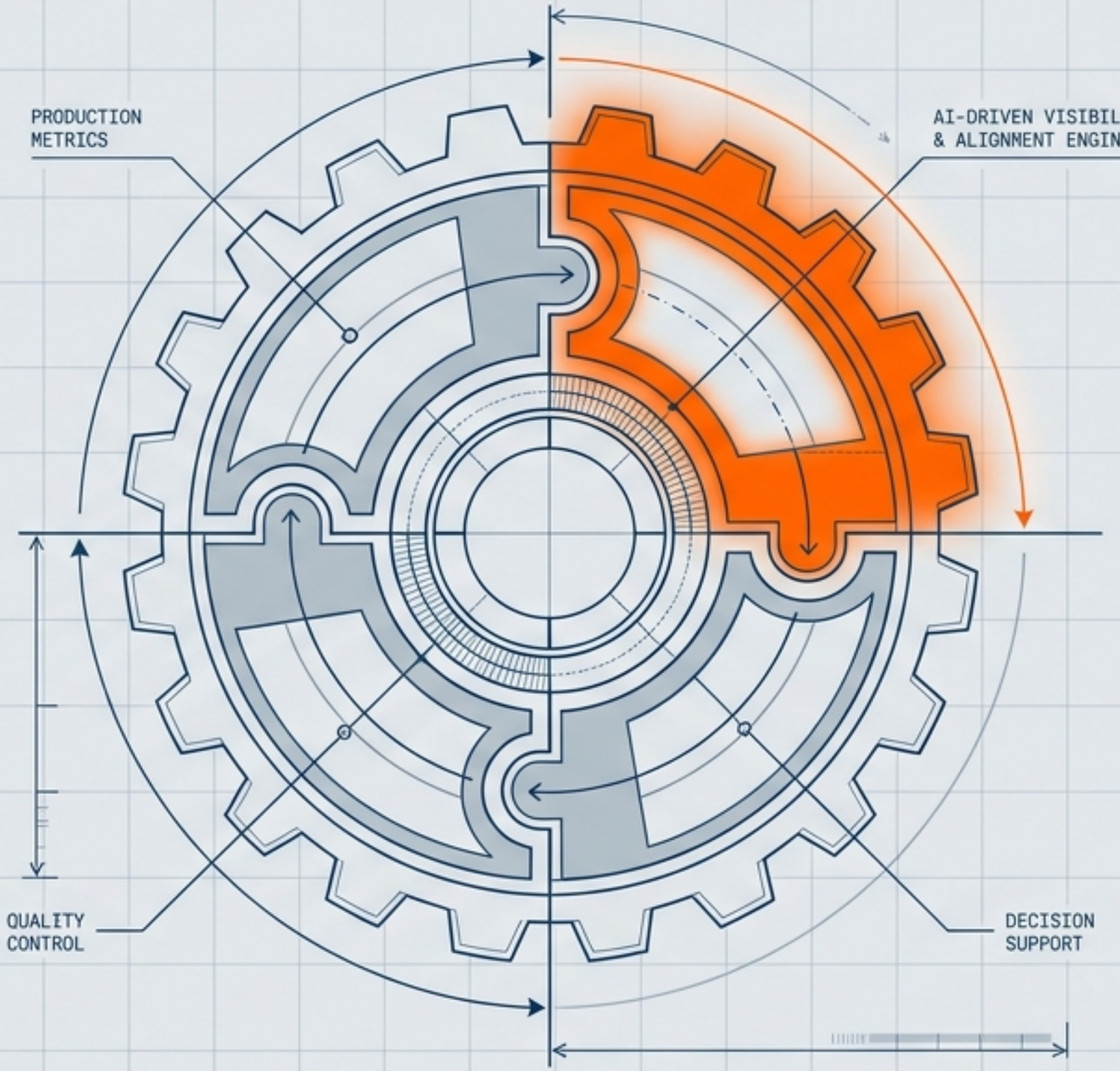
SYSTEM STATUS:
INTEGRATED

AI INSIGHT:
98% VISIBILITY ACHIEVED

VISIBILITY BEFORE AUTOMATION

The CAMPS AI Accelerator:
How AI helps manufacturers connect production, labor, quality, and decisions into one shared view of business performance.



