In an industry where airport operators are under daily pressure to improve efficiency, reduce costs and maintain safety, finding solutions to improve ground operations and apron management is a business necessity.

However, it can be a more difficult task when technology issues such as immediate and reliable data exchange or access to operational information affect the efficiency of the operations. Physical issues such as the geographical layout of the airport or extended construction activity can also significantly impact operations.

NAVCAN™’s fully integrated suite of air traffic management tools and Searidge Technologies’ IntelliDAR™ and ATC-Grade Video systems now offers airport operators a scalable and customizable solution for providing apron management control services that can take advantage of remote or windowless environments, or enhance services in the existing infrastructure.

A flexible and cost-effective solution for airport service providers and operators to improve apron and ground management service delivery.
# NAVCANsuite

NAVCANsuite incorporates the tools each airport operation needs for apron and de-icing pad management on a common platform that features integrated surveillance and an electronic flight strip system. All NAVCANsuite applications can be implemented separately and integrated into a variety of configurations to meet operational requirements.

Using NAVCANsuite tools allows operators to view, manipulate and manage apron traffic, and gate and apron scheduling data for seamless coordination between airport, ATC and airline operations. The result is safer, more efficient, and more informed operations at all times, and under all conditions.

### Product Benefits

NAVCANsuite tower automation products provide fast and reliable access to critical airport, tower and terminal air traffic control information. The integrated controller working position offers the following applications: electronic strips, fused surveillance, operational information, airfield lighting and control, and weather information.

**Electronic Strips (NAVCANstrip)**
- Instant access to critical flight, airport and gate data tailored to each assigned role and position
- Generates flow-management statistics and other information
- Operates on a single integrated technology platform, combining flight data, operational data, surveillance, and voice communications
- Largest installed operational base of any electronic flight strip application, with a proven service history at some of the world’s busiest airports

**Surveillance (NAVCANsitu)**
- Produces a seamless, accurate display of real-time surveillance coverage from ground to air
- Ground mode displays airport arrivals, departures and ground movements

**Operational Information/ Lighting (NAVCANinfo & NAVCANcontrol)**
- Information layouts/displays are customizable to each position
- Audio and video alerts can be customized eliminating unnecessary distractions
- Supports more than 2,000 user-configured static pages in common formats
- Interfaces with low-level sensor and status monitoring systems

**ATIS (NAVCANatis)**
- Scalable to meet the demands of airports and other air traffic management facilities
- Expandable to support multiple sites and broadcasts

### Features Summary

**Electronic Strips (NAVCANstrip)**
- Customizable graphical user interface
- Flexible panel layout to tailor operational workflow to the airport configuration and operating procedures at each installation
- Records aircraft movements for billing, statistical and information purposes, and can send them by email to requesting agencies

**Surveillance (NAVCANsitu)**
- Incorporates warning features, and other safety alerts
- Easily adapted with its own maps and control layout based on the operator role
- Configurable quick-action buttons allow users to set functional priorities

**Operational Information/ Lighting (NAVCANinfo & NAVCANcontrol)**
- Supports Web-based access and display of static page data
- Online indexing of new or changed operational data pages is automatically added to the navigation buttons
- Remote workstation and a read-only, client view of operational data available
- Integrated application for lighting control

**ATIS (NAVCANatis)**
- Text-to-speech technology converts text messages into clear, accurate vocal messages
- Diversity in voice, language and accent selection
- Easy-to-use speech pronunciation editor

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Apron control services require a full toolbox of capabilities including communications and surveillance, operational information, and traffic management tools.
Searidge Technologies IntelliDAR™ and ATC-Grade Video Systems

Searidge’s innovative technology applications are helping airports efficiently and safely manage ground traffic.

The Searidge ATC-Grade Video system fuses multiple camera scenes into a simulated out-the-window view, giving operators full visual confirmation of targets for one or several geographically dispersed aprons, de-icing pads, and aircraft parking areas.

With the addition of a highly advanced, customizable Human Machine Interface (HMI) – the Searidge Enhanced Airport Vision Display (EAVD) – airports can easily integrate and display multiple sources of information to air traffic controllers and airport operations staff (e.g. ramp management, security, and resource management).

Consolidation of this vital information with video enables stakeholders to have an accurate understanding of ground situations as well as resources and assets. This can help improve the overall handling of traffic, enhancing airport operation and performance.

The Searidge EAVD supports today’s latest technology, including HD resolutions (4K). It is camera and platform agnostic and offers some of the fastest processing capabilities on the market. It also allows for video data overlays or augmented reality, adding valuable information to the video, such as thumbnail images of targets, aircraft ID, target type, destination and gates, to deliver comprehensive situational awareness of the airport surface.

