BLACK B◇X®

Solutions for IoT, Automation, and Environmental Monitoring

Real-time monitoring solutions for people, assets, and environmental conditions
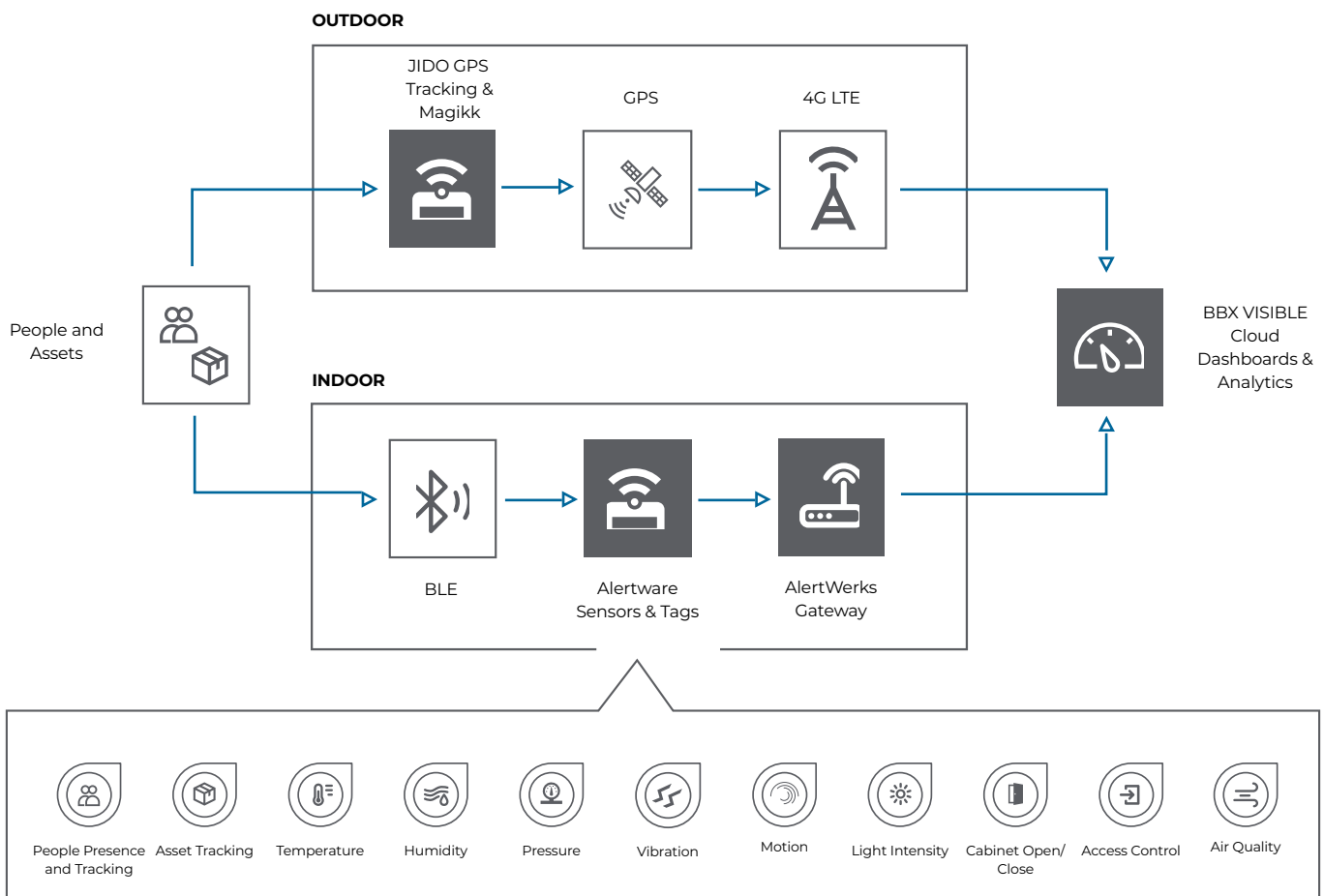
Monitor And Protect Mission-Critical Infrastructure In Real-Time

