

EUHA Congress, October 15 - 17, 2014 in Hanover

Siemens presents new hearing instrument platform binax

- **New directional microphone system simulates natural binaural hearing processes**
- **Innovative wireless system connects hearing aids on both ears to become a virtual 8-microphone network**
- **More effective wind noise suppression than ever before**

At the 59th International Congress of Hearing Aid Acousticians, EUHA, in Hanover, Germany, Siemens is presenting the next generation of its BestSound Technology in the form of binax, raising binaural hearing technology to a new level. As a result of systematic further development of the e2e wireless technology invented by Siemens, Siemens hearing aids can now also share and exchange audio signals with each other and thereby imitate natural hearing processes. The new technology allows the four microphones – two on each hearing aid in a bilateral fitting – to form a virtual 8-microphone network. Two independent clinical studies have already provided evidence that, thanks to this innovation, hearing-impaired persons can even have a better hearing impression than people with normal hearing. Wind noises are also suppressed considerably more effectively. And all this is done fully automatically and without any significant increase in energy consumption.

In 2004, Siemens was the first manufacturer in the world to bring onto the market hearing aids that synchronized volume, sound, program settings, and directional microphone settings using the e2e wireless technology. Hearing instruments based on the new binax platform with e2e wireless 3.0 now go a crucial step further and also exchange audio signals.

Since in wearing positions, each microphone on the hearing instrument housing

picks up acoustic information that is slightly different from the others, e2e wireless 3.0 enables binax based hearing aids to intelligently combine and process information from all microphones, and thereby deliver a much more complete and accurate impression of the surrounding acoustic environment. This revolutionary high definition sound resolution (HDSR) is unique to the new platform and allows hearing aids with binax to offer even more advanced binaural features not possible before.

Two clinical studies carried out independently of each other – at the University of Northern Colorado and at the Hearing Center of the University of Oldenburg – have already shown that in certain challenging listening environments, with the new technology wearers can hear more clearly than normal-hearing people. In the typical cocktail party situation, for example, with different background noises and several speakers the binaurally coupled hearing instruments can focus more towards the front and the person one is speaking with and weaken signals from behind and the side more effectively than is possible with healthy hearing. In other situations where the wearer is unable to turn towards his conversation partner – e.g. when driving a car – the hearing aids can automatically focus on the speaker sitting next or behind the wearer.

Hearing instruments based on Siemens' new binax platform also offer an automatic and effective solution for listening in the presence of wind – a situation frequently described by many experienced wearers as especially unpleasant. Wind produces unpleasant noises, as soon as it hits the microphones of hearing instruments, and often interferes with entire frequency ranges – especially in the low-sound range. Hearing systems based on the new binax platform use the fact that wind usually does not act with equal strength on the two ears. They identify the side on which the relevant signals are better and stream these to the side that is hit more strongly by the wind. As the only ranges substituted on the poorer side are those for which there is a better signal on the other side, spatial perception is promoted. In the rare cases in which the wind comes directly from the front, hitting both ears equally, there is no transfer of audio signals and the wind noises are weakened synchronously in both instruments.

With its new binax platform, Siemens is addressing two of the biggest limitations of hearing instruments in the past and is offering an innovative solution. A number makes clear what technological progress has been made: around a thousand times more data are transmitted per second with hearing instruments based on the binax platform with e2e wireless 3.0 than with the preceding models. Nonetheless, the energy consumption has not risen significantly. Siemens hearing instruments based on the binax platform can still be operated with the usual non-rechargeable hearing instrument batteries or – depending on the model – with rechargeable batteries.

At EUHA 2014, Pure, Carat and Ace will be the first hearing aids introduced on the binax platform. Other Siemens premium hearing aid families will be added to the new platform subsequently.

The products/features (here mentioned) are not commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Further details are available from the local Siemens organizations.

This press release and press pictures is available at
www.siemens.com/press/pi/PR2014100020HCEN.

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