

MANUFACTURING OPERATIONS PLATFORM

ManufacturedOps

Plan the work, run the floor, build quality in, keep the machines healthy, and see how the plant is really performing — from one record of what happened.

PRODUCTION EXECUTION

QUALITY AND TRACEABILITY

MAINTENANCE AND ASSETS

REAL-TIME OEE

OPEN PLANT API



Pre-launch. Launching in 2026 with the waitlist open. Everything marked in progress or planned in this catalogue is exactly that.

[MANUFACTUREDOPS.COM](https://manufacturedops.com)

01 The short version

ManufacturedOps is one system for running a factory: what to make, who is making it, whether it was made right, and whether the machines are healthy enough to keep making it.

Most plants run on a patchwork. The plan lives in a spreadsheet, the shift lives on a clipboard, quality lives in a binder, maintenance lives in a logbook, and the performance number gets assembled the morning after. Every one of those is a copy of the same day, and none of them agree.

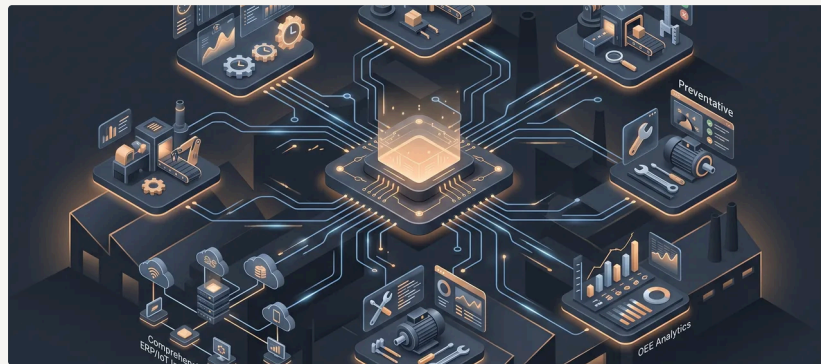
THE PROMISE

Capture the work once, where the work happens — and let the schedule, the quality file, the machine history and the performance number all come out of it.

One record, and an honest status on it

ManufacturedOps replaces the patchwork with one record. A production order — the unit of work, carrying a product, a quantity and a priority — is broken into operations at named work centres. The floor records what actually happened at each step: good pieces, scrap, setup time, run time, stoppages. Checks are recorded against the same order. Material lots — the batches or serial numbers flowing through — are linked to the orders that consume and produce them. Because it is all one record, the quality file, the machine history, the traceability chain and the performance figure fall out of the work instead of being reassembled from it.

This is a pre-launch product and this catalogue treats that as a feature, not something to hide. Production execution, quality, maintenance, material-lot genealogy, statistical process control and the performance calculation are built and working. Finite-capacity scheduling, materials planning, direct machine connectivity and two-way business-system sync are designed, sequenced and clearly labelled as not yet built. Nothing here claims adoption, because there is none to claim yet.



What that buys you

1

One model, not six

Production, quality, maintenance and performance share the same records. No exports, no nightly reconciliation, no connectors between your own modules.

3

Factors, shown with their inputs

Overall equipment effectiveness is availability times performance times quality, calculated from recorded counts, times and stoppages — and returned alongside the raw figures behind it.

10

Separately governed resources

Work centres, orders, operations, material lots, inspection plans, inspections, non-conformances, assets, maintenance jobs and downtime each carry their own permissions.

Day 1

Governance included

Role-based access, an audit timeline, multi-plant isolation, single sign-on, files, tagging and translations arrive with the product rather than as an enterprise upgrade.

Who it is for

Small and mid-sized manufacturers, roughly 50 to 500 people

The primary market. Big enough that spreadsheets and clipboards have started to hurt, not big enough to absorb a six-figure enterprise implementation that takes most of a year.

Production supervisors and machine operators

One live queue instead of a clipboard, and a touch terminal at the station that records quantities, scrap and stoppages as the job runs rather than after it.

Maintenance planners and reliability engineers

An equipment registry with real history, jobs that fit around production instead of colliding with it, and stoppages attributed to the machine that caused them.

Systems, controls and integration engineers

A headless plant API with permissions enforced at the edge, event streaming, and an AI tool surface — so the floor can join the rest of the estate instead of sitting behind a screen.

Production planners and schedulers

They turn demand into orders, routings and released work. They need the plan to reflect the capacity that actually exists, and they need the floor to trust it.

Quality engineers and quality managers

Inspection built into the step it belongs to, real control charts on the measurements that came off the line, and a defect loop that ends in a closed corrective action instead of a folder.

Plant and operations leaders

One honest performance picture across lines and sites, with the losses ranked so improvement effort lands where the money is.



03 What breaks today

None of these are exotic. They are the ordinary failure modes of a plant whose systems were bought one at a time, and they compound: late data makes the plan wrong, the wrong plan makes the floor improvise, and improvisation is exactly what the quality and traceability record cannot see.

03 The plan and the floor

The schedule is a spreadsheet that breaks on contact with reality

A machine goes down or a rush job lands, and the knock-on effect is discovered at the next stand-up rather than at the moment it happened. The floor stops believing the plan and starts running on its own priorities.

- Orders, operations, routings and work-centre capacity are structured records, so the plan is checked against real structure. The capacity board is honest today; drag-and-drop finite-capacity scheduling with automatic reflow is designed and on the roadmap, and this catalogue does not pretend otherwise.

Quality is inspected in at the end instead of built in

Defects are found after the value has been added, so the choice is rework or scrap. The quality function ends up policing the line rather than working with it.

- Inspection plans are tied to the operation and stage they belong to, results are recorded against the order, and control charts are calculated from those measurements on demand — so a drift is visible while the batch is still on the machine.

Floor data is reconstructed at the end of the shift

Counts are estimated, scrap is rounded, stoppages are remembered rather than recorded. Every number downstream inherits that error, and no one can tell which ones are wrong.

- A touch operator terminal captures good and scrap counts, setup and run time, and stoppage reasons at the station as the job runs. The record is the work, not a memory of it.

Maintenance only happens after something breaks

Unplanned downtime is the most expensive event on a floor, and reactive work always lands at the worst possible moment in the schedule.

- Every machine is a registry entry with running hours, a service interval, status and full job and stoppage history, and preventive work is planned against production rather than on top of it.

The numbers, the trail, the bill

Nobody agrees what the performance number actually is

Two people quote two figures for the same shift because they were assembled from different sources with different assumptions.

Improvement arguments become arguments about the data.

- Availability, performance and quality are aggregated from the real counts, times and stoppages already recorded, and returned with those inputs attached — so the figure can be checked rather than believed.

The floor and the rest of the business do not speak

Master data is re-keyed, confirmations go back by overnight file, and the plant is invisible to everything from planning to finance until someone types it in.

