UNILOGIC
Unilogic Technologies

ni Partner
SYSTEM INTEGRATION

Precision Assured – Through Machine Vision & Test Systems

AUTOMATION
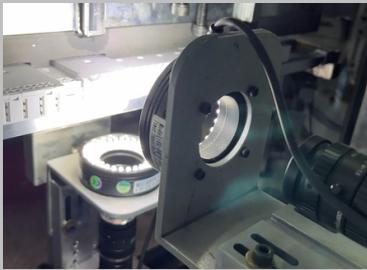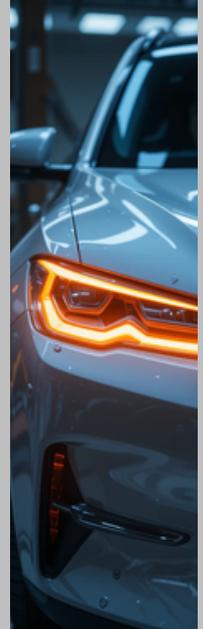
Machine Vision System

Test & Measurement

LabVIEW Consultancy
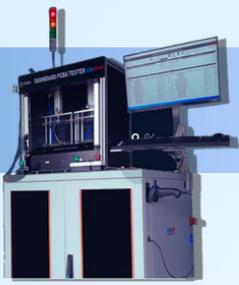
Scan for Website

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EV Dashboard Test System

Automatically tests dashboards upon placement, detecting defects with no manual intervention, ensuring accuracy and speed.

High-Precision Visual Inspection with RGB Profiling
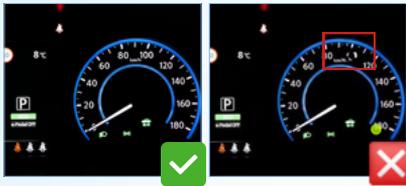
Automated Reporting and Traceability

Integrated UDS/CAN Protocol Communication

Customizable testing ensures tailored assessments

Features:

Detect and classify defects using diagnostic parameters accurately

It takes < 120s including visual inspection

Configurable and Parallel Testing (upto 8 Stations)

EOL **PCBA**

It supports both PCBA & EOL Testing (Simultaneous testing)

PCB FUNCTIONAL TESTER

The machine automates LDU and PDU testing, ensuring fast, reliable, safe validation without manual input.

Enables simultaneous testing of LDU and PDU for higher efficiency

Simulates real EV conditions to validate key vehicle functions

Tests up to 4 units simultaneously to boost throughput

Detects insulation faults and leakage using high-voltage safety testing (1400V)

Features:

High Inspection Speed (160 Parts/Hour for Both LDU & PDU)

EOL **PCBA**

It supports both PCBA & EOL Testing(Simultaneous testing)

Parallel and Configurable Test Stations

Integrates SQL, OPC UA, Excel for data logging and analysis

2D Camera-Based Inspection System

2D camera-based inspection systems provide high-speed visual analysis for defect detection, alignment, and measurement tasks.
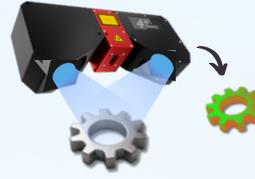
- ✓ **Customizable** Inspection Parameters
- ✓ Integration with **AI & Machine Learning**
- ✓ **High-Speed** Inspection and orientation
- ✓ **Future-Ready technologies** in Action

3D Camera-Based Inspection System

3D camera inspection systems capture depth and geometry for precise, multi-angle, non-contact quality analysis.

- ✓ **Real-Time 3D** Visualization
- ✓ Bin Picking & **Robotic** Guidance
- ✓ Supports **AI/ML** Integration
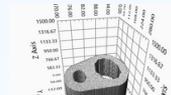- ✓ **High-Speed** Inline Inspection

Application
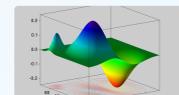
Surface Defect.

Dimensional Defects

Sorting

3D Measurement

Defect Detection

Surface Anlalysis

360° Analysis

Barcode Reader/ OCR

Colour Detection

Packaging

Assembly Analysis

Shape Verification

Robotic Arm Interface

Technologies we use

- 3D Area Scan Snapshot Cameras
- 3D Laser Line Profilers
- Smart Cameras & Deep Learning Tools
- Special lenses like OD 360 / ID 360
- Verifocal Lenses
- Telecentric & Bi-telecentric Lenses
- Machine Learning & AI