SYSTEM STATUS:
INTEGRATED

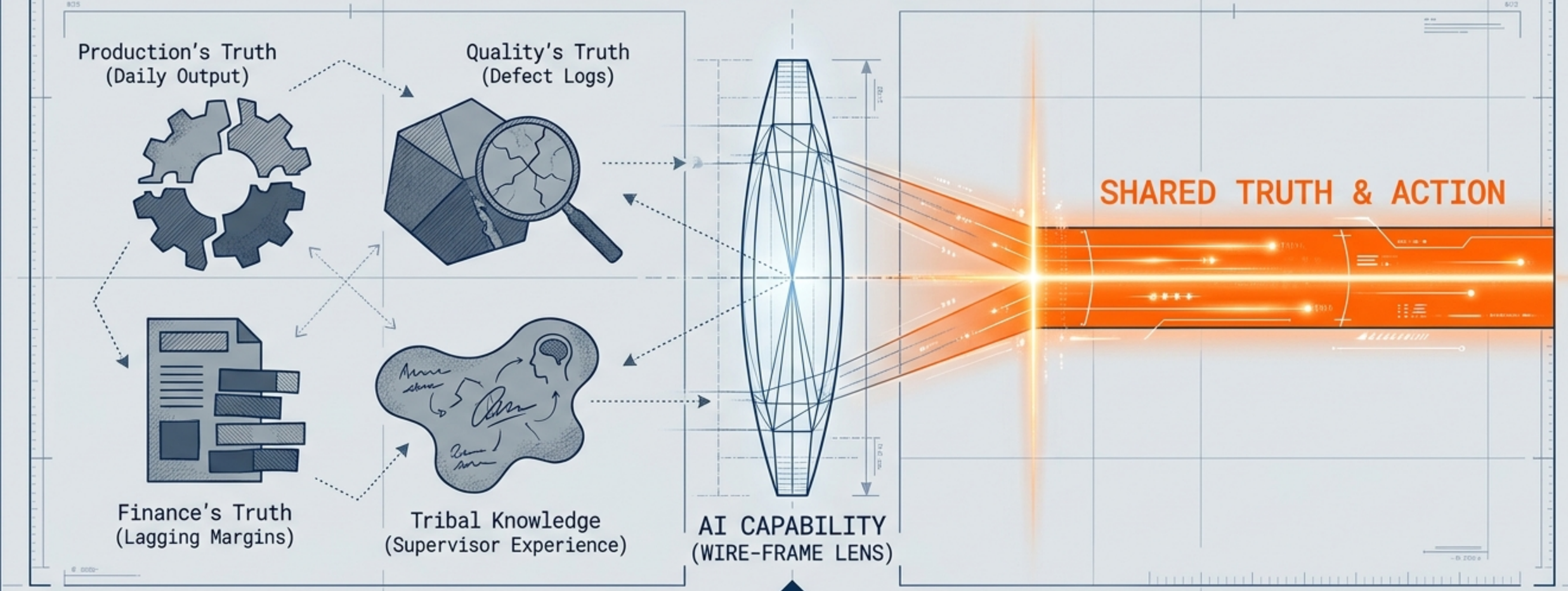
#PL ANALYS5:
+BON = 0.1%

SPCR 4
INTGLR = 50

AI INSIGHT:
98% VISIBILITY ACHIEVED

THE FRAGMENTED FACTORY: WHY AI EFFORTS STALL

THE FRAGMENTED LENS



Most manufacturers collect useful information, but it is scattered. AI does not fix this automatically; AI becomes valuable when leaders use it to connect the pieces into a shared view.

