



PORT OF SEATTLE SEATTLE TACOMA INTERNATIONAL AIRPORT (SEA)

CASE STUDY

CUSTOMER

Port of Seattle (POS); Seattle Tacoma International Airport

LOCATION

Seattle, Washington, USA

BUSINESS NEED

Upgrading SEATAC's longest runway by state-of-the-art safety technologies.

XSIGHT SYSTEMS SOLUTION

FODetect is an automated and comprehensive FOD detection solution collocated with runway edge lights and is the most powerful solution to improve runway safety, operational efficiency and increase runway capacity.

THE IMPACT

- > Improved runway safety and efficiency
- > Retrieval of an average of 5.6 hazardous FOD per month in the first 10 months of operation
- > Close monitoring capability on the runway
- > Updated runway inspection procedures

FROM THE CUSTOMER

Mike Ehl, Director, Aviation Operations, Port of Seattle: "We don't fully understand the risk created by FOD but this data is the beginning of dealing with the issue and this info should justify installation on two more runways."

Mark O. Coats Senior Manager, Airport Operations, Port of Seattle: "There weren't any major accidents in the 24 years he's been in the airport, so how do you improve something that works well enough? You have to stay in the forefront of technology and not stay behind."

ABOUT SEATAC AIRPORT

SEATAC airport is the largest airport in the Pacific Northwest region of the United States. It is the main hub for Alaska Airlines and its regional subsidiary Horizon Air. It is also hub and international gateway to Asia and Europe for Delta Air Lines.

In 2015 the airport served over 42M passengers, making it the 31st in the world and the 12th in the US.

As part of the major reconstruction planned on runway 16C/34C, the operations team decided to upgrade the runway with new advanced safety features which included an automated FOD solution and new LED runway lighting system. 16C/34C is the central runway and the longest in the airport.

THE CHALLENGE

Runway 16C/34C was originally built in 1969, and the reconstruction in 2015 was the first since then. The reconstruction plan was created in order to avoid any impact on airport operations and flight schedules. All flight were diverted to the other two runways in the airport. The construction occurred in phases along the runway so as to always have crossing taxiways open on each end of the runway. The old concrete from the runway was recycled and crushed on site. It was used as the sub-base for the new runway, taxiway, shoulders and blast pads, more than 300K Square Yards of recycled concrete. The major scale reconstruction project cost \$80M geared to take SEATAC's runway to the next level.



RunWise by Xsight Systems at Seattle-Tacoma

THE SOLUTION

RunWize, the Runway Management solution is based on FODetect, Surface Detection Units (SDUs) that are installed along both sides of the runway, collocated with runway edge lights. The close proximity of the detection units to the monitored area provides optimal detection capabilities by avoiding atmospheric interferences and signal attenuation that are typical of systems that are installed hundreds of meters from the runway.

RunWize installed in SEATAC is the newest and finest generation of the Xsight Systems technology, which includes FODetect and BirdWize.

THE PROJECT

In April 2014, the Port of Seattle published a tender to acquire an automated FOD solution. Following an open fair process, Varec as integrator won the tender, based on Xsight Systems' technology.

In September 2014, POS signed the contract with Varec, which officially launched the project.

On June 2015, Xsight Systems conducted a site Acceptance Test (SAT) and passed successfully. The SAT was conducted in line with the FAA ACC 150/5220-24 Airport Foreign Object Debris detection equipment.

RunWize was installed during major runway reconstruction, and therefore had no effect on runway operations. The runway become fully operational on January 2016.

PROJECT OBJECTIVE

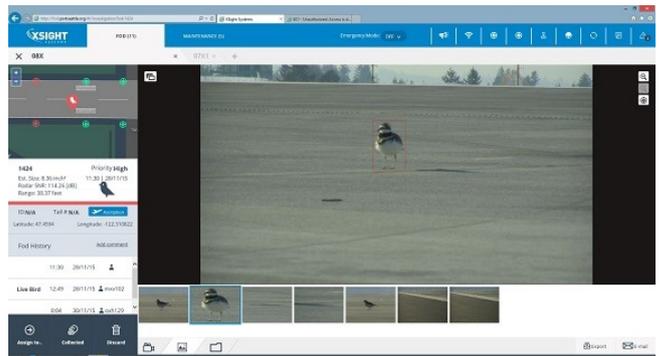
Enhance safety and operational efficiency. During the launch of the SEA system December 2015, Dave Richardson, the Airport Communication Center Manager said: "We've got 101 high tech set of eyes out on that runway that we've never had before. We'll be getting alerts in this room 24/7, something we are all very excited to see".

PROJECT SCOPE

RunWize is capable of operating accurately 24 hours per day, seven days per week in various environmental conditions. The system is currently operational on runway 16C/34C. A new User Interface was developed as a mandatory requirement for SEA-TAC. This new UI is web-based, taking the solution another lever forward. It can now be accessed from any computer or tablet (As opposed to the earlier desktop version).

RESULTS- 2016 HIGHLIGHTS

- > During 2016, the first operational year, RunWize successfully detected 8256 FODs, 123 of them were collected.
- > A dramatic decrease of **50%** in bird strike was achieved.
- > RunWize detected 5 metal objects, which are actually 5 prevented accidents by Xsight Systems finest technology.
- > A huge data base has been acquired, allowing the airport to carry out prevention actions.



Xsight Systems New Web Base User Interface

"The Port has selected the FODetect system to meet expanding operational demands for continuous monitoring for FOD at Seattle-Tacoma airport. It will enable viable sensing, identifying and locating at a previously unprecedented level of speed and accuracy for objects as small as an aircraft rivets," said Leidos Group President, Larry Hill. "We're proud to provide the Port the only solution available in the market that can automatically detect foreign object debris between runway movements."

"Now the job is getting FOD detect on Sea-Tac other runways... with the hope of incorporating left and right as well"

Mr. Mike Ehl, Director, Aviation Operations, Port of Seattle.

ABOUT XSIGHT SYSTEMS

Xsight Systems is the provider of advanced runway sensor solutions chosen by leading airports worldwide. For the first time in aviation history, Xsight Systems runway solutions present a new paradigm in runway management and allow constant command over airport runways and their surroundings.

Solutions from Xsight Systems, having exceeded FAA regulatory requirements, have been adopted by major airports including Boston Logan, and by top-tier integrators such as Thales Group.



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