

Smart Automation And Robotics.



01

Robotics & Automation

Welding · Assembly · Material handling ·
Dispensing · Turnkey lines

02

Digital & Industry 4.0

Python programming · IoT · Industry 4.0 ·
GUI & advanced utilities

03

Computer Vision

Welding · Sealant · Dimension · Angle &
physical-property inspection

(01) WHO WE ARE

SAAR Systems is a forward-thinking leader in automation and system integration. We specialise in delivering innovative, high-quality turnkey automation solutions that surpass industry standards.

25+ YEARS OF INDUSTRIAL EXPERIENCE	500+ ROBOTIC CELLS INSTALLED	70+ CLIENTS SERVED	300+ EMPLOYEES
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(02) CORE AUTOMATION SOLUTIONS

13 CAPABILITIES

01 Welding Solutions MIG / MAG Welding · TIG Welding · Ultrasonic Welding · Hot Plate Welding	02 Assembly Solutions Manual Assist Stations · Semi-Automatic Lines · Fully Automated Lines · Press-Fit & Riveting	03 Material Handling Machine Tending · Pick & Place · Palletising · Depalletising
04 Vision Applications Quality Inspection · OCR / OCV · 2D & 3D Scanning · Vision-Guided Robotics	05 Dispensing Solutions Adhesive Dispensing · Foam Gasketing · Grease Application · Painting & Coating	06 Metal Processing Press Tending · Deburring · Grinding & Polishing · Laser Cutting
07 Inspection & Testing Functional Test Rigs · Leak Test · End-of-Line Test · NDT Integration	08 Robotics Integration Industrial Robots · Collaborative Robots · Multi-Robot Cells · Offline Programming & Simulation	09 Software & Data Acquisition SCADA & HMI · PLC Programming · MES Integration · Big Data & Analytics
10 Integration Services Concept & Feasibility · Simulation · Mechanical Design · Electrical Design	11 Service & Support 24/7 Support · Preventive Maintenance · Spare Parts · Remote Diagnostics	12 Project Management Scope Definition · Scheduling · Risk Management · Design Reviews
13 Training & Refurbishment Operator Training · Maintenance Training · Programming Training · Cell Refurbishment	One integrator, concept to commissioning. WWW.SAARSYSTEMS.IN	

(03) OUR CLIENTS

23 MANUFACTURERS

■ (04) ADVANCED ENGINEERING

Software, IoT & Industry 4.0 — built in-house.

The code, connectivity and interfaces that make a line smart — written, integrated and supported by the engineers who commission it.



01 Python Programming

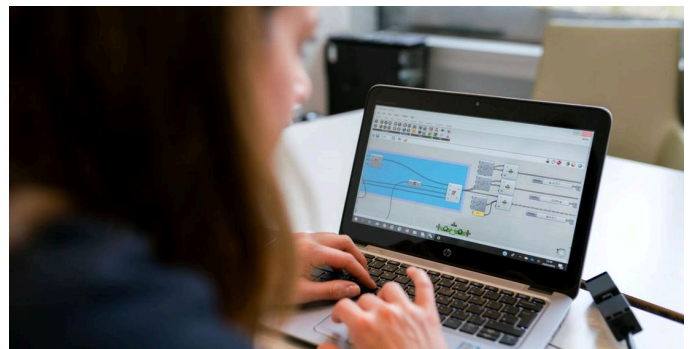
Custom Python software for the shop floor — machine and PLC communication, test automation, data processing and vision pipelines, written and maintained by automation engineers.

- PLC & Robot Communication
- Test & Measurement Automation
- Data Logging & Processing
- OpenCV Vision Pipelines
- Report Generation
- REST APIs & Integrations

02 IoT Solutions

Sensors, gateways and dashboards that connect machines — new or decades old — so you can see energy, uptime and condition in real time from anywhere.

- Sensor Selection & Retrofit
- Edge Gateways
- MQTT & OPC UA
- Energy Monitoring
- Condition Monitoring
- Remote Machine Monitoring



03 Industry 4.0

A practical route to the smart factory — connected machines, live OEE, digital traceability and data-driven maintenance, rolled out one measurable step at a time.

- Digital Readiness Assessment
- Machine Connectivity
- Live OEE & Downtime
- Digital Traceability
- MES & ERP Integration
- Predictive Maintenance

04 GUI & Advanced Utilities

Operator-friendly desktop and touchscreen applications — HMIs, recipe managers, configuration tools and reporting utilities — that make complex machines simple to run.

