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MANUFACTURING & INDUSTRIAL

THE OWNER'S PLAYBOOK

Expand Without Disruption

How manufacturing and industrial owners can protect production continuity, keep operations on schedule, and control capital programs.

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FRAMEWORK

The Five Failure Points

Where industrial capital programs break down before operations begin, and the owner-controlled responses that close the gap.

FAILURE POINT 1

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Expansion and operations competing on the same floor.

FAILURE POINT 2

Production readiness gap

Mechanical complete is not production ready.

FAILURE POINT 3

Commissioning breakdown

Multi-party, multi-system, no single source of truth.

FAILURE POINT 4

Long-lead equipment

ERP, schedule, and supplier each carry a different truth.

FAILURE POINT 5

Fragmented systems

Forecast drift compounds across every phase.

Each failure point compounds the next. The programs that close the gap are the ones with an owner-controlled system of record that sees all five at once.

INNOVATION TIMELINE

Manufacturing owners are protecting uptime, safety, production schedules, and long-term performance while new work is being commissioned.

IMPLEMENTATION TIMELINE

The next module has to start up. Equipment is being expedited. Vendors are being held to milestones. The next plant has to come online.

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Operational disruption. The production readiness gap.

1 OPERATIONAL DISRUPTION

IN THE FIELD

A new line goes in next to two lines running on a single shift. **Tie-ins** need coordinated **shutdown windows**. Construction wants 12-hour windows. Operations can give two. Safety wants stop-work authority inside the running line.

WHAT IT COSTS

- Lost shifts and forecast variance the CFO finds 30 days late
- Quality incidents charged to wrong cost codes
- Safety culture erosion when expansion and operations compete for the same floor

WHAT CHANGES

Expansion and operations sit on the same owner-controlled platform. Sequencing decisions are made against a shared calendar. The owner sees the trade-offs before they become incidents.

2 THE PRODUCTION READINESS GAP

IN THE FIELD

Construction reaches mechanical completion, but often operations isn't ready to start actually running the project. Documentation may be incomplete, systems have not been validated, training is unfinished or turnover records are still scattered across teams.

WHAT IT COSTS

- Delayed startup after the project is technically complete
- Rework between contractors, operations, quality and maintenance
- Lost revenue when new capacity is not ready when the business expects it

WHAT CHANGES

Production readiness becomes a managed outcome, not a last-minute handoff. Each asset has clear readiness criteria, open items are visible and operations can track what is ready before the contractor leaves the site.

"Construction complete is a contractor milestone. Production ready is an owner outcome. The space between them is where months disappear."

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Commissioning breakdown. Long-lead equipment dependencies.

3 COMMISSIONING COORDINATION BREAKDOWN

IN THE FIELD

Commissioning depends on contractors, vendors, engineering, operations, quality and maintenance working from the same source of truth. When tests, punch lists and turnover records live in separate tools, no one has a reliable view of what is ready for startup.

WHAT IT COSTS

- Late issue discovery during commissioning and validation
- Rework when asset data, test results and turnover records do not match
- Delayed startup while teams reconcile what was built, tested and accepted

WHAT CHANGES

Commissioning is managed against the asset record from the start. The owner can see test status, open items, documentation and turnover readiness in one place before the project reaches handover.

4 LONG-LEAD EQUIPMENT DEPENDENCIES

IN THE FIELD

Critical equipment drives the schedule, but updates often sit across procurement systems, supplier emails, ERP records and project schedules. When a date changes, the impact may not be visible until it affects construction, commissioning or startup.

WHAT IT COSTS

- Schedule delays when critical equipment arrives late or incomplete
- Budget pressure from expediting, resequencing and field workarounds
- Leadership decisions based on outdated procurement and delivery data

WHAT CHANGES

Long-lead equipment becomes part of the project control system. Purchase, fabrication, shipment, receipt, installation and acceptance dates are connected to schedule, cost and startup planning.

STARTUP DOES NOT SLIP ALL AT ONCE. IT SLIPS WHEN EQUIPMENT CHANGES, COMMISSIONING ISSUES AND TURNOVER GAPS ARE DISCOVERED TOO LATE.