- The whole product is a headless API with permissions enforced at the edge and event streaming underneath, so integrations are additive. Two-way business-system sync and direct machine connectivity are the next major increments and are labelled as planned.

A recall question costs a fortnight of spreadsheet archaeology

Scope creeps outward because nobody can prove where a suspect batch stopped, so the safe answer is always to pull more than necessary.

- Material lots carry a parent lot and are tied to the orders that consume and produce them, so a genealogy tree is a traversal of real links. Quarantine one lot and every descendant is flagged, with containment stated plainly when nothing consumed it.

Every capability you actually need is a separate purchase

Traceability is an add-on, routings are an add-on, the shop-floor app is an add-on, and the honest monthly cost is several multiples of the advertised one.

- Execution, quality, maintenance, traceability and the performance calculation are one product on one model. Plans differ by capacity and governance, not by which half of the factory you are allowed to run.

What you get

Nine building blocks, all sharing one set of records. The vocabulary below is the product's own — a work centre, a production order, a routing operation, a material lot — because those are the words on the screens and in the API.

PLAN

Production orders, operations and routings

A production order carries a product, a quantity, a priority and a validated lifecycle from planned to released to in progress to completed, with hold and cancel. Its routing is the ordered set of operations, each dispatched to a work centre and each recording its own good and scrap counts and timing.

FLOOR

Work centres and the operator terminal

A work centre is a machine, cell or station with a type and a capacity — where work is dispatched and where performance is measured. A touch-friendly terminal at the station clocks jobs on and off, reports quantities and scrap, shows the work instructions, and flags an issue without anyone leaving the line.

MATERIAL

Material lots and genealogy

Lot- and serial-controlled material moves through a status lifecycle — available, allocated, consumed, quarantined, scrapped — and links to the orders that consume and produce it. Each lot carries its parent, so the pedigree tree is a real traversal rather than a report.

What you get, continued

QUALITY

Inspection plans, inspections and control charts

Inspection plans are defined by stage — incoming, in-process, final — and tied to operations, so the right checks appear at the right step. Results are recorded against the order with the measurements behind them, and control charts with three-sigma limits and capability indices are calculated on demand from those measurements.

LOOP

Non-conformance and corrective action

A failed check raises a non-conformance against the order, lot or operation with a severity and a status. The material is dispositioned — use as is, rework or scrap — and a corrective or preventive action is opened, assigned and driven to closure with the trail intact.

ASSETS

Equipment registry and maintenance work orders

Every machine is an asset with a tag, manufacturer, model, serial, status, accumulated running hours, a preventive interval, install and last-serviced dates, its work centre, and its full job history. Preventive and reactive maintenance work orders run their own validated lifecycle.

LOSSES

Downtime events and the Pareto

A stoppage is recorded against a work centre or asset with a duration and a reason from a controlled list. Downtime minutes are grouped by reason in descending order with a cumulative line, so the biggest loss is unmissable rather than anecdotal.

PERFORMANCE

The andon board

One aggregate query spans orders, operations, stoppages, non-conformances and lots and returns availability, performance and quality as percentages plus the product of the three, alongside the raw counts and minutes behind them. The board renders that with a refresh interval you control.

API

One governed plant interface

Everything the screens do is available over a single GraphQL API. Every operation carries a permission directive enforced at the gateway before a request reaches your plant records, and every mutation is attributable in the activity timeline.

Put to work

Sixteen scenarios across the roles that share a plant. Each one names honestly whether it describes what ships today or what is still being built — because a manufacturing buyer who discovers the difference after signing will not forgive it.

PRODUCTION PLANNER

Build a production order the floor can actually run

One structured record that execution, quality, traceability and the performance figure all hang off, with no re-keying anywhere downstream. Available today.

PRODUCTION SCHEDULER

Sequence against the capacity that exists

An honest picture now, and a clear next increment. Drag-and-drop finite-capacity scheduling with automatic reflow waits on setup, changeover and shift calendars, which the plan does not yet hold.

PRODUCTION PLANNER

Turn a stack of demand into a feasible week

The gap between what we want to make and what we can make closes before the first job hits the floor. Demand intake, bill-of-material explosion and materials planning are on the roadmap, not shipped.

MATERIALS MANAGER

Keep every lot accounted for

The groundwork for genealogy laid as a by-product of ordinary material handling, not as a separate traceability project. Available today.

05 Material and the floor

MATERIALS MANAGER

See a shortage before it stops a line

The designed flow models multi-level bills of material and routings, tracks lot- and serial-controlled stock across raw stores, work in progress and finished goods, and checks availability against the plan so a looming shortage appears as a flag on the schedule.

- Early enough to expedite, substitute or resequence. Material lots and their genealogy ship today; stock balances, reorder rules, bills of material and materials planning are on the roadmap.

MACHINE OPERATOR

Record the job without leaving the station

A large-button, touch-friendly terminal sits at the work centre. The operator clocks on to a job, sees the work instructions and drawings for that operation, reports good and scrap counts as they go, and flags a tool change, a quality concern or a material problem in a couple of taps.

- Accurate capture at source on hardware that survives a factory floor, and a voice for the operator the moment something goes wrong. Shipping progressively.

PRODUCTION SUPERVISOR

Run the shift from one live queue

Planned orders are released, operations are dispatched to the right work centres, and each order advances through its routing — released, in progress, completed — with good and scrap quantities and timing stamped at every step by the people doing the work.

- Live floor status as a by-product of doing the job in the system, and the same data feeding performance and traceability with nothing re-entered. Available today.

CONTROLS ENGINEER

Let the machines report themselves

The designed capability connects machines over open industrial protocols so cycle counts, run, idle and down states and stoppage timings arrive automatically. Where a stoppage needs a reason, the operator confirms it at the terminal, but the timing and the counts are captured by the equipment itself.

- Machine connectivity is planned, not shipped, and this is stated deliberately: it sits ahead of the AI work rather than behind it, because triage over hand-typed counts is only as good as the typing.

Quality and traceability at work

QUALITY ENGINEER

Put the check where the work is

The bind. A check that lives in a separate quality system is a check that happens late, or in parallel, or not at all.

- Quality becomes part of execution rather than a parallel process to reconcile. Available today; a gate that blocks a job from advancing until its check is complete is shipping progressively.

QUALITY MANAGER

Close the loop so the defect does not come back

The bind. Finding a defect is the easy part. Proving it was fixed, to an auditor, eighteen months later, is not.

- One-off firefighting turns into systematic improvement, and the evidence an auditor asks for is already assembled. Available today.

QUALITY ENGINEER

Catch a drift while the batch is still on the machine

The bind. A process wandering out of control is obvious in hindsight and invisible in the moment, unless something is charting it.

