

Unlock Your Factory's Hidden Potential

The Smart Manufacturer's Guide to Production Monitoring



eBook
Published February 2022



Production Monitoring Is Now Within Reach

Whether you're implementing your first robot or your tenth, you understand the advantages of automation to improve your factory's potential. Robotics can help you boost output, improve product consistency and quality, and increase competitiveness.

But there is a way to unlock even more potential.

Production monitoring lets you use relevant, reliable data to make informed decisions on your manufacturing floor and for your business overall. And while production monitoring has felt out-of-reach for many small and mid-sized manufacturing enterprises (SMEs), that's all changed. New production-monitoring technologies offer the same kinds of benefits that SMEs get from collaborative robots (cobots) and application-focused tools and technologies—affordable, intuitive productivity enhancements.

The most significant benefit of tapping into your hidden factory is that you can increase throughput without additional capital expenditures. Simply put—making more with what you already have.

This guide will show you how.





Understand Hidden Potential —and Pitfalls

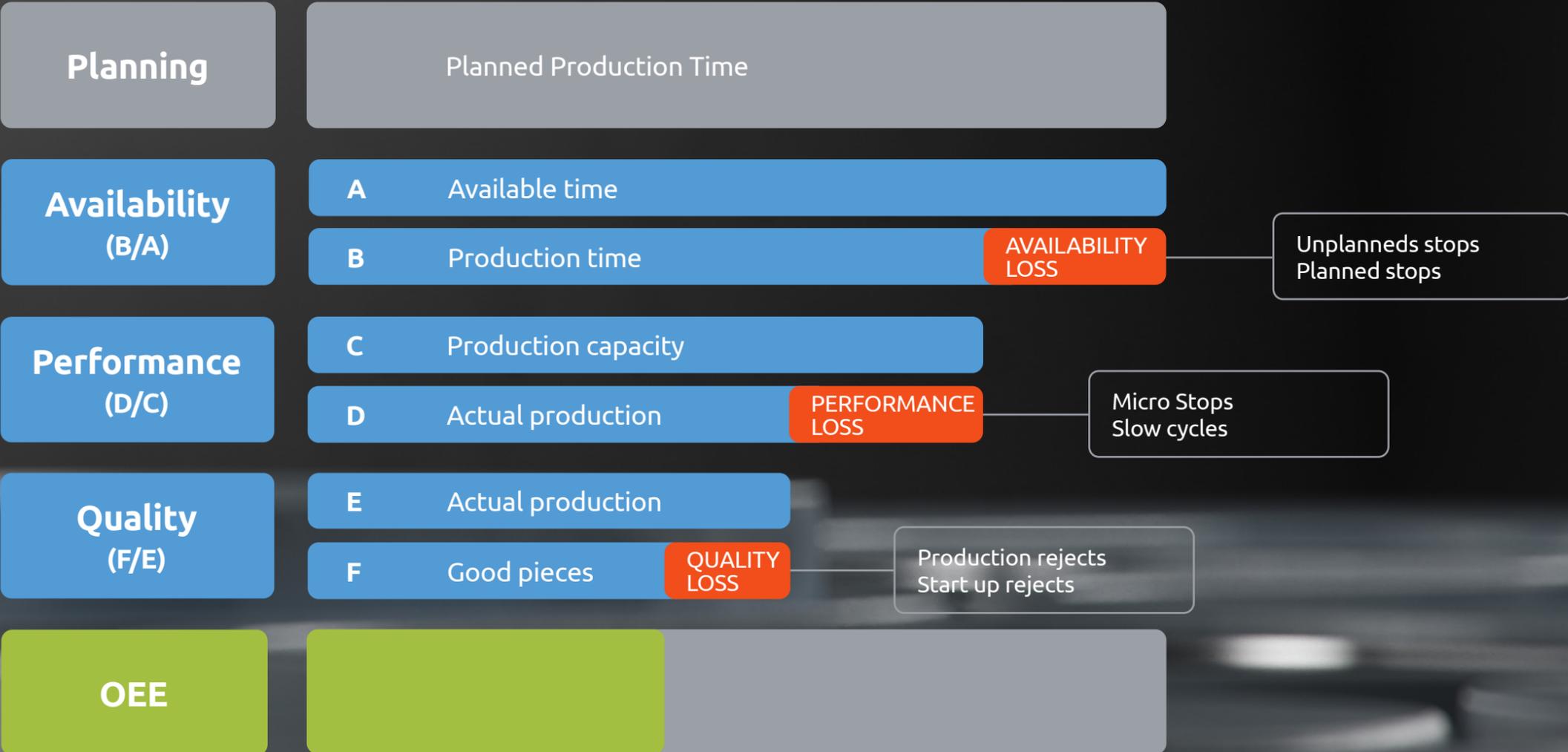
Overall equipment effectiveness (OEE) is the universal best practice used to monitor and improve the effectiveness of production processes. Production monitoring gives you the information and insights you need to track key performance indicators (KPIs) so that you can truly understand and optimize your OEE over time. Production monitoring can be used to track KPIs at multiple process levels across the manufacturing floor, from individual applications to your entire plant. It also adds value at the company level, where it can inform decisions about product pricing, growth opportunities, new business initiatives, and more.

