

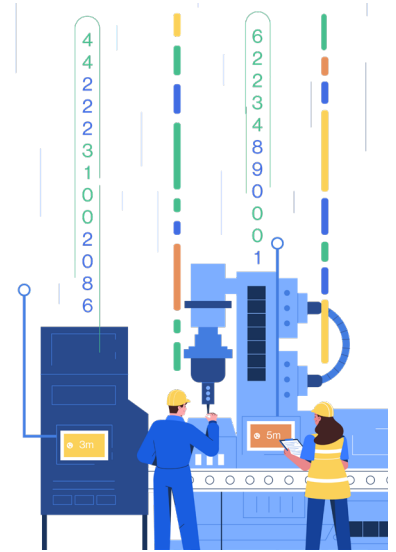
## CASE STUDY

# How Stanley Black & Decker Warrington Identified Root Causes of Unplanned Downtime

## Company Profile

A human-centered, global industrial company helping to make the world a better place. #1 in tools and storage category, #2 in security services and a leader in engineered fastening, Stanley Black & Decker empowers people worldwide to do safer and more significant work. SBD's success comes down to their focus on innovation, digital excellence, infrastructure and social responsibility. The organization launches 1000+ new products with 45 of the "world's firsts" every single year.

 Industrial  71,000+  \$15.6B



## The Challenge

Stanley Black and Decker was using pen-and-paper processes to record downtime. But with operators responsible for multiple machines each shift, it was challenging for them to record every downtime for each of their assets. With many responsibilities on-the-go, recording downtime reasons as they happened sometimes slipped through the cracks and were overlooked. When this happened, the data was either never recorded or risked being recorded incorrectly after the fact. These manual processes were prone to human error and didn't provide the ability to "sense check" whether information was missing – resulting in unreliable data, unknown losses, and missed improvement opportunities and process optimizations for SBD's lines. Additionally, data wasn't available in real-time, so there were delays in flagging and resolving production issues.

Stanley Black and Decker needed a digital solution that provided:

1. A simple way to capture production information straight from their machine PLCs to ensure accurate data contextualization
2. A user-friendly, automated system to track downtime reasons and empower operators to provide additional context when needed
3. Real-time visualization of production performance to understand downtime reasons and losses
4. A reporting platform used to identify top opportunities for continuous improvement on the shop floor

## The Solution

Stanley Black & Decker's initial Raven implementation involved the setup of Smart Assistants on their lines and use of Raven's real-time reporting platform to monitor shop floor performance, including all production and loss data. After just a few months, the SBD team was ready to take advantage of more advanced features, including automating even more of their production data contextualization.

The Raven team worked with Stanley Black & Decker's Operations team to enable Automated Downtime Labeling (ADL). Raven integrated with PLCs and used the information from the machines' fault codes to automatically label downtime reasons in their production event timeline. By implementing Automated Downtime Labeling, SBD reduced how often their operators had to enter downtime on the Smart Assistants — only prompting them to enter the reason when their machines didn't have the answers. In less than 3 intuitive taps on the touch screen, operators could easily record downtime from an iPad on their line — which was easy, even with greasy gloves.

