Wzzard™

THE WZZARD INTELLIGENT SENSING PLATFORM™

B+B SMARTWORX

Powered by **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 in reducing downtime and cutting maintenance costs. Industry estimates suggest 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, enriching, 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 WSN to scale to hundreds of nodes with less equipment cost.

Allows monitoring in remote and demanding locations at a much more reasonable price point per node than forerunner wireless technologies such as WirelessHART, WiFi, and Proprietary RF.

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

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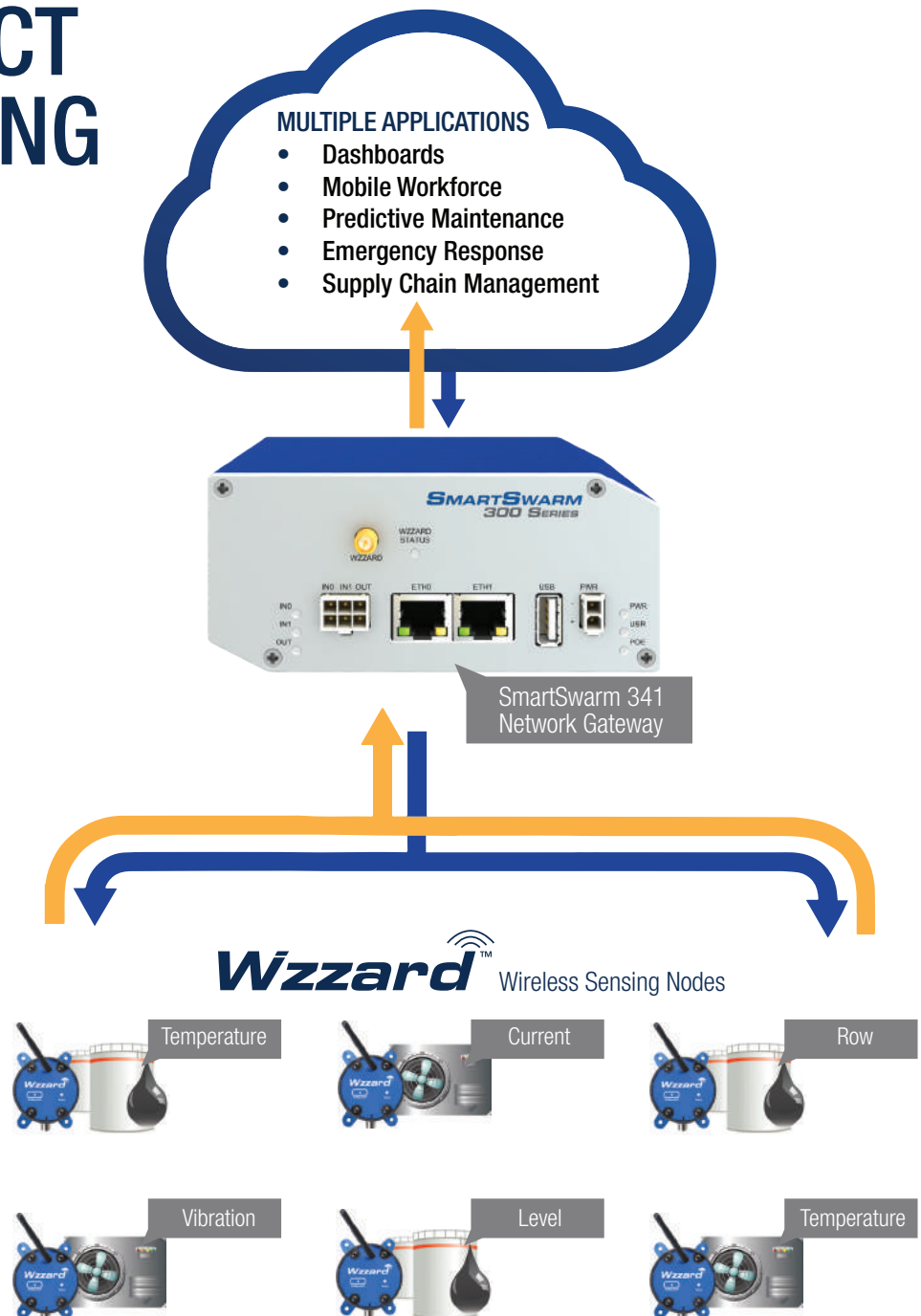
IT'S A SIMPLE CONCEPT…

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

Now, using iterative control limits and gateway data aggregation to support applications at the network edge, machine communication becomes 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 341
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 prescribe actions to increase efficiency and reduce unplanned downtime.

