Automated Logic

CASE STUDY

Northeast Georgia Medical Center

Gainesville, GA

SMART ISOLATION SYSTEM BOOSTS HOSPITAL SAFETY

THE CHALLENGE

- ***Manual-to-Automated Transition:*** *The customer initially considered manual damper adjustments for isolation mode, which posed safety risks and operational delays during emergencies.*
- ***Tight Timeline Coordination:*** *The project had to meet strict occupancy and pandemic preparedness deadlines, requiring seamless coordination across multiple trades and disciplines.*
- ***Complex Integration:*** *Achieving real-time, automated control across HVAC, access, alarm, and monitoring systems demanded custom engineering and precise programming to ensure reliability and scalability.*

Northeast Georgia Medical Center Gainesville uses the WebCTRL® system daily to manage building operations.

Project Objectives

In early 2025, Northeast Georgia Medical Center (NGMC) Gainesville embarked on a pioneering initiative to enhance public health preparedness through advanced building automation. The objective was to implement a block-level pandemic isolation system capable of rapidly converting entire sections of the hospital into negative-pressure zones to contain airborne pathogens. This system would serve as a critical infrastructure safeguard during infectious disease outbreaks, ensuring the safety of patients, staff, and visitors.

The customer sought a solution that would eliminate the need for manual damper adjustments, which were previously considered necessary for switching between standard and isolation modes. The goal was to achieve automated, scalable, and integrated control across HVAC, access, and alarm systems—delivering both operational efficiency and emergency responsiveness.

The Solution

Automated Logic Georgia (ALC) delivered a first-of-its-kind pandemic isolation system as part of a new 850,000 sq ft tower installation. The system featured approximately 10,000 integration points within the **WebCTRL® building automation system** (BAS), enabling real-time monitoring and control of environmental conditions.

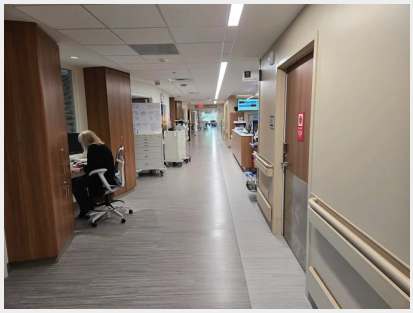
At the core of the solution were custom-engineered HVAC components, including air handling units with HEPA and ULPA filtration, VAV boxes for zone-level pressure management, and dedicated exhaust fans for contaminated air extraction. These elements worked in tandem with automated dampers, pressure monitoring alarms, and remote dashboard access to create a fully responsive isolation environment.

To address the customer's concerns about manual intervention, the BAS used custom programming tailored for pandemic scenarios. This included:

- Automated damper repositioning and airflow modulation for instant isolation.
- Zone pressure monitoring and alarming using differential pressure sensors.
- Remote access capabilities for off-site command execution.
- Energy optimization routines to reduce consumption during non-isolation periods.

The system allowed facility managers to initiate isolation protocols with a single command from the BAS, converting entire building blocks into negative-pressure zones within minutes. Real-time graphics ensured continuous insight into air quality and system performance, supporting both proactive maintenance and emergency response.

The project was completed under tight deadlines to align with occupancy schedules and pandemic readiness requirements. ALC's ability to integrate HVAC, access control, and life safety systems into a unified platform was a key factor in their selection.



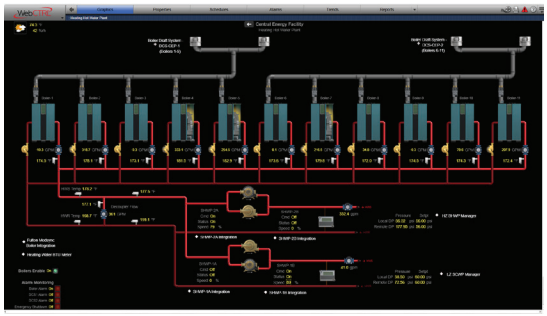
The new tower features a first-of-its-kind pandemic isolation system.

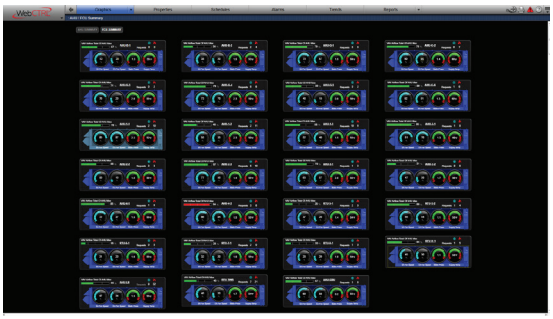
The Result and Future Plans

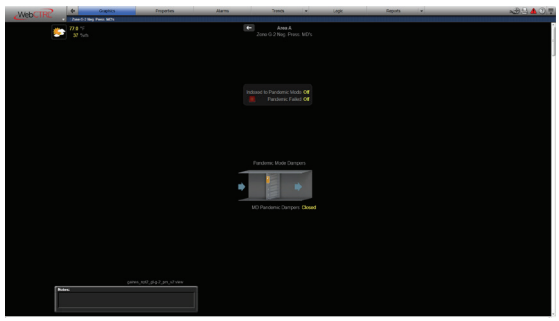
The completed system exceeded expectations, delivering fully automated pandemic isolation capabilities while improving energy efficiency and operational safety.

NGMC Gainesville has established a scalable infrastructure designed to accommodate future growth. Plans include building out four existing shell spaces to provide additional bed capacity and expanding further by constructing new areas under the existing open roof structures. ALC controls will be integrated into these new areas. This ensures consistent monitoring, control, and safety across the entire campus—setting a new standard for healthcare facility preparedness.

> ***"This system has redefined our emergency preparedness strategy. Its ability to autonomously isolate entire building zones—without manual intervention—delivers a level of responsiveness and control that's critical in mitigating airborne threats. For facilities engineering leaders, it's a game changer: it elevates operational resilience, streamlines crisis response, and sets a new benchmark for safety management in complex environments."***
>
> **- Dirk Watkins**
> **Director, Facilities Engineering**
> **NGMC Gainesville**







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For more information, visit automatedlogic.com.