

# A Robust Data Foundation for Reliable AI Insights

AI is no longer experimental—it is already reshaping how modern manufacturers think about efficiency, resilience, and productivity. Organizations increasingly see smart manufacturing as the primary driver of competitiveness over the next three years. But as AI initiatives accelerate, many manufacturers are discovering a hard truth: their data foundations weren't built to support those ambitions. As they adopt Industrial Data Operations (IDO) principles, manufacturers realize they need standardized industrial connectivity—OT-IT (operational technology-information technology) architectures that orchestrate, contextualize, govern, and deliver data at enterprise scale.

## Manufacturing Moves Fast. AI is Moving Faster.

By the numbers:

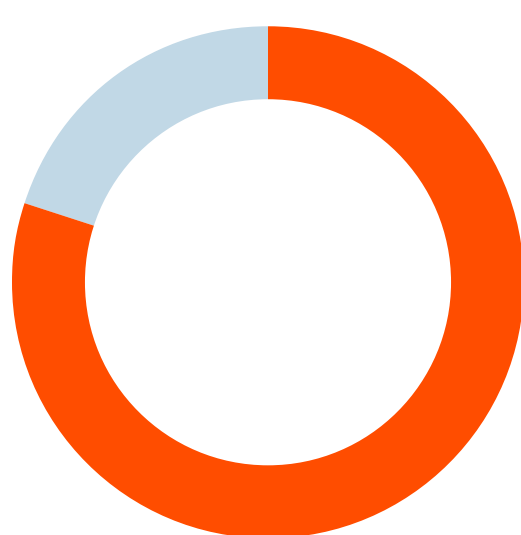
**30%**

The CAGR of the generative AI-solutions market for manufacturing, reaching into the trillions of dollars by 2034.<sup>1</sup>



**80%**

The proportion of manufacturing execs who plan to invest at least 20% of their improvement budgets in smart manufacturing, as of 2025.<sup>2</sup>



Most investments in industrial data architectures will focus on foundational tools and technologies. Manufacturing must catch up fast to realize AI's full potential.

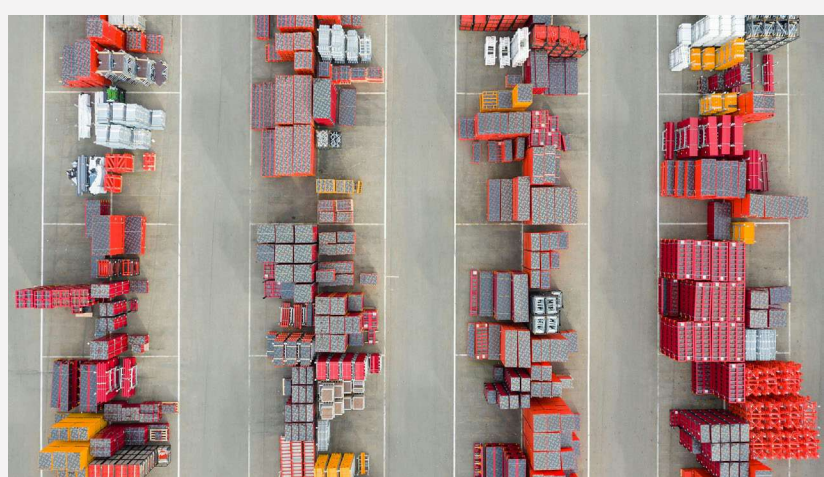
## Key Challenges for Legacy Architectures

- OT data is often locked in proprietary formats and protocols. Legacy architectures emphasized connectivity and visibility, not enterprise-scale intelligence.
- Legacy systems are difficult, expensive, and risky to integrate, especially at the speed, scale, and trust demanded by AI initiatives.
- Manufacturers must rethink how industrial data is sourced, structured, contextualized, and delivered.



## Connectivity: The Foundation for AI-Readiness

A consistent connectivity layer orchestrates fragmented OT data and makes it safely accessible across systems and scalable across the enterprise.

