

SKF helps steelmaker cut costs and carbon emissions with bearing remanufacturing

Russian steelmaker Severstal has raised efficiency – and reduced emissions – thanks to a long-term service agreement with SKF.

Reducing carbon emissions

SKF's remanufacturing expertise has helped a leading Russian steelmaker reduce manufacturing costs and carbon emissions.

SKF has remanufactured more than 39 000 bearings, weighing more than 400 tonnes, for steelmaker Severstal over the last 10 years. The bearings are used in the steelmaker's continuous casting machines (CCMs). Remanufacturing has helped the company reduce carbon emissions by more than 65 tonnes per year.

"Stable equipment operation in steelmaking is an important factor in maintaining plant reliability and sustainability," said Evgeniy Vinogradov, director of Severstal Russian Steel. "One of the effects of our long-term cooperation with SKF is zero equipment failures arising from bearing units."



A service-based contract

The companies agreed a service-based contract in 2007. It includes the option to remanufacture bearings rather than replacing them with new ones. Remanufacturing helps reduce the use of materials, energy and production waste, by comparison with the production of new bearings. Remanufacturing and reusing bearings with a total weight of 600 kg can reduce CO₂ emissions by 1 tonne.

The service-based partnership has also helped Severstal in two other areas: reducing cost and improving equipment reliability.

Remanufacturing and reusing bearings is less expensive than buying new ones and helps towards inventory management. The process can also improve supply and allow a more flexible repair schedule. Overall, the service-based model helped Severstal cut the annual costs associated with CCM bearings by an average of 36 million roubles (around US\$500,000).

Increasing service life

In terms of reliability, the two companies often carry out joint engineering projects, to increase bearing life cycle and equipment maintenance intervals. In 2019, Severstal was one of the first companies to test SKF's Caster Temperature Logger system for CCM bearings. Results were combined with analysis of CCM operation parameters. This helped SKF identify bottlenecks and determine further ways to increase the service life and reliability of bearings for one of Severstal's continuous casting machine.

Alexey Shulepov, Managing Director of SKF Russia and the CIS, says: "The service-based model allowed us to help our customer build a long-term development programme with clear goals and key performance indicators (KPIs)."

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