Altoria / AIMIA Tower

Kolostat®Mechanical Contracting Services

AUTOMATEDLOGIC
United Technologies

We make data **big.**™

Next level building automation engineered to help you make smart decisions.

Innovation Soars at Condominium / Office Tower with the WebCTRL® Building Automation System

The Challenge

- Design a flexible, adaptable mechanical system able to meet different tenant occupancies as they occur.
- Accurately measure and verify ongoing energy exchange among multiple hydronic loops.
- Provide a comfortable environment in a structure with 85%-95% window-to-wall ratios, and temperatures reaching -20°F (-29°C).
- Incorporate new technologies between design and construction, adhering to original budgets and mechanical room footprints.

The Players

Montreal's Altoria/AIMIA Tower, a 35-story mixed-use development, soars to the highest level in innovative design and construction. Completed in 2014, the project features 152 high-end condominiums occupying its top 25 floors (Altoria) plus ten floors of Class A office space below (AIMIA Tower). The building is located in Victoria Square, in the heart of Montreal's famed International Quarter. The structure also includes five floors of underground parking.

The project is the vision of Montreal-based Kevric Real Estate Corporation, known for its forward-thinking, sustainable development and redevelopment projects in Canada's urban centers. The company tasked Kolostat® mechanical contracting services, with an ambitious assignment: to design and install mechanical systems that would exceed the country's Model National Energy Code for Buildings (MNECB) by more than 25%. At the center of Kolostat's remarkable solution: the WebCTRL® building automation system (BAS) from Automated Logic Corporation (ALC).

The Solution

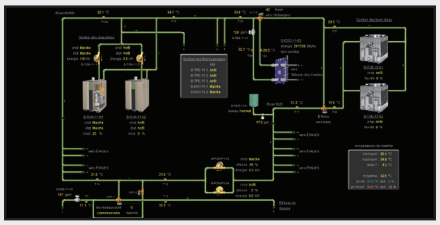
Kolostat's design is based on a simple mechanical concept: to capture, redirect and reuse available waste energy, supplementing any additional heating and cooling needs with highly efficient equipment. The structure incorporates four integrated energy exchange loops: condominium, office, garage and geothermal. With its 15 vertical wells, the geothermal loop is the source (and repository) of heat for the other three loops. During winter and shoulder seasons, heated air is provided to and/or extracted from those loops as needed via hybrid heat pumps (HHP); the typical sequence redirects excess heat from the office loop to the residential loop, outdoor pool heater, domestic hot water preheat systems, garage loop and geothermal wells. Any additional heat is ultimately released from the structure. During Montreal's shorter summer cooling season, the process is automatically reversed.

The WebCTRL® BAS centralizes control of all HVAC equipment. Given the mechanical systems' sophisticated infrastructure, serving both tenants and residents, accurate monitoring and metering functions are critical to Altoria/AIMIA Tower's successful operation.

"Without question, Automated Logic's WebCTRL system has helped advance our mission at Altoria / AIMIA Tower and other Kevric projects." Ghassan Kotait, Kevric Vice President, Construction.

Altoria / AIMIA Tower

Kolostat® Mechanical Contracting Services



During winter and shoulder seasons, the WebCTRL system operators can monitor and redirect excess heat from the office tower to the condominiums, hot water preheat systems, garage and more.

Measurement and Verification Plan Monitors Energy Use, Generates Tenant Billing

"The project included an extensive ALC measurement and verification (M&V) plan in order to track the energy being used by the various entities in this mixed-use building," remarked Daniel Robert, Kolostat's Vice President for Sales and Engineering. A comprehensive plan was developed to monitor energy usage at every mechanical system installation and to meter the energy transfers between the offices and condominiums as well as the offices and garage. Data captured by the WebCTRL® BAS is now used to accurately compute and generate tenants' energy billing.

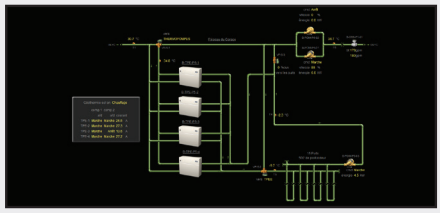
"From our offices, we use the ALC system to monitor the operation and even tweak settings to increase efficiency as we continue to learn the building. This includes the use of the WebCTRL Environmental Index™ tool, which indicates how closely zone temperatures adhere to predetermined heating and cooling setpoints. The operators love the ALC installation and use it to make occupants comfortable and happy," Robert continued.

"The operators love the ALC installation and use it to make occupants comfortable and happy." Daniel Robert, Kolostat Vice President, Sales and Engineering.

"Our mission is to develop innovative and sustainable properties, securing their long-term value by optimizing their performance," remarked Ghassan Kotait, Kevric's Vice President, Construction. "Without question, Automated Logic's WebCTRL system has helped advance our mission at the Altoria/AIMIA Tower and other Kevric projects."

The developer and contractor's efforts have certainly paid off. Energy savings are expected to exceed Canada's building energy code by 30% in the office tower and 38% in the condominiums, despite their unusually high window-to-wall ratios.

In addition, the AIMIA Tower was awarded LEED® Canada CS (Core and Shell Development) Gold certification, and the Altoria project was awarded LEED Canada NC (New Construction) Silver certification. The entire project was also recognized by ASHRAE, receiving a technology award from that organization.



Each energy exchange loop - including the garage loop, shown here - is graphically displayed to monitor any need to direct or extract heat from the area.

Project Summary

Savings:	30% AIMIA Tower, 38% Altoria over Canada's Model National Energy Code for Buildings (MNECB)
Location:	Montreal, Quebec
Project Type:	New construction
Building Size:	35 stories (523,000 sq. ft.)
Building Usage:	Residential condominium (Altoria) and commercial office (AIMIA Tower)
Objectives:	Reduce energy consumption and costs; design flexible, adaptable mechanical system for office tower
Design Considerations:	Maximize use of available waste energy
Major Decision Drivers:	WebCTRL® system capabilities, graphical interface and ease of use
Dealer:	Kolostat
Installation Date:	2013-2014

AUTOMATEDLOGIC
United Technologies

1150 Roberts Boulevard, Kennesaw, Georgia 30144
770-429-3000 Fax 770-429-3001 | www.automatedlogic.com