- The action is wired to the signal: a banner states how many points are out of control and offers a pre-filled non-conformance linked to the offending inspection. A person still presses the button. Only the single-point-beyond-limits rule is implemented; trend, run and zone rules are a later increment.

COMPLIANCE LEAD

Scope a recall from one suspect lot

The bind. Answer a recall question with free text and a language model and you get a plausible paragraph. Auditors do not accept plausible.

- Scope rests on real parent-child links you can check line by line, and containment is stated plainly when nothing consumed the suspect lot. Trace upstream to where a unit came from or downstream to what it became.

From one machine to the whole estate

MAINTENANCE PLANNER

Service the machine before it takes the line down

The bind. Preventive maintenance on a fixed calendar services the machines that did not need it and misses the one that did.

- A usage-based signal, honestly labelled: it says this machine is most of the way through its interval, not this bearing will fail on Thursday. Risk scoring on top of the same records is designed and on the roadmap.

OPERATIONS DIRECTOR

Run a network of plants under one set of rules

The bind. A single plant is hard enough. Five plants with five conventions is five different truths and no way to compare them.

- Sites stay isolated, comparable and governed at the same time. The oversight model ships today; cross-site benchmarking analytics are still being built.

PLANT MANAGER

Rank this shift's losses before the stand-up

The bind. Everyone can describe the shift. Nobody can rank it, so improvement effort follows whoever argued hardest.

- A database aggregate correct at any volume, not a capped client-side sum over the first page. Walk in and see honestly where the shift went.

SYSTEMS AND INTEGRATION LEAD

Connect the floor to the rest of the estate

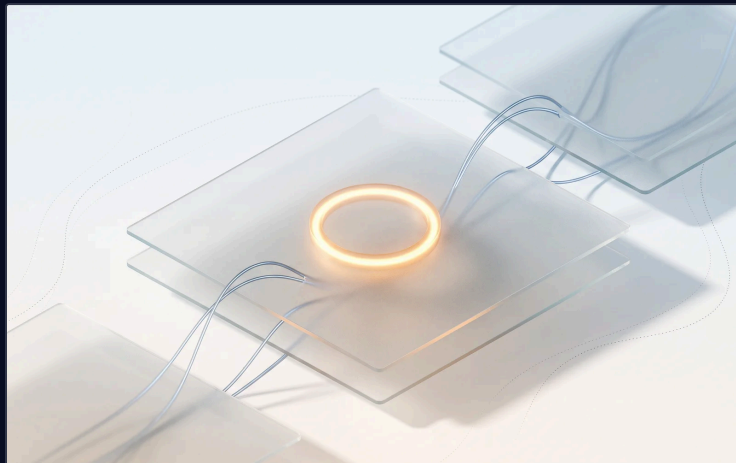
The bind. A manufacturing system that cannot talk to anything else is an island with better paperwork.

- The floor becomes a first-class participant in the estate. Two-way business-system sync for orders, bills of material, stock and confirmations, and analytics push to a warehouse, are on the roadmap.

06 Built AI-native

The plant does the arithmetic. The AI reads it back to you.

In a factory, a confidently wrong number costs metal. So ManufacturedOps builds the maths first and puts the model on top of it, never the other way round. Overall equipment effectiveness, three-sigma control limits, capability indices and lot genealogy are all calculated in the service from your own recorded counts, measurements and stoppages, and they come back with the inputs attached. Any AI answer sitting above them can therefore be checked, line by line, against the figures it claims to be describing.



06 Small, useful, and honest about the rest

That ordering is the whole design. It keeps the AI small and useful: it ranks, explains, narrates and drafts, but it does not measure. An assistant is mounted on every ManufacturedOps screen and knows the exact record you have open — nine detail-page patterns resolve to a production order, work centre, material lot, inspection, non-conformance, asset, maintenance work order or downtime event, and fifteen list and dashboard patterns resolve to the board you are on. The payload is deliberately thin: the page, an entity type and identifier, and a timestamp. No measurement values, no operator names, no order contents travel with the question.

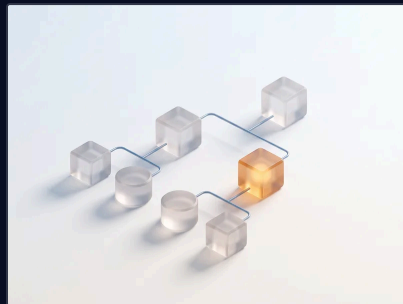
Then there is the honest part, which matters more than the pitch. Today the assistant is mounted, context-aware and metered, and a tool server exposes thirty-five typed plant operations to any compatible AI client under the same permissions as a person. What is not built is the judgement layer: no loss triage, no sequencing proposal, no maintenance risk score, no root-cause draft, and no autonomous loop. Those are designed, ticketed and sequenced behind shared platform work that gives every AI decision a record of what it read, what it proposed and what it cost. Until that exists, this document publishes no accuracy or time-saved figures, because there is no test set to earn them with.

Four things that make it work



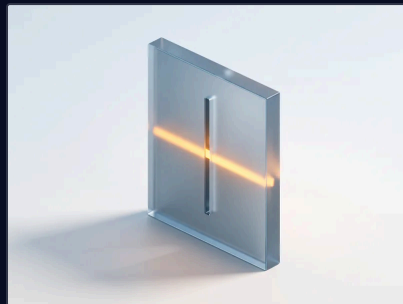
The numbers are measured, not guessed

Effectiveness factors, control limits and capability indices come from your recorded counts and measurements and arrive with the inputs, so anyone can check them. When specification limits are missing, the service returns nothing rather than a made-up index.



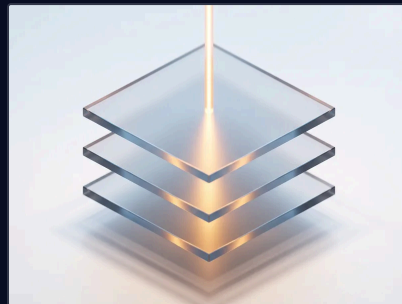
A plant an assistant can actually read

Work centres, orders, material lots, non-conformances and assets are stored with their relationships — lot to order, lot to parent lot, asset to work centre — so structure can be followed rather than inferred from prose.



Permissions an agent cannot talk past

An assistant turn or an outside agent runs as you and reaches exactly what you reach. There is no separate AI login to issue, no allow-list to maintain, and nothing to leak.



One plant, whether a person or an agent asks

Screens, the in-app assistant and external agents all invoke the same operations through the same gateway, so there is no second copy of your plant to keep in step and no shadow API with different rules.

What the AI can actually do

Assistant on every plant screen

A launcher sits in the corner of the dashboard, the andon board, production, the schedule, the operator terminal, work centres, materials, traceability, quality, maintenance and integrations.

Shipped. Ask in plain language without leaving the job you are on.

