Implementing and using new technologies to improve performance

An R&D Challenge to help operators achieve operational excellence

The pressure to perform persists or increases, as is the need to be attractive to recruit new generations of personnel.

EDF Generation & Engineering has launched major IT renovation projects to meet that challenge. EDF R&D foresaw those trends, created a portfolio of R&D projects in cooperation with the three operation & maintenance Divisions (Nuclear, Fossil & Hydro power generation) to add more value making innovation to those renovations.

New technologies has good news for owner-operators in the process industry :

1. IT systems can simultaneously been highly protected one from each other and communicate to create more value from avalaible information.
2. The computation capacity of a cheap mass-market computers is largely higher that what we ever dreamt 15 years ago.
3. As a consequence, graphical user interfaces in 2D and 3D, and video are now common and available
4. Objects can be smart and communicative
5. A sensor can be added without wiring
6. Personnel can be mobile, working in the field (even in a concrete shelter) and be connected
7. With the Internet Protocol any type of information communication and communication uses a single infrastructure

These items are no news to our teenagers who start from scratch, but smart technologies are more difficult to integrate with existing infrastructure of large plants, designed 20 or 30 years ago. In nuclear power generation, the challenge is even harder.

Yes, we can now be really innovative and change day to day life in existing plants at reasonable costs, but what are the applications representing best « value for money » ? How to develop them ? What are the risks and what are the keys success factors of their implementation and use ?

Through the experience of EDF R&D challenge, Bernard Scherrer will give some examples of the most interesting applications that have been studied for the existing French EDF nuclear power plant fleet, and will indicate some of the key conditions for success.