With actionable data from individual robot cells to fully automated production lines, you can quickly identify previously hidden opportunities to improve productivity. You'll also uncover hidden pitfalls, such as the cost of unplanned production stops. Production monitoring can send immediate alerts if there's an issue. More importantly, it lets you track and plan maintenance for robotic equipment and offers practical guidance on how to mitigate problems so you can keep your factory running when it needs to be. And rather than having workers standing over equipment to watch for problems, or pulling them from other processes to address unplanned service issues, you can deploy workers where you need them most—keeping all your processes running at their peak.

Production Monitoring Based on the Gold Standard of OEE

OEE measures the percentage of manufacturing time that is truly productive. An OEE score of 100% means you are manufacturing only good parts, as fast as possible, with no stop time. A low OEE score means there is a “hidden factory” with unused resources that is producing losses where there should be value.

Improving OEE can have a significant impact on profits, which can quickly cover the costs of production monitoring.



OEE = Availability (%) x Performance (%) x Quality (%)

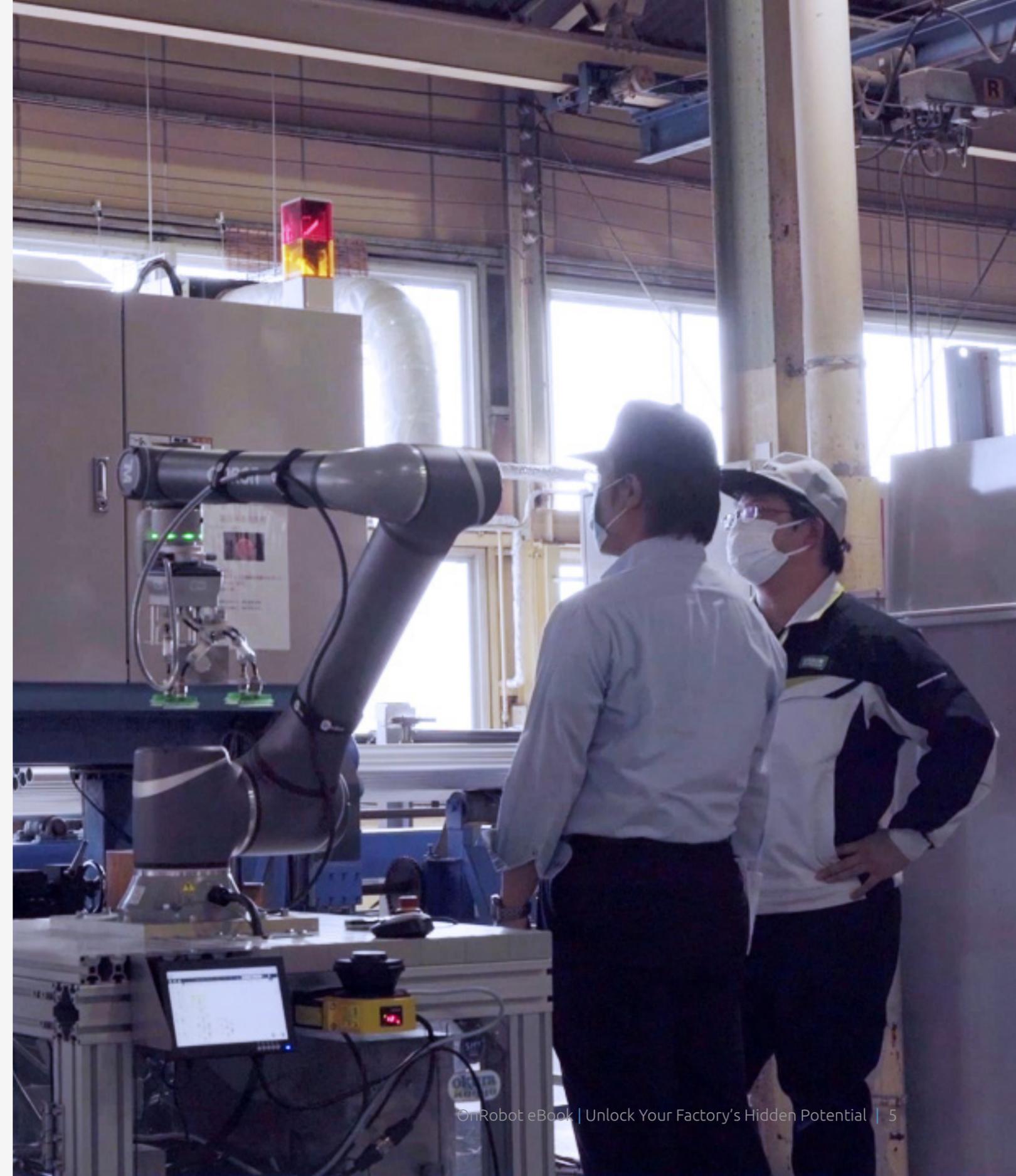
Data Collection Requirements for Production Monitoring

Data is the raw material for production monitoring. If you're not collecting data from your manufacturing floor, your decisions are best-guesses—at best. For most manufacturers, the real choice comes down to how the data is collected.

