

# Micro-Stop Detection

## Industrial AI Application



In high-speed, highly automated production lines, minor interruptions often go unnoticed—yet they silently reduce output and efficiency. These micro-stops, lasting just milliseconds to a few seconds, rarely trigger alarms but add up to major performance losses over time. Traditional monitoring tools don't capture them. Orise Digital Micro-Stop Detection makes the invisible visible—detecting, locating, and explaining these hidden slowdowns in real time, so your teams can take action before productivity slips.

### Main benefits



#### Pinpoint root-cause without manual testing

Identifies the exact input or output responsible for each delay — removing the need for manual testing or assumptions during troubleshooting.



#### Enhance consistency using existing I/O only

Improves machine consistency without modifying existing logic or installing new sensors, using only the existing signal flow.



#### Direct issue identification mapping enables faster diagnosis

Helps teams resolve issues faster by providing precise, timestamped I/O data instead of indirect symptoms or late-stage alarms.



#### Enable data-driven action across teams

Production and maintenance teams are empowered to take targeted, data-backed action rather than relying on intuition or operator feedback.



#### Detect micro-stops before output drops

Captures sub-second micro stops in real time and links them to their root cause before they impact production performance.

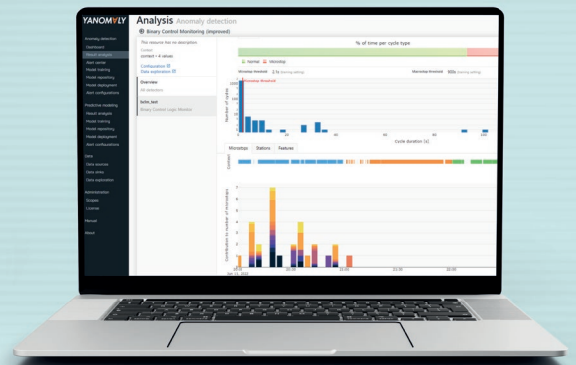


#### Quick and easy implementation

Delivers actionable insights without requiring data scientists, rule definitions, or custom model development.

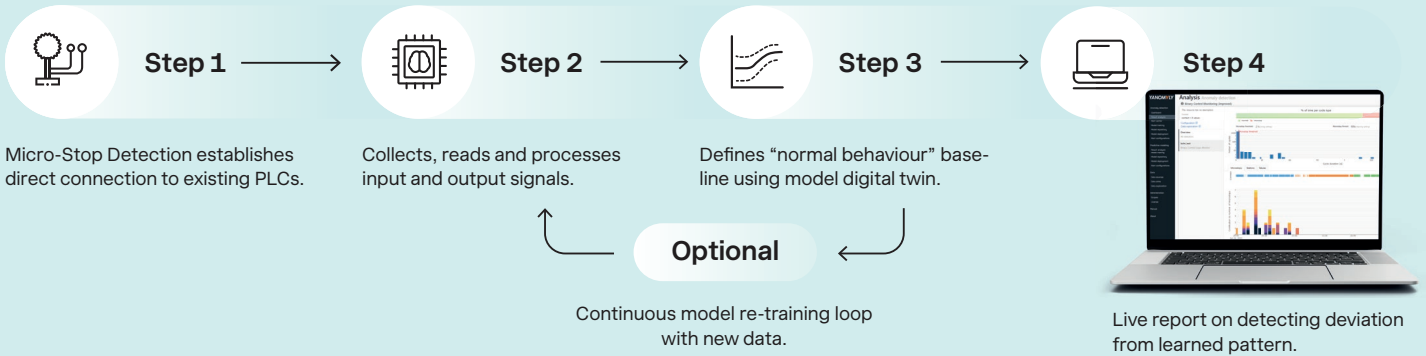
### Our technology

Micro-Stop Detection uses AI to analyze digital I/O signals from automated lines. By learning normal patterns, it spots anomalies like abnormal transitions or delays and links them to specific machines or stations. Its binary control logic monitoring quickly pinpoints micro-stops in fast-moving equipment, cutting troubleshooting time - from hours to seconds. The solution runs on-premise or in the cloud, integrates with existing PLCs and works without extra sensors— only digital I/O access is needed.



# How this works

Orise Digital AI Micro Stop Detection is an AI-plugin software that automatically uncovers hidden production slow-downs and pinpoints their causes — in real time.



## The advantages over conventional systems

Our technology is designed for high-speed environments, where cycle times are short, output is high, and delays of just a few milliseconds can accumulate into significant losses.

Comparison	Orise Micro Stop Detection	Traditional Performance Monitoring (OEE)	Conventional AI-Based Line Anomaly Detection
Detects short-cycle micro stops	Yes	No	Limited to indirect signals
Identifies exact I/O behind the delay	Yes	No	No
Works proactive	Yes	Limited proactive functionality	Yes
Provides results limited historical data	Yes	Yes	Requires large data history
No sensors or external hardware needed	Yes	Often relies on additional sensors	Often relies on additional sensors
No data science or model configuration	Yes	No	Yes
Supports high-speed production cycles	Yes	No	Not optimized for sub-second cycles
Scales across lines and teams easily	Yes	Scalable with effort	Scalable with effort

By focusing on raw I/O data rather than indirect indicators like alarms or output counts, it captures what conventional systems miss — and exposes the smallest sources of inefficiency before they scale.

Orise Digital is the digital innovation arm of Orise, built to connect and optimize the entire digital process and system landscape. With deep expertise in automation, system integration, and process optimization, we deliver industry-proven tools that enhance connectivity, streamline operations, and turn data into actionable insights. Orise Digital helps enterprises integrate technologies seamlessly, boost efficiency, and stay compliant. As the final link in the digital chain, we turn digitalization from vision into reality—empowering smarter, faster, and more informed decision-making through structured, visualized data.