The Management Shift: From Gut Feel to Shared Visibility

Old Operating Pattern		AI-Ready Pattern
- Managers rely on tribal knowledge, lagging reports, and gut feel.		- Managers use a shared view of production, labor, quality, and decisions.
- Problems are discovered after they become expensive.		- Signals appear earlier, while management action is still possible.
- Reports explain what happened last month.		- Visibility supports decisions this shift, this week, and this month.
- Departments optimize locally, ignoring system tradeoffs.		- Leaders actively balance tradeoffs across the operating system.
- Data quality issues are used as reasons to delay initiatives.		- Data quality issues become the explicit roadmap for improvement.

Do not start with AI. Start with visibility. What do we need to see more clearly to improve?

The 4 Operating Levers of Manufacturing Value

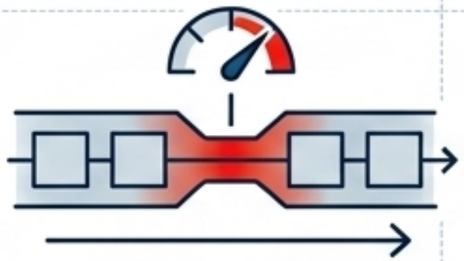
These are the four levers leaders must make visible before they can improve company value at scale.
The clearer the operating data becomes, the more useful AI becomes.

REF.001

FLOW RATE

Production Flow

Where capacity is gained or lost.



Quality

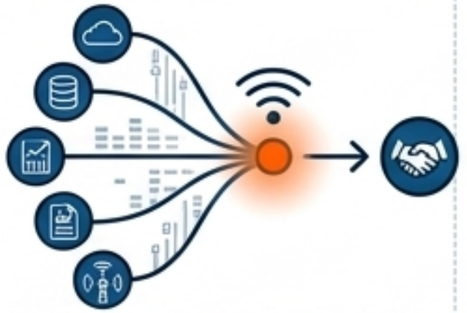
Where defects, process drift, and risk begin.

Labor Productivity

Where people lose time to administrative friction.

Operational Decisions

Where scattered data becomes management action.



FLOW RATE

REF.001

DECISION POINT

REF.001

DECISION POINT

Lever 1: Production Flow

REF.001 | FLOW RATE | FLOW RATE

FLOW RATE

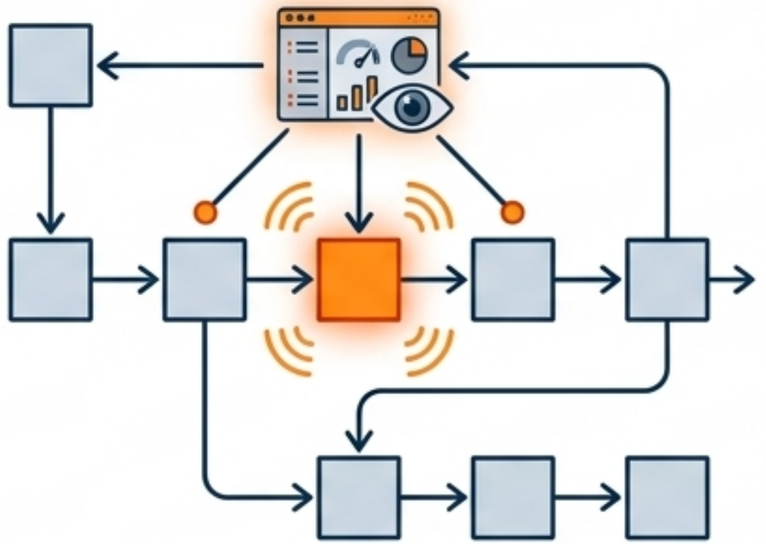
Definition & Measures

Where capacity is gained or lost across machines, shifts, schedules, and bottlenecks.

Measures to watch:

- Throughput
- OEE
- downtime hours
- schedule adherence
- changeover time

The System View



Leadership Questions

- Where are we losing the most productive time?
- Which line creates the most constraint?
- What downtime is predictable?
- Are we protecting capacity or reacting to interruptions?

