technology, rail and commercial vehicles rely on the advanced technologies and digital applications of Voith.

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Voith modernizes the traction inverters of 50 light rail vehicles of Stuttgarter Straßenbahnen AG (SSB). Picture: Knupfer / SSB

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