



**PRACTICE ABSTRACT**  
**Digital technology**

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## SMART REMOTE MANAGEMENT OF PUBLIC SERVICES – ZWIT PROJECT

Blanca Casares, AEIDL

ZWIT project proposes the Smart Management Network as a tool to build Smart Villages and transit to the green and digital economy. The Smart Management Network creates an innovative framework focused on sustainable territorial development, with a business model based on connectivity and the smart management of infrastructures.

The ZWIT project integrates technology in street lighting infrastructure that allows a more efficient use of public services. Its Smart Management Network is a double-layer network, with a Wi-Fi backbone, to provide high-bandwidth services, such as Wi-Fi zones with free internet access in public spaces in rural areas. The Wi-Fi network is connected to sectoral data sub-networks dedicated to the efficient management of public infrastructures such as lighting, water, waste, etc. The Wi-Fi backbone forms a kind of "ring" that covers the entire municipal territory, and accesses the internet through a single municipal access point. This network allows the implementation of specific projects around it that can attract further investments, in relation for instance to video assistance for the elderly, smart nature trails, or a better management of public services (light, water, waste, etc.).

### Application scenario

Provide connectivity to rural areas that creates innovative and intelligent ecosystem to build Smart Villages and facilitates sustainable development

### Digital technologies

Multi-device: remote sensing, local sensing, web-based platform for data analytic, geo-location, mobile app

### Socio-economic impact

- Social: Digital capacities, inclusion, empowered local municipalities
- Economic: growth supported by digitisation, sustainability, cost-efficient, integrated infrastructures and communication networks
- Environmental: resources and energy efficient, sustainability of public services

**More info:** <https://zwitproject.es/>

[https://enrd.ec.europa.eu/sites/enrd/files/tg6\\_smart-villages\\_zwit-project.pdf](https://enrd.ec.europa.eu/sites/enrd/files/tg6_smart-villages_zwit-project.pdf)



## Purpose of the tool

The Smart Management Network provides quality internet connectivity for the development of Smart Villages. It is a multifunctional and multi-device tool that enables data transmitted from sensor networks to be used for the remote management of public infrastructures (lighting, water, urban waste, transport, etc.). This is possible through a large telecommunications network at municipal level. The Network allows municipalities to offer new services to citizens, such as free internet Wi-Fi access, tools for the elderly's social health care using remote video support, e-health, e-learning, tourism and local business promotion, etc.

This Smart Network is implemented in Los Corrales de Buelna (a village in the north of Spain) which has already changed its lighting system and installed devices that allow the remote management of services. The region optimises the provision of public services by upgrading existing infrastructure (public lighting) with sensors and internet connection that can boost entrepreneurship and investment in the area.

## Description of the tools

ZWIT Smart Management Network is an open, multi-purpose, multilayer (fibre-optics, Wi-Fi, ZigBee), municipal/regional communication network. The tool integrates multiple devices that include remote sensing, local sensing, web-based platform for data analysis, and geo-location and mobile applications.

The tool obtains and manages all kinds of data from the users/sensors that are connected to the Smart Management Networks. The frequency of data is controlled by the system and the treatment of confidential data is based on the laws of each country. The data can be used for verifying the operation of the water, energy or lighting networks, and for knowing the needs of a territory to be able to generate entrepreneurship scenarios that help deliver services to citizens.

## Areas of socio-economic impacts

<b>Social</b>	Boosted local participation of stakeholders of the territory and empowered local municipalities. Enabling the emergence of social projects (e.g. remote assistance for the elderly).
<b>Economic</b>	Catalysed development of the territory in a more sustainable and smart way. Generated a Smart Villages business model that guarantees the sustainable provision of public services and the transition to a green and digital economy. Municipalities saved costs by not using GPRS/3G/4G and can potentially obtain additional revenues by giving third parties access to the Smart Management Network.
<b>Environmental</b>	Enhanced the efficient use of public resources and services.