

The Master of Telecontrol

from Paolo Di Lecce

The great need to control vast lighting systems in realtime is fast transforming into a demand for an even more evolutionary and sophisticated software capable of offering a new kind of remote control management concept.

Reverberi Enetec proposes avant-guarde technological solutions, where the Master remote control software is based on the Movicon Scada platform.



Reverberi Enetec has for many years dedicated a great deal of time on researching energy and energy saving issues especially in the public lighting sector.

With the know-how and experience gained over the years, Reverbero Enetec is now more than ready to take

on the ever dynamical and competitive market dealing with saving energy.

A COMPLETE RANGE

REVERBERI ENETEC offers a complete range of lighting controllers and remote control services capable of meeting all requirements which cover several areas such as: roads, railways, seaports,

airports, industrial plants, supermarkets, shopping centers....

The range of Reverberi controllers' technical features are ideal for controlling light flux in high power plants. The regulators from the Intelus range provide the best solutions in situations where a range of extended lighting is needed: offices, factories, sport centers, shopping centers, hospitals, theatres, hotels, conference rooms.

The completion of the ever increasingly important range gave birth to the Reverberi Enetec system control software called "Master". This is a completely configurable remote control

investments, but provides powerful and open solutions at the same time. Movicon has been chosen for its potentiality in being powerful, userfriendly with top-notch technical support service provided by Progea. This has allowed Reverberi Enetec to drastically cut costs and preparation time to allow companies to be more flexible in adapting their license costs according to the Reverberi Enetec business strategies and solutions, included in the standard package.

THE IMPORTANCE OF SOFTWARE

The first software aid for managing public lighting installation systems provided information on their working status and permitted periodical maintenance to be programmed.

A whole new concept in the world of remote control had emerged evolving from a new software typology created in response to the increasing user demand for real time information on system alarms needed for improving capacity levels in monitoring and controlling light system data and for evaluating critical variations (voltage, current trends etc.), with the possibility to store and log calculations in the event of failures or breakdowns, to remotely control lighting and programming enhancement with the latest technology involving solutions such as GSM or GPJRS. This software does not require any additional networking costs and the data transmission feature is the only additional function required.

All other hardware for acquiring data comes with the standard product.

The remote control system proposed by Reverberi Enetec allows you to monitor the status and working performances of outdoor/indoor lighting installation systems, by verifying, in real time, the whether each individual lighting point is working efficiently to prevent any power failures from happening. System modules offer a number of different technical and economical solutions: from



Figure 1 – This is an example of screens used for reporting data of electrical light points (supports, man holes, drains, lighthouses, etc), associated with a number with all information describing the situation of each object.

platform and can be quickly adapted to client's needs in-next-to-no-time. It uses the most innovative technologies thanks to the Movicon platform on which the "Master" project is based.

Opting to use Scada platform not only guarantees and safeguards both Reverberi Enetec and its clients'

the remote control of simple framework parameters to the more sophisticated point-to-point solutions, as required by the user.

The cost to install a remote control system in a controller is reasonably low due to the fact that a data transmitter is the only additional function required. Other additional modules for controlling and protecting large electric lighting systems are not needed.

The main functions available are:

- control and command of each individual lighting point
- Programmed and/or manual querying of SEC STP controller from control station to permit reading of historical data on voltage, currents, alarms, etc
- Alarm detection and immediate transmission from SEC STP controller to control station (user configurable)
- Remote configuring of controller program cycles and operating parameters
- Direct emulation
- Remote reading and remote commanding of digital and analogue I/O for turning fixtures on/off, etc.

THE TECHNOLOGY FOUND ON THE MARKET

Today's market offers two types of solutions: (1) mostly orientated at storing system status information or (2) mostly orientated at remote control or telecontrol of these remote controls. The first type of software is used for recording all system data: all the item devices used in the system (control panels, switch boards, controllers, lamps, light fixtures, dimmers, supports, vents, etc.) are associated with an ID number, which can be indicated in the light installation layout then reported to the physical devices. The software gives you access to all the important information of the coded

item, such as its size, type and accessory brand, functionality, (figure 1). This type of software provides descriptions of the items involved, records them on file, with efficient data search and retrieval, processing and tool importing without having to enter them in manually. In some cases area maps can be used to provide a better man-machine interface and faster item search and alarm

