

# The Office of Technology Management

UNIVERSITY OF TEXAS  ARLINGTON

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## Location and Tracking System, Method and Device using Wireless Technology

**INVENTORS:** Gergely V. Zaruba, Manfred Huber, David Levine, Farhad A. Kamangar

### TECHNOLOGY NEED

Internet of Things (IoT) market demands the need of effective indoor positioning and tracking system/method for tracking humans, vehicles and all possible mobile objects in real-time. One popular method for indoor positioning is based on the use of Bluetooth Low Energy Beacons (BLE Beacons). The main limitation of Bluetooth Low Energy Beacons (BLE Beacons) is the range of its Bluetooth, which requires the use of large number of Bluetooth beacons for obtaining precise location of an object. Another method is the use of earth's Geomagnetic Field, which is a method restricted only for devices with built-in magnetic sensors. As a result, to support exponential demand in indoor positioning market, a fully developed, more versatile and highly efficient location and tracking method is needed.

### INVENTION DESCRIPTION/SOLUTION

Researchers at UT Arlington have developed a highly efficient indoor positioning and tracking method using Wi-Fi/WLAN. This method makes use of Wi-Fi/WLAN technology for indoor positioning, which can be easily adopted to existing infrastructure thus reducing the installation cost for new infrastructure. This technique locates an object based on Received Signal Strength Indication (RSSI) measurement by using one signal tower/ Wi-Fi reference point. Moreover, this technology can precisely track real-time location of objects in three-dimension space unlike present Global Positioning System (GPS) which can only locate an object in plain sight.

### APPLICATIONS

- Remote Monitoring of Autonomous Flights
- Inventory Management
- Supply Chain Optimization
- Predictive Assets Analytics
- Marketing and Customer Experience Management
- Emergency Response Management

### KEY BENEFITS

- Provides highly accurate real-time location of objects
- Adaptable to existing infrastructure
- Strength of signal is significant
- More secured and cannot be easily hacked
- Faster and inexpensive method

### STAGE OF DEVELOPMENT

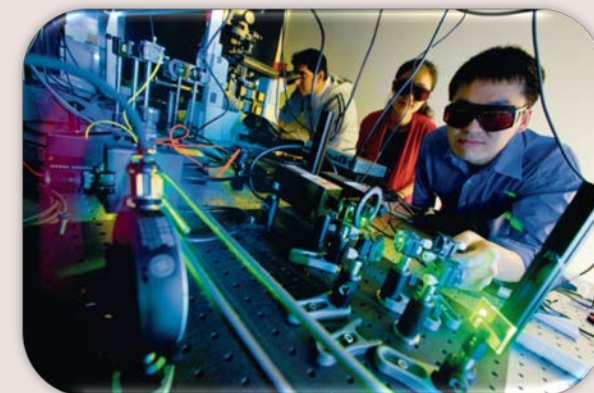
Prototype and tested

### INTELLECTUAL PROPERTY STATUS

Patent granted.

[US 7592909B2](#)

[US 8179253B2](#)



### More about the inventors

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