REF.001

REF.001

First AI Move: Pick one line with visible pain. Pull 30-90 days of output and downtime notes.

```
> I am analyzing production flow for one line. Review the attached output, downtime, schedule,
and maintenance data. Identify the top recurring constraints, separate causes from symptoms...
```

Lever 2: Labor Productivity

REF.001 | FLOW RATE | FLOW RATE

FLOW RATE

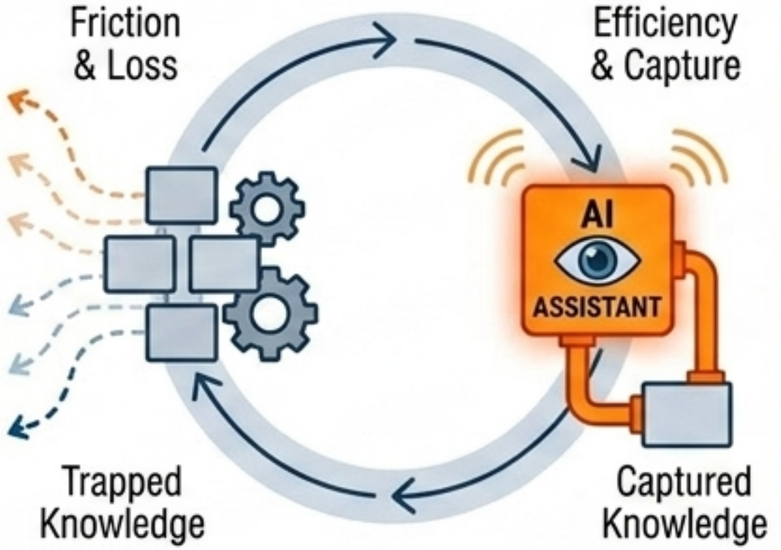
Definition & Measures

Removing friction from people's work—not replacing them—so skilled staff spend less time searching, reporting, and waiting.

Measures to watch:

- Hours saved per week
- faster handoffs
- shorter onboarding
- reduced admin burden

The System View



Leadership Questions

- Where are skilled people doing low-value admin?
- What knowledge walks out the door when people retire?
- Which handoffs create the most confusion?

REF.001

REF.001

First AI Move: Choose one repetitive 20-30 minute supervisor workflow (e.g., shift handoffs). Test an AI-assisted draft using approved procedures.

```
> I want to improve labor productivity by reducing administrative drag. Review these shift notes... Summarize the most common information gaps and draft a cleaner handoff format.
```

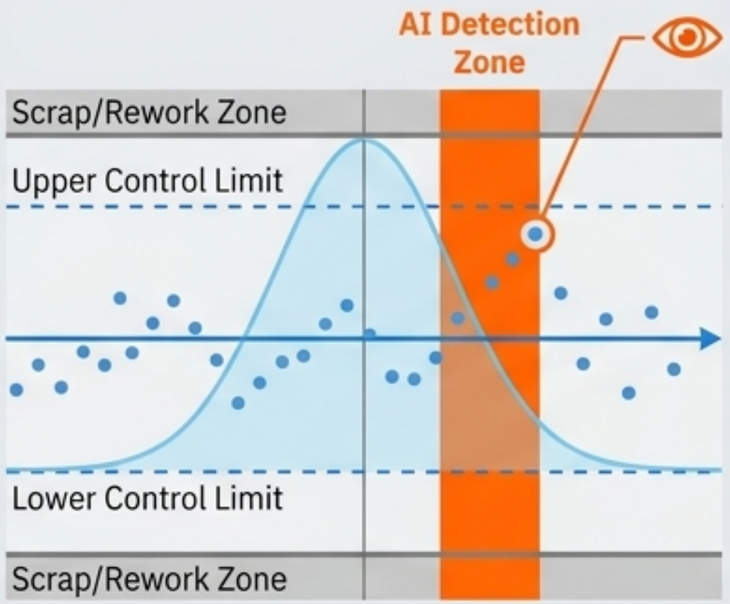
Lever 3: Quality

Definition & Measures

Seeing defects, process drift, and compliance risk early enough to protect margin and customer trust.

Measures to watch:
- Scrap cost
- rework hours
- first-pass yield
- audit findings
- cost of poor quality

The System View



Leadership Questions

- Where do defects actually begin?
- Which defect types cost us the most?
- Are we catching problems early enough?
- Which records are audit-ready today?

