Wzzard™

THE WZZARD INTELLIGENT SENSING PLATFORM™

ADVANTECH

**+ WIRELESS SENSOR NETWORKS FOR
THE INDUSTRIAL INTERNET OF THINGS**

THE INDUSTRIAL INTERNET OF THINGS STARTS WITH *INTELLIGENCE AT THE NETWORK EDGE*

Monitoring and managing remote machine assets can deliver real value by reducing downtime and cutting maintenance costs. Industry estimates suggest that up to 85% of the value will come from brownfield installations that are inadequately networked – or exist in a closed system unable to communicate with enterprise systems.

Capturing, translating, aggregating, filtering and sharing data from these machines seamlessly into analytics packages is both the challenge and the promise of the Industrial Internet of Things.

This is your Network Edge – the point where data meets the real world.

This is why we built Wzzard. It is an easy-to-use, complete wireless sensor connectivity platform for the rapid deployment of scalable, intelligent, reliable IoT networking in remote and demanding environments.

WHY WZZARD?

Unlike wireless sensing products that require a high gateway-to-node ratio, Wzzard can support 32 nodes (outdoor form factor) or 100 nodes (indoor form factor) per gateway. Gateways can be daisy chained to allow your network to scale to hundreds of nodes with less equipment cost.

It allows monitoring in remote and demanding locations at a more reasonable price-point per node than forerunner wireless technologies such as WirelessHART, Wi-Fi and Proprietary RF.

Advanced power-saving features and low power consumption caters to networks deployed across difficult to reach and often powerless locations.

Data filtering and aggregation within the gateway reduces the cost of data transfer and storage to centralized data systems.
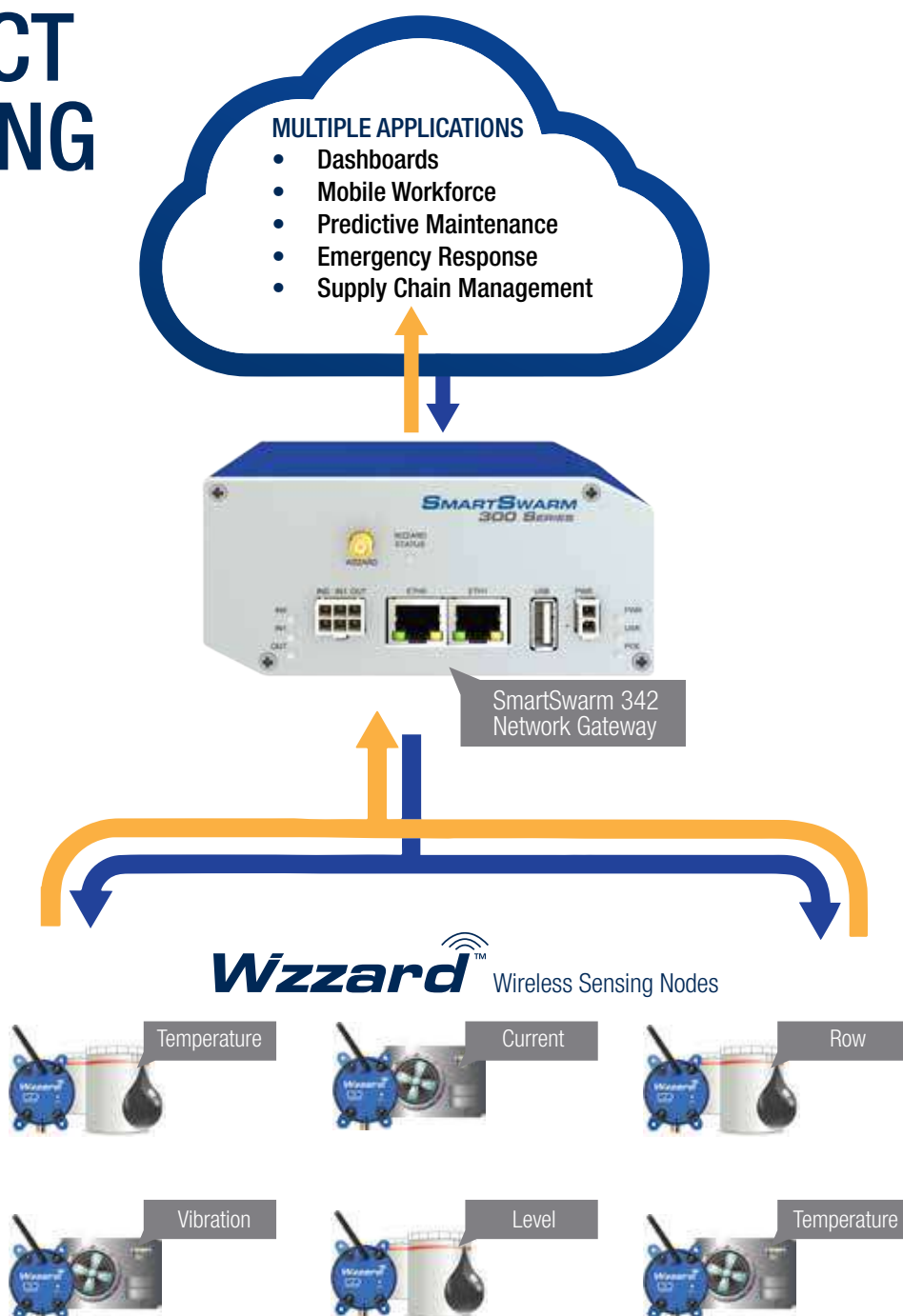
IT'S A SIMPLE CONCEPT...

