NACE CODE C26, D35, J63, M71

SMART LIGHTING: PUBLIC LIGHTING GRID CONVERSION INTO AN URBAN MONITORING AND SMART DEVICES NETWORK

Innovations and Benefits - ENEA has developed an "urban smart lighting" system made of an intelligent device that can be installed on lamp posts and allows both night and day monitoring of vehicle and pedestrian traffic and climate conditions and road safety; a methodology or point-to-point dimmering of an illuminotechnic system from traffic data; a national centre for remote diagnostics, benchmarking and qualification of energy saving of lighting systems; guidelines and procedures for planning and contracting the upgrade of illuminotechnic facilities (Lumière Project).

Uses - Introducing 'intelligent' lamp posts, utility detection and advanced control systems (point-to-point or line telemanagement) in the public lighting infrastructure allows to reduce energy consumption by 30-50% in road areas and 50-70% in pedestrian areas by simply regulating the lighting intensity based on the actual request (night adaptive dimmering). Remote line diagnostics allows to certify the energy performance and saving of large urban areas. Creating a multifunctional urban network is the prerequisite for developing many urban services, the integration of which contributes to make the investment dramatically competitive and strategic for the city.

Past and Present Activities - -Smart Village in the Casaccia Research Centre. Collaborations with Telecom, UMPI, I Guzzini, Smart-I, ENEL Sole.

- City 2.0 Project in L'Aquila, where a smart ring of about 5km has been created around the historical city. Collaboration with Citelum, Smart-I.
-Bracciano, where a smart street of about 1km has been created with LED, adaptive point-to-point telemanagement, smart-eye systems. Collaboration with Enel Sole, Smart-I.
- Lumière Project, with the partnership of about 800 municipalities.
- Smart Basilicata Project. Collaboration with Smart-I.
- Brescia Smart Living Project. Collaboration with Smart-I, A2A.
- Espresso Project, with application in Potenza. Collaboration with Enel Sole, Enel distribuzione, MAC, AP System, ST Microelectronics.
- Public Energy Living Lab Project. Collaborations with Enel Sole, Citelum, UMPI.

RESEARCH TO PROVE FEASIBILITY | TECHNOLOGY DEMONSTRATION | SYSTEM TEST, LAUNCH & OPERATIONS

BASIC TECHNOLOGY RESEARCH | TECHNOLOGY DEVELOPMENT | SYSTEM/SUBSYSTEM DEVELOPMENT

TRL 1 | TRL 2 | TRL 3 | TRL 4 | TRL 5 | TRL 6 | TRL 7 | TRL 8 | TRL 9

TECHNOLOGY READINESS LEVEL

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