

Real-Time Operational Visibility from Shop Floor to Top Floor

Real-Time Manufacturing Insights combines timely and accurate operational data with advanced analytics to help manufacturers improve output and quality—while reducing costs.

HCL

 **Microsoft**

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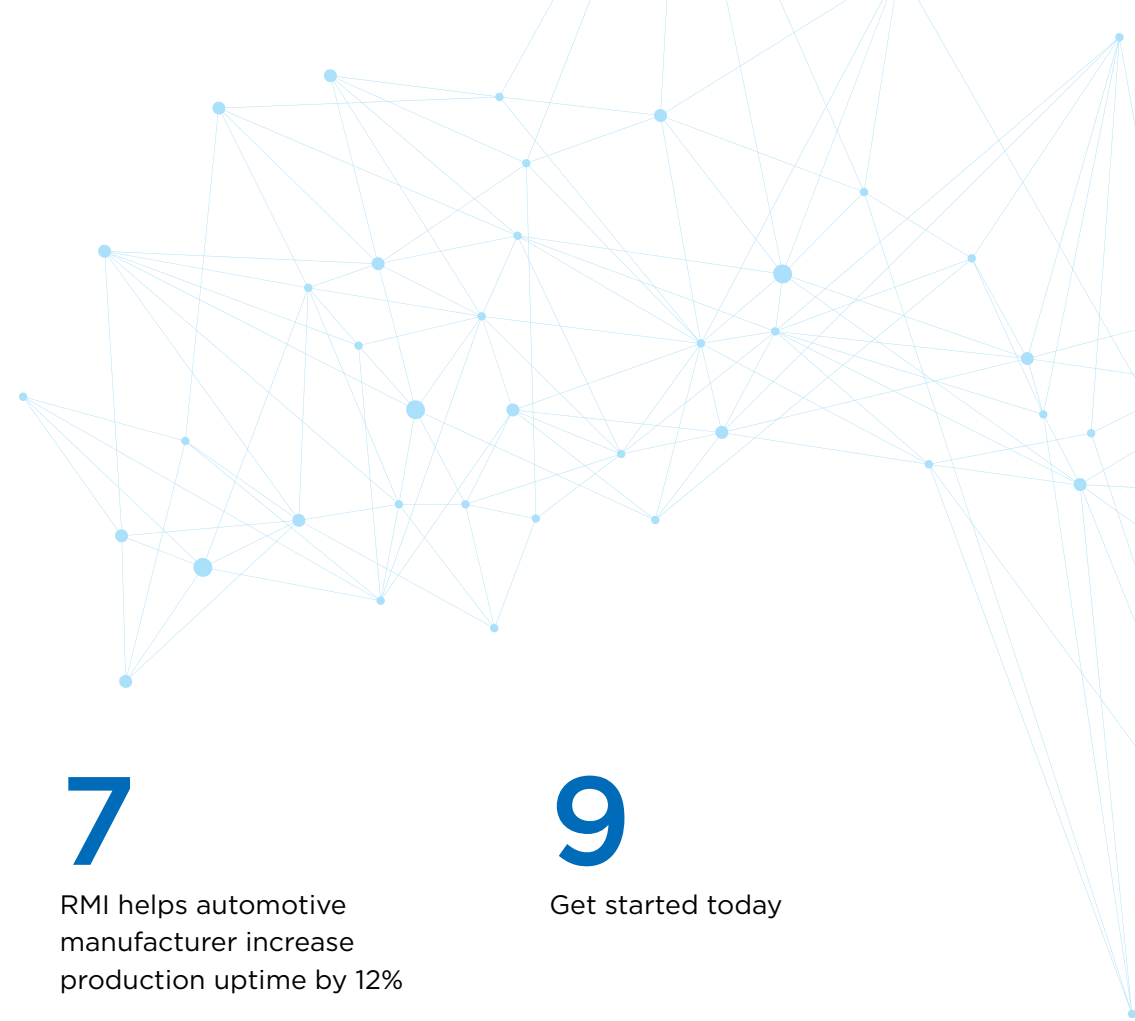
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Get started today



Smart decisions start with real-time visibility into the shop floor

Poor manufacturing visibility adds up to lost production, time, and revenue

From global competition to staffing shortages to increased automation and technology, the challenges facing manufacturers are constantly changing. And to keep up with it all, manufacturers must be agile. To remain competitive in today's fast-paced business climate, manufacturers are continually searching for ways to lower costs, streamline production cycles, and boost production quality and output.