In today's digital-first world, data is the new oil and Cloud is the new real estate. With organizations increasingly collecting, processing, storing, and managing Yottabytes of new data every day, Data Centers and Server Rooms have become one of the key engines to drive business growth.
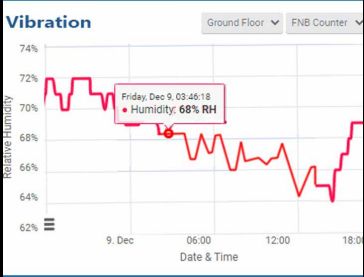
The Black Box IoT and Environmental Monitoring Solution consists of wireless sensors, gateways, and monitoring & analytics software to provide a complete remote monitoring solution that is compatible with existing DCIM systems. Wireless sensors are used to precisely monitor local conditions, integrating condition monitoring and RTLS-based tracking of assets and people.

Black Box IoT Solutions – Components

OUTDOOR

People and Assets → JIDO GPS Tracking & Magikk → GPS → 4G LTE → BBX VISIBLE Cloud Dashboards & Analytics

INDOOR

People and Assets → BLE → Alertware Sensors & Tags → AlertWerks Gateway → BBX VISIBLE Cloud Dashboards & Analytics

People Presence and Tracking | Asset Tracking | Temperature | Humidity | Pressure | Vibration | Motion | Light Intensity | Cabinet Open/Close | Access Control | Air Quality

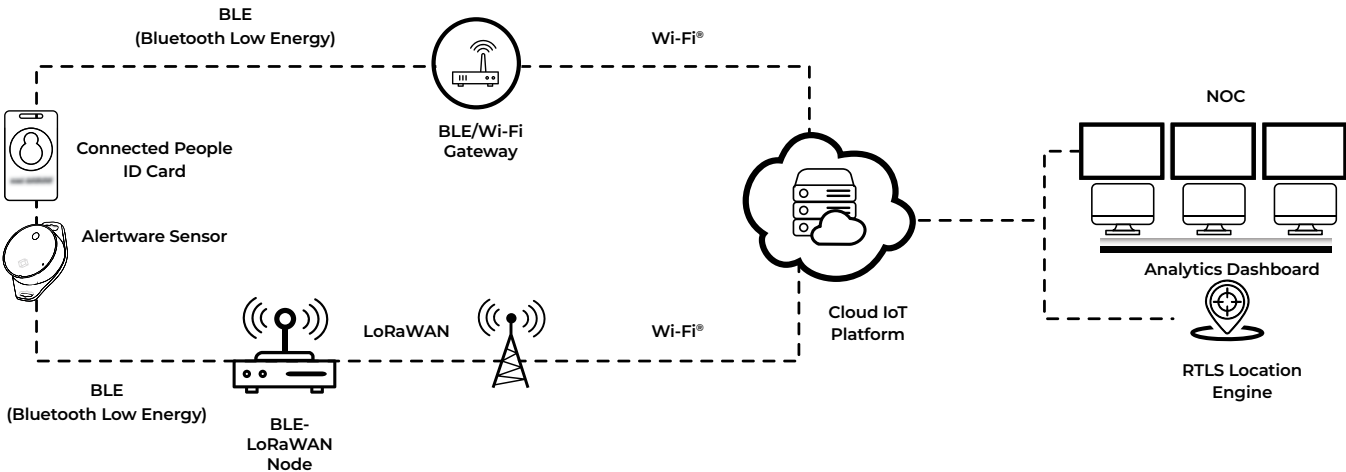# Benefits of Black Box IoT Solutions

- **Wireless Options:** no additional cables required, extended battery life

- **Plug & Play:** seamless integration with Black Box and third-party Wireless Access Points and analytics software

- **Scalable:** start small and build out your solution as your data center grows

- **Modular:** build your analytics dashboard as per your individual requirements and add new sections as you add additional sensors and beacons

- **Real-time data**: accurate, real-time information about sensor status on your personalized BBX VISIBLE dashboard

Black Box IoT Solutions Help Organizations Maximize Their Critical Infrastructure's Uptime and Security

Our solutions provide an easy path to creating a digital twin of data centers, smart buildings, warehouses, or any other facility that houses critical assets. It allows monitoring people and asset movement and location in real-time, while also maintaining precise historical records for future analysis of events.

