Smart. Reliable. Sustainable.

QMULUS

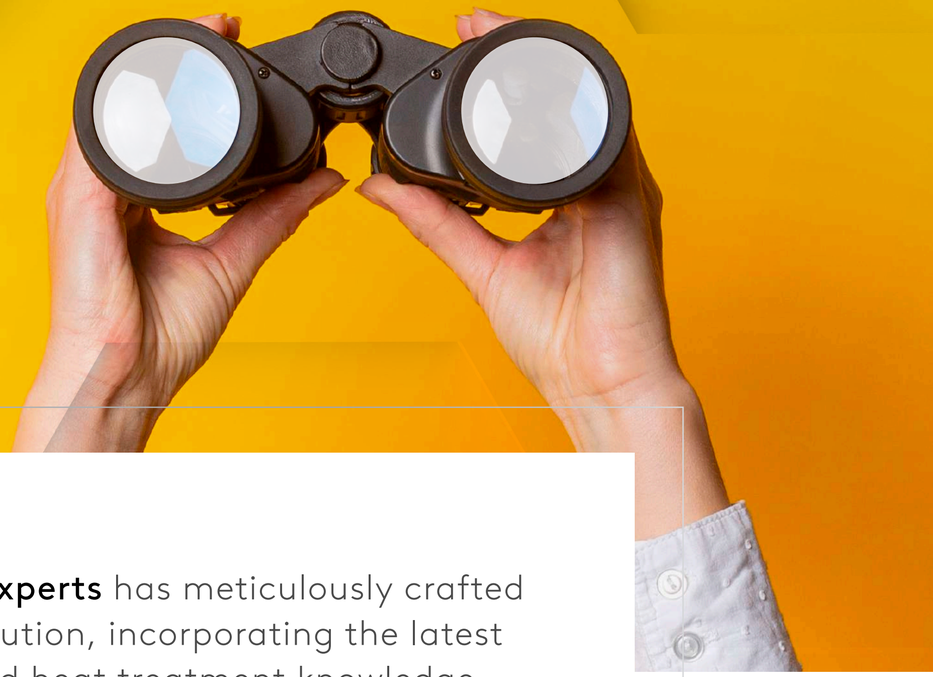
IoT PLATFORM

AI-Powered Efficiency
for Heat Treatment

QMULUS

THE SOLUTION

YOU'VE BEEN SEEKING!



After years of extensive research and development, we are proud to announce the launch of QMULUS, our revolutionary AI-powered software, specifically designed for the heat treatment market.

Our team of experts has meticulously crafted the perfect solution, incorporating the latest technology and heat treatment knowledge to meet the unique needs of this market.

Our cutting-edge software will revolutionize the way you operate, providing unparalleled precision and efficiency that will help you achieve unprecedented results. And the best part? It's easy to use, so you can start reaping the benefits right away.

QMULUS

A COMPREHENSIVE
SOLUTION

QMULUS is an IoT platform, offered on cloud and on-premise, providing you with a complete and integrated approach, including:

- Data acquisition
- Analysis
- Monitoring
- Optimization
- Control
- Auditing
- Detection
- Reporting

QMULUS

A HOLISTIC SOLUTION

QMULUS is a holistic data solution that improves asset and production transparency and efficiency by automating all systems and flows to drive better top-line and bottom-line results.

→ SINGLE SOURCE OF INFORMATION

QMULUS captures all relevant machinery and production data available on your shop floor.

→ EQUIPMENT CONNECTIONS

QMULUS connects with NITREX brand, third-party, and custom controllers for process overview, recipe control, bidirectional communication, batch tracking and other customization options.

→ INSIGHTS FOR CUSTOMERS

QMULUS creates a holistic representation of data from processes and machines, generating deeper customer insights that facilitate informed decision-making and improve production performance.

→ LEAN ARCHITECTURE

QMULUS is built with a lean architecture that is scalable and maintainable and capable of running either in the cloud or at the customer's site.

QMULUS

A TRUSTWORTHY SOLUTION

QMULUS is built to safely and securely assist your day-to-day operations while protecting your data. Here are just some of the ways our multi-hosting solution protects you, your business, your customers, and your profits.

