



Public lighting from a Smart perspective - Montechiarugolo



The Municipality promotes energy saving and the redevelopment of public lighting in a "Smart" network with about 2,650 light points. The Public Administration has decided to move towards a "Smart City" within which to create a completely public wireless data network that can be remote controlled in real time, in order to manage the ignition, the brightness power and the faults of the street lamps point by point through MESH network radio waves.

The experimentation phase for the renewal of public lighting begins with the 'Towards the power station from a NEGAWatt' project, within which the construction of a mini-district with LEDs was planned for the production of data on the efficiency of technologies. This test served above all to build a reliable basic economic plan on which to carry out the redevelopment interventions on a larger scale. In the first test, eight street lamps were connected to a radio frequency LAN network, proving a potential for savings of over 78% in consumption and costs. The Municipality initiated the extension of the project over the entire lighting network and decided to use LED technology, with lighting bodies connected by MESH network on radio frequency. This type of network is able to transmit data both for the ordinary management of public lighting and to provide services to the citizen, such as information on the environmental and acoustic conditions of the installation area, or information on the energy consumption of users or on traffic conditions. The Municipality assigned, through a call for tenders, the design, construction and provision of the work to a private company through the formula of the Availability Agreement. In the final phase, the Municipality has created a system to produce integrated services that can be managed and remotely controlled electronically, guaranteeing the control of the lighting fixtures installed remotely and with response in real time. In this way, the Administration has ensured the creation of a control and planning system without actually the need to carry out physical interventions.

The complete replacement of the entire municipal public lighting network cost about one million euros, but the investment is destined to pay for itself. A strong decrease in obsolescence was detected with completely renovated lighting bodies and with a longer life expectancy (70,000 hours, 16.5 years). The Municipality has also noticed a reduction of the management and maintenance costs of the plant. The renewed network is decongested and there is also a decrease in the overload of the control units and electrical cables, with the consequent decrease in the risk of exceeding the assigned powers or the need to divide the lines. Fixed costs of network users also reduced.