



## Meet every spec, every time, with AI-driven quality assurance

From first unit to last, computer vision AI is transforming manufacturing everywhere, enabling instant adaptation to new specifications to ensure every product meets each client's requirements every time.



## The problems »»»

Manufacturers are struggling with quality inconsistencies, a shrinking skilled workforce, and frequent spec changes—challenges that together disrupt production, drive up costs, and make it harder to maintain quality and meet customer demands.

### Quality inconsistency

Quality assurance in manufacturing relies on human labour. Shortages and high turnover can compromise consistency and increase defects. Without proper training, minor oversights can cause costly rework, production delays, and erode client trust.

### Skilled labour shortage

The industry faces a growing gap as experienced workers retire and not enough new talent enters. This leaves millions of positions unfilled, making it hard to find employees with the technical skills needed for modern manufacturing.

### Frequent spec changes

Adjusting specifications often requires renegotiating contracts and updating production processes, which can be complex and time-consuming. This lack of flexibility slows response times, raises costs, and complicates quality maintenance, primarily when serving diverse clients.

To remain competitive in the global market, it is important to improve throughput, maintain consistent quality levels, effectively manage workforce, and adapt to changes. These factors are essential for sustaining long-term success and responding to evolving industry demands.



of manufacturing  
executives state that  
**quality control** is the  
most important use  
case for AI in  
manufacturing

(source: Statista)

# The solution >>>

## AI-powered computer vision to address quality and productivity

Aicadium View brings real-time, AI-driven monitoring and quality assurance to manufacturing environments. Cameras are placed at inspection stations, and video frames stream into Aicadium View, which uses AI models to inspect objects.



The system then provides insights on assembly times, efficiency metrics, quality, and more based on the outputs of the AI models, providing opportunities that impact the bottom line, including:

### **Consistent, automated quality assurance**

AI vision systems monitor units in real-time, detecting anomalies and reducing the need for complete reliance on manual inspection. This minimises costly errors and ensures products meet high-quality standards, even with a varying workforce experience.

### **Bridging the skilled labour gap**

AI captures, encodes, and scales seasoned workers' expertise, making it available across inspection points and sites. By automating repetitive, complex tasks, AI enables existing teams to achieve more with less, maintaining consistency and productivity despite labour shortages.

### **Effortless adaptation to changing specs**

Aicadium's AI enables instant adaptation to new specs by using reference images for immediate inspection—no retraining needed. Say goodbye to lengthy data science marathons. Upload your reference images and start inspecting straightaway.

# aicadium view™

Aicadium View is an AI-driven computer vision solution designed for complex manufacturing environments. It utilises state-of-the-art AI models to analyse images and video streams from existing camera systems, helping streamline operations.

# Key features & capabilities

Revitalise mission-critical aspects of your operations to capitalise on the projected market growth to 68 billion USD by 2032. Our features and capabilities can elevate operational efficiency and maintain quality.

# 68

Global market size for AI in manufacturing is forecasted to reach \$68 billion by 2032

**billion USD by** 

# 2032

(source: Precedence Research)

## Zero-shot detection

Cameras capture images of each assembly as it moves down the line, comparing them in real-time to golden samples of defect-free products. No retraining is required—when a new product variant is introduced, a reference image is uploaded, and inspection begins immediately.

## Pixel-level matching capabilities

Aicadium's pixel-level image matching accurately locates components within an image, making it easy to detect missing or misaligned parts in industrial settings. Fast, efficient, and easy to integrate, it enhances real-time inspection with minimal setup.

## Dashboards & downloadable reports

View and download key performance metrics on productivity and quality that provide insights on throughput, changeover and station assembly times, and other helpful data points that take you from reactive to proactive.

## Synthetic data generation capabilities

In situations where real-world data is unavailable, Aicadium's synthetic data generation capabilities create the training and testing datasets needed to enable accurate and reliable defect detection.

## Flexible image capture integrations

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

## Component & defect detection capabilities

Aids component verification by linking visual identification of parts with digital inventory records, enabling seamless traceability and faster detection of discrepancies.

## Continuous learning

Leverages quality assurance workforce feedback to improve detection performance over time - scaling and enabling smarter, more efficient inspections with every use companywide.

## Flexible deployment

### On-premise

Local deployment on dedicated servers

### Hybrid model

AI processing on-premise with cloud-based analytics and reporting

### Cloud-based

Hosted solution with web-accessible monitoring dashboards

### Security compliance

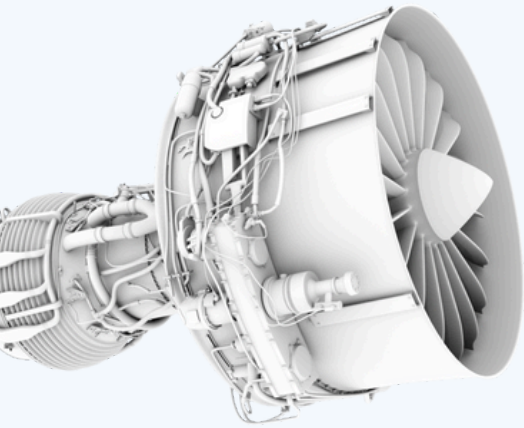
Ensures data protection, access control, encryption, audit logging, and regulatory adherence





## Use cases »

Aicadium View goes beyond manufacturing by automating quality inspections, streamlining compliance, and improving operational efficiency. It acts as an additional layer of oversight, ensuring quality and efficiency throughout every stage of production.



