

RENEWABLE ENERGIES FOR MONITORING ROAD INFRASTRUCTURES

IDEAL IMPLEMENTS CCTV SYSTEMS POWERED BY RENEWABLE ENERGIES AND THE CONTROL CENTER SUPERVISES THEIR STATUS WITH THE INDRA RENEWABLE ENERGY CONNECTIONS MONITORING SYSTEM



Context

ITS (Intelligent Traffic Systems) for the South Pacific - Guadalajara and Tepic Highways

To launch the ITS (Intelligent Traffic Systems), the constructor Ideal required the availability of CCTV systems powered by renewable energies to manage traffic on the South Pacific - Guadalajara and Tepic Highways.

It was necessary to optimize the design and resize the power generation, regulation and accumulation facilities.

Intelligent Traffic technology and toll system for the Guadalajara - Tepic Highways

Renewable energies management system for road infrastructures

To resolve this problem, Indra developed a software subsystem for the real-time monitoring of energy-related variables, such as generated power, consumed power, battery charge level and autonomy. Implementation of a monitoring system for renewable energy connections, including the installation of software and hardware. Solar energy is used as the power supply.

The system includes a completely innovative measurement system to monitor the status and level of the battery charge. These are also displayed through a graphic interface on the HORUS platform, a solution developed by Indra for the comprehensive management of roads and tunnels.

Real-time monitoring of power supply systems for ITS devices powered by renewable energies

Benefits

Real-time information on power-related functioning.

The benefits contributed by the system are as follows:

- Real-time data on battery status, charge level and autonomy of devices in operation.
- Real-time information on energy consumptions, as well as power-related variables, in order to monitor the actual electrical status of the ITS devices.
- Improvement in preventive and corrective maintenance by providing the information systems with real-time, power-related parameters.
- Enables the validation of design hypotheses for generation, regulation and accumulation devices.

Important useful information for controlling renewable energy systems deployed along the highways

Results

Energy savings and technological innovation

1

- Promotion of technological innovation
- Drive the use of renewable energies

2

- Paving the way for new Smart Mobility projects

3

- Energy savings
- System sustainability

Indra in the sector

Solutions for smart management and specialized offering

At Indra, we build our strategy on smart management solutions for infrastructures, optimizing energy consumption, managing assets and coordinating logistics. We provide a specialized offering in system management and control as well as for automation and smart management of energy.

Indra orients its strategy toward developing new technologies and solutions for energy efficiency and sustainability, for areas encompassing generation, transmission and distribution, as well as for industrial, residential and transportation consumption.

The company currently has a number of new smart infrastructure projects (Smart Grids) that guarantee sustainable, secure and economically sound development, and assumes an advisory role for the National Energy Commission (Spain) in the development of Smart Grids, within the Smart Grid Working Group, responsible for standardizing Smart Grid systems pursuant to Mandate M/490 of the European Commission's Smart Grids Task Force.