Solution Benefits

Searidge remote tower capabilities enable controllers/operators to provide advisory or control services to aircraft and vehicles from geographically independent locations.

- Intelligent airside security
- Visual confirmation and validation of targets of interest, increasing safety and efficiency
- Improved situational awareness for enhanced safety
- Consolidation of ground control positions to reduce costs
- Increased efficiency and throughput
- Frees up valuable human resources and real estate, reduces radio/telephone communications and saves capital
- Leverages existing technology infrastructure, minimizing costs
- Scalable to grow with airport needs
- Proven reliability for ATC and airport use

Features Summary

- Safe, reliable, live video with all-weather operability and enhanced surveillance in low-visibility
- Automated critical area/perimeter detection and alarming for intruder or incursion prevention
- Customized alarms sent to specified working positions
- Situational awareness enhancements (e.g. seamless panoramic video, video thumbnail of targets on ground map, and PTZ auto tracking)
- Digital out-the-window views
- Real-time positioning of targets within specified coverage area, regardless of transponder equipage
- Versatile display options (e.g. video wall at operations centres and virtual apron towers, 4K displays, single to multi-display monitor configurations, and tablets)
- Enables co-located operational units via surveillance
- Task automation (e.g. gate metering, ground lighting control and integration of surveillance, airport and ATC data)
- ASTERIX compliant and camera agnostic architecture enables integration with existing surveillance and CCTV systems
- Modular design allows for easy expansion of system coverage and functionality
- Redundant architecture, certified for ATC use
In Service Solutions

Fort Lauderdale – Hollywood International Airport (FLL)

Currently undergoing deployment, the Virtual Ramp Control System (VRCS) at FLL will allow ground traffic on the north side of the airport, which is currently monitored and directed from a small structure adjacent to the airport’s ramp area, to be monitored and controlled remotely from their operations center.

The VRCS solution integrates the IntelliDAR™ track data into existing airport surveillance data sources and presents it on the Air IT Aerial View Display (AVD), delivering graphical, dynamic, real-time position reporting and tracking of aircraft in the movement and non-movement areas of the airfield.

The implementation of the VRCS will also allow maximum airfield efficiency and utilization and minimize impacts of line of sight limitations and congestion caused by the ongoing construction of the airport’s new runway, and has the flexibility to accommodate the airport’s continued growth.

Malta Air Traffic Services (MATS)

Malta Air Traffic Services is currently using the Searidge Technologies’ intelligent video solution to provide full situational awareness to its Apron Management Unit, including the movement area, adjoining taxiways and apron. The intelligent video system includes a full suite of safety features, and all ground traffic information is presented to controllers in real time via a one-look display, allowing them to safely and efficiently manage traffic throughout the apron area.

Dubai International Airport (DXB)

NAVCANstrips went operational in 2012 at the Dubai International Airport Control Tower and the Dubai World Central Control Tower. The electronic flight strips provide immediate access to key information, and permits more efficient management and use of airspace and airport capacity. Flight data transactions are automated and can be configured to generate billing and statistical information.

Dubai International Airport also selected Searidge Technologies ATC-Grade Video and IntelliDAR™ technology for remote situational awareness and zone occupancy of a critical intersection consisting of two taxiways, an apron area and a service road.

Montreal Pierre Elliot Trudeau International Airport (YUL)

Montreal Tower, with more than 200,000 aircraft movements annually, is one of more than 100 sites of varying sizes and complexity, in Canada and world-wide, using NAVCANstrips and other NAVCANsuite integrated tools for air traffic management.

This capability has been extended by Aéroports de Montréal (ADM) into their Apron Management Unit, where operators are utilizing NAVCANstrips combined with NAVCANlink, a collaborative decision making tool. NAVCANlink provides users such as airport and air carrier operations units, with a near-real-time view of airport radar, traffic, weather, airfield lighting and navaid status, based on same data used by air traffic control personnel.

Its ability to standardize reliable information for end-users, and provide data quickly, helps in reducing aircraft turnaround time and optimizing airfield asset performance.

Toronto Lester B. Pearson International Airport (YYZ)

NAVCANstrips is currently used by Greater Toronto Airport Authority Apron Management and De-icing Units, and has been in service for more than a decade. This advanced coordination system provides automated flight data management online, tailored to each unit’s requirement. Data exchanges are immediate between Apron Management, the De-icing Units and Air Traffic Control, allowing for overall improved efficiency of operations.