Unlike a traditional SCADA application where sensors and edge devices are simply passive conduits for raw data, edge decision making delivers a smarter, more effective network.

By using iterative control limits and gateway data aggregation to support applications at the network edge, machine communication becomes smart machine decision making. Meaningful data is shared with analytics packages in understandable JSON strings, supporting enterprise level business management.

The Wzzard Intelligent Sensing Platform brings this intelligence to the network starting at the sensor, creating a more responsive, reliable and efficient network.

CONNECT ANYTHING

MULTIPLE APPLICATIONS
- Dashboards
- Mobile Workforce
- Predictive Maintenance
- Emergency Response
- Supply Chain Management

SmartSwarm 342
Network Gateway

Wzzard™ Wireless Sensing Nodes

Temperature

Current

Row

Vibration

Level

Temperature

+ ANY SENSOR. ANYWHERE. ANYTIME.

INTELLIGENT EDGE PROCESSING

Sensor data is delivered through the gateway to the application layer over a secure, scalable, resilient wireless SmartMesh IP network via the IoT ready MQTT protocol.

Intelligent Edge processing enables migration beyond today's descriptive analytics, which can only reactively describe what happened and why, towards predictive and prescriptive analytics that can derive meaning from data and proactively advise actions to increase efficiency and reduce unplanned downtime.

Wzzard™ can accommodate external sensors with a variety of interface options including general-purpose analog inputs, digital input/output, thermocouple and more.

Configurable by tablet or PC, options include geolocation, device name and uptime to format data for easier analytics.
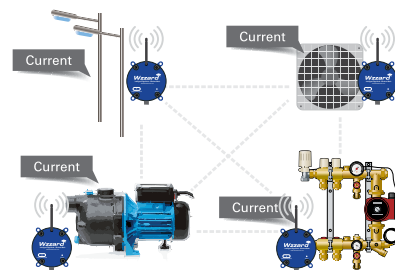
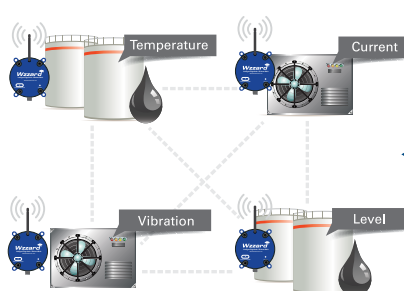# **+ DECISIONS START AT THE SENSOR... BUT DON'T END THERE.**

SENSOR TYPES:

FLOW

LEVEL

SHOCK

PRESSURE

VIBRATION

TEMPERATURE

MAGNETIC FIELD

INERTIAL/GYRO

PARTICULATES

PROXIMITY

MOISTURE

MOTION

GASSES

SOUND

TOUCH

SMART IoT
FOR ENERGY AUDITS

Current

Current

Current

Current

ETHERNET

CELLULAR

SMART IoT
FOR MACHINE CONDITION MONITORING

Temperature

Current

Vibration

Level

WZZARD™ INTELLIGENT EDGE NODES

EASY, EFFICIENT, EFFECTIVE + EASY TO DEPLOY + EASY TO MANAGE

Heavy-duty Wzzard Intelligent Edge Nodes connect sensors in extreme environments.

