

From machine data to manufacturing intelligence — enabling smarter production, quality, and operational efficiency.

CLIENTS



CORE CAPABILITIES

Predictive Maintenance & Asset Health	Real-time monitoring of machine sensors — SCADA, PLC, vibration, temperature, pressure — with automated anomaly detection, RUL prediction, and maintenance alert generation
Process Quality & Yield Optimisation	Predictive quality scoring at each production handoff, root cause analysis of rejections, yield forecasting, and closed-loop feedback to correct upstream process parameters
Energy & Sustainability Analytics	Attribute energy cost per unit of output, detect overconsumption anomalies, forecast load demand, and calculate Scope 2 carbon footprint per SKU for ESG reporting
OEE & Production Planning	Configurable KPI dashboards for OEE decomposition, line throughput, shift performance, bottleneck identification, and downtime loss analysis across all production lines
Manufacturing Data Integration	Ingest data from SCADA, MES, CMMS, LIMS, ERP, Process Historian, and IoT sensors into a unified, on-premise manufacturing data lake
AI Colleague for Operators	Conversational AI assistant enabling plant operators, engineers, and managers to query production, quality, and maintenance data in plain English without technical skills

SOLUTIONING

Data Lake House	Design and deploy a Manufacturing Data Lake House — unified storage and query layer for time-series sensor data, production records, quality logs, and ERP data across all plants
Integrated ML Studio	End-to-end machine learning model building, training, SHAP explainability, and deployment for predictive maintenance, quality, and yield models across manufacturing datasets
On-Premise AI	On-premise LLM deployment and AI Colleague — all AI processing within plant infrastructure, zero sensitive production data leaves the facility boundary
Process Historian Integration	Automated ingestion and long-term archiving of time-series sensor and process data from historians — making decades of production data queryable and analytics-ready
Supply Chain & Inventory Analytics	Demand forecasting, raw material shortage prediction, supplier performance analytics, and dynamic inventory optimisation to prevent stockouts and reduce holding costs

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Full Suite of Analytics	Comprehensive analytics capability covering descriptive, diagnostic, predictive, and prescriptive analytics across all manufacturing subdomains — from asset health to sustainability
BI & Real-Time Dashboards	Interactive dashboards for real-time and near real-time production intelligence — configurable KPIs, plant floor mapping, drill-down to machine level, and automated shift and daily reporting
Plant & Line-Specific Reporting	Plant and production-line-specific monitoring, reporting, and dashboards — tailored to each facility's KPIs, shift patterns, equipment profiles, and quality standards

AI & MACHINE LEARNING HIGHLIGHTS

<p>Predictive Maintenance AI</p> <p>LSTM-based Remaining Useful Life (RUL) prediction per asset, anomaly detection across sensor streams, and failure mode classification — enabling precision-timed interventions before production impact</p>	<p>Closed-Loop Quality AI</p> <p>Agentic AI that detects quality deviations, identifies root-cause process parameters, and autonomously recommends or executes upstream corrections to protect yield</p>	<p>ML Studio</p> <p>Quality, yield, and energy models with SHAP explainability and champion-challenger testing for manufacturing data scientists and process engineers</p>	<p>AutoML Forecasting</p> <p>Automated forecasting of production output, material demand, energy consumption, and maintenance windows — enabling data-driven production planning and procurement</p>
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DEPLOYMENT, INTEGRATIONS & ARCHITECTURE

<p>SOVEREIGN DEPLOYMENT</p> <ul style="list-style-type: none"> On-Premise — 100% data residency Private industrial cloud compatible Containerised via Docker + Kubernetes Zero-downtime rolling updates 	<p>UNIVERSAL INTEGRATIONS</p> <ul style="list-style-type: none"> REST & SOAP APIs (OAuth2-secured) Relational databases and legacy systems File-based ingestion (CSV, JSON, XML) Real-time event streams (Apache Kafka) Enterprise IAM via Keycloak (SSO / OIDC) 	<p>MULTI-PLANT ARCHITECTURE</p> <ul style="list-style-type: none"> Plant-isolated configuration namespaces Independent pipelines, dashboards, and RBAC Onboard new plants and lines with no code changes Centralised governance and audit Role-based access for plant managers, engineers, operators National and multi-site deployment support
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