

READY FOR
INDUSTRIAL INTERNET
OF THINGS ?



MADE
IN
GERMANY



WIFI AND 2.4GHZ WIRELESS IIOT SENSORS

ABOUT US

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Recent developments in sensor technology, especially when wireless technology is considered, have opened up new gates in terms of health monitoring and preemptive fault detection.

To meet these new challenges, BeanAir, a leading German company in sensing technology, designs and manufactures smart, rugged and open-standard wireless IIOT sensors.

BeanAir Wireless IIOT sensors constitute an outstanding technology for various applications: Structural Health Monitoring, Test and Measurement, Land Surveying, Condition Monitoring, Environmental Monitoring ...

Furthermore, the high level of versatility, performance, and reliability of its wireless IIOT sensors, in addition to a worldwide presence thanks to effective system integrators partners, Beanair has acquired an international outreach and continues to maintain a strong reputation with major customers in numerous sectors.



www.industrial-wsn.com



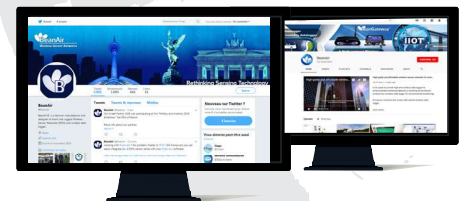
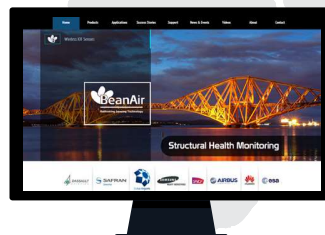
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www.youtube.com/user/BeanairSensors



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APPLICATIONS



STRUCTURAL HEALTH MONITORING

The recent developments in sensor technology, especially when wireless technology is considered, have opened up new gates in terms of health monitoring and preemptive fault detection.

BeanAir®'s wireless sensor technology offers great reliability, versatility, maintainability and easy to deploy technology

GROUND VIBRATION MONITORING

Monitoring and control of ground and structural vibrations provide the rational to select measures for prevention or mitigation of vibration problems.

Discover how our wireless vibration sensors can provide a great flexibility in terms of deployment and performances.



CONDITION MONITORING

BeanAir® offers the ideal solution to your needs in terms of measurement and instrumentation to improve equipment energy efficiency and get better knowledge about equipment availability.



ENVIRONMENTAL MONITORING

Beanair provides a wireless IIOT sensors system perfectly adapted to any environmental need:

- Autonomous wireless sensors (ultra low battery consumption with an autonomy that can go up to 7 years)
- Various information transmission protocols
- Data acquisition and storage device
- Wireless IIOT sensors supervision and monitoring software



TEST AND MEASUREMENT

Offer a True Flexibility to your Testbench !

BeanAir technology offers solutions for rolling stock, naval and aeronautic manufacturer in terms of test and measurement, aiming at reducing costs related to test bench.



LAND SURVEYING

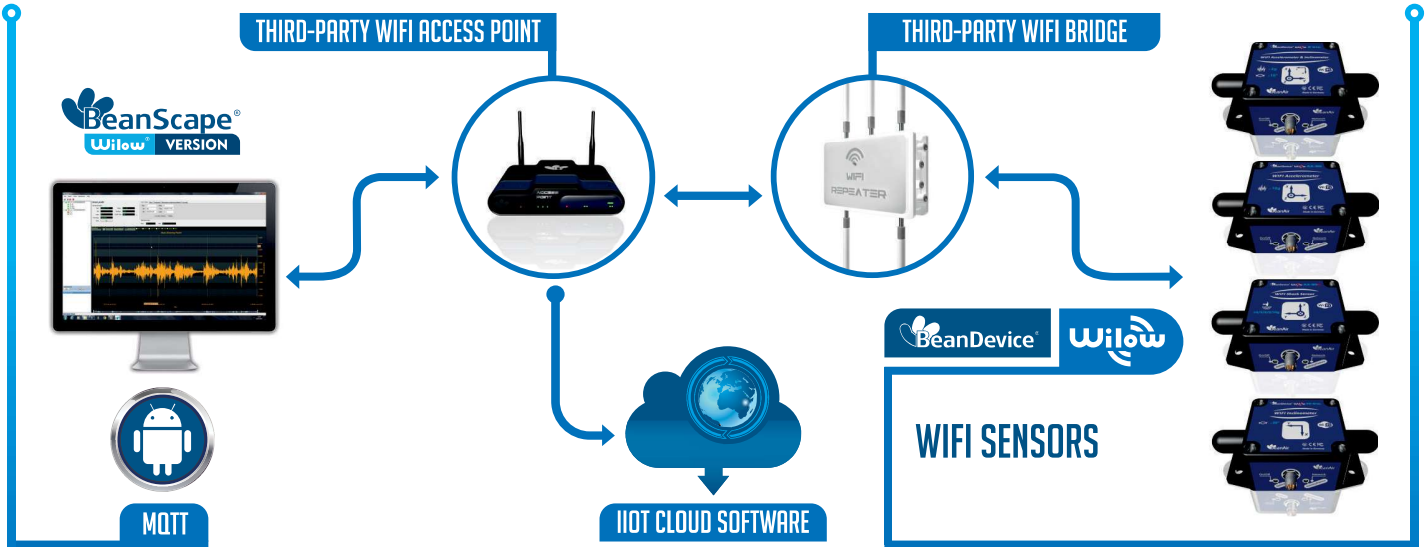
Surveying and land surveying is the measurement and mapping of our surrounding environment using mathematics, specialized technology and equipment.

Discover how Beanair provides field-proven and cost-effective wireless IIOT sensors for land surveying.

