

Cerexio Predictive

Predictive Maintenance Platform

Maintenance with Integrative Intelligence

www.cerexio.com



Introduction

Industry 4.0-Inspired Predictive Analytics To Outmanoeuvre Downtime

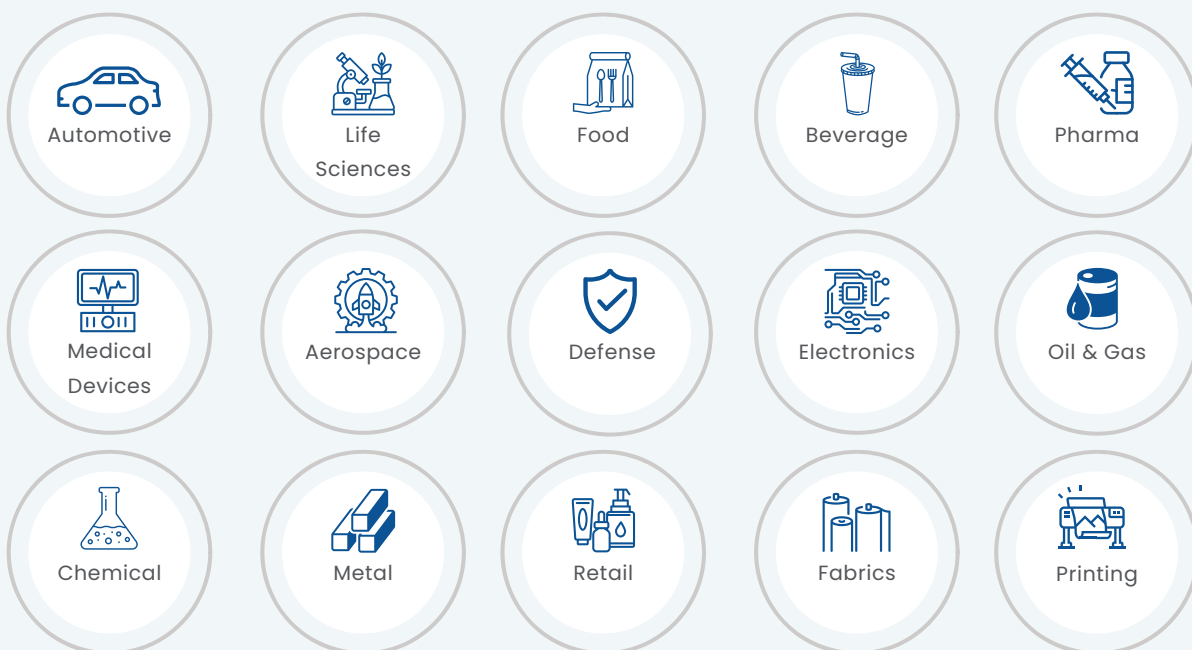
Incorporating Industry 4.0 digital architectures, Cerexio Predictive Maintenance Platform reconceptualises traditional maintenance by infusing predictive analytics with AI, Digital Twin, IoT and Simulation powers throughout the asset continuum. It enables enterprises to anticipate malfunctions, rationalise resources, and perpetuate superior performance and resilience within dynamic industrial ecologies.



Tomorrow's Asset Failures Smartly Predicted Today

@Cerexio AI Experts Team

Industries We Serve

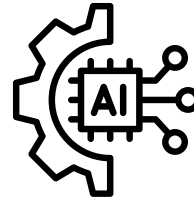


Key Highlights



1. Predictive Cognition Module

Delivers 72 hours of advanced failure predictions using ML, IoT sensors, and big data analytics, enabling asset reliability.



2. Autonomous Maintenance Setup

Cerexio offers automated maintenance scheduling and execution through its AI-driven workflows and robotics.



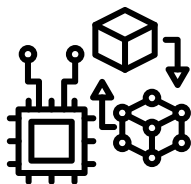
3. Multidimensional Asset Span

Provides panoramic insights into multi-site assets through unified dashboards, with sensor data and actionable intelligence.



4. Context-Aware Analytics

Analyses environmental, operational, and contextual variables dynamically, enabling adaptive maintenance strategies.



5. Digital Twin Integration

Mirrors physical assets virtually in real-time, facilitating scenario simulations, diagnostics, and predictive interventions

6. Financial Planning Module

Integrates cost modelling and forecasting analytics to align maintenance strategies with data-driven investment decisions.