Effectiveness calculated from what the floor recorded

Availability, performance and quality, and the product of the three, aggregated from real good and scrap counts, setup and run minutes and logged stoppages, returned with those inputs and with downtime by reason.

Shipped. A database aggregate, correct at any volume.

It knows the record you have open

Nine detail screens resolve to the exact order, work centre, lot, inspection, non-conformance, asset, maintenance job or stoppage; list and dashboard screens resolve to the board.

Shipped. Why is this behind means this order, and it stays right as you navigate.

Three-sigma control charts with capability indices

Mean and range, individual and moving-range, proportion and count charts, with per-point limits where sample size varies, and capability measured against the plan's own specification limits.

Shipped. Calculated on demand from your measurements, never stored and never estimated.

Deliberately thin context payload

The page, an entity type and identifier, viewport and a timestamp travel with the prompt.

Measurements, operator names and order contents do not.

Shipped. Context without exporting the plant.

Out-of-control flagging

Points beyond the control limits come back explicitly flagged with their inspection identifiers, and the chart states how many there are.

Shipped, with one rule. Trend, run and zone rules are a later increment.

Detect, link, trace, expose

One-click non-conformance from a bad point

The banner offers a non-conformance pre-filled with the chart type, the characteristic and the violation count, linked to the offending inspection.

Shipped. The plant detects, a person decides — which is precisely the slot AI triage is designed to fill.

The plant stored as linked records

Work centres, orders, material lots, non-conformances and assets are registered into the workspace knowledge graph with their relationships.

Shipped. A question about what an asset ran last week walks the plant rather than scanning screens.

Lot genealogy with suspect spread

An order's lots build into a family tree by parent lot. Quarantine or scrap one and every descendant is flagged as affected with a live count, or containment is stated when nothing consumed it.

Shipped. Recall scope rests on real links rather than a narrative.

Thirty-five typed plant tools for AI clients

Get, list, create, update, archive and transition operations across work centres, orders, routing operations, material lots, inspections and plans, non-conformances, assets, maintenance jobs and downtime, plus four domain resources and two runbook prompts.

In progress. Built and pipeline-ready, deliberately unpublished while the product is pre-launch.

Directional trace

From any node, trace upstream to where material came from or downstream to where it went, joined to the routing operations and inspection events of the order.

Shipped. The as-built story of a unit on one screen.

Per-question AI metering

Every assistant turn counts against your workspace AI allowance, enforced centrally rather than trusted to the browser.

Shipped. AI spend is metered like any other platform resource.

06 Designed, ticketed, not yet built

Grounded plant answers

Teaching the assistant to fetch your own effectiveness figures, charts and genealogy directly, so it answers about the plant rather than about the workspace.

Roadmap. Today it knows which record you are on but cannot yet look your numbers up for you.

Predictive maintenance risk scoring

Score clustering stoppages, a worsening corrective-to-preventive ratio and recurring degraded status to rank which machine is drifting, then draft the job with the evidence attached.

Roadmap. There is no model and no scoring inside the product today.

Loss triage and ranking

Given the same aggregates, separate a chronic small stop from a one-off breakdown, tie a quality loss back to the plan and characteristic that drifted, and notice downtime creeping up over five shifts.

Roadmap. Designed and ticketed; nothing of the kind runs today.

Root-cause drafting on a non-conformance

Propose the likely cause from the order, machine, operator and lot behind a failing inspection, and draft the narrative for review.

Roadmap. Root cause, corrective action and disposition are fields a person fills in today.

Schedule sequencing proposals

Read the order book, routings, work-centre capacity, priorities and planned maintenance, then propose a sequence as a reviewable record a scheduler accepts or rejects.

Roadmap. Also blocked on setup, changeover and shift calendars that the plan does not yet hold.

Shift-cadence watch

A loop that checks effectiveness, downtime and at-risk orders on a shift cadence and raises what changed instead of waiting to be asked.

Roadmap. Nothing scheduled or autonomous runs in the plant today.

What keeps it in bounds

Every AI request runs as you

An assistant turn or an external agent call arrives with your identity and reaches exactly what you reach, checked at the gateway before it touches a plant record. There is no AI service account with wider reach.

Your plant records are not training data

Prompts and production, quality, maintenance and operator records are never used to train, tune or evaluate a public model. That commitment is written into the published AI policy, not just implied.

Assistive, not autonomous, by policy

Outputs are suggestions, scores, summaries or drafts that a person reviews before anything affects a production, quality, maintenance or safety outcome. The one detect-to-act loop shipping today follows exactly that shape.

The reference travels, the data stays

Page context is the route, the page, an entity type and identifier, viewport and a timestamp. Measurement values, operator names and order contents are not shipped alongside the question.

Metered per turn against a workspace allowance

AI operations count against a plan allowance — from twenty-five a day on the free tier up to pooled tens of thousands on the largest flat-fee plan — enforced centrally, with the provider and model recorded for metering only.

Tools declare their intent

Every plant tool is annotated read-only or destructive from its operation, so a compatible AI client can warn a user before a call that archives a work centre or transitions an order.

And what is still missing

Writes go through the same permissioned actions

There is no privileged AI write path. An agent creating a maintenance job uses the same authorised mutation and the same validated lifecycle transitions a person uses, and the same audit trail records it.

Confirmation before a destructive tool runs

In progress, and stated as such. The gate exists at the platform layer but is not switched on for ManufacturedOps yet, so destructive tools still execute on first call.

A record for every AI decision

Roadmap. What an agent read, what it proposed, which model answered, what it cost and whether you accepted it — kept for rejected runs too. None of it exists yet, which is why no AI decision is autonomous today.

A test set that gates every AI change

Roadmap. Before any accuracy or time-saved claim is made, a versioned evaluation set has to exist that each change must pass. It does not, which is why this catalogue publishes no such figures.

Model choice and bring-your-own-key

Not available today. The assistant runs on the shared platform AI service; the model is not selectable and a bring-your-own-key path is planned rather than shipped.

The substrate is deterministic on purpose

Effectiveness, control limits, capability and genealogy are computed, not inferred, so every AI statement above them can be verified against the figures rather than trusted.

