

# INSPECTEXTM



AWS MARKETPLACE BUYER'S GUIDE





### **Modular Al Inspection Platform**

InspectEx™ is a cloud-based platform, hosted on AWS, designed to orchestrate Alpowered inspections of airfields and critical infrastructure. It integrates with edgemounted sensors and AI detectors to collect, analyze, and deliver real-time actionable insights, giving operators and managers operational visibility, automated records, and decision support.

### **Platform Capabilities**

- **Centralized Inspection Management**: InspectEx coordinates multiple Alpowered detectors through a single platform, reducing workflow complexity and consolidating insights.
- **Real-Time Insights and Alerts**: Edge-mounted detectors capture sensor data, which is aggregated in the cloud for automated logging, geotagging, and visualization in dashboards.
- **Proactive Maintenance Support**: InspectEx transforms raw detector data into actionable intelligence, helping teams prioritize interventions, optimize resources, and plan maintenance efficiently.

### Modular Al-Powered Approach

**Detectors**: Each Al-powered detector performs a specific inspection mission and feeds its insights into InspectEx.

### Marketplace-Available Detectors:

- FODAI: Detects foreign object debris on operational surfaces.
- PIDSAI: Monitors perimeters for breaches and intrusions.
- **SnowPro<sup>AI</sup>**: Measures snowbank height profile compliance during winter operations.

**Custom Detectors**: Specialized detectors can be developed through consulting for unique operational requirements beyond the Marketplace offerings.



### Architecture: Edge + Cloud Integration

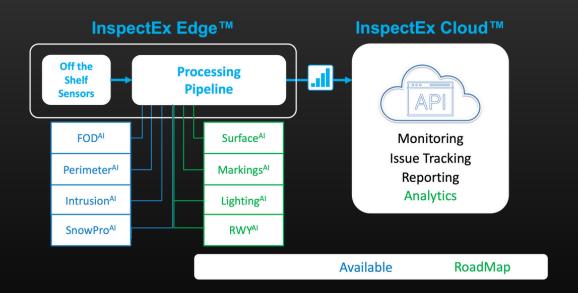
InspectEx combines edge-mounted sensors and AI detectors with a cloud-based intelligence platform to deliver actionable inspection insights in real time. The system is designed to integrate seamlesslyinto existing operational workflows and scale across multiple sites.

### **How It Works**

- **Sensors in the Field**: Al-powered detectors (FOD<sup>AI</sup>, PIDS<sup>AI</sup>, SnowPro<sup>AI</sup>) leverage a selection of sensors such as visible light, thermal, LiDAR, IMU and GPS.
- **Edge Processing**: Application specific detectors analyze data locally using onboard AI models, sending real-time alerts and geotagged imagery to operators immediately.
- **Cloud Aggregation**: Data from all detectors is centralized on the AWS-hosted InspectEx cloud, where it is organized, stored, and visualized.
- **Actionable Insights**: Dashboards, heatmaps, and trend reports allow teams to prioritize maintenance, mitigate risks, and optimize operations.

### **Inspection Workflow Example**

- Deploy detectors on vehicles or fixed infrastructure. Sensors capture data during routine operations.
- Edge Al identifies anomalies (debris, perimeter breaches, snowbank profiles). Alerts and geotagged images are sent to operators.
- Data is aggregated in the cloud for dashboards, reports, and long-term.







### **Available Detectors**

InspectEx is built around purpose-built detectors. Each one addresses a specific inspection challenge, delivering real-time insights and automated reporting.

### Deployable Today on AWS Marketplace

- FOD<sup>AI</sup>: Foreign Object Debris
  - o Identifies debris on runways and taxiways using edge Al.
  - Generates instant alerts and geotagged logs for faster removal.
- **PIDS**<sup>AI</sup>: Perimeter Security & Intrusion Detection
  - Monitors fences and boundaries using visual, LiDAR and thermal sensing.
  - Detects breaches or unauthorized entries with automated alerts.
- **SnowPro<sup>AI</sup>**: Snowbank Profiling
  - Measures snowbank profiles against regulatory safety limits. Supplies geolocated compliance data for winter operations.





