Open**Blue**
Location Manager

The power behind **your mission**

Johnson Controls

Your safety is our priority

As we find our new normal, health and safety are our top priorities.

Key goals:

- Protect and reassure employees and contractors.

- Minimize the disruption and stress should a positive test occur.

- Keep our productions operational
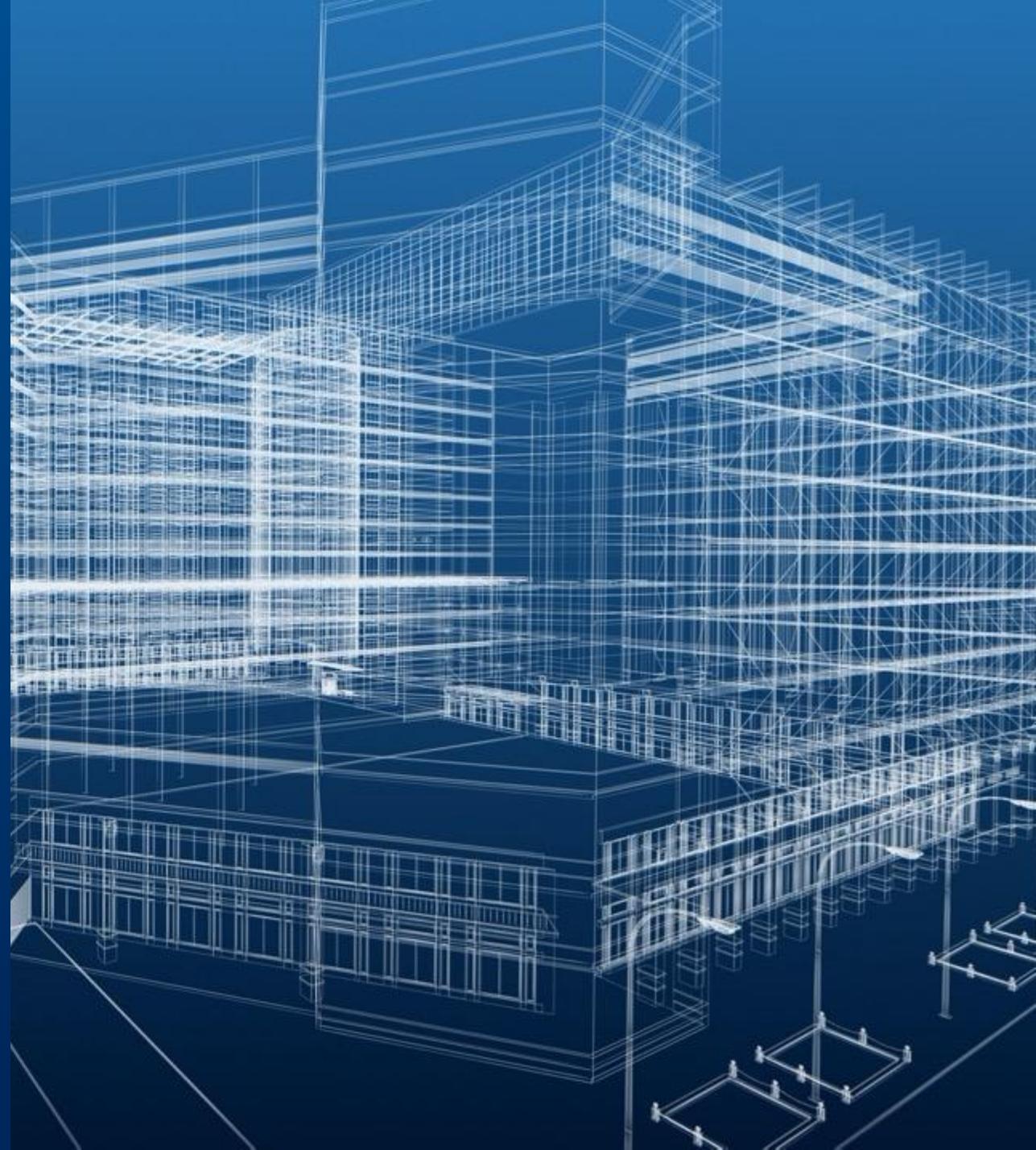
Value creation comes from multiple dimensions
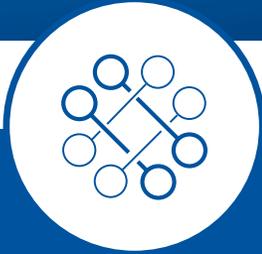
Dynamic Spaces

