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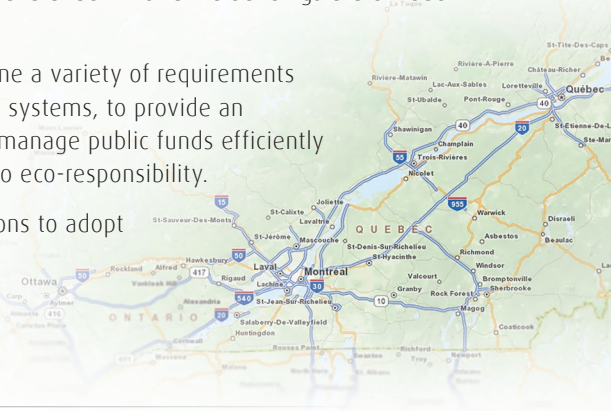
Commission scolaire des Samares building automation passes the test

School boards manage elementary and secondary schools in a given area and as such, they cover a large territory. Their building inventories are therefore extensive—in Quebec, approximately 2,788 schools as well as several administrative buildings are divided between 72 school boards.

The school boards must therefore combine a variety of requirements to ensure building durability, to optimize systems, to provide an environment that promotes learning, to manage public funds efficiently and to provide an example with regard to eco-responsibility.

All the more reason for these organizations to adopt and implement strategies designed to save and optimize energy.



A successful energy-efficient strategy

Located on a territory measuring 16,000 km², the **Commission scolaire des Samares** (the Des Samares school board) has approximately 25,000 students and 5,000 employees. The school board has about 91 buildings that are on average 40 years old and together represent a total area of 320,000 m².

Despite the challenges of maintaining and monitoring the costs of a building inventory of this size, the institution is now a leader in energy efficiency as a result of its efforts over many years. Backed by a well-defined strategy, the school board began major work in 2005 based on a five-year plan designed to optimize the energy efficiency of its installations.

The school board personnel's expertise as well as that of specialized firms was key and a diversified approach was adopted in order to meet the objectives. As a result, many different types of measures were implemented, including renovating building envelopes, replacing boilers, modernizing lighting systems as well as heating, ventilation and air conditioning (HVAC) systems, using greener and more efficient energy sources, and especially, integrating devices in a centralized automatic control system.

The school board trusted Regulvar, its building automation partner for 25 years, to implement the centralized automatic control system. Regulvar therefore provided its client with all the solutions it needed to integrate the HVAC, lighting and access control systems and supported the school board personnel so they could provide all the algorithms required for predictive and energy control, managing peak electricity demand, following up on alarms, etc.

Did you know?

Regulvar is a partner of **Robotronique**, a parking management systems manufacturer.

The integration of various processes and devices within a central digital control and telecommunications system, which is vital to a successful energy savings strategy, helps improve overall performance. In fact, with a "brain" that receives data from devices and sensors, performs an analysis, establishes forecasts and programs various operating methods that are tailored to specific needs, systems are not used unnecessarily and the performance of the required systems is optimized.

For the Commission scolaire des Samares project, a monitoring structure was implemented that meets both individual needs and the needs of all of the installations. Six workstations were designed to oversee operations as well as the management of approximately 20,000 input and output points. Concerning the HVAC system, it is important to note that the central workstation is linked to a weather communication interface with Environment Canada, which helps determine predictions and identify periods during which the new storage heaters need to be charged.

Also of note was the installation of an access control system for an administrative centre and its approximately 300 users, as well as the innovative use of self-powered wireless devices for controlling HVAC and lighting systems, e.g. temperature sensors and switches that operate thanks to the Regulvar Universal BACnet Interface (RUBI) Gateway.

Top marks for eco-responsible solutions

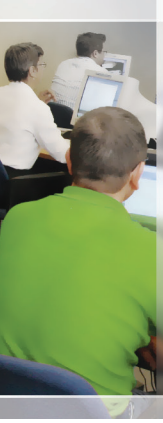
Without question, the initiatives undertaken by the Commission scolaire des Samares and the expertise of the teams of specialists generated positive results from the perspective of energy savings as well as with regard to the improvement of overall management, equipment rejuvenation and the minimization of pollutants.

Between 2005 and 2010, the amount of energy that the school board used changed radically, and the annual energy consumption statistics speak for themselves:

- From **$4.8 to $3.8 million** in **energy costs**
- From **4,500 to 1,400 tonnes** for **CO_2 emissions**
- From **208,000 to 150,000 gigajoules** for **overall energy consumption:** **a reduction of 26% over five years.**

A reduction of 54,000 gigajoules represents the equivalent of 15 million kilowatt hours or 350,000 litres of fuel oil: substantial savings and a clear boost for the environment.

Nathalie Fradet,
Editor
nfradet@regulvar.com



UPCOMING TRAINING

Laval (french) :

ORCAVIEW 3.33
intermediate level
Juin 6•7

ORCAVIEW 3.33
advanced level
Juin 8•9

GCL + PROGRAMMING
Juin 13•14•15

CREATION OF GRAPHIC INTERFACE
Juin 22•23

Ottawa (english) :

ORCAVIEW 3.33
intermediate level
February 28•March 1

ORCAVIEW 3.33
advanced level
March 2•3

GCL + PROGRAMMING
March 7•8•9

CREATION OF GRAPHIC INTERFACE
Depending on enrollment

For more information,
visit ou Website
www.regulvar.com
or
contact
Jocelyne Plamondon
at **450-629-0435**
ext. **1128**
jplamondon@regulvar.com