

NORTON

SAINT-GOBAIN®

GRIND (⚡) SMART™

Powered by nes™

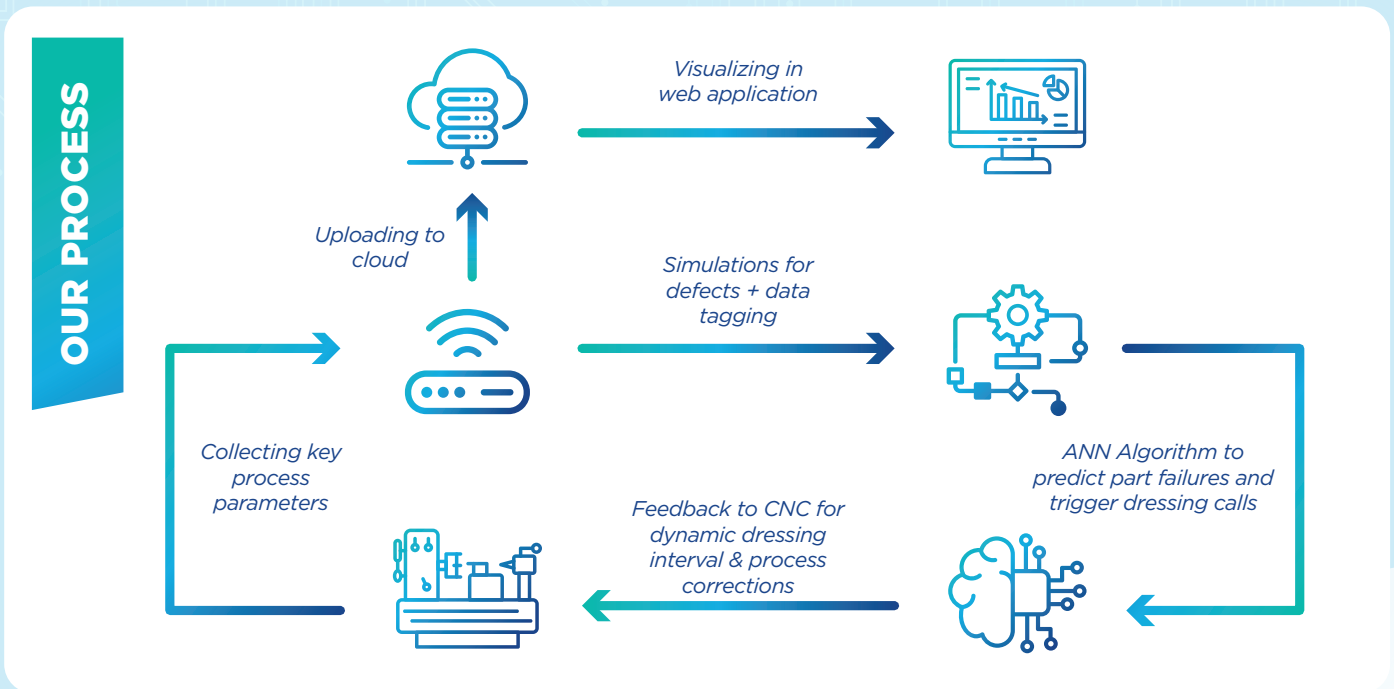
The Future of Manufacturing

With Norton Grindsmart - An Industry 4.0 Solution


SAINT-GOBAIN

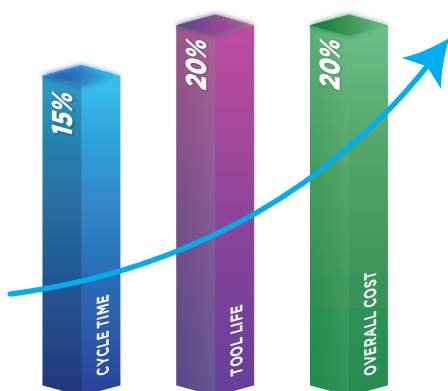
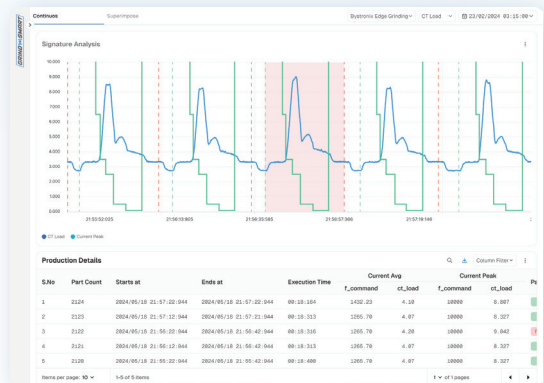
Unlock the power of Big Data & Real-Time Analytics

Grindsmart is an IIOT based solution that combines machining science with real time AI/ML data for grinding and machining applications to optimize productivity, quality, and cost. It dynamically adjusts grinding parameters, enhances tool life, minimizes defects, and enables Process Excellence through extensive data collection, analytics and troubleshooting.



CYCLE ANALYZER

- **Detect Process Variations:** Identify cycle changes, dressing effects, and feed rate shifts.
- **Optimize Cycle Time:** Streamline cycles by analyzing contact and non-contact durations.
- **Leverage Sensor Insights:** Correlate multi-part signatures with feed rates and axis positions using sensor data trends.



ADAPTIVE DRESSING & REAL-TIME INTELLIGENCE

- **Dynamic Wheel Dressing:** Optimize grinding performance with real-time AI/ML-driven wheel dressing.
- **Cost & Tool Optimization:** Improve tool life and reduce costs with smart dressing intervals and dynamic adjustments.
- **Real-Time Triggers:** Initiate dressing or quality alerts based on overlap factor and real-time data.

