

# SensiML Analytics Toolkit Supports AI for Industrial IoT Predictive Maintenance Applications

- *Predictive maintenance is one of the largest applications of AI for industrial IoT*
- *SensiML Analytics Toolkit makes AI for industrial IoT applications easy to implement*
- *Delivers a practical end-to-end solution with minimal data science and firmware resources*

SUNNYVALE, Calif., May 23, 2019 /PRNewswire/ -- SensiML Corporation, a developer of software tools for creating optimized embedded IoT AI algorithms, today announced that its Analytics Toolkit supports Artificial Intelligence (AI) for [industrial IoT predictive maintenance applications](#). By providing a practical end-to-end solution, the toolkit makes AI for predictive maintenance easy to implement without the need for large teams of data scientists or firmware engineers. Manufacturing and other industrial companies that implement predictive maintenance via this toolkit have the potential to dramatically reduce operating costs while simultaneously increasing employee safety.



A 2017 study by IndustryWeek in collaboration with Emerson found that unplanned maintenance results in \$50 billion of unnecessary costs to industrial manufacturers every year. The single biggest cause (42%) of unplanned maintenance was equipment failure. The study also found that outdated maintenance procedures often resulted in excessive equipment repair and replacement costs, as well as wasted resources and increased staff exposure to safety risks.

Predictive maintenance approaches can modernize these procedures and reduce or eliminate unplanned downtime and all of its associated costs. By adding local, networked sensors to equipment, and enabling those sensors to run power-efficient AI algorithms right at the sensor node, engineers can automatically classify observed patterns and compare them against a model with multiple defined states. The data for the model can come from historical data with examples of critical excursions (failure modes) from theoretical

expectations encoded into a functional algorithm or start with basic anomaly detection models that become sophisticated with edge learning over time.

In all cases, the SensiML Analytics Toolkit enables the quick and easy creation of embedded predictive classification algorithms which can run in real-time on the local sensor microcontroller. The toolkit supports a broad array of low-power SoCs including those commonly used by sensor devices currently for performing simple digital capture and network communication.

Developers can choose to use the information in existing datasets to generate code or collect new data directly from commonly available SoC evaluation boards directly into the SensiML Data Capture Lab application. The analysis supports both novice and expert users with automation and interfaces that greatly simplify the entire process from data collection to model generation to firmware optimization for a given target architecture.

"The SensiML Analytics Toolkit makes it easy for industrial sensor manufacturers and intelligent IoT device manufacturers to integrate predictive maintenance capability into their products without the need for large teams of data scientists and firmware engineers to develop capabilities using costly hand-coded methods," said Chris Rogers, CEO of SensiML. "Our toolkit can rapidly enable such manufacturers to integrate added intelligence into their products such that customers benefit from much-improved service and maintainability."

### **Availability**

The SensiML Analytics Toolkit is available now. For more information, visit [www.sensiml.com](http://www.sensiml.com).

### **About SensiML**

SensiML, a subsidiary of QuickLogic (NASDAQ: QUIK), offers cutting-edge software that enables ultra-low power IoT endpoints that implement AI to transform raw sensor data into meaningful insight at the device itself. The company's flagship solution, the SensiML Analytics Toolkit, provides an end-to-end development platform spanning data collection, labeling, algorithm and firmware auto generation, and testing. The SensiML Toolkit supports Arm® Cortex®-M class and higher microcontroller cores, Intel® x86 instruction set processors, and heterogeneous core QuickLogic SoCs and QuickAI platforms with FPGA optimizations. For more information, visit [www.sensiml.com](http://www.sensiml.com).

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