- Actively manage space usage
- Provide safe space indicators based on sanitization status & occupancy density
- Enable "safe" wayfinding
- Monitor space utilization
- Identify problem spaces to improve compliance

Social Distancing

6ft
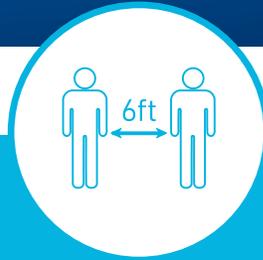
- Enable social distancing policies
- Monitor real-time social distancing
- Enable compliance reporting
- Alert occupants when non-compliance occur
- Provide overall personalized social distancing score
- Identify problem spaces to improve compliance

Contact Tracing

- Understand impacted people and spaces to enable targeted response
- Quantify level of risk based on time and duration of exposure
- Manage external risk through visitors
- Enable scenario planning based on high contact individuals or highly utilized spaces

Communication & Engagement

- Enhance employee care
- Provide SOS/duress options
- Support proactive EHS posture and guidance

What is OpenBlue Location Manager?

The OpenBlue Location Manager solution comprises Bluetooth badges, Bluetooth Transceivers that transmit using Wi-Fi.

Using advanced location analytics, the solution provides accurate real-time location data, enabling various outcomes.

The innovative technology can detect social distancing violations and provide managers with automated contact tracing on people and spaces.

BLE enabled hardware deployment

BLE Transceiver and badge

Bluetooth enabled devices for accurate movement and location of individuals in the building

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Location Manager Web Application

Heat Mapping of High Utilization Areas
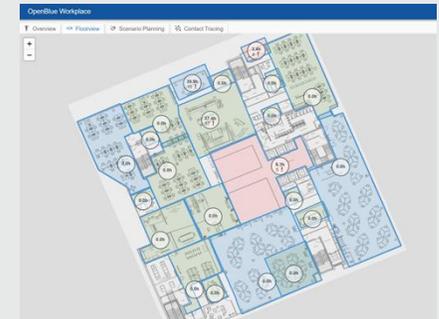
Social Distancing/Occupancy

Contact Tracing
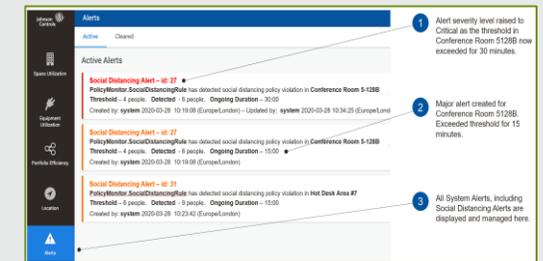
Social Distancing Alerts

Social distancing monitoring, contact tracing, scenario planning, and adjustment/measurement of space occupancy targets

OpenBlue Location Manager: How it works..

Users are assigned a BLE badge that shares location data locally to BLE transceivers. Transceivers use the client Wi-Fi network to bring location data into the cloud. In Microsoft Azure, the data is normalized, and location-based analytics and rules applied, and usable by users via OpenBlue Location Manager web application.

| BLE Badges & Transceivers | → | Data Normalization & Advanced Analytics | → | Location Manager, Cloud Solution |

