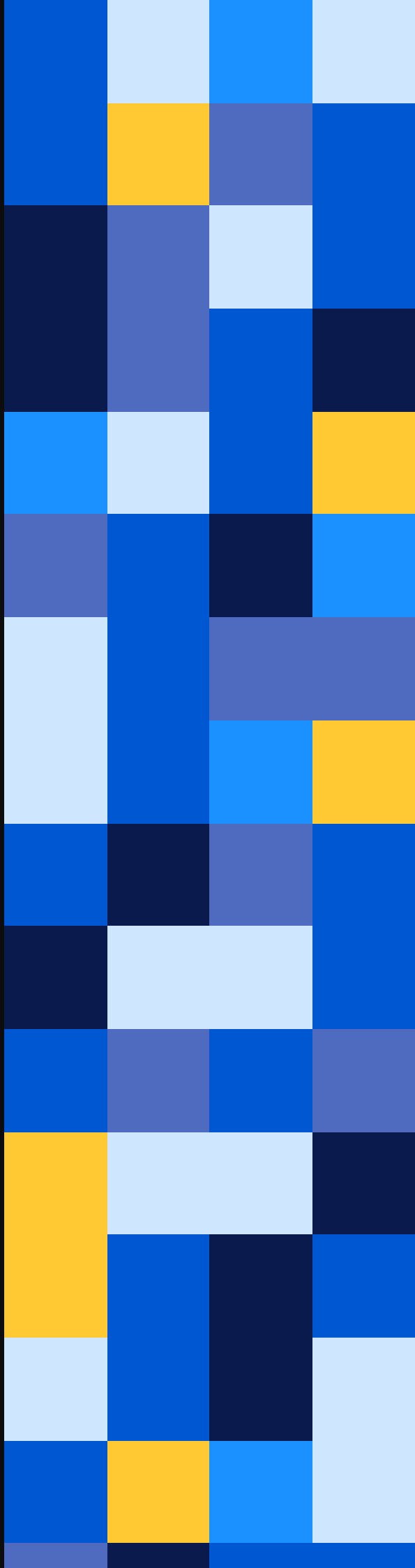
Industrial manufacturing | Xenon AI

The path to AI implementation in industrial manufacturing

A practical guide for manufacturers, from planning to the shop floor.



HUDACE

Run Smarter. Grow Faster.

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In industrial manufacturing the pressures are specific: unplanned downtime that stops the line, yield and scrap that quietly eat margin, due dates that cannot slip, and ageing assets to keep running. AI can help with all of them, but only once you know where to begin. This guide lays out a practical path, from a first honest look at readiness to lasting value, written for manufacturers from planning to the shop floor.

Charting a clear course for AI in industrial manufacturing

Ask a plant lead, a maintenance lead, a planning lead, and a finance lead where AI should start, and you will hear four different answers: predict the next breakdown, lift OEE, hit due dates, cut scrap. The opportunity runs from planning to the shop floor, and so does the temptation to chase all of it at once.

What is usually missing is a route. Deciding to use AI is not the same as knowing which problem to solve first, which machine, quality, and order data to trust, or how you will recognise a result on the line.

This guide gives manufacturing leaders that route. It moves through the journey in order, from a candid read of where you stand to the work of holding on to value once a programme is live. None of it is abstract. Each stage reflects how manufacturers actually run.

Along the way you will see where Hudace and Xenon AI fit across planning, production, maintenance, service, and finance, so the path stays practical rather than theoretical.

Evaluating your AI readiness

Start with an honest picture of your plant, your assets, and your data.

AI rewards preparation. Before the first model or agent, understand how machine, quality, order, and finance data flow, and how ageing assets and tight schedules shape what is possible. A grounded readiness check turns interest into progress.