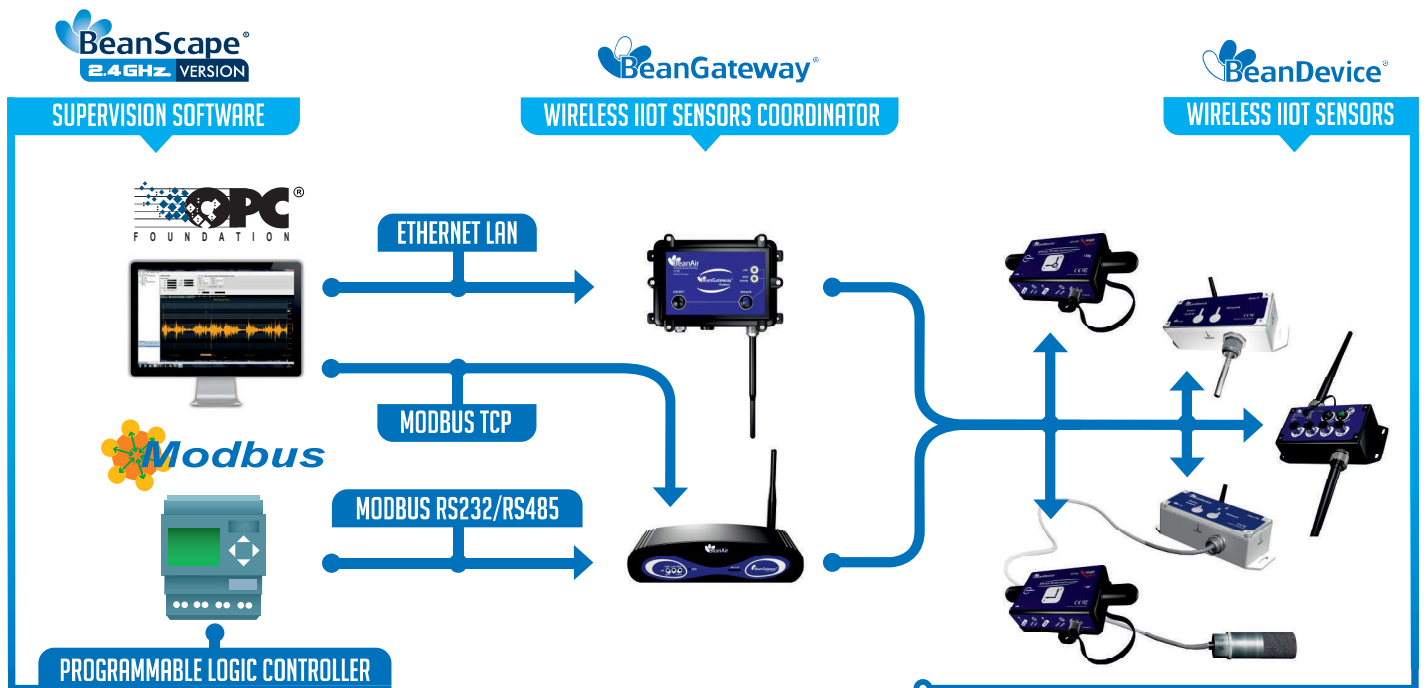


FINDING THE WIRELESS SENSOR FITTING YOUR APPLICATION



WiFi



2.4 GHz



COMPARISON TABLE

		
Wireless range in Line of Sight (L.O.S.)	200 m Can be extended by adding Wifi Bridge	500 m
Wireless Technology	IEEE 802.11 b/g/n	2.4GHz wireless based on IEEE 802.15.4E
Open Standard or proprietary protocol	Open-Standard protocol	Proprietary Protocol
Low Power		
Aggregation capacity		
Available sensors/DAQ	Vibration, Peak Particle Velocity, shock/impact, Inclinometer	Vibration, Peak Particle Velocity, shock/impact, Inclinometer , IR temperature, humidity, Analog DAQ (4-20mA, ±20 mV, ±5V, ±10V)
IIOT Ready (MQTT protocol)		
Energy Harvesting (Solar power supply)		
USB Link	USB 2.0	
USB power supply		
Easy Firmware update	 From USB	
Store and Forward+		
Clock- synchronization	±30 ms	±2.5 ms
Hardware encryption		
Wakeup function	Timer and Shock detection	Timer

DISCOVER WILOW® SENSORS

By connecting **WiLow®** sensors to existing WIFI infrastructure, user can benefit from a rapid return on investment:

- Lower total cost of ownership-works,.
- Large installed base and consequent broad-based familiarity with configuration, use and troubleshooting at the physical and link layers
- **Easy provisioning & IT friendly:** WiLow® sensors use IP-over-Ethernet networking environment.



WiLow® AX-3D
WIFI VIBRATION SENSOR
±2G & ±10G



WiLow® Hi-Inc
WIFI INCLINOMETER
±15° OR ±30°



WiLow® AX-3DS
WIFI SHOCK SENSOR
±2/4/8/16G



WiLow® X-Inc
WIFI COMBO SENSORS
VIBRATION, INCLINATION AND
SHOCK MONITORING
±15°/30° AND ±2G/10G

GET READY FOR INDUSTRIAL INTERNET OF THINGS (IIOT)

Ready for Industrial Internet of things (IIOT) applications, WiLow® sensors integrate natively **MQTT** (Message Queuing Telemetry Transport) data frame, a lightweight and open-source (OASIS & ISO/IEC 20922:2016 standards) Internet of Things protocol.

MQTT is based on publish/subscribe paradigm, therefore user can easily connect, configure and manage several **WiLow®** sensors at the same time from a unique IIOT software platform.

Users looking for a high level of security can count on a mechanism to notify interested parties to an abnormal disconnection of a client using the Last Will and Testament feature.

No need to spend several months to develop a specific and complex supervision software, user can easily integrate **WiLow®** sensors in a third-party IIOT Cloud platform (Amazon web services, IBM Watson, Microsoft Azure, Facebook Messenger, Alibaba Cloud....).

Non-developer users can still use the **BeanScope® software** to setup a quick and affordable Wifi sensor network.