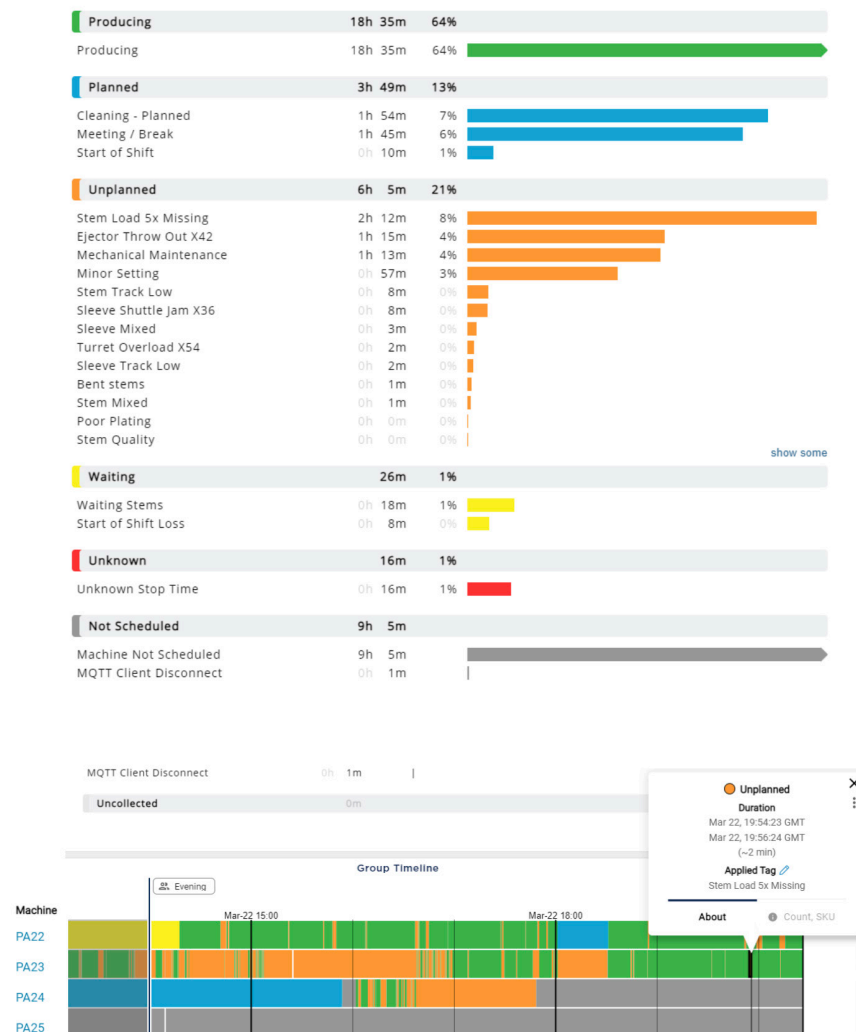
By using Raven's Smart Assistants and ADL, less time and effort was required of the frontline team, so they could focus more on their daily tasks and actioning insights to make improvements on the shop floor. When breaks, end of shift and minor stops occurred, downtime reasons were automatically applied – without any input required from operators.

SBD also worked closely with Raven's Customer Success team to highlight top opportunities for continuous improvement across the shop floor. By using Raven's reporting platform, SBD was able to drill into focus areas based on the timeframe in review and the contextualized data analytics for production time and losses.

## The Results

Stanley Black & Decker was able to capture and contextualize production data to accurately account for how their machines and people spent their time on the shop floor, highlighting hidden losses and unlocking capacity opportunities. Some of their key wins included:

- By feeding their PLC fault codes to Raven, SBD increased the amount of contextualized downtime data recorded about their machines to identify their largest root causes of downtime — and what the repeat offenders' causes were.
- With PLC fault codes being used to automatically record every time a machine was down due to unplanned errors, operators stayed focused on targets and improvements — reducing operator burden by 56%.
- By using Automated Downtime Labeling to track downtimes and Smart Assistants to capture meaningful operator context, Stanley Black & Decker has achieved 90%+ of downtime data contextualization on their finishing and assembly machine lines.
- By leveraging a combination of PLC fault codes (76%), operator context (13%) and Automated Downtime Labeling (11%), SBD contextualized 100% of their unplanned downtime and understood the exact reasons for it, leading to issue remediation.



### About

Raven helps manufacturers empower teams to make confident, fact-driven productivity improvements in real-time. Raven's OEE improvement software is the only solution that accounts for 100% of production time, with meaningful context for every second. With its frontline-first design, Raven empowers operators to easily tag downtime reasons – only asking questions when machines don't have the answers. Raven combines operator and machine context to create a complete timeline of events, eliminating hidden losses.

### Contact

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