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5 FRAGMENTED SYSTEMS AND FORECAST DRIFT

IN THE FIELD

Cost data lives in one system. Commitments and actuals live in another. Schedule updates, procurement status and field progress are tracked somewhere else.

By the time the capital committee sees the forecast, the report is already behind the work. Teams spend more time reconciling the numbers than managing the risk.

WHAT IT COSTS

- Forecasts lose credibility with executives and finance
- Cost, schedule and procurement risks are discovered too late
- Capital decisions are made from stale or incomplete data
- Teams build manual reports instead of controlling the program

WHAT CHANGES

The owner connects project, contract, schedule and financial data in one system of record. Forecasts update from the work itself, not from monthly reporting cycles. Leaders see the same cost, schedule and readiness picture as the teams managing the work.

WHERE ARE THE RISKS IN YOUR PROGRAM?

Check the signs you have seen in the last 12 months.

OPERATIONAL INTEGRITY RISKS

- [ ] Expansion work and active operations are competing for the same space, shutdown window or production constraint.
- [ ] A startup date changed after the contractor declared mechanical completion.
- [ ] Operations reworked a line, procedure or handoff after turnover because the asset was not ready to run.
- [ ] A commissioning punch item was discovered after operations relied on the original vendor, asset or turnover data.

INFORMATION AND VISIBILITY RISKS

- [ ] Equipment status in ERP did not match the project schedule, supplier update or capital committee report.
- [ ] The latest capital committee presentation used data more than three weeks old.
- [ ] Finance and project controls reported different cost, commitment or forecast numbers for the same program.
- [ ] Document control and asset records did not match at handover.

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ACTIVE RISKS

Your portfolio has multiple active risk patterns. A connected system of record can help you identify the highest-leverage place to intervene.

1-2

RISKS IDENTIFIED

You have visible weak points. Compare what the checklist shows with what your teams are already reporting.

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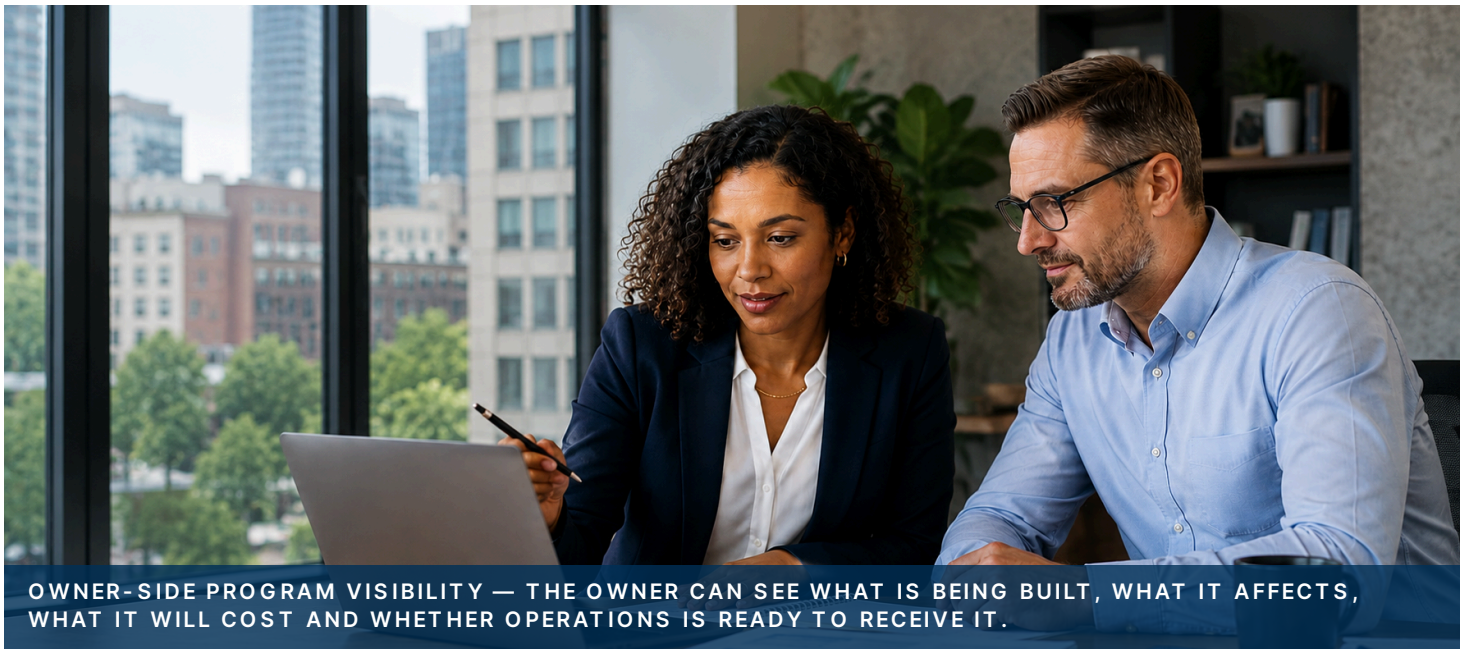
The Owner's Operating Model