WILOW®

OPEN-STANDARD, ULTRA-LOW POWER AND RELIABLE WIFI SENSORS

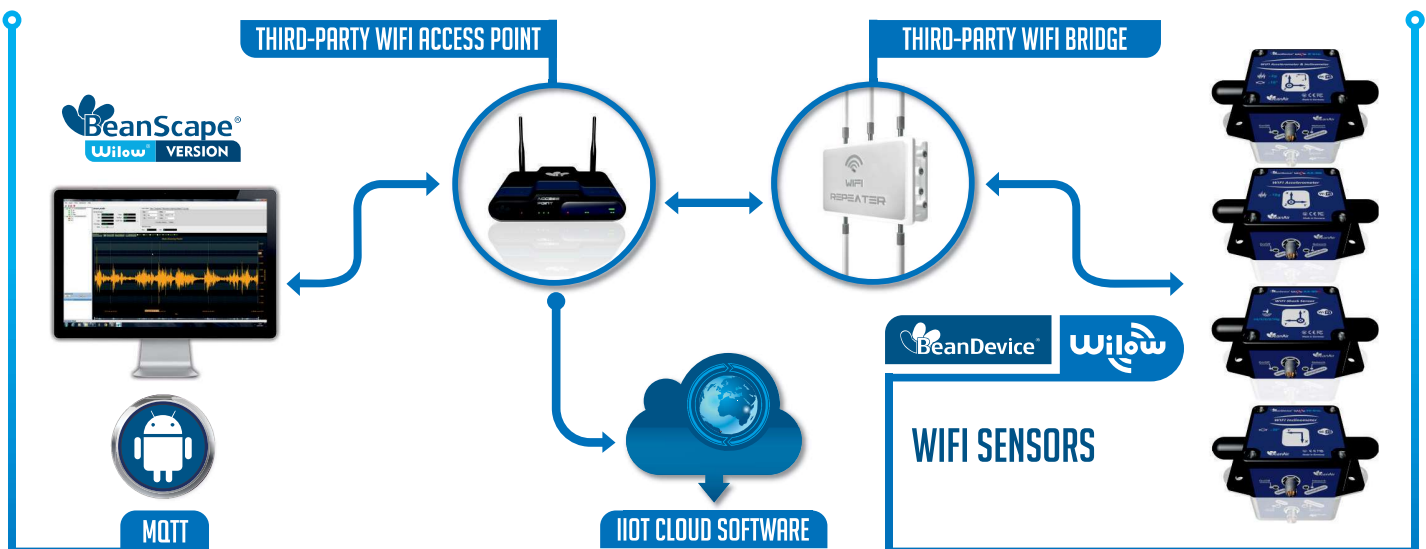


Until now, Wifi technology was extremely energy greedy and unreliable. Users working on structural health monitoring, Test & Measurement and condition monitoring were more confident to deploy proprietary wireless sensor networks offering a better reliability and a low power operation.

Thanks to more than 11 years of experience in sensing technology, our research and development team worked intensively with our most initiated customers on **WILOW®** (for Wifi Low Power) technology, a new generation of WIFI sensors (vibration, Peak Particle Velocity, inclination and shock/impact) which is reliable, ultra-low power and open-standard.

WILOW® sensors revolutionize sensing technology by bringing outstanding features:

- ULP (Ultra Low Power) Wifi Technology - IEEE 802.11 b/g/n (2.4 Ghz frequency band)
- Rugged aluminum casing Waterproof IP67/NEMA 6
- Embedded Data Logger: up to 5 million data points (with events dating)
- USB 2.0 for device configuration (including firmware update)
- Smart and flexible power supply, compatible with USB and Solar power sources.
- Store and Forward+: Lossless data transmission with hard real-time
- SSD (Smart Shock Detection), Wilow® sensor can wakeup on shock detection (software configurable)
- IIOT Ready: Integrated MQTT data exchange, lightweight and open-source Industrial Internet of Things (IIOT) protocol
- Onboard SNTP (Simple Net Time Protocol) Client
- Precision Time Protocol over Wifi Network (±30ms of precision)



TRIGGER DATA ACQUISITION ON SHOCK DETECTION

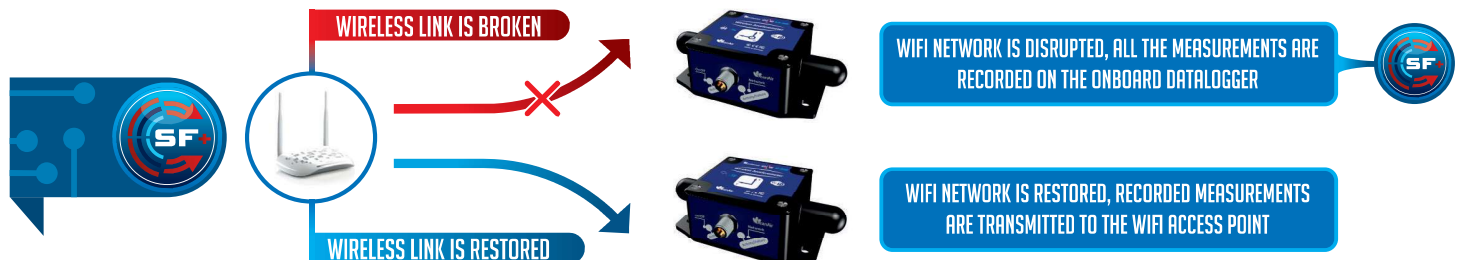
Thanks to our Smart Shock Detection (SSD) technology, Wilow® sensors can wakeup on a shock detection and starts immediately data acquisition and real-time wireless transmission. Unsolicited wakeup can be avoided by configuring both shock threshold (up to 16g) and sensor response delay.

User will spend less time to analyze useless data acquisition as data recording & wireless transmission will start when a shock threshold is reached. Battery life can be extended as Wilow® sensors are most of the time in sleep power mode.



