

Office of the Mayor New York City, NY

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Crestron Control Technology Enables 21ST Century Emergency Management and Command for New York City

With a responsibility for a global city and its 8 million inhabitants, the failure to gain immediate access to information during an emergency is not an option, while trust in your AV control and communications technology is critical. The attacks of 9/11 caused New York City officials to reevaluate and significantly upgrade its emergency command and response capabilities. The result? Completion of the state-of-the-art New York City Office of Emergency Management (OEM).

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To further expand the Big Apple’s crisis command and communication capabilities, the Office of the Mayor then began searching for a solution that could bring together a large flow of discrete sources of information into a central location within New York City Hall, with the ability to quickly access and disseminate it all on demand.



Background

Previously, city officials experienced a lack of: consolidated information during emergency situations, a centralized location to process this information, and an outdated technology infrastructure.

“The building has been constantly in use for several hundred years and has been modified several times, but had not had a technology upgrade for many years,” explains Felix Robinson, Vice President, AVI-SPL.

Completed in 1811, New York City Hall is a National Historic Landmark and the oldest City Hall in the United States. Over the past two centuries, the building has played a large role in American history and houses many important artifacts. Presidents Abraham Lincoln and Ulysses S. Grant both lay in state here, while George Washington’s desk and significant portrait and painting collections from the 18th through 20th centuries are preserved in the massive Governors Room.

The Solution

With system requirements that included connectivity for a massive array of media sources, secure IP-based audio and video conferencing capabilities, and an easy-to-manuever user interface for quick viewing of voluminous sources of media – while integrating it all into a 200-year old structure - the aggressive project presented unique challenges.



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To meet these challenges, the Mayor’s office retained multimedia and audio/video consultants Shen Milsom & Wilke – who also designed the hugely successful OEM - to design a new high-powered control and command center inside City Hall. Systems integrator AVI-SPL installed and commissioned the impeccably designed system, and Crestron Authorized Independent Programmer, PepperDash Technology, provided custom touchpanel programming.

“This advanced command center is where the Mayor and his senior staff gather during a crisis to monitor, strategize and consult with local, state and federal agencies, says Steven Emspak, partner, Shen Milsom & Wilke.

Real-time feeds coming into the command center consist of video - both public and secure - from over 200 sources. This includes three independent camera systems totaling 700 closed-circuit TV feeds located throughout the city, and multiple cable, satellite and over-air TV signals.

Highly secure feeds include video conferencing codecs with the White House and US Department of Homeland Security, and a direct link to OEM and PSAC I. Incoming video and audio is routed to a choice of 48 video windows on four widescreen displays, producing visual coverage of any conceivable combination or need.

The Crestron Advantage

With 15 racks of equipment on the other side of a wall that feeds critical data to the room from every agency in the city of New York, Crestron control technology plays a leading role in streamlining the complex multimedia source management and routing designs.

Crestron AV2 and RACK2 advanced control systems, and selected touchpanels were installed to automate, manage and simplify the myriad of communications and AV distribution systems that are the pulse of this mission-critical facility. Not surprisingly, even with the most well thought out planning for creating a cutting-edge command center inside of a 200-year old building, the implementation presented a few hurdles from the outset.

According to Emspak, “the biggest challenge of this project was physical space.” There was a baseline project requirement that the bare minimum, and only absolutely essential equipment, was permitted in the situation room. All other components had to be installed in the adjacent rack rooms.

To gain the ceiling height required to fit the fully-loaded racks, a section of the building’s basement floor was removed, including wooden beams that came from an 18th century ship. “Those old beams were in perfect condition, believe it or not,” adds Emspak.

Unfortunately, not much else was. The tight floor space meant the 8-foot tall racks could not fit into a single room, so two rooms were needed to accommodate the massive, but necessary, back-of-house equipment.

Another challenge to the “simple-to-use” requirement proved to be the tie lines that existed between the video routers and the multi-window processor. “We programmed the system to dynamically allocate and de-allocate tie lines without technician intervention – a significant technical challenge. Technicians can now route any video source, with complete transparency, to any video window - without having to think - and quickly deliver the requested video to officials,” explains Sumanth Rayancha, PepperDash CTO and lead programmer on the project.

Crestron touchpanels - including a TPS-15G, TPMC-8X, and two DualTouch panels for live annotation - were customized with intuitive GUIs that enable smooth operation of the entire center during highly stressful situations. The simplified interface allows non-technical users to operate the system if necessary, eliminating dependency on any one specially trained individual.

When different people need to view or listen to different sources at the same time, a few button taps conveniently makes it happen. This allows officials to cover more territory and handle situations with greater efficiency.

The user interface consists of two separate modes. “User mode” allows practically any non-technical person to walk up and use a touchpanel to view and listen to approximately 50 sources. With a simple tap on the touchscreen, a user can instantly pull up a camera feed from any location and display it anywhere on the 10’-wide multi-window video wall.

“Technician mode” provides more advanced functionality, allowing video-wall layout preset selection, selection of approximately

150 additional sources such as DOT traffic feeds, and preset creation and recall snapshots of the entire system. The GUI, while simplified, is extensive, and uses drill-down menus to allow easy navigation and micro control of every detailed function, with a few taps on a touchscreen.

Crestron UPX-2 Universal Presentation Processors and DTT DualTouch panels allow users to annotate right on the touchscreen, over video and graphic presentation sources, using a wireless pen.

These annotation capabilities prove valuable when planning and strategizing while watching the live streaming action in full-motion video. With a single button touch, officials can switch video sources on any display, and annotate on the new graphic without ever leaving the touchscreen – literally putting control of strategic planning at the speaker’s fingertips.

Benefits and Results

Meticulously planned, designed and implemented to enable the rapid, uninterrupted flow of information between the Mayor’s office and the outside world, the command center seamlessly handles the sharing of intelligence from a multitude of sources, and allows officials to process large amounts of information in an organized manner.

“Now, this facility brings the leaders of New York City the capability to share data, view multiple sources of media, and to stay on top of everything that is going on in the five boroughs of New York and beyond,” Robinson concludes.

The mission - to enable the mayoral staff to accelerate the decision-making process and quickly react to developing situations – was flawlessly accomplished. Crestron control technology proved to be an integral part of the solution.

