## TUTORIAL: Application of robots for inspection and maintenance of transmission lines and energized work success stories.

The application of robots to automate the inspection and maintenance of transmission lines is of increasing interest to electric power utilities. Most of this work is performed while the transmission lines are energized in order to meet customer requirements for availability and reliability. The application of robots brings several benefits such as reduction of the potential risk to maintenance crews, execution of repetitive maintenance tasks faster, and decreased costs for the executed tasks. The tutorial will provide an overview of the main types of robotic applications currently used for transmission line maintenance or construction. Robot technologies include ground based robots, robots suspended from the line and aerial based robots. The tutorial will also focus on the application of advanced technology and success stories of past projects implemented in the field. The success stories will be based on actual projects of energized work that has been done in Latin America with both in high voltage networks as well as medium voltage networks

## LECTURER: Fred Hogman

Fred is the Vice President of Quanta Energized Services, in this position he oversees the day to day operations as well as energized training for Quanta Services' electric business units. He has 42 years of experience in the powerline industry with more than half of that time specializing in energized live line maintenance. As a foremost expert in the field of energized construction he has had the opportunity to develop and manage innovative live line projects across North America and throughout the globe.

Fred was born in Saskatchewan and served his apprenticeship with a municipal utility. Since that time, he has work for multiple utilities and contractors in Western Canada. He has been with Quanta Services since 2004 and currently resides in British Columbia when he is not travelling to support QES projects and business development.