

## **SESSION 2.7 - COMPLIANT NON-DESTRUCTIVE TESTING**

### **Invited speech - USE OF NON-DISRUPTIVE ELECTRICAL TESTS FOR SELECTION AND CHARACTERIZATION OF MATERIALS FOR EHV CABLES**

Prysmian Group is the largest cable manufacturer in the world and with the recent acquisition of General Cables has become by far the leader of this industry, especially in the Energy sector. The continuous engagement and investments in R&D is focused to keep also the technological leadership, mainly in the advanced applications as EHV and Submarine. In this specific sector, design and material characterization are the key success factors for a fast and sustainable product development. In many years of history Prysmian Labs have developed a number of testing procedures to select among different alternatives the most promising solutions to bring to the full scale qualifications. The three main phases of the selection process are: mathematical modelization and simulation, mechanical and electrical tests on material samples and tests on cables and accessories (models and full size). These techniques constitute also the basis for qualification and after installation tests. The evolution in this field is represented by the implementation of continuous monitoring systems which allow to control and assess the conditions in real time using smart sensors embedded into the cable system.

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