First AI Move: Pull 60-180 days of rework, scrap, and complaint notes. Use AI to group issue types and reveal missing root-cause fields.

```
> Review this quality, rework, scrap, and complaint data. Group the issues into practical
 categories, identify the most expensive patterns, and highlight missing root-cause information.
```

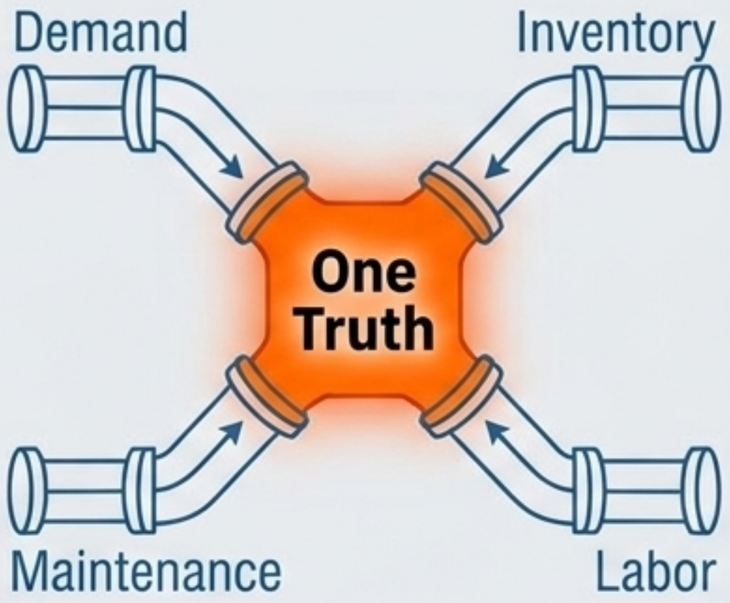
Lever 4: Operational Decisions

Definition & Measures

Turning disconnected data into management action across demand, inventory, maintenance, and finance.

Measures to watch:
- Forecast accuracy
- inventory turns
- decision cycle time
- meeting time reconciling

