How O3OZONE **Cut OEE Losses by 25%** in a Paper Factory

Reduced Work Order Processing Time
& Fewer Quality Issues

Modern Paper Production Challenges

Paper production is a challenging industry that grows more demanding by the day. The paper industry is a major consumer of energy, accounting for around 6% of global industrial energy use. With a global push towards more sustainable practices, the pressure is on to cut waste and improve efficiency.

Obeikan Paper Industries produces 220,000 tons of paper and cardboard each year, exporting to more than 20 countries around the globe. Their entire operations need to run like clockwork as delays, machine downtime, and wasted materials cost the company a lot of money.

In an effort to increase production speed, energy efficiency, and product quality Obeikan implemented IIoT (Industrial Internet of Things) technology alongside O3OZONE's smart factory platform.

The IIoT sensors generate a wealth of production data that is collected by the O3OZONE platform, processed, and analyzed to deliver real-time monitoring and insights.

In this white paper, we will explore the O3OZONE implementation in detail, including how it works and the results gained.

IMPROVEMENTS:

Data-Driven Decision Making

Using actionable real-time insights

Lean Management

Using smart technology to streamline lean methodology

Predictive Intelligence

Prevent downtime with cutting-edge AI analysis

Improve Quality

Reduce the impact of quality issues with automated alerts

Unifying Systems and Data

Obeikan Paper Industries faced two main challenges, quality issues and machine downtime due to reactive maintenance.

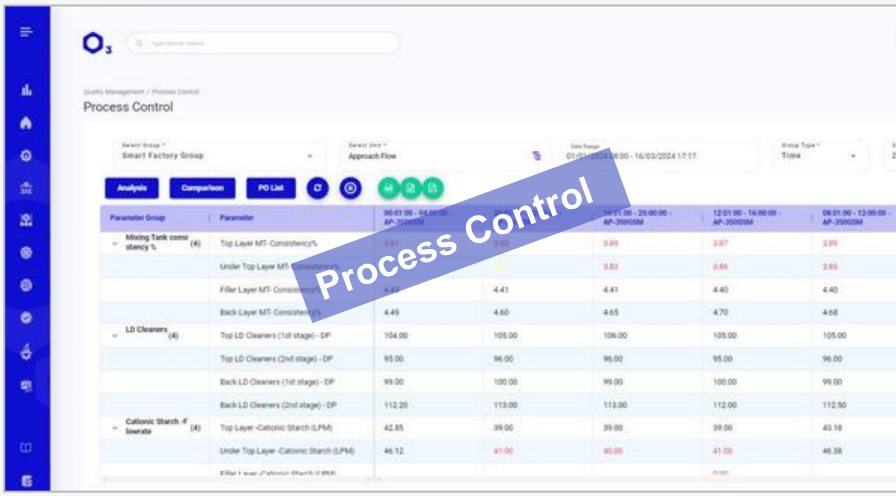
Quality Challenges

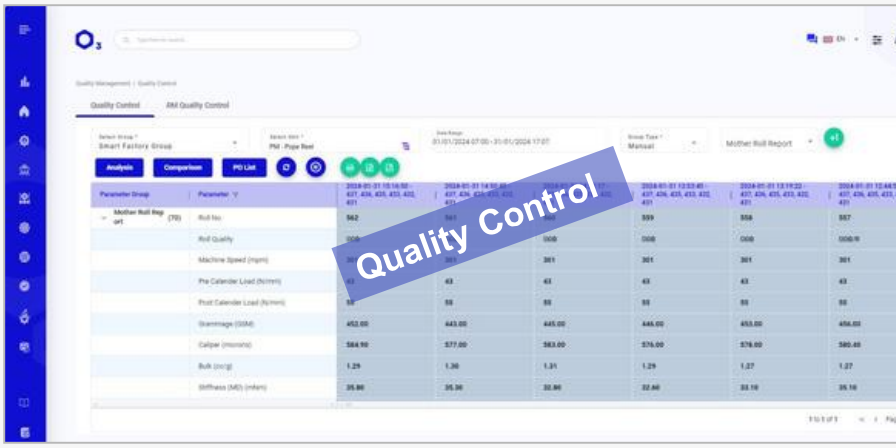
Under their Progressive Quality (PQ) pillar, Obeikan was manually preparing the Product Quality Analysis for rejects and B-grades, monthly and quarterly. This made it impossible to monitor defects in real-time and delayed responses to any issues.