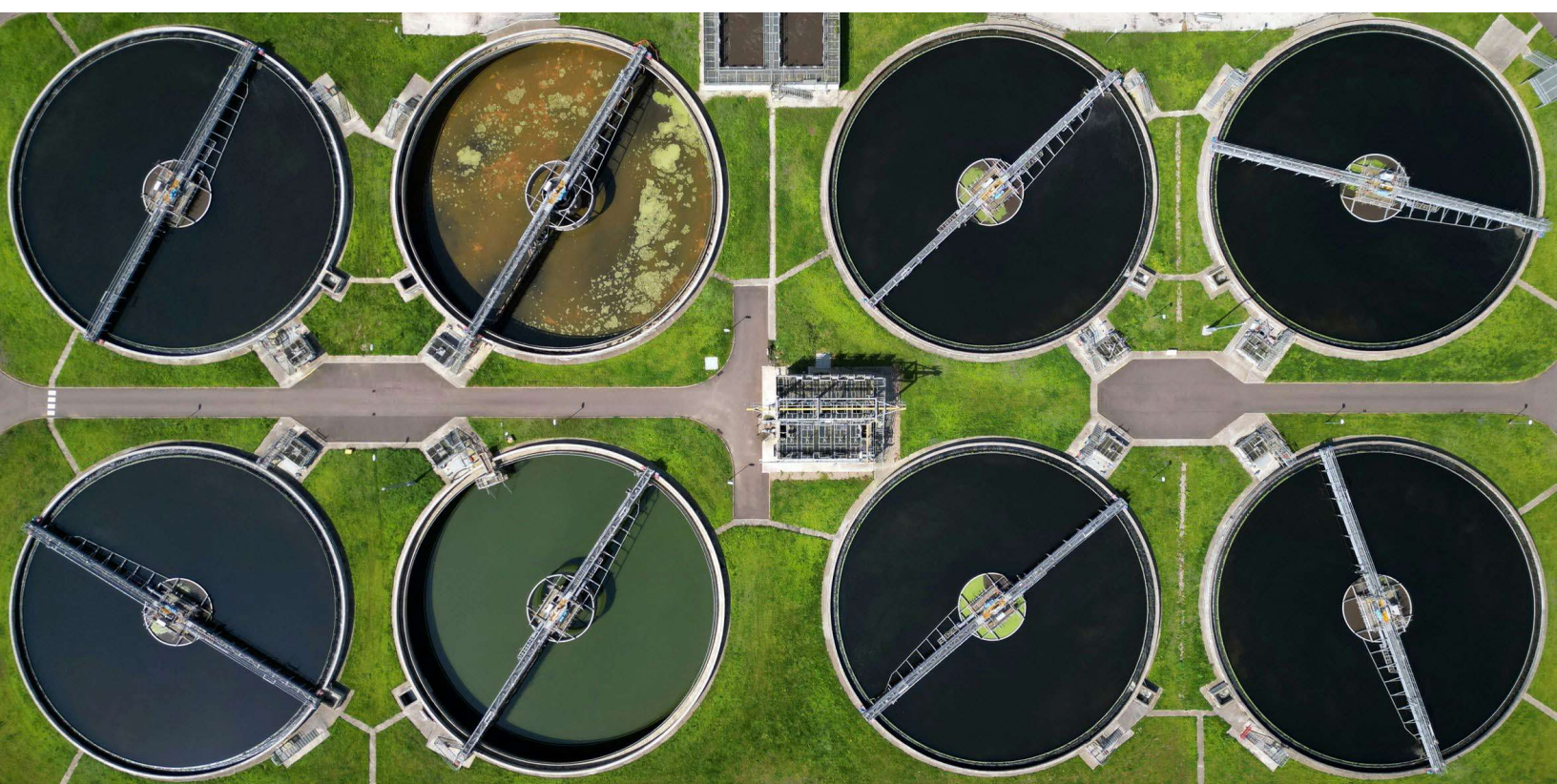


IDO and AI-ready data require a connectivity layer to normalize diverse data sources, securely move information across environments, and support modern, event-driven architectures.

## Key Challenges for Legacy Architectures

Why Kepware?

- Based on decades of industrial expertise, connectivity solutions such as Kepware provide a consistent, trusted source of industrial data to support modern IDO strategies—eliminating fragile custom integrations with broad interoperability across devices and systems.
- It abstracts devices from applications, converts proprietary OT data into open, secure standards like OPC UA and MQTT, and supports unified namespace (UNS) and industrial data management (IDM) architectures.
- Kepware moves manufacturers from fragmented OT data to AI-ready pipelines that scale across lines, sites, and the enterprise.



**AI expectations are rising—but legacy industrial architectures weren't built to support them.**

Read our latest white paper to explore why manufacturers are rethinking how data is structured and contextualized to turn AI ambition into tangible, scalable outcomes.

Get the insights →

<sup>1</sup> <https://www.fortunebusinessinsights.com/generative-ai-in-smart-manufacturing-market-115691>

<sup>2</sup> <https://www.deloitte.com/us/en/insights/industry/manufacturing-industrial-products/2025-smart-manufacturing-survey.html>