The System View



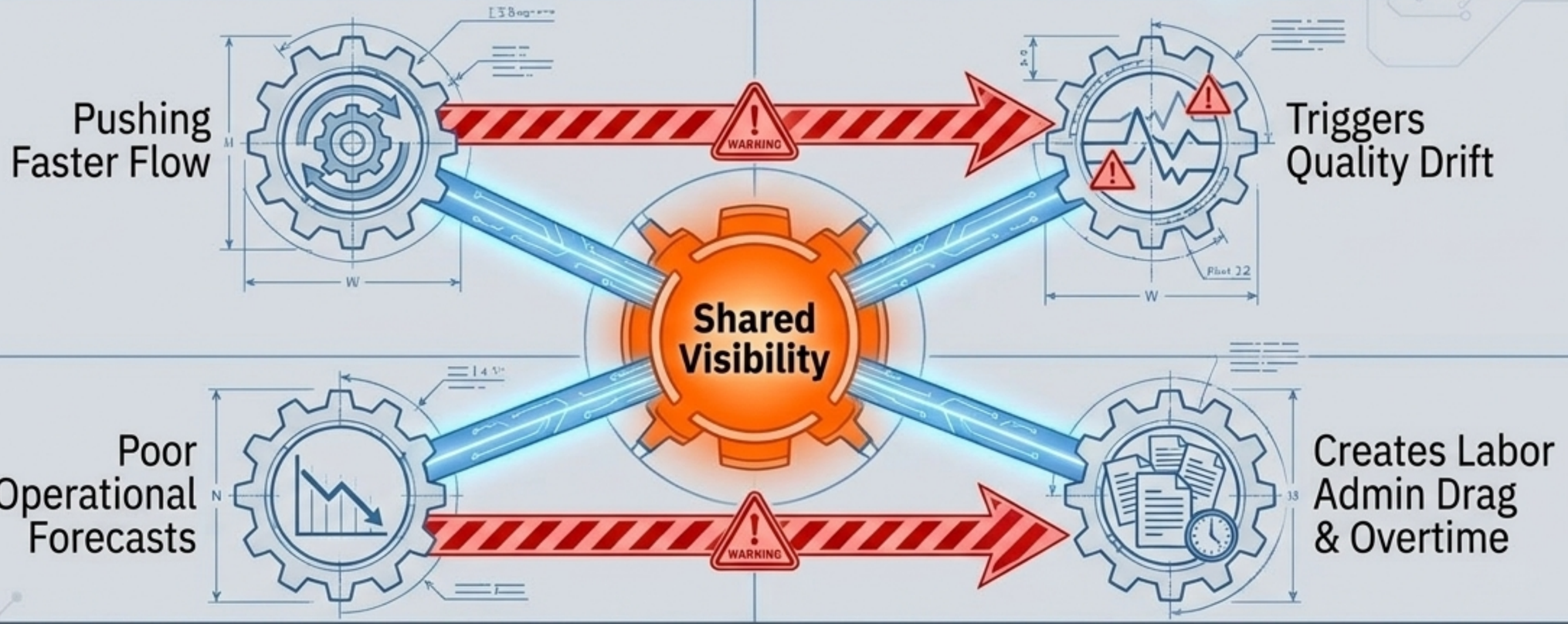
Leadership Questions

- What is the ONE version of truth?
- Which decisions are made too late?
- Where do we carry excess inventory because we don’t trust the forecast?

First AI Move: Pick one weekly decision made with too much manual reconciliation (e.g., capacity planning). Use AI to unify the data before trying to automate the decision.

```
> Analyze this operational dataset... Identify the decisions leaders should make this week, data