Industry 4.0 Capabilities We Offer

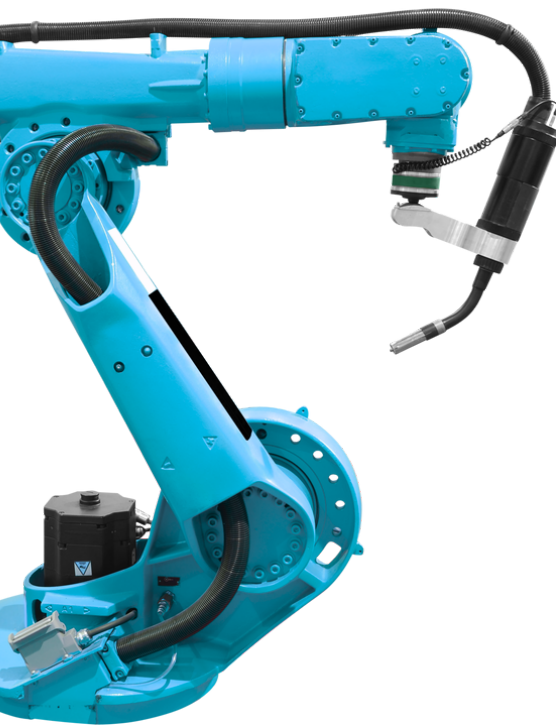
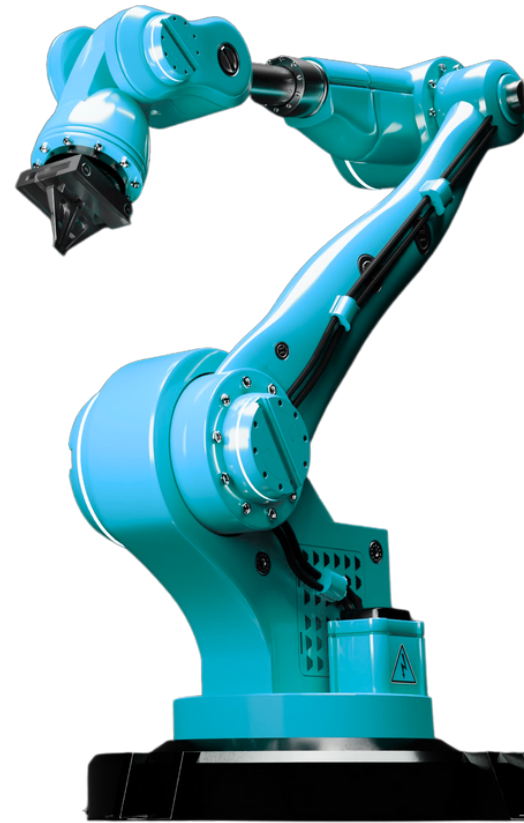
1 AI & Machine Learning

2 Big Data

3 GIS

4 AR/VR

5 Simulation



6 Satellite Remote Sensing

7 CCTV and Laser

8 5G, IoT, Quantum Sensors

9 Digital Twin

10 Robotics and CPS

Cerexio Predictive Modules



Robotics Maintenance Pilot

integrates robotic systems, such as SCARA, AGVs, Articulated Robots, and autonomous drones like the DJI Matrice Series and Delair UX11, into maintenance routines. This enables inspection, diagnostics, and interventions in dangerous and inaccessible environments.



360° Performance Synthesiser

Aggregates multi-dimensional performance metrics, including mechanical, financial, environmental, and human factors, into a unified, actionable intelligence stream, equipping stakeholders with a holistic, data-driven perspective on asset health.



Sustainability Compliance Console

Monitors regulatory and ESG indicators accurately, aligning maintenance workflows with sustainability mandates and corporate social responsibility objectives through continuous screening, predictive insights, and intelligent reporting in compliant dynamics.



Hazard Resilience Planner

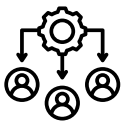
Simulates hypothetical operational disruptions, including supply chain interruptions, equipment obsolescence, cyberattacks, or catastrophic failures, enabling stakeholders to craft robust, data-driven contingency plans that enhance organisational agility.

Cerexio Predictive Modules



AI-Driven Diagnostics Advisor

Guides technicians through intricate fault isolation, delivering prescriptive diagnostics synthesised from historical failure databases, Bayesian inference models, and contextualised, real-time operational telemetry for precise decision support.



Resource Allocation Grid

Utilises predictive analytics frameworks like SAP IBP and IBM Maximo, integrating historical datasets and live IoT telemetry to optimise human capital, tooling, and auxiliary resource deployment, ensuring maintenance interventions achieve maximal operational efficiency.



Digital Twin Simulators

Employs digital twin architectures, finite element modelling, and discrete event simulation to virtually replicate asset and process dynamics, simulate maintenance scenarios, predict emergent behaviours, and validate interventions in silico, optimising protocols pre-deployment.



Multi-Site Operations Control

Utilises SCADA systems, OPC UA protocols, and edge-cloud integration to provide centralised oversight of geographically distributed facilities, harmonising maintenance activities across disparate sites via a single pane of glass, ensuring operational efficiency at scale.

Cerexio Predictive Modules



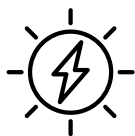
Condition-Based Monitoring Panel

Incorporates MEMS sensors, FFT algorithms, thermography, and IEC 61499 function blocks to continuously evaluate vibration, acoustic, thermal, and electrical parameters, delivering actionable diagnostics, enabling condition-driven maintenance.



