**What are the building blocks and interconnection technologies that will make Smart Cities a reality?**

<http://www.smartgrids-cre.fr/index.php?p=smartcities-caracteristiques>

<http://www.smartgrids-cre.fr/index.php?p=smarthome-maison-batiment-intelligent>

Hello everybody, I’m Florent Bourghelle. I’m in the final year of my Master's degree in electrical engineering at the University of Liege in Belgium.

So, what are the building blocks and interconnections technology that will make smart cities a reality?

First of all : what is a smart city ? Smart cities use information and communication technologies to respond to the environmental issues, to enhance the way of life of its citizens, to improve its economy and finally to facilitate the innovations. Therefore, the aim of these cities is to use ITC to respond to the current and future challenges.

Smart cities are based on several pillars. The first one is the smart home. Smart homes will increase their management of energy by using for instance smart meters communicating to the network. At the same time, they will enhance the quality of life of its owners. The second pillar is the smart mobility. It consists of mass public transport, a good traffic management that also adapt itself cleverly to the congestion along the day. The next pillar is a smart management of the energy (like smart grid, smart meters,) and a better integration of renewable energy in order to reduce the global climate change. Finally the last important part is a smart governance which includes a higher connectivity and active participation between the citizens and their authority or government.

In smart cities, laptops, smartphones, sensors will be connected together with the internet of things. All of these data will then have to be analyzed and processed to send back useful information into the network. This information could be the location of a free parking space or the closest terminal for your electrical car. Moreover, new kind of devices such as medical sensor will be connected to the network and will for instance call the emergency if they notice a vital problem.

There exist different example of smart cities. In Seoul, they decided to use connected dustbins in order to reduce the waste collection costs and to make the city cleaner and more enjoyable. (<http://smartcitiescouncil.com/resources/case-study-city-seoul> ). More locally, here in Belgium the town of Wavre decided to use an intelligent lighting system developed by a spin off of the ULG called smart node. It consists of a series of a LED’s communicating together and adapting their light intensity if there is a user or not. (<http://fr.slideshare.net/liegecreative/smart-lighting-for-smart-city-par-jacques-destin-matthieu-remacle-et-jean-beka-liege-creative-240315> , <http://www.smartnodes.be/revue-de-presse-inauguration-de-wavre> )

Smart cities will contribute to the exponential raise of connected devices which are estimated to be 50 billion in 2050. That is really the field where Cisco is an expert. However smart cities will need to tackle the issues of an extremely big network.

Thank you for watching this video. Have a nice day.

<http://www.smartgrids-cre.fr/index.php?p=smartcities-caracteristiques>

<http://www.smart-cities.eu/?cid=1&ver=4>

<https://www.youtube.com/watch?v=G6axECJNjcM>

<https://fr.wikipedia.org/wiki/Compteur_communicant>