### Engine inspection for aviation MRO

Engine inspection is a crucial process in the aviation MRO industry, ensuring aircraft engines operate safely and efficiently. Aicadium View aids in efficiency and electronic documentation of maintenance activities. Key features and capabilities include the ability to:

- Detect the presence or absence of parts
- Build up inspection audit trails with visual traceability
- Detect possible surface defects on parts and foreign object debris
- Generate inspection reports

### Meal quality control for airline catering

Ensuring meal consistency, accuracy, and presentation is essential in airline catering. Organisations can minimise their dependence on manual labour by automating meal counting and quality checks. This method enables them to deliver high-quality in-flight meals that enhance customer experiences and improve the company's reputation. Aicadium view allows:

- In-flight meal classification
- Counts and quality checks of completed trays and dishes
- Items produced per hour
- Timestamp for the first and last unit to be completed
- Maintains records of the quality for all dishes being processed



### Line manufacturing

In regulated industries like pharmaceuticals, food, and medical devices, it is essential for production lines to be free from contaminants. Automating visual checks for foreign objects and environmental conditions reduces the need for time-consuming and error-prone manual inspections. This enhances compliance with good manufacturing practices (GMP) and FDA requirements while safeguarding product quality and brand reputation.

- Alert systems for comprehensive inspection and traceable accountability
- Environmental monitoring to ensure cleanliness before production starts
- AI models for foreign object detection



# Benefits of AI-assisted inspections >>>

## Standardise every inspection

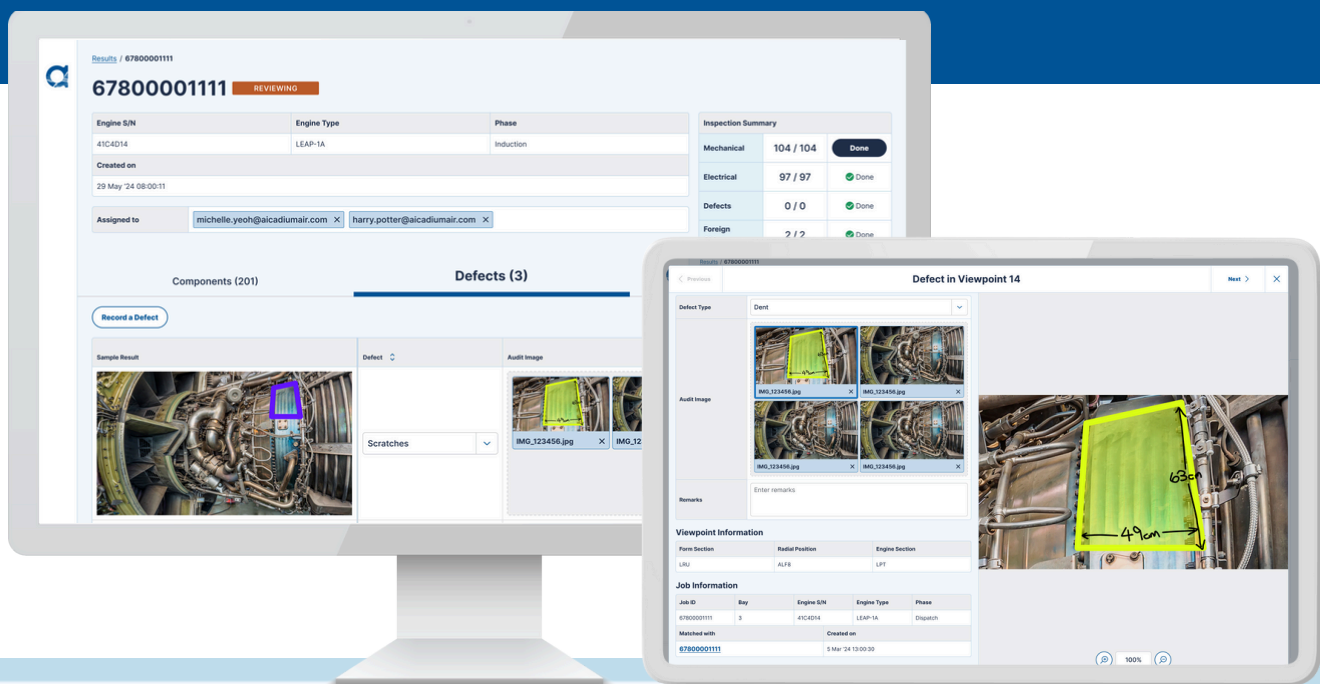
- Perform visual inspections to the same structured and repeatable standards across product types, shifts, stations, and locations

## Maximise workforce impact & accelerate inspections

- Encoding and scaling expertise enables simplified onboarding and assisted detection with every inspection, reducing reliance on highly trained inspectors.
- Improve operational efficiency at every stage of the assembly and quality processes.

## Raise the bar on inspection quality

- Reduce errors and oversight with image capture, AI-assisted detections and consistent outputs.
- Enhance quality with consistent results to provide stakeholders and clients with well-built, high-quality products.



## Contact us for more information

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