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Industry Research: Groundbreaking Microphone Technology to be Launched

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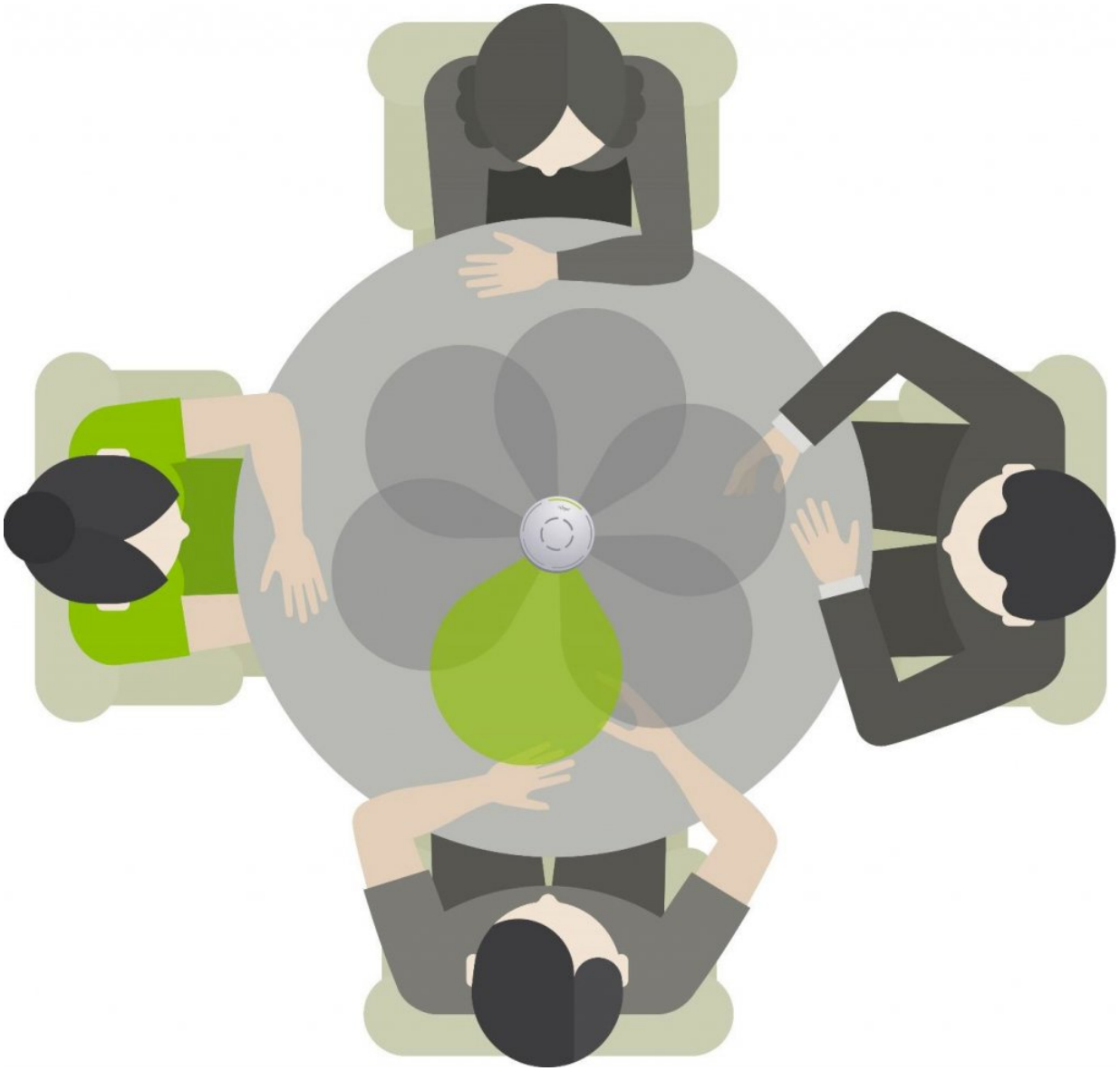
Phonak
Advanced Bionics



MultiBeam Technology (Copyright: Sonova)

Stäfa (Switzerland) and Valencia (USA), 6. February 2018 - Phonak and Advanced Bionics today announce a breakthrough in new microphone technology, that will help people with hearing aids and cochlear implants hear better especially in noise. The invention is called MultiBeam Technology, which soon will be applied in new advanced wireless microphones.

First scientific results with patients show large improvements in speech recognition.

People with hearing loss use hearing aids or cochlear implants to hear better. Despite huge advancements in these devices, fundamental barriers remain in noisy restaurants, large business meetings or social gatherings, all acoustically challenging environments. There, 31%[1] of people with hearing aids still have difficulties following conversations. This can lead to social retreat with further health implications.

Since September 2009 a highly specialized task force of more than 10 digital signal processing and acoustic engineers have been working on the development of MultiBeam Technology. By utilizing multiple microphones in six directions, speech from 360 degrees is calculated and compared. The direction with the best signal-to-noise ratio is automatically selected. The technological processing complexity is almost ten times higher than the previous technology generation from Phonak, and the power consumption was reduced by more than one third at the same time.

In a scientific investigation at the University of Texas in Dallas a group of 10 patients with hearing aids were tested in a situation which resembled a noisy restaurant or very noisy meeting with three conversation partners (see Figure 1). Speech understanding improves up to 61% in this group conversation in 75 dBA of noise compared to using hearing aids alone.[2] Professor Linda Thibodeau, from the University of Texas in Dallas who led the research, says: “The Multibeam Technology will allow persons with hearing challenges who have resigned from attending social functions, family gatherings and business meetings to experience significant improvements in speech recognition. This could ultimately lead to improved quality of life as they confidently reconnect with others using discreet, convenient and highly versatile technology.”

Hans Mülder, senior audiologist and director marketing at Phonak says: “We are extremely happy to have achieved this milestone. It underlines the unwavering commitment of our finest engineers to never be satisfied with existing solutions but to continue to push the envelope of technology, so that more people can enjoy their lives to the fullest. We are now working hard to embed the new technology in coming solutions.”

References

1. Abrams, H. B., & Kihm, J. (2015). An Introduction to MarkeTrak IX: A New Baseline for the Hearing Aid Market. Hearing Review, 22(6), 16.
2. Based on preliminary data. Peer-reviewed article and Field Study News in preparation, available end of 2018 at www.phonakpro.com/evidence.

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