



PERSONA CIENCIA EMPRESA
UNIVERSITAT RAMON LLULL

Smart Villages: designing an imaginary smart village

New ways for off-grid communities

In the same way that we understand what is the role of *smart cities*, we can expand the concept and think of Improving the lives of rural communities by developing what we will call *smart villages*. In this new concept and through the massive use of new technologies the access to different sources of energy can act as a key element for development in almost every aspect of community life – education, health, food, security, etc.

We can assume that in developing this idea, *smart villages* will be connected to towns and cities through new channels that carry information as well as power in a two directional way. Thus, technology will enhance education and health services by means of providing connectivity to greater sources of knowledge and wider opportunities for learning.

From the point of view of energy, key benefits in *smart villages* will be the availability of sustainable electricity supplies through cleaner and more efficient resources. We can assume that local generation would be located in hub villages interconnected with other remoter communities powered by renewable energy sources or possibly in hybrid form.



And for the more dispersed communities they could be served by means of stand-alone home systems which can provide basic levels of power facilities.

We have many areas and ideas within the *smart villages* approach that will have to be thought again and again through experience and further analysis. What is crystal clear, however, is that, with the large benefits that they can bring to rural communities, the technical development of *smart villages* deserves the utmost attention from the electrical sector and from all the social sectors and economic agents that are already involved.

These are the main reasons why we believe that designing and evaluating technical channels and possibilities to create small *smart villages*, according to the actual and future capabilities of the power systems and alternatives energies, as well as the legal frame is worthwhile. In seeing the obstacles (from various sides, technical, legal, economical, ...) which we will have to overcome, we will also learn.



Position offered: Final Bachelor Project or Master Thesis

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