06 Reachable from, and in numbers

REACHABLE FROM

- A floating assistant launcher on all fourteen ManufacturedOps screens
- Production order, work centre, material lot, inspection, non-conformance, asset, maintenance work order and downtime detail pages
- The real-time andon board and the quality dashboard
- The touch operator terminal at the work centre
- The finite-capacity schedule board
- Traceability and genealogy, including the suspect-spread view
- Maintenance, with per-asset due progress and the downtime Pareto
- Any compatible AI client, through the typed plant tool server
- The governed plant API itself, under the same permissions as the screens

IN NUMBERS

- Thirty-five typed plant tools cover work centres, production orders, routing operations, material lots, inspections and plans, non-conformances, assets, maintenance work orders and downtime, plus a health probe
- Four domain resources and two runbook prompts ship alongside the tools, for a production-order runbook and a quality-and-maintenance flow
- Nine detail-page patterns and fifteen list and dashboard patterns resolve into typed assistant context
- Four chart families are implemented: mean and range, individual and moving-range, proportion and count
- Control limits are three-sigma, with within-subgroup variation estimated using the standard bias-correction constants
- Capability is reported four ways, short-term and long-term, against the inspection plan's own specification limits
- Exactly one out-of-control rule is implemented today: a single point beyond the limits
- Ten plant resources carry separate permissions, and four of them withhold read from view-only roles because they name an individual

What the AI does not do yet

What the AI does not do yet, stated plainly. There is no AI inside the manufacturing features themselves: no loss triage, no sequencing engine, no maintenance risk score, no root-cause drafting and no autonomous loop. The assistant is mounted, context-aware and metered, but it cannot yet query your own effectiveness figures, charts or genealogy, so treat it as a capable general workspace assistant that knows which record you have open rather than a shop-floor expert. The plant tool server is built but unpublished while the product is pre-launch, and its confirmation gate for destructive tools is not switched on. There is no per-decision AI record and no versioned evaluation set, which is exactly why this document quotes no accuracy or productivity numbers. Everything marked shipped above is arithmetic or governance, not inference — and AI triage will get materially better the moment machines report themselves, which is why the connectivity work is sequenced ahead of the agent work rather than behind it.

Who does what

Six roles are seeded into every plant automatically — nobody builds them by hand — and each one is a deliberate slice of the ten permission-controlled resources. Four of those resources name an individual, so read access to them is withheld from view-only roles by design rather than by convention.

Plant manager

Effectiveness, quality and on-time delivery across every line — and accountability for all three.

Full control of plant structure, production, quality and maintenance inside the plant, and the only role that sees quality evidence and equipment history side by side.

- Set up plant structure and work centres
- Own the full order and routing lifecycle
- Read quality evidence end to end
- Read equipment and maintenance history
- Manage material lots and dispositions
- Review the activity timeline

Production lead

The plan-to-floor spine, and keeping the shift moving when reality changes.

Plans production, maintains work centres and routings, and releases and dispatches work to the floor. Planners and shift supervisors share this role because the product enforces the same resources for both jobs.

- Create and archive work centres
- Build and release production orders
- Add and update routing operations
- Manage material lots
- Log stoppages with reason codes
- Observe inspection plans and equipment

Quality engineer

Whether the process is in control, and whether every defect ended in a closed action.

Authors the checks and owns the defect loop end to end, and can quarantine or release material without being able to reshape the plan or the plant structure.

- Define inspection plans by stage
- Record and review inspections
- Read control charts and capability
- Raise and disposition non-conformances
- Drive corrective actions to closure
- Quarantine and release material lots

Who does what, continued

Maintenance lead

Equipment health, and never colliding with a critical run.

Manages the equipment registry, preventive and reactive work orders and downtime records, and can see the production schedule it is servicing around without being able to change it.

- Maintain the asset registry
- Plan preventive work by interval
- Raise and transition reactive jobs
- Record downtime with reason codes
- Read the production schedule
- Track per-asset due progress

Shop-floor operator

Getting the job recorded correctly without leaving the station.

Works at the point of execution — records operation progress and scrap, performs in-process checks and flags stoppages — and reads the queue and the running lot without ever creating orders or setting dispositions.

- Clock on and off a job
- Record setup and run time
- Report good and scrap counts
- Capture in-process checks
- Log a stoppage with a reason
- Read the queue and running lot

Plant viewer

Following how the plant is running without touching it.

Read-only visibility into orders, work centres, materials, inspection plans, equipment and downtime, with no write path anywhere and deliberately without the individually attributed work records.

- Read orders and work centres
- Read material lots and genealogy
- Read inspection plans
- Read equipment and downtime
- See plant roll-up figures
- No write access anywhere

Under the hood

ManufacturedOps is headless and API-first. Everything the screens do is available over a single GraphQL interface with cursor-paginated collections, and the web experience is one client of that interface rather than a privileged path into a hidden one. That is a design decision with a commercial consequence: exposing the plant to a business system, a warehouse or an AI agent is a matter of naming operations, not rebuilding the product.

The product is a composed part of a larger platform rather than a monolith with an API bolted on. Identity, permissions, tenancy, billing, quotas, files, tagging, conversations, notifications, scheduling, workflow, export, translations and the audit timeline are shared services the product consumes. Most standalone manufacturing suites have to build or acquire that layer; here it arrives with every release, which is why role-based access and an audit trail are not an enterprise upsell.

The plant model itself is relational and explicit. Production orders, routing operations, work centres, material lots with their parent links, inspection plans and inspections, non-conformances with disposition, root cause and corrective action, assets, maintenance work orders and downtime events are real entities with validated lifecycle transitions — not configuration inside a generic app builder. Genealogy is a traversal of those links, and the effectiveness aggregate is a database roll-up over them.

THE SPLIT THAT MATTERS

Authentication and authorisation happen at the API gateway, before a request reaches your plant records. Every query and mutation carries a permission directive that the gateway reads from the composed schema and enforces, returning a refusal before the manufacturing service is ever called. The service itself never validates a token and never re-implements access control — which means there is exactly one place where a permission decision is made, and it is the same place for a screen, an integration and an AI agent.

Capability by area

Plant model

Ten first-class entities with validated status lifecycles, self-referential material-lot parentage, and cursor-paginated collections across the whole surface.

Effectiveness aggregation

One operations-summary query spans orders, operations, downtime, non-conformances and lots and returns availability, performance and quality with the raw counts and minutes behind them, plus downtime grouped by reason in descending order.

Statistical process control

Mean and range, individual and moving-range, proportion and count charts computed on demand from recorded measurements, with three-sigma limits, per-point limits for varying sample sizes, and short- and long-term capability indices against plan specification limits.

Genealogy traversal

Parent and child lot links merged from two sources by identifier into a pedigree tree, with derived suspect propagation and directional upstream and downstream trace.

Knowledge graph

Work centres, orders, material lots, non-conformances and assets registered with their relationships — lot to order, lot to parent lot, asset to work centre — so structure is followable rather than inferred.

Event streaming

Domain events are published on a stream so downstream integrations, analytics sinks and notifications are additive rather than a change to the write path.

Front end

A modern React and TypeScript application built from shared design tokens with dark, light and high-contrast themes, keyboard shortcuts, a command palette, screen-reader semantics and full internationalisation.

AI tool surface

Thirty-five typed plant operations, four domain resources and two runbook prompts exposed to compatible AI clients, each call routed through the same gateway and the same permission checks as a human session.