Not surprisingly, manual data collection offers the lowest upfront costs. In this approach, employees are assigned to keep track of production output, downtime, run rates, quality assurance (QA) acceptance rates, and other statistics using anything from clipboards and Post-It Notes to Excel spreadsheets.

The downsides are similar to any other manual process:

- Can vary by individual, leading to lack of consistency, accuracy, and reliability
- Dependent on labor availability and other production priorities
- Data collection and review is delayed, not real-time, limiting ability to address problems quickly
- Interpreting, benchmarking, and cross-referencing data is complex and time-consuming



A New Approach to Automated Data Collection

A woman wearing a blue hairnet and glasses is working in a factory. She is positioned next to a large, white robotic arm. The background shows a factory floor with various equipment and materials.

Automated data collection addresses most of the downsides of manual collection. However, traditional automated systems such as manufacturing execution systems (MES) or Industrial Internet of Things (IIoT) platforms are complex and expensive to deploy and use. That makes them inappropriate for smaller manufacturers. And while some robot manufacturers offer monitoring software, its purpose is to monitor only the robot itself, not the application as a whole.

Fortunately, a new approach is now available. Steeped in the fundamental characteristics of collaborative automation, this production monitoring approach is affordable, scalable, and intuitive to meet the unique needs of growing manufacturers. Production monitoring for collaborative applications includes automated data collection and built-in analytics dashboards based on industry-standard KPIs for fast results and return on investment.



When You're Ready to Automate, You're Ready for Production Monitoring



Getting started with automation

If you're preparing for your first automation project, plan to implement a collaborative production monitoring system at the same time. You'll get a full view of your productivity from day one, with insights that will help you adapt and respond for the best results. And if this is a pilot program to test the approach, you'll have reliable, comprehensive data and analysis to support your efforts and guide future plans.



Already automated

If you already have collaborative automation on your production floor, what are you waiting for? Production monitoring is a fast, cost-effective way to optimize those systems and enhance productivity even more. You can define ROI to support new initiatives, minimize downtime with informed preventive maintenance insights, and maximize each production cell's productivity and profitability. This is how you unlock the hidden factory to grow your business.

What To Look for in a Collaborative Production Monitoring System

When you're ready to unlock your hidden factory with production monitoring, choose a system that's built from the ground up for small and midsize manufacturers who are using collaborative automation to fuel their growth.

Things to consider:

- Easy operation from shop floor to management
- Fast and affordable implementation with no hidden costs
- Automatic data collection across multiple applications and robots for accurate, actionable production insights in real time
- Single-pane-of-glass monitoring across work cells, with built-in dashboards to ensure immediate productivity impact
- Broad range of insight at the device, application, and factory level
- Live device diagnostics and preventive maintenance alerts to minimize downtime
- Easily scalable and reconfigurable for future-proof flexibility



Discover WebLytics

WebLytics from OnRobot is the first software solution that provides real-time production monitoring for collaborative applications across major robot brands.

- Eliminate manual data collection while gaining unprecedented insight with customizable dashboards on a secure, intuitive, browser-based user interface.
- Gain actionable analysis on collaborative application performance, including the impact of changes such as robot speed or gripper-setting adjustments.
- Drive overall OEE with configurable KPIs and customizable dashboards to track real-time and trend data.
- Monitor application availability, performance, application cycle quality, and incidents from all devices in the application.
- See real-time device health status, utilization, diagnostics, and maintenance notifications.
- Use intuitive dashboards to get factory-level oversight and reporting, including trends, to support strategic decisions.



You've taken the first steps to maximize your company's growth. Keep the momentum going.

When you're ready for automation, get the most out of it with production monitoring.

Contact us for a WebLytics demo and unlock your hidden potential.

[REQUEST A WEBLYTICS DEMO >>>](#)



About OnRobot

OnRobot is the right choice for manufacturers who want the benefits of collaborative automation to build a resilient, productive business. No matter what process you need to improve, OnRobot can help you automate swiftly and seamlessly. With all the tools you need from one partner, you can focus on your business needs and manufacturing processes. You'll save costs and increase productivity while growing your business with flexible automation tools, unified programming, and easy deployment.

One stop, one system, zero complexity.

Headquartered in Odense, Denmark, OnRobot also has offices in Dallas, Soest (Germany), Barcelona, Warsaw, Shanghai, Tokyo, Seoul, Singapore and Budapest.

For more information visit: www.onrobot.com
Or contact us: sales@onrobot.com