Being adaptable requires full insight into one's manufacturing operations. Yet many organizations lack real-time visibility across all of their plants, IT and OT systems, sensors, and actuators—preventing them from attaining the agility they need to thrive.

Without accurate and timely insights into what's happening on the shop floor, it's difficult to predict the time-to-failure of equipment. Production downtime and outages are inevitable. And measuring overall manufacturing productivity is all but impossible. As new challenges arise, many manufacturers struggle to determine the best actions to take—resulting in lost production, time, and revenue.

¹VansonBourne, "After the Fall: The Costs, Causes & Consequences of Unplanned Downtime," <https://lp.servicemax.com/rs/020-PCR-876/images/After%20The%20Fall%20whitepaper%20-%20Updated%20Global%20Numbers%20FINAL%20Refresh.pdf> ²Ibid ³Aberdeen, "Maintaining Virtual System Uptime in Today's Transforming IT Infrastructure," <https://247uptime.co.uk/wp-content/uploads/2016/03/Aberdeen-maintaining-virtual-systems-uptime.pdf>



71%

of IT decision makers say their organizations don't have total awareness as to when their organization's assets are due for maintenance.¹

82%

of organizations have been impacted by at least one unplanned outage involving their machinery or assets over the past three years.²

The average cost of unplanned equipment downtime is

\$260,000

PER HOUR³

Introducing Real-Time Manufacturing Insights

Real-Time Manufacturing Insights (RMI) from IoT WoRKS™, a dedicated business unit of HCL Technologies, was designed to solve these problems by giving manufacturers the real-time operational insights they need to improve production speed and quality, while lowering manufacturing costs. Powered by Microsoft Azure, the solution provides a single view into all of your organization’s operational activities using IT and OT systems and physical plants across geographical locations.

RMI helps you pinpoint the root cause of production downtime. It predicts maintenance needs before equipment breaks down. And it provides real-time updates on everything from production efficiency to output quality to inventory levels. Not only does RMI predict issues before they occur, but it recommends specific actions manufacturers can take to reduce unplanned downtime, lower maintenance costs, and optimize production.

The real-time manufacturing insights you need



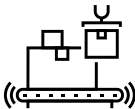
Reduce unplanned downtime

Avoid unplanned downtime and major outages by monitoring your business-critical machines in real time.



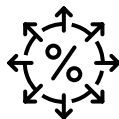
Lower maintenance costs

Get advanced predictive maintenance along with prescriptive actions to reduce labor costs and keep your manufacturing equipment up-and-running.



Optimize production

Obtain real-time alerts to help you make the corrections needed to improve product quality and output.



Capture the financial impact of losses

Convert asset availability, performance, and production quality into KPIs that estimate the financial impact of losses.

RMI dramatically improves manufacturing efficiency

Up to
30%

Savings in losses from unplanned downtime

Up to
30%

Reduction in maintenance costs

Up to
15%

Increase in asset productivity

EFFICIENCY

RMI aggregates all the data you need into a single view

RMI collects information across a manufacturing company's multiple plants, IT and OT systems, sensors, and actuators—analyzing it and displaying it via an intuitive and interactive dashboard. Users can track a wide range of metrics from overall equipment effectiveness (OEE) to machinery performance to production quality, allowing different users to customize the dashboard to obtain the exact information they need.

RMI provides real-time emails and texts alerting users to issues as soon as they arise. It also recommends specific actions users can take to troubleshoot issues and improve manufacturing productivity. RMI can be set up in the cloud and on-premises, and can be integrated with external data sources including MEC, PLC, SCADA, and similar OT systems.

