

# A-Nord

## Powerlink

A Brand of Prysmian Group

**Prysmian Group**, the world leader in the energy and telecom cable systems industry, will support Germany and Europe in their energy transition goals through the development of three vital HVDC cable projects, including the **A-Nord** project.



**300 km**  
Prysmian cable route



Planned completion:  
**2027**



**640 km**  
of Prysmian HVDC underground cables



Type of cable:  
**±525 kV P-Laser**

**320 km** of DMR cables

### P-Laser



Innovative **HPTE** insulation up to **600 kV DC** for underground and submarine applications



Over **30,000 km** experience in MV networks



Higher thermal performance properties for increased power transmission capability



Operating temperature range increased



Reduction of CO<sub>2</sub> emissions by up to **30%**  
**100% eco-friendly** and fully recyclable materials\*

\*Refers to the end-of-life phase of Life Cycle Assessment (LCA) evaluation



**The A-Nord link will transmit High Voltage Power on underground cable on a route of 300 km.**

German Grid Operator Amprion GmbH assigned Prysmian Group the project that includes the design, manufacture, supply, lay, joint, test and commission of a 1 Giga Watt underground cable system along the entire Northern route of this HVDC cable project.

Prysmian will deliver a fully qualified  $\pm 525$  kV High Voltage Direct Current cable system consisting of copper cables, insulated with proprietary P-Laser technology, complete with a separate insulated metallic return cable, to be laid in an underground

route of 300 km, from Emden in Lower Saxony to Osterath in Nordrhein-Westfalen.

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Energy Transition process, that is regarded as a major driver of growth. The  $\pm 525$  kV HVDC extruded cable system delivered by Prysmian will be operated by Amprion at 380 kV. The A-Nord underground connection is part of the 2GW German Corridor "A" electricity transmission project.

Prysmian's **P-Laser insulation technology** for the benefits of this innovative product based on High Performance Thermoplastic Elastomer will be used for this project. With a solid history in Medium Voltage application, this is a fully qualified high-performance insulation system that has evolved after rigorous testing and extensive trials. P-Laser is suited for the highest voltage levels delivering enhanced thermal performance and high intrinsic reliability that enable more flexible and sustainable solutions. It is fully recyclable, and with increased productivity and **30% lower CO<sub>2</sub>** emissions in production, has much higher environmental credentials compared to more conventional technologies.

## CABLE LAYERS

**1 Conductor** - The conductor is built of bare copper wires, its nominal cross-section area is 2500 mm<sup>2</sup>.

**3 Insulation** - Material: P-Laser, based on HPTE insulation material which is fully recyclable and compatible with existing cable accessories.

**8 Welded Aluminum Foil** - The smooth metallic sheath is constituted by a longitudinally welded aluminium tape applied over the insulation screen and semi-conducting longitudinal water barrier to provide radial water-tightness, mechanical protection and to carry fault currents. Material: Aluminum.

**2 Inner semi-conductive layer** - It works as barrier to avoid inter-layer contamination.

**4 Outer semi-conductive layer** - It works as barrier to avoid inter-layer contamination.

**6 Fiber optic elements** - HVDC cable will include 4 integrated fiber optic elements, with in each one both multi-mode and single-mode fibers

**9 Outer sheath** - An extruded layer of natural coloured polyethylene compound is provided over the metallic sheath. An extruded black semi conductive layer will be applied over the outer sheath. Material: HDPE



 Indicative diameter: **146 mm**

 Indicative cable weight: **35 kg/m**