PROTECTION

Select from multiple cloud security for your specific protection needs.

SECURITY

Benefit from the highest security standards, which use multitenancy, data encryption & user/rights management.

AWS ENVIRONMENT

Get the highest security standards for data storage thanks to a closed AWS environment.

LEGAL

NDA, MSA and MOU documents provide full data IP rights protection & ownership by the customer.

SINGLE SOURCE

Keep information safe thanks to one single source of truth for all integrated data.

ACCESSIBILITY

Access all data with metadata descriptions through a universal API set.

DATA & ACCESS

With data encryption, both at rest and in transit, only authorized access is allowed and audited.

MONITORING

All databases are secured, patched & monitored 24/7.

QMULUS

A SMART SOLUTION

Unlocking the power of AI and machine learning in heat treating processes, QMULUS revolutionizes efficiency, quality, and safety, empowering heat treaters with predictive insights, process optimization, and automated decision-making.

PROCESS OPTIMIZATION

AI and machine learning algorithms analyze large amounts of data from heat treating processes to identify optimal parameters, leading to improved efficiency, reduced energy consumption, and better quality control.

QUALITY CONTROL

AI detects patterns and anomalies in data collected during heat treating processes. It identifies deviations from the desired outcomes, allowing heat treaters to quickly rectify issues, enhance product quality, and reduce scrap and rework.

PREDICTIVE MAINTENANCE

By leveraging historical data and real-time sensor inputs, AI algorithms can predict equipment failures and maintenance requirements, enabling proactive maintenance scheduling. This minimizes unplanned downtime, reduces costs, and maximizes equipment utilization.

ENERGY EFFICIENCY

AI algorithms optimize energy usage by identifying the most energy-efficient operating conditions for heat treating processes. This helps heat treaters reduce their carbon footprint, minimize energy costs, and comply with sustainability goals.

ENHANCED SAFETY

AI and machine learning contribute to improved safety in heat treating environments by monitoring factors such as temperature, pressure, and gas concentrations. They alert operators to potential hazards and assist in the implementation of safety protocols.

DATA-DRIVEN DECISION-MAKING

By analyzing historical and real-time data, AI empowers heat treaters to make informed decisions regarding process improvements, equipment investments, resource allocation, and production planning. This leads to better strategic outcomes and increased competitiveness.

FAULT DETECTION & DIAGNOSIS

Machine learning algorithms analyze sensor data to detect and diagnose faults in heat treating equipment. This enables timely interventions, prevents potential failures, and ensures the smooth operation of the processes.

REAL-TIME MONITORING & CONTROL

AI and machine learning enable real-time monitoring of heat treating parameters and provide automated control adjustments. This ensures process stability, reduces human error, and maintains consistent product quality.

QMULUS

A GREENER SOLUTION

EASILY CALCULATE YOUR CARBON FOOTPRINT
per load & lower your emissions

GET ACCURATE CARBON FOOTPRINT
per ton stats, over time or over a specific date range

PROVIDE MORE INFORMATION
such as environmental KPI tracking and carbon footprint per load, all in real time

ENABLE COMPLETE TRANSPARENCY
& process improvement while providing new perspectives and insights

ACHIEVE HIGHER EFFICIENCY ON ALL YOUR EQUIPMENT
resulting in lower consumption of energy

USE OUR AI SIMULATION TOOL
for rapid prototyping to avoid real and physical test runs in production

CREATE ACCURATE PROCESSES
providing increased time efficiency, no wasted energy, less failures & less non-complying loads

OBTAIN TIGHTER TOLERANCES
to ensure improved manufacturability, quality, & customer satisfaction, all the while reducing costs

AVOID UNNECESSARY PRODUCTION
including less idle time, fewer downtimes, and higher efficiency, all of which lead to energy savings and process optimization

THE PERFECT SOLUTION

CUSTOMIZED BY YOU

QMULUS

ESSENTIAL

CORE PACKAGE

ASSET MANAGEMENT

Gain a comprehensive overview of all assets across your entire company. Centrally store all asset-related files and documents for easy accessibility at all times.

