

Bridging the Data Gap: Machine Monitoring & Maintenance Tracking

**The Value of Real-Time Insight for a
Proactive Manufacturing Environment**

Executive Summary

Manufacturers are under constant pressure to increase machine utilization, reduce downtime, improve maintenance response, and make better use of labor and equipment. For CNC-driven operations, two major sources of performance loss often sit in separate silos: production visibility and maintenance execution.

FactoryWiz and MaintiMizer help close the gap between visibility and execution.

FactoryWiz provides real-time machine monitoring, OEE visibility, utilization tracking, downtime reporting, operator activity, and shop-floor data collection. MaintiMizer provides a structured maintenance management system for work orders, preventive maintenance, asset history, inventory, and maintenance planning.

When used together, these systems create a connected workflow where machine data helps drive smarter maintenance decisions, while maintenance activity and communication becomes easier to track, measure, and improve.

The result is a more proactive manufacturing environment where maintenance teams are working effectively based on actual machine usage, and production teams gain better insight into the causes behind lost capacity.

The Challenge: Maintenance and Production Data Often Live Apart

In many CNC manufacturing environments, production and maintenance teams are working toward the same goal, but from different toolboxes.

Production leaders want answers to questions such as:

- Which machines are running, idle, or down?
- How much capacity are we losing to unplanned downtime?
- What are the most common downtime reasons?
- Which machines are under performing across shifts or departments?

Maintenance teams often need answers to a different set of questions:

- Which assets require preventive maintenance?
- What work orders are open, overdue, or recurring?
- Which machines have the highest maintenance burden?
- Are spare parts and labor being used efficiently?
- Are we over-maintaining some equipment while under-maintaining others?

Working in Silos Can Cause Unnecessary Work

When these questions are answered in separate systems, the shop can miss the larger story. A machine may show excessive idle time in production reports, but the root cause may be recurring maintenance issues. A maintenance team may perform preventive maintenance on a calendar-based schedule, even though some machines have significantly more or less actual run time than others.

This disconnect can lead to unnecessary PMs, missed service opportunities, inflated spare parts usage, avoidable downtime, and limited visibility into the true cost of machine performance.

FactoryWiz: Real-Time Visibility Into CNC Equipment

FactoryWiz Monitoring captures machine activity directly from CNC equipment and displays actionable information through dashboards, reports, and alerts. It allows manufacturers to monitor machine status, utilization, OEE, downtime events, operator activity, part counts, alarms, and other production-related data.

For operations and production teams, FactoryWiz acts as a window into the shop floor. It helps identify where capacity is being gained or lost, which machines require attention, and what patterns are affecting productivity.

Key capabilities of machine monitoring include:

- Real-time machine status visibility
- OEE and utilization tracking
- Downtime reason capture with timestamps
- Operator and shift-based reporting
- Historical production trends
- Custom dashboards and automated reports
- Alerts tied to machine activity, status, or events

By itself, this information is extremely valuable for production improvement. When paired with a maintenance management system, however, the data becomes even more powerful.

The Combined Value: Connecting Machine Data to Maintenance Action

The greatest value of FactoryWiz and MaintiMizer working together is the ability to turn machine activity into maintenance intelligence.

Instead of treating monitoring data and maintenance records as separate islands, manufacturers can use the two systems together to create a closed-loop process:

1. FactoryWiz identifies machine activity, downtime, alarms, utilization, and run-time behavior.
2. MaintiMizer organizes maintenance response, PM scheduling, work orders, and asset history.
3. Shop floor users have a unified channel to document and escalate breakdown events.
4. Teams review both production and maintenance data to identify patterns, recurring issues, and improvement opportunities.

This creates a practical bridge between what the machine is doing and what the maintenance team should do next.

Run-Time-Based Maintenance Instead of Calendar-Based Guesswork

One of the most meaningful advantages of combining FactoryWiz and MaintiMizer is the ability to use machine run-time data to help guide maintenance intervals.

