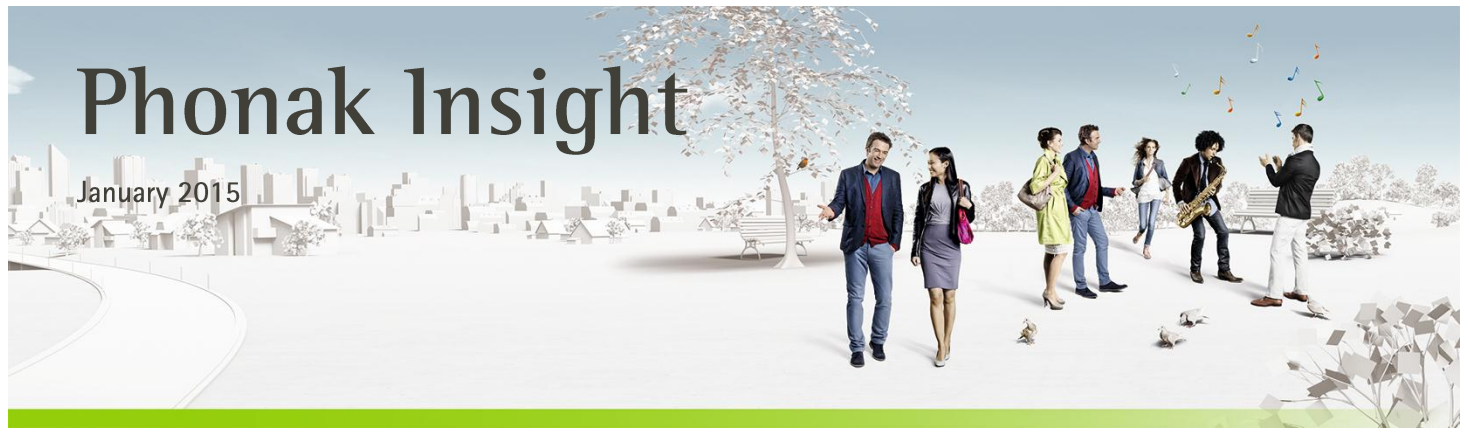


Phonak Insight

January 2015



Real adventures with Venture

Millions more people are reaching the 65+ age category each year. These people are increasingly more active and tech savvy, placing greater demands on hearing care professionals and hearing solutions. This report shows how Phonak addresses their needs with the new Venture platform and the benefits Venture hearing aids provide in real life examples by joining two hearing aid wearers on their everyday adventures.

Introduction

People who fall into the 40-to-65 year age range have adopted attitudes and lifestyles unlike any previous generation and have a greater importance for autonomy. This diverse group enjoys a variety of activities ranging from exercising, spending quality time with family and listening to their favorite rock n' roll album.¹ They laid the political, intellectual, social, and creative groundwork upon which the current millennial generation walk, talk, and text. 96% are active on the internet and social media, with members of this generation playing a part in developing technological advancements such as Google, YouTube, and Amazon. They are described as holding the highest education levels when looking at current age groups and are commonly perceived as independent and resilient.² Here we meet two people who belong to this group and show how Venture hearing aids fit seamlessly into their busy lives.

Meet Ralph

Ralph is a categorized baby boomer who enjoys spending time with his family, hiking, and car racing. He wears his Venture hearing aids for an average of 11 hours per day no matter what situation, taking him from his morning cup of coffee to a night filled with roaring car engines. It is a sunny Saturday morning when Ralph puts in his hearing aids and starts his day enjoying breakfast with his wife while watching the weekend news. Running on the breakthrough technology, AutoSense OS, they are predominantly in the Calm program while his directional microphones enhance the speech signal from his television. AutoSense OS automatically blends and changes between programs and features so Ralph can hear his wife's voice when she asks him if he is ready to start their exciting day, a long hike in the neighboring city, lunch with their granddaughter, and a night filled with car racing. They start their hike walking along a river, enjoying nature's sounds and sights. Through its multiple programs AutoSense OS activates a range of features including WindBlock so Ralph can hear the rustling of the leaves in the trees.

Ralph and his wife drive to meet their daughter and granddaughter for lunch. The car window is rolled down, music is on, and his wife is talking about how excited she is to see their family. The Venture hearing aids automatically activate Speech in Car, or Music to seamlessly and comfortably enhance the speech signal or provide a rich, full sound of music from the car radio. By the time they arrive at the restaurant, lunch goesers are buzzing with conversation while Ralph enjoys the time with his family. By this time, the hearing aids are activating the Speech in Loud Noise program that is specifically designed for these engaging situations that are historically known to be challenging for hearing aid users. Ralph and his wife are now on their way to meet Ralph's colleague for the car racing event. He is standing 1 meter away while his colleague starts the engine, the rumble and roll from the car excites him as he notices the engine sounds perfect- his hearing aids have not altered the important sounds that make car racing so thrilling. Ralph is amazed that his devices are truly seamless, automatically taking him from one extreme listening environment to the next, without compromising performance or durability.



Ralph and his motor cars!

"It is really astonishing how Phonak managed to get this sound quality and speech clarity in calm and noisy situations... It is something I never experienced at that level until now."

