Illuminex AI
AIRFIELD INTELLIGENCE

Surface AI

Pavement Intelligence



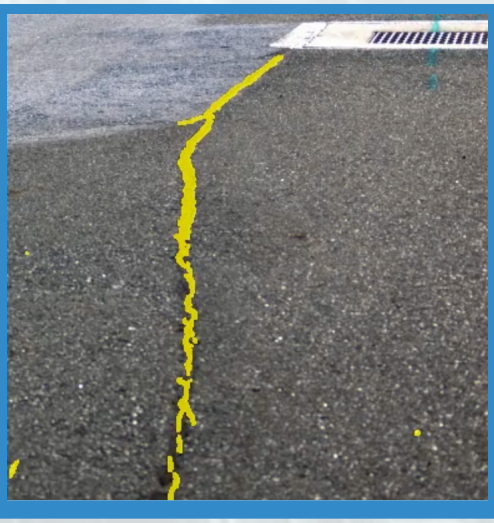
From the same platform that powers FOD detection.

Capture a precise, geotagged inventory of surface distresses with measured length and width class on a frequent basis using the airfield inspection vehicle you already use Part 139 daily self inspection. Surface AI is a vehicle-mounted detector that uses sensor fusion (dual 16 MP cameras, precision GPS/IMU, and LiDAR) to detect, measure, and geolocate cracks and other surface defects. It mounts on existing inspection vehicles and can accurate scan up to 90'. Assuming 50' effective scanning width per pass after over-lap and path variance, a 150' x 10,000' runway can be scanned in under 15 minutes.

Designed for Predictive Maintenance

Core Technical Capabilities

- Dual 16 MP cameras + LiDAR + precision GPS/IMU sensor fusion
- Crack detection with measured length and width-class evidence
- Accurate geolocation of individual distress regions (critical for multi-date and opposite-direction comparison)
- Collection at speeds up to 40 Km/h across the inspection width
- Results processed and available the same day



Dual-Use Platform Advantage

The same Premium InspectEx sensor-fusion platform that hosts Surface AI also supports FOD AI. Once the kit is installed, the vehicle can perform multiple daily FOD detection runs with no additional capital expenditure beyond the Surface AI sensor and compute package, delivering real economies of scope.

- Premium sensor kit mounts on existing inspection vehicles
- Dedicated Surface AI runs for full surface coverage
- Edge + cloud pipeline produces geotagged inventory

Email us for a demo
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Visit our website
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Illuminex AI
INSPECTION REDEFINED