Combine any Black Box or third-party sensors and gateways with the BBX VISIBLE Web Interface and Analytics Software and set up and configure all of them centrally. Create dashboards intuitively, and watch things happen live without any latency. You can also configure notifications and alerts, allowing the system to perform actions automatically or bring any issue or problem as an alert to your attention on the monitoring interface or other channels.

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Alertware Wireless Sensors

Alertware is a wireless sensor product family that enables you to monitor environmental conditions such as temperature, humidity, PIR, and more, to provide complete control over your critical IT environments. Track and monitor any change in conditions, trigger automatic alerts, and switch equipment on or off when needed.

When combined with BBX VISIBLE, Alertware is a fast and affordable solution to create your data center's, room's, or building's Digital Twin.

- Sensors for environmental condition, people, and asset monitoring
- Work seamlessly with all standard access points supporting BLE and Bluetooth

- Plug & Play deployment at every nook and corner of the room
- Easily integrate with cloud-based IoT platforms such as Black Box BBX VISIBLE
- Monitoring and Management through Cloud Platform or Mobile App
- Long-lasting replaceable coin cell batteries: 3+ years of battery life (under ideal conditions)
- Compatible with Apple iBeacon® technology
- Configurable and upgradable over-the-air
- Customizable advertising capability to handle various beacon formats (e.g., Eddystone and AltBeacon)

Available Sensors

Product Code	Description
Environmental Monitoring Sensors	
ALERTWARE SE02	Ambient Monitoring - Temperature/Humidity Sensor
ALERTWARE SE03	Ambient Monitoring - Temperature / Humidity Sensor and Accelerometer
ALERTWARE SE09	Air quality Monitoring - Temperature / Humidity / Pressure / Air Quality Index / TVOC and eCO2 Sensor
ALERTWARE SE08	Temeprature Data Logger - Cold Chain Data Logger
ALERTWARE SE06	Light Intensity Monitoring - Light Intensity Sensor
ALERTWARE SE16	People Presence - PIR Sensor
ALERTWARE SE07	Door Open Close / Hall Sensor
RTLS Sensors	
ALERTWARE SE05	Indoor Location - RTLS BLE Tag
ALERTWARE SE04	Movement Detection - RTLS Tag
ALERTWARE SE12	ID Card with SOS Button
ALERTWARE SE11	Movement / SOS Smart Button - Bluetooth

Ambient Sensor
(ALERTWARE SE02)

Bluetooth Smart Button
(ALERTWARE SE11)

People Presence - PIR Sensor
(ALERTWARE SE16)

ID Card with SOS Button
(ALERTWARE SE12)

AlertWerks Wireless Gateway

AlertWerks AW3000 is an all-in-one-box LoRaWAN solution for wireless IoT applications. This is much more than competing gateways that upload data to a cloud service; it is a central unit that gives you full control via a web interface.

As an open platform, AW3000 enables you to use any LoRaWAN 1.0.x compatible sensor on the market. AW3000 has a very easy connect/join procedure to get LoRaWAN data from your sensor flowing into the system. Along with virtual sensors, actions, and notifications, you can also set up and use multiple dashboards.

