Intelligent Situational Awareness

Remotely Manage Airfield Traffic
Some airports have multiple Ramp towers and control units due to the geographical layout of the airport or obstructions due to temporary activities such as construction. The presence of these disparate operational units can result in a need for increased human resources, a lack of task coordination between the units, and an increase in radio/telephone communications.

AirIT’s Virtual Airfield Management System (VAMS) makes it possible to simulate an out-of-the-window view for one or multiple geographically dispersed aprons, de-icing pads, and aircraft parking areas, and consolidates the various views into one operator display.

The solution incorporates AirIT Aerial View Display (AVD) technology, which displays an intuitive bird’s eye view of the airport with an accurately scaled aerial view of terminal buildings, gates, stands, remote parking positions, cargo facilities and maintenance areas. The system acts as an integrated geographical Front-End for the Airport Operational Database (AODB) and Resource Management System (RMS).

Aerial View Display (AVD)
AVD is a compilation of several products that provides a direct and “real time” bird’s eye view of what is happening at an airport. AVD shows up-to-the-minute aircraft-parking position information on a scaled aerial-view layout of the airport, with aircraft positioned in proximity to assigned gates, stands, and remote parking areas. Thus, providing compiled information of aircraft motions at the airport translated into an intelligent image.
Benefits Include:

- Increase overview on the airside operations due to a top view and enhanced control, which leads to improved efficiency
- Ability to respond immediately and consistently to unplanned events that disrupt the pre-planned schedule
- Improve passenger satisfaction by minimizing last-minute changes
- Preview of flight plans
- Playback (with all events) of critical situations or incidents
- Increase safety operations and ground handling by keeping track of proximity information and increasing overview, safety and providing Proof of Service

Searidge Technologies

The Searidge IntelliDARTM system processes video from a series of video sensors networked together to provide real-time positioning of all targets in a given area. The video captured by thermal cameras is then processed using advanced computer vision algorithms in order to provide non-cooperative target detection, continuous tracking, geospatial positioning, and a variety of target attributes enabling smooth aircraft hand-off from the runway to gates. Additionally, the Searidge ATC-Grade Video system intuitively consolidates multiple camera scenes into a simulated out-of-the-window view of the area of interest. Using both visible and thermal cameras with Pan-Tilt-Zoom (PTZ) functionality helps controllers to have full visual confirmation of the situation and to safely and effectively manage the ground traffic with a high degree of confidence.

The VRCS solution integrates the Searidge IntelliDARTM track data into existing airport surveillance data sources (such as ASDE-X or A-SMGCS) and is presented on the AirIT Aerial View Display (AVD).

The solution delivers graphical, dynamic, real-time position reporting and tracking of aircraft in the movement and non-movement areas of the airfield allowing for smooth aircraft hand-off from the runway to gates and enabling controllers to manage airfield traffic safely and efficiently from a remote windowless location.