


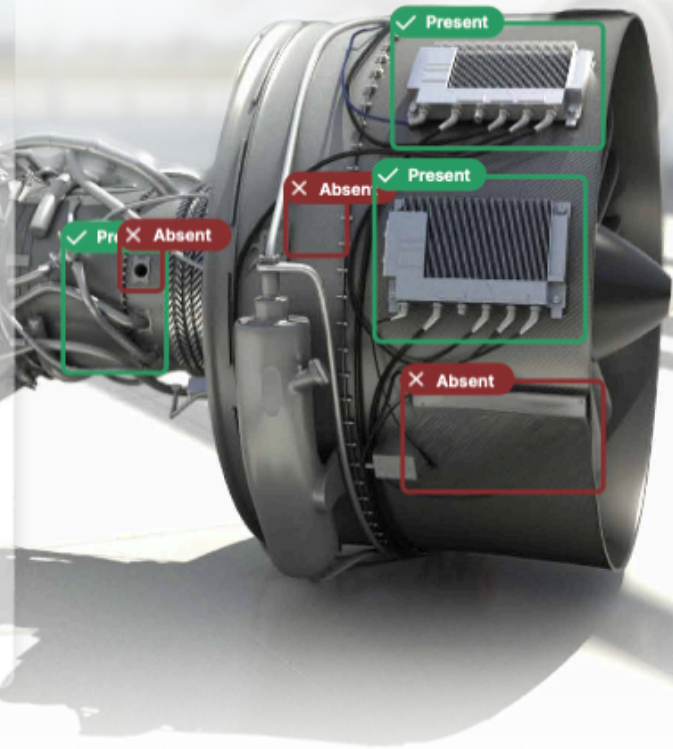


# aicadium

## Automate the ordinary, **focus** on the critical

Engine Inspection		
Filter results		
Part Name	Image	Presence
Electronic Engine Control Channel A		✓
Electronic Engine Control Channel B		✓
Pressure Sub-System (PSS) Box		✗
Engine Wiring Harness		✗



Harness the power of visual AI to revolutionise engine inspections, build standardised inspection workflows, drive workforce efficiency, and provide full visual traceability.

# The problems >>>

General visual inspections of engines are critical to aircraft engine maintenance, from the induction and dispatch phases in engine workshops to on-wing inspections.

However, traditional inspection methods often rely on manual labour, resulting in inconsistencies that introduce variability in inspection processes, results, quality, and blind spots without visual traceability.

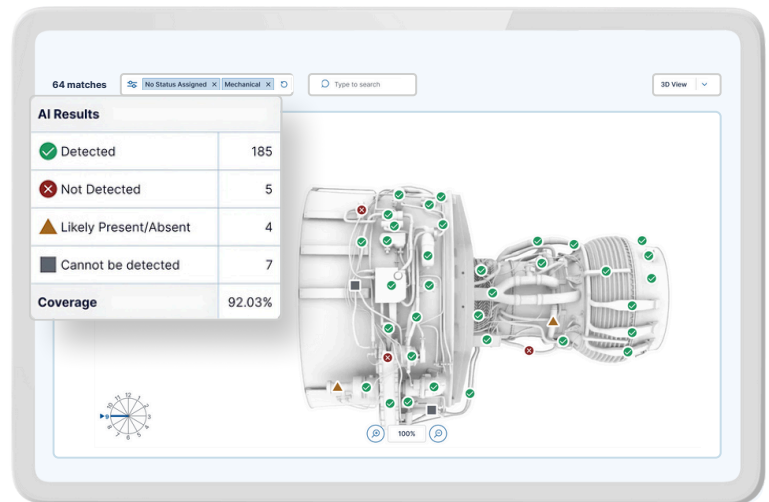
## The solution >>>

Digital AI-powered copilot for aviation engine inspections.

### Aicadium View™ for Engine Inspection

leverages visual AI to transform how engine components are inspected, verified, and tracked - delivering speed, consistency, and traceability to a traditionally manual process.

The system detects and verifies engine components in near real-time using high-resolution images captured via robotic or handheld devices. AI-powered models analyse the captured data against a digital inventory baseline to flag missing parts, track configuration changes, highlight possible surface defects and potential foreign object debris (FOD) and generate structured inspection reports.



By combining guided workflows, AI-assisted detections and human-in-the-loop feedback, Aicadium View empowers users to:

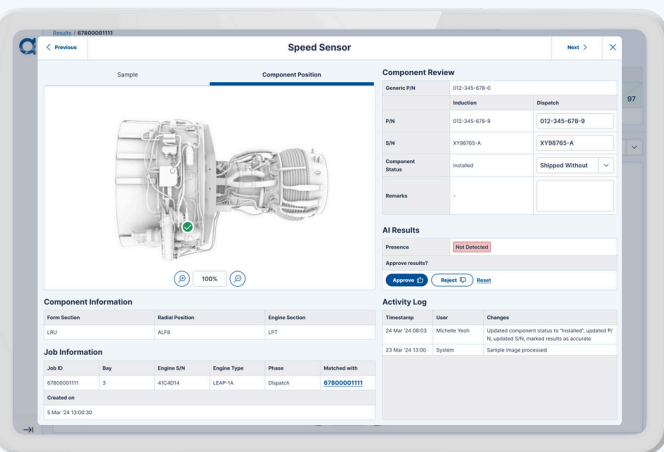
- Detect and locate engine components, flag possible surface defects and FODs
- Improve inspection quality with consistent, repeatable outcomes
- Enhance workforce efficiency and reduce reliance on expert inspectors
- Automate inventory, installed statuses and quality checks across the engine lifecycle
- Maintain full visual traceability for compliance and audits