- All-In-One-Box LoRaWAN gateway
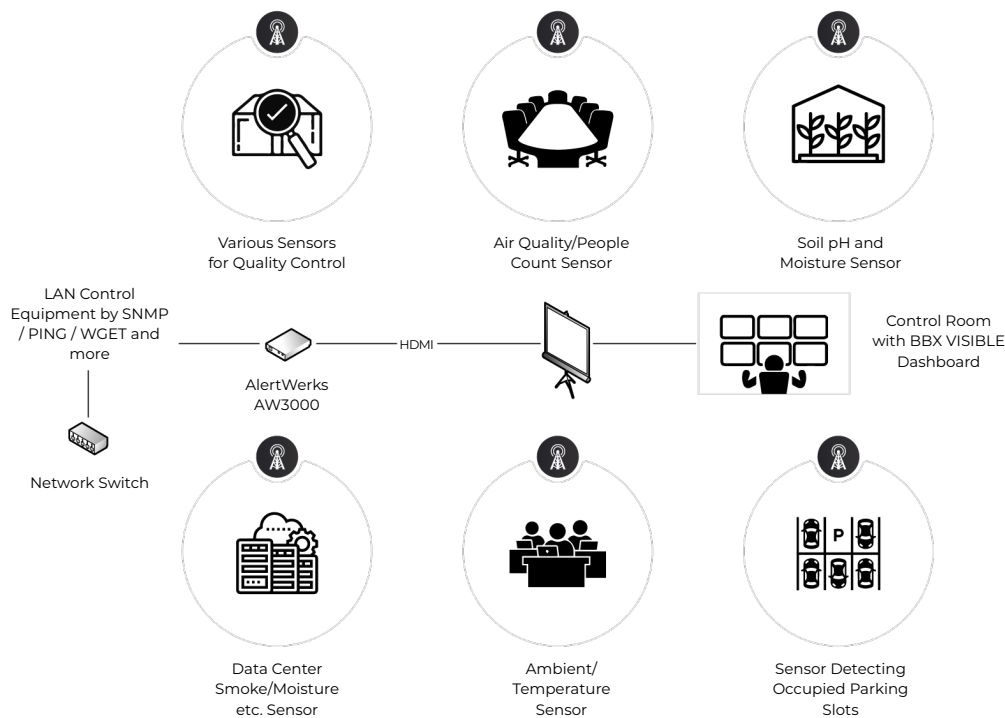- Uses physical (LoRaWAN) and virtual (SNMP/WGET/ PING/Latency and more) sensors

- Offers unique configuration options for actions and notifications
- Enables you to additionally control other Wi-Fi® sensors and actuators
- Works as an open platform with accessible SQL database
- Provides redundancy
- Access dashboards via HDMI output, from a Web Interface, or using ControlBridge®
- Powered through PoE+ or USB
- Network RJ-45/LAN and Wi-Fi 802.11bgnac

Available Gateways

Product Code	Description
EME800A-US	AlertWerks AW3000 Wireless Gateway - United States (915 MHz)
EME800A-EU	AlertWerks AW3000 Wireless Gateway - Europe

EME800A-US

Various Sensors for Quality Control

Air Quality/People Count Sensor

Soil pH and Moisture Sensor

LAN Control Equipment by SNMP / PING / WGET and more

AlertWerks AW3000

HDMI

Control Room with BBX VISIBLE Dashboard

Network Switch

Data Center Smoke/Moisture etc. Sensor

Ambient/ Temperature Sensor

Sensor Detecting Occupied Parking Slots

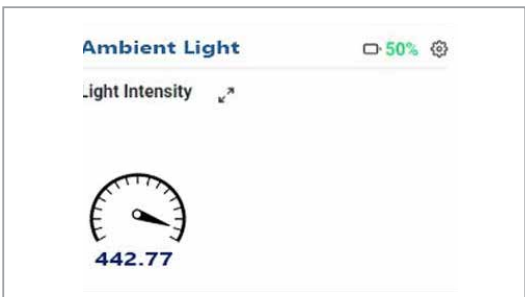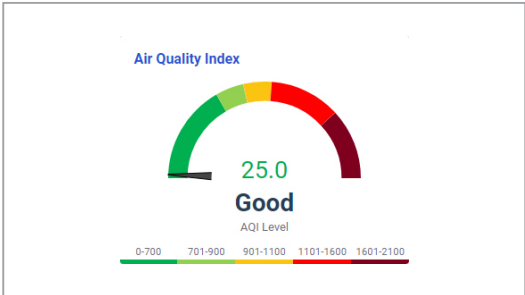**LEARN MORE** ◇ **BLACKBOX.COM**

BBX VISIBLE IoT Platform

BBX VISIBLE is an intuitive, scalable, and secure IoT platform featuring multiple modules for monitoring people, assets, energy, air quality, equipment, illumination, and other functions. Use BBX VISIBLE to create a digital twin of your rooms or the entire campus.

BBX VISIBLE has been created to seamlessly connect IoT devices, actuators, sensors, gateways, and other end-point devices to gain insights from the acquired data utilizing AI/ML (Cloud Based) enabling you to make better business decisions. The application and dashboard can be tailored to the specific needs of your business and provides benefits such as improved ROI, reduced downtime, and improved physical security.

