

# MED-ENEC Pilot Project on Energy Efficiency in Lebanon

*A hospital in Lebanon reduces energy costs while increasing efficiency in a project financed with the support of MED-ENEC.*



## BACKGROUND

March 2008 – The Centre Hospitalier du Nord (CHN) is a private hospital with 140 beds, located in Zgharta, Lebanon. Due to frequent power cuts, 75% of the hospital's electrical energy demand has to be produced by generators. The total energy bill was over 270,000 Euros in 2006. The CHN decided to conduct an energy audit that came out with the following recommendations:

- Improved maintenance of air conditioning equipment
- Energy efficient lighting
- Thermal insulation of the roof
- Demand management system (software for peak shaving and control/monitoring)

The CHN project implemented a number of cost-saving features, including thermal insulation of the roof and installing Shark® 100-S submeters to record and regulate energy usage. The meters were selected for their economy, high accuracy, advanced communication features and easy installation. The Shark®100-S submeter directly interfaces with most building management systems and offers communication options RS485, RJ45 Ethernet or wireless WiFi.

## Project Thumbnail

### Application

Shark®100-S submeters and other energy-saving applications such as thermal insulation

### Benefits

The Centre Hospitalier du Nord saves 20% of its energy consumption over the previous system and reduced CO<sub>2</sub> emissions significantly





***Shark®100-S submeters combine accurate metering with cutting-edge communication technology***

The Shark®100-S is one of the most advanced electrical submeters and is designed for environments such as universities, shopping malls, commercial buildings, government facilities and more. This high performance product measures revenue grade electrical energy usage and relays the information using modern communication methods. It can be surface mounted anywhere within a facility and will communicate back to a central software system quickly and automatically. The Shark®100-S submeter is easily programmed and is up and running in minutes.

Features of the Shark®100-S submeter:

- 0.2% Class Revenue Certifiable Energy and Demand Submeter
- Meets ANSI C12.20 (0.2%) and IEC 687 (0.2%) Classes
- Multifunction Measurement Capability
- Power Quality Measurements
- Bright Red LED Display with three 0.56" lines
- % of Load Bar
- Ethernet and Wireless Ethernet
- Serial RS485 Communication
- Modbus RTU and Modbus TCP (Over Ethernet)
- Direct Interface with Most Building Management Systems

## **IMMEDIATE IMPROVEMENT**

The needed investment of less than 60,000 Euros was subsidized partly by the MED-ENEC project. The ROI was estimated at slightly over one year. The hospital now saves 20% of its prior overall energy consumption. This corresponds to a annual saving of 55,000 Euros and a yearly reduction of CO<sub>2</sub> emissions of 350,000 tons. CHN has already decided to use the positive experiences of the Pilot Project for a new hospital building that is being constructed in Jounieh, a coastal city north of Beirut.



***Shark®100-S submeters installed in the hospital***

## **ABOUT THE MED-ENEC**

MED-ENEC aims at boosting energy efficiency and the use of renewable energies in buildings in 10 countries south and east of the Mediterranean. MED-ENEC has an integrated project approach, combining activities for the improvement of framework conditions such as laws, standards and incentive programs with demonstration projects, capacity building and the promotion of business cooperation and technology transfer.