# How it works

## 01 | Robotic or handheld image capture with AI-driven results

Initiate automated image capture via robotic arms, which move to designated bays, capture high-resolution images, and upload them directly to Aicadium View. Upon completion, you get status tracking access and email alert notifications with summaries of images, errors, and component statuses.

In environments where space is constrained or mobility is limited, such as narrow bays or on-wing scenarios, our handheld capture capabilities can enable the same AI-powered workflow, ensuring consistent, guided inspections without needing fixed infrastructure.



## 02 | AI-powered component verification

Aicadium View's AI system uses real-time markers on high-resolution images for instant verification. Its no-training detection technology identifies parts with reference "golden samples," removing the need for model training. The collaborative workflow enforces role-based access for certified inspectors to approve components, while activity logs ensure full auditability of annotations and changes.

## 03 | Dispatch check & status matching

Aicadium View automates cross-validation by comparing dispatch checks with induction records, flagging discrepancies like parts marked "Shipped Without." It generates customisable PDF reports with timestamps and digital signatures, and includes retention policies to ensure audit compliance.

## 04 | AI-powered serial & part number recognition

The system intelligently extracts serial and part numbers from inspection imagery and cross-references them with inventory or configuration records. Mismatches are automatically flagged for review. This helps reduce manual effort and eliminate human errors while maintaining traceability across every inspection.

## 05 | Progressive AI-Driven Defect & FOD Detection

A multi-stage intelligence pipeline that evolves from basic detections to expert-guided annotation, advances through model-assisted suggestions and eventually scales to high-confidence detections of surface defects and foreign object debris (FOD).

The system grows smarter over time through human-in-the-loop feedback, enabling faster, more accurate inspections without compromising traceability or oversight.



# Key features & capabilities >>>

## Handheld image capture capability

A purpose-built handheld device enables high-quality, guided image capture in areas where fixed setups are impractical, such as tight engine bays, line maintenance zones, or field operations. It is designed for ease of use, minimal training, and consistent coverage, even by non-experts.



## Component, defect, FOD detection capabilities

Automatically assists with detections of missing parts, possibilities of surface defects and foreign object debris (FOD), reducing inspection variability and improving issue detection accuracy.

## Component serial & part number recognition capabilities

Aids component verification links visual identification of serial and part numbers with digital inventory records, enabling seamless traceability and faster discrepancy detection.

## Structured digital reporting

Generates consistent, audit-ready inspection reports with all findings, detection results and metadata - reducing documentation effort and review cycles.

## Digital inventory validation

Compares captured data against golden sample references to verify part presence and installed statuses during induction and dispatch phases, accelerating inventory and quality checks.

## Continuous learning

Leverages inspector feedback to improve detection performance over time - enabling smarter, more efficient inspections with every use.

## Visual traceability

Each inspection is logged with image evidence, timestamps, detection results, and user activity - supporting auditability and quality review.

## Flexible image capture integrations

Supports integration with robotic and handheld devices to streamline inspections in both structured and space-constrained environments, without the need for additional infrastructure.



### Flexible deployment

- Cloud
- On-Premise
- Hybrid

### Modular product

- Configurable - start with what you need, scale when ready
- Flexible - deploy by engine type, shop layout or inspection phases



# Benefits of Engine Inspections with Aicadium View >>>

## Standardise every inspection

- Perform engine general visual inspections to the same structured and repeatable standards across engine types, shifts, bays, locations and teams

## Maximise workforce impact & accelerate inspections

- Reduce reliance on highly trained inspectors through simplified onboarding, handheld capture in constrained spaces and assisted detection.
- Improve operational efficiency across induction and dispatch phases or even on-wing inspection.

## Raise the bar on inspection quality

- Reduce errors and oversight with guided capture, AI-assisted detections and consistent outputs.
- Enhance quality with consistent results to assure stakeholders with clear, trusted results.

## Make every inspection traceable

- From image evidence to activity logs, every inspection is documented, verifiable and ready for audit or review with customers.
- Meet regulatory and customer requirements with confidence and visual traceability.



## ... that results in:



### More consistent and repeatable inspections

Achieve consistent, repeatable inspections across engine types, shifts, bays, locations and teams - no matter who's performing the task.



### Greater team efficiency and agility

Reduced dependence on specialised manpower by freeing up experienced personnel for higher-value tasks



### Fewer missed issues & faster resolutions

Detect anomalies earlier, reduce rework and speed up turnaround without compromising accuracy.



### Audit-ready

Support compliance and reviews with transparent, easily retrievable inspection records.

For pricing inquiries, contact us for further information.



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