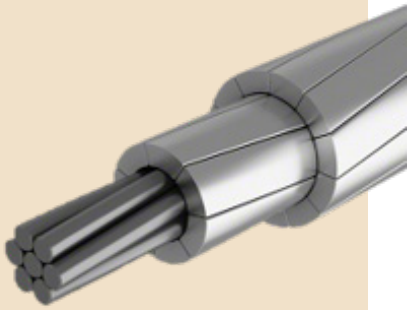
Customer case study

First of its kind in Slovakia

Project
We have successfully supplied Ultra-High-Strength (UHS) strands for the reconductoring project of the Slovak DSO - **Západoslovenská distribučná, a.s.**

Customer
The conductor was designed and manufactured by **Nexans,** our long-standing and valued customer, to support the goals of the European energy transition.



The pilot project, **Podunajské Biskupice - Petržalka - Lamač**, consists of 2 x 110 kV lines.

This high voltage line is an important link within the distribution network in Bratislava, the capital city of Slovakia.

Reconductoring of the line for the highest possible transmission capacity and operational reliability was inevitable.

The challenge

The line passes through the city´s intravillan, crossing a large number of objects with masts mostly from 1967.

The replacement line had to be installed on the same towers and transmit even more power, which could not be achieved with the original type of conductor.

The solution

Thanks to our ultra-high-strength strands with unique properties and based on the data proposed by local engineering company **PROVED, Nexans** was able to design an advanced conductor, an ACSS/TW LINNET 170-AL0/28-MUHST type.

Thanks to the higher TS grade of our strands, the core could be constructed with a lower cross-section, and by allowing the ACSS conductor to operate up to 200°C, the **line's transmission capacity has increased by 93%.**

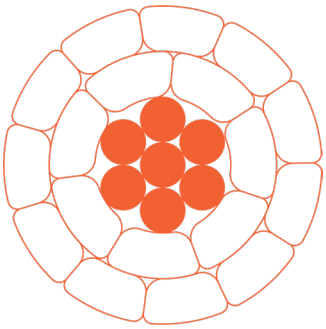
Our high-tensile steel solutions can greatly enhance line project design without the need to construct new lines or carry out complex reconstructions, such as demolishing or reinforcing existing ones, meeting the rising electricity consumption from households and industries.

Bekaert

Project specifics

	New conductor ACSS/TW LINNET 170-AL0/28-MUHST	Original conductor ACSR 184/30-ST1A	Comparison
Overall diameter	16,83 mm	19,08 mm	- 12%
Overall cross-section	197,80 mm^2	214,41 mm^2	- 8%
Overall weight	688 kg/km	761 kg/km	- 10%
Max. current load	890 A	460 A	+ 93%

Benefits of conductors type ACSS/TW LINNET 170-AL0/28-MUHST



- As the core is made of ultra high-strength steel, **a smaller steel cross-section is sufficient** to achieve the required mechanical load-bearing capacity.
- The aluminum wires have a **trapezoidal shape** cross-section which allows more compact arrangement of the conductor strands, therefore reduces the overall diameter of the conductor.
- The casing is made of trapezoidal annealed aluminum AL0, which can be operated up to 250°C. It features our unique Bezinal® coating, where the steel core is coated with a zinc-aluminum-mischmetal alloy (5% aluminum). This design provides **excellent corrosion resistance.**
- Our steel core provides the mechanical strength needed to support the ACSS/TW conductors, which are suitable for high-temperature, high-current applications with **better vibration damping.**
- **Conductors are easy to install**, no special requirements and accessories are needed.