
DIGITAL TRANSFORMATION FOR MANUFACTURING

Where should digital deliver value first?

Respect your legacy. Reinvent your factory. We identify addressable losses using your existing data before proposing architecture.

01 10 LIVE DIAGNOSTIC BENCHMARKING

"Expose the 'Hidden Factory' by surfacing micro-stops and speed losses that paper logs miss. Typically recovers \$8M-\$12M in previously dark data loss."

+30%
TARGET THROUGHPUT

[Request Executive Assessment >](#)

CONSTRAINT SELECTION



Eliminate Hidden Losses
PERFORMANCE OPTIMIZATION



Reduce Quality Drift
YIELD MAXIMIZATION

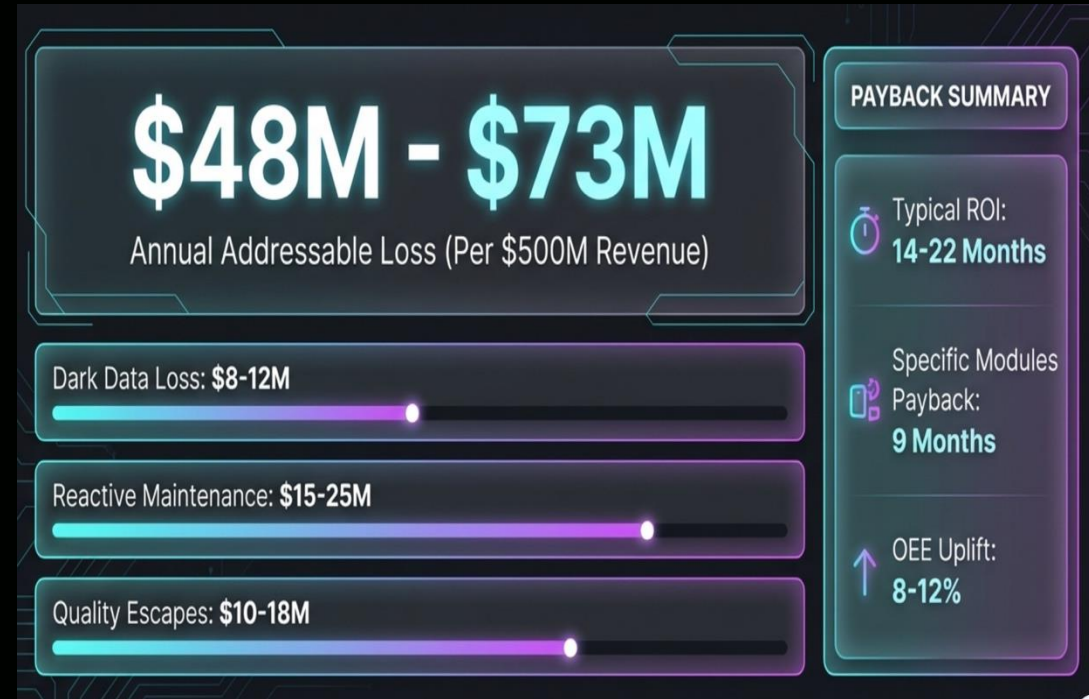


Optimize Energy BOM
RESOURCE INTENSITY



Sync Lead Times
OPERATIONAL AGILITY

UNSEEN DATA. SILENCED VALUE. UNTAPPED POTENTIAL.



DARK DATA INSIGHT

"Valuable signals are trapped in legacy silos. We unlock this 'Dark Data' for production truth."

OEE LEAK INSIGHT

"Recovering hidden capacity lost to micro-stoppages that traditional systems cannot see."

DOWNTIME DRAIN INSIGHT

"Recovering hidden capacity lost to micro-stoppages that traditional systems cannot see."

EBIDTA GROWTH INSIGHT

"Recovering hidden capacity lost to micro-stoppages that traditional systems cannot see."