RELIABLE WIFI TECHNOLOGY THANKS TO OUR “STORE AND FORWARD+” FUNCTION

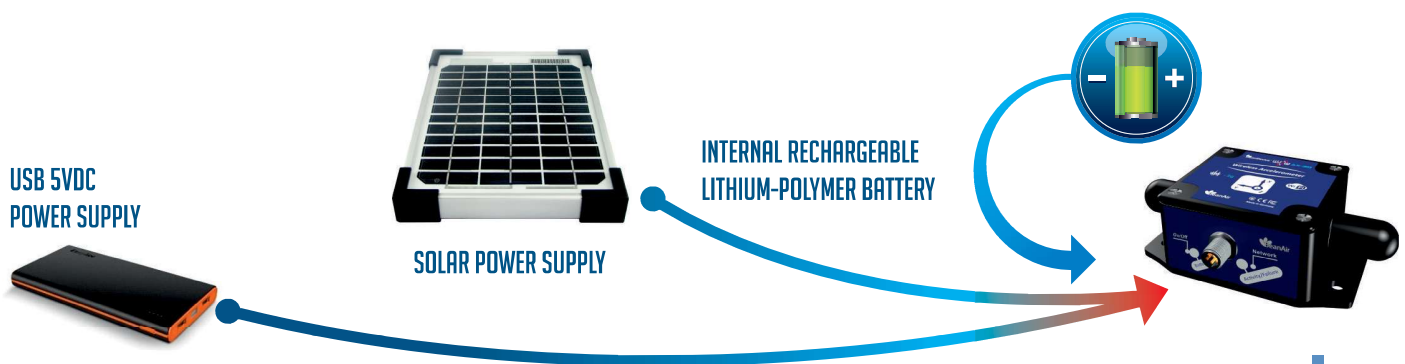
The Store and Forward technique works by storing the message transmitted by the Wilow® sensor to a Wifi access point / Wifi receiver. If the message is not received due to a network disruption, it will be retransmitted on the next transmission cycle. This technique allows to bring a lossless data transmission.



SMART AND FLEXIBLE POWER SUPPLY

Wilow® sensors can be power supplied from several types of power sources:

- Internal rechargeable Lithium-Polymer battery
- USB 5VDC power supply, battery can be extended by connecting the Wilow® sensor to an USB power bank
- External power supply 5VDC up to 17VDC including solar panel, no need to use an external solar power manager



A RUGGEDIZED OUTDOOR IOT GATEWAY FOR YOUR MONITORING SITE

iIOT Gateway

3G
4G LTE



The **Wilow®** IIoT Gateway is a ruggedized outdoor (IP66) IIoT gateway designed for Structural Health Monitoring, Ground vibration monitoring and Land surveying applications.

It supports both WIFI and 3G/4G/LTE wireless protocols and allows a very easy connection to our **Wilow®** IIoT sensors.

Thanks to WDS (Wireless Distribution System) function, a wireless bridging with other WIFI Bridges/Repeaters can be configured for a better wireless network coverage.

The combination of MQTT protocol and 4G connectivity enables effortless data transmission from the sensor to the cloud. The **BeanScape® Wilow®**, a supervision software dedicated to IIoT sensors, can display in real-time all the collected data from the monitoring site.

Provided with high gain outdoor antennas (12dBi for LTE, 9dBi for WIFI), the connection will be secured from the IOT sensor to the cloud.

The **Wilow® IOT Gateway** is power supplied from an external AC Power supply (90 ~ 264VAC) and comes with UPS Battery. The internal Lead-acid battery provides instantaneous protection from external power supply interruptions, the wireless network activity is maintained during this time.

IOT GATEWAY WITH 4G CONNECTIVITY DEDICATED TO WILOW® SENSORS

IOT Gateway with 4G connectivity dedicated to **Wilow®** sensors:

- Remote access to monitoring site thanks to the integrated 3G/4G/LTE Router (4G Connectivity CAT4 up to 150 Mbps) and the built-in MQTT broker
- Dual SIM slots allow you to use two SIM cards for each single cellular modem
- WIFI connectivity (IEEE 802.11 b/g/n) 2.4GHz
- WDS (Wireless Distribution System) with WIFI AP/ Station/Bridge network configuration
- Robust, Waterproof (IP67) and High Gain antennas:
 - 3G/4G/LTE antenna (2x2 MIMO) with 12dBi of Gain
 - 2.4GHz antenna with 9dBi of Gain
- UPS Battery (Lead Acid Battery 12Ah)
- Ruggedized and watertight (IP66 | Nema 4) steel casing (LxWxh: 65x59x35mm, 9 Kg) with anti-thief protection
- Industrial operating temperature (-15°C to +50°C)
- Mains Power supply (90 ~ 264VAC)

APPLICATIONS

The **Wilow® IOT GATEWAY 4G** is the right solution for different monitoring applications:

- Structural Health Monitoring.
- Land Surveying.
- Ground vibration monitoring on construction site.

Important: BeanScape Wilow RA is needed for Remote Acces

2.4GHZ

WIRELESS IIOT SENSORS FOR INDUSTRIAL APPLICATIONS



2.4
GHZ

WIRELESS SENSOR NETWORKS COORDINATOR, 3G/4G/LTE CONNECTION FOR REMOTE ACCESS

The **BeanGateway® 4G** is a ruggedized outdoor wireless coordinator (IP66) designed for Structural Health Monitoring, Ground vibration monitoring and Land Surveying applications. Integrating both 2.4GHz and 3G/4G/LTE wireless protocols, it is used to build and manage **Beanair®** wireless sensor network. The **BeanGateway® 4G** comes with two power supply versions:

- Solar Panel (Monocrystalline Technology)
- Mains power supply (94-264VAC)

An integrated rechargeable Lead-acid battery with a capacity of 12Ah is used as an UPS battery (uninterruptible power supply). It provides instantaneous protection from external power supply interruption; the wireless sensor networks & 3G/4G/LTE activities are maintained during this time. Users looking for a safe deployment on a remote site will appreciate our powerful wireless IIOT sensors mapping management:

