

Not another dashboard. An autonomous production system.

FactoryX is a digital production supervisor — specialist agents on one reasoning core, watching yield, throughput, and the bottleneck across every station. It catches the drift before it turns to scrap, names what's binding the ramp, and hands you the call that protects the plan — acting within your guardrails, stopping for a human wherever your policy says to.

WHAT AGENTIC MANUFACTURING OPERATIONS DELIVER

30–50%

less unplanned downtime — issues caught before they cascade

10–20%

higher throughput & first-pass yield from AI process control

24/7

every station watched — every shift, no one asking

50%+

faster root-cause across siloed test, MES & fab data

Directional outcomes from published smart-manufacturing & AI-in-operations studies (WEF Global Lighthouse Network, McKinsey, Deloitte) — your line and stack determine actuals.

What makes it different

Decisions under constraints.

Optimizes the real objective — “protect the ramp, hit the commit” — against a live bottleneck and scarce parts, not a fixed script. When supply is short it shows what gives and why.

Closed-loop control.

Sense → decide → act → verify: it watches yield and throughput, corrects the drift, and confirms the line recovered — flagging its own problem before it shows up as scrap.

Grounded in your production context.

Every number from a live tool call into MES & test; the model from your ramp plan & SOPs. It proposes, acts within guardrails, and files sensitive calls for sign-off — your policy is the gate.

Across the line

01 Watch & detect

Build-rate vs plan

Yield by station

Bin distribution

Down-station alerts

02 Predict & plan

Predicted build qty

Gap to ramp target

Supply ceiling

Binding constraint

03 Diagnose & root-cause

Rolled-throughput yield

Dominant loss stage

Bottleneck ranking

Defect Pareto

04 Decide & protect

Re-bin proposal

Reserve Bin A

Human sign-off gate

Policy-driven priority

05 Recover & optimize

Bone-pile disposition

Rework vs scrap

Bin-C recovery

Net units recovered

06 Report & audit — ramp brief, immutable audit trail & more

THE OPERATING MODEL

You own the policy. The agents run the line.

You set the rules in plain English. A reasoning core routes every question to the right specialist, which reads the live line, applies your policy, and hands back a decision that's ready to approve — pausing for a person exactly where your policy says to. It runs on top of the MES and test systems you already have, with no code.

YOUR SYSTEMS

MES

work orders & WIP

Test results

station throughput & yield

Order book / ERP

customers, configs, due dates

Binning / sort

ASIC bin distribution

Wafer / fab plan

starts vs outs

FactoryX

Reasoning core

routes every question

9 specialist agents

one per part of the line

Observations

the line watches itself

Policy & knowledge

your ramp plan & SOPs

OPERATORS & TEAM

Decision Queue

approve, reject, teach

Line Cockpit

the plant manager's view

Role portals

test eng · planner · exec

Assistant

ask in plain English



NO CODE · NO ENGINEERS · NO TICKETS

You build it. You change it. In an afternoon.

Every piece of that model is yours to shape — stand up a new **operator portal**, add a **specialist agent**, define what to **observe**, load a new **playbook**, or change a **workflow** — all in the admin console, no code and no waiting on a release. As your policy changes, the operation changes with it the same day.

THE GOVERNING PHILOSOPHY

AI proposes. A human decides.

Automation that touches allocation and the customer commit can't be a black box. FactoryX reasons over your policy — so it decides under the constraint instead of breaking on it. It acts inside its guardrails and files anything sensitive for sign-off, and the gate itself is a policy you set.

YOU SET THE POLICY, NOT THE WORK

- 1 Grounded, not guessing**
 Every number traces to a live tool call into your systems; the model comes from your docs, never fabricated. Ask "why," and it shows the source.
- 2 Human sign-off, by policy**
 Re-allocations and priority-customer calls file into the Decision Queue for a real approve/reject. AI proposes; a person decides.
- 3 Every decision, on the record**
 An immutable, time-ordered trail of every agent action, observation, and human decision — with the reasoning attached.

DASHBOARD VS. FACTORYX

DASHBOARD / RULES ENGINE	FACTORYX
Shows the number	✓ Makes the call
You correlate the signal	✓ Correlates it for you
Fixed rules & thresholds	✓ Reasons over your policy
Breaks on the exception	✓ Decides under the constraint
You watch the dashboard	✓ It watches, and acts

Same engine as StudioX Core. The same AI Missions, Enterprise Knowledge layer, and 1,300+ integrations that run every StudioX deployment — packaged for the manufacturing line. Wiring your line & MES is a fast implementation, not a rebuild; the intelligence is already built.