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Decawave

DECAWAVE CORNER

An Alliance for the Future of UWB

Decawave is joining forces with other Ultra Wideband (UWB) technology leaders to help establish UWB as an open-standards industry.

The UWB Alliance is in the early stages of development, and Decawave is helping the alliance gain momentum to provide a true forum for collaboration, growth, support, and advocacy.

The Alliance serves to promote large-scale deployments and protect the millions of global users from encroaching radio technologies. It will drive growth through end-to-end, vendor agnostic interoperability programs that will provide consumers with high-quality, secure, and reliable connectivity, and accurate location in all industries. It will develop KS applications across multiple industries.

Be on the lookout for more information about the Alliance and how you can take part in supporting the power of UWB technology.

UWB ALLIANCE

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Continued Growth and Expansion in China

China continues to be an important technology market for our partners, and our customers. To support the growth in this region, we have opened our second China location with an office in Beijing. The Beijing office joins the Shenzhen office, opened earlier this year, and together they employ 8 people.

"China continues about half of our revenue, and is an important technology, innovation and manufacturing region. We are excited for the continued growth in China, and our goal is to now have a stronger presence here," said Decawave Chief Executive Officer Gerrit.

Decawave and Sewio enable VW's Factory of the Future

Volkswagen (VW) Slovakia produces 360,000 vehicles annually and is the only automotive facility in the world that produces four different brands within a single factory. Not only that, but the vehicles range from luxury SUVs to compact cars.

To achieve manufacturing with that scale and complexity requires impressive logistics. VW is using digitalization as the driver for innovation, and has created a "virtual factory" built on detailed, real-time data that can enable deep understanding of how the actual factory works in real-time and model possible improvements.

The collection of the data needed for such sophisticated modeling relies on ultra-accurate and reliable location data for machinery in the facility. That's where Decawave comes into play. VW has partnered with Sewio and Decawave to deliver a platform that enables this complex functionality.

LEARN MORE ABOUT DECAWAVE AND SEWIO

READ THE CASE STUDY

Decawave Partners with Runtime for Open Source Development Stack

As part of its drive to ease development and speed time-to-market for new products and services, Decawave has partnered with Runtime to build support for the open source Apache Mynewt Operating System (OS) on the DWM1000 family of ultra-wideband (UWB) transceivers. The OS is a real-time operating with an open and modular development environment and a framework to develop cross-lifecycle management and messaging.

Use of Apache Mynewt OS also enables easy support for multiple hardware platforms and a wide range of network protocols, allowing Decawave to offer a unified code base across its development kits and hardware platforms. This lowers barriers to adoption of UWB technology and speeds development times.

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PARTNER & CUSTOMER SPOTLIGHT

A Personalized Shopping Experience with IntraPosition

IntraPosition is widening the personalized shopping experience by developing in-store positioning and navigation technology. Their BuyCart product, which utilizes the Decawave DWM1000, provides high-accuracy in-store positioning for improved shopping, analytics and store picking.

The BuyCart solution coverage delivers improved store navigation, enables personalization of offers and coupons, and eliminates phantom stockouts. The analytics tools improve queue management, give in-depth store route analysis and heat maps, and allow for A-B testing. The picker tool helps determine optimal pick routes, allows for multi-basket navigation, optimizes picking rate, and minimizes mileage required.

Decawave's proud to be part of this solution by enabling high-accuracy, low-latency location technology to drive improved efficiencies and revenue.

WATCH THE VIDEO

Tracking Industrial Assets with Quanditec

Quanditec, based in Frankfurt am Main, is an innovative and rapidly growing company specializing in hardware and software for indoor localization.

Quanditec just launched its new RTLS system INTRANAV 2.0, which features a wireless synced TDoA system, a new microSAD and a VelocityNAD for use in forklift and AGV applications.

The INTRANAVSD Enterprise Suite is now available for all hardware vendors. It offers a closed or an open-source middleware stack, analytics modules, SAP connector and a rich SDK Framework to build you own RTLS applications on the top of the INTRANAV Middleware Layer. Contact your hardware project to their visualization and mapping system or buy our OEM hardware building blocks.

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Decawave on Board the International Space Station

We are proud to be part of Wireless Compass, a wireless communication and positioning experiment that's currently onboard the International Space Station (ISS).

The experiment is analyzing UWB technology to determine how it can be used for unmanned and manned spaceflight missions, and to derive obstacles and challenges for future missions under very specific conditions due to the complex electromagnetic environment.

UWB technology offers significant benefits in this environment:

- Provides simultaneous communication and localization capabilities
- Enables low-power spectral density so radio emissions do not interfere with other RF sensitive equipment
- Uses pulses rather than continuous waves, which is important in highly reflective metallic enclosures like the space station
- Offers different channels for optimum operation and interference avoidance

This ISS experiment uses energy harvesting – the experiment is 100 percent operated by the energy from artificial light sources.

The Wireless Compass experiment will help expand the possibilities of sensor networks by using a technology that allows interference free communications. In addition, the same technology also enables position determination, which can be used for motion monitoring and tracking of objects and astronauts.

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Bringing the Bible to Life with Ultra Wideband

The Museum of the Bible (MoB) is a new, world-class museum located in Washington DC. Its purpose is to bring to life the history, impact, and stories of the Bible. To do this, the museum's goal is to utilize cutting-edge technology to create an experience unlike any other museum in the world.

