MUSASHI AI

MUSASHI AI'S AUTOMATED VISUAL INSPECTION ECOSYSTEM

Smarter Inspections. Superior Results.

With roots in the automotive industry, Musashi AI knows the challenges of high-quality production of complex parts, and the costs of manual inspections: **unreliable quality, minimal data, limited production, and wasted labor.**

To solve these problems, our experts developed an ecosystem of inspection hardware and software to help manufacturers worldwide enjoy the insights, scalability, and savings of automated, AI-powered inspections.

Full Part Traceability

Data-Driven Decisions

Lower Cost of Quality

Zero Quality Escape

Continuous AI Improvements

Expert Software Support

INSPECTION EQUIPMENT

Automated Inspection Machines
Standard Design or Custom Builds

CENDIANT® SOFTWARE SUITE

1 Cendiant Inspect
AI Powered Defect Detection

2 Cendiant Quality Insights
Data Analytics Dashboard

3 Cendiant Mobile Scan
On-The-Go Part Traceability

AUTOMATED INSPECTION MACHINES

Automate the visual inspection of your complex parts using Musashi AI's purpose-built inspection machines.

WE OFFER

Standard Designs: Off-the-shelf machines available for gear and shaft part types

Custom Builds: For non-gear and shaft parts, our experts will customize base machines to fit your parts and processes.

AI Inspection Powered by Musashi AI's Cendiant™ Inspect Software.

BENEFITS

Seamless Integration:
Inline, end-of-line, and offline integrations, compatible with various control systems. Available as low-cost retrofits or new equipment installations.

Precise Inspections:
With high-precision sensors, **detect anomalies as small as 50 microns** regardless of geometry, tolerance, or material.

Fast ROI:
Lower direct and long-term quality costs with fully automated, accurate inspections. Systems capable of 24/7 runtimes.

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CENDIANT® INSPECT

Harness the power of artificial intelligence with **Cendiant® Inspect**, our fully automated vision-based inspection software.

Gain real-time visibility and data analytics with the **Cendiant® Quality Insights** cloud-based dashboard, included with every software subscription.

Cendiant Inspect
Deep learning vision software
GPU
Mobile
MUSASHI Ai

TIME TO VALUE

With low initial data requirements, get fully trained inspection algorithms in just **8 weeks** - less than half the time of our competitors!

Musashi AI	**6–8 weeks**
Competitors	**12+ weeks**

BENEFITS

Superior Inspection: AI models exceed manual inspection, detecting 100% of visual defects as small as 50 microns, with 1-3% over detection rates.

Continuous Improvement: Active i™ deep learning algorithms learn and improve anomaly detection and segmentation. The only solution that gets better with time, 24/7.

Hardware-Agnostic Scalability: Scale your quality control measures as production grows, easily integrating new hardware with Cendiant™ Inspect.

Expert Software Support: You define requirements, we build the software. Our team of experts handles everything from code development, model training, performance, and maintenance.
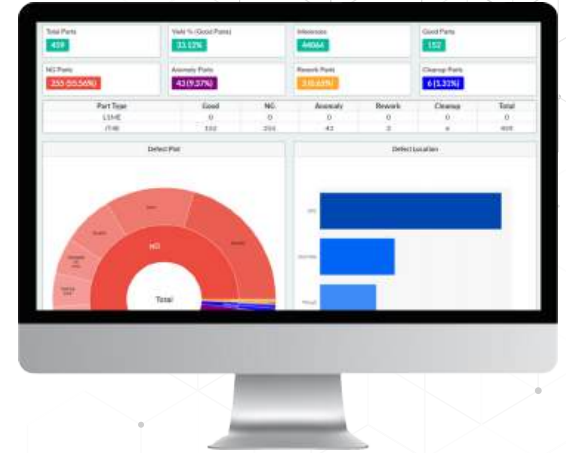
Automatically catch and document part defects like cracks, porosities, dents, surface roughness, and other anomalies.

1.DETECT

2. CLASSIFY

3. VERIFY

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CENDIANT® QUALITY INSIGHTS

Data metrics and analytics dashboard for superior performance monitoring, part quality traceability, and confident planning.

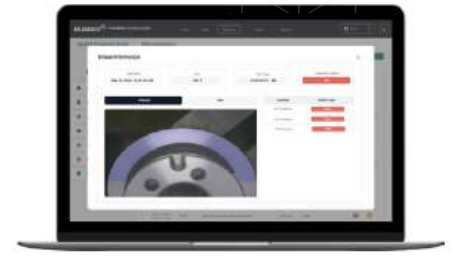## POWERFUL FEATURES

Daily Dashboard

Gain a clear and organized overview of production and quality performance.

