# Smart Parking with a Smart Approach

## Powered by MultiTech

Do something really well and stick with it. This is certainly the case at PNI Sensor, the world's foremost expert in precision location, motion tracking, and fusion of sensor systems into real-world applications. In developing its PlacePod Smart Parking Sensor, a high-accuracy smart parking sensor for on-street and off-street public and private parking management, PNI required RF technology to address the demands of the IoT market. Identifying LoRaWAN® as the proper communications protocol, a decision was made not to develop it in house, but rather to find the best high-performance LoRa® modules on the market and incorporate in its design.

"We decided to look for RF modules already proven and generally available to help us develop a reliable sensor system and speed our time to market for the PlacePod," said Robin Stoecker, director of marketing at PNI. "We considered in-house designs, but instead opted to leverage MultiTech's LoRa expertise and focus our engineering resources on the sensor technology."

Armed with the criteria of performance, reliability and price, PNI reviewed LoRa modules available today, ultimately opting for **MultiTech xDot®** Long Range LoRa Modules for use within their PlacePod smart parking sensors. The xDot is a secure, LoRaWAN compliant, Arm® Mbed™ programmable, low-power RF module. It provides long-range, low bit rate M2M data connectivity to sensors,
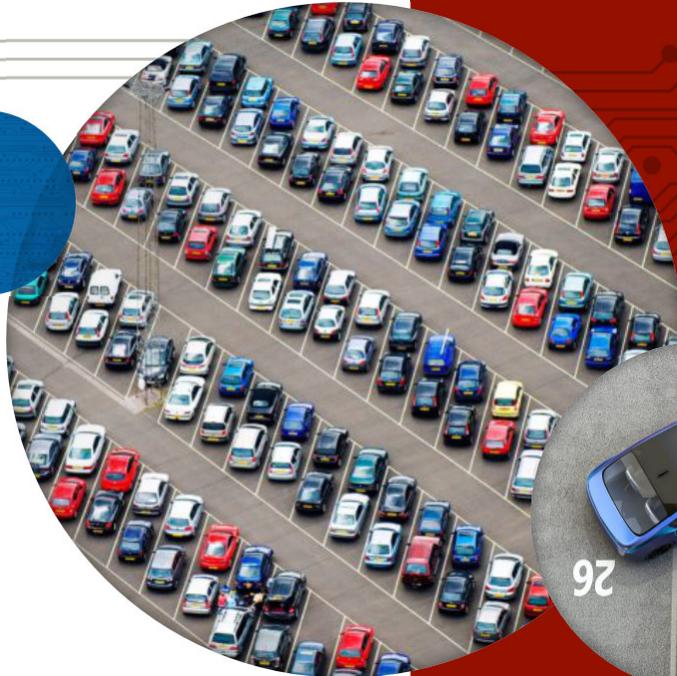
## Problem

The most mission-critical aspects of parking management: accurate, real-time vehicle detection and the location of available parking spaces.

## Solution

**A MultiTech xDot® is in each PNI PlacePod parking sensor to provide real-time parking data over a Low Power Wide Area Network (LPWAN).**

## Benefits

Includes the industry's most accurate magnetic sensing system for vehicle detection with the combination of PNI's high-performance sensor and vehicle detection algorithms that accurately detect the presence or absence of a car in a parking space.

industrial equipment and remote appliances and was ideally suited for PNI's Smart Parking solution.

"Input from the LoRa Alliance was also a factor," said Stoecker. "Though our testing showed the xDot as ideal for our needs, it is helpful to hear from others that are familiar with the company and its solutions," continued Stoecker. "Working with MultiTech helped us shorten our design and development cycles and achieve faster time to market across several geographic regions (Americas, EMEA, APAC)."

"We are thrilled to be working with innovative partners like PNI and have seen tremendous growth and interest in global Smart City initiatives – including Europe, Japan and Australia," said Hilary Heath, Western Regional Sales Manager at MultiTech. "There is no doubt that MultiTech and PNI will continue to develop cutting-edge solutions worldwide."

## About PNI

With over 30 years of experience, PNI is the world's foremost expert in precision location, motion tracking, and fusion of sensor systems into real-world applications. PNI's sensors and algorithms serve as the cornerstone of successful IoT projects and other mission-critical applications where pinpoint location, accuracy, and low power consumption are essential. Building on decades of patented sensor and algorithm development, PNI offers the industry's highest-performance geomagnetic sensor in its class, location and motion coprocessors, high-performance modules, sensor fusion algorithms, and complete sensor systems. PNI's technology is used in consumer electronics and wearables, smart parking, IoT, robotics, automotive, military, and other applications. For more information, please visit www.pnicorp.com.

## About MultiTech

MultiTech designs, develops and manufactures communications equipment for the industrial internet of things – connecting physical assets to business processes to deliver enhanced value. Our commitment to quality and service excellence means you can count on MultiTech products and people to address your needs, while our history of innovation ensures you can stay ahead of the latest technology with a partner who will be there for the life of your solution.
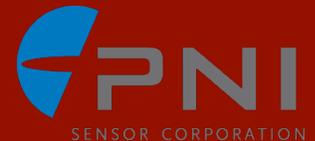
For additional information, contact: sales@multitech.com

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