

# WiiMatrix - The IoT Cloud Platform

From small sensors to big data. A web-based platform provides easy access to all data collected by IoT devices, for data storing, processing, analysis, and visualization.



## Features

- IoT data displaying and visualizing;
- Remote IoT device control and management;
- Enable long-term condition monitoring and automatic fault alert;
- Include analytical tools like FFT, Wavelet, AI-based classification, statistical measurement, etc;
- Customizable monthly, daily and hourly reports;
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- Export data to various formats including Excel, CSV, JSON, HTML;
- Interactive dashboards accessible from any web-enabled device;
- API for integration with external information systems;

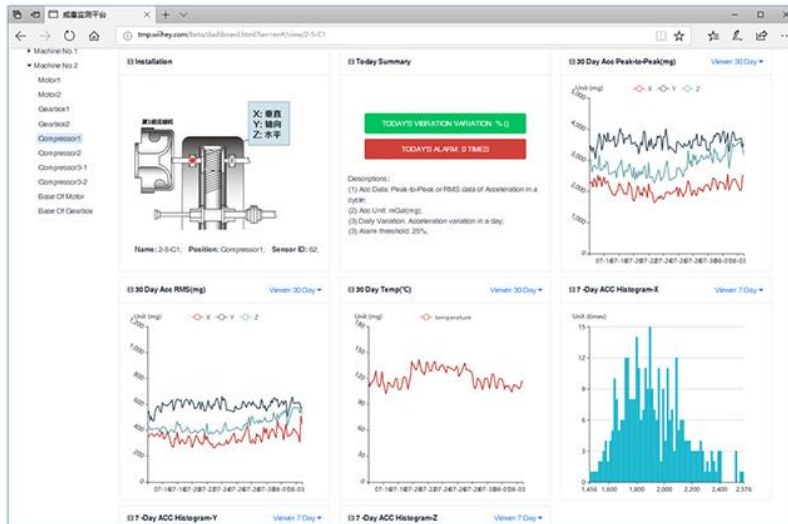
## Applications

- Asset condition monitoring and management;
- GIS and GeoWeb infrastructure;
- Process control;

# Overview

➤ **Different sensor data, in a single platform**

IoT application works better when different kinds of sensor data are integrated together. WiiMatrix allows you to access a variety of sensor information over the web, provides an open and unified way to interact IoT devices, data, and applications.



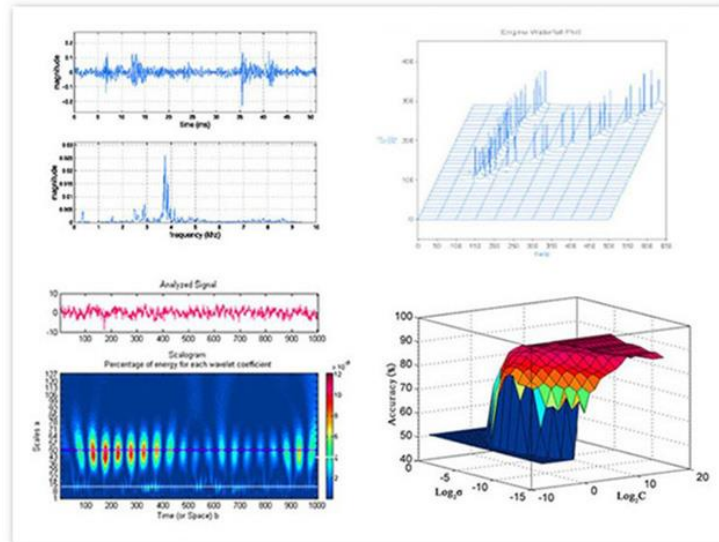
➤ **Easy condition monitoring & real-time alerts**

Users associate specific sensors with the remote asset, set warning and alert levels, enable long-term condition monitoring of the asset's behavior. When failure happens, WiiMatrix will raise alarm and deliver actionable information to decision makers.



