Advantech iMachine Smart Machine Management System
A Future of AI-Enabled Machines

9806IMSAS01, 9806IMSAD01, 9806IMSAD11

Machine digitalization management
Machine AI predictive maintenance

Enabling an Intelligent Planet

Introduction Video
Solution Introduction

The core of the WISE-iMachine solution is machine asset management which transforms each type of machine into a digital asset for machine integration. Advantech iMachine brings a complete set of solutions from edge-to-cloud to assist you in speeding up the development & deployment of internet machine management, and is fully dedicated to the vertical market and core business. It features an array of value-added applications like machine data control, predictive maintenance, and the situation center. These features can be applied to various scenarios including in-house machine management, remote machine management, and station maintenance.

Application Structure
Feature Highlights

Situation Room

Tracking Machine Performance

The machine map is based on Google maps and allows you to check machine status and statistical results. It provides warning statistics and category analysis of any machine anomalies.

Machine Performance Management

Real-time production
Management can set targets to support production efficiency for different processes and regions

Root-cause
Analyze statistics to get a deep understanding of root causes of issues to support decisions

Process Monitoring
Provides real-time machine monitoring of various measures to control machine efficiency.

Region Monitoring
Supports regional review with the ability to examine a target machine to manage efficiency.

Vision Analysis Tool
Identify machine inefficiencies with the vision analysis tool.

Root Cause Analysis
Provides a summary of root causes for management to analyze and use to devise improvements.
**Machine Condition Monitoring**

Real-time monitoring

One-station manages multiple I/O positions of machine data in cooperation with flexible workflows and thresholds. A machine management workstation can be set up in accordance with daily demands and employee knowledge.

Remote control

A machine can be connected anytime and anywhere to be controlled remotely. A time schedule and event-triggered conditions can also be set up to automatically manage numerous machines. An unmanned machine room with quick response capability can be achieved.

Anomaly surveillance

Machines can be integrated to provide one-way information. This allows the support administrator to provide rapid response to any issues that may arise.

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**Machine Overview**

Summary of the status for the machine under control. Any anomalies will be highlighted.

**Machine Data Overview**

Monitor the real-time status

**Anomaly Surveillance**

Supports machine management and dispatch.

**Remote Control**

Enables scheduling and an unmanned machine room.

**Historical Data Analysis**

Supports analysis of different machine parameters and optimizes the maintenance and service strategy.

**Machine Management Template**

Integrates regional experience to provide management templates and support the administrator for fast implementation.
**Enterprise Asset Management**

- **Service & maintenance workflow integration**: Summarizes the working items and historical records from maintenance planning to the inspection process. Supports digitalization of the machine management flow.
- **Virtual scenario integration**: Enables review of historical machine information by scanning the QR code on a field machine. Combines virtual stations with real management scenarios.

**Service & Maintenance Schedule**

Defines the maintenance schedule according to each machine

**Service Record**

Monitor machine tasks to be handled and build a service & maintenance record for each machine

**Work Flow Management**

Define the appropriate work and approval flow for organizations

**Work Progress Surveillance**

Monitors the progress of tasks and the personnel responsible for each work order

**Machine PHM**

- **Management targets established by flexibly applying AI models**
- **Machine health index monitoring**

Enables the training and deployment process for an AI model and controls the performance of the AI model.

ISO10816 and machine degradation process monitoring

**AI Project Management**

Set up an AI management scenario for your machine to check the machine AI index

**Overview of Machine Diagnosis Information**

Determine the effective elements of AI models and provide retrospective and predictive information to support diagnoses
## Subscription information

Provides dealers with different subscription plans to provide customers with value-added services. You are invited to join iMachine smart machine management solutions as an ecopartner.

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<thead>
<tr>
<th>WISE-iMachine</th>
<th>Speedy verification solution</th>
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<tbody>
<tr>
<td><strong>Deploymtn Mechanism</strong></td>
<td>No need for additional deployment</td>
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<tr>
<td><strong>Flexible Expansion</strong></td>
<td>400 Tags per unit</td>
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<tr>
<td><strong>Data Storage</strong></td>
<td>1 year</td>
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<tr>
<td><strong>Data upload</strong></td>
<td>1 minute</td>
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<td><strong>Multi-tenant</strong></td>
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### Data Acquisition Terminals

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<tr>
<th>ECU-1051</th>
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<tbody>
<tr>
<td>TI Cortex A8 300MHz CPU with DDR3L 128MB RAM</td>
<td>Intel® Atom® E3940 processor (1.6 GHz) with 8GB DDR3L memory</td>
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<td>ECU-1051TL-R10AAE</td>
<td>UNO-137-E13BA</td>
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<tr>
<th>ECU-1251</th>
<th>EI-52</th>
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<tbody>
<tr>
<td>TI Cortex A8 800MHz CPU with DDR3L 256MB RAM</td>
<td>Intel 11th gen. Core i5/i3/Celeron with 8/16 GB Dual-Channel DDR4 Memory</td>
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<td>ECU-1251TL-R10AAE</td>
<td>EI-52-S6A1 (i5 CPU/16GB)</td>
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<td>EI-52-S2A1 (i3 CPU/8GB)</td>
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<td>EI-52-U0A1 (Celeron CPU/8GB)</td>
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### PHM Vibration Data Acquisition

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<tr>
<th>WISE-6610</th>
<th>WISE-2410</th>
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<tbody>
<tr>
<td>Enhanced LoraWAN Gateway</td>
<td>LoraWAN Vibration Wireless Sensor</td>
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<tr>
<td>WISE-6610-N100-A (LoRaWAN gateway supports up to 100 nodes at 915 MHz)</td>
<td>WISE-2410-NB (US)</td>
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<tr>
<td>WISE-2410-EB (EU)</td>
<td>WISE-2410X-E21NA (IECEx Zeon21 for NA915 Band)</td>
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