BLE → Wi-Fi → OpenBlue / Microsoft Azure → https →

OpenBlue Location Manager Web Application
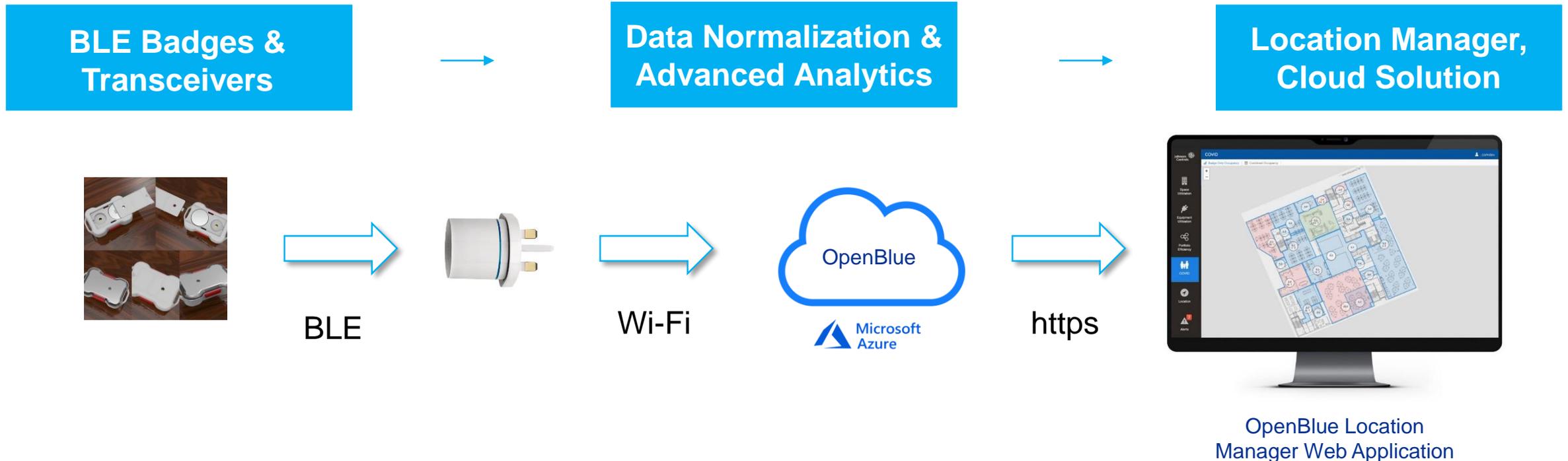
What users need to know?

Transceivers will be installed throughout the building.

Users will receive a badge to carry with you, to be worn at all times.

This can **alert** if users are too close for too long.

In the event of a positive case of COVID-19, managers will be able to more accurately perform a contact trace.

New
Proximity Badge:

- Available now.

Providing peace of mind

It's important that employees, contractors, and visitors feel safe and reassured while they are in a workplace.
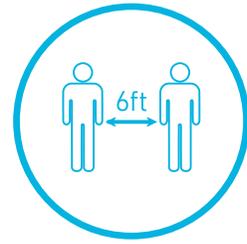
Easier to maintain the recommended social distance parameters with alerts from the badge.

Enables faster and more accurate contact tracing, allowing impacted individuals more time for testing and self-isolating procedures if necessary

Allows us to see what spaces and equipment are utilized most often and increase our cleaning and sanitization procedures in those areas

These precautions will help to keep productions operational and avoid shut-downs due to positive cases

Creating customer value long after Covid 19, enabling SaaS revenue expansion.

Solution supports a wide range of additional business capability that can be enabled through software:

Return-to-work
Post Covid workplace planning and agile implementation.

Space utilization
Empirical measure of utilization of all areas within a building.

Analytics
Workflow\collaboration analysis.

Security
Restricted area access alerting, visitor tracking with zoning and rules.

Health & Safety
Duress support for Lone worker monitoring, panic buttons and fire and security building evacuations.

Asset tracking and utilization
Empirical measure of utilization of important equipment.

Occupancy and Mustering
Other EHS benefits include monitoring building evacuation, occupancy checking and mustering.

Digital audit trail
Firewalled team monitoring with audit trail recording.
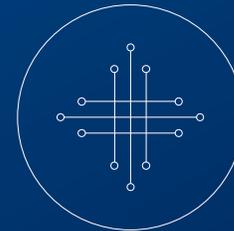
Application Integration
Open Platform allowing customers to integrate with existing applications.

OpenBlue Location Manager:
Common questions about privacy

Will you be tracking me all the time?

While a badge is worn within the defined area, the system will know your location.

What about when I leave the defined area?

The badge does NOT use GPS. It only works with the transceivers within the defined area. Your location will not be seen when you leave.

Who is looking at my information?

Location data should only be used in the event of a positive COVID test where a contact trace needs to be performed. Generally, HR or EHS are the only group that has access to the names associated with badge ID's.

What do they do with it?

If an employee reports that they have tested positive for COVID-19, their badge number will be traced within the system. All employees who have had significant interactions with that person will be notified so that they can take precautions and get themselves tested.

Our recommendation: Peer to Peer FOB's & AC Transceivers

We advise using the BLE FOB (badge) and AC BLE transceiver (BLE gateway) for production environments.

The FOB (Active Wearable BLE) will listen to each other, Peer to Peer, measuring the distance to other badge.

As each badge sees another beacon, it will send that information back to our cloud for further processing using the network of transceivers to identify which zone the badge is in and connect to our cloud.

