

Case Study

JOHN F. KENNEDY INT. AIRPORT, TERMINAL ONE

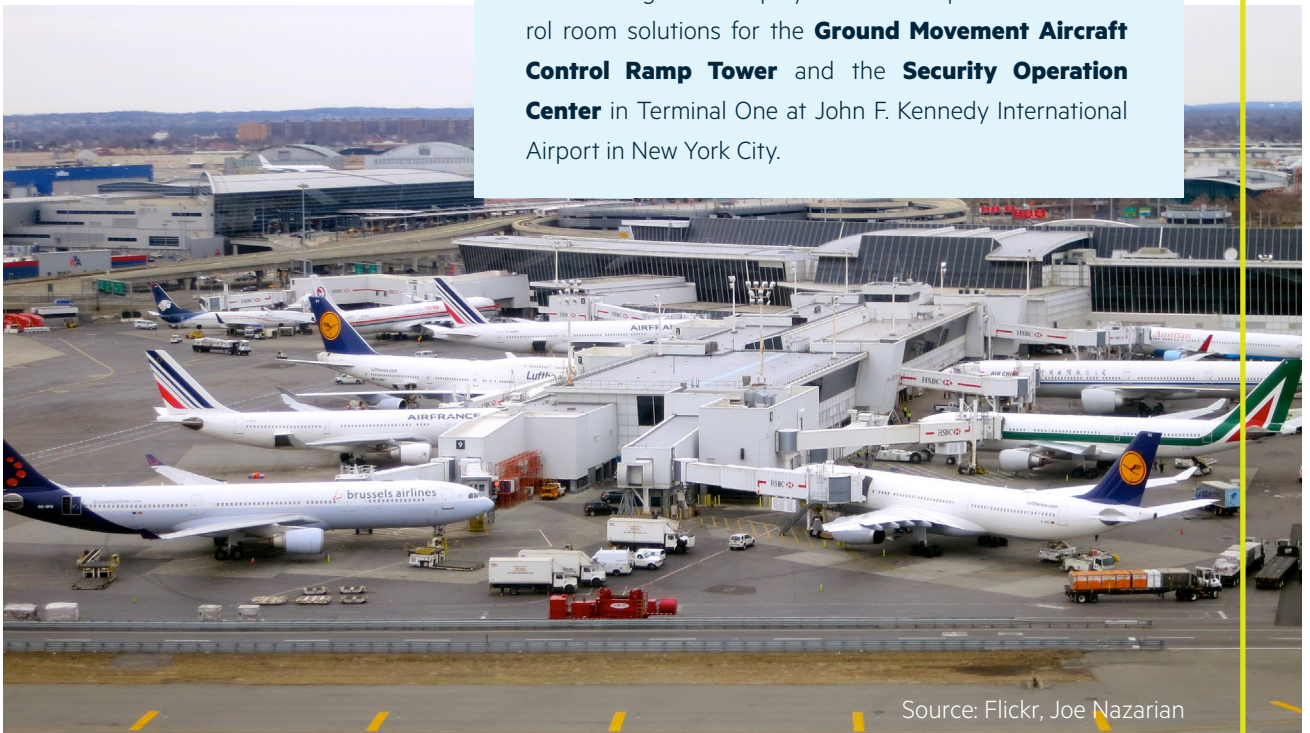
New York City, USA

Branch

Airports & Air Traffic Control

Project

The redesign and deployment of comprehensive control room solutions for the **Ground Movement Aircraft Control Ramp Tower** and the **Security Operation Center** in Terminal One at John F. Kennedy International Airport in New York City.



Source: Flickr, Joe Nazarian



Client

John F. Kennedy International Airport, located some 12 miles south of Manhattan in the borough of Queens in New York City is the busiest international air passenger gateway in the USA, handling more international traffic than any other airport in North America. Roughly 37,000 people are employed at JFK, generating some \$37.3 billion in economic activity in the New York - New Jersey metropolitan region. In 2013, JFK processed 408,000 plane movements and 1 million tons of air cargo.

Terminal One at JFK is home to some of the world's most prestigious airlines, hosting Air France, Japan Airlines, Korean Airlines, Lufthansa and 20 others. The terminal also hosts new large aircrafts (NLA) such as the Airbus A380.

Technology overall is state-of-the-art at JFK, featuring perimeter security, CCTV, various alarm systems, access control systems and an endless routine and checks and verifications for every movement of personnel, aircrafts and guests. New products and methodologies are constantly evaluated, aiming to create a "Zero Tolerance" security environment to ensure safety for the public and the employees of JFK airport.

Projects

The WEY Technology Inc. solution for the JFK airport is comprised of two separate projects: the redesign of the **Ramp Tower for Ground Movement Control (GMC)** and the **Security Operation Center (SOC)**. In both locations, cramped quarters and antedated infrastructure had to be modernized to efficiently manage the daily workload.



Ramp Tower for
Ground Movement Control (GMC)



GMC Ramp Tower

In their ongoing evaluation process, Terminal One researched improvements for the GMC Ramp Tower that would allow them to streamline processes and tasks for the operators. This was particularly important given the rapidly growing number of information sources that the operators have to access and manage. According to an IT Manager at Terminal One, “Improving the workflow for the operators, and streamlining processes is not a luxury, it’s an important step to ensure the security of our hundreds of thousands of guests and colleagues here at JFK, every day.”

Security Operations Center (SOC)

Terminal One’s Security Operation Center was also due for an overhaul. As in the Tower, also here there was an increasing number of information sources and workstations to be accommodated, as well as recent upgrades of high-resolution CCTV and other security elements, and the need for a new video wall. JFK also wanted to be able to multicast single or multiple sources to an executive situation room and supervisor offices located in a different area of the terminal.



