TELEMANAGEMENT AND ENERGY SAVING
TOTAL CONTROL OF FACILITIES

Telemanagement is the ability to communicate with equipment in an installation or facility, control them, collect working data and manage the service.
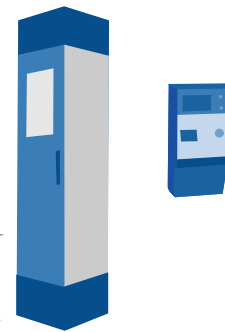
In street lighting, telemanagement is formed by 4 segments: light point, street cabinet, Control Room and remote access. ARELSA offers customized solutions for all levels.

LEVEL 1
LIGHT POINT

LEVEL 2
CABINET

PLC WIRELESS CABLE

Light points are controlled by terminals installed in the lamp. The ballast technology determines the degree of control and the communications.

The cabinet has a double function: it houses control and saving equipment and links the installation with the Control Room.

LEVEL 3
CONTROL ROOM

RADIO INTERNET (ADSL, FIBER, GSM/GPRS)

LEVEL 4
REMOTE ACCESS

True telemanagement is achieved from the Control Room. The use of special software allows to monitor an installation 24/7, and to keep operating data and measurements.

Current communication technologies allow total connectivity at low costs.

TELEMANAGEMENT AND ENERGY SAVING

LEVEL 1 - LIGHT POINT

POINT-TO-POINT CONTROL WITH THE URBILUX SYSTEM

ARELSA's solution consists of the URLYS, the DAT-LUX and the Urbilux.

URLYS, point-to-point control terminal
The URLYS is a small device with a permanent ID installed at the light point that enables an individual control of the lamp. It uses PLC to send data and receive orders from the DAT-LUX, a hub located in the cabinet.
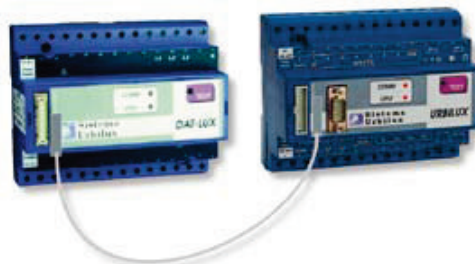
DAT-LUX, cabinet controller and hub
The DAT-LUX is housed at the control cabinet. It receives the information from all the points and resends it to the Urbilux for alarm managing. The DAT-LUX identifies up to 255 URLYS with 16 real-time channels.

Control Room
The Citigis platform is compatible with the point-to-point control system and allows to remotely monitor and act upon the street lighting service any time.

Urlys, light point controller

Dat-Lux and Urbilux, cabinet terminals

Point-to-point management alternatives

The Urbilux system is compatible with any control system installed in the light point: electromagnetic or electronic ballasts, LED…

Lamp type	Light point device	Regulation	Control	Average savings
HPS	Electromagnetic ballast	Header D/S	Basic (cabinet)	30%-40%
HPS	Bi-level electronic ballast	Light point	Advanced (point to point)	30%-40%
HPS	Electronic ballast	Light point	Advanced (point to point)	35%-45%
CMH	Electromagnetic ballast	Header D/S	Basic (cabinet)	20%-30%
CMH	Bi-level electronic ballast	Light point	Advanced (point to point)	20%-30%
CMH	Electronic ballast	Light point	Advanced (point to point)	25%-35%
LED	PLC driver	Light point	Advanced (point to point)	Up to 50%

TELEMANAGEMENT AND ENERGY SAVING

LEVEL 2 - CABINET

TELEMANAGEMENT TERMINALS

A telemanagement terminal allows an advanced management of street lighting services, including working schedules, analysis of key performance indicators, alarm reporting, etc.

URBILUX 3G TERMINAL
RELIABILITY AND EXPERIENCE

The Urbilux family, active since 1991, is a market milestone and has become a key element for advanced street lighting management. Currently there are thousands of terminals in operative installations.

The Urbilux 3G is a compact, solid and powerful terminal. It is responsible for the correct functioning of the installation and control of on, off and saving times. It also collects and registers electrical and event data, which can later be read from the Control Room.

Throughout the years the terminal has evolved, incorporating new features and capacity. The latest version was launched in 2008.

CITILUX TERMINAL
STATE OF THE ART FUNCTIONALITY

The new Citilux terminal uses the latest technologies to improve street lighting telemanagement. Smaller than the Urbilux, it has better communication features. The Citilux is compatible with all the Urbilux and Citigis system and software.

The CitiSmart terminal

Towards the Smart City
For more complex multiservice installations we have developed CitiSmart, a smart telemanagement terminal capable of controlling multiple devices.
CitiSmart has great data management resources and is compatible with a wide range of communication protocols, becoming the ideal link between the control room and the street services, and a key element in the evolution towards the Smart City.

EFFICIENCY AND ENERGY SAVING

Energy saving and efficiency have become an essential element in any service nowadays, especially in street lighting, whose energy consumption may represent up to 50% of the energy bill for a Municipality.

