RA Ecosystem Partner Solution

ONE Tech / MicroAI™ Atom

Solution Summary

MicroAI™ Atom brings big infrastructure intelligence down into a single piece of equipment or device. MicroAI Atom deploys directly onto Renesas RA-based assets. MicroAI Atom enables training of machine learning models directly on the MCU. Furthermore, MicroAI trains and runs within the MCU environment, reducing the amount of data that needs to leave the device, providing a more efficient method for performing asset health analytics while simultaneously enhancing security oversight.

Features/Benefits

- Detect and respond to performance issues by analyzing behavior in real-time
  - Optimize the maintenance schedule to eliminate unnecessary machine servicing
  - Identify and remediate critical issues faster
- No need for data science for deployment – MicroAI™ automatically forms the ML models
- Detect abnormal network behavior in real-time
- Agnostic to sensor data input, enabling a wide-array of AI-powered use cases
- Predictive analytics to foresee and prevent unwanted variability
- Increase hardware reliability and productivity

Solution Block Diagram
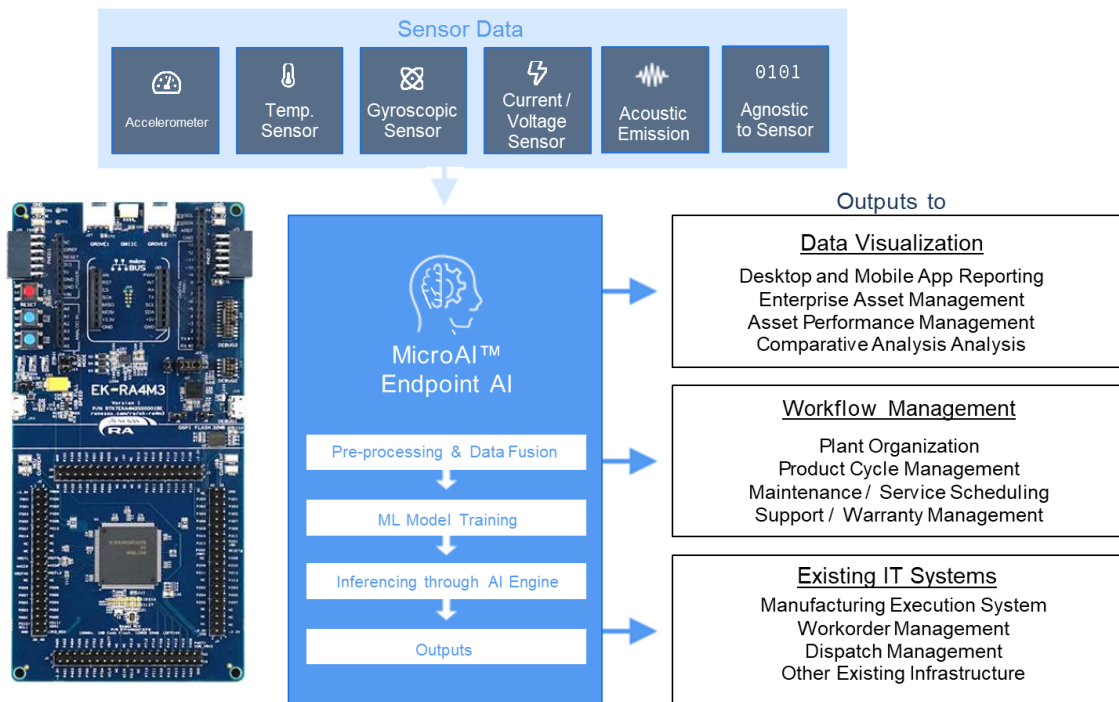
Target Markets and Applications

- IoT/IIoT, Smart Factory, Embedded AI
- Asset Management/Connectivity, Asset Performance Optimization, Predictive Maintenance
- Security, Endpoint Threat Detection, Workflow Automation

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RESULTS FROM MicroAI™ Atom

• Detect performance issues by analyzing behavior in real-time and respond before they cause catastrophic operational failures

• Optimize the maintenance schedule to avoid unnecessary downtime and machine servicing

• Faster identification and remediation of critical issues for higher operational uptime

• Gain a greater visibility into device performance, enabling product development to plan future improvements

• Increase hardware reliability and productivity

• Communication protocol verification and anomaly detection

• Predictive analytics foresee and prevent unwanted variability

BENEFITS TO ENDPOINT AI

Security

MicroAI™ Atom trains in the local environment, eliminating the need to ship data to the cloud. It allows equipment to form models at their deployed locations, to deliver real-time analytics and alerts with the highest correlation to their specific tasks.

Low Cost of Ownership

The owners of legacy or new equipment can deploy MicroAI™ Atom to gain predictive modeling and allow assets to alert on upcoming issues. Output can be sent to your choice of data analysis platform, locally or to the cloud.

Utilize Virtually Any Data

Leverage data that comes from a variety of IoT sensor values. MicroAI™ Atom is agnostic to sensor values. It will create a multi-variant model that utilizes AI inference analysis to generate a wide range of predictive analytics.

Intelligence at the Source

MicroAI™ Atom utilizes multidimensional behavioral algorithms to produce recursive analysis, training, and processing. This enables a continuous evolution of the AI model that takes place directly on the endpoint. Manufactures are able to offer differentiated product solutions.

ABOUT ONE TECH, INC:

ONE Tech is redefining artificial intelligence at the edge, delivering powerful embedded and edge AI solutions that help organizations achieve deeper insights into the behavior of their assets. ONE Tech's MicroAI™ technology curates raw data at the edge rather than in the cloud, helping companies discern valuable data and to quickly resolve anomalies by triggering actionable insights and alerts. Devices are trained in the local environment, allowing for personalization while providing the highest levels of security and privacy. For more information, visit www.onetech.ai, follow us on LinkedIn and Twitter.

 With deployments in industries such as oil and gas, manufacturing, agriculture and telecom, our solutions help companies optimize the performance and security of their assets in a highly-connected world.

https://www.onetech.ai/en/ourproducts/microai-atom