Ralph Trapletti

PHONAK
life is on

Meet Stephanie

Stephanie is a Generation X-er who is actively involved in social media and blogging, just like the rest of her cohort. Her Venture hearing aids are put to the test as she connects to her ComPilot II to stream phone calls and listen wirelessly to her podcasts and music. Her day starts by checking emails and managing her blog, commenting to those who have shared similar experiences with hearing loss. Stephanie steps out to attend her judo class, something she has enjoyed for over 10 years, and her Venture hearing aids come along for the ride. She steps outside to start her commute to the class and shortly after, the train arrives to a screeching halt to allow the passengers to step inside.

AutoSense OS, utilizing Comfort in Noise, quickly decreases the high pitched scream from the brakes of the train. Stephanie steps inside the cabin and turns on her ComPilot II to stream music from the cell phone directly to her hearing aids. She is able to ignore the background conversations from the fellow commuters to enjoy her music that has been optimized for the Venture platform. Stephanie arrives at her stop, turns off the music, and steps out of the train. Her devices activate the Calm situation program as she walks the few blocks to the judo studio. When she arrives in the studio, the participants are getting prepared and the instructor announces class is ready. The hearing aids are reinforced with a high-tech composite material and are IP67 rated. This means Stephanie is able to listen to the instructor with a blend of the Comfort in Echo and Speech in Noise programs activated without worrying about moisture affecting the important components inside.



Stephanie taking part in a Judo demonstration.

"And I never heard my hearing aids misbehave. It was as if I wasn't wearing them, but could hear."
Stephanie Booth

Link to Stephanie's blog:
<http://communityblog.phonak.com/author/steph/>

Seamless performance with AutoSense OS

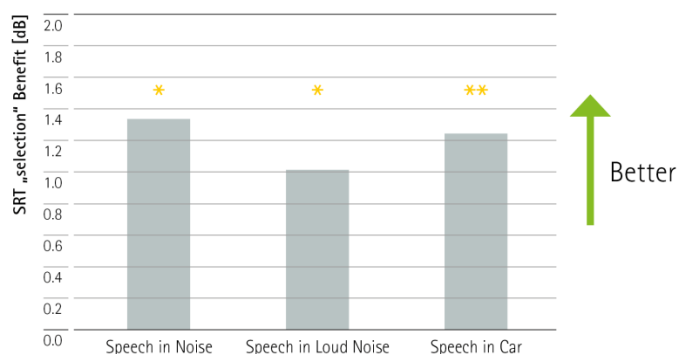
Stephanie and Ralph clearly need and can rely on their hearing aids to work in many different, sometimes quite extreme listening environments. To be able to cope with these demands they need their high performance hearing aids. Venture hearing aids are able to offer this level of high performance thanks to AutoSense OS. AutoSense OS is an automatic operating system that provides improved sound recognition by analyzing in real time all listening situations and automatically activates an appropriate amount of blending of optimized gain settings, programs and features that are specific to the listening environment.

AutoSense OS provides accurate identification of different listening situations and it gives the user a seamlessly more natural hearing experience and adapts with precision. This high level of accuracy and precision means it can offer over 200 combinations of unique settings and parameters. The new hybrid Venture chip has been designed to increase computational power and improve acoustics, but also double the processing power of the previous generation.



The benefits of this ability have been measured in an external study performed at the University of Lübeck in Germany. Results revealed that AutoSense OS has the ability to choose the correct environment and appropriate gain settings in noisy environments better than the participants manually choosing their own program. Their speech scores were better with AutoSense OS automatic gain settings than with their manually selected program, even when the users believed their selected programs provided the best sound. These results show that AutoSense OS is better at picking the correct environment and applying appropriate gain settings to give better speech intelligibility than the person wearing the devices.³

Objective speech in noise test results (GöSa): Benefit from AutoSense OS program selection

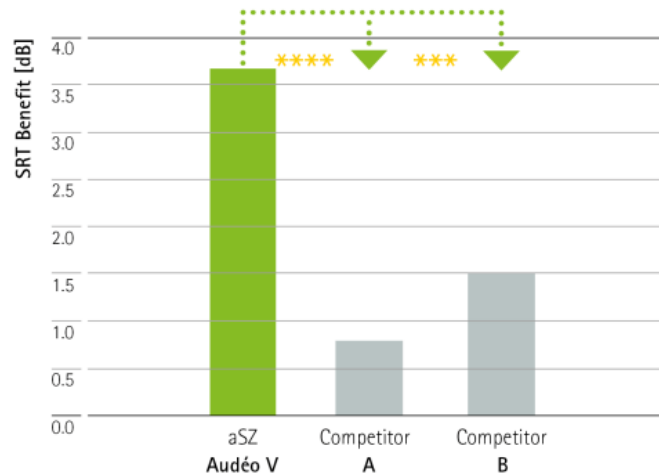


The program selected by AutoSense OS provides better speech intelligibility in each noisy situation, the yellow * indicate a statistically significant improvement.

