

Acconeer and Imagimob combine Radar Technology and Edge AI in gesture-controlled headphones showcased at CES 2020

The wireless headphone application to be showcased has been trained to recognize five hand gestures with high accuracy and close to zero latency. It is the first result coming from a cooperation agreement between the companies that started in May this year. By combining Edge AI software from Imagimob with the Pulsed Coherent Radar technology from Acconeer, the two companies have created an innovative platform for gesture control perfect for consumer electronics products.

Imagimob and Acconeer have made a long-term agreement to provide solutions based on the combination of Pulsed Coherent Radar and Edge AI technologies. While the headphones demo for CES is the first exciting result of this deep cooperation, the companies are working on several other projects together in robotics and in the automotive industry.

The market for small, accurate radar sensors combined with AI is rapidly becoming a growing business, which is shown by a number of recent commercial product launches. AI + Radar is a perfect match that can solve many different needs in markets for consumer electronics and other embedded systems where size, cost, and power consumption are key constraints. Headphones is a good example of this kind of product, where gesture control using radar and AI makes it possible to provide a smoother, safer, and more intuitive interface for the user.

The A111 radar sensor is a low power, high precision, pulsed short-range radar sensor with a footprint of only 29 mm². The small size and low power consumption make it ideal for integration into compact battery-driven devices. With the release of the new XM122 IoT module, using an Arm[®] Cortex[®]-M4 CPU, optimized for low power consumption and with wireless capabilities such as Bluetooth added, prototyping and integration in small devices with no room for a touch screen have been even further improved.

This first joint project Imagimob and Acconeer have been working on proves that the A111 radar sensor can be fitted into small wearable devices such headphones. The technology can be made to fit into all types of headphones including over-ear, on-ear and even in-ear headphones. The global industry for earphones and headphones is growing fast and is estimated to over \$36 billion by 2024.

The gesture application from Imagimob enables accurate gesture detection with low latency in real time

The gesture application is developed by Imagimob using Imagimob AI and was developed in close cooperation with Acconeer. Imagimob AI is a set of software tools for the development of Edge AI applications. Edge AI applications enables small, low-power devices with intelligence and data processing capabilities for actionable insights in real-time. This lends itself to a world of exciting applications, where the Edge AI application is pre-trained with data to create specific instincts for use in all kinds of intelligent products. The output from Acconeer's radar is ideal for this type of algorithms.

Learn more and get in touch

Are you curious to learn more? Visit www.imagimob.com to learn more about Imagimob's innovative AI software tools or find out about pulsed coherent radar technology and its possibilities on www.acconeer.com. The gesture-controlled headphones will be showcased exclusively to selected customers and partners at CES in Las Vegas, January 7-10, 2020.

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A video of the concept is available at <https://youtu.be/sHyljieEaSQ>