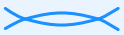
Find your starting point, not a score

Readiness is less about owning the newest sensor and more about the conditions around it: leaders aligned on the goal, data you can rely on from machine to ledger, and teams, on the line and in planning, willing to work in new ways. This is not a test to pass. It is a way to see where you are strong and where you still need to build.

A few signs you are ready to take the next step:

- You can tell apart what your people are ready for and what your systems are ready for.
- You can name specific tasks AI could take on: failure prediction, scheduling, quality analysis.
- You know whether machine, quality, and order data are reachable, accurate, and current.
- You have a real sense of the skills you hold, from the shop floor to data, and the ones to add.
- You can put rough numbers on the time and budget involved.

Done early, this spares you stalled projects later, and lets you scope from facts rather than hope.



How Hudace helps

Running planning, production, and service on Hudace means you already have a connected view from order to machine, which is a real head start in spotting where AI adds value.

A short readiness session with our team ranks AI opportunities by line, asset, and product, so your first projects are the ones most likely to pay off. Talk to Hudace.

Defining strategic AI goals and expected ROI

Tie every AI effort to a number the plant already lives by.

AI earns its place when it moves a number that matters: OEE, unplanned downtime, first-pass yield, on-time delivery. Set goals that are specific, owned, and measurable before the work starts.

Clear goals turn effort into outcomes

The most useful projects open with a plain statement of what should change and by how much: less unplanned downtime on a key asset, higher first-pass yield, fewer late orders. Anchor it to a priority, name who owns it, and the work stays focused.

> **The question is rarely whether AI can do the task. It is whether you have decided what a good result looks like, in uptime, in yield, in delivery, before you start.**

Worth settling early:

- The outcome you are after, written as a number you can track by line or product.
- The specific problem, not the broad theme, you are solving.
- A shared view across planning, production, maintenance, and finance on what is feasible.
- Metrics you are willing to revisit each quarter.
- A first ROI range, held loosely enough to adjust.

How Hudace helps

Hudace helps you put numbers behind the ambition. Because machine, quality, and order data already live in the platform, goals and ROI ranges come from what is really happening across your lines and assets.

That makes the case for investment far easier to stand behind, and to revisit as output improves.

25% less

unplanned downtime at Kinetic Systems, after bringing planning, production, and service onto one platform. Read the story.

Building your internal AI coalition

Adoption runs through planning, production, maintenance, and finance alike.

The best model in the world stalls without owners. Progress depends on a small group, drawn from across the plant, who share both the goal and the responsibility for reaching it.

Early on, gather a group that reaches well beyond IT: production and process engineering, maintenance and reliability, planning and scheduling, quality, and finance. Their job is not only to comment. It is to own a piece of the change, so it never rests on one team.

This is the group that connects intent to execution. They know which problems are worth solving on the line, and their involvement carries a project past the first run.

What a strong coalition gets right

- It brings the right people in at the start, with a real stake in the outcome.
- It agrees how decisions, risk, and oversight will work before issues arise.
- It leaves room to question, test, and learn out loud.
- It funds the unglamorous parts: enablement, communication, and time.

How Hudace helps

If alignment is the hard part, a Hudace discovery session gives your group a structured place to surface use cases across the plant and agree on priorities, turning scattered opinions into a shared plan.

When the focus shifts to skills, Hudace Learning offers practical paths so everyone, from the line to finance, feels ready for the change rather than unsettled by it.

Data, the shop floor, and infrastructure

Good AI depends on good data, from the machine to the ledger.

AI is only as good as what it runs on. Real-time, trustworthy data, joined across machines, quality, orders, and finance, is what separates a promising pilot from something dependable. In manufacturing, much of that data starts on the shop floor.

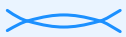
Lay the groundwork for intelligent action

Xenon AI can only reason over what it can reach and trust. That means moving away from data trapped in separate systems toward a connected foundation: machine and sensor signals, quality results, orders, and cost, unified and current enough to act on.