conflicts needing resolution, and the top 3 questions we should ask before committing to customers.
```

The Interconnected System: Why Levers Cannot Be Siloed



Synthesis Insight Panel

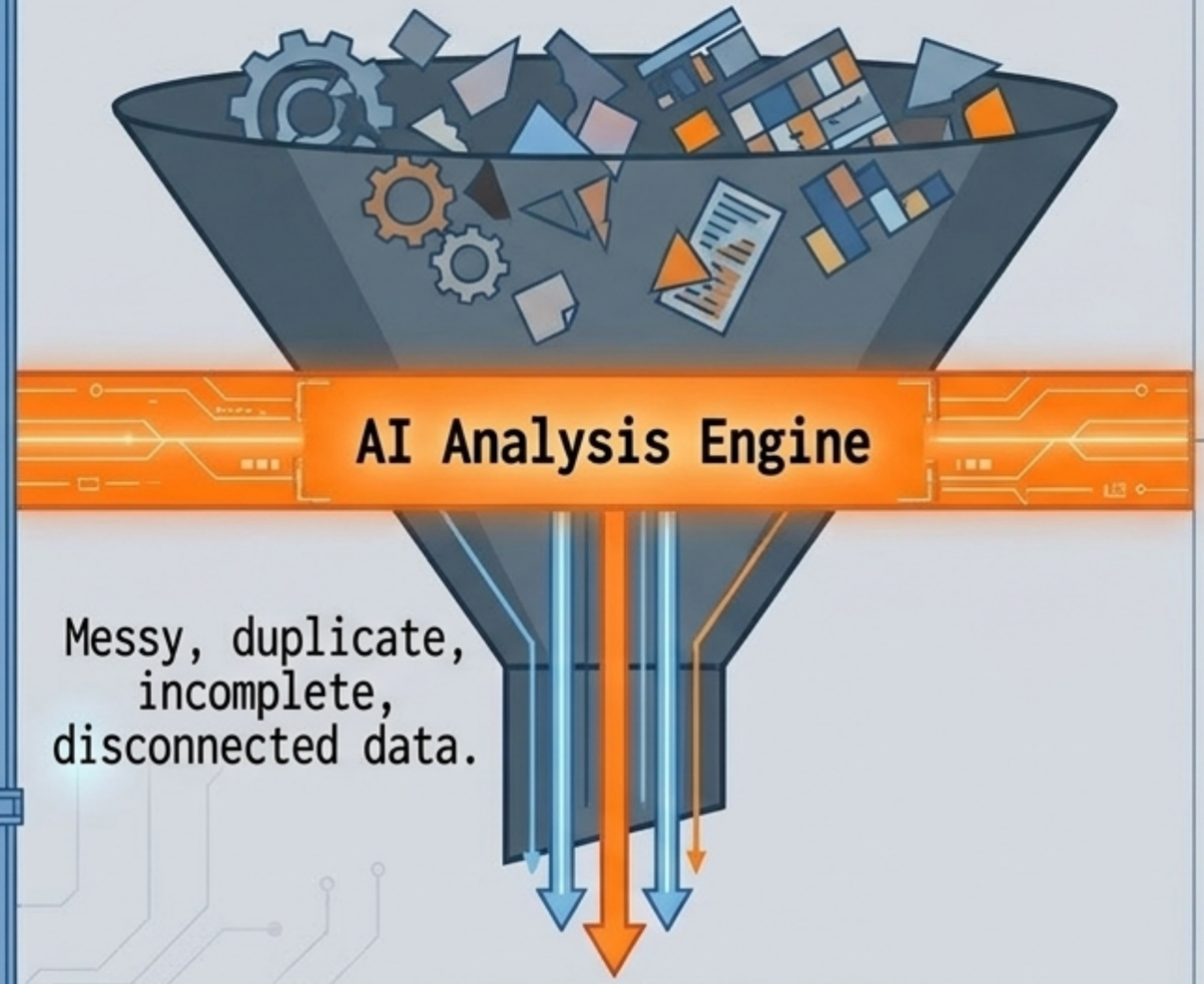
Improving one lever can hurt another if leaders do not see the tradeoffs. Faster production can create quality problems. Poor forecasts create overtime. Shared visibility allows you to balance the entire operating system simultaneously, rather than playing whack-a-mole.

