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Alliance Rallies UWB for Location Services

By [Tim Harrington](#), 12.19.18 0

The chairman of the UWB Alliance, launched today, discusses the outlook for the technology and the group promoting it.

The [UWB Alliance < https://uwballiance.org/>](https://uwballiance.org/) was officially launched today with founding members including Hyundai, Kia, Zebra, Decawave, Alteros, Novelda, and Ubisense. The Alliance aims to develop the market for ultrawideband (UWB) technology across vertical applications, foster coexistence with other technologies, and expand the global regulatory acceptance of the technology.

Currently, when people think location, they generally think of GPS and vehicle navigation that has become part of our everyday lives in recent years. But GPS is commonly restricted to use outdoors while most of our lives are spent inside factories, stores, offices and homes. Estimates show most people spend only 13% of their time outdoors or in a vehicle, so a solution other than GPS is essential to deliver real time ubiquitous location and tracking.

Welcome to the new world of ultrawideband communications. UWB provides short-range, high-bandwidth communications at extremely low energy levels. This combination enables real-time location, secure wireless access, and radar sensing.

UWB is the only technology that can deliver better than two-centimeters of accuracy and provide it in a tiny form factor. Its low energy levels mean devices can operate for a period of years without recharge or replacement even if powered by a small, cell battery.

Ultra-accurate, low-power location sensors are starting to appear in both consumer and industrial IoT devices. High precision location enables uses as diverse as real-time sports tracking, sleep monitoring and secure transactions.

UWB isn't yet a household name, but consumer applications are starting to appear in volume. The first one that many will come into contact with are the latest car entry systems, where UWB technology prevents the kind of high-profile 'man-in-the-middle' attacks that enable the theft of modern vehicles.

Others uses include follow-me capabilities appearing in golf carts, drones, strollers and even luggage. Still other applications include sleep monitors, security systems that automatically know when you are home and when you leave and stereo equipment that automatically adjusts to the presence and location of listeners.

UWB will find use in manufacturing where smart factories need to know the location of a specific part or tool or to create virtual no-go zones to ensure worker safety. Worker tracking and safety applications are appearing in sectors as diverse as mining, construction, detention and healthcare.

Smart office buildings are using the technology in passes and tags to enable the management of visitors and the tracking of valuable assets. In retail, UWB tags are replacing old-school wired tethers for loss prevention and to track high value products. Tags attached to carts enable granular analytics showing store hot spots, enabling more effective marketing.

Perhaps the greatest game-changing potential for the technology will come once UWB chips are built into smartphones. This is very likely within the next few years with the release of a new generation of chips based on the evolving UWB standard, 802.15.4z.

Ultra-accurate, secure location and communications in devices carried by many people will enable much more secure financial transactions. It also will make asset sharing business models much easier and more flexible and open up new smart home applications.

Given the anticipated growth, the UWB Alliance was created to provide a unified face for the technology. It will increase efforts to ensure interoperability between devices and provide a forum for industry collaboration.

The Alliance will be the voice of the UWB industry in Washington D.C. and Brussels, working with government law makers. It has already made progress ensuring interoperability and co-existence with other wireless standards [through work of the IEEE 802 Standards Committee < https://mentor.ieee.org/802.18/dcn/18/18-18-0139-07-0000-fcc-18-295-ieee-802-comment.docx>](#) that oversees the standards used by UWB and Wi-Fi.

--Tim Harrington is chairman and executive director of the UWB Alliance, chairman of the IEEE Task Group 802.15.4z and vice chairman of ETSI TGUWB in the European Union.

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