Traditional preventive maintenance is often scheduled by calendar date. For example, a machine may receive service every 30, 60, or 90 days regardless of how much it actually ran during that time. This can create two problems:

1. **Machines with low utilization may receive maintenance before it is truly needed.** This can increase labor demand, consume spare parts unnecessarily, and create avoidable downtime.
2. **Machines with high utilization may need service sooner than the calendar suggests.** This can increase the risk of wear-related failures or unplanned downtime.

Prioritize the Right Machines with Usage-Informed Planning

By leveraging FactoryWiz machine run-time information alongside MaintiMizer's maintenance scheduling capabilities, manufacturers can better align PM activity with actual equipment usage. A machine that has accumulated heavy run hours can be prioritized, while a machine with limited run time may not require the same maintenance frequency.

This helps maintenance teams move from fixed schedules toward more usage-informed planning.

Better Downtime Visibility and Organized Maintenance Response

FactoryWiz can help identify when equipment is down, idle, faulted, or under performing. MaintiMizer can then provide the structure for assigning, tracking, and documenting the maintenance response.

For example, if a CNC machine generates repeated fault conditions or experiences recurring downtime events, that information can help maintenance teams understand which assets may require attention. Rather than waiting for a verbal report or discovering the issue after production losses have mounted, teams can use machine data as an early signal.

Give Your Teams a Combined, Clearer View into Issues

When machine locations, downtime reasons, fault codes, timestamps, and equipment history are viewed together, maintenance teams gain a clearer picture of the problem. That context can reduce investigation time and help technicians arrive better prepared.

The practical benefit is not just a faster response. It is a planned and well-organized response.

Improved Communication Between Production and Maintenance

In many shops, production and maintenance communication still depends heavily on phone calls, hallway conversations, whiteboards, or handwritten notes. These methods can work in small doses, but they are difficult to scale and even harder to analyze later.

FactoryWiz and MaintiMizer help create a more objective, streamlined workflow that returns equipment to production faster. When shop floor stakeholders submit a work request, key documentation on recent machine history is automatically provided to maintenance staff, giving them a snapshot of the operational situation at the time of failure.

Replace Competition with Shared Problem Resolution

By bringing formerly detached processes together, the larger picture becomes apparent. Instead of competing systems which are designed around determining the "blame" for a problem, the new normal is shared information, consolidated communication, and streamlined workflows to allow all stakeholders to play a part in accelerating problem resolution.

Reporting is not enough; this is a tool for actively sharing critical information between systems and people so they can work together more efficiently. That is a much better room to be in.

Reducing Unplanned Downtime

Unplanned downtime is one of the most expensive problems in manufacturing because it disrupts schedules, delays shipments, consumes emergency labor, and can create ripple effects across the plant.

FactoryWiz helps expose downtime patterns. MaintiMizer helps organize corrective and preventive action. Together, they allow manufacturers to identify repeat offenders and build a more disciplined process for addressing them.

Examples of repeat offenders include:

- Machines with frequent short stoppages
- Assets with repeated alarm conditions
- Equipment that regularly goes down during certain shifts
- Machines with excessive idle time tied to mechanical or maintenance-related causes
- Recurring work orders tied to the same asset or component

By reviewing these trends together, leadership can better prioritize improvement efforts.

Instead of spreading maintenance attention evenly across all equipment, teams can focus on the machines that have the greatest impact on throughput, schedule performance, and profitability.

Complete Asset History and Root Cause Analysis

Maintenance records become more powerful when they are connected to production impact.

A work order can tell you that a repair was performed. FactoryWiz data can help show how that issue affected machine utilization, downtime, and production availability before and after the repair.

This gives teams a stronger basis for root cause analysis. They can evaluate whether maintenance actions reduced downtime, whether a recurring issue returned, or whether a repair had a measurable effect on machine performance.

Over time, this can help answer questions that affect ROI:

- Which machines cost the most to maintain?
- Which failures cause the greatest production loss?
- Which repairs actually improve uptime?
- Which assets may require replacement, rebuild, or process changes?
- Which maintenance activities are creating measurable value?

That kind of insight supports better decision-making from the shop floor to the executive office.

Optimize Your Inventory and Labor

Maintenance teams often struggle with balancing readiness and cost:

- Too little inventory can delay repairs.
- Too much inventory ties up capital and storage space.
- Too little labor creates a backlog.
- Too much reactive labor creates overtime and stress.