- Operator HMI Applications
- Touchscreen Interfaces
- Recipe & Parameter Managers
- Calibration Utilities
- Report & Certificate Generators
- User Login & Audit Trails

■ INDUSTRY 4.0 ROADMAP

01

Connect

Sensors & gateways on new and legacy machines

→ 02

Visualise

Live OEE, downtime & energy dashboards

→ 03

Analyse

Traceability, SPC & predictive maintenance

→ 04

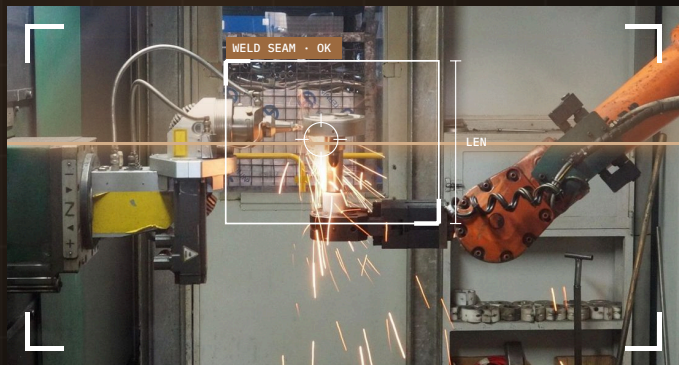
Automate

Closed-loop decisions, MES & ERP integration

05) COMPUTER VISION PROJECTS

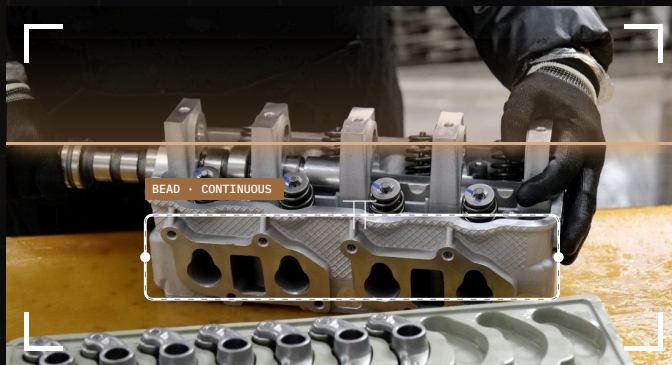
Computer Vision Inspection.

Industrial cameras, engineered lighting and our own image-processing software inspect welds, sealant beads, dimensions, angles and physical properties at line speed, then pass a clear OK / NOT-OK signal to the PLC and log the image and measurements for traceability.



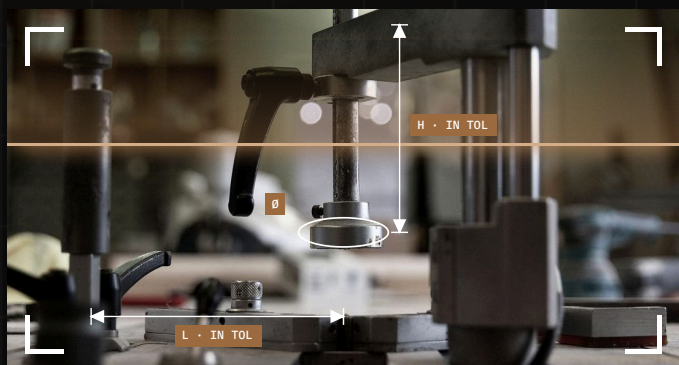
01 Welding Inspection

Seam presence, position, length and continuity — porosity, spatter and missed welds flagged at the cell.



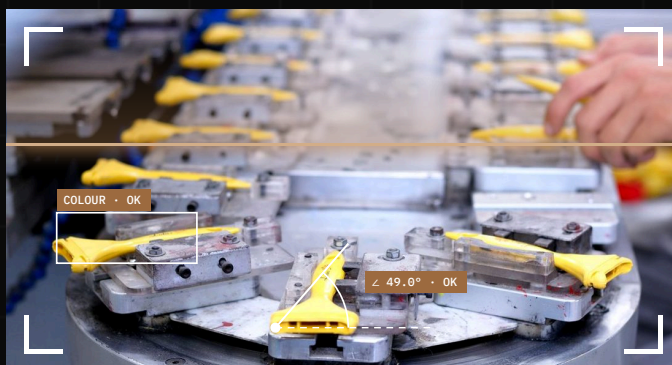
02 Sealant Inspection

Bead tracked along its full path for width, continuity, position and breaks.



03 Dimension Inspection

Non-contact measurement of lengths, diameters, hole positions and gaps against tolerance.



04 Angle & Physical Properties

Bend and part angles, orientation, shape, colour and surface condition — measured by a computer application.

01

Capture

Industrial camera & engineered lighting

→

02

Process

Python / OpenCV computer application

→

03

Decide

Measure against tolerance — OK / NOT-OK

→

04

Record

Signal to PLC · image & data traceability



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