Air Management Asset Module

Combines IoT-enabled particulate sensors, BACnet protocols, and ASHRAE standards to monitor HVAC, filtration, and environmental systems, ensuring regulatory compliance, safeguarding occupant health, and optimising air quality within a comprehensive predictive maintenance framework.



Energy Efficiency Orchestration Node

Utilises various sensor networks combined with real-time analytics to monitor and optimise energy consumption across heterogeneous assets, enabling sustainable operations through inefficiency detection, waste mitigation, and carbon footprint reduction.



Lifecycle Cost Optimisation Engine

Synthesises operational data via SCADA systems, resource allocation heuristics powered by AI algorithms, and financial models integrated through ERP platforms using RESTful APIs to minimise total cost of ownership across the asset lifecycle, maximising ROI through smart planning.



Cerexio Predictive Benefits

Collaborating Industry 4.0 Paradigms for Functional Integrity of Your Assets

Explore how Cerexio incorporates Industry 4.0 and advanced analytics to transform predictive maintenance, enabling enterprises to transcend reactive paradigms in the digital-first asset management orchestration. Uncover how its data-synergised insights empower precise interventions, elevating asset longevity, operational resilience, and cost efficiency.



Unparalleled Operational Resilience

By anticipating failures well before they occur, your company reduces unplanned downtime by significant numbers, sustains seamless production continuity, and achieves high-scale asset reliability while driving substantial cost savings.



Adaptive Maintenance Agility

Cerexio intelligently analyses real-time operational demands and multifaceted asset conditions, dynamically optimising maintenance windows to boost equipment availability massively, minimising disruptions to core production.



Enhanced Workforce Productivity

Our advanced maintenance platform, integrated with immersive training augmentation, reduces technician error rates, significantly increasing maintenance throughput, minimising downtime attributable to human factors.



Risk-Informed Financial Planning

With predictive insights and sophisticated fiscal modelling, your company improves budgeting accuracy, optimises capital allocation, proactively manages financial risks, and significantly mitigates unforeseen equipment failures.

Cerexio Predictive Benefits

Enter the Intelligent Frontier of Maintenance and Unlock the Maximum Efficiency

Beyond traditional expectations, the Cerexio platform delivers multifaceted benefits that redefine the contours of maintenance. Anchored in predictive analytics and adaptive optimisation, our suite cultivates operational fortitude, fiscal efficiency, and sustainability, enabling a data-driven strategic framework.

Regulatory Compliance Assurance

Our automated sustainability and safety monitoring systems continuously track adherence to evolving environmental and industry-specific regulations, significantly reducing legal penalties and mitigating compliance risks.

Enhanced Predictive Accuracy

Utilising advanced machine learning algorithms, the system reduces false positives by a massive number, facilitating precise maintenance scheduling that conserves resources, averts unnecessary interventions, and safeguards critical asset health.

Holistic Performance Visibility

As our platform aggregates multi-domain data streams, it equips executives with a comprehensive, panoramic understanding of asset health, enabling proactive, strategic interventions, driving superior financial performance outcomes.

Maximised Asset Lifespan

Cerexio platform's strategically optimised maintenance schedules extend equipment lifespan to great levels, significantly reducing capital replacement costs, maximising total lifecycle value, and enhancing return on investment.

Cerexio Client Stories

Cerexio has been at the forefront of digital transformation in manufacturing, empowering companies to achieve operational excellence and sustainable growth. Through its flagship solutions, Cerexio has partnered with industry leaders to solve complex challenges, ranging from throughput optimisation to emission control, while delivering measurable business value.

A company that manufactures and fabricates precision parts, moulds, and dies.

1

Vertically-integrated manufacturing services since 1978. They had a challenge in digitally transforming factories to improve operational efficiencies and reduce labour costs.

CEREXIO MES improved the throughput by digitally transforming their factory of 200+ moulding machines while the same labour capacity was able to deliver a +10% profit

Cement Manufacturer

2

According to Forbes, this company was on the list of the 700 largest global public companies in 2015. They had challenges in achieving kiln stability and optimisation.

CEREXIO MES was utilised by them to prevent poor quality, suboptimal throughput, unhealthy emission rates and energy losses by predicting failures in cyclone infrastructure.

ARTC- Advanced Remanufacturing Technology Centre

3

A Singaporean government agency that researches to facilitate the advanced manufacturing ecosystem in the region.

CEREXIO MES Services and Modules optimised their hyper-personalisation Line- a solution that manufactures personalised products in a fully automated production line.

Contact Cerexio

Don't hesitate to get in touch with us for further clarification or to book a demo this week. The contact particulars of our company are as below:

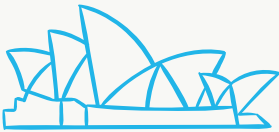


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