CASE STUDY

AMERICAN UNIVERSITY

WEBCTRL® SYSTEM INTEGRATES DISPARATE SYSTEMS AND HELPS MEET UNIQUE COMFORT, DEHUMIDIFICATION, AND ENERGY EFFICIENCY REQUIREMENTS

THE PLAYERS

The American University (AU) is a private research university located in Northwest Washington, D.C. Its main campus spans 90 acres, has eight schools and colleges and more than 14,000 students. One of AU's top priorities is an ongoing focus on energy efficiency, comfort and sustainability, which is reflected in initiatives across its entire campus.

To this end, three of their buildings— the Asbury Central Plant, Hall of Science, and Sports Center—were targeted for controls and equipment upgrades. Each facility had unique controls, dehumidification, comfort, and energy-efficiency challenges that needed to be addressed.

Albireo Energy—formerly EMS Technologies— is an Automated Logic dealer in Crofton, Maryland. Albireo specializes in providing intuitive, innovative building solutions and services, and has set new standards for design, installation and service of building automation systems.

In 2018, EMS Technologies began a successful ongoing relationship with AU by converting its campus heating system from steam to low temp hot water (LTHW) with an integrated 1MW combined heat and power turbine. This was a multi-year project that had to be completed seasonally to ensure precise heating and cooling for the students, faculty and administration.

THE CHALLENGE

- Help achieve comfort and sustainability goals across entire campus
- Help meet AU's unique HVAC control requirements across multiple buildings
- Integrate, monitor, and manage more than 12,000 data points campus-wide
- Deliver 100 percent fresh outside air to each department of science building
- Ensure that all BAS upgrades be seamless with existing legacy systems

THE SOLUTION

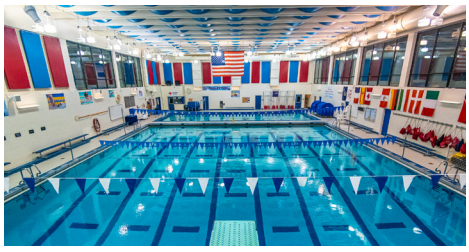
Three unique buildings... three successful controls solutions from Automated Logic.

Asbury Central Plant - Following the facility's initial LTHW conversion by Albireo, ongoing controls and building automation system (BAS) upgrade initiatives using Automated Logic products helped AU's building automation team to manage and monitor more than 12,000 building automation data points which control temperatures and air flow throughout campus buildings.

Hall of Science - This state-of-the-art facility houses AU's biology, chemistry, environmental sciences, neuroscience departments, and animal vivariums. Automated Logic sensors and controllers maintain a healthy environment by delivering 100% fresh outside air while meeting each department's unique temperature, humidity and comfort requirements.

Reeves Aquatic Center - With two pools, an eight-lane, 25-yard lap pool and a three-lane 20-yard teaching pool, the center required more aggressive dehumidification, temperature and fresh air control. To accomplish this, Automated Logic sensors and controls were installed to precisely monitor and manage humidity, temperature, discharge air temperature, supply fan and compressor status.

American University's Hall of Science Building (above) and Reeves Aquatic Center (below).



AMERICAN UNIVERSITY
WASHINGTON, DC

THE RESULTS

American University's (AU) relationship with Albireo Energy began in AU's Asbury Central Plant with the conversion of its campus heating system from steam to low temp hot water (LTHW). Over the years, this partnership has expanded, which has allowed Albireo to recommend, design and install Automated Logic sensors, controls, and building automation system (BAS) upgrades in various locations throughout the campus.

Automated Logic's WebCTRL BAS is a powerful web-based platform that provides AU's facility managers with software tools to maintain comfort, manage energy conservation measures, identify key operational problems, and analyze the results. "Automated Logic's [WebCTRL] is a discreet campus-wide control system which allows all of AU's connected HVAC components to talk to each other while allowing us to monitor everything in real time. ...and Albireo is extremely helpful in keeping us updated on all of [Automated Logic's] latest upgrades," said Jacob Cox, Project Manager, Capital Program Management / American University Facilities Management.

Having the ability to precisely monitor disparate campus buildings—each with their own unique comfort, humidity and operational requirements—is facilitated by Automated Logic sensors, controllers and the WebCTRL BAS.

"AU also has Automated Logic's **IntelliSuite® analytics solution**, which includes a network health monitoring application for the WebCTRL BAS. It monitors traffic and predicts network issues and suggests possible corrective actions. This suite is being expanded to include airside and water-side system monitoring as well. The platform will monitor usage, help predict failures, and suggest corrective actions that can help us proactively improve system performance," commented Jacob Hogan, Account Executive for Albireo Energy.

One striking example where Automated Logic sensors and controls precisely monitor and manage unique humidity conditions are found in AU's Reeves Aquatic Center indoor pool complex. "Our Aquatic Center is obviously a high-humidity environment requiring precise temperature control and a high demand for fresh air. Albiero's recommendation and installation of Automated Logic's sensors and controllers have made a significant improvement in the air quality and temperature in the Aquatic Center. Additionally, Albireo's support team is very knowledgeable and accessible whenever we have any questions," said Eddy Peng, Building Automation Technician Supervisor / American University Energy Management.

PROJECT SUMMARY	
Location	Washington, DC
Project Type	Equipment, controls and sensor upgrades
Building Size	Hall of Science: 125,000f^2
Building Usage	Higher Ed Campus: Central Cooling Plant, Hall of Science, Aquatic Complex
Objectives	Implement control strategies and BAS system integration to support AU's ongoing campus energy conservation plan for increased energy cost savings, reduced energy consumption, enhanced occupant comfort, and future expansion
Design Considerations	All BAS upgrades must be seamless with existing legacy system, upgrade all graphics to AU's standards, ease of use
Major Decision Drivers	Ease of integration with existing BAS systems and ease of use of ALC's control components for varied applications
Dealer	Albireo Energy

WebCTRL®

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Jacob Cox
Project Manager, Capital Program Management / American University Facilities Management

Sustainability signage resides on campus to highlight the successful results of the LTHW project, which includes Automated Logic controls.

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