MULTITECH®

MultiTech Solutions Leveraging LoRa® Technology for Industrial IoT

Macro, Mini and Micro Programmable Gateways and End Nodes for the Internet of Things

With more than 45 years in the communications industry, MultiTech is committed to supporting the growth and development of the Internet of Things in order to create new customer experiences and unparalleled economic value, while improving quality of life for countless people throughout the world. By providing products and services to connect "things" to the Internet, MultiTech delivers deeper understanding to businesses, governments, organizations and individuals, which will in turn transform the way we live and work.

With this in mind, we are very excited about the power and flexibility of LoRa® technology to solve many IoT problems and we have developed a diverse and award-winning portfolio of products featuring LoRa technology.

What is LoRa?

LoRaWAN™ is a low-power, wide-area network (LPWAN) protocol intended for wireless, remotely located, often battery-operated, things in local, regional, national or global networks. LoRaWAN provides secure bi-directional communication, mobility and localization services, and seamless interoperability among smart things. Better yet, thanks to its low power consumption, a cost of pennies on the dollar compared to alternative technologies, and the ability for enterprises to deploy their own private networks for added security, LoRaWAN has the opportunity to facilitate the long-predicted huge IoT growth well before alternative technologies are broadly available.

LoRa overcomes connectivity challenges to power the industrial internet of things

There is no one silver bullet connectivity technology that will enable all IoT applications to provide business and customer value while delivering the required ROI. In fact, it will take a mix of LPWAN, cellular, LAN, PAN and wired technologies to connect the billions of IoT devices predicted in the future. However, LoRa technology is incredibly well suited to overcome the most difficult IoT connectivity issues that have prevented IoT device connectivity in the past:

Long Range

LoRa can communicate with far-away assets: up to 10 miles line of sight and 2-3 miles in urban environments.

Low Cost

MultiConnect Conduit, Conduit IP67 and Conduit AP Access Point for LoRa can communicate with thousand of MultiConnect mDots, xDots or LoRaWAN-compliant end nodes – at no cost utilizing global license-free ISM radio bands.

Low Power Consumption

Because of the ultra-low power of the LoRaWAN protocol and the excellent design of the Conduit platform, battery-operated assets can survive for years.

Alcom electronics
Singel 3 | B-2550 Kontich | Belgium | Tel. +32 (0)3 458 30 33 | info@alcom.be | www.alcom.be
Rivium 1e straat 52 | 2909 LE Capelle aan den Ijssel | The Netherlands | Tel. +31 (0)10 288 25 00 | info@alcom.nl | www.alcom.nl

MultiConnect® Products for LoRa® Technology

Empowering Your Industrial IoT Application

Leveraging the power of LoRa technology, MultiTech has created a portfolio of gateways and embedded end nodes that enable your IoT applications in a myriad of outdoor and indoor use cases. These products were designed to ensure the quickest route to market based on your needs, programming capabilities, preferred use of resources and business focus, in order to deliver a fast return on investment and low total cost of ownership.

MultiConnect® Conduit™

Ideal for Indoor Industrial Use

MultiConnect Conduit is the industry's most configurable, manageable, and scalable communications gateway for industrial IoT applications. Network engineers can remotely configure and optimize their Conduit performance through DeviceHQ®, the world's first IoT Application Store and Device Management platform.

The Conduit features two accessory card slots that enable users to plug in MultiConnect® mCard™ accessory cards supporting their preferred wired or wireless interfaces to connect a wide range of assets to the gateway.

Available options include a LoRaWAN™ mCard capable of supporting thousands of MultiConnect® mDot™ or xDot™ long range RF modules connected to remote sensors or actuators.