- Automatic backup on both flash memory and **BeanScape®** software.
- Export/Import function on others **BeanGateway®**

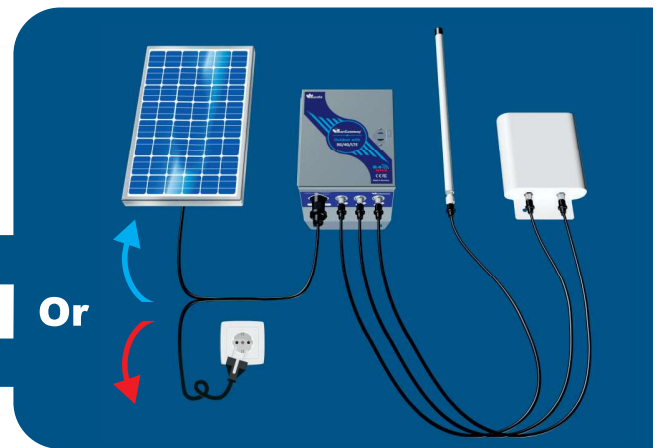
APPLICATIONS

- LAND SURVEYING
- GROUND VIBRATION MONITORING
- STRUCTURAL HEALTH MONITORING

MAIN FEATURES

- Wireless IIOT sensors Coordinator
- Ultra-Power and license-free 2.4Ghz radio technology (IEEE 802.15.4E)
- Remote access thanks to the integrated 3G/4G/LTE Router (4G Connectivity CAT4 up to 150 Mbps)
- Configuration and supervision of Wireless IIOT sensors
- Advanced Wireless IIOT sensors diagnostic tool
- Data Organization from the various Wireless IIOT sensors
- Data exchange with the **BeanScape®** (Wireless IIOT sensors supervision software)
- Robust, Waterproof and High Gain antennas:
 - 3G/4G/LTE antenna (2x2 MIMO) with 12dBi of Gain
 - 2.4GHz antenna with 9dBi of Gain
- Advanced UPS (Uninterruptible power supply) with lead-acid battery (capacity: 12Ah)
- Ruggedized and Waterproof IP66 casing with anti-thief protection
- Two power-supply versions: AC power supply and solar panel

3G
4G LTE



2.4GHZ

WIRELESS IIOT SENSORS FOR INDUSTRIAL APPLICATIONS

WHY IS THE BEANGATEWAY® ESSENTIAL?

The **BeanGateway®** is used to build BeanAir® Wireless IIOT Sensors. It can manage queues for every **BeanDevice®**, conversion of datas, compression and IP connectivity with the network, reducing the intelligence required in these platforms and the associated cost. It controls external access through a secured authentication procedure.

MAIN FEATURES

- Builds and manages a Wireless IIOT Sensors designed by BeanAir®
- **Wireless protocol stack:** IEEE 802.15.4
- **Several versions:** Ethernet, Modbus TCP / IP & Modbus RS485 / RS232
- **Maximus Radio range:** 1km (LOS)
- Embedded WSN Diagnostic tool
- Advanced UPS (Uninterruptible power supply)
- Wireless IIOT Sensors mapping & context is stored on embedded flash
- **<< Plug & Play >> installation:** no knowledge regarding Wireless IIOT Sensors is necessary
- Integrated Lithium-Ion battery charger with high-precision battery monitoring
- Standard interface with our Wireless IIOT Sensors Scada supervision Software (BeanScope)



INDOOR



OUTDOOR



ProcessSensor

BEANDEVICE® 2.4GHZ AN-mV

Wireless IIOT Data Acquisition (DAQ)
low voltage inputs (±20mV) | built-in datalogger



DAQ Type : ± 20 mV
Radio range : 1km (L.O.S) Maximum
Data logger capacity : up to 1 million data points
Dimensions(LxWxH) 155x81x57mm
Weight : 660g battery included
IP rating : IP 67

BEANDEVICE® 2.4GHZ AN-420

Wireless IIOT Data Acquisition (DAQ) |
4-20mA (current loop) inputs | built-in datalogger



DAQ Type : 4-20mA
Radio range : 1km (L.O.S) Maximum
Data logger capacity : up to 1 million data points
Dimensions(LxWxH) 155x81x57mm
Weight : 660g battery included
IP rating : IP 67

BEANDEVICE® 2.4GHZ AN-V

Wireless IIOT Data Acquisition (DAQ) | voltage
inputs (±5V or ±10V) | built-in datalogger



DAQ Type : ± 5V or ± 10V
Radio range : 1km (L.O.S) Maximum
Data logger capacity : up to 1 million data points
Dimensions(LxWxH) 155x81x57mm
Weight : 660g battery included
IP rating : IP 67


WIRELESS COORDINATOR SELECTION GUIDE

PRODUCT DESCRIPTION	PRODUCT REF	ETHERNET INTERFACE	MODBUS ASCII/RTU OVER RS485	MODBUS ASCII/RTU OVER RS232	MODBUS IP	WATERPROOF IP66/IP67	3G/4G/LTE	POWER SUPPLY
BeanGateway® Ethernet- Indoor casing	BGTW-ETH-IND	✓						Mains 8-28VDC
BeanGateway® Ethernet - Outdoor casing	BGTW-ETH-OUT	✓				✓		Mains 8-28VDC
BeanGateway® Ethernet / ModBus TCP / IP-Indoor casing	BGTW-ETH-MODIP-IND	✓			✓			Mains 8-28VDC
BeanGateway® Ethernet/ModBus TCP/IP-Outdoor casing	BGTW-ETH-MODIP-OUT	✓			✓	✓		Mains 8-28VDC
BeanGateway® Ethernet/ModBus TCP/IP & Modbus over RS485- Indoor casing 485- Indoor casing	BGTW-ETH-MODRS485-IND	✓	✓		✓			Mains 8-28VDC
BeanGateway® Ethernet/ModBus TCP/IP & Modbus over RS485-Outdoor casing	BGTW-ETH-MODRS485-OUT	✓	✓		✓	✓		Mains 8-28VDC
BeanGateway® Ethernet/ModBus TCP/IP & Modbus over RS232- Indoor casing	BGTW-ETH-MODRS232-IND	✓		✓	✓			Mains 8-28VDC
BeanGateway® Ethernet/ModBus TCP/IP & Modbus over RS232/RS485- Indoor casing	BGTW-ETH-MODSERIAL-IND	✓	✓	✓	✓			Mains 8-28VDC
BeanGateway® 3G/4G/LTE – Outdoor casing	BGTW-4G-MPWR-OUT					✓	✓	Mains 8-28VDC
BeanGateway® 3G/4G/LTE – Outdoor casing	BGTW-4G-SOLAR-OUT					✓	✓	Solar Power Supply

