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ENEKIO SMART CITY SAINT JEAN EN ROYANS (26)

SMART, LOW CONSUMPTION AND CONNECTED LIGHTING SYSTEM

In a context of communities, endowments decrease and energy price increase, reducing the electricity bill is a real issue.

Enekio proposed to 10 municipalities in the Drôme and Isère areas to install a smart lighting system. It decreases light intensity on traffic lane until car or pedestrian passage.

This project fits in Enekio's smart cities deployment in France to curb global warming and enhance the digital city in rural municipalities and urban areas.

Saint-Jean-en-Royans approved Enekio's solution deployment on his commune.

Based on the results and as part of the project in Enekio City, 30 000 luminaires on the 10 requested municipalities are in the financing and the deployment phases.

KEY DATA

- Municipalities : 2,500 to 15,000 people
- Public spaces surface: 1,500 km of roads mainly in rural and peri-urban areas.
- Space between luminaires : 50 m
- Areas concerned : industrial, residential, commercial et tertiary.

INNOVATIONS

- The project consisted **in building a smart lighting network** which serve, as a first basis, for the digital city and the smart city deployment with higher energy efficiency, for the benefit of the inhabitants.
- Each smart luminaire can be managed independently. A minimum and a maximum light intensity can be defined for each space depending on visibility and security needs. Commissioning schedules also can be customized according to the seasons or events.
- The luminaire is equipped with a radio technology allowing it to collect, transmit and use city's information to reduce energy consumption. It provides and reports useful information for preventive maintenance. Thus, maintenance services can permanently anticipate failures and ensure lighting's functionality.
- On users side, the increase of the light intensity is progressive and simultaneous on the road to optimize both drivers and pedestrians experience and comfort.

STAKEHOLDERS

- SAINT-JEAN-EN-ROYANS CITY
  ENEKIO - Urban Contracting Owner.
- Consultation with municipality, the municipal council, the mayor, the technical managers of the city and inhabitants.
- During consultations, the constraints associated with mobility-impaired persons were taken into account.

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▶ In terms of municipality strategy to come up with the digital city features, smart lighting solution deployment showed up as a relevant and challenging project.

▶ Integrated complete solution deployed and delivered by Enekio.

▶ Enekio invested through a partnership with Saint-Jean City and The Canton of Royans, subsequently supported by the General Council of Drôme.

IMPLEMENTATION

▶ To reduce the consumption of some municipalities, they have started to completely switch off certain streets or neighborhoods. However, this method meets residents' reluctance who then feels insecure.

▶ Reducing the intensity of luminaires without switch them off completely until a car or a pedestrian comes by is an alternative that make pedestrians feel safe and comfort.

▶ The minimum or maximum light intensity can be adapted independently on each luminaire. Maximum intensity can be reached at pedestrian crossing. The most dangerous places are reported and the municipality is sure not be incur liability in case of accident.

▶ The light intensity can also be kept at a maximum around bars and restaurants to make them visible.

▶ Finally, light emitting diodes (LED) offer better lightning quality. Users comfort is improved and this minimizes biodiversity impact by reducing light pollution.

Method used to calculate the CO_2 impact:

- Calculation realized by considering an emission of 0,09 kg equivalent carbon per kWh saved.
- 550.8 kg CO_2/year saved on lighting of Saint-Jean-en-Royans
- 972 t CO_2/year saved on lighting concerned by Enekio City Project

RESULTS

/// The initiative contributes to raise awareness of people about the changes that can occur to limit unnecessary consumption and adopt a more sustainable lifestyle.

/// The reduction in electricity of municipality can fund new economic development projects or new residents services as a part of the digital city.

/// The network created by the different radio base stations witch equipped luminaires is open and can be used for the functioning of other application. If Enekio offers some of them as a part of Enekio City Project, municipalities can also develop them applications based on the initiatives they want to launch: water, electricity and gas meter reading for the energy efficiency of buildings, air quality; complementary currency system witch rewarding residents for waste sorting.

/// Offering technological breakthroughs, Enekio offers a real reduction of environmental footprint associated with municipalities and industries.

75% d'économie sur l'éclairage

Réseau Smart City

Préservation des ressources

FINANCIAL ASPECT OF THE OPERATION

KEY FIGURES

→ Annual electricity bills of municipalities reduced by 75%.

→ Reduce to zero maintenance costs

→ Return on investment : 4 years

/// The total investment cost (excluding tax): € 15,030,000

/// Investment amount at the expense of municipality : € 30,000

/// Subsidies detail (€ excluding tax) :
- Saint-Jean-en-Royans : K€ 30
- Enekio City : M€ 15

Ville de St Jean en Royans

Le Pays du Royans

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