Start Knowing: Remove Assumptions and Rigid Scheduling

By combining machine utilization data from FactoryWiz with maintenance activity in MaintiMizer, manufacturers can make better decisions about spare parts, service intervals, and labor allocation.

For example, high-utilization machines may justify higher priority spare parts availability. Low-utilization machines may not require the same inventory strategy. Recurring repairs may indicate a need to stock certain components more consistently, while unused parts may reveal over-maintenance or outdated assumptions.

The same logic applies to labor. If certain machines, departments, or shifts generate a higher maintenance load, management can adjust planning accordingly.

The goal is not simply to spend less. The goal is to spend with better aim.

A More Complete View of Manufacturing Performance

OEE and utilization data are powerful, but they become more meaningful when paired with maintenance context. Likewise, maintenance KPIs become more valuable when tied to production impact.

FactoryWiz can show how equipment performed. MaintiMizer can show what was done to support that equipment. Together, they provide a broader view of manufacturing health.

This combined visibility can benefit several departments:

- **Operations:** Better understanding of machine availability, downtime causes, and production losses.
- **Maintenance:** More informed PM scheduling, work order prioritization, and asset history.
- **Engineering:** Better insight into chronic equipment issues and process constraints.
- **Management:** Clearer justification for capital investments, staffing, training, or process changes.
- **Finance:** Improved visibility into the cost of downtime, maintenance labor, and spare parts consumption.

When these teams work from connected data, improvement efforts become easier to justify and easier to measure.

Use Case: CNC Machining Shop Experiencing Capacity Loss

Reducing CNC Machine Downtime and Creating a Measurable Improvement Loop

Consider a shop with several CNC machining centers. Production reports show that one department consistently loses capacity due to downtime and idle time. FactoryWiz identifies that certain machines are experiencing repeated stoppages, with downtime events clustered around specific fault conditions and shifts.

Using that information, the maintenance team reviews asset history in MaintiMizer and discovers that the same machines have recurring work orders tied to similar mechanical issues. The team:

- Adjusts preventive maintenance intervals based on actual machine run time
- Prepares spare parts for the most common failures
- Prioritizes corrective work on the highest-impact assets

Over the following weeks, leadership can review FactoryWiz utilization and downtime reports to determine whether the maintenance changes improved machine availability. MaintiMizer provides the maintenance record, while FactoryWiz provides the production impact.

This creates a measurable improvement loop rather than a one-time repair effort.

Strategic Benefits for Improving ROI

When MaintiMizer and FactoryWiz are used together, manufacturers can create a stronger connection between maintenance strategy and production performance.

Key benefits include:

- Reduced unplanned downtime
- Improved machine utilization
- More accurate preventive maintenance scheduling
- Better use of maintenance labor
- More informed spare parts planning
- Faster response to machine issues
- Clear asset history
- Improved communication between production and maintenance
- Better visibility into recurring problems
- More measurable continuous improvement efforts

The combined solution helps manufacturers move from reactive maintenance and disconnected reporting toward a more connected, data-driven operating model.

Conclusion: Connecting Machine Data and Maintenance Drives Cost-Cutting Efficiency

FactoryWiz and MaintiMizer each solve important manufacturing challenges. FactoryWiz gives manufacturers real-time visibility into CNC machine performance, utilization, downtime, and shop-floor activity. MaintiMizer gives maintenance teams the structure needed to manage work orders, preventive maintenance, assets, labor, and inventory.

Together, they help manufacturers connect machine performance with maintenance action.

Connecting FactoryWiz and MaintiMizer allows teams to:

- Use real production data to guide maintenance decisions
- Reduce unnecessary PMs
- Respond faster to equipment issues
- Better understand how maintenance activity can increase machine availability

For manufacturers looking to improve uptime, increase efficiency, and make better use of their CNC equipment, the combination of FactoryWiz and MaintiMizer offers a practical path toward smarter, more connected manufacturing operations.

Find out how FactoryWiz and MaintiMizer can efficiently improve communications and machine uptime for your team. Contact us for a short demo: sales@celsussoftware.com.