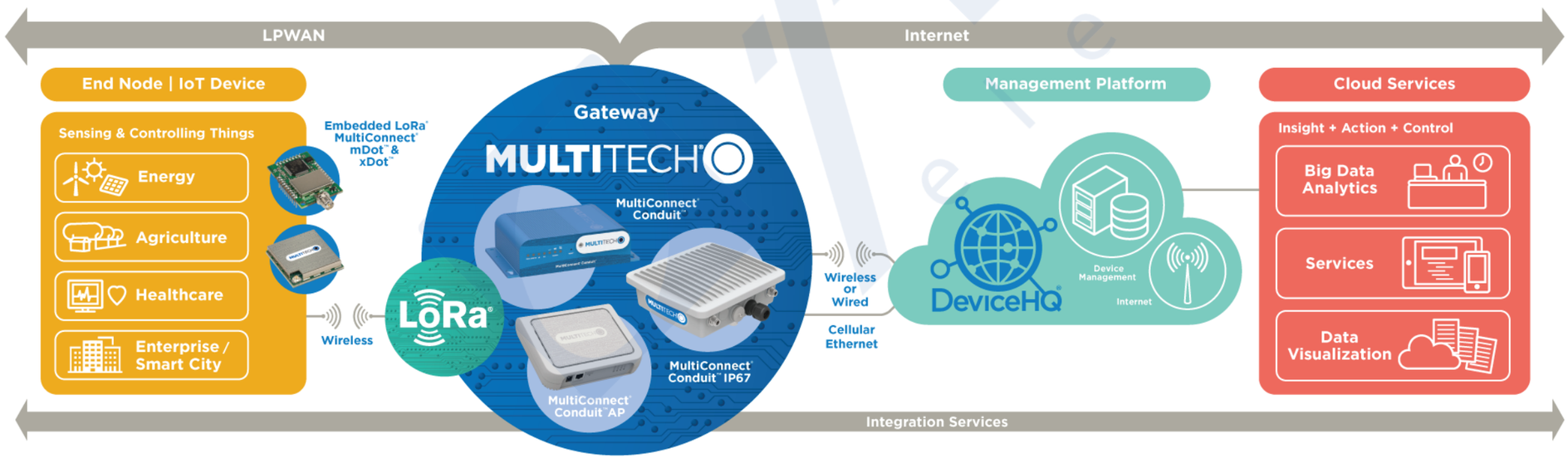
MultiConnect® Conduit™ IP67 Base Station

MultiConnect Conduit IP67 Base Station is a ruggedized IoT gateway solution specifically designed for outdoor public or private LoRa network deployments. This highly scalable and IP67-certified solution is capable of resisting the harshest environmental factors including moisture, dust, wind, rain, snow and heat, supporting LoRaWAN applications in virtually any environment. Leveraging the MultiConnect Conduit, this solution can support thousands of LoRaWAN certified end nodes, including the MultiConnect mDot and xDot. It provides durable, low-power, wide area connectivity supporting IoT applications for both LoRa service providers and individual enterprises wanting to expand their LoRa network coverage. It can be deployed on an existing telecommunications tower, individual stand or wall mount.

MultiConnect® Conduit™ AP Access Point for LoRa Technology

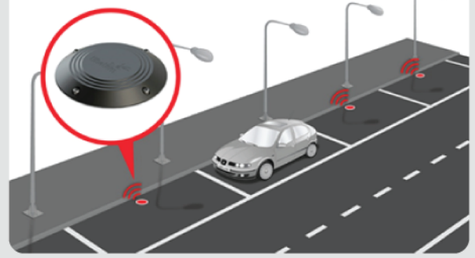
MultiConnect Conduit AP is a cost-optimized gateway capable of connecting thousands of IoT assets to the cloud utilizing the LoRaWAN protocol. Based on the award-winning MultiConnect Conduit design, the Access Point is ideal for extending LoRa network coverage in difficult-to-reach areas such as subterranean spaces, and for increased in-building penetration where coverage is weak or not cost-effective. The Access Point enables LoRa use cases previously considered too expensive or too difficult to manage, like connecting assets where a full-sized gateway is too costly, e.g. in a retail supermarket, restaurant or hotel chain environment.

