



**Press Release**

## **Nexans develops specialized cable for sensors monitoring landslide risk areas**

*Cabloswiss, a Nexans company, is collaborating with the Polytechnic of Milan on the PROMETEO (Public Protection: Methodologies and operational technologies) project to design, manufacture and supply specialized cables for sensor connections*

**Paris, November 25, 2009** – Nexans, the worldwide leader in the cable industry, has developed a new specialized cable to provide a high-performance, reliable, easy to install and low environmental impact method of connection for a new generation of sensors that will provide an early warning system for areas of the world at risk of landslides.

The development program has been carried out by Cabloswiss, a Nexans company based in Trezzano Rosa, near Milan, Italy, in collaboration with the Polytechnic of Milan as part of the PROMETEO (Public Protection: Methodologies and operational technologies) project.

The Nexans sensor cables are currently being field tested in a continuous monitoring system on Monte San Martino, overlooking the city of Lecco, the site of a previous landslide that caused deaths and serious damage. The monitoring system is connected by radio to an operations centre at the Polo Regionale di Lecco of Milan Polytechnic, where the data is processed to provide valuable information regarding the condition of the cliff and how it is changing over time, this will then be used to predict the possible risk of landslide to provide an early warning.

*"We are proud to contribute through our cable technology and leading edge products to this research project to monitor an area of high geological risk, which has previously caused damage and casualties in the local population", said Giuseppe Di Lorenzo, Managing Director of Cabloswiss. "The collaboration with the prestigious Polytechnic of Milan demonstrates once again the commitment of Nexans to putting the most advanced technologies at the service of a more sustainable world".*

### **A special cable for an innovative project**

To network the sensors, Cabloswiss developed a specialized cable to meet all the requirements of a system installed in an inaccessible area and subjected to extreme environmental conditions. The cable, which has to be small in size for easy installation and reduced environmental impact, has two elements, each of which comprises two conductors: the first element ensures low capacitance and optimal impedance for high frequency data transmission (at speeds of up to 500 kbit/s over 100 meters); the second element consists of a pair of power conductors, with a very low voltage drop to minimize energy losses.

The cable also offers a high degree of protection against electric shocks, thanks to double shielding, and excellent resistance to extreme weather conditions (temperatures of -40°C) and UV light, which is guaranteed by a special formulation of the PVC insulating compound.

## **PROMETEO project**

PROMETEO was born from strategic research by the Polytechnic of Milan to develop innovative methods to solve the problems of Civil Defense and Personal and National Safety, it covers various strands, including the effective management of hydro-geological disasters, through constant monitoring of landslide risk areas to make the earliest possible prediction of when a landslide is starting to form.

Current technologies only offer limited information, which reduces possible activities to post-event management. The systems that this project aims to develop are aimed, instead, to predict events by monitoring the microacoustic emissions in the rocks, increasing the possibility to save lives and minimize damage.

The monitoring systems include both conventional sensors (strain gauges, inclinometers, temperature sensors, geophones) and innovative sensors based on MEMS technology, designed by the Polytechnic of Milan to monitor the occurrence of cracks as they form and grow in the structure of the rock. Using appropriate processing techniques, this information can provide a threshold indication of activity that acts as an early alarm for a potential landslide. It would also be possible to perform simulations for emergency management, providing comprehensive and fully up to date information that will aid experts and decision makers in handling the emergency.

MEMS are easy to install, thanks to their small size, they also offer the added advantage of low power consumption that facilitates use in inaccessible areas, where a power network is not always available. In this case, low power photovoltaic systems are used.

## **About Cabloswiss, a Nexans company**

Since its founding in 1988, Cabloswiss mainly concentrated in manufacturing special cables for industrial applications, robotics and automation, process control and instrumentation, telecommunications, audio, video and broadcasting, for electronic equipment, military and medical. The company makes significant investments in new production technologies that are needed in the continuing search for more advanced solutions to meet the changing needs of customers and, more generally, the market in terms of quality, competitiveness and service. It has always based its business policy on strict notions of global quality, as expressed in its Quality Manual and ISO 9001:2000 certification, obtained since 1996 by UL (Underwriters Laboratories). Currently, the production plants are concentrated around 2 units, each of which is structured to specific stages of production, for a total of 8,000 sqm and 97 employees. Since September 2004, Cabloswiss is part of the Nexans Group. In 2008 it achieved a turnover of 29.7 million Euros.

## **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, automotive, electronics, aeronautics, handling and automation. With an industrial presence in 39 countries and commercial activities worldwide, Nexans employs 22,400 people and had sales in 2008 of 6.8 billion euros. Nexans is listed on NYSE Euronext Paris, compartment A. More information on [www.nexans.com](http://www.nexans.com)

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