SMART BUILDINGS

GET BEST-IN-CLASS WIRELESS CONNECTIVITY WITH MIOTY™

ROBUST
SCALABLE
COST-EFFECTIVE

The Internet of Things (IoT) unleashes boundless potential for property owners and managers to augment operational efficiency, sustainability and occupants' experience. Alongside enormous opportunities come also great challenges of realizing an effective communication network for structurally complex buildings and geographically dispersed campuses like shopping malls, universities, hospitals. While many buildings have already been equipped with wired connectivity for certain automation purposes, these legacy systems fail to scale with a proliferating number of sensors dedicated for massive IoT applications.

Improve efficiency, enhance safety & reduce costs across smart buildings

The right network infrastructure for large commercial buildings and sprawling campuses must balance all criteria: reliability, security, affordability, range and power efficiency. Short-range wireless technologies like Wi-Fi, Zigbee are not

optimal solutions due to limited coverage and high-power consumption. Implementing a mesh topology can help overcome the range issue, but it will inflate upfront costs and increase security risks. This is where MIOTY™ comes in. With deep indoor penetration alongside campus wide and versatile connectivity, the system delivers a reliable plug-and-play solution that can be easily retrofitted in various building and campus styles. Low device costs and less infrastructure requirements thanks to a star topology and long network range, make MIOTY™ an extremely affordable solution compared to any conventional approaches.

Use Cases

Connecting all devices and assets, MIOTY™ brings building efficiency and management to a whole new level by powering a new array of IoT solutions from energy savings, facility maintenance to security and fire safety.

Optimize energy management with round-the-clock power consumption monitoring

As energy costs and environmental concerns are on the rise, companies are now facing great challenges of aggressive energy reduction targets. Collecting data from multiple plug-load and sub-meter sources, MIOTY™ delivers valuable insights into energy consumption of individual assets throughout multiple building zones. In conjunction with analytical models, usage behavior and patterns can be derived to identify waste sources and guide informed decisions on improving energy efficiency. Water sub-metering infrastructure can also be leveraged to provide warning of pipeline failures and water leakages, augmenting water conservation and environmental sustainability.

Streamline energy usage with intelligent HVAC control

Heating, ventilation, and air-conditioning constitute a major proportion of energy expenses in any commercial buildings. Centralized HVAC often associated with over-heating or over-cooling can result in plenty of wasted energy. With the MIOTY™ network, human presence, temperature, humidity and air quality can be measured at various discrete building areas for a decentralized, granular control of the HVAC system. Ambient data are further pushed to the cloud for advanced analytics and development of an optimal thermal model based on occupants' inputs. These intelligent, IoT-enabled HVAC solutions help building operators drive down utility costs and the carbon footprint while maximizing tenants' comfort and productivity.

Optimize building space with occupancy sensing

As modern working models and increasingly mobile workforce are significantly changing corporate workplaces, IoT-powered solutions represent great potential for cost savings and a transition towards an agile work environment. Connected by MIOTY™, occupancy sensors affixed to workstations and using infrared, ultrasonic or microwave technology deliver real-time visibility into space utilization and occupancy rates. Underutilized space can be pinpointed for repurposing or redesigning to save real estate costs. Simultaneously, wasteful maintenance and energy expenses (i.e. lighting, heating, cooling) on rarely occupied spaces can be cut down, improving efficiency in your facility operations.

Enhances employees' and customers' experience with intelligent parking

Finding a parking lot, whether at crowded shopping centers, offices, airports, hospitals or any commercial facilities can easily lead to frustration as wasted time soars. With the aid of magnetic sensors "talking" through the MIOTY™ network, data on available parking spaces are constantly reported to the control center and updated at digital signs, indicator lights or API-fed user apps. This will minimize the time spent driving around to get a parking spot thereby increasing employee and customer satisfaction. In parallel, congestion inside parking structures and associated ventilation costs can be considerably reduced.

Secure integrity of critical building facilities

Enabling digitized management of all critical facilities like elevators, escalators and HVAC equipment (e.g. dampers, air handlers, chillers, etc.), MIOTY™ alleviates the hassle of facility management and maintenance in commercial buildings. Remote monitoring of key stress indicators helps predict the remaining service life and diagnose any abnormalities that require early intervention before actual failures happen. Inefficient periodic and unplanned maintenance is now replaced with proactive condition-based maintenance. For example, sensor data on motor temperature, shaft alignment, cab speed and elevator door functionality, empowers property managers to sustain smooth and secure mobility inside buildings.

Maximizing security & fire safety with access control & interconnected alarm networks

From smoke detectors, fire alarms, motion, and presence sensors to glass break and open window/door detectors, MIOTY™ interconnects your entire alarm system. Besides triggering alerts when intrusive and dangerous incidents are identified, connected alarms also send regular messages to report battery and "alive" status. This ensures that these critical devices are always in operation, especially when they are needed the most, while at the same time, trimming unnecessary manual checks. Additionally, transmitting access data from proximity readers to the control center, MIOTY™ enables integrated smart building solutions that combine security with employees' time and attendance as well as visitor management.

