

NETWORKS [MULTI]³

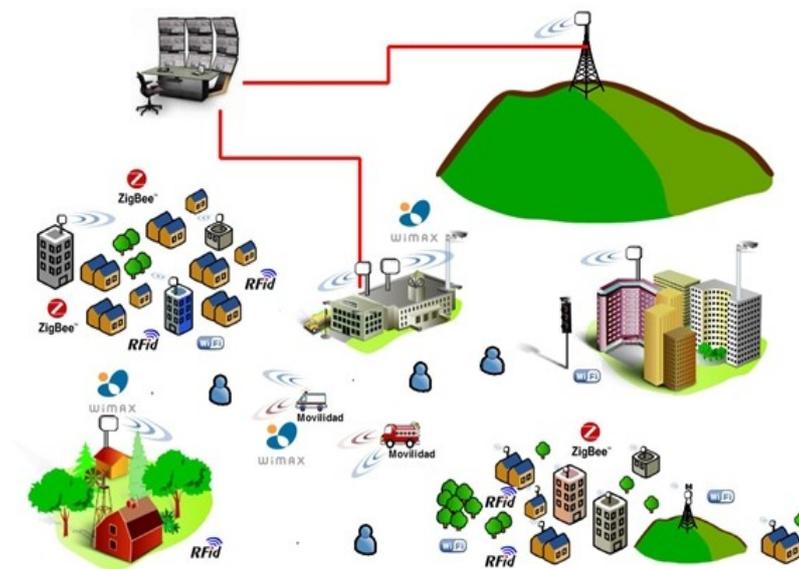
Non-recurrent cost networks and networks for Smart Cities



[MULTI]³

About BTESA

Thirty years of experience in the telecommunications sector in general, and within radiofrequency in particular, have taught us that our clients always require three key issues when designing and planning a communications network; **Technology**, **Purpose** and **Services**. In the ever changing, and increasingly demanding environment of self-run, non-recurrent cost, Smart City networks these issues become more crucial than ever.



MULTI³ NETWORK CONFIGURATION

CONCLUSION

The right combination of network technologies guided by the expert design of Btesa will guarantee a technological adaptation to the needs according to required services. This [MULTI]³ design is the only way to make a Smart City viable from planning to operation

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MULTI TECHNOLOGY

With an adequate combination of existing and proven market technologies it is possible to create a network capable of offering the right characteristics at every point. A Smart City requires a high availability backbone with transport capacity at central points and distribution points (Fibre, WiMax) from which lower bandwidth sub-networks with a very high number of sensors can be established (Wifi, ZigBee, RFID, Bluetooth, Ethernet, ...).

This simple network example shows that no single technology is right for all needs, and that a solution rather requires a combination of all of them. MULTI-TECHNOLOGY

MULTI PURPOSE

Different needs demand solutions; in a Smart City the needs are what trigger a deployment or the search for solutions.

A network can be deployed to cater only for a specific need, but makes more sense, both financially and utility wise, if the deployment is made to cater for many needs at the same time all of which require particular technical characteristics. As an example, in a Smart City there are common needs like electricity management, water management, security, etc. MULTI-PURPOSE

MULTI SERVICE

At another layer are the services. These are the ultimate aim of management as data have no value until they are turned into information. This information can serve different purposes, offering value to citizens (unique characteristic of Smart Cities) or offer value to public authorities.

Some examples of services could be municipal services like real time traffic management, control of street lighting, or optimization of garbage collection routes. In the field of citizens' services examples could be remote assistance, real time knowledge of gas-electricity-water consumption, etc. MULTI-SERVICE