

# Numnio

AI Copilots for Manufacturing — Product Overview (2026)

## The problem

Factories generate enormous amounts of data — camera feeds, PLC telemetry, sensor streams — but most of it is never used. Quality inspection relies on manual sampling, maintenance is reactive, and yield drift is caught late. Traditional CV systems require months of retraining for every new defect class, and dashboards only show *what* happened, never *why* or *what to do*.

## The product

Numnio is a three-module AI copilot platform that turns existing factory data into operator-ready decisions:

- **VisualInspect** — sub-second defect detection on existing cameras, with plain-language defect explanations (cause, severity, suggested fix).
- **PredictOps** — anomaly detection across vibration / temperature / power telemetry, with root-cause analysis and auto-drafted maintenance briefs.
- **YieldPilot** — real-time yield monitoring with setpoint recommendations, rationale, and one-click MES application.

## Why Claude

Claude is the reasoning core of the platform, not a bolt-on. Numnio relies on four Claude capabilities:

| Capability             | Use                                                                 |
|------------------------|---------------------------------------------------------------------|
| Multimodal vision      | Defect classification and explanation on escalated frames           |
| Long-context reasoning | Correlating telemetry, logs, and maintenance manuals for root cause |

|                   |                                                                             |
|-------------------|-----------------------------------------------------------------------------|
| Tool use / agents | Operator copilot that queries MES, CMMS, and documentation securely         |
| Batch API         | Nightly factory-wide analysis: drift, supplier trends, cross-line anomalies |

## Architecture

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Edge gateways capture camera and PLC data and run a lightweight local screen. Ambiguous frames and events are escalated to the Numnio Claude layer, which returns schema-validated JSON (defect type, severity, confidence, cause, action) into the customer's existing systems.

## Pilot results

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- 99.2% defect detection rate on pilot line (vs. 93% manual sampling)
- <400ms frame-to-alert latency
- 40% reduction in unplanned downtime over 6 months
- Average yield improvement of 12%

## Deployment

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- Numnio Cloud (regional data processing)
- BYO cloud (AWS / GCP Terraform module)
- On-prem / air-gapped with private Claude endpoint

## Use cases

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- Electronics assembly — solder defect detection and root-cause analysis
- Automotive parts — surface finish inspection
- Food & beverage — foreign object detection and line efficiency
- Heavy industry — motor and bearing failure prediction