Manufacturing owners need more than project controls. They need an operating model that connects capital delivery, field execution, enterprise systems and production readiness from the start.

01 **Asset-centric, not document-centric**	**AVOID** Treating turnover as a closeout task and storing critical asset information in folders, PDFs and contractor files.	**BUILD INSTEAD** Build the asset record as the work progresses. Tie drawings, submittals, inspections, tests, punch items and turnover records to the equipment, system or area operations will inherit.
02 **Owner-controlled, contractor-friendly**	**AVOID** Letting each contractor manage the work in its own tool, then asking the owner's team to reconcile the data later.	**BUILD INSTEAD** Give contractors a simple way to work inside the owner's system of record, so field updates, open items and handover data stay controlled by the owner from day one.
03 **Standardized across plants, flexible at the site**	**AVOID** Rebuilding workflows, templates and reporting structures for every project, plant or delivery team.	**BUILD INSTEAD** Standardize the program model at the portfolio level while allowing each site to reflect local scope, constraints, shutdown windows and approval paths.
04 **Connected to ERP, EAM and the data level**	**AVOID** Managing cost, procurement and asset data in enterprise systems, then manually reconciling project status in spreadsheets.	**BUILD INSTEAD** Connect project controls, ERP and EAM at the data level. Finance, procurement, project teams and operations work from the same current view of cost, commitments, equipment status and readiness.



OWNER-SIDE PROGRAM VISIBILITY — THE OWNER CAN SEE WHAT IS BEING BUILT, WHAT IT AFFECTS, WHAT IT WILL COST AND WHETHER OPERATIONS IS READY TO RECEIVE IT.

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OPERATIONAL READINESS WORKFLOW

From mechanical completion to production ready.

MECHANICAL COMPLETION

Contractor scope is substantially complete. Punch items, as-builts and required closeout documents are submitted.

OWNER GATE: READINESS CHECK

The owner confirms that the asset can move toward startup. Open items, safety requirements, quality checks and turnover records are reviewed against the asset record.

COMMISSIONING IN PROGRESS

Commissioning work is tracked by asset, system and area. Test results, vendor actions, punch items and approvals stay visible to the teams preparing for startup.

OWNER GATE: OPS SIGN-OFF

Operations confirms that the asset is ready to receive. Turnover records are complete, enterprise asset management data is populated and operator readiness is confirmed.

PRODUCTION RAMP-UP

The line is authorized for ramp-up. Operations, maintenance and project teams work from the same asset record as performance is stabilized.

STEADY PRODUCTION

The asset is operating, the record is live and the data is ready to support maintenance, compliance and the next modernization cycle.

WITHOUT OWNER CONTROL

Mechanical completion becomes a handoff instead of a readiness checkpoint. Issues surface during ramp-up, teams lose time reconciling records and production readiness becomes a last-minute scramble.

01 — PERSISTENT ASSET RECORD

From design through operations

The asset record is built as the work progresses, not reconstructed at closeout. Operations receives the same record the project team used to build, test and turn over the asset.