The AC transceiver can be configured easily and simply plugged in during installation.

BLE FOB

2M

BLE FOB

Contact Events

Plug in AC Transceiver

Contact Events

Client Wi-Fi Network
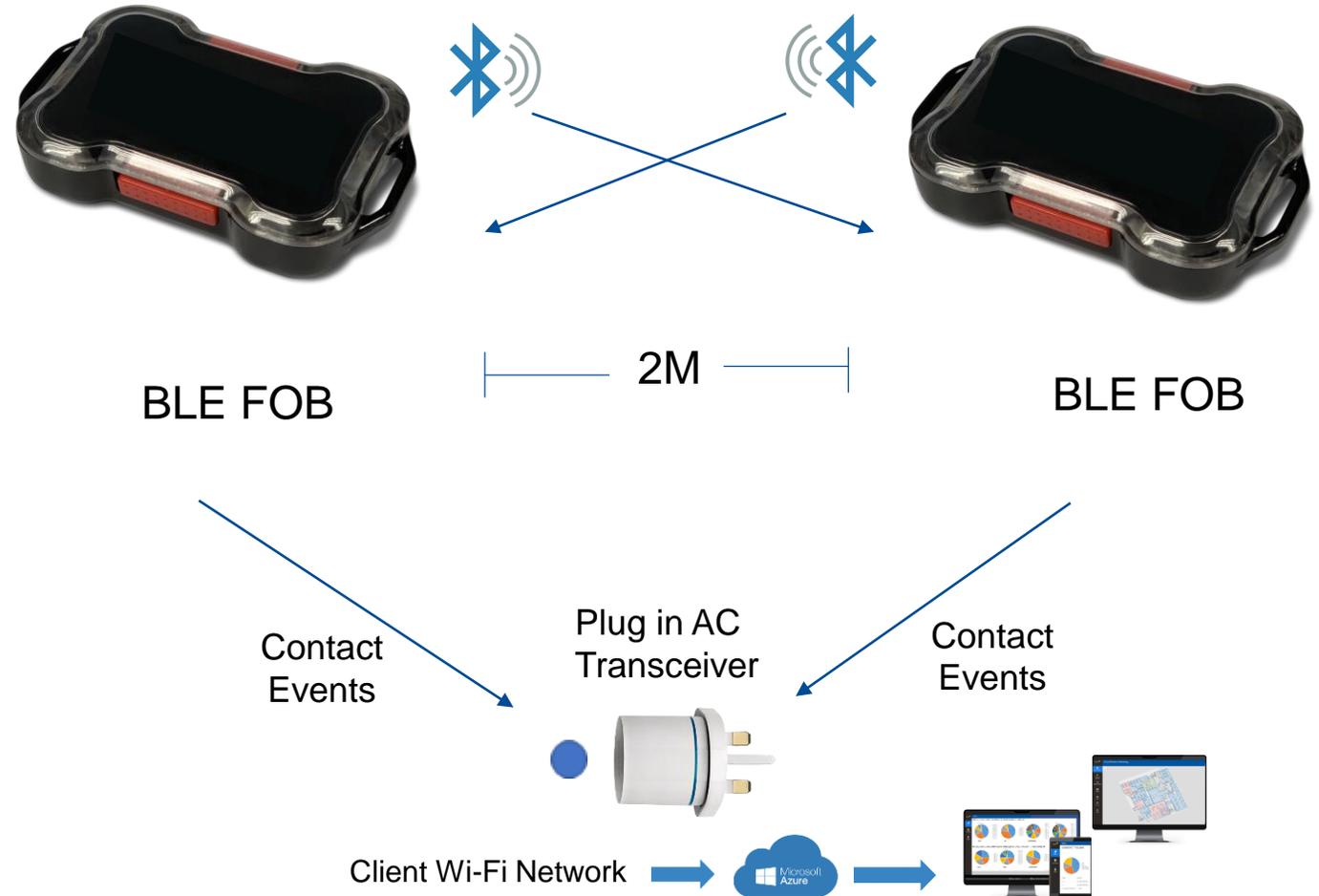
Scope / Assumptions

- Existing and usable client network (2.4Ghz Wi-Fi)

- Power available (at or close to the blue dot locations, on the walls, floor or ceilings)

- Duress badge functionality

- Restrooms out of scope for identifying location, badge to badge proximity measurement will still operate