



Photos courtesy of the Greater Orlando Aviation Authority and Synect

Extron and Synect Help Inform and Engage Passengers at Orlando International Airport - North Terminal

“It’s imperative to deliver a passenger experience that is engaging, accurate, and consistent. Passenger experience is why Synect makes our 99.9% uptime guarantee a priority and partners with only the best AV manufacturers, such as Extron, for building visual ecosystems.”

Assaf Margalit
Chief Operating Officer
Synect

Orlando is a celebrated destination for family entertainment, and the Orlando International Airport – MCO is one of the busiest in the nation. MCO prides itself on being a leader in customer satisfaction, providing just as much of a welcoming and vibrant environment as the city it supports.

Challenges

The Greater Orlando Aviation Authority – GOAA had three objectives for remodeling the North Terminal at MCO: upgrading internal technologies, streamlining processes, and enhancing the passenger experience. The digital signage system for the passenger areas had to provide autonomous operations, support continuously evolving content, and be scalable. The MCO project would need to accommodate an increased capacity, nearly doubling the number of passengers served per year without expanding the facility. Also, the terminal needed to remain open and continue to function as usual throughout the integration, testing, and commissioning processes. To accomplish all of this, GOAA turned to Synect, a full-service agency that transforms airport communications.

Design Solution

GOAA recognized that passengers can become anxious at each stage of air travel, from checking in and obtaining their boarding passes to getting



Media servers are located throughout the airport and the high resolution HDMI signals are extended to all of the displays over twisted pair cabling using Extron DTP transmitters and receivers. To watch a background video clip about the virtual aquarium that Synect created for the GOAA, click [here](#).

through security screening. They wanted to reduce this apprehension by delivering a less stressful experience using the visual communication system and family-friendly content. The scalable ecosystem currently consists of more than 1,200 displays, including LCD, LED, indoor, outdoor, individual displays, and immense videowalls, and it is currently being extended.

GOAA partnered with industry innovator Synect to create a comprehensive digital signage system that would ease passenger anxiety, reduce perceived wait times, and streamline operations. Synect is recognized as the quintessential airport communication transformation partner, with content and solutions that enhance passenger experience at airports and other venues. Their next-generation digital signage platform Passenger360® delivers essential travel information and engaging content designed to move passengers easily through the airport. Synect's studio also provides MCO with custom, high-resolution graphics, video content, and integrated dynamic data-like flight information and wait times on an on-going basis. To ensure rock-solid delivery of their superior quality content, Synect integrated Extron DTP® signal extension products.

Dynamic High-Res Content Enhances the Passenger Experience

Synect created the content strategy and integrated the solution with the airport systems, including the Airport Operations Center

– AOC and the master database. It is built on their Passenger360 platform and the Chario content management and playback system from YCD Multimedia that run on a server located in the central control room.

This platform integrates high-impact content strategies that involve diverse, multilayered content and intelligent content management. Data is drawn from the airport's Flight Information Display System – FIDS and interspersed with airline branding, station identifiers, wayfinding, marketing campaigns, and other custom content such as a virtual aquarium. Some resolutions are greater than twenty-five times 4K. Pixel-perfect content is displayed in real time based on rapidly changing flight data, operational settings, and other criteria. Additionally, data such as check-in counter allocation, affects what airline content is played at what counters and gives airlines more or less branded counter space based on their changing needs.

In addition to branding, the digital content features a vivacious character named Annie the Astronaut who offers travelers general information and seasonal, event-centric messaging. Synect's studio regularly updates this and the other animated content to create an everchanging and remarkable passenger experience. The digital signage software provides the colorful imagery to individual displays through massive canvases at curbside, ticketing, security, and other locations.



A videowall comprised of 700 synchronized screens creates a seamless canvas running behind the ticketing counters. It provides the flexibility to reassign ticketing counters among the 40 airlines according to demand and shows seasonal messages for unused counters.

Passenger360 manages the data and extremely high-resolution content and then makes it available using a series of media servers located in communication equipment rooms throughout the terminal. Each server has multiple video cards and each output is dedicated to drive one display unit within the immersive digital signage canvasses. Extron DTP transmitters and receivers deliver the high-resolution signals from the media servers to the displays over twisted pair cables.

Signal Extension with Extron DTP

To distribute the many types of video content in this mission-critical 24/7 environment, Synect installed Extron DTP T DP 4K 330 transmitters with the media servers. Each transmitter provides signal extension of video at 1080p/60 over one shielded CATx cable. Transmission distances range from a few feet to over 320 feet (98 meters), which is well within the capability of the transmitter. Paired with each transmitter is an Extron DTP R DP 4K 330 receiver. Its low-profile metal enclosure fits easily in the space behind the display. The selected DTP transmitter and receiver models support resolutions up to 4K, enabling the distribution system to remain in place when the displays are replaced or upgraded in the future.

Extron technologies built into the DTP extenders ensure that whatever the content, it is available for display. EDID Minder® maintains continuous EDID communication with the connected devices to ensure that the custom content is up and running at all times. It, along with

the HDCP management capabilities and easy-to-use setup features, streamlined integration and simplified operation from the first use.