Security Operation Center (SOC)

Solution Design

The redesign of the Ramp Tower and SOC by WEY Technology Inc. is the result of a thorough workflow analysis by WEYTEC engineers and the staff at Terminal One. In both locations, the WEYTEC Solution design had to accommodate logistical and infrastructural limitations and create a fully effective but cost-effective solution. According to Wolfgang Ritter, VP of Sales at WEY Technology in New York, “The combination of the ultraFLEX miniPCs and the WEYTEC distributionPLATFORM did the trick, on one third of the footprint.”



ultraFLEX miniPC

In both the Tower and the SOC, all the workstations under the desks and racks full of additional PCs and switches have been replaced with WEYTEC ultraFLEX miniPCs, high performance industrial mini PCs. For the Tower, they are located in a secured system room connected to the Tower by fiber where they only take up 6U of rack space. For the SOC, the workstations are also in a small system rack that also hosts the controller for the video wall.

WEYTEC distributionPLATFORM

The WEYTEC distributionPLATFORM, an intelligent KVM-over-IP solution, connects the workstations without delay to IP Remote Receivers at the operator desks, which are also used to interconnect the monitors and the MK06 Multifunctional Keyboards. Each operator can now access every group of workstations he is assigned to using a single keyboard. WEYTEC first introduced this technology for trading floors on Wall Street where brokers need access without delay to multiple workstations, and cannot host these PCs under their desks.

David Cayenne, Senior Engineer and Project Manager at WEYTEC adds, "Virtualization does not allow you the processing power or give you the compatibility with the myriad of applications we deal with here. The WEYTEC distributionPLATFORM supersedes all other remote technologies in terms of speed, compatibility, redundancy and TCO."

Free Seating

The "free seating" concept allows operators to view their set of dedicated workstations from anywhere in the secure network. Now supervisors and management can access or monitor work progress from their own offices. They can interact anytime.

SkyRec BlackBox

Specifically for the Ramp Tower operations, the management at JFK also decided to include a SkyRec BlackBox recording solution from Skysoft-ATM and WEYTEC. This enables them to constantly log screen content, mouse and keyboard input and radio communications for all operators. "You cannot beat forensic evidence in case of an incident" says the Manager of Information Technology at Terminal One. "Debriefing of a critical situation with all this time-synced information helps us enormously in the ongoing training of our staff, and improvement of operations and security."

Facts & Figures

JFK International Airport, Terminal One

- WEYTEC distributionPLATFORM
- MK06 Multifunctional Keyboards
- ultraFLEX miniPCs
- SkyRec BlackBox recording from Skysoft-ATM and WEYTEC
- Video Wall
- SBFI Operator Consoles
- Recaro Seating
- Eizo Screens



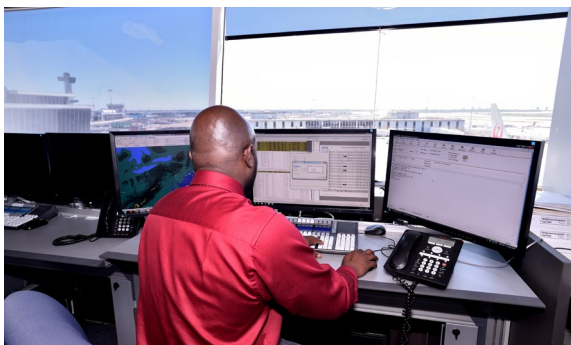
Video wall

In the SOC, the previous large screen display has been replaced by a high-resolution 8x2 video wall, which has been seamlessly integrated into the WEYTEC distribution PLATFORM switching matrix. The operators have access and can send screens per multicast to other users within the WEYTEC Distribution Network. All sources, both local and remote, can be displayed at defined alarm settings with audio notification. The operators also have an improved view angle to the video wall from the vantage point of their new SBFI consoles.

Ergonomic Benefits

The improvements for the operators in the Tower and the SOC are substantial. The previous noise level created by workstation fans under the desks and in the system room is gone. The rooms are quiet. Heat emissions have been reduced by about 22,000 BTU in the Tower, and 15,000 in the SOC.

Instead of operating 3-4 keyboards, each user now has 1 keyboard with an LCD panel that indicates which workstation he is working on and features quick access buttons to the most commonly used applications. The MK06 Keyboard perfectly accommodates all VMS, access control, fire and other alarm systems by interacting with these applications without adding a software layer.



Ergonomics at the workplace



... and clarity in front of the video wall

New high resolution screens from EIZO adapt to the illumination levels in the room and reduce eye fatigue. New SBFI air traffic control consoles give the operators more room and feature electronic height adjustment for sitting and standing positions, controlled by two buttons on the MK06 Keyboard. Designed for 24/7 operations, operator chairs by Recaro complete the redesign.

Feedback has been overwhelmingly positive. Although Ground Movement operations will never be a “relaxed” working environment, one of the operators comments that he can “feel the difference at the end of my shift.”



Finances

The combination of the WEYTEC distributionPLATFORM and the ultraFLEX technology is saving JFK Terminal One more than \$23,000 per year in electricity costs alone. According to Wolfgang Ritter, VP of Sales at WEY Technology in New York, “We overturned every rock, looking to make daily operations and processes more effective and give JFK a future-proof, expandable and fully redundant solution. And the goal was also to include a financial advantage. The way we designed it, the project pays for itself.”

Testimonial

“We are very pleased with the outcome of this project,” says the Manager of Information Technology at Terminal One at JFK. “WEY Technology gave us exactly the solutions we were looking for and saved us a lot of money on top. The teamwork was great.”

Our team has an enormous challenge to ensure safety and operations in an environment like JFK. We are blessed to work with partners like WEY Technology that help us to achieve that.”