Nexans

Energy Research Initiative (ERI)

At

Carnegie Mellon University

Sandy K. Aivaliotis
Senior Vice President
The Valley Group, a Nexans company
A global player in the infrastructure, industry and building markets with energy as the basis of its leadership development

Sales in 2010 of 6.2 billion Euro

Publicly held company, listed on the NYSE Euronext Paris

Sales by Key Market

- Infrastructure: 52%
- Building: 28%
- Industry: 20%

+ Based on sales at current metal prices.
At the Core of Performance: a Worldwide Presence

- Industrial presence in 39 countries and commercial activities worldwide
- 22,700 local experts
- Mastery of national and international standards
At the Core of Performance: Corporate Social Responsibility

- Protecting the environment: strict environmental management in plants
- Reinforcing workforce health & safety: Nexans Excellence Way
- Nexans’ principles, developed in our Business Ethics & Conduct Code
- Supporting the United Nations Global Compact
- National and local partnerships: research and development support
At the Core of Performance: Research Turned to Innovations

- 1 international Research Center
- 1 Metallurgy Center
- 6 Competence Centers
- 3 Application Centers
- 450 researchers, engineers and technicians
- 450 families of patents registered
- An average of 2 new products per week
Nexans and the Smart Grid

- High Temperature Overhead Transmission Conductors
- World’s First Superconducting Power Transmission Cable System
  - World’s longest superconducting cable - Energized April 22, 2008 in Long Island, New York
  - Partnership with DOE, LIPA, Nexans, Air Liquide and American Superconductor
- Superconducting Fault Current Limiter
- Dynamic Line Ratings
- Two Smart Grid “Demonstration Projects”
- Partnerships with Academia
The transfer capacity of the transmission grid in real time is not known today.

Technologies such as Synchrophasors help improve Wide Area Situational Awareness (WASA), but...

...in order to optimize the power flow and ensure WASA, we need

- the thermal transfer capacity of the grid, in real time and accurately
- along with the output of synchrophasors (voltage and stability control)

Combining the two technologies may provide an opportunity to enhance knowledge about the true state of the transmission grid and optimize its utilization, in real time....

...in the most cost-effective manner!
Closing the Loop with PMUs and DLRs - Future

An Illustration*

Controls

- Thermally Constrained Line
- Clearance Violation Warning
- Transfer Capacity in Real Time

DLR

Voltage and Stability Control

PMU

Load 1

PMU

Load 2

Control

* Dr. M. Ilic Presentation at GridWeek, October 20, 2010

Our Focus: Utility Applications!
Thank you!

Questions?