Where to focus:

- Data quality: are machine, quality, and order records clean enough to use without heavy rework?
- Connectivity: can you bring machine and sensor data into one view?
- Infrastructure: can your environment flex through demand swings and run close to the line?
- Ownership: IT keeps systems ready, but production, maintenance, and finance share it.
- Budget: plan for integration, migration, data quality, and training.

None of this slows you down in the end. It is the difference between AI that demos well and AI you can run a shift on.



How Hudace helps

Hudace gives Xenon AI one governed, real-time view across planning, production, and service, so forecasting, prediction, and scheduling work from a single source of truth.

Still untangling older systems? ACE with Hudace shortens the path to a modern, connected core.

Navigating change across the plant and planning

Bring people with you, from the line to the planning office.

AI changes the shape of work, not only the tools. The manufacturers that get the most from it treat the human side as the main event: building skills, adjusting how work is done, and giving people a reason to lean in.

The technology shift rides on a human one

New capability brings honest questions. Will my role change? What happens to the judgement I bring on a machine, a schedule, a quality call? Will I keep up? Left unanswered, those questions quietly turn into resistance.

Handled well, this stage is where an operator or a planner stops bracing against AI and starts using it, because it makes their own call sharper.

What helps the shift land:

- Map the skills that are changing and offer real paths to build them.
- Talk early and often, especially where daily work on the line or in planning will look different.
- Be straight about changing roles, with AI assisting expertise rather than replacing it.
- Set expectations on pace, shift by shift.
- Back it with budget for learning, champions, and the culture work that sticks.

How Hudace helps

Hudace Learning gives your teams structured, hands-on paths to grow confident with Xenon AI, from the why through to daily use on the line, in maintenance, and in planning.

The result is people who feel ready for the change instead of caught out by it, whatever their role.

Measuring success and scaling AI

A pilot proves the idea. Measurement decides what scales across lines and plants.

Getting one thing working, on one line or one asset, is the start, not the finish. The manufacturers that scale well look hard at what worked and why, then carry that evidence into the next line and the next quarter.

Let the evidence choose your next move

Useful measurement is not a box-ticking exercise. It is how you learn what really happened, build the confidence to expand, and avoid scaling something for the wrong reasons.

What to track once a pilot lands:

- Measures that reflect real use: OEE, unplanned downtime, first-pass yield, on-time delivery.
- Actual ROI against what you expected, and the surprises along the way.
- Whether the approach travels to other lines and plants.
- The resourcing, so people and systems are ready for more volume.
- What you learned, written down, so the next rollout starts further ahead.

Scaling is not simply doing more. It is doing more of what is proven, with a clear idea of what good looks like.

How Hudace helps

Hudace shows you how Xenon AI is used across the business: which lines, which assets, how often, and to what effect.

That visibility keeps your attention on the work that pays back, and makes the case for the next investment concrete.

Risk, safety, and responsible AI

Value and trust have to grow together, with safety first.

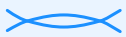
AI does not remove human responsibility. On the shop floor it raises the stakes on it. Bias, errors, and weak controls are safety, quality, and margin risks. As AI spreads, the guardrails have to spread with it, and an operator stays in control of the machine.

Make trust part of the design

Whether AI is predicting a failure, scheduling a line, or flagging a quality issue, the same questions apply: is it secure, is it safe, can you explain the call? Answering them is the job of clear governance, with production, quality, safety, and IT deciding together how AI is run and watched.

Worth getting right:

- Naming the risks plainly: unsafe automation, biased data, quality escapes, unexplained decisions.
- Keeping a qualified operator in control of safety-critical actions.
- Meeting the rules on safety, quality, and data that apply to you.
- Giving quality, safety, and model checks a clear owner.
- Treating supplier and worker data with the same care as your own.



How Hudace helps

Keeping operations on one platform means less data scattered across systems to defend. Hudace adds granular access controls and built-in compliance at every level.

