UTILITIES

GET BEST-IN-CLASS WIRELESS CONNECTIVITY WITH MIOTY™

ROBUST
SCALABLE
COST-EFFECTIVE

In the midst of rapid technological development, increasing customer expectation, and high market regulation, utility companies are migrating to dynamic, decentralized and data-driven business models embracing smart grid and IoT opportunities. A cost-effective, reliable and scalable last-mile communication infrastructure that can interconnect all grid assets and components spreading over hundreds of thousands of kilometers is central to this digital transformation journey.

Build a communication network that supports critical grid infrastructure for decades to come

Cellular connectivity is constrained by high power consumption, ongoing costs, and insufficient coverage at the network level. Above all, the fact that each generation of cellular technology gets replaced by the next is a major threat to the long-term, stable operation of smart grids that

utilities cannot afford. With MIOTY™, utilities can now rely on a worldwide standardized, private network solution that remains compatible throughout the extensive lifespan of critical electric grids. In addition, wide area coverage and ultra-low power usage minimize infrastructure and maintenance costs; while high robustness and deep penetration capability maximize wireless signals in electromagnetic interference environments, underground and through concrete walls or rebar obstructions.

Use Cases

From connecting smart meters, remote monitoring of transmission and distribution networks to predictive maintenance of generation and storage assets, MIOTY™, augments visibility and efficiency along the entire energy value chain.

Save operating costs, streamline energy consumption & improve efficiency with smart meters

Providing a highly robust, scalable and power-efficient communication solution, MIOTY™, is the new infrastructure for connecting smart meters on an unprecedented scale and over multiple years without battery replacement. As a vital component of the smart grid, smart meters help decrease operating costs associated with on-site meter readings, while enabling effective forecasting of energy consumption by wirelessly transmitting real-time usage data. Energy companies can better balance electric loads to reduce outages, implement time-of-use dynamic pricing to control peak loads and enhance customers' satisfaction through new service offerings and higher transparency over billing information. In the general utility sector, water smart meters are also instrumental in early detection of leakage, thus considerably contributing to the improvement of water conservation and management.

Minimize outage duration with fault detection & location in power distribution networks

The gigantic scale of the medium and low-voltage distribution grid means that a major proportion of the infrastructure, typically secondary substations and transformers, still remain unequipped with communication technologies due to cost and implementation challenges. Identifying the location of faults manually can be a daunting task that delays electricity restoration process and prolongs outage duration. With MIOTY™, utilities can now cost-effectively and reliably connect all of their distribution lines and devices, even the ones underground or at the most inaccessible locations, for remote monitoring. Faults can be quickly detected and located, saving substantial reparation time and minimizing breakdown duration.

Prevent failures & disasters with transmission line & tower surveillance

Not only does MIOTY™ help troubleshoot incurred problems, but it also brings in enormous opportunities for utilities to proactively prevent failures with

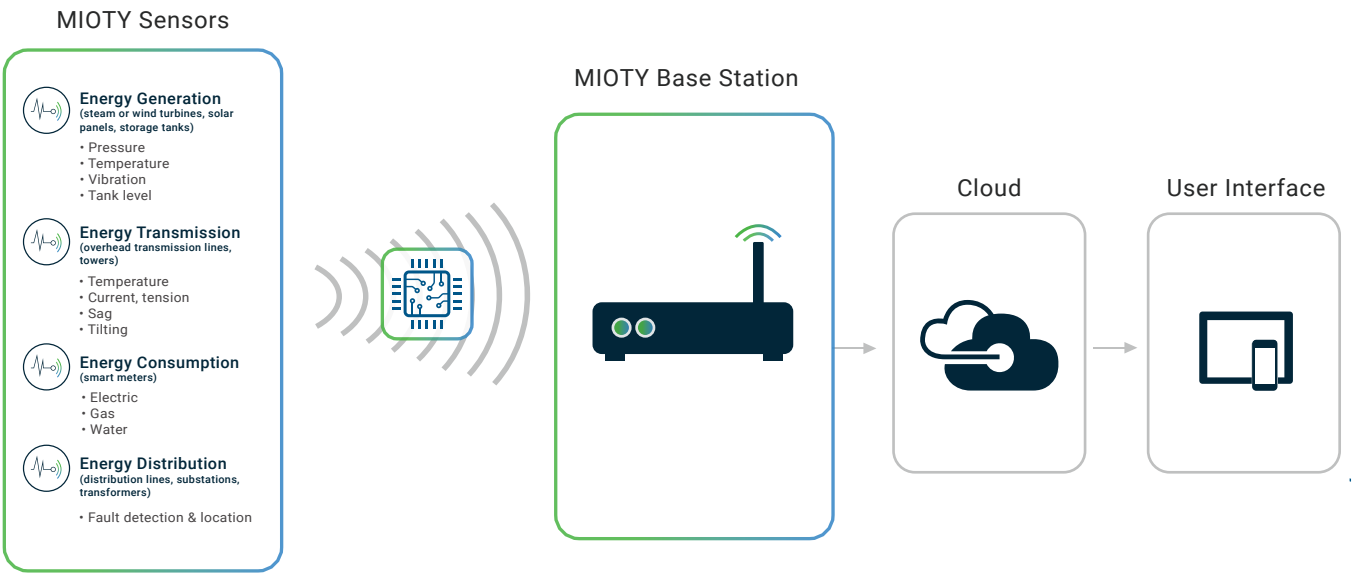
condition monitoring, especially when it comes to the critical high-voltage transmission grid. Sensors using MIOTY™, networks regularly measure conductor temperature, current, and tension, as well as meteorological data (e.g. humidity, wind velocity, temperature, rainfalls, etc.) along overhead transmission lines. This allows for more accurate sag evaluation, together with the prediction of potential line damages caused by extreme weather conditions. Tilt sensors installed on transmission towers further send early warnings of major tilting that can lead to cable breakage and other fatal disasters. These valuable data streams empower immediate, preventive maintenance to avoid serious failures, improving safety and stability of the transmission lines.

Track asset health with remote monitoring & predictive maintenance

The emergence of smart grid and decentralized energy networks introduces a very complex grid infrastructure incorporating a host of old and new energy generators (e.g. steam turbines, wind turbines, solar panels and inverters, etc.), as well as storage facilities. With the help of MIOTY™ enabled IoT sensors, keeping an eye on operations and health status of these critical assets on a massive campus-scale like power generation plants, solar farms or wind farms has never been so easy and cost-effective. Abnormalities can be instantly alerted for proactive remedial actions to avoid costly downtime. Changes in temperature and pressure levels, for example, indicate that a turbine may not be well lubricated, and filters or oil need to be replaced. Historic pressure data of solar panel tracking systems, on the other hand, can reveal potential structural damage of specific panels that require immediate inspection and maintenance. Ultimately, MIOTY™ presents boundless possibilities to optimize your equipment operations and energy production.

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

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

OPEN SOLUTION
Flexibly choose your transceivers, gateways and application platforms

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

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

MIOTY™

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

LOW POWER
Support up to 20-year battery lifetime

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

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

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.

For more information, visit:
www.behrtechnologies.com