We have also worked on inspection of the Following …

Clip

LPG Seals

Welding

PCBA

FFC Connector

Packaging

Ring

Dashboard & Meters

Spark Plug

Oil Filter

Automobile parts

Seals

Valve stem seals

Lamp

Fasteners

Power Connectors

Connectors

Flanges

Brushes

Electronics

EV

Stamped Contacts

Automobile

Jewellery

Watches

Pharma

Pump
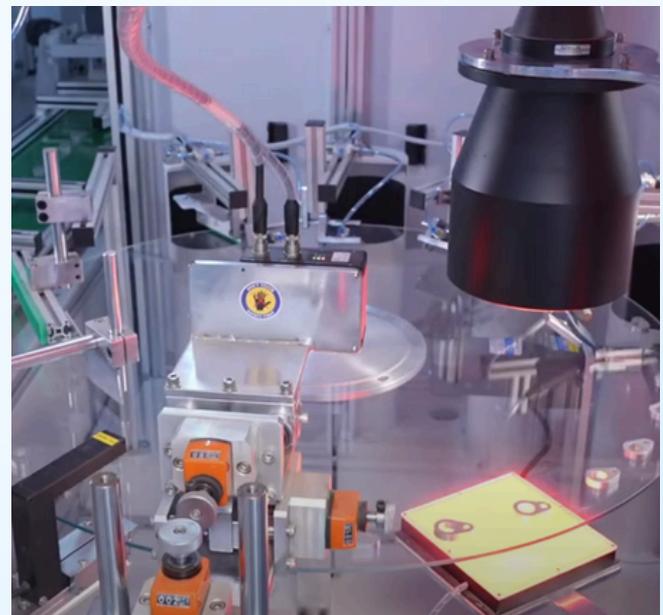
Technologies we use :

NI Platforms

LabVIEW

NI TestStand

NI VeriStand

NI LabWindows / CVI

DIAdem

InstrumentStudio

SystemLink

Flexlogger

AI Platforms

python

AI

Machine Learning

TensorFlow

OpenCV

Web Technology

node JS

Microsoft SQL Server

aws

C#

.NET
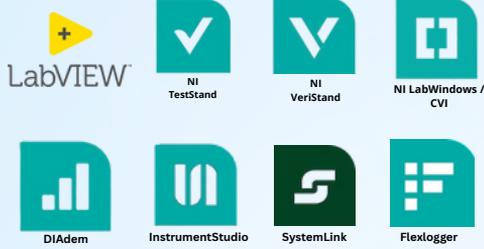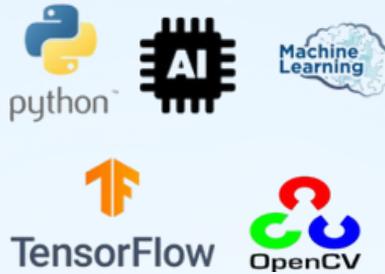
We also worked on...

High Speed 3D Inspection System

Technologies:

- High-Resolution Area Scan Cameras
- 3D Line Profilers
- Vision Software Algorithms

Features:

🔍 Inspects 60–150 parts/min
⚙️ Easy push-button operation
📊 Smart Automation & Reporting

EV Dashboard EOL Test System

Technologies:

- High-Resolution Area Scan Cameras
- UDS/CAN Communication Protocols
- Custom RGB Display Testing Software

Features:

⚙️ Parallel & Sequential Testing Modes
🔐 Multi-Level User Authentication
📊 Report & Image Logging , analytics

Automotive Audio System

Technologies:

- NI Sound PXI Cards
- CAN Communication Protocol
- Hardware-in-the-Loop (HIL) Simulation

Features:

📈 Multichannel simulation with control
🔊 Loopback and impedance checks
⬜ Repeatable regression function tests

Bin Picking Robot

Technologies:

- High-Resolution Area Scan Cameras
- Advanced Machine Vision Algorithms
- Precision Indexing with Automation Control

Features:

🔴 AI-Based Part Detection
🔲 Adaptive Gripping System
🎯 Precision Picking with Collision Avoidance

Oil filter Inspection System

Automotive Lamp Test System

O-Ring Inspection System

Automated Pump Test System

PCBA Functional Tester

Fastener Inspection System

Our Valuable Clients :

ALSTOM · ATHER · pricol · Danfoss · BOSCH · LENNOX

Tektronix · Amphenol FCi · Valeo · Mahindra DEFENCE · SKF · NXP

MAHLE · TEXAS INSTRUMENTS · SAMSUNG · River · FLOWSERVE · Oral-B · P&G

MOOG · Mahindra DEFENCE · L&T Construction · GILBARCO VEEDER-ROOT · PDF/SOLUTIONS · HARMAN A SAMSUNG COMPANY