

Advanced Drone Technology Solutions For Airports and Aviation



Disruptive innovation that keeps the airspace moving, safely and effectively

In 2021 AERIUM's RoBird[®] successfully **reduced bird strike incidents by 77%** at partner airports

Innovative drone technology solutions

AERIUM Analytics utilizes drone technology to solve tough, risky, and high-cost problems within the most complex, heavily regulated industries in the world. Our expert team creates custom, integrated solutions and safely deploys drone technology at airports across North America.



RoBird[®]

AERIUM's flagship product, this flapping wing drone is revolutionizing the wildlife management industry.



Geospatial Intelligence

Leveraging deep knowledge of geographic information system (GIS) applications to provide best-in-class deliverables.



Automated Data And Surveillance

Creating the solutions of tomorrow with artificial intelligence and machine learning.

Problems we solve

Our drone solutions architects integrate the best in technology solutions, focused on:



Wildlife Mitigation

RoBird® is revolutionizing wildlife management



The Problem

Wildlife is an unpredictable and costly risk for airports.

Bird strikes cost US\$1.2 billion per year in delays and damages.

Source: ResearchGate

It's estimated there have been almost 1 million bird strikes since 1990, with only one quarter being reported.

Source: Federal Aviation Administration

Over 270 aircraft have been destroyed or damaged beyond repair since 1988.

Source: Federal Aviation Administration

There's been a 129% increase in 20 large bird species since 1990, for a net gain of almost 30 million birds in the US.

Source: Berryman Institute

585 human fatalities have resulted from aircraft bird strikes.

Source: North American Bird Strike Conference

The Solution

RoBird® is a flapping-wing drone that mimics nature's most effective predator – the peregrine falcon.

RoBird® is so true to form that birds leave for good, relocating to a safer and alternate location, permanently.

RoBird® has successfully reduced bird strike incidents by 77% at partner airports.

RoBird® has been deployed in airport and energy industry settings 1000's of times with zero safety incidents.

Using RoBird®, YEG has successfully reduced large mass bird strikes by 25% year over year.

Infrastructure Management

The Problem

Airport infrastructure management is mandatory, costly, and require's significant downtime.

Obstacle Clearance
Surface Analysis/Obstacle
Limitation Surface Analysis

Runway Surface Inspections

Runways Marking Compliance

Foreign Object Detection

The Solution

Fast and hyper-accurate results are now possible with advanced drone technology.

Runway Surface Inspections can be completed in four hours and with more accurate results.

Not only do we collect data; we turn it into business intelligence.

Computer vision is superior to human vision, particularly with objects and pattern recognition.

Safety and Security

The Problem

Finding ways to minimize worker exposure to airport risks is a high priority.

Perimeter Threat Detection

Workers are exposed to risks ranging from emissions to extreme noise levels.

Air transportation workers experience more than twice as many workplace injuries as private industry employees.

Source: US Bureau of Labor Statistics

The Solution

Our drone applications provide remote operational and inspection capabilities.

Our drones are designed to fly to places where drones typically can't go.

We've deployed our drones thousands of times in complex environments without a single safety incident.

Regulatory Compliance

The Problem Airports are held to extremely rigorous regulatory and safety regulations.

Failing to meet these standards may result in severe penalties.

Penalties may include fines, shutdowns, or criminal charges.

Airlines that don't comply with regulations face being grounded.

The Solution AERIUM Analytics has over four decades of experience in safety and regulatory compliance.

We ensure that potential areas of non-compliance are easily identified before they impact your business.

We can operate in hyper-difficult areas due to our many certifications and approvals.

Greenhouse Gas Emissions

AERIUM supports the maintenance of safe and compliant airports utilizing Geospatial Intelligence and Data Automation and Surveillance drone technology solutions.

The Problem With the net-zero emissions by 2050 targets set by the Canadian government, all industries need to consider their carbon footprint.

Carbon emissions from the airline industry grew by 75% between 1990 and 2012 .

Source: David Suzuki Foundation

FOD and perimeter checks use the equivalent of 35K litres of gasoline per airport.

The Solution Replacing manual truck inspections with more accurate and efficient drone inspections can eliminate emissions.

Using drones for FOD and perimeter checks saves 35K litres of gasoline annually – the equivalent of 26 passenger vehicles.

Using drones for annual runway inspections saves 55K barrels of oil – the equivalent of over 7,200 passenger vehicles.

“AERIUM solutions have safely, sustainably, and humanely contributed to the reduction of large mass bird strikes by 25% year over year at YEG. AERIUM is a valuable, long-term partner in our wildlife management strategy.”

Myron Keehn, CEO, Edmonton International Airport (YEG)

Project SkySensus

AERIUM is a partner in Project SkySensus, a technical research project funded and led by Arcfield Canada for the development, testing, and commercialization of Beyond Visual Line of Sight (BVLOS) technology for drone systems. The objective is to develop advancements and innovation of unmanned systems operations, airworthiness standards, and training.

As autonomy and collision-avoidance technologies improve, so too will drones' ability to perform increasingly complex tasks. Thanks to Project SkySensus and similar research initiatives, Canada is quickly becoming a global leader in the regulatory development for safe drone operations.



Drones are profoundly transforming the transportation sector, re-defining aviation with ground-breaking technologies.

Transport Canada's Drone Strategy to 2025

**Let's talk about how
AERIUM can help your
organization soar**

Book a discovery call at AERIUMAnalytics.com