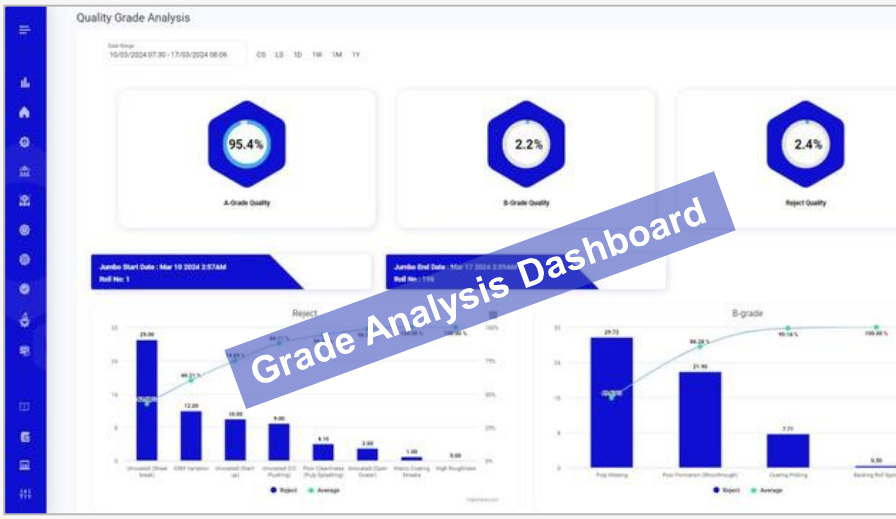
The existing Statistical Process Control (SPC) system also slowed things down, as they used a Windows application and relied on Excel sheets for reporting. This meant that data had to be manually duplicated, which was highly inefficient.

O3OZONE In Action

To solve the quality challenges, the O3OZONE Quality Management module was implemented. The platform helped to automate and manage elements of quality control, process control, and grade analysis.







Maintenance Challenges

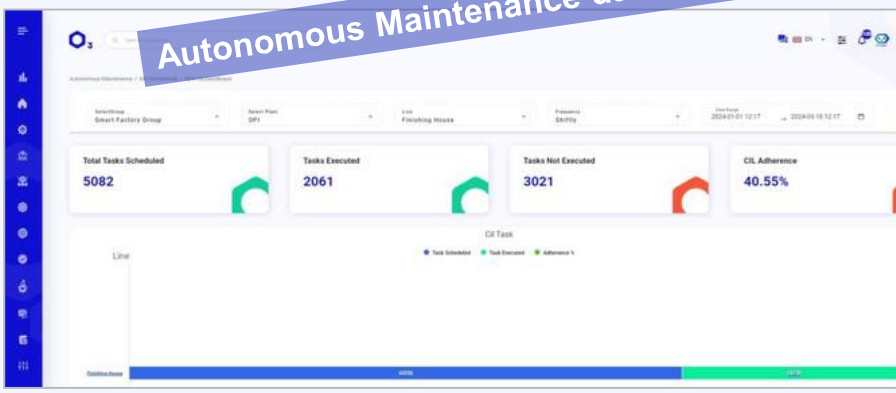
Before the O3OZONE implementation, Obeikan planned maintenance tasks manually, which took a lot of time and effort. They also had to compile KPIs from various Excel sheets. Using the LN-BAAN system for work orders was inefficient.

