Orlando International Airport Deploys Advanced Weather Monitoring and Alerting Solutions from Earth Networks

BACKGROUND

Located in central Florida, Orlando International Airport is an extremely busy travel hub located near many of the nation's biggest, most popular vacation destinations and attractions. Every day, the airport welcomes nearly 100,000 passengers and facilitates hundreds of arrivals and departures for 41 different airlines.

CHALLENGES

Airports are typically at risk from lightning strikes due to their open landscape and the presence of towers and antennae. Having accurate and timely weather and lightning information is crucial to ensure optimal operations and keep ground crews as safe as possible. Airports must be equipped with advanced equipment and technology for weather monitoring, advanced warning of lightning and severe weather alerting.

Orlando International Airport recognized the important role that weather and lightning technology play within airport operations. Airport officials and airline staff require detailed weather information on a 24/7 basis to make critical safety and operational decisions quickly. And due to Orlando's location and climate, the potential for lightning formation and severe weather caused concern. The airport had long utilized a lightning sensor and devices for detecting and informing of lightning. However, management sought to integrate newer and more comprehensive weather monitoring and alerting solutions within airport operations.

SOLUTION

Orlando International Airport implemented a state-of-the-art, all-weather monitoring and alerting system from Earth Networks. The solution includes the following:

- Total lightning sensor that is one of hundreds worldwide within the Earth Networks Total Lightning Network™, the largest and most advanced network for precisely detecting both in-cloud (IC) and cloud-to-ground (CG) lightning. Detecting in-cloud lightning is major factor in the prediction of severe weather, such as tornadoes, heavy rainfall, downburst winds, wind shear and cloud-to-ground lightning strikes.

- On-site weather station that measures local conditions including temperature, wind speed and direction, precipitation, humidity and more, updated every two seconds. These professional-grade weather sensors are used by airports, government, emergency management and recreational facilities for monitoring local real-time weather conditions and obtaining pinpoint forecasts.

- StreamerRT℠, a web-based weather visualization and alerting application for monitoring storm cells, lightning and changing conditions. StreamerRT combines real-time data from the airport's weather station with local weather information from the Earth Networks network of more than 35,000 locations – including 10,000 stations that are exclusive to Earth Networks.

- Lightning alerting devices that inform staff and officials located indoors when lightning is detected. Within the airport, these devices activate when lightning approaches within a predetermined distance – providing advanced warning of impending severe weather conditions.
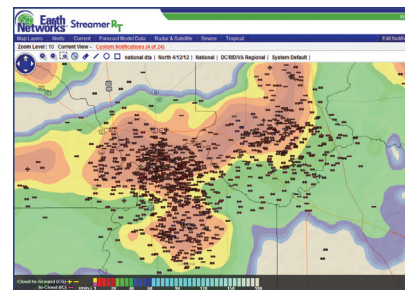
StreamerRT shows live radar and cloud-to-ground and in-cloud lightning. High rates of in-cloud lightning are a precursor of severe weather.

RESULTS

Orlando International Airport provides staff with StreamerRT, which enables them to continually monitor and react to lightning, storms, and other severe weather moving through the region. By providing insight into approaching weather, StreamerRT helps airport staff and personnel at 20 different airlines make more informed operational decisions, which in turn minimizes false alarms and helps improve on-time performance. In addition, the staff receives notifications from indoor alert devices when lightning occurs within a given distance.

"Accessing updated, local weather conditions; watching weather as it happens in real time; and receiving prompt alerts on a web-based system during weather events is significant," says Cyrus Callum, of the Operations Department for the Greater Orlando Aviation Authority, which manages Orlando International Airport. "It enables us to respond more efficiently in providing information and making decisions that keep safety our number-one priority."