

Policies to develop digital smart grids

The introduction of information and communication technologies into urban spaces paves the way for new functionalities and new ways of managing, governing and experiencing cities. However, their development has given rise to questions in relation to both social acceptability and methods of financing and modification.

Faced not only with the need to reduce their CO₂ emissions, preserve raw materials and optimise resource management but also to adapt to changing requirements, cities have had to devise new solutions and to make technological, social and organisational innovations. The essential characteristics of the smart and sustainable city enable it to:

- Make efficient use of resources.
- Apply a systemic analysis of the city, over and above a sector-wide approach.
- Put the user at the centre of strategy. The citizen-user will also become a generator of information, for example in relation to traffic conditions or by providing feedback on the operational status of services.

For the smart city to be sustainable, it must also integrate lifestyle elements to make it attractive, whether these be conditions impacting on health (air quality, noise, greenery) or on the quality of urban projects.

Here are a few examples of applications of such interaction:

- **Smart grids:** several projects have been launched in France¹ with the aim of optimising energy management by better regulating supply and demand and by integrating the local production of renewable energies into the distribution network. Eventually, recharging stations for electric vehicles, public lighting and other urban infrastructure (water networks, street furniture) may be

¹ Notably in Lyon and Grenoble (Green Lys), Nice (Nice Grid and Reflexe), the Provence Alpes Cotes d'Azur region (Premio) and Issy-les-Moulineaux (Issy Grid)

connected to the network, thus creating synergies and optimising the management of urban services.

Issygrid: the first district smart grid, in Issy-les-Moulineaux

Launched in 2012, in the business district of Seine Ouest on the initiative of a private consortium of companies in partnership with the city, Issygrid will gradually be extended to other districts (Fort d'Issy). The aim of the project is to implement new tools to optimise the piloting of energy consumption at a district level (offices, housing, businesses, public facilities), to better manage some of the public lighting and vehicle recharging infrastructure, and to facilitate the production and storage of new renewable energies (with photovoltaic panels, cogeneration systems, etc.), which will be linked to the network. Issy Grid constitutes a pilot installation in Grand Paris.

- **'Smart water networks':** This relates to smart sensors and meters managing information on the status of the water network, consumption and available resources.
- **Multimodal information systems:** the implementation of an information system connecting all public and private transport services across a territory has become key to ensuring access to sustainable mobility.

Optimod' Lyon: facilitating daily mobility

While the agglomeration of Lyon has an extensive transport and service infrastructure, data are fragmented among the different organisations that manage the transport services. And the solution? Gather this information together and manage it through a single platform. This is the objective of the Optimod' Lyon project consisting, notably, of

- 60-minute traffic predictions,
- the development of a real-time multimodal navigator using mobile telephony.

● **The B Pass** in Nice (on mobile NFC) provides information, optimises transport and enables the acquisition and payment of transport fares via mobile phones, thus giving access to all modes of urban transport: public transport, free bikes, car pooling, park and ride. Beyond transport, many applications are currently being developed by other partners (banks, shops, leisure and tourist facilities, etc.), making mobile NFC a multi-service platform.

● **Interactive street** furniture: The installation of new kinds of interactive street furniture in public spaces institutes a new kind of relationship between city-dwellers and public spaces.

A new generation of parking meters in Nice

Installed in the city from March 2012, the new parking meters make use of information systems deployed by sensors and measurement systems installed in the pavement to allow drivers to use their Smartphones to find available parking spaces, thus reducing time spent searching for spaces and avoiding traffic jams.

● **Open Data:** The necessary provision of public information is a way of revitalising democratic life through greater transparency of public activity.

Although the smart city offers a range of solutions to problems, particularly in relation to preserving the environment or adapting to climate change, the development of ICTs also gives rise to a number of questions. These include:

- The fear of a loss of personal freedom and the question of maintaining privacy and confidentiality in a city where everything is logged and saved.
- The risk of the emergence of new forms of exclusion linked to lack of access to ICTs.
- A failure by users to adopt these new systems.
- The question of finance.

The city is not only a collection of materiality and technical functionality: there are people, culture and resources that give it its dynamism and allow it to adapt and renew itself. From now on, although ICTs are a strong component, the future of smart cities rests on the ability of the city to become smart by implementing new forms of governance, by favouring the adoption of new systems by users, and by identifying viable economic models which will support its development and make it a pleasant place to live.