The modular design of BBX VISIBLE allows for a system deployment tailored for your specific needs. The solution is available as an on-premises (Dockerized) or Cloud-based (SaaS) Data Collection and Monitoring Solution, and adheres to industry-grade security protocols including SSL based security and standard security practice.

Compatible with all major IoT cloud systems, BBX VISIBLE IoT Cloud dashboards are designed keeping the user in mind while allowing for maximum flexibility in terms of dashboard arrangement and automation functionality.

BBX VISIBLE - Your IoT Swiss Army Knife

Monitor various conditions:

- Real-time Temperature
- Air Quality Index
- Vibration Monitoring
- Door Open/Close Monitoring
- Light Intensity Monitoring
- Air Flow Sensing
- Motion Detection Sensor
- Panic Button
- Motion Detection
- Smoke Sensor
- Relative Humidity
- People Presence Detection

Set alerts and events based on:

- High Temperature
- Moisture
- Unauthorized Access
- Airflow
- Door Open
- Vibration
- SOS signals/beacons
- "Man Down"
- Water Leakage
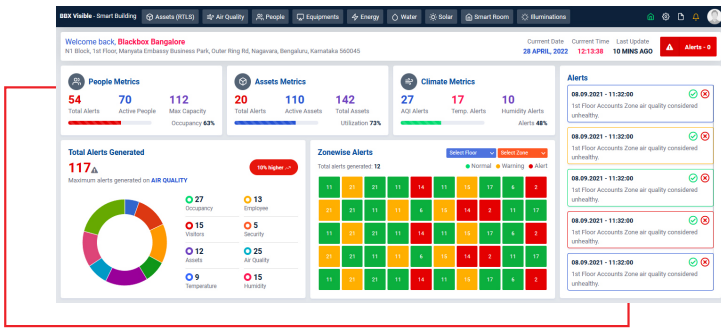- Motion Detection
- Light Intensity
- Air Quality

Improve security through:

- People Tracking
- Asset Tracking
- Access Control
- Door Open Monitoring
- Rack Open Monitoring
- People Presence Detection
- Zone-wise Monitoring
- Video Surveillance Integration
- Sensor Data Integration
- Asset Movement Detection
- Rodent Detection
- Smoke Detection
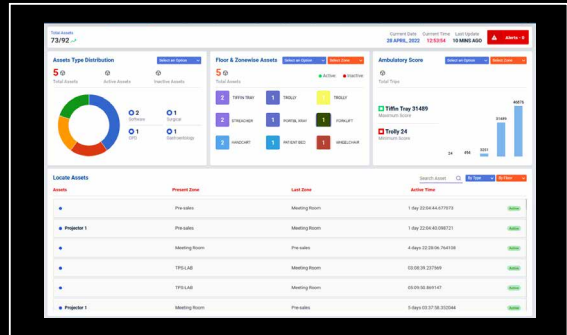
BBX VISIBLE IoT Platform

Dashboard

The BBX VISIBLE Modular Dashboard visualizes and highlights the most important metrics based on your priorities.

Whether there is an SOS from a person, any malfunctioning asset, or if there is an abnormal change in air quality inside the building due to high carbon dioxide levels - BBX VISIBLE enables you to quickly react based on automated alerts.

BBX VISIBLE Asset Module

Location of assets in real time, management of their utilization, and maintenance of assets and equipment for predictive maintenance are the key features of this module.

This module allows operators to locate movable and ambulatory assets with a single click.

Other BBX VISIBLE Cloud modules:

- **Equipment** – Predictive Maintenance and Utilization
- **Solar Energy** – Measure and analyze with ease
- **Illumination** – Visualize and control illumination throughout the building
- **Energy** – Visualize metrics, measure, and analyze to reduce waste of energy
- **Water** – Reduce wastage of water

Available Solutions

Product Code	Description
BBX-VISIBLE	BBX VISIBLE IoT Management Software, Business License

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ABOUT BLACK BOX

Black Box® is a trusted IT solutions provider delivering cutting-edge technology products and world-class consulting services to businesses across the globe in every industry. The breadth of our global reach and depth of our expertise accelerate customer success by bringing people, ideas, and technology together to solve real-world business problems.

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