WE DONT AIM FOR STATIC PERFECTION BUT DYNAMIC PRECISION



Enso is a hand-drawn circle in Japanese Zen art, simple shape with a deep message: presence, clarity, and the idea that everything is connected

Operational Ensō:

COMLETE AND
INCOMPLETE
AT HE SAME TIME

Real Transformation is not a one-time project; It is is a living circle! A Circle of Continuous "Becoming"

Alive, Evolving and Always in Motion

Your Path to Ensō, at Your Pace

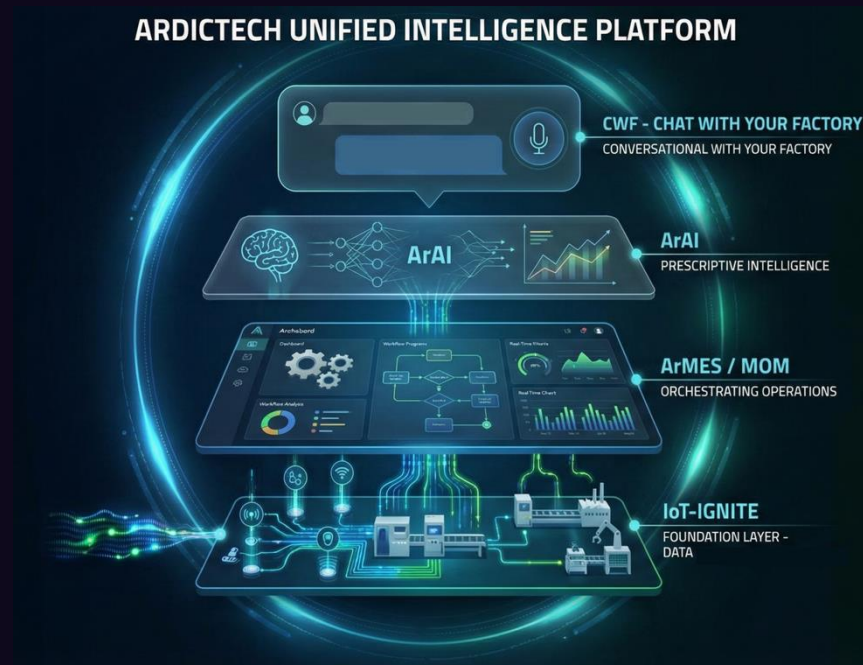
For an Existing Stack

We connect and enhance, don't replace. Our platforms are open by design.

SEAMLESS INTEGRATION

- Connect via read-only APIs
- Ingest 'Dark Data' to a Data Lake
- Deploy the CWF - 'Truth Layer'

Ideal for: companies looking to augment current systems or unlock stalled projects



OUR APPROACH :

- *Act as the 'Intelligence Wrapper'*
- *Pull data from legacy systems via APIs*
- *Enrich it with AI*
- *Deliver it via conversational Interface*