Image Gallery

Easy viewing of all inspection images. Filter and view in-depth details about defective part images.

Inspection Log

A detailed record of all part inspections performed by the system. Flag and comment on inspection images.

BENEFITS

Dashboard Monitoring
Gain visibility into quality and production trends, and track parts across the manufacturing lifecycle

Real-Time Data
Get instant alerts about quality or production issues as they happen. For quick response, customize notifications for specific lines, defect types, or time frames

Secure Cloud-Based Access
Access from any device—PC, tablet, or phone. Your data is encrypted, only accessible by authorized users, and easy to export to Excel or PDF for reporting.

Digitized Workflow
Streamline quality processes with live ticketing, claims, and commenting

Actionable Insights
Advanced analytics for data-driven planning

Single Sign-On Integration
Login from multiple platforms

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CENDIANT® MOBILE SCAN

iOS application for real-time part traceability and remote access to Cendiant® Quality Insights.
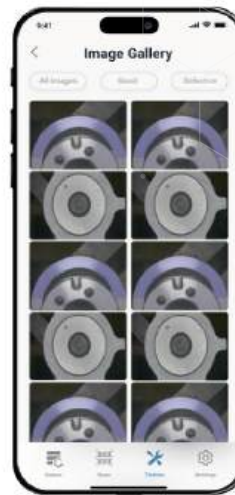
On-the-go Insights

Use iOS devices to **scan data codes for instant records**, and access **key inspection data**

Inspection Summary

Access **inspection status, defect classes, defect locations**, and other quality related details.

Image Gallery

Easy viewing of all inspection images. **Flag and comment** on a specific part or image.

Dispute Functionality

Inspection details can be approved or disputed for **system optimizations.**

Platform	Apple
OS Version Required	iOS 16 or later, iPad iOS 16 or later
Device Compatibility	iPhone 8 or newer iPad Pro iPad & iPad mini (5th generation or newer) iPad air (3rd generation or newer)
Scanning Capability	.aztec .code39 .code39Mod43 .code93 .code128 .dataMatrix .ean8 .ean13 .interleaved2of5 itf14 interleaved2o5 pdf417 .qr .upce Don't see your type of barcode? Please inquire with us for custom compatibility.

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STANDARD MACHINE DESIGNS

SPECIFICATIONS		SHAFT INSPECTOR	GEAR INSPECTOR
APPLICATIONS	Parts	Camshaft, Balance Shaft, Drive Shaft, Spline Shaft, Crankshaft*	Transmission, Differential, Bearings, Clutch Hubs, Planetary Assemblies
	Part Length	100-600mm	n/a
	Part Diameter	<50mm	<400mm
IMAGING	Optics	Complete customization depending on part type and inspection requirements	
	Inspection Software	Cendiant' Inspect	
	AI Accuracy	Anomaly detection as small as 50 Microns, 100% True Detection Rate, <5% Over Detection Rate	
	AI Training	Employed Active i® for dual algorithm deep learning. See training requirements below. Instance Segmentation: 100 Defective Samples Per Defect Class	
MACHINE SPECS	Machine Dimensions	L: 1500mm W:1500mm H: 2045mm	L: 1750mm W: 800mm H: 1650mm
	Weight	~965kgs	~400kgs
	Integration	Inline, Offline, End-of-Line	
	Supported Control Systems	Keyence, Mitsubishi, Allen Bradley, Siemens, ToyoPUC	
	Safety Certifications	OSHA, UL, NFPA-70, NEC, NFPA-79, ANSI B11.0	
	Power Supply	3 Phase 200-208 VAC 30A 60HZ	

*Crankshaft inspection requires further customization due to part weight, and may change other machine specifications.

CUSTOM MACHINE DESIGNS

Applications	Suspension Components, Cylinder Heads, Housings, Intake/Exhaust Manifold

DON'T SEE YOUR PART TYPE? Call to learn more about our customizations options.

ACTIVE i® DEEP LEARNING ALGORITHMS

Training begins with defect free data, enabling anomaly detection. Defects can then be identified for instance segmentation.

Enjoy effortless innovation as Musashi AI experts manage your model with ongoing iterations and programming support.

	Anomaly Detection	Instance Segmentation
Data Requirements	20-30 Good Samples	50-100 Samples Per Defect Class
Defect Detection	Yes	Yes
Defect Classfication	No	Yes
Gauging or Measurements	No	Yes

Book a Consultation

Our experts will assess your parts, processes, and site, then demo the Musashi AI ecosystem to give you a detailed project proposal with timeline and costs.

With the Musashi AI team, get long-term access to hardware integration and software support. Stay focused on what you do best - we'll handle the rest!