What it speaks, what it plugs into

OPEN STANDARDS IT SPEAKS

- GraphQL over HTTP, with a schema you can introspect and paginate
- OpenID Connect and OAuth 2.0, including device-code flow for terminal and kiosk clients
- OAuth client credentials for machine-to-machine integrations
- SAML and SCIM for enterprise identity and user provisioning
- Model Context Protocol for AI clients and agents
- Webhooks with delivery history and retry
- CSV and JSON export, with scheduled exports on larger plans
- Signed-URL file access for drawings, work instructions and certificates
- Locale-aware dates, numbers, units and right-to-left layout
- OPC UA, MQTT and direct programmable-controller tags — planned, not shipped

PLUGS INTO

- Enterprise resource planning systems, two-way for orders, bills of material, stock and confirmations — planned
- Machine and sensor connectivity for automatic counts, states and stoppages — planned
- Business intelligence and data-warehouse push — planned
- Identity providers over OpenID Connect and SAML, with directory provisioning
- AI clients and agents through the typed plant tool server
- Shared file storage for drawings, work instructions and certificates
- Workspace-wide tagging shared across orders, assets and lots
- In-app, email, push and webhook notifications for stoppages, quality holds and approvals
- Inline comment threads on orders, non-conformances, assets and inspections
- Calendar and scheduling services behind shift calendars and preventive intervals

How it deploys

Managed multi-tenant

The default. Strict per-workspace isolation, no infrastructure to run, and every release delivered without a plant upgrade project.

Dedicated tenant

Available on Enterprise for organisations whose procurement or regulator requires isolation beyond logical separation.

Self-hosted and edge

Available on Enterprise, including on-premises edge deployment for sites that cannot depend on a wide-area link during a shift.

Data region selection

Shared default region on all plans; a selected residency region, customer-managed keys and private networking are Enterprise options.

Free evaluation

A forever-free tier with no card required, sized so a real plant workflow can be completed end to end before any budget conversation.

Progressive rollout

Feature flags scope new surfaces per plant or per workspace, so a capability can be proven on one line before it reaches the network.

09 Security & trust

Manufacturing data is a mix of commercial secrets, regulatory evidence and individually attributable work records. The controls below reflect that mix — and the honest statement after them reflects what has and has not been independently certified.

Permissions enforced at the edge

Every query and mutation carries a permission directive the gateway enforces from the composed schema, refusing the request before it reaches your plant records. The manufacturing service never validates a token and never re-implements access control.

Ten separately governed resources

Work centres, orders, routing operations, material lots, inspection plans, inspections, non-conformances, assets, maintenance work orders and downtime each carry their own action definitions and levels, so access is granted per resource rather than per module.

Six seeded plant roles, no inheritance

Roles are cloned into every plant automatically and reconciled on every start. Levels are strict: an editor grant never confers delete, and a viewer grant never silently escalates.

Person-attributed records withheld from viewers

Four resources name an individual — the operator on an operation with their scrap and run time, the inspector on a pass or fail, the accountable owner on a non-conformance, the technician and labour minutes on a maintenance job. Read on those is disabled for view-only roles by default.

Everything scoped to a plant boundary

Every record belongs to a workspace, and the workspace is the plant. Multi-plant networks stay isolated from one another while remaining comparable and centrally governed.

Encryption in transit and at rest

All traffic between a device and the service is encrypted with industry-standard transport security, storage is encrypted at rest, and per-environment isolation and managed secrets separate every deployment stage.

Multi-factor authentication and session control

Email verification, authenticator-app codes and passkeys, with session and device management and configurable session policies. Enforced multi-factor policy is an Enterprise control.

09 Identity, audit and limits

Single sign-on and directory provisioning

OpenID Connect single sign-on with SAML, and SCIM user provisioning. Sandbox connectors are available on lower tiers for validation; enforced production single sign-on and SCIM are Enterprise.

Data retained rather than deleted on downgrade

Data above quota becomes read-only until the account upgrades or reduces below the limit. Active quality and traceability records follow statutory and audit retention rather than being removed.

Audit and activity timeline

Every mutation is attributable with actor, target and result, filterable by actor, action or date and exportable. Retention runs from seven days on the free tier to a custom period under contract.

Free-tier abuse guardrails

Bulk-import throttles, export rate limits, suspicious-access alerts, verification before API key or application creation, and stricter limits for very new accounts protect operations data from harvesting.

Access reviews and secret management

Periodic access-review campaigns, scoped secret vaults, provider connections, user API keys and OAuth application management, all quota-bounded per plan.

Responsible disclosure

A published security contact for private reporting, so an issue can be investigated and fixed before any detail becomes public.

Quota enforcement without silent overage

Limits are enforced at the action layer. You are warned at eighty per cent and blocked at one hundred, with an upgrade or add-on offered — never an unexpected invoice.

09 Stated plainly

ManufacturedOps holds no security or industry certification today, and will not imply one. Practices are designed against SOC 2 principles and aligned with ISO 27001, and the product is built to support European data-protection rights — but aligned is not audited, and there is no current attestation to hand you. A data-processing agreement is available on request from the paid tiers, and audit streaming to a security information and event management system is an Enterprise capability. On industry frameworks: access control and a non-destructive audit trail are already in place for FDA 21 CFR Part 11, but electronic-signature capture on critical quality transitions is a planned build, not a shipped one. For ISO 9001 the position is that inspection plans, the non-conformance and corrective-action lifecycle and lot genealogy give a site everything it needs to run a certified quality system on the platform — the certification itself belongs to that site, not to us. IATF 16949 is the largest and most speculative gap: the automotive-specific artefacts are not built and are sequenced behind confirmed design-partner demand. Compliance evidence export beyond standard reporting, workflow-governed approvals on release, disposition and corrective action, and the wider industry accelerators are all roadmap.

One product, many front doors

The web application is the complete product today. Everything else in this list is specified and sequenced, and marked here with what it actually is — because an ecosystem page that lists unshipped packages as available is the fastest way to lose a technical evaluator.

Web application

The full product — planning, execution, quality, maintenance, traceability, the andon board and multi-plant oversight. Available.

Composed workspace experience

The same product surfaced inside the shared workspace shell alongside the platform's other tools, with one identity, one search and one command palette. Available.

Operator terminal

A touch-friendly, kiosk-style station interface for clocking jobs, reporting quantities and scrap, reading work instructions and flagging issues. Shipping progressively.

Plant tool server for AI clients

Thirty-five typed plant operations, four domain resources and two runbook prompts for any compatible AI client, under the operator's own permissions. Built and pipeline-ready, unpublished while pre-launch.

Documentation site

Product guides, API reference and integration tutorials. In progress.

Command-line client

Terminal-native automation, bulk operations and scriptable access against the plant API. Planned.