### **Customer Support**

Adopting InspectEx is not just a technology purchase, it's a partnership in operational continuity. Illuminex Al provides end-to-end support to ensure the platform performs consistently and grows with your needs.

### **Ongoing Support**

- **24/7 Cloud Availability**: Hosted on AWS, InspectEx delivers resilient architecture, uptime, and automatic scaling.
- **Technical Support**: Direct access to Illuminex AI engineers for troubleshooting, optimization, and integration guidance.
- **Knowledge Base & Documentation**: Comprehensive resources available to youroperations team for quick reference.

### Maintenance & Updates

- **Automatic Software Updates**: New capabilities, performance improvements, and security patches are delivered remotely.
- Detector Enhancements: As existing detectors evolve, upgrades are pushed seamlessly to your environment.
- **Future-Proof Platform**: Continuous roadmap development ensures that as new detectors become available, integration is straightforward.

### **Professional Services**

For specialized needs, Illuminex AI offers consulting to:

- Configure custom detectors.
- Integrate with existing airfield management or maintenance systems.
- Train staff to maximize operational value from Al-driven inspections.





### **Compliance & Assurance**

When adopting new technology for safety-critical environments, compliance and trust are non-negotiable. InspectEx has been built from the ground up to align with aviation, transportation, and IT best practices.

### Cloud Compliance (AWS-Hosted)

- **Security & Reliability**: Delivered through AWS, InspectEx benefits from enterprise-grade encryption, redundancy, and global compliance certifications.
- **Scalability with Control**: Airports and operators maintain full ownership of their data, while AWS infrastructure enables resilience and uptime.

### **Data Privacy & Governance**

- Customer Data Ownership: All inspection data collected by detectors is owned and controlled by the operator.
- Secure Transmission & Storage: Data is encrypted in transit and at rest.
- Custom Retention Policies: Standard retention is 13-months, but operators have flexibility to define how long inspection data is stored to align with internal policies or regulatory mandates.

### **Regulatory Alignment**

- **Aviation Standards**: Designed to support ICAO, FAA, and Transport Canada guidelines around runway safety and inspection processes.
- Operational Safety: All outputs are validated through repeatable testing frameworks, ensuring detectors meet performance standards before live deployment.
- **Audit-Ready Logs**: Automated records simplify regulatory reporting and demonstrate due diligence in inspections.

### **Future-Ready Compliance**

As new detectors (Surface<sup>AI</sup>, Lighting<sup>AI</sup>, Markings<sup>AI</sup>) come online, they are developed with the same compliance-first approach. Custom modules built under consulting agreements also follow the same data governance and validation framework.

### © Illuminex AI

### **Getting Started**

InspectEx is available exclusively through the Custom Pricing option in AWS Marketplace, ensuring every deployment is tailored to your operational requirements. This approach allows buyers to select the right combination of platform subscription, detector modules, and sensor hardware, while ensuring seamless AWS integration.

### **Step 1: Request Custom Pricing**

- Navigate to the InspectEx listing on AWS Marketplace.
- Click Custom Pricing to submit your request.
- Provide key details, such as operational size, inspection priorities, and number of vehicles.
- This request initiates a Private Offer process through AWS Marketplace, allowing Illuminex AI to configure a deployment specific to your organization.

### Step 2: Select Standard or Premium Packages (for FODAI)

Other detectors require the Premium Package.

### Standard Package (FODAI)

- Detection Width: 50 ft/15 meters
- Operational Range: Up to 40 km/24 mph
- Hardware: Standard Sensor-Fusion System
- Detectors Available: FODAI (Standard)
- Best For: Regional or smaller airports, or organizations needing cost-effective AI- enhanced inspections.

### **Premium Package**

- Detection Width: 100 ft/30 meters
- Operational Range: Up to 80 km/49 mph
- Hardware: Premium Sensor-Fusion System with enhanced optics and processing
- Detectors Available: FOD<sup>AI</sup> (Premium), PIDS<sup>AI</sup>,
   SnowPro<sup>AI</sup> plus advanced analytics features
- Best For: Large hubs or high-traffic operations requiring maximum coverage and precision.