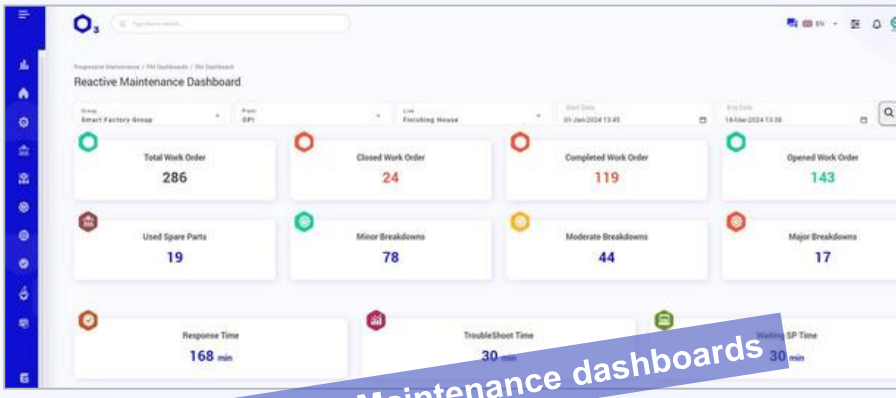
The maintenance and work order issues meant they missed their OEE target, achieving 57% instead of the planned 60%. The main reason was due to high availability losses from setups, cleaning, inspecting, lubricating (CIL), and process incidents.

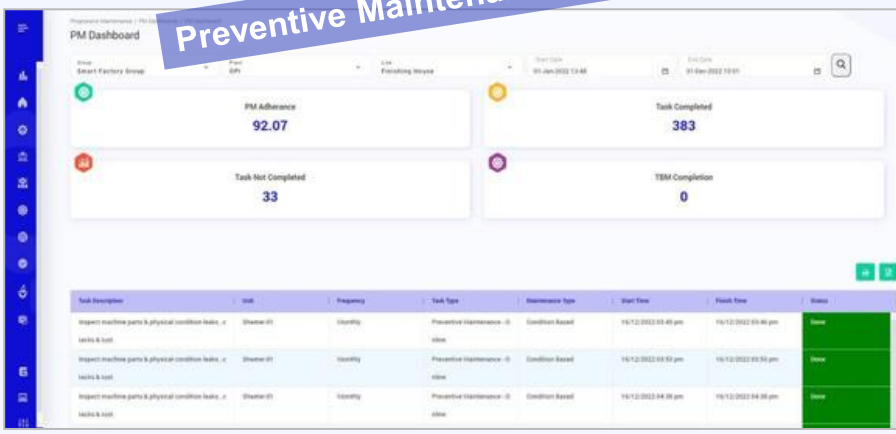
O3OZONE In Action

To improve maintenance performance, the O3OZONE Autonomous Maintenance module was implemented. It helped to centralize defect and CIL management, as well as integrating shutdown activities and automating maintenance requests via work orders.

The platform also helped to track the execution of progressive maintenance tasks and measure its impact on machine performance.







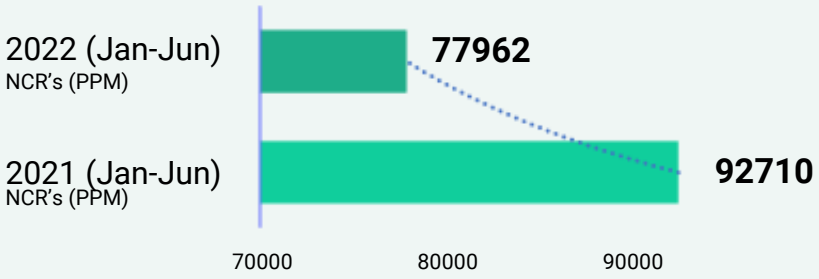
Results & Impact Analysis

Quality Management

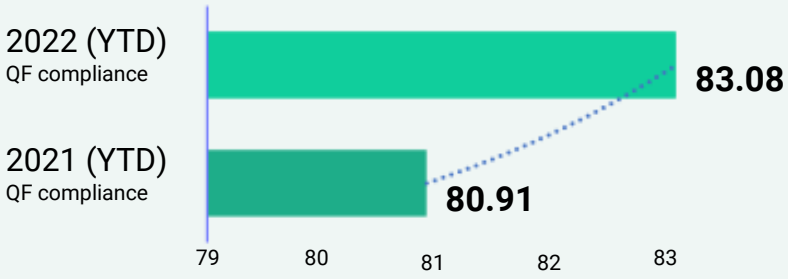
Thanks to real-time monitoring, Obeikan Paper Industries can now quickly spot when things are off track, which has helped cut down on losses. By catching issues early, they have reduced the number of rejects and B-grade products, which in turn has lowered their costs tied to quality issues.