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

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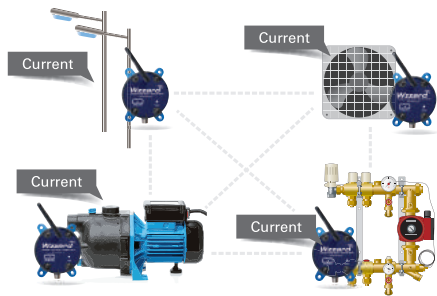
+ DECISIONS START AT THE SENSOR...
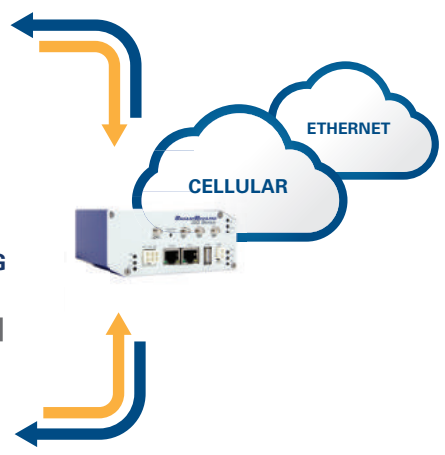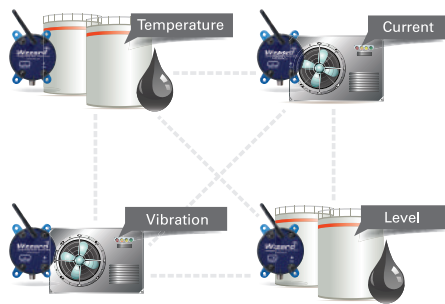# BUT DON'T END THERE.

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 AND 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

Lower 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 only 0.2 lbs (0.09 kg)
- Configuration of the WSM sensor platform is easy via the CLI port or
  through the network gateway.

The award-winning Wzzard Wireless Sensor Gateway provides Internet connectivity via wired Ethernet connections or the cellular data networks.

Intelligent Edge Nodes. Both Ethernet and Cellular versions are available. 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 environment. Node-RED is designed to enable devices, services, and APIs to be wired together via a simple drag and drop mechanism. It makes it easy to collect real world events from a variety of sources, add some intelligence and create output streams to common platforms and databases that react to the world around them

The gateway is built on 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

Includes pre-selected sensors, nodes, gateway, dashboard, cables, accessories.
Contact your representative for more information about these kits.

WZZARD ENERGY MONITORING STARTER KIT

The Wzzard Energy Monitoring Starter Kit provides a non-intrusive, easily installed solution for monitoring current consumption of your equipment, processes or panels without disrupting your existing operations.

- Includes everything you need to monitor current consumption of up to three inputs; on three phase load or three unique loads
- No equipment 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 system 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 location or multiple locations.

BB-WSK-NRG-1 Kit Contents:
(1) Model WSD2MA3 Industrial Node - 3 analog-in unit with M12 connector and external antenna. (Supports up to 3 attached sensors.)
(3) Model JC10F50-V 50A - clamp-on current sensor.
(1) Model 520-10256-00 - M12 cable.
(1) Model SmartSwarm 341 Gateway - Ethernet network gateway with Wzzard board. (One gateway supports up to 32 wireless sensor nodes and up to 96 attached sensors.)
Included Software

WZZARD HVAC/COMPRESSOR MONITORING KIT - COMING SOON

Cooling systems are often "teamed" with many cooling units working in tandem. In many cases there are no management systems in place, making it impossible to detect performance problems until so many units fail that there is a loss of environmental control, causing problems ranging from dissatisfied facility tenants to loss of inventory or unscheduled shutdowns of production. The Wzzard HVAC/Compressor Monitoring Starter Kit makes it easy to see the run time, duty cycle, and output effectiveness of each unit, allowing you to maximize uptime and eliminate problems before they cause failures that impact your bottom line.

+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 B+B SmartWorx can help.

B+B SmartWorx
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