Smart Connected Factory (SCF)

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In this competitive environment, manufacturing companies are constantly looking for ways to improve efficiencies and product quality. Oracle provides a modern platform to collaboratively manage and improve your manufacturing processes. By connecting devices to the manufacturing process, Oracle's connected smart factory helps manufacturing companies to better predict and resolve maintenance requirements, correlate quality issues to machine and environmental factors, reduce downtime, and improve quality.
Leveraging a modern cloud platform, IOT connectivity, Big data analytics, predictive Intelligence, and cloud supply chain tools, Oracle helps companies to modernize their production and supply chain processes to competitively meet current and future requirements.

KEY FEATURES

- Reduce maintenance downtime and associated costs
- Improve quality by proactively understanding of root issues and quality problems
- Improve efficiencies and resolve issues sooner through predictive insight
- Improve performance through improved visibility of KPI's and comparative benchmarks
- Become more competitive through improved yield, quality, flexibility, and efficiencies
- Reduce user training requirements with an intuitive modern manufacturing platform
- Direct feedback loop to quality and engineering to reduce time to resolution and cost of quality
- Open platform to share your data to innovate with OT partners
- More secure with the best Cloud architecture: cloud and cloud@customer

Improve Visibility to Cost, Efficiency & Quality Across Factories

Oracle Smart Connected Factory provides a modern solution to monitor factories in a global view to improve the 360 degrees view of the manufacturing operations across the world.
The Oracle Smart Connected Factory use case 1 demonstrates how to replace an old style process driven by spreadsheet/BI reports sent daily or weekly via email to managers with declarative data; with an automated consolidation of real life information, issues indicators and Key performance indicators published to every level of operational and executive managements.
This platform also helps to take the best action based on a correlation of data from the machines, the work benches, the inventories, the asset management systems, quality systems, manufacturing planning systems, erp, mes, logistics…
Oracle also provides a "cloud" solution on premise to address local requirements for disconnected facilities, or to adhere to data privacy regulations

- Provides a step-by-step global and local view of your factories and equipment KPIs.
- Monitor & analyze in one view your production yield / efficiency, and equipment behaviors.
- Consolidate your planning, cost management.
- Secure data integration with Industrial and consulting partners.
- 360° view of your equipment data.
- Leveraging a modern cloud platform, IOT connectivity, Big Data analytics, predictive Intelligence, and supply chain management, Oracle helps companies to modernize their production.

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Monitor Your Production Performance & Predict Maintenance

The Oracle Smart Connected Factory solution provides a full monitoring of factory efficiency to detect any unusual production behavior using predictive analytics on multi sources of data.

Correlating data across maintenance systems and production processes helps to optimize equipment downtime, repair activities, and spare parts availability. The solution helps to correlate data in real-time to anticipate and schedule maintenance demands into a period of no impact or low production impact like a night stop, or weekend stop. It also helps in automating the planning and procurement of spare parts to minimize expensive, last minute purchases.

The platform also helps, through its bigdata analytics, to track root cause of issues (pattern, frequency...), sift through data buried in service activity, reports, supplier related data, or sensor data to select the right spare parts and the right supplier.

• Predictive Alerts and next best action based on production line performance indicators to anticipate potential yield drop and optimize maintenance scheduling, downtime costs and spare parts purchasing.

• Bigdata Root cause analysis for maintenance optimization.

Monitor Your Assets & Predict Failure

The Oracle Smart connected factory solution provides a machine-monitoring platform to detect and predict unusual equipment behaviors and recommends the next best action to fix the anticipated failure.

Correlating data across multiple sensors helps to identify failure patterns, and provides recommendations of best action, based on a probability and anticipated time of failure. The platform helps to organize the repair operations using the best available resources. It provides the right information to the maintenance team to plan and execute their activities in safe and suitable conditions. Using the technology of "Over the Air" on the industrial IOT, the production team can also apply remote configuration and actions without having to operate physically on the equipment. In such a case, we are showing how to monitor specific conveyors motors in a factory and shift automatically to the backup motors in case of potential failure detected by a correlation and statistical linear regression of conveyor sensors data.

• Monitors assets to provide predictive alerts and next best action based on asset efficiency and machines sensors to avoid equipment failure and downtime.

Monitor Quality & Apply Best Practices Training

The Oracle Smart Connected Factory solution provides quality monitoring all along the production cycle to detect in a predictive way the deviations of quality.

Correlating quality and production data across multiple stages of manufacturing helps to identify new quality failure patterns, and provide new capability to take the best action when an impactful quality issues is detected.

The platform helps to monitor the scraping and rejecting levels based on operator and quality sensors. It provides the right information to run an immediate correlation and root cause analysis to identify the source of the quality issue. Using the different views to access data from shop floor to process flow and alerts, the line manager can launch corrective actions as soon as an issue is detected. The platform is integrated with the

quality management system to update the quality plan to check potential unidentified larger quality issue and large recall risk.

Moreover, all the data linked to the quality issue detection and the source of the issues are recorded to be used in the setup of best practices and virtual reality training (with a partner) to repeat a real situation and train the operators.

- Provides predictive Alerts and next best action based on production line quality to anticipate corrective action and adaptation of quality plan to avoid massive quality issue and recalls.
- Use field and engineering data to mitigate quality risks and provide a faster issue resolution process.

Easily Extend Legacy for Industry 4.0 Transformation

By using an open platform, the Oracle Connected Smart Factory platform provides a non-intrusive solution to increase transparency of factories data and performance indicators (KPIs).

The platform offers the best way to collaborate with new operational excellence partners, startups, and OT OEMs.

Oracle solutions are secured by design and helps to secure critical manufacturing data while providing controls to allow sharing with selected partners.

Using open technologies, the platform helps to quickly implement predictive maintenance and proactive next best action (spare part order, maintenance scheduling, training, quality plan…).

The Oracle Cloud Machine is a cloud offering which gives you choices for the Oracle Cloud Platform by bringing the Oracle Cloud to your data center and factories. Leveraging the innovation from our Public Cloud's PaaS and IaaS capabilities, the Oracle Cloud Machine is a subscription model managed by Oracle for single vendor accountability.

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Integrated Cloud Applications & Platform Services