Plus, improvements in the performance of their Low Density Cleaners, Coater IR Dryers, and Air Dryers have significantly reduced problems with board dusting. It has resulted in higher quality standards and efficiency across the board.

NCR's (PPM)



Q-Factors Compliance, %



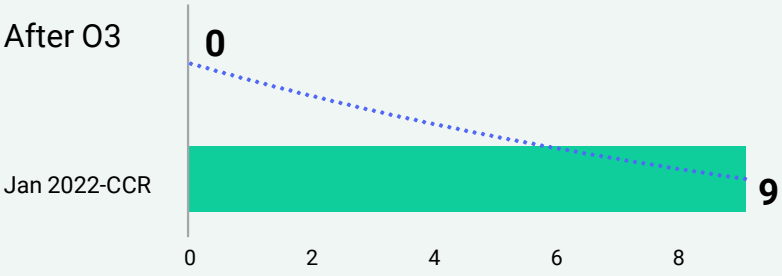
96% reduction in processing time

16% reduction in NCRs

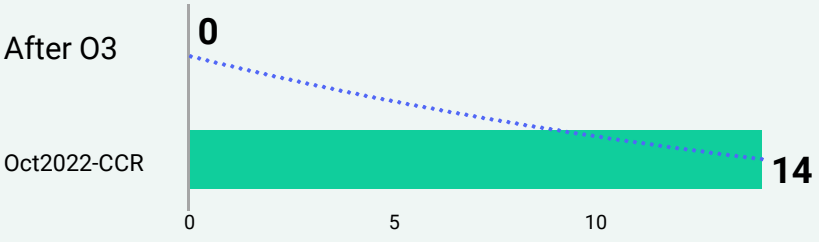
100% reduction in CCRs

2% increase in overall quality factor compliance

Board Dusting CCR's due to Stickies



Board Dusting CCR's due to Coating picking



Results & Impact Analysis

Autonomous Maintenance

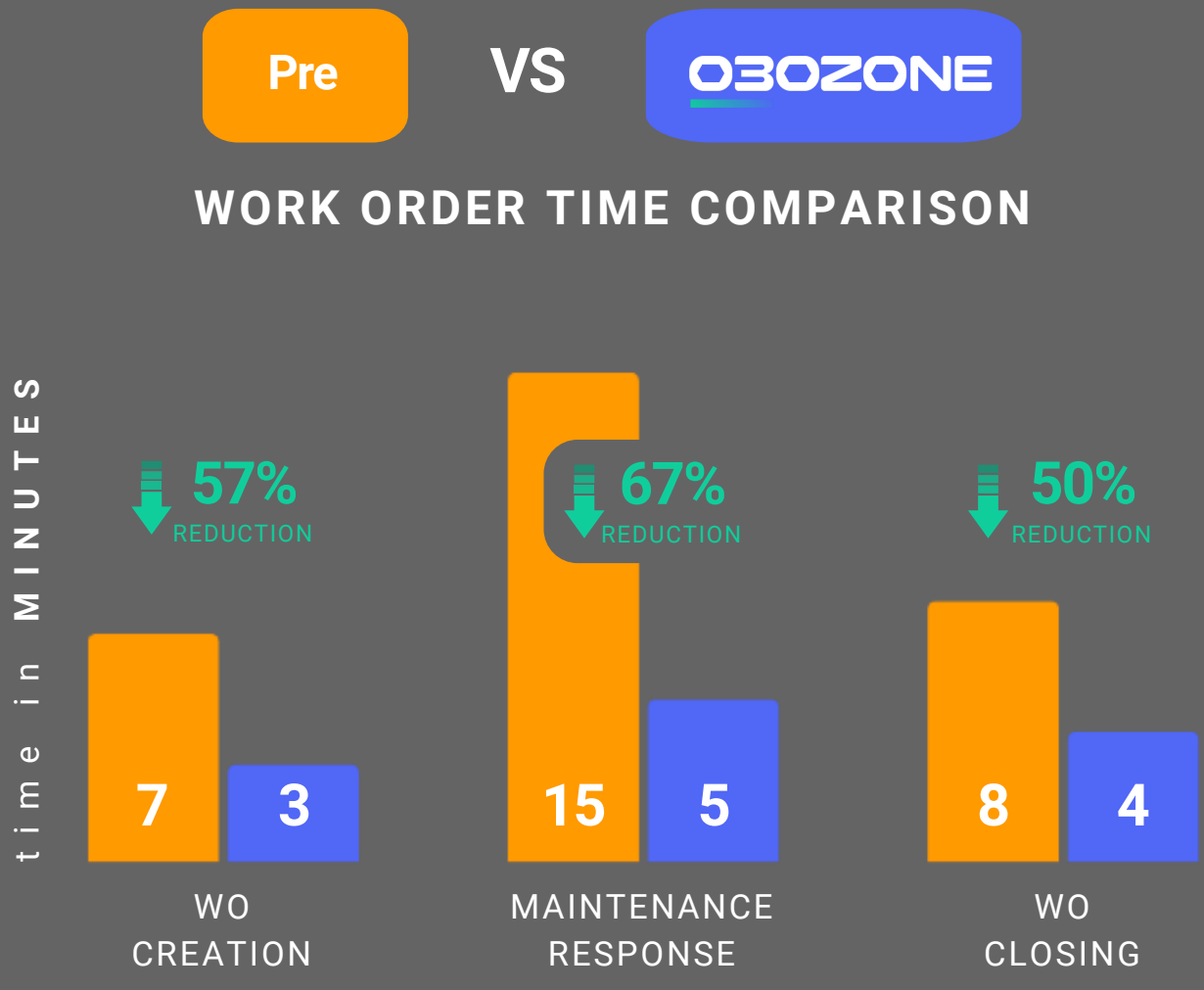
Automating elements of their maintenance management has helped Obeikan Paper Industries to optimize resources use and boosted their overall machine efficiency. The responsive user interface means they can track and fix defects more smoothly. Communication between managers and maintenance teams also improved.

