

## NEXANS ACHIEVES A TRIPLE TECHNOLOGY MILESTONE IN HVDC CABLE SYSTEMS

Nexans unique technology portfolio of world class cables meets the needs of high voltage direct current (HVDC) links through cross-linked polyethylene (XLPE) insulation designs now fully qualified for 320 kV, mass impregnated paper insulation and superconductor systems.

**Paris, September 21, 2016** – HVDC (high voltage direct current) power links are now able to utilize Nexans state-of-the-art XLPE cables that are qualified to 320 kV, while type testing at 525 kV has just been successfully completed. At the same time Nexans has qualified the first 600 kV mass impregnated cable with a paper-based insulation.

Nexans' focus on HVDC cables is driven by the growing interest in the world for HVDC power links. Typically these are grid interconnections with land or submarine sections, connections for offshore wind parks and the anticipated electric highways that will provide very-high capacity links bringing electricity from remote renewable sources to areas of consumption. HVDC links will therefore play a key role in the reduction of the global carbon footprint by allowing consumers to access renewable energy while minimizing transmission losses.

Nexans has responded to these challenges by developing three cable technologies to provide Transmission System Operators (TSOs) with the most appropriate solutions for their HVDC links: XLPE insulation, mass-impregnated paper insulation and superconductors. Three major milestones have been met with the first two technologies.

### **XLPE cable technology qualified for 320 kV and type tested at 525 kV**

Nexans has fully qualified land and submarine XLPE cable system technology for 320 kV through the combination of type tests and long-term pre-qualification tests, all carried out according to international standards. The same technology principle was applied to achieve a step up in voltage, which led to the successful completion of a type test at 525 kV. This world-class result demonstrates the potential of the Nexans technology for DC links at all voltage levels currently requested by customers and lays the ground for further achievements.

### **Mass impregnated cables now ready for 600 kV**

Mass impregnated HVDC cables are the preferred solution for long-distance submarine transmission of large amounts of electrical energy at the highest voltages. Recent examples include the 100 km subsea element of Canada's new 900 MW interconnection to be constructed between Labrador and Newfoundland. The same cable design is also being used for the Skagerrak 4 interconnector between Denmark and Norway.

Through the decades mass impregnated cable technology has delivered excellent service for a large number of power transmission links operating at voltages up to 525 kV and a power rating exceeding 800 MW per cable. To meet the demand for even higher power ratings, Nexans has qualified the first 600 kV mass impregnated cable with a paper-based insulation providing a power transmission capacity of 1900 MW in a bipole configuration. This achievement consolidates Nexans' leading position in the mass impregnated HVDC cable business, and proves that such cables are highly competitive for the future realization of high-power HVDC transmission systems.

### **Superconducting power cables for DC systems**

Nexans is also the world leader in the field of superconducting power cables. Further to successful tests some years ago at 200 kV, Nexans is engaged in the European project Best Paths aiming at developing a 320 kV DC cable system with a capacity of 6,4 GW per bipole, which represents the combined production of multiple nuclear reactors.

This ongoing project will set the basis for the next generation of electric highways and offers innovative solutions to transfer the full transmission power of a HVDC overhead line corridor into one cable system.

*“These technological achievements demonstrate the efficiency of the organization we recently put in place to speed up developments in the field of HVDC systems”, said Jean-Maxime Saugrain, Chief Technical Officer of Nexans High Voltage and Underwater Cables Business Group. “The cable systems we have developed and successfully tested up to 525 and 600 kV are just the tip of the iceberg. A major effort was made to address specific issues in HVDC systems, in particular issues related to accumulation and mobility of electrical charges. This is of key importance for the long-term reliability of HVDC cable systems and therefore for the satisfaction of our customers.”*

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## About Nexans

Nexans brings energy to life through an extensive range of cables and cabling solutions that deliver increased performance for our customers worldwide. Nexans’ teams are committed to a partnership approach that supports customers in four main business areas: Power transmission and distribution (submarine and land), Energy resources (Oil & Gas, Mining and Renewables), Transportation (Road, Rail, Air, Sea) and Building (Commercial, Residential and Data Centers). Nexans’ strategy is founded on continuous innovation in products, solutions and services, employee development, customer training and the introduction of safe, low-environmental-impact industrial processes.

In 2013, Nexans became the first cable player to create a Foundation to introduce sustained initiatives for access to energy for disadvantaged communities worldwide.

Nexans is an active member of Europacable, the European Association of Wire & Cable Manufacturers, and a signatory of the Europacable Industry Charter. The Charter expresses its members' commitment to the principles and objectives of developing ethical, sustainable and high-quality cables.

Nexans, acting for the energy transition, has an industrial presence in 40 countries, commercial activities worldwide, is employing close to 26,000 people and generating sales in 2015 of 6.2 billion euros. Nexans is listed on Euronext Paris, compartment A.

For more information, please consult: [www.nexans.com](http://www.nexans.com)

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