The technologies also facilitate autonomous operation, guaranteeing the airport's specialized digital signage remains available to enhance the experience.

A DTP receiver is mounted with each display, and the media servers and DTP T DP 4K 330 transmitters are rack-mounted within the 108 communications rooms that are strategically located throughout the terminal. The number of transmitters per communications room is determined by the total number of displays in the vicinity.

Extron Everlast Power Supplies Provide Added Assurance of 99.9% Uptime

The DTP DP T 4K 330 transmitter is powered locally using the Extron Everlast™ power supply that ships with it. The remote receiver is powered over the shielded twisted pair cable infrastructure by the same power supply, which further streamlined installation as well as reduced the number of outlets required at each of the 1,200 displays. Synect guarantees their customers a 99.9% uptime for their passenger experience signage systems, and the extremely reliable Everlast power supplies paired with DTP transmitters and receivers are key technologies that help them keep that promise.

Everlast power supplies were designed in-house by Extron engineers to provide extreme reliability and energy efficient operation. To validate



Large display systems in various configurations provide improved wayfinding, as well as engage and entertain waiting passengers.

reliability, each power supply model was operated at load for over two years in a heat chamber. Under these grueling conditions, each hour in the heat chamber is like 64 hours in the real world. Based on this actual accelerated operational life testing, Everlast power supplies achieved MTBF ratings from 280,000 hours up to an incredible 1,000,000 hours, or the equivalent of over 114 years, depending on the model. "Any time a screen is off, or a passenger doesn't get the intended experience, we are missing the mark. That is why we only partner with the best AV manufacturers such as Extron for ecosystem components," says Assaf Margalit, Chief Operating Officer at Synect.

Engaging Ticketing Area Displays Provide Complete Flexibility

The initial phase of the North Terminal project involved enhancing visual presentations to provide effective airport information and airline branding to enable passengers to find the correct check-in counter quickly and easily. Passengers are able to see airline and gate identification.

The check-in lobby installation facilitates a smart ticketing environment. Passenger360 provides flexibility for the check-in area to adapt and automatically reconfigure based on demand. It allocates spaces and determines content for display based on flight scheduling, enabling the identification for each check-in station to change in an instant on and as needed. Instantaneous reallocation occurs multiple times each day. This capability allows airlines with upcoming flights to have more kiosks

and counters available to their passengers whenever required. For example, an airline could be allocated 15 counters for a full flight and then has four counters available once the plane pulls away from its assigned gate.

The system accounts for airline mergers, code-sharing, flight delays and cancellations, custom and independent airline appearance and scheduling rules, and charter flights. The dynamic content and extension capabilities in the ticketing lobby mean the same physical kiosk and counter space works for more than 40 airlines.

The videowall in the ticketing area was the first of its kind, delivering a blend of curated data and immersive multimedia content that is rendered in real-time. Comprised of 700 synchronized screens, it creates a seamless canvas running behind the long row of check-in counters. The videowall assists passengers find the correct counter for their flight, along with pertinent information such as gate assignment and changes. Operation of the videowall is autonomous, and easy, manual overrides are available.

Security Area Displays Inform and Entertain

After the successful testing and continuous performance of the smart check-in area, the digital signage system was extended across the terminal. It makes the screening environment much less stressful for passengers as they wait to be processed through security. In addition



To entertain passengers as well as reduce their anxiety when moving through security screening, the videowall incorporates an animated 3D fish tank from Synect that features colorful schools of tropical fish and other sea creatures. To watch a video clip of the virtual aquarium that Synect created for the GOAA, click [here](#).

to gate and flight updates, this videowall incorporates an animated 3D fish tank that eases tension and lightens the viewer's mood. According to experts associated with the University of Exeter and the National Marine Aquarium, Plymouth University, watching fish in a tank leads to a noticeable reduction in blood pressure and heart rate. MCO and Synect created an aquarium to hold the viewer's attention for long periods as they pass through what is often considered an airport bottleneck.

The virtual aquarium has realistic pufferfish, eels, schools of tropical fish, and other sea creatures over 3D modeling and actual underwater footage. They dart in and out of a coral reef, gliding over sections of the canvas and from screen to screen. To create a lifelike illusion, it offers subtle imperfections such as water refraction, reflections, and fine scratches etched into the tank glass. Layered with it is helpful information for wayfinding, estimated wait times, concession offerings, and an integrated QR code that allows the viewer to pull up more information on their smart phone. This colorful, ever-changing video

display fascinates and distracts fussy children and calms the jangled nerves of their parents, both mesmerizing and delighting the passengers.

Results

Airport stakeholders appreciate the look and appeal of the remodeled MCO terminal and everyone is enjoying the MCO experience. On the first day, passengers shared captured images, video, and fish puns on social media, and the City of Orlando called the remodeled North Terminal a classy and 'so-fish-ticated' encounter.

The full installation encompasses videowalls and displays within the ticketing area and through to security screening, as well as in and around baggage claim and curbside for arrivals and departures. The visual communication ecosystem scales across MCO's North Terminal to inform and engage passengers. The reliable display of flight information, wayfinding, and more across the canvas helps passengers move through the bustling 24/7 mission-critical environment of Orlando International Airport with ease.

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