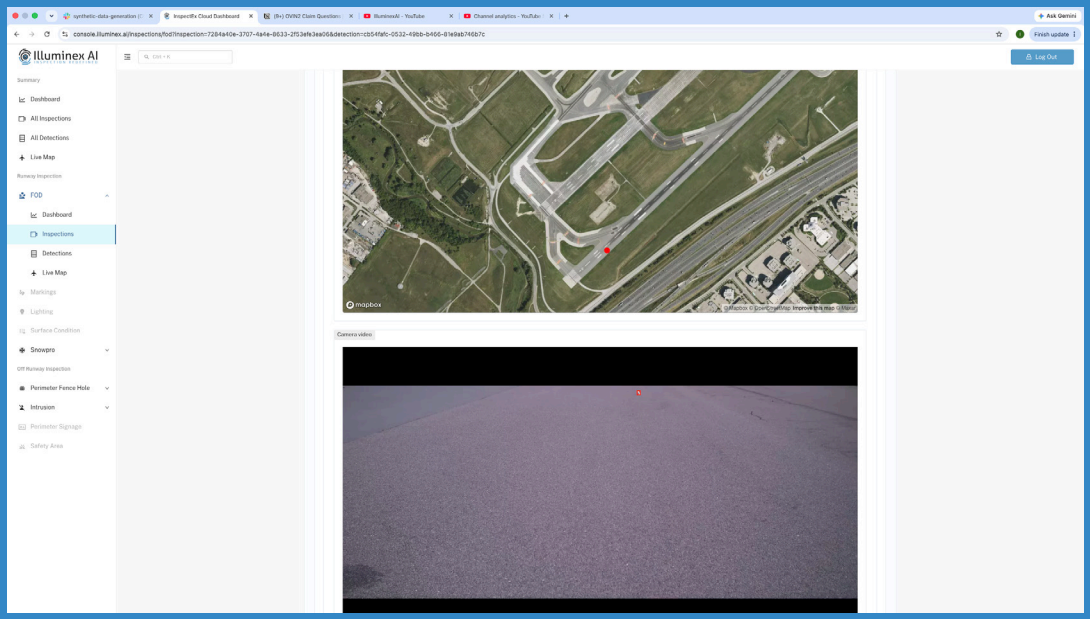
Illuminex AI
INSPECTION REDEFINED

FOD AI

Foreign Object Debris
AI-Powered Inspection



Detect, Alert, Log, Analyze

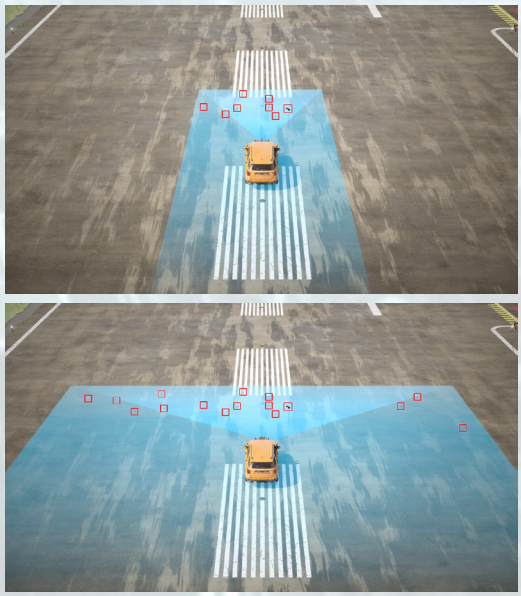
At Illuminex AI, we are redefining airfield safety with our AI-driven Foreign Object Debris (FOD) detection systems. Our FOD AI solutions combine advanced sensor fusion technology and AI analytics to deliver fast, reliable, and accurate FOD detection. Automated logging and time-series analysis provide data-driven insights for enhanced surface maintenance. With Standard and Premium system options, we offer easy to deploy solutions that meet the diverse needs and budgets of airports, both large and small.

Transform observations into data, enabling actionable insights for safer and more efficient operations.

FOD^{AI} leverages advanced AI, high-resolution sensors, and edge computing to automate FOD detection on airfield surfaces. Both **Standard** and **Premium** packages offer real-time alerts, automated data collection, and intuitive dashboards that provide actionable insights and alerts for enhanced FOD detection and airfield surface management.

The **Standard** system supports FOD detection up to a 50-foot inspection width at speeds of up to 40 km/h (25 mph), using a high-resolution camera and a stereo camera. This system is ideal for airfields where air traffic allows for multiple inspection passes or for deployment in FOD sweepers.

The **Premium** system supports up to a 100-foot inspection width at speeds of up to 80 km/h (50 mph), using two high-resolution cameras plus LiDAR. It also runs Surface and can be expanded with additional detectors such as perimeter and intrusion detection



	Standard	Premium
InspectEx Edge for FOD^{AI}		
Easy to deploy hardware on existing vehicles	✓	✓
Remote device management (customer support)	✓	✓
AI-based, automated FOD detection	✓	✓
Automated data logging	✓	✓
Real-time alerts	✓	✓
All Airfield Surfaces (Runways, Taxiways, Apron)	✓	✓
High speed inspections		✓
Expanded Inspection Width		✓
Customizable Alert Thresholds		✓
InspectEx Cloud for FOD^{AI}		
Data visualization	✓	✓
FOD airfield heat maps	✓	✓
Data driven actionable insights		✓
Seamless integration with existing workflows		✓
System Expansion / Scalability		
Additional Plug and Play applications (PIDS^{AI})		✓
Add Additional Sensors (e.g. Visible Light, LiDAR, LWIR (thermal))		✓