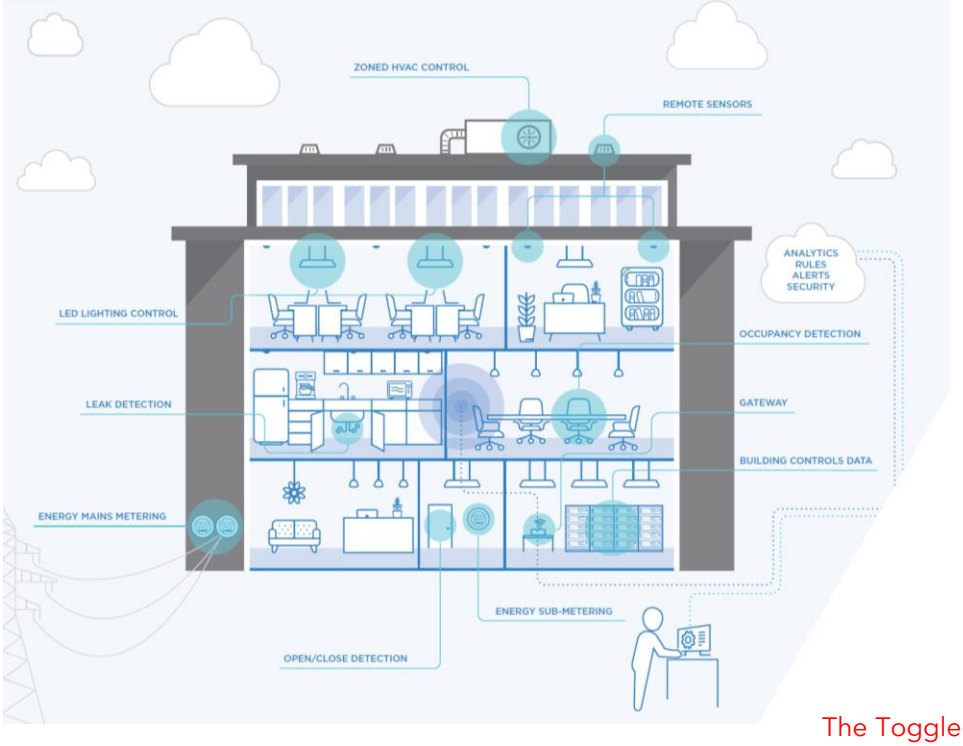
Occupancy Driven HVAC Control

Toggled iQ connected building platform delivers seamless BAS/HVAC integration

Smart building technology has undergone a tremendous amount of transformation in recent years and this trend shows no signs of stopping any time soon. At the forefront of this advancement is the implementation of wireless IoT based technology and the interoperability between IoT and traditional HVAC controls to optimize building operations and reduce energy consumption and create safer employee environments.

Real time occupancy information, correlated with temperature, humidity, indoor air quality data are core drivers for achieving next-level control management of ventilation, heating and cooling in rooms or zones. Connecting this real time IoT sensor data to centralized BMS via BACnet is the critical link for smart building control. The Toggled iQ connected building platform is designed specifically to address this problem, and can leverage the Toggled iQ connected lighting system, that uses its Bluetooth® low-energy (BLE) mesh technology, to feed occupancy and environmental data back into existing BACnet IP BMS systems for intelligent supervisory control.



The Challenge:

Integrating occupancy and IoT sensor data to HVAC controls can be complicated and intrusive, often requiring additional 0-10V wiring, and or complex systems integration.

The Solution:

- Toggled iQ networked lighting controls leverages the power of IoT and Bluetooth® low-energy (BLE) mesh technology to create a completely wireless networked lighting system that scales up to 32,000 devices on a single network. This technology, combined with an easy set-up mobile app, speeds up installation and commissioning times by over 70% vs traditional solutions.

- Toggled iQ is compatible with 3rd party technology such as IAQ and CO2 sensors and provides data via BACnet to a BMS via the Toggled iQ multi-protocol gateway which further expedites project ROI when implementing more than just lighting control.

- Toggled iQ is engineered specifically to integrate with 3rd party building technologies as either a self-contained or cloud-based system (with optional Toggled iQ Gateway). Most importantly, it works with a range of common protocols such as BACnet IP and Modbus. Therefore, BMS/HVAC integration is simplified because each Toggled iQ sensor and device group can be identified as a BACnet IP object which allows for seamless integration of occupancy, temperature and humidity sensor data to deliver occupancy driven HVAC control.

Application:

- Integrate lighting control into existing BMS systems to deliver occupancy and IoT environmental sensor driven controls to automize and optimize HVAC performance.
- Leverage the Toggled iQ Bluetooth® low-energy (BLE) mesh to connect and manage 3rd party IoT devices and integrate data back to the BMS for intelligent controls.

The Toggled iQ network runs on Bluetooth® low-energy (BLE) mesh technology and allows for simple connection/ integration into other IoT devices that are not otherwise covered by an existing OT or BAS network.

toggled iQ