For a Clean State

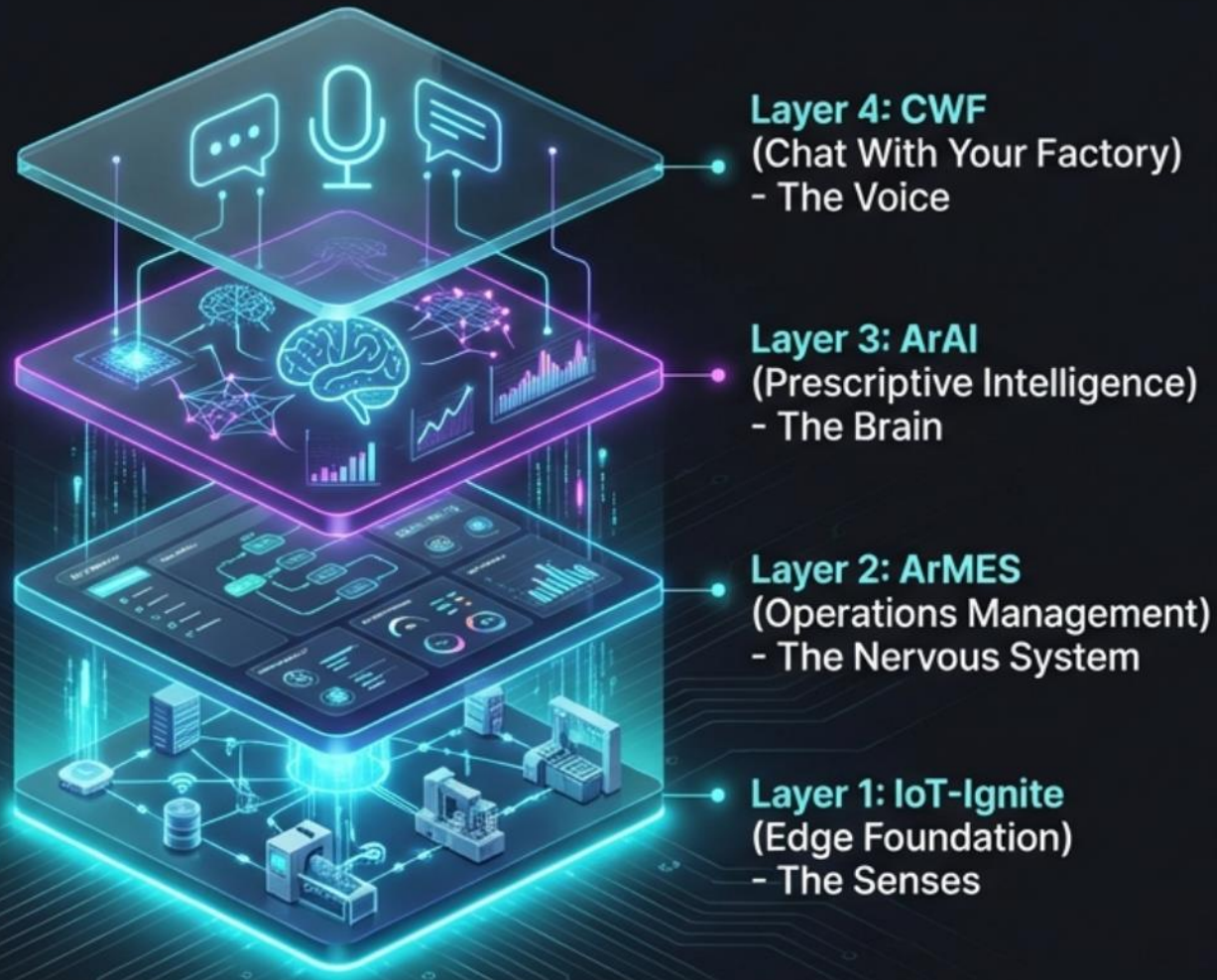
A full-stack 4-layer deployment from scratch. Go from zero to full visibility.

RAPID DEPLOYMENT

- IoT-Ignite sensors and gateways
- Full ArMES implementation
- Immediate Visibility (weeks, not years)

Ideal for: companies starting or re-platforming their digital journey.

A Unified 4 layer Architecture



IoT-Ignite: Connect every asset, unlock every signal. Secure edge computing.

ArMES: Orchestrating operations. Turn raw data into a live model.

ArAI: Prescriptive Intelligence. Analyzing data for actionable insights.

CWF: Conversational interaction via natural language.

Layer 1: IoT-Ignite – Capturing Reality at the Source.



Edge Computing: Process data at the source. Eliminate cloud latency.

