Digital substation brings the IT into the OT

B3 PS3.5: What are your expected benefits of using digital substation concepts and how to measure if the benefits can be realized?

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• The digital substation makes the energy management systems integrated into the IT of the enterprise:

– All data available from the substation can be consolidated in a BigData framework

– The condition monitoring will be based on all data from the overall system

– Asset management of the enterprise will manage IT elements but also primary devices, relays and edge devices

– New system management process could be inspired by IT process to automatically update devices without human interaction

• New kind of device and replacement of wiring:

– Digital substation bring also new communication protocols and technics, reducing drastically the required wiring

– New kind of small wireless devices coming from the IoT reduce the needs to have specific devices with less flexibility

The impacts for the projects

- Integration with the IT will:
  - Reduce the cost of deployment and maintenance with a global infrastructure
  - Improve the overall quality with a global process improving traceability of all pieces and with reducing human interaction and risk of human errors

- The new kind of device and communication technics will:
  - Reduce the global foot print and cost of connection infrastructure
  - Improve maintainability of devices which can be easily replaced