AI Agent Governance gives you the policies, monitoring, and oversight to keep Xenon AI safe, reliable, and accountable as it grows.

Sustaining value, line by line

Launch is a milestone. Lasting value is the work that follows it.

Going live is the easy thing to celebrate. Keeping value flowing as demand, equipment, and skills shift is the harder, more rewarding work, and it favours manufacturers that stay curious.

Keep the momentum, and the direction

Maturity does not arrive on launch day. It builds through small iterations, shared learning across lines and plants, and a willingness to revisit what worked last quarter. Staying ready for what is next takes both the mindset and the systems to support it.

How to stay ahead:

- Watch how AI performs across lines and assets, and tune where the numbers point.
- Keep your processes loose enough to adopt what comes next.
- Stay close to the line and planning teams, and keep learning shared.
- Pair quick wins with the slower investments that make scale possible.
- Keep a habit of small, structured experiments as new options appear.

Lasting value comes from staying adaptable without losing the plot: a safer, more reliable, more productive plant.

How Hudace helps

Hudace helps you keep sight of where Xenon AI earns its keep across the plant, so your focus stays on the work that matters.

With Xenon Studio and the wider Xenon AI platform, your teams extend AI at their own pace, and the Hudace Community keeps fresh practice within reach.

Metrics and formulas that matter

AI earns trust when it shows up in numbers you already manage. These are the measures worth instrumenting from the first pilot, with the formulas behind them, so progress is easy to prove and easy to question.

Overall equipment effectiveness

```
OEE % = availability % x performance % x quality %
```

The single best read on how well a line actually runs.

Unplanned downtime

```
Downtime % = (unplanned downtime / scheduled run time) x 100
```

Time the line is stopped when it should be running.

First-pass yield

```
FPY % = (units passing first time / units started) x 100
```

How much you make right the first time, without rework.

Scrap rate

```
Scrap % = (scrapped units / units produced) x 100
```

Material and effort that go straight off the margin.

On-time delivery

```
OTD % = (orders delivered on time / total orders) x 100
```

Whether you keep the promises you make to customers.

Mean time between failures

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MTBF = total run time / number of failures
```

How reliable an asset is between stoppages.

Pick two or three to start. Tie each AI pilot to one, set a baseline before you begin, and review it each quarter.

Putting Xenon AI to work

A workflow worth starting with, and the questions your teams can ask.

Lifting uptime and yield: a continuous loop

1. **Sense**
   Xenon AI reads machine, quality, and order data across the plant into one view.

2. **Predict**
   It forecasts demand and flags assets heading toward failure before they stop the line.

3. **Schedule**
   It sequences production and maintenance to protect output and due dates.

4. **Act**
   Owners approve, the platform updates the schedule, work orders, and parts, and the loop learns.

Ask Xenon AI

- "Which machines are most likely to fail in the next two weeks, and what maintenance should we schedule?
- "Where is OEE slipping by line and shift, and what is the biggest loss?
- "Which orders are at risk of missing their due date, and how do we re-sequence to recover?
- "Show first-pass yield and scrap by product and line, and the main causes.
- "Recommend a maintenance plan that protects this week's production schedule.

Every answer runs on your governed data, so it reflects what is really happening across your operations.

Your AI journey starts on the shop floor

The next step is closer than it looks.

You do not need every answer to begin. You need a sensible first move, the right people beside you, and support you can lean on. Followed in order, the steps in this guide take a manufacturer from a first honest look to results you can measure, in uptime, in yield, in delivery.

One line or your whole plant, the shape is the same: a path that grows with you, where every run teaches you something worth carrying into the next.

Hudace stays with you across that path, from the first readiness conversation to AI working quietly across planning, production, maintenance, service, and finance, with Xenon AI built into the platform rather than added on.

When your plant, your data, and your goals point the same way, the results tend to follow.

Learn more

See AI-native ERP for industrial manufacturing at hudace.com/industries/industrial-manufacturing.

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