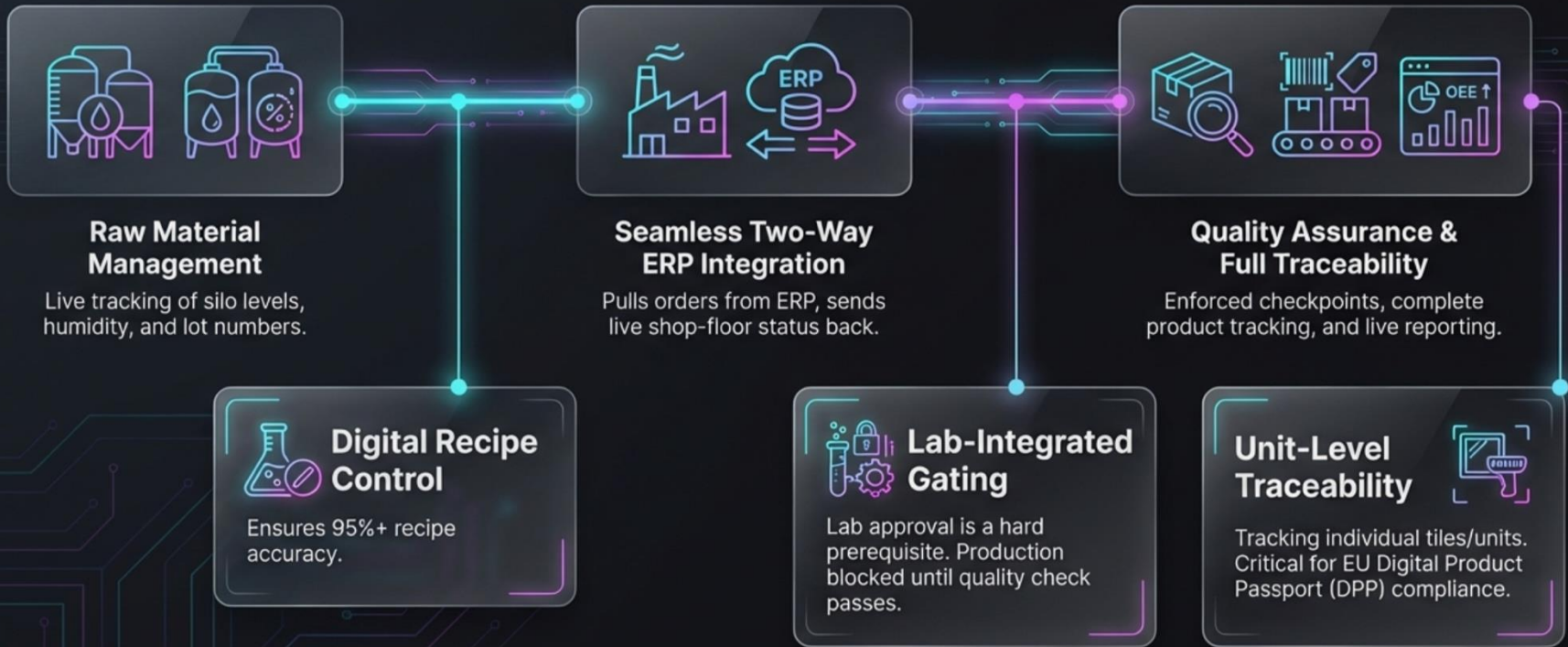


Protocol Agnostic: Universal connectivity for legacy and modern assets.



Secure Overlay: Active Directory integration, Zero Trust Architecture, Read-Only connections.

Layer 2: ArMES – The Digital Passport



WhatsApp
Interworking Agent

Multi-modal Response
(Text + Charts)

Natural Language
Processing

Notebook

Layer 3: From Reactive to Prescriptive.



Predictive Quality:

Predicting defects 2 hours in advance.



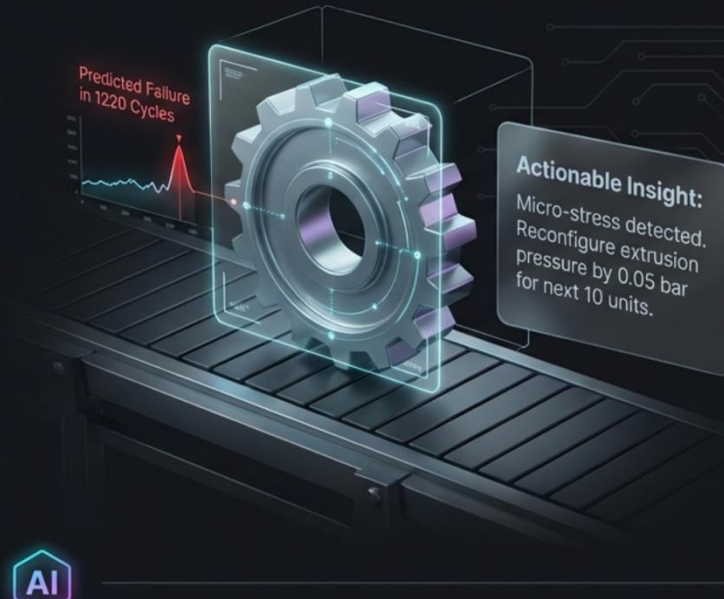
Energy Optimization:

Real-time optimization of kiln curves and resource usage.



The Data Moat:

Models trained on millions of cycles of real manufacturing data (Kale Group heritage).



Layer 4: Give Your Factory a Voice.