Clients, SDKs and community

Node.js SDK

A typed, promise-based client for shop-floor integrations, business-system bridges and custom reporting in any Node or Bun project. Planned.

Python SDK

A fully asynchronous client with multiple authentication flows, automatic token refresh and retry with backoff, for data engineering and analytics workflows. Planned.

Desktop application

A signed native build of the console for macOS, Linux and Windows, with auto-updates, for the supervisor's machine. Planned.

Mobile applications

Native iOS and Android for approvals, walk-the-floor performance checks and maintenance sign-off. Planned.

Editor and browser extensions

An editor sidebar for plant and integration engineering, and a browser side panel for quick lookups of orders, inspections and live performance. Planned.

Community hub

Question-and-answer, discussion and best-practice sharing, signed in against your own workspace identity. Planned.

11 Plans

Published, transparent tiers with a route from one line to a governed network without re-platforming. Flat fees are banded by managed operations size — active assets plus work centres — so broad participation from the floor never inflates the bill. Pricing is the published pre-launch model; it may move on design-partner feedback before general availability.

FREE

\$0 forever, no card required

Micro-workshops, single-line job shops, and anyone who wants to prove the data model before spending anything.

- The full product surface, sized for activation rather than crippled
- 15 managed assets, 1 work centre, 1 plant, 2 seats
- 50 production orders and 50 inspections a month, 3 open orders
- 5 maintenance work orders a month and downtime logging
- 1 GB shared storage, 2 integrations, 30-day analytics retention
- Community support plus one ticket a month

PRO

\$99/month, or \$79/month billed annually

Small manufacturers up to around 50 people running a single line or shop.

- 50 managed assets, 10 work centres, 5 seats
- 500 production orders and 1,000 inspections a month
- 100 maintenance work orders a month
- 25 GB shared storage, 10 integrations, 90-day analytics retention
- 250 AI assistant operations a day
- Email support with a 48-hour target response

GROWTH

\$399/month, or \$319/month billed annually

Growing manufacturers up to around 250 people running multi-line operations.

- 250 managed assets, 50 work centres, 15 seats, 3 plants
- 5,000 production orders and 10,000 inspections a month
- 2,500 maintenance work orders a month with preventive scheduling
- 100 GB shared storage, 50 integrations, 365-day analytics retention
- Advanced dashboards, scheduled reports and 25 custom roles
- Priority support, 24-hour target response, 99.5% availability target

Plans at scale

BUSINESS

\$999/month, or \$799/month billed annually

Established manufacturers up to around 1,000 people running multi-plant operations.

- 1,000 managed assets, unlimited work centres on fair use, 50 seats, 10 plants
- 50,000 production orders and 100,000 inspections a month
- 25,000 maintenance work orders a month
- 1 TB pooled storage, 250 integrations, 730-day analytics retention
- Enhanced single sign-on sandbox, 100 custom roles, approval workflows
- Priority support, 8-hour target response, 99.9% availability target

ENTERPRISE

From \$12 per managed asset per month list; \$9 per asset per month on an annual contract at 250+ assets

Regulated, multi-entity or large plant networks that need governance, isolation and contracted terms.

- Custom asset, order, inspection and maintenance quotas; unlimited seats and plants
- Enforced single sign-on and SCIM, custom multi-factor, session and IP policies
- Audit streaming, access review, legal hold and custom retention
- Data residency, customer-managed keys, private networking and multi-entity structures
- Dedicated tenant, self-hosting, air-gapped and on-premises edge deployment
- Dedicated success manager, contracted response tiers and a 99.95%+ availability target

How the commercials work

Regional pricing

Global public pricing is quoted in US dollars with four regional bands. Lower bands carry proportionally lower flat fees and Enterprise floors — in India, for example, the Pro, Growth and Business tiers are listed at ₹3,999, ₹14,999 and ₹39,999 a month, with an Enterprise floor equivalent to \$4 per asset.

No silent overage

You are warned at eighty per cent of a limit and blocked at one hundred, with an upgrade or an add-on offered. Nothing is billed by surprise, and data above quota becomes read-only rather than being deleted — with active quality and traceability records following statutory retention regardless.

Trials, terms and refunds

Free needs no card. A first paid attempt can start a 14-day Growth trial. Flat-fee tiers are monthly or annual with annual billed upfront, upgrades immediate and prorated, downgrades at period end, and a 30-day money-back window on a first purchase. Enterprise is an annual contract invoiced net-30, with multi-year and volume terms through the deal desk.

Add-ons and services

Add-on capacity is available from Pro upwards; free accounts upgrade first. Planned add-on packages cover advanced AI and analytics, a regulatory-compliance accelerator, supply-chain intelligence and industry accelerators for automotive, electronics, food and beverage and pharmaceuticals. Implementation, training and integration services are available for guided and white-glove deployments.

Why teams choose it

One model, not a suite of acquired parts

A non-conformance references the inspection, the inspection references the order, lots link to the orders that consume and produce them, and assets tie to work centres. A quality hold and a machine breakdown show up against the exact run they affected, with no connector between your own modules.

Real statistical process control, not a chart widget

Four chart families with three-sigma limits, per-point limits for varying sample sizes and four capability indices against the plan's own specification limits, calculated on demand from your measurements and returning nothing rather than a fabricated index when limits are missing.

Genealogy as a native traversal, not an add-on

Parent and child lot links are part of the material record, so forward and backward trace is a query over real relationships. Elsewhere in this market, batch and serial traceability is commonly a paid extra or simply absent.

A floor-first terminal that ships ready to use

A large-button touch terminal runs at the work centre so counts, scrap and stoppages are two taps away without a keyboard. It is a product surface, not an app you are expected to build yourself or a desktop page squeezed onto a panel.

Effectiveness computed from operational reality

Availability, performance and quality come from actual good and scrap counts, run and setup minutes and logged stoppages, aggregated in the database and returned with those inputs — not a spreadsheet, not a machine-only estimate, and not a capped client-side sum.

Governance, pricing, honesty

Governance from the free tier upwards

Role-based access on every operation, an attributable audit trail and tenant isolation apply identically whether a request comes from a screen, an integration or an AI agent — and they are not gated behind an enterprise plan.

AI grounded on arithmetic it did not invent

The effectiveness figures, control limits and genealogy an assistant would describe are computed deterministically and returned with their inputs, so any AI statement above them can be checked. The judgement layer is sequenced behind that substrate on purpose.

Priced by what you manage, not by who logs in

Flat fees banded by managed assets and work centres, with unlimited operators. Per-user and per-interface models tax exactly the behaviour a manufacturing operations platform is supposed to encourage: broad participation from the floor.

Honest status on every capability

Each capability in the product, the website and this catalogue is marked available, in progress or planned, and the gaps against stronger incumbents are named rather than glossed. That is unusual in this market and it is deliberate.