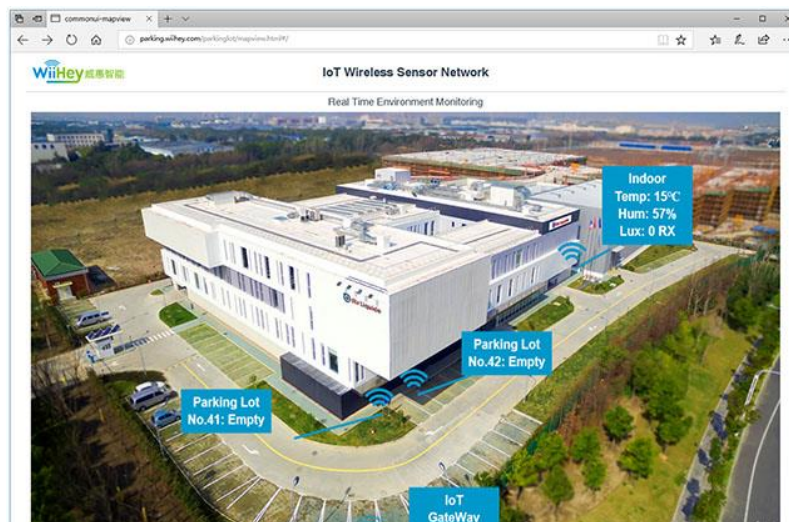
➤ **Run analytical algorithms on your sensor data**

As the volume of data grows, only AI with deep machine learning capability is able to crunch it effectively. WiiMatrix supports analytical methods of AI-based classification, spectrum transform, statistical calculations – all enable meaningful data processing.

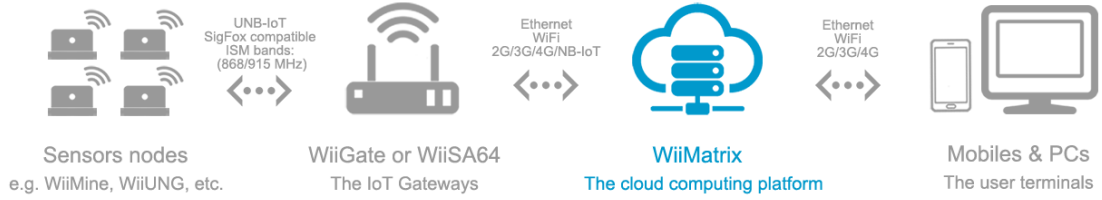


➤ **API for integration with your IT systems**

WiiMatrix includes an API that allows users to manage and control their IoT devices and data streams. Being RESTful and JSON encoded, the API is developer friendly. Here is an example of integrating IoT data with customer's GIS infrastructure.



# Topology



## Tech Specifications

General	
Supported web browsers	Google Chrome (recommended); Mozilla Firefox; Apple Safari; Microsoft Edge; Internet Explorer 11;
Web API interfaces	RESTful API and JSON encoded
Data storage	Storage of every complete time series data set collected from a sensor node
System settings	
User access	Selective permission levels for users and administrators
Sensor pairing	Assign sensors (IDs) to specific asset
Sensor control	Configuration of sensor functions including sampling rate, collection frequency, averaging, data uploading rate, etc.
Data	
Type of sensor data supported	Acceleration, angle, temperature, humidity, pressure, RSSI, voltage, open/close status, luminosity, location information, counting, etc.
Data visualization	Trending of user-specified sensor data; Viewing of individual time series or data axes; Multiple data views including GeoWeb maps and trend charts; Intelligent single-point or time-averaged baselining; Comparative review data of same type on one chart;
Data analysis	FFT, Wavelet transforms, KNN classification, common statistical tools, neural network, etc.
Alarms and notifications	
Alarms settings	Set warnings and alarms for exceedances
Message notifications	Email, SMS, WeChat notifications of warnings and alarms

# Gallery



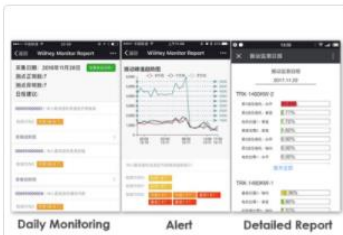
Web dashboard 1



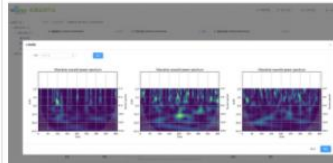
Web dashboard 2



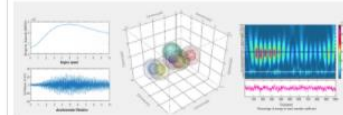
Web GIS/GeoWeb UI



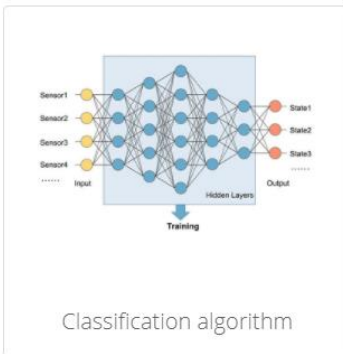
Alert & notification



Transform algorithms 1



Transform algorithms 2



Classification algorithm