Time to Insight

Legacy MES Query: 90 Seconds

Open HMI > Navigate Tree > Select Equipment > Config Time > View Chart

ARDICTECH CWF: 5 Seconds

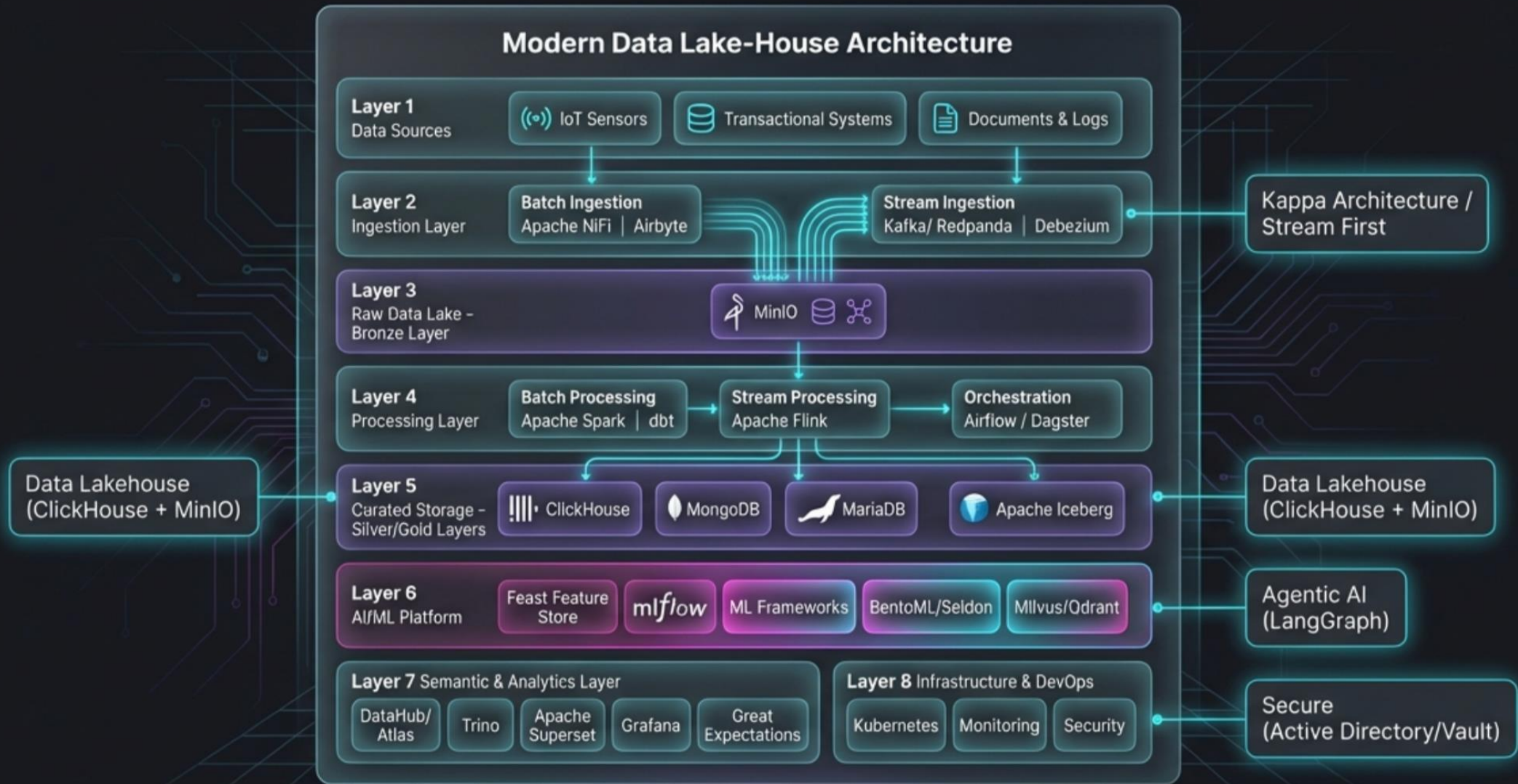
Natural Language Query

WhatsApp
Interworking Agent

Multi-modal Response
(Text + Charts)

Natural Language
Processing

Enterprise-Grade Technical Architecture



Under the Hood: Secure, Open and Future-Proof

EDGE COMPUTING

- Enterprise grade Android OS
- Linux
- TensorFlow Lite
- Supports air-gapped environments



CLOUD/ON-PREM CORE

- Kubernetes
- Microservices
- PostgreSQL
- Apache Spark



SECURITY AND OPENNESS

- Zero Trust Architecture
- End to end encryption



INTEGRATION

- REST
- MQTT
- OPC-UA
- No vendor lock-in
- Your data is your data





Real-World Impact

Inconsistent Masse quality and massive energy waste in spray-drying were driving up scrap rates. Manual weighing led to batch variation.



