



**Press release**

## **Superconducting medium voltage cable from Nexans conducts record current: 3,200 amperes during load cycle tests**

*Laboratory measurement within the Endesa Supercable project demonstrates real world feasibility*

**Paris, April 19, 2010** – Nexans' superconductor specialists have successfully concluded the Endesa Supercable project while setting a new world record. In December 2009, the single-phase, medium voltage cable (24 kV) carried 3,200 A in laboratory conditions, almost 10 percent more than any installed medium voltage cable worldwide. During ten load cycles of 24 hours the rated current was applied for 8 hours per cycle while the cable was subjected to twice the nominal voltage continuously.

The project partners, Nexans, the global leader in cables and cabling solutions, Endesa S.A., the Spanish energy provider and the ICMAB-CSIC Institute for Materials Sciences (Institut de Ciència de Materials de Barcelona - Consejo Superior de Investigaciones Científicas) are planning an installation in a power grid as the next step. The 30-metre long demonstration cable, including associated terminations and cryogenic equipment, demonstrated viability in the Nexans laboratory in Hanover. The superconducting cable withstood test protocols incorporating varying loads, with voltages exceeding the nominal value.

High-temperature superconductor (HTS) materials exhibit almost no electrical resistance at their operating temperature of approximately -200°C. They can transport higher currents with considerably smaller cross-sections compared to conventional aluminium or copper. Superconductor cables are therefore well positioned to form the "main artery" of urban distribution networks.

*"The Endesa Supercable demonstrates the possibilities that exist for the power grids of the future", comments Frank Schmidt, Head of the HTS Systems division at Nexans in Hanover. "High-power network sections can benefit from superconductor cables which provide an alternative to traditional technologies by transmitting the same power at a lower voltage. Both the number of transformer stations and total losses in the network can therefore be minimized and the associated savings will help superconductors to become economically viable in the coming years", states Frank Schmidt.*

There are other advantages to superconductor cables. Despite their outer cryogenic sheath (the thermal insulation), they still take up less space than similar copper cables while providing the same power transmission capacity, and they emit neither

electromagnetic fields nor heat. This makes it possible to space the cables phases closely together, which allows underground space to be used more effectively. This is especially advantageous in densely populated city centres.

### **About Nexans**

With energy as the basis of its development, Nexans, the worldwide leader in the cable industry, offers an extensive range of cables and cabling systems. The Group is a global player in the infrastructure, industry, building and Local Area Network markets. Nexans addresses a series of market segments: from energy, transport and telecom networks to shipbuilding, oil and gas, nuclear power, automotives, electronics, aeronautics, material handling and automation.

Nexans is a responsible industrial company that regards sustainable development as integral to its global and operational strategy. Continuous innovation in products, solutions and services, employee development and engagement, and the introduction of safe industrial processes with limited environmental impact are among the key initiatives that place Nexans at the core of a sustainable future.

With an industrial presence in 39 countries and commercial activities worldwide, Nexans employs 22,700 people and had sales in 2009 of 5 billion euros. Nexans is listed on NYSE Euronext Paris, compartment A. For more information, please consult [www.nexans.com](http://www.nexans.com)

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