PERSONA CIÈNCIA EMPRESA

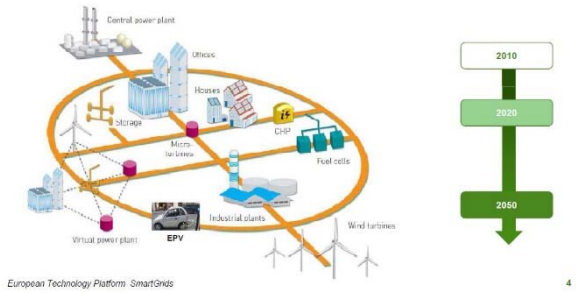
UNIVERSITAT RAMON LLULL

Smart Grids and Micro Grids: State of the Art and near future evolution

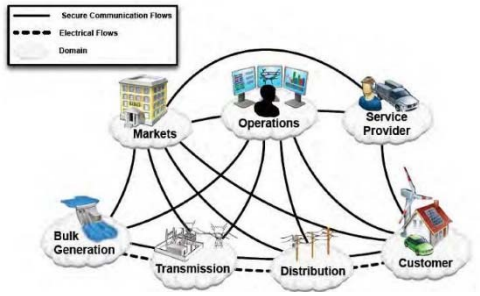
It seems that Electricity is no longer the commodity it used to be, just something that was produced and delivered to consumers. Nowadays, consumers want to have a word and play control over their energy choices. At the same time, new actors are entering into scene trying to meet consumer expectations with a brand-new range of offers and services. In a nutshell, consumers have changed. Now they want to have rights and options and they are increasingly exercising them.

As we can foresee, the new paradigma of the electrical grill is going to play a crucial role in the demands of the market and society. Moreover, changing conditions would make imperative the evolution of the grid into a smart grid. In fact, we can predict that the evolution to the *smart grid* operation paradigm will have major impact on future requirements for network reliability standards.

To see in advance the form of the future electric grid—the technical stuff between the generation sources and consumers—we need to look at the grid in its whole range, which includes the grid infrastructure as well as the others parts that are always working: generation, transmission, distribution, and finally consumers.



It is easy to predict that a safe transition to a *smart grid* will require major changes in the system operation to ensure cost effective integration of low-carbon generation using new information and communication technologies.
But the real thing is that this journey of evolution has already set off, and is going to go on over the next 10 years and beyond. And it will have significant consequences related to security, transmission and distribution operations, as well as consumer choice. Of course, many difficult issues are going to turn up, and a collaborative process will be essential. It is for these reasons that we believe that having an updated “state of the art” of the “momentum” of *smart grids* should be both interesting and formative.



Postion offered: Final Bachelor Project or Master Thesis

Contact: Prof. Juan A. Tormo juanantonio.tormo@iqs.url.edu