



ARTIFICIAL INTELLIGENCE FOR MANUFACTURING

AI on the Factory Floor

Practical, production-ready AI that cuts downtime, raises quality, and turns plant data into real-time decisions — integrated with the systems you already run.

Synergy Autobotics LLC · Chicago, IL · synergyautobotics.com

WHY AI NOW

The opportunity on the plant floor

AI stops being a buzzword when it runs next to the machine. Applied where it pays off, it prevents failures, inspects every part, and answers questions in seconds — without ripping out what already works.

35%

Less unplanned downtime

100%

Inspection coverage

24/7

Real-time monitoring

From predictive maintenance to computer vision, digital twins and AI copilots — Synergy brings these capabilities into automotive, manufacturing, mining and metalworking operations, edge-to-cloud.

We bring AI where it pays off

1

Integrate, don't reinvent

We connect models to your existing PLCs, robots, MES and historians. No rip-and-replace — we focus on integration, orchestration and run-readiness.

2

Act in real time

Inference runs at the edge for millisecond decisions and offline resilience, with the cloud handling dashboards, fleet monitoring and retraining.

3

Stay reliable (MLOps)

Versioning, drift monitoring, automated retraining and audit trails keep models accurate and every decision traceable in production.

CAPABILITY 01

Predictive maintenance

Stop unplanned downtime before it happens. We model vibration, motor current, temperature and PLC tags to predict failures days or weeks ahead, turning maintenance from reactive into planned.

Alerts flow into your CMMS with remaining-useful-life and recommended actions.

38%

Fewer stops

2 wk

To first model

AUTOMOTIVE

Tier-1 stamping plant

High-tonnage presses were stopping without warning and disrupting JIT delivery. We modeled motor current and vibration to flag bearing and clutch wear early.

Result: ~38% fewer unplanned stops; six-figure annual savings.

Computer vision quality control

MANUFACTURING

Label & print verification

Mislabeled and unreadable codes risked recalls. Deep-learning vision inspected every unit inline and verified codes for full traceability.

Result: zero mislabel incidents; full code traceability.

Automated visual inspection at line speed. Our models detect defects, verify assembly and presence, and read codes — consistently, on every single part.

Results connect to PLCs for automatic reject and to your MES for traceability.

99%

Detection rate

50 ms

Per part

Digital twins & AI copilots

DIGITAL TWINS

Simulate before you touch production

A live virtual model of your line to validate logic, find bottlenecks and train operators safely. Run what-if scenarios on layout, staffing and mix without stopping output.

Result: ~30% shorter on-site commissioning.

AI COPILOTS

Plant knowledge on demand

Assistants trained on your manuals, SOPs and historian let technicians ask in plain language and get sourced answers, 24/7 — capturing tribal knowledge before it walks out.

Result: ~40% faster troubleshooting (lower MTTR).

Edge AI & MLOps

EDGE AI / IIOT

Run AI where the data is

Inference next to the machine for millisecond decisions and offline resilience. IIoT connectivity via OPC UA and MQTT; only what matters streams to the cloud.

Result: real-time on-edge decisions, no line slowdown.

MLOPS

Keep models healthy in production

Model registry, drift and performance monitoring, automated retraining and full audit trails — so accuracy doesn't silently degrade and every decision is traceable.

Result: stable accuracy across multi-plant rollouts.

PROOF

Results across industries

Anonymized project profiles — no client names or sensitive data disclosed.

AUTOMOTIVE

Predictive maintenance

Press downtime on a Tier-1 line.

-38% unplanned stops

MANUFACTURING

Computer vision QC

Label & code verification.

Zero mislabel incidents

MINING

Edge predictive models

Remote site, low connectivity.

+12% line availability

METALWORKING

Vision surface inspection

Coil & sheet defect grading.

-25% scrap from tool failures

WHY US

Why Synergy

1

Vendor-agnostic integration

We work with your stack — Rockwell, Siemens, Beckhoff, ABB, FANUC, KUKA, Azure/AWS — not against it.

2

Plant-floor experience

Automotive and heavy-industry engineers who know controls, robots and safety, not just data science.

3

Edge-to-cloud, end to end

From sensor and PLC to edge inference to cloud dashboards and retraining — one accountable partner.

4

Measurable ROI

We target downtime, scrap and labor — and prove the numbers before scaling.



Let's put AI to work.

Tell us your biggest line stoppage or quality headache — we'll scope a pilot.

LET'S TALK

Web: synergyautobotics.com

Email: info@synergyautobotics.com

Office: 205 N Michigan Ave, Suite 810, Chicago, IL 60601