- IP67 rated for outdoor use
- Battery powered with power wiring options
- M12 or conduit connection
- Magnetized or screw mount options
- UV impact resistant enclosure

Low cost, compact Wzzard Intelligent Edge Nodes are designed to do their jobs in more forgiving environments.

Our compact Wzzard Intelligent Edge Nodes perform the same function as their heavy duty counterparts, but at a lower cost. They're designed for light industrial applications that don't involve extreme environmental hazards.

- Molex 6-pin MicroClasp connection
- Battery-powered with power wiring options
- Weight 0.09 kg
- Easy configuration of the sensor platform via the CLI port or through the network gateway

Award-winning Wzzard Wireless Sensor Gateway provides Internet connectivity via wired Ethernet or cellular data networks.

Intelligent Edge Nodes are available in both Ethernet and cellular versions. The cellular connection can be used as the primary connection to the Internet or as an automatic fail-over connection when your primary Ethernet network fails.

The Wzzard gateway includes Node-RED. Node-RED is designed to enable devices, services and APIs to be wired together via a simple drag-and-drop mechanism. Node-RED makes it easy to collect real world events from a variety of sources, add intelligence and create output streams to common platforms and databases that react to the world around them.

The gateway is an advanced router platform and features a broad range of networking protocols, including support for VPN tunnels to ensure complete, end-to-end security.

PRE-PACKAGED WZZARD DEVELOPER AND APPLICATION BUNDLES

- Kits include pre-selected sensors, nodes, gateway, dashboard, cables and accessories.

- No downtime. Simply snap on the current clamps connected to the wireless Wzzard node and provide an Ethernet connection to the gateway.

- Built-in dashboard, data trendlines, email/SMS alerts and data logging capability.

- Easily expand the Starter Kit by adding additional Wzzard nodes and sensors to your existing gateway.

- Quickly deploy proof-of-concept and pilot projects in minutes, not weeks. Then scale to hundreds or thousands of inputs from one or multiple locations.

The Wzzard Energy Monitoring Starter Kit monitors and reports energy consumption of machines, circuits and processes to assess real-time health, schedule preventative maintenance, reduce energy costs and improve the environmental footprint. Kit includes 2 clamp-on current sensors, Wzzard M12 industrial node, M12 cable and Ethernet gateway.

The Wzzard HVAC/Compressor Monitoring Starter Kit monitors and reports current and differential temperature data of multiple HVAC units for tracking and reducing facility energy costs. The kit includes two clamp-on current sensors (compressor, fan), two thermocouples, Wzzard conduit industrial node and Ethernet gateway.

The Wzzard Condition Based Monitoring Starter Kit monitors and reports vibration and temperature data of machines, motors, bearings to proactively assess device health in real-time, schedule preventative maintenance before costly breakdowns and downtime occur. The kit includes a low-power temperature/vibration sensor and cable, Wzzard M12 industrial node, M12 cable, magnetic mounting plate and Ethernet gateway.

The Wzzard Refrigeration Monitoring Starter Kit monitors and reports refrigerator/freezer temperature, door open/close and current draw for early fault detection, inventory quality control, loss prevention and health code compliance. The kit includes a temperature/humidity sensor, two clamp-on current sensors (compressor, fan), thermistor cable, door sensor cable, Wzzard sensing node and Ethernet gateway.

The Wzzard Stacklight Monitoring Starter Kit includes a sensor strip with three photo transistor sensors and attached cable, Wzzard sensing node and an Ethernet gateway. The peel-and-stick sensor strip adheres to stack lights, monitors the On/Off status of the red/yellow/green lights and transforms it into reportable, measureable data to manage and optimize production processes, detect quality issues, reduce downtime and free up manpower.

+ GLOBAL REACH
FOR GLOBAL SUPPORT

You build your business and we will build your communication solution. Whether you need standard products or require special designs for specific applications – Advantech can help.

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