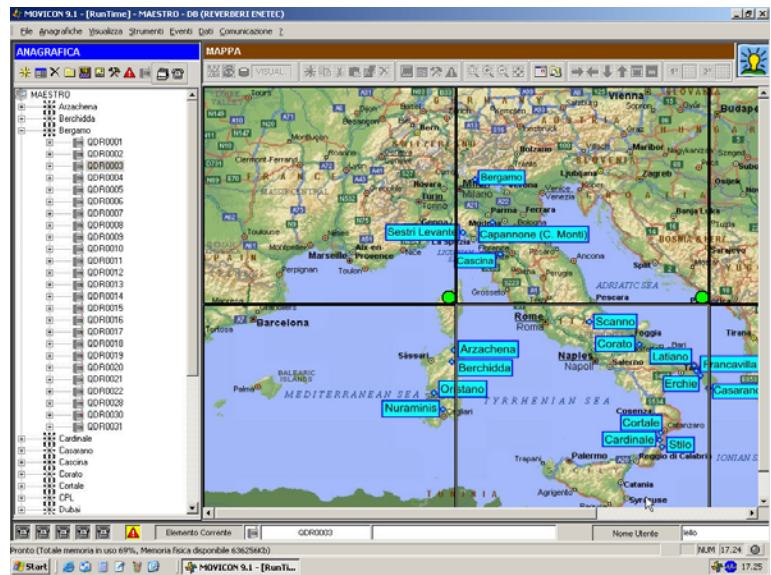


Figure 2 – This shows interaction between animated map, anagrphical data and telecontrol. A green light, on the bottom right of each square on the map, means that there have been no alarm occurrences in that zone as yet.

detection by personnel not assigned this as their main task (figure 2).

The remote control feature provides various tools for monitoring lighting installations in real time and important communication functions.

Each installation is viewed individually through a remote device connection, which may be either a control panel or/and the flux controller. A PC equipped with a GSM modem interacts with the control panel to receive alarms and dispatches them to the emergency interceptor teams via SMS, commands the turning on and/or off of controllers (time scheduled, relay, thresholds, etc) by remote control, receives general calculations and data relating to the control panel or relating to each single light point (figure 2).

All the managerial software is geared around communication and the installation system calculations. The software created by Reverberi Enetec is based on Progea's Movicon Scada platform and does not have to be programmed. Reverberi Enetex has designed this software to be auto-configurable without the need to reverting to the Movicon editor mode. Expert users can easily integrate this software into larger management systems (eg. hydro-electric schemes, gas works, public service utilities).

THE MANAGMENT SOFTWARE: THE NEW FRONTIER

A powerful man-machine interface, a rugged database such as SQL and the use of the most advanced technologies found on the market today, and which are all included in the Movicon platform, make it possible to integrate two solutions into one package only, to become one whole entity with userfriendliness equality. The potentiality of using just one tool of this type means that you can get a direct link between planning and system reality, allowing the project designer to set out the systems characteristics in

table format and verify their status in realtime; such alarm links and realtime database information are used to verify all data on failures and breakdowns from the system's "Storyboard". The unique data entry date is very beneficial, simple and very useful when retrieving data using the devices of the latest palmtop and mobile phone generation. Quick intervention response is also another important aspect to be considered: having graphics of area maps onscreen with indications that every thing is working as it should be would be ideal! Links between maps, anagraphical data and communications allow this all to happen.

EVOLUTION OF INFORMATICS AND MANAGEMENT ORGANISATION

Certain tools just cannot work by themselves unless forced to do so by company managerial ethnics. Information systems, designed for administrative and accountancy reasons have expanded to include all the aspects involved in the world of business. Companies who have chosen a new type of information system did so when they came to a halt at that famous crossroad in life: to choose between using one tool and try to get it to work within the company; or to get an information system to act as the kernel to re-organize business: most have chosen to take the second road. Integrated management software will become the fulcrum in running light systems. But all this will require a drastic evolutionary change, which must involve the running of the company. The whole company network has to work coherently: the user must be able to send all data relating to new light installations in standard electronic format, to import data easily into the system; the sales and purchasing office must be able to get hold of historical data and calculations on device and accessory functionality, to establish evaluations on suppliers; personnel must find it easy to enter data into the appropriate forms whenever breakdown or failures occur, without using

handwritten paper, so that this data is immediately available from palmtop devices; intervention programming must be done with the aid of computer science, by valuating priorities based on calculations and alarm occurrences. The marketing department should be able to work along side to obtain data on service quality and costs, while the investment overseer can carry out cost

and efficiency analysis on light installations, and use the results to make future investments wisely. Controllers and financial managers should be able to instantly obtain and to consult necessary data to verify light installation trends for cost effectiveness and system breakdown or failure cost comparisons.

Case History

The Motorway authority of an important western country decided to extend the telecontrol potentiality of its 500 Reverberi controllers to 1500 controllers. The authority was very satisfied with its investment in the Reverbi controllers where the Master platform fitted their needs perfectly when adapting the SQL database and dividing the monitored territory into 5 zones. Each zone was installed with a high performing server, which became the focus point for gathering field information. Each server is capable of managing large amounts of data deriving from the 300 controllers of each zone. Each user can connect to the Server as a Client to access data, according to their access level, pertaining to other terminals connected in a LAN network. This then allows for remote control via internet. User Interaction with servers in each zone can than take place from several central workstations and alarms can be monitored when zones are left unmanned; without physical presence of staff.