AN EASY INTEGRATION INTO YOUR IT SYSTEM

Thanks to ModBus protocol available on our BeanGateway®, seamless integration with a third-party PLC / Embedded PC is possible. ModBus registers enable data collection from the wireless sensor networks.

2.4GHZ

WIRELESS IIOT SENSORS FOR INDUSTRIAL APPLICATIONS



SmartSensor

BEANDEVICE@ 2.4GHZ AX-3DS

Wireless accelerometer sensor
shock and impact monitoring | built-in datalogger



Measurement range: $\pm 6g/\pm 12g/\pm 24g$ or $\pm 2g/\pm 4g/\pm 8g$
Radio range: 500 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 80 x 60 x 31 mm
Weight: 175g battery included
IP rating: IP67

Measurement range: $\pm 2g$ or $\pm 10g$
Radio range: 500 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 80 x 60 x 31 mm
Weight: 175g battery included
IP rating: IP67



BEANDEVICE@ 2.4GHZ AX-3D

Wireless vibration sensor | built-in datalogger

BEANDEVICE@ 2.4GHZ AX-3D XRANGE

Wireless vibration sensor | built-in datalogger
High performance version



Measurement range: $\pm 2g$ or $\pm 10g$
Radio range: 500 m (L.O.S)
Data logger capacity: up to 8 millions data points
Dimensions(LxWxH): 100x60x31mm
Weight: 230g (screw mounting) | 260g (magnetic mounting)
IP rating: IP67

Measurement range: $\pm 15^\circ$ or $\pm 30^\circ$
Radio range: 500 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 80 x 60 x 31 mm
Weight: 175g battery included
IP rating: IP67



BEANDEVICE@ 2.4GHZ HI-INC

Wireless inclinometer sensor | tilt / inclination / slope
monitoring | built-in datalogger

BEANDEVICE@ 2.4GHZ HI-INC XRANGE

Wireless inclinometer sensor
tilt/inclination/slope monitoring | built-in datalogger
High-Performance version



Measurement range: $\pm 15^\circ$ or $\pm 30^\circ$
Radio range: 500 m (L.O.S)
Data logger capacity: up to 8 millions data points
Dimensions(LxWxH): 100x60x31mm
Weight: 230g (screw mounting) | 260g (magnetic mounting)
IP rating: IP67

Measurement range: $\pm 30^\circ$ or $\pm 90^\circ$
Radio range: 500 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 80 x 60 x 31 mm
Weight: 175g battery included
IP rating: IP67



BEANDEVICE@ 2.4GHZ INC

Wireless inclinometer sensor | tilt / inclination / slope
monitoring | built-in datalogger | Low-cost version

2.4GHZ

WIRELESS IIOT SENSORS FOR INDUSTRIAL APPLICATIONS



EcoSensor

Measurement range: - 50°C to +150°C (standard accuracy)
- 10°C to +60°C (high accuracy)
Radio range: 300 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 119x35x35mm
Weight: 120g battery included
IP rating: IP67 polycarbonate enclosure



BEANDEVICE@ 2.4GHZ ONE-T

Wireless temperature sensor
built-in datalogger

BEANDEVICE@ 2.4GHZ ONE-TH

Wireless Temperature & humidity sensors
built-in datalogger

Measurement range: -40°C to +75°C
0 to 100% RH (Humidity)

Radio range: 300 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 119x35x35mm
Weight: 120g battery included
IP rating: IP67 polycarbonate enclosure



Measurement range: -40°C to +85°C for (Ta)
-70°C to +380°C for (To)
Radio range: 300 m (L.O.S)
Data logger capacity: up to 1 million data points
Dimensions(LxWxH): 119x35x35mm
Weight: 120g battery included
IP rating: IP67 polycarbonate enclosure



BEANDEVICE@ 2.4GHZ ONE-TIR

Wireless IR (Infrared) temperature sensor | built-in datalogger



DIGITAL SENSOR

DIGITAL SENSOR@ B-TH-01

Digital Humidity and Temperature Sensor

Measurement range: 0 to 100 %RH for Humidity
Temperature range: - 40°C to +85 °C
Temperature Sensor technology: Thermistor
Dimensions(LxWxH): 119x35x35mm
IP rating: IP67



2.4GHZ

WIRELESS IIOT SENSORS SUPERVISION SOFTWARE

The **BeanScape® 2.4GHz** is a real time WSN supervision and control monitor. It allows the user to monitor and operate in real time BeanAir® WSN. The **BeanScape® 2.4GHz** is also equipped with a smart expert system that allows users to interpret elements such as data acquisition or alarms related to the sensor network.