ANOMALY DETECTION

- **AI/ML-Based Monitoring:** Identify anomalies in geometry, quality (part under-size), and wear compensation.
- **Deviation Detection:** Prevent issues like incorrect part loading, parameter errors, and IPG malfunctions.
- **Failure Prediction:** Anticipate part failures and thermal damage and burn marks before they occur.



00:10:01 Warning

Bystronix Edge Grinding 3
Critical-12 | Warning-5
Last Alarm status is Warning at 19/08/2024 07:18:54 AM

High Feed Rate Alert
19/08/2024 07:18:54 AM Acknowledge Critical

Event Value 2.12 mm/s Limit Value 1.5 mm/s Limit Above

Bystronix Edge Grinding 1 | Motor Drive End (105229) | Feed Rate

Low Production Rate
19/08/2024 07:18:54 AM Acknowledge Warning

Event Value 67% Limit Value 75% Limit BeLow

Bystronix Edge Grinding 1 | Execution

ALERTS & NOTIFICATIONS

- **Real-Time Critical Alerts:** Instantly notify teams of critical process events and deviations.
- **Process Monitoring:** Track downtimes, key changes, and process errors effectively.
- **Automated Escalation & Task Assignment:** Escalates issues and assigns tasks to relevant teams automatically.

PROGNOSTIC HEALTH MONITORING

- **Real-Time Spindle Health:** Continuously monitors spindle health and provides early alerts on vibration issues.
- **FFT Analysis for Insights:** Provides detailed frequency analysis to pinpoint issues.
- **Predictive Maintenance:** Enables proactive maintenance to maintain performance and minimize downtime.

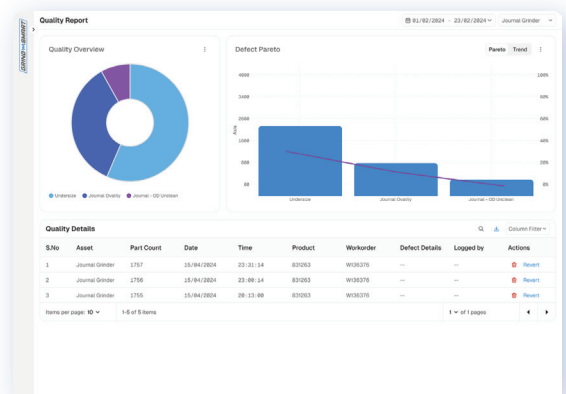


OEE & PRODUCTION DASHBOARD

- **Work Order-Based Execution:** Streamlines execution based on work orders for efficient workflows.
- **Real-Time & Custom Dashboards:** View production status with real-time and customizable dashboards.
- **OEE & Performance Insights:** Track asset OEE and monitor downtime and quality for optimized operations.

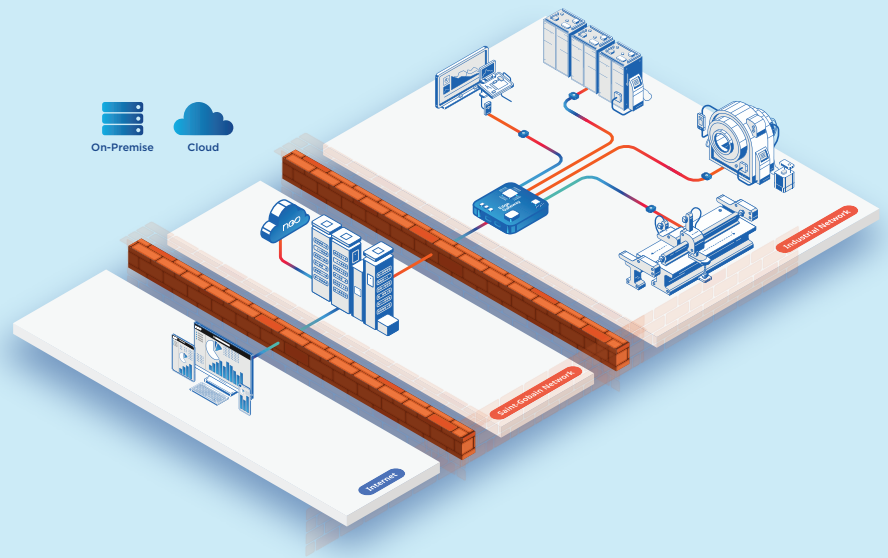
DOWNTIME & QUALITY REPORTS

- **Custom Reports:** Generate tailored reports for personalized insights.
- **Quality & Downtime Reports:** Includes real-time rejection and rework Pareto analysis, defect trends, and detailed charts for planned and unplanned downtime.
- **Performance Reports:** Provides comprehensive data on breakdowns, availability, production, and changeovers for in-depth performance analysis.



Comprehensive Data Collection

- Grinding Parameters
- Machining Parameters
- Spindle Power Load
- Post-process Quality Data
- Any Sensor Data



Package	Key Features	Grinding	Turning	HMC/VMC	SPMs
Basic	OEE & Production KPI Monitoring	✓	✓	✓	✓
Basic	Process Deviation Alerts	✓	✓	✓	✓
Smart	Cycle Time Optimization	✓	✓	✓	✓
Smart	Process Visualization & RCA	✓	✓	✓	✓
Smart	Dressing Optimization & Analytics	✓	—	—	—
Smart	Tool Monitoring	✓	✓	✓	✓
Intelligent	Process Anomaly Detection	✓	✓	✓	✓
Intelligent	Adaptive Dressing	✓	—	—	—
CBM	CBM - Vibration Monitoring	✓	✓	✓	✓

Key Industries - Auto & Auto Ancillary, Bearing, Steel and Food Processing

Reach out to us for more details

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