

Large-Scale Analytics Modernization in Manufacturing & Supply Chain

From legacy data environments to real-time,
AI-powered operations.

HOW MODERN MANUFACTURING AND SUPPLY CHAINS ARE CHANGING

Macro Drivers of Change

- **Volatility and risk**
Geopolitical, trade, and climate disruptions are forcing networks to prioritize resilience over pure cost efficiency.
- **Customer and product complexity**
Mass customization, shorter product lifecycles, and omnichannel fulfillment demand real-time responsiveness.
- **Sustainability and compliance**
ESG and regulatory mandates require multi-tier tracking of carbon, waste, and supplier risk.

Operational Shifts on the Ground

- **From linear to networked**
Supply chains are becoming dynamic, multi-sourced, and often regionalized.
- **From batch to continuous**
Operations are sensor-rich and event-driven, generating streaming data from machines, vehicles, and warehouses.
- **From reactive to predictive**
Maintenance, quality, and demand planning are shifting to AI/ML-driven predictive and prescriptive models.

HOW MODERN ANALYTICS HELPS

Capabilities Enabled by Modern Analytics

Real-time visibility

Unified dashboards combining ERP, MES, WMS, IoT, and external data for end-to-end status in near real time.

Predictive and prescriptive insights

Forecast demand, supplier risk, machine failure, and quality defects while recommending optimal inventory, production, and routing decisions.

Scenario planning and simulation

What-if analysis for demand spikes, port closures, or raw material shortages to evaluate cost, service, and risk trade-offs.

WHY LEGACY ETL AND DATA PIPELINES MUST CHANGE



Latency and batch limits

Built for nightly batches, not streaming or sub-minute refresh needed for modern operations.



Scalability and cost

Legacy environments struggle with high-volume sensor and log data, creating bottlenecks and increasing scaling costs.



Rigidity and silos

Point-to-point ETL jobs create brittle dependencies, duplicate logic, and data silos that slow analytics and AI.

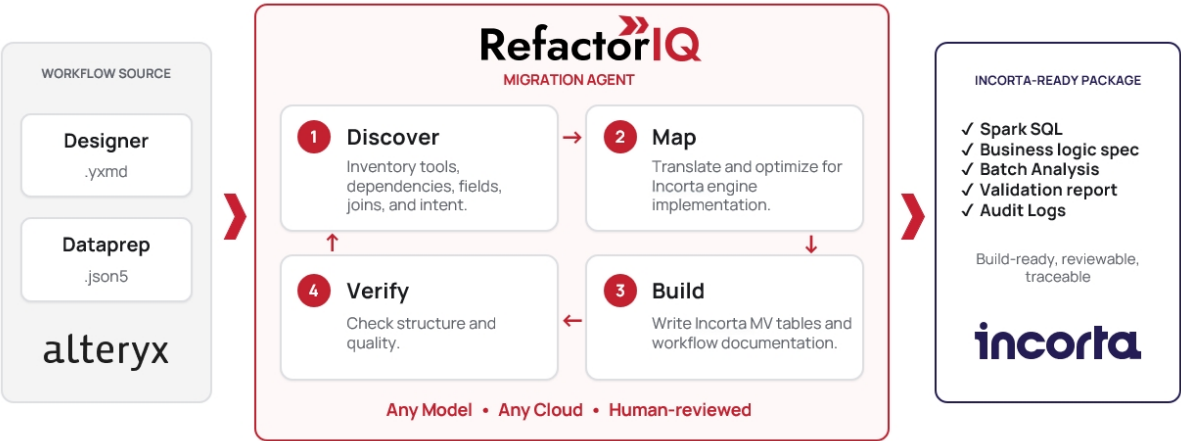


AI readiness

Modern platforms provide governed, feature-rich data layers and integrated AI/ML capabilities that legacy ETL cannot support efficiently.

HOW ESTUATE POWERS LEGACY-TO-MODERN AI MIGRATION WITH REFACTORIQ

Estuate's **RefactorIQ** accelerates the transition from legacy ETL and analytics environments to modern Incorta architectures, helping reduce manual migration effort while preserving critical business logic.



RefactorIQ Capabilities

- **Legacy Workflow Analysis**

Analyze existing workflows and transformation logic.
- **Business Logic Documentation**

Capture existing business logic to support modernization.
- **Automated SQL Generation**

Generate Spark SQL to accelerate development.
- **Accelerated Incorta Development**

Reduce manual migration effort and accelerate transition to Incorta.

KEY KPI IMPROVEMENTS MODERN ANALYTICS CAN ENABLE

Planning & Demand

Forecast accuracy:
+10–30% | Higher plan adherence

Inventory & Working Capital

Inventory turnover:
+15–40% | Fewer stock-outs and excess

Production & Assets

Higher OEE |
Faster throughput and cycle time

Service, Cost & Risk

Higher perfect order rates | Shorter lead times |
Lower cost-to-serve | Faster disruption response

These improvements enable higher service levels, lower costs, and greater resilience on a data foundation ready for ongoing AI and automation.

CLIENT SUCCESS ACROSS MANUFACTURING & SUPPLY CHAIN



Leading U.S. Toy Manufacturer

Modernized legacy data preparation and analytics for scalable enterprise insights.



Solar Manufacturer

Delivered yield analytics to improve manufacturing performance visibility.



Industrial Enterprise

Enabled manufacturing and sales analytics for integrated operational insights.

About Estuate

Estuate has delivered **200+ modern analytics projects**, backed by a large pool of Analytics, AI, and domain experts. Our expertise spans analytics modernization, AI-infused and agentic solutions, and enterprise data transformation, helping organizations modernize complex environments and build AI-ready foundations.