SOFTWARE VERSIONS

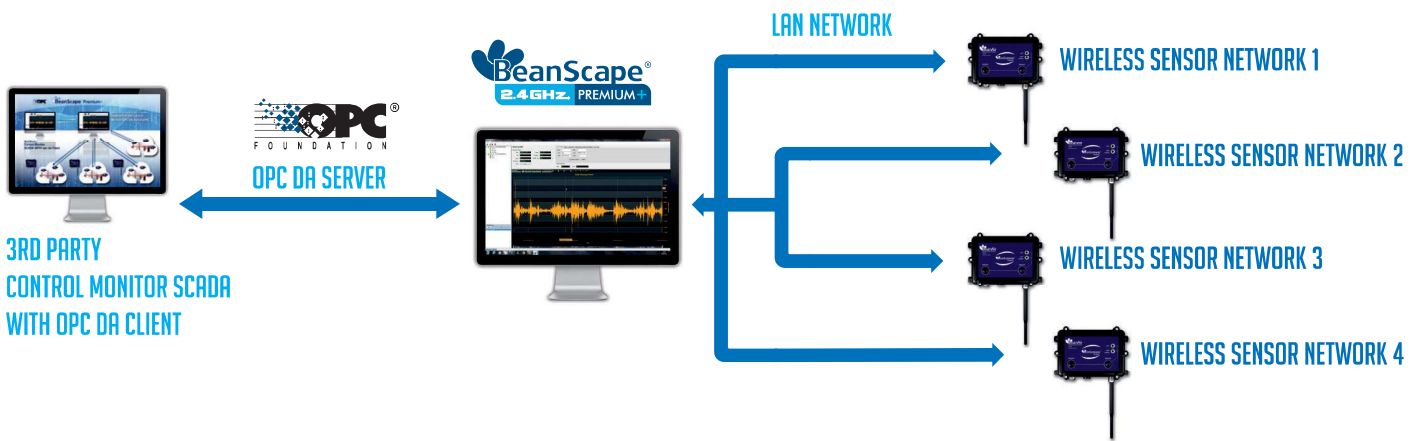
Number of managed BeanDevice® 2.4GHz	35	35	Unlimited	Unlimited	Unlimited
Period technical assistance (e-mail)	1 Month	1 Year	1 Year	1 Year	1 Year
OPC Server DA	✗	✗	✗	✓	✓
Free of cost ?	✓	✗	✗	✗	✗
Real time data base	✓	✓	✓	✓	✓
GUI (Graphical User Interface)	✗	✓	✓	✓	✓
Alarm notification by email	✗	✓	✓	✓	✓
Streaming with Event-Trigger (S.E.T.) mode	✗	✓	✓	✓	✓
NTP client	✗	✓	✓	✓	✓
Real-Time FFT and PPV (Peak Particle Velocity)	✗	✗	✓	✓	✓
Automatic Reports (Waveform , FFT, PPV, Velocity)	✗	Only Waveform report	✓	✓	✓
Multi-user access	✗	✗	✗	✗	✓

MINIMUM SYSTEM REQUIREMENTS

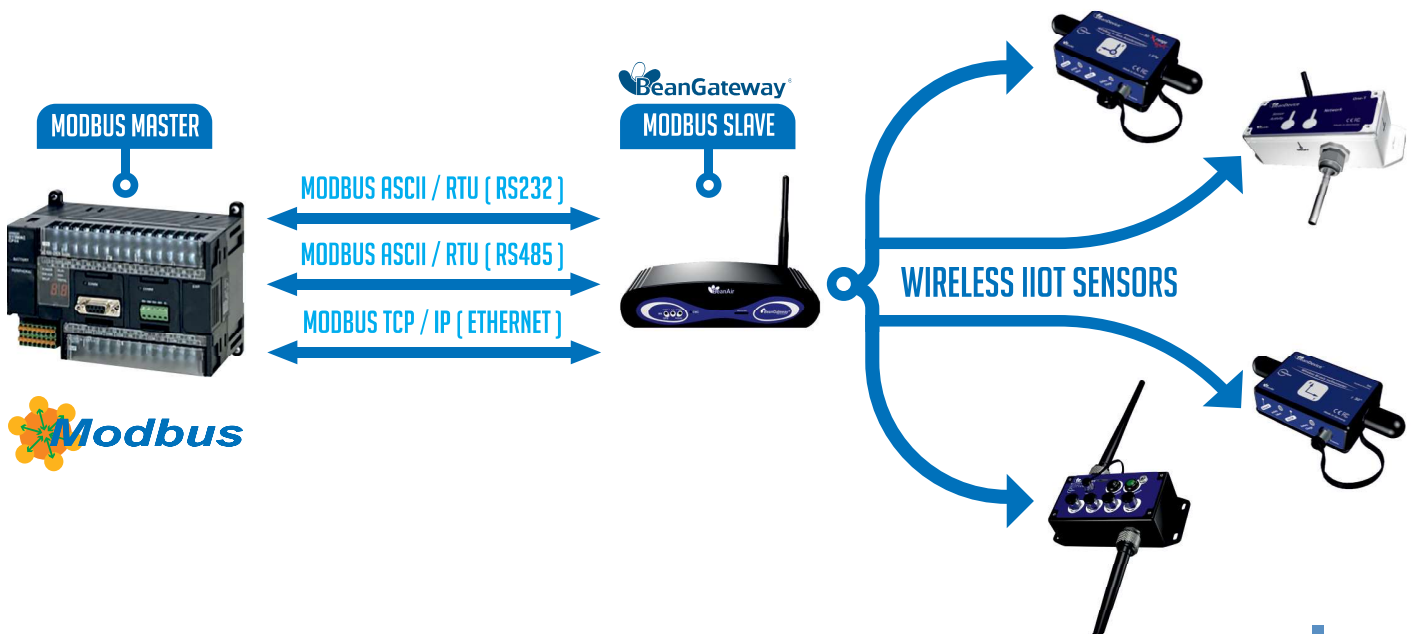
- 2.33GHz or faster x86-compatible processor
- Microsoft® Windows® XP (32-bit), Windows Server® 2003 (32-bit), Windows Server 2008 (32-bit), Windows Vista® (32-bit), Windows 7 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit)
- 2GB of RAM
- 5 GB of disk space
- 128MB of graphics memory

CONNECT OUR WIRELESS SENSOR NETWORKS TO A THIRD-PARTY SOFTWARE

Both **BeanScape® 2.4GHz Premium+** and **Multiview** integrate an OPC DA server (Data Access). OPC DA is particularly well suited for real time measurement and data sharing. Each data/measurement can be associated to a tag or its attributes and shared with one or several OPC clients. It opens up to many third party applications (SCADA, web portals etc..). Our OPC server is DA 2, DA 2.5 and DA 3 compliant and allows two different presentations. The first is a compact presentation of the sensor tree, presenting all the secondary attributes under the form of attributes. The second is an extended presentation of the sensor tree where each secondary attribute is presented by an OPC item/tag rather than an attribute.