PRODUCTION LOGS

Access all loads and processes available in QMULUS, from detailed views and ratings of single processes to multiple process comparisons in a single dialog with Chart Recorder.

PERFORMANCE DASHBOARD

Improve productivity through better insights into consumables, as well as other plant and asset consumption performance indicators.

A powerful SCADA solution enables you to keep all equipment documentation in a single place, access all production logs, document and investigate proper chart recordings, and it provides condensed views of the floor through dashboards.

CHART RECORDER

Visualize process data including load-specific information such as alarms, recipe steps, and more. Feature accessible through multiple apps in QMULUS.

MAINTENANCE DASHBOARD

Get all the information you need to maintain asset health and reduce unplanned downtime. This dashboard is designed with your maintenance team in mind.

QMULUS LITE

View the current furnace status, running recipe, and job chart for your NITREG® controller(s) from your device.

QMULUS

ADD-ONS

OPTION PACKAGES

Choose one or more out of the 5 option packages to complement your QMULUS Essential package:

QMULUS OPERATIONS

Interact with your shop from anywhere, acknowledge alarms and manage recipes easily.

QMULUS AI

Create model processes and make use of documented root cause analyses to detect equipment and process anomalies for improved operations.

QMULUS PERFORMANCE

Improve quality operations with our custom part/material databases: browse and create recipes, assign loads to connected equipment, and optimize production processes.

QMULUS AUDIT

Apply customized and automated audits to your treatments, connect your laboratory to document your lab results for enhanced quality control and easier certification processes.

QMULUS ANALYTIC

Gain valuable statistics and KPIs for specific frames, entire divisions, locations, selected assets, or individual recipes with detailed analytics, and eliminate issues that have the most impact.

QMULUS

STANDALONE APPS

4 powerful standalone apps to maximize your process efficiency with real-time access to critical information about your furnace operations and simulation capabilities to fine tune your recipes and optimize results.

QMULUS LITE

View the current furnace status, running recipe, and job chart for your NITREG® controller(s) from your device.

NITRIDING & NITROCARBURIZING SIMULATOR

Simulate and model nitriding and nitrocarburizing processes in accordance with AMS 2759/10A and 2759/12A to achieve optimal results and reduce the lead time in process development.

LOW PRESSURE CARBURIZING SIMULATOR

Optimize your low pressure carburizing processes with a simulation tool that provides both recipe accurcy and speed.

CARBURIZING SIMULATOR

Design and optimize recipes for carburizing processes and significantly reduce lead time for process development.

THE ENDLESS BENEFITS

SOLUTION

QMULUS

THE ENDLESS BENEFITS

SOLUTION

→ GET FULL VISIBILITY

QMULUS provides real-time access to critical information about all machinery, non-machinery, and production data, allowing for quick and insightful decision-making.

→ INTEGRATE EQUIPMENT SEAMLESSLY

QMULUS enables seamless connection and communication with Nitrex brand, third-party, and custom controllers, providing a comprehensive overview of your processes and optimizing recipe control.

→ ENHANCE DECISION-MAKING

QMULUS provides data-driven insights into processes and equipment, enabling informed decision-making to drive production improvements and optimization opportunities.

→ RUN GREENER OPERATIONS BY TRACKING “GREEN KPIs”

QMULUS promotes environmental accountability by improving production efficiencies and reducing waste, helping you build a greener future while maintaining profitability.

→ DIFFERENTIATE FROM COMPETITION

QMULUS will set you apart from the competition with reliable quality, repeatable results and cost advantages. QUMULUS makes you more attractive to new customers by offering a forward-looking and transparent solution with the possibility to involve the clients themselves.

→ INCREASE EFFICIENCY AND SAVE COST

QMULUS optimizes your workflow to reduce equipment downtimes and inaction, avoid bottlenecks, reduce waste of resources,and streamline processes to save on operational costs.

QMULUS

CONTACT US

LET US HELP YOU

Effectively manage and oversee your operations remotely from a single source
—so you can concentrate on growing the rest of your business.

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