There are different methods to reduce energy consumption and cost.

Consumption can be reduced at the line head using a dimmer-stabilizer, directly at the light point with ballasts or with controlling software.

Additionaly, by adjusting on, off and savings times consumption is further reduced.

Arestat-M dimmer-stabilizer

Arestat-E dimmer-stabilizer

Electromagnetic ballast

Electronic ballast and LED driver

AVERAGE ENERGY SAVINGS OBTAINED USING THE ARESTAT DIMMER-STABILIZER

Savings from voltage stabilization and overvoltage correction

Voltage reduction	5%
Consumption reduction	12%

Savings from power reduction

• HPS

Voltage reduction	20%
Consumption reduction	42%

• CMH

Voltage reduction	15%
Consumption reduction	31%

Note: this calculation does not include the savings from extended lamp life resulting from the use of the dimmer-stabilizer.

TELEMANAGEMENT AND ENERGY SAVING
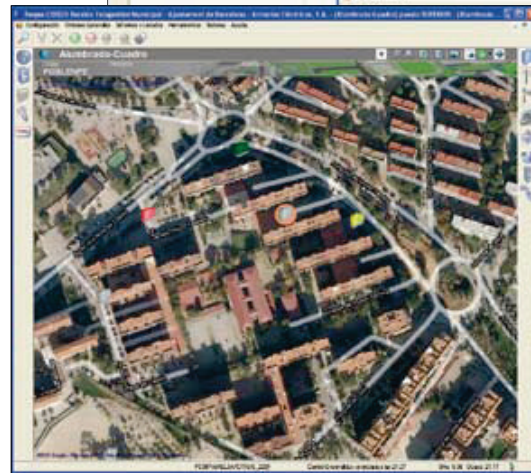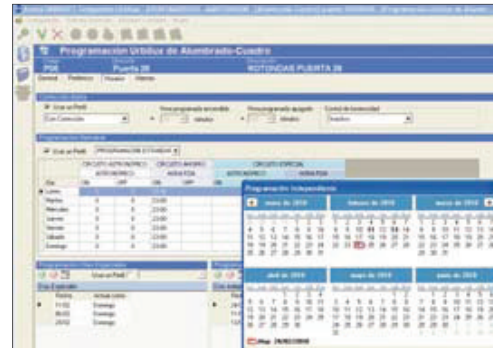
LEVEL 3 - CONTROL ROOM

TELEMANAGEMENT PLATFORM

A telemanagement platform centralizes all operative parameters from an installation and determines what degree of control and knowledge will be achieved. The platform evaluates real data to decide O+M interventions.

URBISOFT

Urbisoft is conceived for those wishing to monitor only the main street lighting working parameters and therefore do not require complex and expensive tools. Urbisoft focuses on basic telemanagement features with a simple, user-friendly interface.

• **Integration and visualization on google-maps**. It allows to situate and register cabinets on googlemaps.

• **Access to Urbilux and Citilux terminals.** on site (RS232 - Ethernet) or remotely (GSM/GPRS).

• **Telecommand**. It provides 24/7 communication with the installation, allowing to verify its state, obtain measurements or reprogram the terminals

• **Automatic controls**. It can be programmed to monitor installations and report alarms via SMS.

• **Reporting**. Urbisoft generates inventory files and allows to export data in standard formats (HTML, word, excel, pdf…).

Citigis, complete telemanagement of municipal services

The Citigis platform integrates all the features required for a complete control and energy management of street lighting and municipal facilities.

• Inventory with GIS cartography.
• Preventive and corrective maintenance with alarm reporting.
• Telemanagement:
  • Electronic meters.
  • Control terminals such as Urbilux, Citilux, CitiSmart, CitiControl, DatLux and Urlys.
• Consumption and billing control, making claims to supplying company if applicable.
• Energy audit based on the Spanish RD1890/2008 norm.

TELEMANAGEMENT AND ENERGY SAVING

LEVEL 4 – COMMUNICATIONS AND TOTAL ACCESS

TOTAL ACCESS

It is now possible to access and telemanage the street lighting service from any computer with Internet access without investing in a fully-equiped Control Room.

Our new application allows to access and use a Citigis installed in a remote server. Security is guaranteed with a simple user code system.

CITIMOBILE, SMART MANAGEMENT ANY TIME, ANY PLACE

Citimobile is a smartphone app that allows to directly connect to an existing Citigis Control Room.

All operations carried out from Citimobile appear immediately in the server, Citigis clients and other active Citimobiles. Therefore it is not required to fill in the data again or go back to the Control Room to synchronize the changes.

CitiMobile Apps:
Citimobile Inventory
Citimobile Maintenance
Citimobile Navigator

Compatible with main communication standards

Our system is compatible with the most common communication standards: private radio, GSM/GPRS, 3G, IP…

Our aim is to offer total connectivity between the user and the services and installations.