One of the major innovations at the museum is the development of its "digital guide." Unlike typical audio guides found in most museums, the digital guide will not require visitors to manually enter exhibit information into their audio system. Instead, its aim is to encourage deep guest engagement and after-visit interaction. This includes customized commentary, proactive navigation, visual enhancements, integrated scheduling, synchronized group tour sequences, and collection and analysis of visitor statistics.

The museum considered a full range of location technologies, from GPS to Bluetooth to Wi-Fi, and dismissed all of them due to their inability to meet the fundamental need of the project – providing the consistent, accurate location needed for the guide to be effective.

The museum turned to Cibolux and their comprehensive UWB-based solution, powered by Decawave technology. A key deciding factor was that UWB technology had already proven to be both accurate and reliable in challenging environments like the MoB building. The successful UWB installations included Cibolux's other implementations, as well as use in a broad range of industries, such as sports and entertainment.

"Utilizing the Decawave DW1000 UWB chip, the location system used in the museum can measure distance so precisely and inexpensively that we believe this technology will be a transformative to indoor navigation as GPS has been for large-scale navigation," said MoB.

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Call for New Partners

Not every company has the resources, time, or willingness to develop RTLS platforms by themselves, and we frequently receive inquiries from customers looking for turnkey location systems, subsystems, and design services.

This is where our partners make a huge difference – by making their Decawave-based products and expertise available to our customers. The demand for indoor location systems is becoming even greater, and we are always looking for more partners. Contact us today and learn more about our partner program.

BECOME A PARTNER

PRODUCT UPDATES

DWM1001 FCC & ETSI Certification On the Way

We took our DWM1001 module through full modular FCC and ETSI certification! This will allow you to benefit from the certification when you design the module into your own product. This reduces the time, cost and risks associated with certification.

To access the certification, you will simply need to use our provided binary that embeds all the RF configuration. This ensures you will be compliant with regulations. We are waiting for the final and official test report, and will share that on our website once it's complete!

DWM1004 Concept

The demand for DWM1001 is very strong, which confirms the need for modules to reduce design costs, risks and end product costs. In the same spirit, we are launching a new module in early 2019. This new module – the DWM1004 – is targeting the cost-sensitive TDoA asset tracking market.

To achieve our aggressive goal of sub-$10 tags, we have minimized the module to address only the essential functionality for these low-cost applications. The module will embed an STM32L with 32K flash. We selected this MCU because its low-power performance, especially in sleep mode, will enable very long battery life, which reduces the cost of ownership of the tag.

It will be paired with an STM accelerometer to enable smart battery management and adaptive blink rates. For the antenna, we selected a Partron ceramic antenna (the same as on our DWM1000), since it can cover multiple frequencies, which is typically a requirement for TDoA applications.

Samples will be available in November, so let us know if you want to become a beta tester!

YES, I'M INTERESTED IN BETA TESTING

PAN5 Software Release 2

We've received many inquiries about the availability of the Release 2 of our PAN5 Software for the DWM1001. We sincerely apologize for this delay. Unfortunately, the RF and power stability issues that prevent us from releasing the software at this stage.

We were ambitious with a target solution that would include a complete TDoA scheme paired with a full mesh network and self-healing. While it works in a controlled environment, we have not been able to make it robust enough in the million-and-one setup that companies a real deployment.

We are investigating various options to reduce the complexity, and will remove some features to make the solution rock-solid. Please visit our technical forum for updates.

VIEW FORUM

Beta PDoA Kit – 200 Kits Available Soon!

We have received more Phase Difference of Arrival Beta kits from the factory. We are expecting the delivery of even more by mid November for a total of 200 Beta kits.

If you've already contacted us and purchased your kit, this means you should receive it very shortly. If you missed this information in our previous newsletter, the PDoA kit will come in the form of modules mounted on development boards to allow you to more quickly from an evaluation to an actual prototype or even product.

The kit – 1 PDoA node and 1 PDoA tag – is sold at cost, and in return we expect some effort from your side with detailed feedback about the technology and its suitability for your application. Our goal is to refine your input to quickly build better solutions.

If you are interested in becoming a Beta customer, please contact us and provide a description of your target application or project.

BECOME A BETA CUSTOMER

TDoA Took Kit - More Available!

We have received more Additional 20 TDoA Tool Kits by mid November! Similar to the process for our PDoA, if you've already purchased this kit, it means you will receive it shortly. If you wonder what this kit is, it is a Tool Kit that allows you to kick-start your project while giving you the flexibility to fully customize the solution to your exact needs.TDoA Tool Kit – More Available!

The Tool Kit includes:

- 10 anchors (with their hardware design files) and 20 tags
- All software in source codes – tag, anchors, location engine
- 40 hours of dedicated technical support

The kit is available now for $25,000, which also includes the full rights to build your own products and commercialize them at no additional cost.

CONTACT US

RADAR ZONE

Meet with Us at These Upcoming Shows:

Electronica
November 13 - 16, 2018
Neue Messe München, Munich, Germany
Booth #B4-560

CES
January 8-11 2019
Las Vegas, Nevada
Schedule a Meeting

Embedded World
February 26-28, 2019
Nuremberg, Germany
Boothh #3-729 in NCM section

We Want Your Case Studies!

We are always looking to thank gain recognition for our partners through industry case studies. We just need some key information from you, and our team will do all the work! Let us know if you are interested in getting PR exposure.

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