02 — DOCUMENT CONTROL

Bound to the asset, not a folder

Drawings, manuals, vendor records, certificates, inspections and approvals stay connected to the equipment, system or area they describe.

03 — ENTERPRISE ASSET MANAGEMENT HANDOFF

Clean data for operations

Asset data moves from the project record into the operations environment without retyping, spreadsheet cleanup or post-handover reconstruction.

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WHAT TO DO IN THE NEXT 90 DAYS

Start with a visible problem in one program

You don't need a multi-year transformation to get better control. Choose one program where the risk is already visible and the business impact is clear.

CHOOSE A RISK LEADERSHIP ALREADY CARES ABOUT

Start with a problem that's affecting cost, schedule, production readiness, or confidence in the forecast.

- [ ] Identify where the risk is showing up: startup delays, shutdown conflicts, late equipment, incomplete turnover, or forecast drift.
- [ ] Define the number that will show whether the problem is improving.
- [ ] Name the person accountable for moving that number.
- [ ] Review progress weekly with the teams closest to the work.

HOW YOU'LL KNOW IT'S WORKING The team can explain the risk and who's responsible in one conversation.

USE ONE PROGRAM TO CHANGE HOW THE WORK GETS MANAGED

Pick one program, one site, or one high-risk workflow. Keep the scope focused enough that the team can see what's changing.

- [ ] Move the work into a system the owner controls.
- [ ] Bring together the teams that create the risk and the teams that inherit it.
- [ ] Track the work where the risk actually lives: asset, contract, schedule, cost, or turnover record.
- [ ] Review progress against the baseline every week.
- [ ] Capture what became clearer, what stayed manual, and what needs to change before this approach can scale.

HOW YOU'LL KNOW IT'S WORKING The team doesn't need a one-off spreadsheets or extra meetings to understand the risk.

TAKE WHAT YOU LEARNED BACK TO LEADERSHIP

Use the program to show what should be standardized, what should stay local, and what the business gains by improving how the work is managed.

- [ ] Identify which parts of the workflow can be repeated across sites.
- [ ] Identify which constraints, approvals, or handoffs need to remain site-specific.
- [ ] Define the data, roles, and reporting cadence needed before expanding.
- [ ] Sequence the rollout around capital priorities and operational risk.
- [ ] Present the result with the baseline, the change, and the business impact.

HOW YOU'LL KNOW IT'S WORKING The capital committee is looking at measurable improvement from a real program, not vague expectations about a future state.

Kahua is the **enterprise construction management platform** for owners to control complex capital programs. It connects project controls, cost and document management, field workflows, reporting, analytics, security, and enterprise integrations in one environment. Owners can see what's happening across projects and portfolios without losing control of the data.

WHAT OWNERS USE KAHUA FOR

Asset-centric project management

Keep scope, commissioning, turnover, and closeout records connected to the physical assets operations will inherit.

Owner-controlled governance

Set the rules, workflows, approvals, roles, and reporting structure. Contractors can participate without owning the system of record.

Portfolio-level visibility

Give leaders one view across projects, sites, costs, schedules, risks, and readiness without rebuilding the story in spreadsheets.

ERP, EAM, and enterprise integration

Connect Kahua to the enterprise systems you already run, including ERP, enterprise asset management, scheduling, document management, business intelligence, and GIS tools.

INDUSTRIES SERVED

- Advanced manufacturing
- Automotive
- Battery
- Semiconductor
- Chemicals and materials
- Food and beverage
- Industrial processing
- Heavy industrial
- Power and utilities
- Public infrastructure
- Education
- Healthcare
- Commercial real estate
- Government facilities

ENTERPRISE-GRADE SECURITY

- SOC 2 Type II
- FedRAMP Moderate and StateRAMP authorized
- Authorized for AI in a FedRAMP environment
- ISO 27001 certified
- Role-based access control
- Single sign-on and multi-factor authentication
- Audit history and data isolation

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Want to expand your manufacturing and industrial business?

Talk to us