### **Getting Started**

### Step 3: Deployment & Installation

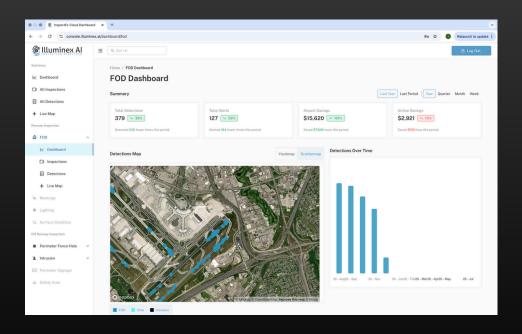
- Illuminex AI shall assist airport staff with installing the sensor-fusion kit (Standard or Premium) on your vehicles.
- Edge compute hardware is preconfigured to run your selected detectors in real time.
- Your InspectEx Cloud instance, hosted on AWS, is provisioned and connected to the hardware.

### Step 4: Onboarding & Operational Use

- Operators receive training on live detection, dashboards, alerts, and reporting.
- Inspections can be integrated into existing workflows; no additional passes or route changes are required.
- Geotagged logs, automated alerts, and dashboards provide immediate operational insight.

### Step 5: Scaling & Future Expansion

- Additional detectors can be added via the Custom Pricing option anytime.
   InDevelopment: Surface<sup>AI</sup>, Lighting<sup>AI</sup>, Markings<sup>AI</sup>, Digital Twin integration.
- Custom Detectors: Specialized modules can be built through consulting for unique operational needs.





### **Buyer's Checklist**

This checklist is designed to guide buyers in evaluating their operational needs and selecting the optimal combination of InspectEx packages and detectors before requesting a Custom Pricing offer on AWS Marketplace.

### 1. Define Your Operational Scope

- Airport / infrastructure size: Large, medium, regional, GA Inspection area and frequency
- Environmental conditions: night, low visibility, snow, high traffic

### 2. Choose a Sensor Package (Coverage & Footprint)

• Standard or Premium based on requirements

### 3. Select Detector Modules

- Today: FODAI, PIDSAI, SnowProAI
- In Development: Surface<sup>AI</sup>, Lighting<sup>AI</sup>, Markings<sup>AI</sup>, Digital Twin Custom:
- Specialized detectors via consulting
- Tip: Prioritize detectors based on operational hazards and inspection goals.

### 4. Integration & Workflow

- Confirm vehicle platforms for sensor deployment
- Ensure compatibility with dashboards, reporting, and asset management Plan for use of real-time alerts and geotagged logs

### 5. Support & Onboarding

- Training for operators and dashboard use
- Ongoing support for detector updates, cloud access, and hardware maintenance

### 6. AWS Custom Pricing Submission

- Gather package choice, detector selection, vehicle details, and operational info
- Click Custom Pricing on AWS Marketplace to submit your request
- Receive a tailored Private Offer including deployment, installation, and support



### **Deployment Highlights**

- Custom Configuration: Every deployment is tailored via AWS Private Offer based on operational size, selected detectors, and sensor package (Standard or Premium).
- **Hardware Installation:** Illuminex Al installs sensor-fusion kits on customer vehicles, with edge Al preconfigured for real-time detection.
- **Cloud Provisioning:** InspectEx Cloud, hosted on AWS, aggregates inspection data, provides dashboards, alerts, and automated logs.
- Operational Onboarding: Operators are trained on edge devices and cloud tools to ensure seamless integration into existing workflows.
- **Immediate Insights:** Once live, every inspection delivers actionable intelligence, helping teams prioritize maintenance and optimize resources.



Website: <a href="www.illuminex.ai">www.illuminex.ai</a>
AWS Marketplace Inquiries: aws-marketplace@illuminex.ai
Custom Pricing / Requests: aws-marketplace.illuminex.ai