Honest answers to hard questions

You are pre-launch. Why would I bet a plant on that?

You should not bet a plant on a promise, which is why the free tier exists and why every capability carries a status. Production execution, quality, the corrective-action loop, maintenance, material-lot genealogy, control charts and the effectiveness aggregate are built and can be exercised end to end before any money changes hands. Planning, machine connectivity and business-system sync are not, and running a plant that depends on those today would be a mistake we would rather you not make.

No finite-capacity scheduling is a serious gap.

It is the largest one, and it is conceded openly. The board today is a real read-only capacity view built from actual orders and work-centre hours; drag-and-drop sequencing with automatic reflow waits on setup, changeover and shift calendars that the plan does not yet hold. If a live scheduling Gantt is the reason you are buying, the honest answer is not yet.

Our machines talk over industrial protocols. Yours do not listen.

Correct, today. Counts and stoppage reasons are entered by people, and machine connectivity is planned rather than shipped. This is why the connector work is sequenced ahead of the AI work: triage over hand-typed numbers is only as good as the typing, and pretending otherwise would produce confident nonsense.

We already run a business system. Are you asking us to replace it?

No. ManufacturedOps is deliberately system-agnostic and owns the execution, quality, maintenance and performance model rather than finance or procurement. Today the two worlds are bridged through the API; two-way sync for orders, bills of material, stock and confirmations is on the roadmap. Suites that require adopting their whole footprint are solving a different, more expensive problem.

Quality depth, certification, AI

How deep does quality really go compared with an enterprise suite?

Inspection plans, recorded inspections, four control-chart families with capability indices, and the full non-conformance and corrective-action lifecycle are built. Production-part approval, failure-mode analysis, formal audit management and multivariate control are not. Against the deepest enterprise quality suites that is a real gap; against inventory-first tools it is a large advantage.

Certifications. Do you have any?

None, and we will not imply otherwise. Practices are designed against SOC 2 principles and aligned with ISO 27001, and a data-processing agreement is available on request from the paid tiers. Electronic-signature capture for FDA 21 CFR Part 11 and automotive-specific artefacts for IATF 16949 are planned builds. If a current attestation is a procurement gate for you, we are not through it.

Is the AI real, or is it a chat box with a factory theme?

One AI surface is genuinely live: an assistant on every screen that knows the exact record you have open and is metered per question, plus thirty-five typed plant tools for external agents. Everything marked shipped in the AI section is arithmetic or governance rather than inference. Loss triage, sequencing, maintenance scoring and root-cause drafting are designed and ticketed, not built, and no accuracy figures are published because no evaluation set exists to earn them with.

12 Adoption, exit, multi-plant

The floor will not use it. They never do.

That is usually a hardware and interaction problem rather than a training problem, which is why the terminal is a large-button touch surface at the work centre rather than a dense web page on a shared desktop, and why pricing does not charge per operator. It is also why the terminal is being rolled out progressively rather than declared finished.

What happens to our data if we downgrade or leave?

Data above quota becomes read-only rather than being deleted, and active quality and traceability records follow statutory and audit retention regardless of plan. Export is available on every tier in CSV and JSON, with scheduled exports on larger plans and audit streaming on Enterprise. Nothing about the commercial relationship is designed to hold your records hostage.

Can we run this across several plants without it becoming five systems?

Yes, and that is the shape it was built for. Each plant is its own governed boundary with its own work centres, orders, assets and people, all under one platform with the same seeded roles and the same audit model. Cross-site benchmarking analytics are still being built; the oversight and isolation model is not.

Where it sits against the alternatives

VS NO-CODE SHOP-FLOOR APP BUILDERS

They give you flexibility and machine connectivity; you build the manufacturing data model yourself, app by app, and maintain it forever. Here work orders, routings, lots, inspections and the corrective-action loop are fixed entities you do not have to design. The concession is real: their machine connectivity ships today and ours does not, and their per-interface pricing suits a small pilot better than a flat fee does.

VS INVENTORY-FIRST MANUFACTURING PLANNING TOOLS

They are excellent at stock, purchasing and materials planning, and weaker on floor execution, quality depth and equipment. Here execution, quality, maintenance, traceability and the effectiveness figure are one product with no per-capability surcharge. The concession: their materials planning and commerce connectors are strengths we have not built yet, and if planning is the primary problem they will serve you better today.

VS SMALL-SHOP ENTERPRISE RESOURCE PLANNING SUITES

They cover finance and purchasing alongside light manufacturing, priced per user, with reporting rather than a floor-native terminal. Here the floor is the design centre and operators do not add to the bill. The concession: they own the commercial side of the business, which this product does not attempt, and their planning and scheduling are more mature.

Against the incumbents

VS ENTERPRISE MANUFACTURING SUITES FROM AUTOMATION VENDORS

They bring genuine depth — deep quality frameworks, earned certifications, mature machine connectivity — at the cost of a long implementation and a large services bill. Here the same execution, quality and maintenance core is self-serve with a free tier and a first order in hours. The concession: their quality depth and their certifications are ahead of us, and for a regulated site with a procurement gate that difference decides the deal.

VS LEAN EXECUTION OVERLAYS ON TOP OF AN EXISTING SYSTEM

They are strong on effectiveness, downtime and daily management and already ship execution AI, but they sit over a business system rather than owning the record. Here the work-order, routing, lot and inspection model is owned outright, which is what makes genealogy and formal quality possible. The concession: their execution AI is live and ours is designed, and on effectiveness and maintenance the two are roughly at parity.

VS MANUFACTURING MODULES INSIDE OPEN-SOURCE BUSINESS SUITES

They offer enormous breadth for the price and bolt shop-floor depth onto a general model, usually self-hosted with the server operations that implies. Here the equipment layer, the effectiveness calculation and the touch terminal are native and the service is managed with governance inherited. The concession: their functional breadth across the whole business is far greater, and their ecosystem of connectors is deeper.

START TODAY

See it against your own plant before it launches

ManufacturedOps launches in 2026 and the waitlist is open now. The most useful thing you can do before then is tell us which line you would put it on first.

- Join the waitlist and get the launch sequence as it firms up
- Book a walkthrough shaped around your own routings, checks and equipment
- Bring your hardest question — the recall scope, the scrap that nobody can explain, the machine that always goes down mid-run
- Talk to us about a design-partner slot if planning, connectivity or compliance is your critical path

JOIN THE WAITLIST

manufacturedops.com

BOOK A DEMO

manufacturedops.com/contact

TALK TO SALES

sales@manufacturedops.com

GENERAL ENQUIRIES

contact@manufacturedops.com

SECURITY DISCLOSURE

security@manufacturedops.com



ManufacturedOps

ManufacturedOps is pre-launch and in waitlist mode. Capabilities marked in progress or planned are not sold as available. No plant, order, measurement or performance figure in this document is real.