Benefits of AutoSense OS for noisy situations

With Binaural VoiceStream Technology™ Phonak has been able to offer some of the most innovative program advancements in hearing aids to provide exceptional benefits to end users in challenging noisy listening environments. StereoZoom, introduced in 2010, set a new benchmark in how to provide better SNR for end users in a noisy environment using a 4 microphone network. Now 3rd generation StereoZoom, automatically activated in the Speech in Loud Noise program of AutoSense OS, can offer even more as it now combines the high specificity of a narrow beam and optimized noise cancellation of the adaptive directional microphones.

Objective speech in noise test results (OLSA): Directional benefit when noise is dominant from the side

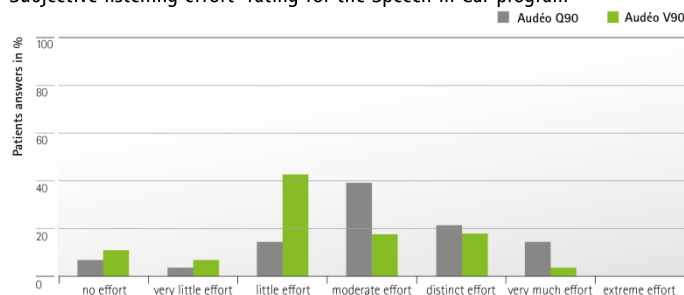


3rd generation StereoZoom provides up to 4.4 dB more benefit in a noisy environment than other hearing aids, the yellow * indicate a statistically significant improvement.⁴

Benefits of AutoSense OS in the car

Internal validation studies revealed that in the car, users want a stable listening environment to reduce listening effort to concentrate on the road. Phonak addresses these issues with the innovative Speech in Car program. The hearing aids recognize they are in a car and automatically reduce low frequency broadband noise and set the hearing aid microphones to Real Ear Sound. Using binaural synchronization these parameters are fixed for the duration of the journey maximizing comfort and reducing the amount of listening effort required.⁵

Subjective listening effort rating for the Speech in Car program



Speech in Car– 60% of subjects asked report "little effort" or less is needed when listening to speech in a car with Venture compared to no Speech in Car program

Benefits of AutoSense OS for music listening

When it comes to music, both new and experienced hearing aid users often describe listening to music as difficult and unnatural. Listeners with hearing loss are no less interested in music than those with normal hearing, therefore it was necessary to optimize the music program in Phonak Venture. In a recent benchmark study, expert listeners with a diagnosed hearing loss were asked to describe music based on an ideal profile using attributes assigned by these expert listeners. Some of these key attributes included volume, reverberation, and sound dynamics. These listeners were then asked to listen to music through hearing aid devices and rate the sound samples using the attributes. When compared to other devices in the market, the expert listeners rated Phonak Venture as closest to the ideal profile when listening to music, compared to other competitors involved in the study.⁶ With Phonak pioneering the way for seamless automatic features, our third generation of StereoZoom, and the unique Binaural VoiceStream Technology™, Phonak Venture truly emulates superior technology in hearing instruments with great benefits for end users.

Easy to use. Simply ingenious.

AutoSense OS provides enhanced identification of different listening situations and gives the user a seamlessly more natural and optimal hearing experience by reducing the need for manual programs, consequently improving ease of use. However this is only one part of what makes Phonak Venture hearing aids so special, Phonak ingenious technology innovations are housed inside a thinner, more robust nylon material that is reinforced with 20% fiberglass in all behind-the-ear devices, including Audéo V and Bolero V. The Phonak proprietary chip also increases battery life by 30% with an average of an additional 2 days*, so users like Stephanie will not have to sacrifice battery life when connecting to their wireless accessories. This means the frequency of changing batteries is reduced and subsequently the hassle of doing this. The complete package comes together in a new hard case designed with ergonomic features and the legendary Phonak brand identity allowing users to keep their hearing aids safe while showing them off- *based on a 16 hour day with a 312 battery.

Summary

Although Stephanie and Ralph vary in their day-to-day living environments, both are engaging in the world around them and communicating effectively while wearing their Phonak Venture devices. Phonak Venture is so much more than binaural directionality and sophisticated automatic features, it's the cutting edge of technology that adapts to precise environments while utilizing the third generation of StereoZoom directionality and the ground-breaking Binaural VoiceStream Technology™. It is the continued commitment of Phonak to develop innovations that help people hear, understand, and experience more of life's rich soundscapes.

References

1. Pollard, K. and Scommegna, P. (2014). Just how many baby boomers are there? Prb.org. Available at: <http://www.prb.org/Publications/Articles/2002>
2. Thielfoldt, D. and Scheef, D. (2014). Generation X and The Millennials: What you need to know about mentoring the new generations. Apps.americanbar.org. Available at: <http://apps.americanbar.org/lpm/lpt/articles/mgt08044.html>.
3. Überlackner, Tchorz, and Latzel (2015). Automatic classification of acoustic situation versus manual selection. HörAkustik
4. Competitive Benchmark comparison Hearing Centre Oldenburg University
5. Phonak Internal Validation Research
6. Vase Legarth, S., Zacharov, N., Latzel, M., & Kühnel, V. (2014) Hearing aids & music. AudiologyOnline