97%+

MASSE CONSISTENCY



-68%

QUALITY DEFECTS



14%

ENERGY CUT



9.8%

OEE UPLIFT

CERAMIC PRODUCTION – MASSE PLANT

**TOTAL FINANCIAL IMPACT
\$7.5M**

Raw Materials Factory



OBJECTIVES

- Recipe forecasting by raw material and/or supplier
- Achieve target quality (and colour) with no extra dosing effort
- Predict quality prior to spraying activity

CHALLENGE

- Incorrect weighing and dosing
- Recipe deviations
- Manual recipe adjustments
- Difficulty adapting to raw material changes

SOLUTION

RECIPE MANAGEMENT & OPTIMIZATION
GRINDING & MILLING OPTIMIZATION
SPRAY DRYING OPTIMIZATION

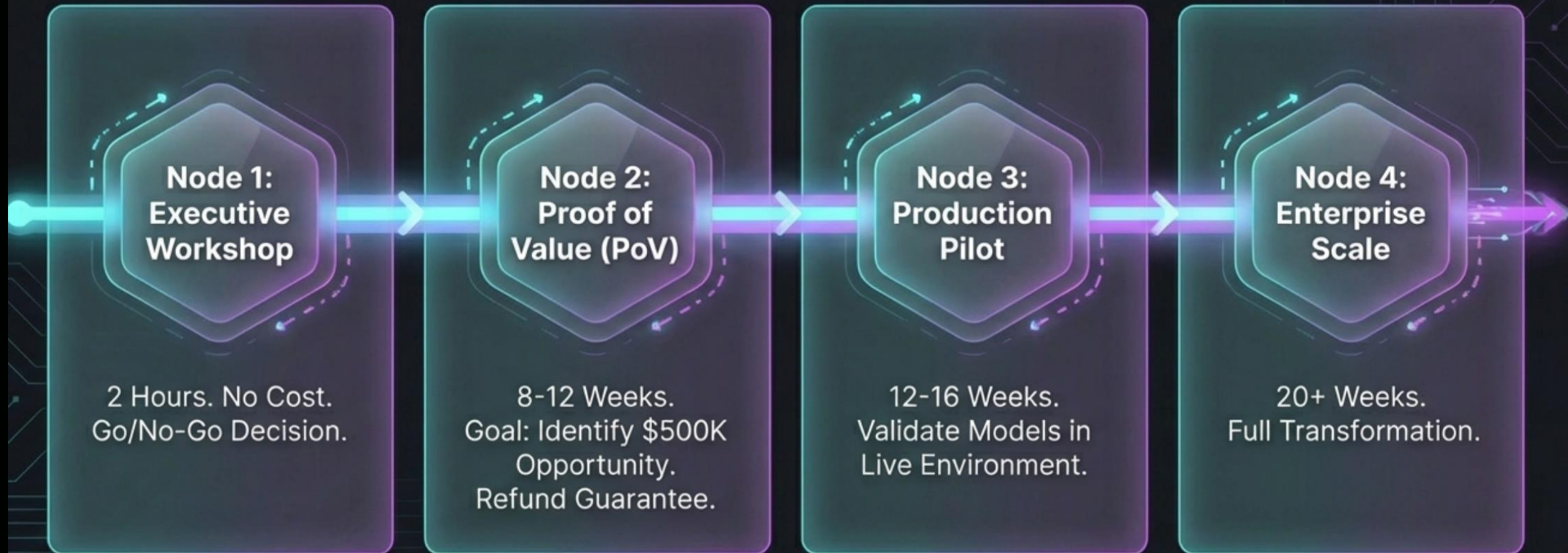
- **95%+ recipe accuracy**
- **10-15% raw material cost optimization**

Estimated Results (12 Months)

95%+ RECIPE ACCURACY	\$2.8M MATERIAL WASTE
68% QUALITY DEFECT ↓	\$1.9M QUALITY COST SAVING
14% ENERGY REDUCTION	\$1.2M ENERGY SAVING
9.8% OEE IMPROVEMENT	+\$1.6M CAPACITY VALUE

\$7.5M Annual Impact

Start Small. Prove Big.