User looking for an easy integration with their PLC/Embedded PC can select the **BeanGateway®** with Modbus communication link . Modbus registers allows to collect data measurement and to configure remotely Beanair Wireless IIOT Sensors. Modbus protocol will work perfectly with **Beandevic®** operating with a slow measurement heartbeat.



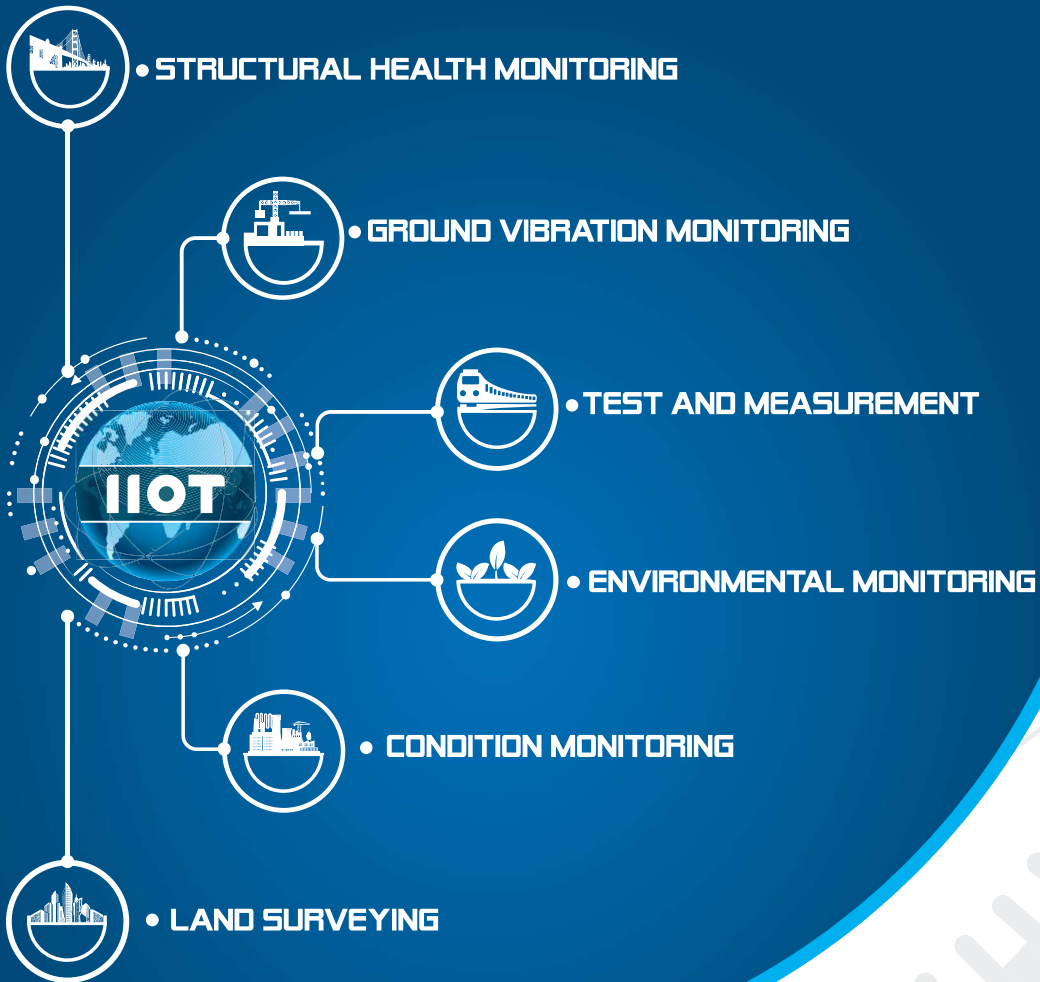
The **BeanScape® Willow®** is a real time supervision and control monitor. It allows the user to monitor and operate in real time BeanAir® Wireless IIOT Sensors. The **BeanScape® Willow®** is also equipped with a smart expert system that allows users to interpret elements such as data acquisition or alarms related to the wireless IIOT network.

SOFTWARE VERSIONS

Period technical assistance	3 months	1 year	1 year	1 year
Free of cost ?	✓	✗	✗	✗
Number of managed Beandevic® Willow	35	35	Unlimited	Unlimited
Real time data base	✗	✓	✓	✓
GUI (Graphical User Interface)	✗	✓	✓	✓
Alarm notification by email: System Alarm and Survey Data Acquisiton mode)	✗	✓	✓	✓
Streaming with Event Trigger (S.E.T.) mode	✗	✓	✓	✓
Real-Time FFT and PPV (Peak Particle Velocity)	✗	✗	✓	✓
Automatic Reports (Waveform , FFT, PPV, Velocity)	✗	Only Waveform report	✓	✓
Remote access (MQTT Architecture)	✗	✗	✗	✓
Integrated MQTT Broker	✗	✗	✗	✓

MINIMUM SYSTEM REQUIREMENTS

- 2.33GHz or faster x86-compatible processor
- Microsoft® Windows® XP (32-bit), Windows Server® 2003 (32-bit), Windows Server 2008 (32-bit), Windows Vista® (32-bit), Windows 7 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit)
- 4GB of RAM
- 10 GB of disk space
- 1 GB of graphics memory



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