The Access Point is capable of forwarding control and user data packets between LoRa end nodes and a Network Server located either in the cloud, in an enterprise data center or on a public operator's core network. The powerful mLinux development environment provides customers with the flexibility to program applications at the network edge and to send all or select data to the location of their choice.



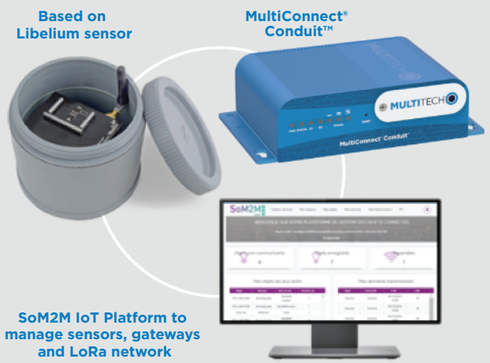
Smart Parking

Smart City Use Case



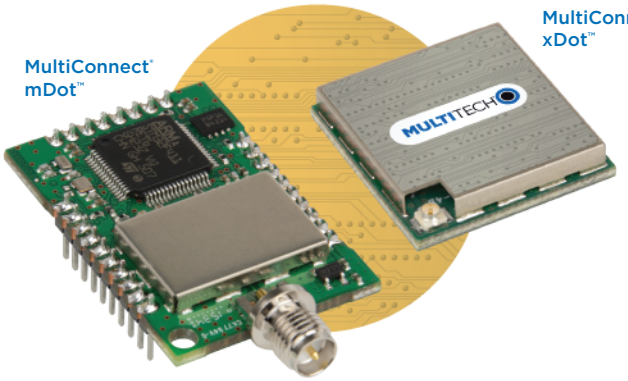
A solution designed to monitor parking spaces detecting vehicles arriving and departing

By providing accurate information about available parking spaces, motorists save time and fuel and cities reduce atmospheric pollution and traffic congestion.



Montpellier Méditerranée Métropole

SYNOX Innovate together



MultiConnect® mDot™ and xDot™

MultiConnect mDot and xDot are secure, CE/FCC/RCM-certified, ARM® mbed™ programmable, low-power RF modules, providing long-range, low bit rate IoT data connectivity to sensors and actuators.

The mDot and xDot are LoRaWAN™ compliant, providing bi-directional data communication up to 10 miles line-of-sight and 2-3 miles in buildings, using the global sub-GHz ISM radio bands in North America, Europe, and the APAC regions.

The mDot was the first ARM mbed platform listed on mbed.org that was deployment ready. The mDot supports applications written and compiled in the mbed online environment using developer-friendly libraries. Decision making and control can be done at the edge, reducing the need to optimize RF performance and implement complex IoT middleware.

mDots and xDots bring intelligence, reduced complexity and a lower overall bill of material to the edge of the network while supporting a variety of interfaces to connect just about any battery-powered "thing".

DeviceHQ®

DeviceHQ is a cloud-based toolset for managing the latest generation of MultiTech devices. It incorporates the MultiTech Device Manager, on which so many IoT applications already rely for remote monitoring, upgrades and configuration of device populations, ranging from one to 1 million. DeviceHQ takes remote device management and maintenance to a new level by providing an application marketplace, allowing users to browse applications, as well as build, deploy and customize them for remote devices.

LoRa works best for remotely deployed devices that require long-range or deep in-building communication that have low power requirements and that use low or sporadic amounts of data

LoRaWAN network architecture is typically laid out in a star-of-stars topology in which intelligence is distributed to the edge providing local decision making and data manipulation, and a network server in the gateway enables secure connectivity. Alternatively gateways can relay messages between end nodes and a cloud-hosted network server, suitable for public or nationwide deployments. In either deployment model, end nodes use single-hop wireless communication to one or many gateways. End node communication is generally bi-directional, but also supports multicast operation enabling software upgrade over the air or other mass distribution data to reduce the communication time.

MULTITECH®
CREATE • CONNECT • COMMUNICATE

CONNECT WITH MULTITECH