ROI CALCULATION METHODOLOGY

Example: Dark Data Loss (\$8-12M)

Manufacturing revenue: \$500M
Typical COGS: 65-70% = \$325-350M
Manufacturing overhead: 15-20% = \$75-100M
Target addressable loss: 10-16% of manufacturing costs

Quality Escapes

\$500M × 2.5% defect rate **\$12.5M**
× 60% preventable **\$7.5M**

Reactive Maintenance

300 machines × \$15K **\$4.5M**
× 40% preventable **\$1.8M**

Energy Waste

\$20M energy cost **\$20M**
× 15% optimization **\$3.0M**

Total Potential Cost Recovery
Conservative annual \$12.3M

3-Year Investment

Year 1: POV + Pilot **\$500K**
Year 2: Enterprise **\$600K**
Year 3: Optimization **\$700K**
Total \$7.2M

Phased Returns

Year 1: 17.5% captured **\$7.5M**
Year 2: 45% cumulative **\$19.4M**
Year 3: 65% cumulative **\$28M**
3-Year ROI 1,547%

✓ Payback in 9 months

Note: after enterprise-wide implementation

300 machines, 24/7 ops, \$5K/hr downtime, 65% COGS. Conservative 25th percentile assumptions.

COMPETITIVE LANDSCAPE

	ARDICTECH	Siemens, AVEVA, SAP, Rockwell
ARCHITECTURE	Open / Modular (API First)	Fragmented Point Solutions
IMPLEMENTATIONS	Rapid Overlay: 12-16 weeks pilots	24-52+ week projects
AI & INTERFACE	Chat With your Factory- Conversational (no complex dashboards)	Bolt- On Analytics, separate implementation
COST MODEL	Scalable ROI	
BROWNFIELD FOCUS	Protocol-agnostic expertise,	Vendor-specific, limited compatibility

BUSINESS IMPACT & BENEFITS

Proven Business Impact Across All Operations

14-22 Mo

Typical ROI Payback

2-6%

Revenue Improvement

3-5%

EBITDA Expansion

8-12 Wks

Time to First Value

CFO / FINANCE

Financial Performance

- Protect revenue through quality & delivery improvements
- Expand margins via waste reduction & energy optimization
- Reduce working capital with inventory optimization
- Mitigate compliance risk (FDA, ISO, carbon regulations)
- No capital expenditure on new equipment

COO / OPERATIONS

Operational Excellence

- Increase OEE by 8-15% without new equipment
- Reduce unplanned downtime 40-70%
- Improve first-pass yield 15-35%
- Enable predictive maintenance (prevent failures)
- Gain real-time enterprise visibility across all plants

CTO / TECHNOLOGY

Technology Strategy

- Overlay architecture preserves existing IT investments
- Protocol-agnostic: integrate any system (OPC-UA, MQTT, REST)
- Cloud or on-premise deployment flexibility
- No vendor lock-in, open APIs, your data ownership
- Future-proof with modular, scalable platform

Addressing Your Concerns

WE ALREADY HAVE MES

We don't replace them, we connect them.

IS MY DATA SECURE ?

Yes. **IgniteEdge** processes critical data on-premise (at the edge). Sensitive data doesn't leave your walls unless you authorize it.

WILL IT DISRUPT OPS?

No. Our '**Overlay Strategy**' connects to read-only data ports. We are non-intrusive and do not stop machines for installation.

WHY "CHAT" ?

We don't replace dashboards; we explain them. **CWF** is the 'search Engine' for your factory, floor managers don't need to PhD to understand the data. They just ask.

Gain Unprecedented Clarity

Go beyond dashboards to see the true financial impact of every operational decision



Your Journey to Ensō Starts Here

Achieve Effortless Control

Master process complexity and empower your teams with AI-driven recommendations

Invest with Absolute Confidence

A de-risked, rapid path to tangible ROI,