Harnessing the power of IoT to create a smarter manufacturing process

RMI helps manufacturing companies to:

-
Decrease manufacturing equipment downtime
-
Reduce scrap loss/material waste
-
Lower the carrying cost of inventory
-
Better synchronize actual and planned production
-
Reduce machine maintenance costs
-
Improve product quality and output
-
Capture financial impact of OEE losses



Medical equipment manufacturer boosts OEE to 72% using RMI

■ The situation

Without real-time visibility into its operations, a major medical equipment manufacturer faced difficult production hurdles that were holding back the business. The lack of availability of production-critical machinery hampered day-to-day operations. Unplanned maintenance was causing costs to soar. And untimely OEE data made it difficult to improve manufacturing productivity. All of these problems were taking a direct toll on the company's profits.

■ The solution

By implementing RMI, the medical equipment manufacturer now has access to important KPIs such as OEE, equipment availability, and shift production rate—enabling managers to make the quick adjustments needed to optimize production and reduce costs.

Role-based authorization enables users in various roles such as plant manager and assembly line manager to obtain the real-time information they need. Moreover, RMI's predictive and prescriptive analytics capabilities make it easier to predict the failure of business-critical equipment and take the necessary steps to prevent failures and unplanned downtime.

■ The results

Increased OEE from

65% TO 72%

Reduced maintenance and service costs from

10% TO 6%
OF TOTAL REVENUE

Boosted asset availability from

71% TO 78%

Increased asset performance from

92% TO 93%

RMI helps automotive manufacturer increase production uptime by 12%

■ The situation

A major automotive manufacturer lacked timely insight into the operations of business-critical equipment, leading to machinery breakdowns and unplanned production downtime. Moreover, equipment micro-stoppages were hampering the manufacturer's day-to-day operations, adversely affecting the company's profitability.

■ The solution

Thanks to RMI, the plant management team now has dedicated dashboards showing real-time performance of business-critical assets. These dashboards use RMI's predictive and prescriptive analytics capabilities to display equipment issues and the reasons for stoppages, as well as comments entered by operators. In addition, RMI's analytics models predict future equipment failures, enabling the plant management team to maintain equipment well in advance of a breakdown.

■ The results

Boosted production uptime by

12%▲

Increased asset performance from

94% TO ▲ 95%



An innovative partnership: HCL Technologies and Microsoft

RMI combines HCL Technologies’ deep industry expertise with the reliability, scalability, and security of Microsoft Azure to deliver a robust solution that helps users transform the manufacturing process. HCL Technologies was one of the first global systems integrators to create a business unit specifically focused on IoT. The company is also one of the few global integrators with a dedicated Microsoft business unit.

SUKAMAL BANERJEE,
Corporate Vice President,
and Head, IoT WoRKS™,
HCL Technologies

“Microsoft’s powerful cloud and business technologies power HCL’s specialized services, enabling and supporting our customers’ growth with various offerings. Real-time Manufacturing Insights (RMI) solution, for instance, helps respond and adapt rapidly to these challenging times.”



HCL Technologies: A leader in IoT transformation

RMI is a solution from HCL Technologies, a global IoT leader that brings four decades of innovation and experience serving leading enterprises—including 250 of the Fortune 500 and 650 of the Global 2000.



HCL Technologies rated as a Leader in IDC MarketScape: Worldwide Business and Industrial IoT Consulting and Systems Integration Services 2020 Vendor Assessment (Doc #US46121220, March 2020)



IoT Evolution Industrial IoT Product of the Year Winner, 2020



Microsoft Azure: The agility, scalability, and security required for success

Azure IoT Hub securely connects, monitors, authenticates, and aggregates manufacturing data from virtually any connected device.

Azure IoT Edge processes data on the device itself, lowering the latency time for critical decisions.

OPC Twin connects the cloud and the factory network—providing discovery, registration, and remote control of industrial devices through REST APIs.

Azure Machine Learning (Azure ML) provides the framework for quickly building, training, and deploying the machine learning models that power RMI.

Power BI displays data in interactive dashboards that can be customized to easily obtain the information users need to make informed decisions.

Get started today

HCL Technologies IoT WoRKS™ uses an industry-leading **3 x 3 x 3** engagement methodology that includes a three-day innovation by design workshop, three weeks to rapid experimentation and proof-of-value model, and three months to accelerated delivery, implementation, and shop-floor to top-floor value.

3

three-day innovation
by design workshop

×

3

three weeks to rapid
experimentation

×

3

three months to
accelerated delivery



CONNECT WITH THE HCL TECHNOLOGIES SALES TEAM: iotworks@hcl.com

