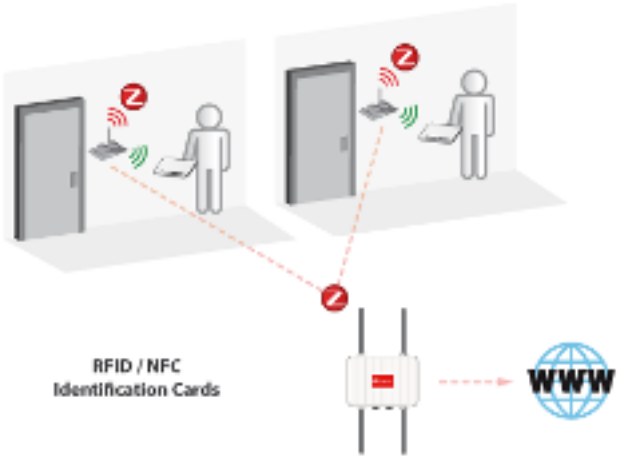
# Dual RFID-ZigBee Sensors from Libelium to Enable NFC Applications for the Internet of Things

The new RFID/NFC module for the Waspmote sensor platform completes the active tag technology driven ZigBee with passive tag identification enabling the creation of complex location based services with just one device.




Libelium, a technology leader in wireless sensor networks for Smart Cities solutions has announced the launch of the new RFID/NFC module for the Waspmote sensor platform. The new radio module extends Waspmote features allowing the sensor data to be used in Location Based Services (LBS), such as asset tracking, supply chain monitoring, intelligent shopping or access management.

By using RFID/NFC - passive sensors - along with ZigBee - active sensors -, asset tracking can be more accurate than ever along the whole supply chain process. Product management softwares, like ERPs, will have access in real time to information related to remaining stock, storage and transportation conditions (temperature and humidity levels, vibrations, light exposure, etc), expiration dates and even consumer profiles, knowing time spent in front of a shelf or products picked up and not bought.

Security applications, including access control, can also be covered with this technology as the RFID standard -Mifare- uses a 6 bytes key to ensure maximum privacy and authentication requirements, a major concern in this technology.

The information given by the passive tags (cards, keyrings, stickers, etc) is read by the RFID/NFC interface and then transmitted using the ZigBee radio to an Internet Gateway which will finally upload it to a Cloud server making it accessible everywhere. The identification data can also be sent to the Cloud directly using the Wifi radio which performs secure connections with the web servers (HTTPS).

NFC technologies, quickly adopted in the majority of Smartphones brands, allows everyone to be part of the Internet of Things. Libelium’s CTO David Gascón says,

“Soon, we will scan products in the supermarket with our Smartphones to check if they contain anything our family is allergic to and see nutritional information while our fridge will warn us about expiring dates and suggest shopping lists according to our preferences”.

This RFID/NFC radio completes Waspmote connectivity - which already covers ZigBee, Wifi, Bluetooth and 3G/GPRS - making it compliant with any wireless technology in the market. "The new module is available in both 125KHz and 13.56MHz bands to ensure compatibility with previous RFID deployments" adds the Libelium CTO, David Gascón.

Libelium provides an intuitive and open source programming API and complete documentation with examples in order to help developers to easily start working with the platform.

For more information, please visit www.libelium.com/rfid_nfc_zigbee_sensors [1].

**Posted by Ron M. Seidel, Editorial Intern**

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http://www.wirelessdesignmag.com/product-releases/2012/03/dual-rfid-zigbee-sensors-libelium-enable-nfc-applications-internet-things

**Links:**
[1] http://www.libelium.com/rfid_nfc_zigbee_sensors