57% reduction in work order processing time

25% reduction in FH OEE losses
(setup, CIL, etc.)

1027 machine hours saved

4% increase in FH OEE



Smart Operations Platform

Options For All Digital Maturity Levels

MES

Essential for every manufacturer

Production Ordering
Manage production orders on the shop-floor

Productivity
Track production and operations in real-time

IoT Edge
Seamlessly connect machine and PLC data

Quality Management
Manage non-conformities and complaints

Progressive Maintenance
Prevent system breakdown with proactive maintenance

Mobility App
Operational interfaces for mobile devices

Lean Co-Pilot

Be lean with continuous improvement modules

Performance
Increase workforce efficiency and productivity

KPI
Set and track strategic KPIs across your operations

Autonomous Maintenance
Operator management for machine maintenance

Loss Analysis
Quantify operational losses with real-time insights

Total Delivery Cost
Identify gaps and optimize cost-efficient operations

AI Analytics

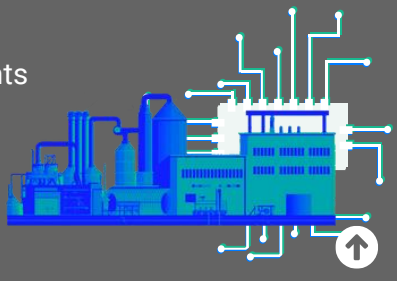
Analytics and insights for optimal decision making

Analytical Tools
Full suite of data-driven tools

AI Analytics
AI-powered anomaly detection for machines

Alerts and Workflow
Optimize task workflows and notifications

Gen AI
AI chatbot to gain deep contextual insights



Build Smart Factory Foundations with O3OZONE

Implementing the O3OZONE platform will give you real-time visibility over your operations. You'll be able to see production data visualizations live from the factory floor, as well as managing quality, KPIs, maintenance, and more.

With the O3OZONE AI Analytics suite enabled, you will also get automatically generated data insights.

O3OZONE integrates with your existing MES systems and machine sensors. With the IoT edge module installed, you can also install IIoT sensors and link them up to get all the data you need.

Why Choose O3OZONE?

As shown in this report, O3OZONE transformed operations at Obeikan Paper Industries, cutting work order times by 57%, boosting OEE, and significantly reducing downtime and quality issues.

The O3OZONE platform builds a solid foundation for an interconnected smart factory that has smooth data flows to inform real-time decision making.