Combat thefts and potential disasters with asset management

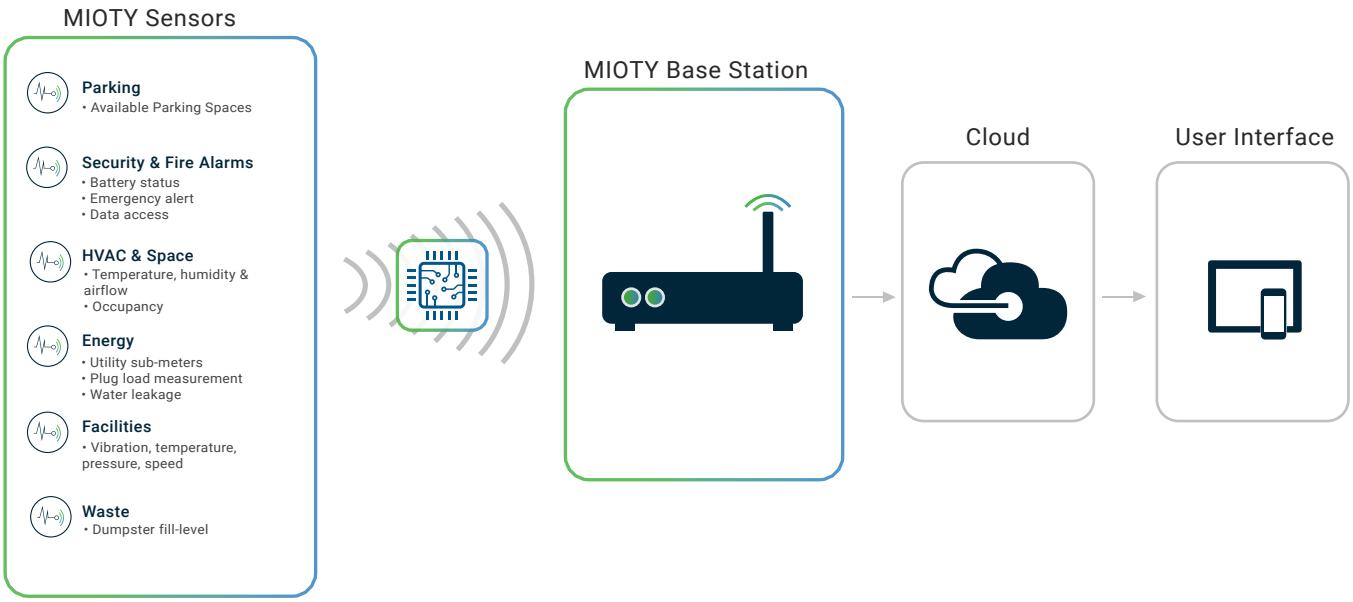
Thefts of critical assets like fire extinguishers and defibrillation units not only incur costs but, more importantly, can result in fatal and devastating consequences in the event of an emergency. Imagine the consequences of a fire when an extinguisher is nowhere to be found. With the installation of motion sensors on these assets, building managers are immediately alerted when unauthorized, dubious movement is detected. This assists managers in combatting theft and continuously checking on asset availability.

Effectively manage waste across buildings & campuses

Trash collection is traditionally an inefficient task, as waste containers are emptied on a predefined plan irrespective of whether they are empty, partially full or already spilling over. Now, MIOTY™-powered sensors regularly update fill-levels of dumpsters to a cloud platform where pick-up route and disposal schedule of different waste types can be optimized. Economic waste collection has a direct financial and environmental impact by helping cleaning contractors and staff increase productivity and lower costs.

MIOTY™ in Action

Feeding Massive Data for Real-time Analytics & Visualization



Why Choose MIOTY™?

WORLD-WIDE OPERATION
Leverage the globally compatible ETSI standard for low throughput networks

LONG RANGE
Operate 5 km in urban & up to 15 km in rural area and cover cellular 'blind spots'

SECURITY & DATA PRIVACY
Retain full data ownership with private networks incorporating multi-layer security

LOW POWER
Support up to 20-year battery lifetime

MIOTY™

OPEN SOLUTION
Flexibly choose your transceivers, gateways and application platforms

HIGH SCALABILITY
Aggregate 1.5 million messages a day using only a single gateway/base station

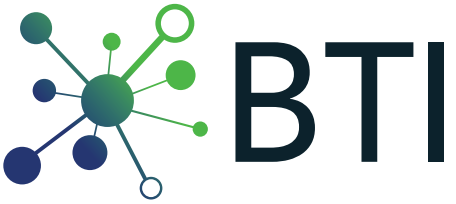
COST EFFICIENT
Reduce TCO with less infrastructure requirements, low device costs and simple maintenance

QUALITY OF SERVICE
Achieve industrial-grade reliability with unrivalled interference immunity & deep indoor penetration

EASY TO INSTALL
Retrofit IoT Solutions in brownfield applications with effortless network configuration & setup

EXCEPTIONAL MOBILITY
Administer nodes at 120 km/h velocity

About BTI

Founded in 2018, Toronto-based Behr Technologies Inc. (BTI) is a worldwide licensee of MIOTY™, the leading wireless communication technology for Industrial Internet of Things (IIoT). The company is focused on commercializing, licensing, and supporting the MIOTY technology through partnerships with industry-leading technology providers, and the development of new MIOTY-based products and applications for the IIoT marketplace. BTI's first commercial product using this ETSI standard is the MIOTY 1.0 Starter Kit with Microsoft Azure, which was launched in April 2018 at Hannover Messe, Germany.

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