The Value-Twice Matrix: Paying for Today, Valuing for Tomorrow

Lever	EBITDA Pathway (Immediate Margin)	Company Value Pathway (Long-Term Trust)
Production Flow	More throughput, less downtime/overtime	Demonstrates scalable capacity and better asset utilization to lenders/buyers.
Labor Productivity	More output per person, less admin waste	Reduces dependency on a few key people and preserves institutional know-how.
Quality	Lower scrap, rework, warranty, and returns cost	Protects brand equity, customer trust, and audit readiness.
Decisions	Better scheduling, inventory, pricing, and prioritization	Shows a stronger management system and clearer command of the business.

Takeaway: Shared visibility pays twice: it improves EBITDA margins today, and strengthens the valuation story of the business for tomorrow.

The Messy Data Reality



Manufacturers **do not need perfect data to start**. The mistake is waiting for a flawless ERP system.

The first AI-supported analysis will immediately reveal missing fields, inconsistent categories, and unreliable notes.

That is highly valuable—it shows the company exactly what to fix.

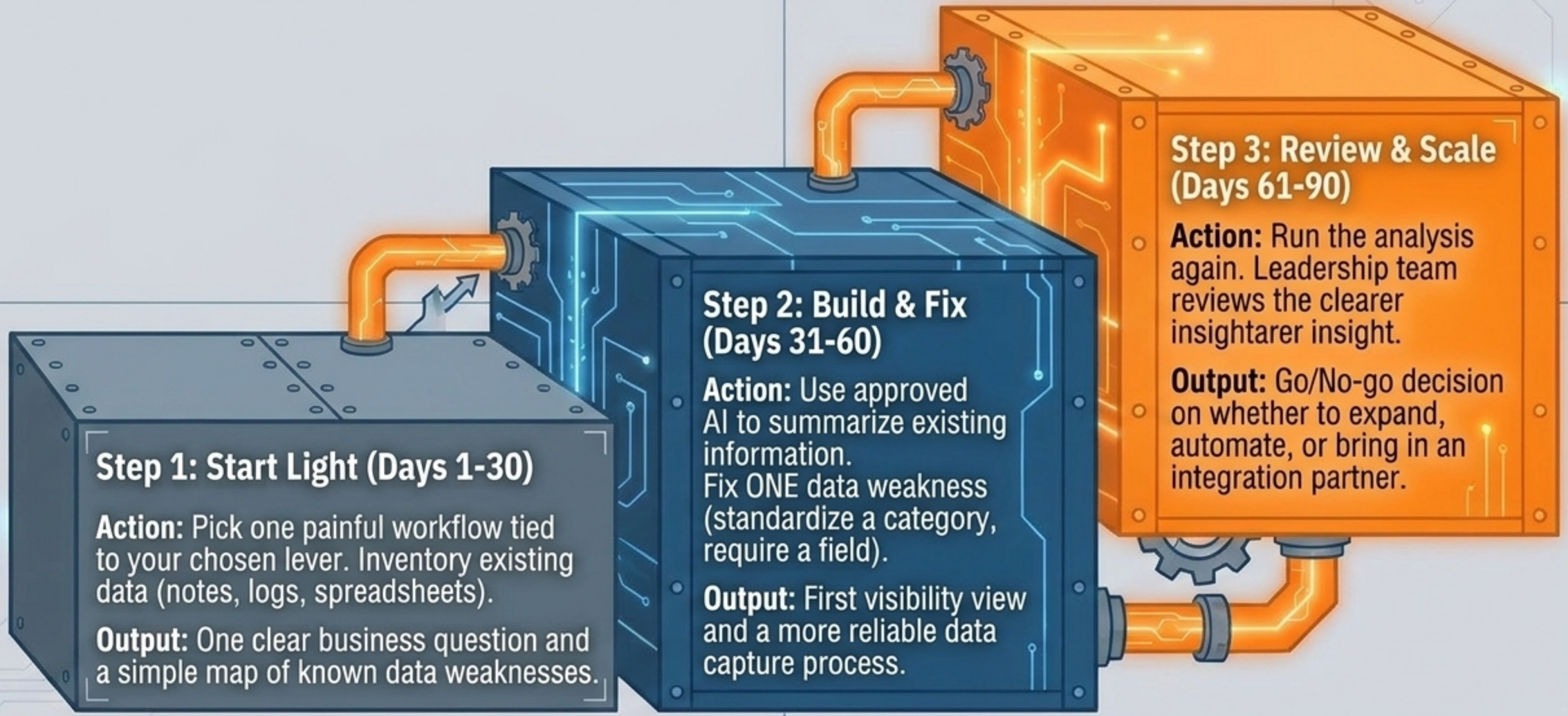
Data quality issues are not a reason to wait; they are the exact roadmap for your first **AI sprint**.

Diagnostic Worksheet: Find Your Gap

Lever	Visibility Today (1-5)	Cost of Poor Visibility (1-5)	Ease of Starting (1-5)	Total Priority Score
Production Flow	[ ]	[ ]	[ ]	[ ]
Labor Productivity	[ ]	[ ]	[ ]	[ ]
Quality	[ ]	[ ]	[ ]	[ ]
Operational Decisions	[ ]	[ ]	[ ]	[ ]

Assignment: Score your business. Pick the ONE lever with the highest cost of poor visibility to launch your first 90-day pilot. Start there.

The 90-Day Adoption Staircase



Security, Scale, and the Partner Ecosystem

1. The Manufacturer

Drives the business problem and defines the operating lever.

2. CAMPS (The Guide)

Acts as the perspective guide and business-value translator (Not a technical implementer).

3. Technology Partners (The Integrators)

Brought in during the "Scale" phase for ERP/MES integration, Azure AI, Fabric, and IoT deployment.

Security Imperative: Do not paste sensitive manufacturing data (pricing, recipes, quality records, customer info) into public, consumer AI tools. Always use approved business environments with appropriate permissions. Bring in **certified IT/Security partners** when moving from pilot to scale.

The Final Rule of Thumb

Don’t start with AI.
Start with the decision you need to improve.
Pick one lever.
Ask one question.
Use one dataset.
Make one improvement.