



# The open sound paradigm **is expanding**

Oticon Opn™ - Now available to more people

Open up  
to the world



“

**It opened up the world. I was able to engage again.**

I went out to dinner with friends in a noisy restaurant. And although I heard the background sounds, I was able to speak across the table ... I just loved it.”

*Barbara Abramowitz, hearing aid user*



# Be part of the open revolution

The introduction of Oticon Opn™ is the biggest achievement in our company's 112-year history. It has begun a paradigm shift in hearing care technology that has already been a huge success, being widely embraced by hearing care professionals and users.

## More benefits, to more people

The reaction to Oticon Opn has been phenomenal. People from all over the world have experienced the life-changing benefits of the open sound experience. Now, with the introduction of new performance levels and an expanded fitting range that covers hearing loss ranging from mild to severe-to-profound, we are making the groundbreaking technology and benefits of Oticon Opn available to even more users.



Watch how Oticon Opn has changed the lives of people with hearing loss at [oticon.com](https://oticon.com).

“ We’re finally able to offer our patients **a truly life-changing experience.** ”

*Paula Schwartz, hearing care professional*

“ I am really finding that I have less anxiety about being in conversations and missing what’s being said ... **It made all the difference, and I’m very happy with it. I love it.** ”

*Annette C. Quigley, hearing aid user*

“ The clearness of the sound is so natural; I find it like having natural hearing, with the ability to hear people speaking from all quadrants of the table. **Every syllable is heard and there is no guesswork, with no harsh sound.** ”

*Frederic S. Shapass, hearing aid user*

“ **It was like a new world.** And it wasn’t because things are louder, it’s because things are better. ”

*Anita Wilson, hearing aid user*

“ **I am generally invigorated and have more energy at the end of a day.** In court, my witness interrogations required less focus on hearing, which liberated my thinking to examine arguments more effectively. ”

*Christopher N. Mammel, hearing aid user*





# Open up to a paradigm shift



## Old World

In complex listening environments where sound sources are many, dynamic and unpredictable, traditional hearing aid technology lacks the speed and accuracy it takes to handle multiple speakers. By focusing on one sound source at a time and reducing all other sound signals – speech and noise alike – it leaves the user with a narrowed and artificial listening experience.

Reducing all surrounding sounds under-stimulates the brain and deprives it of the context needed for understanding. This makes it harder for it to focus naturally and switch attention to something else when needed.



## New World

Groundbreaking technology from Oticon literally opens up the world. Fast and precise enough to support the brain, it can analyze and follow the dynamics of the soundscape and differentiate between sounds.

By rapidly and precisely reducing disturbing noise in the constantly open environment, we can now deliver a rich, meaningful soundscape that empowers the brain to choose what to focus on and to change focus readily. This technology marks a fundamental step forward in improving speech understanding in complex environments with multiple speakers – while preserving mental energy.





# Directionality as we know it is now a thing of the past

## Old World

Technology focuses on one speaker while suppressing all other sounds

The technological limitations of current hearing aids have led to the use of narrow beamforming directionality, which makes one speaker stand out while suppressing the rest of the sound environment.

This prevents the user from following conversations with multiple speakers in a natural way.



# Open up to the world

## New World

Groundbreaking Multiple Speaker Access Technology (MSAT) enables us to open up the soundscape and embrace multiple speakers

Oticon Opn is fast and precise enough to analyze and follow the dynamics of the soundscape, and differentiate between speech and noise.

By rapidly and precisely reducing noise, it allows users to access and handle multiple speakers simultaneously, even in complex listening environments. It supports the brain so users are in better control of what they want to focus on.



# The first hearing aid **fast enough to support the brain**

Processing sound 50 times faster than ever before\*, Oticon Opn™ is fast and precise enough to support the brain in making sense of sound.

## Market-leading performance

- 50 times faster data processing than ever before
- Market-leading resolution with 64 frequency channels
- Full environment analysis more than 100 times per second
- Capacity to handle more than 1,200 million operations per second
- World's first TwinLink™ communication system: Near-Field Binaural Communication for uncompromising binaural information exchange and 2.4 GHz Bluetooth for advanced connectivity
- World's first Internet-connected hearing aid



**Powered by  
the groundbreaking  
Velox™ platform**  
This revolutionary platform  
has enabled this paradigm  
shift in hearing care.





# The open sound experience – a perfect combination of two groundbreaking features

**Extremely fast and precise technology** provides users with more accurate information about the 360° soundscape. This open sound experience lets them more easily locate and separate sound sources including multiple speakers, so they can focus on what they find important. Two groundbreaking features make this possible.

## The winning formula

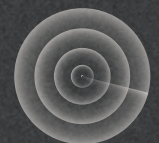


**OpenSound Navigator™** scans the sound environment more than 100 times per second, rapidly and precisely attenuates disturbing noise even between individual words, making distinct speech stand out clearly.

**Spatial Sound™ LX** ensures precise localization of where sounds are coming from. Data exchange at streaming speed gives the brain the cues it needs to pinpoint the position of all distinct sounds. Powered by TwinLink™, Spatial Sound LX enables more than a 200% increase in binaural communication capacity.\*



OpenSound Navigator™ - three steps in a split second



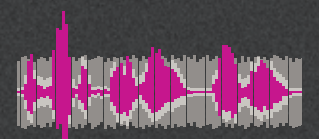
### 1: Analyze

Scans the full 360° sound environment more than 100 times per second to identify noise and separate it from speech.



### 2: Balance

Rapidly reduces the levels of loud noise coming from specific directions, while preserving speech.



### 3: Noise removal

Rapidly attenuates remaining diffuse noise, even between individual words.





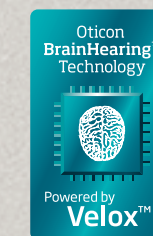
# Oticon Opn™ Proven to make it easier on the brain

By giving the brain access to all important sounds, Oticon Opn supports the way the brain naturally makes sense of sound. This reduces the load on the brain, leaving users with more energy.

## Providing the brain with substantial help in noisy environments

Oticon Opn provides the brain with better conditions to perform in, enabling it to access multiple speakers without restricting access to the rest of the sound environment. This means it can more easily focus on the most interesting sounds.

This approach opens up the sound environment to make sure all elements that matter are continuously accessible. In doing so, users are able to switch attention if something important or interesting occurs, giving them more control.



## Oticon Opn reduces the load on the brain

Oticon Opn makes it easier to listen in challenging environments. This helps to free the cognitive load on the brain, resulting in outstanding user benefits.

### Oticon Opn 1 delivers:

# 20%

**less listening effort** -  
reducing the load on the brain  
in noisy environments\*

# 20%

**more capacity to remember** -  
freeing up mental resources,  
enabling users to recall more in  
noisy environments\*

# 30%

**better speech understanding** -  
in noisy environments, without  
suppressing surrounding sounds  
through narrow directionality\*

\* Le Goff et al. 2016, Opn Clinical Evidence, White Paper, Oticon, Inc.

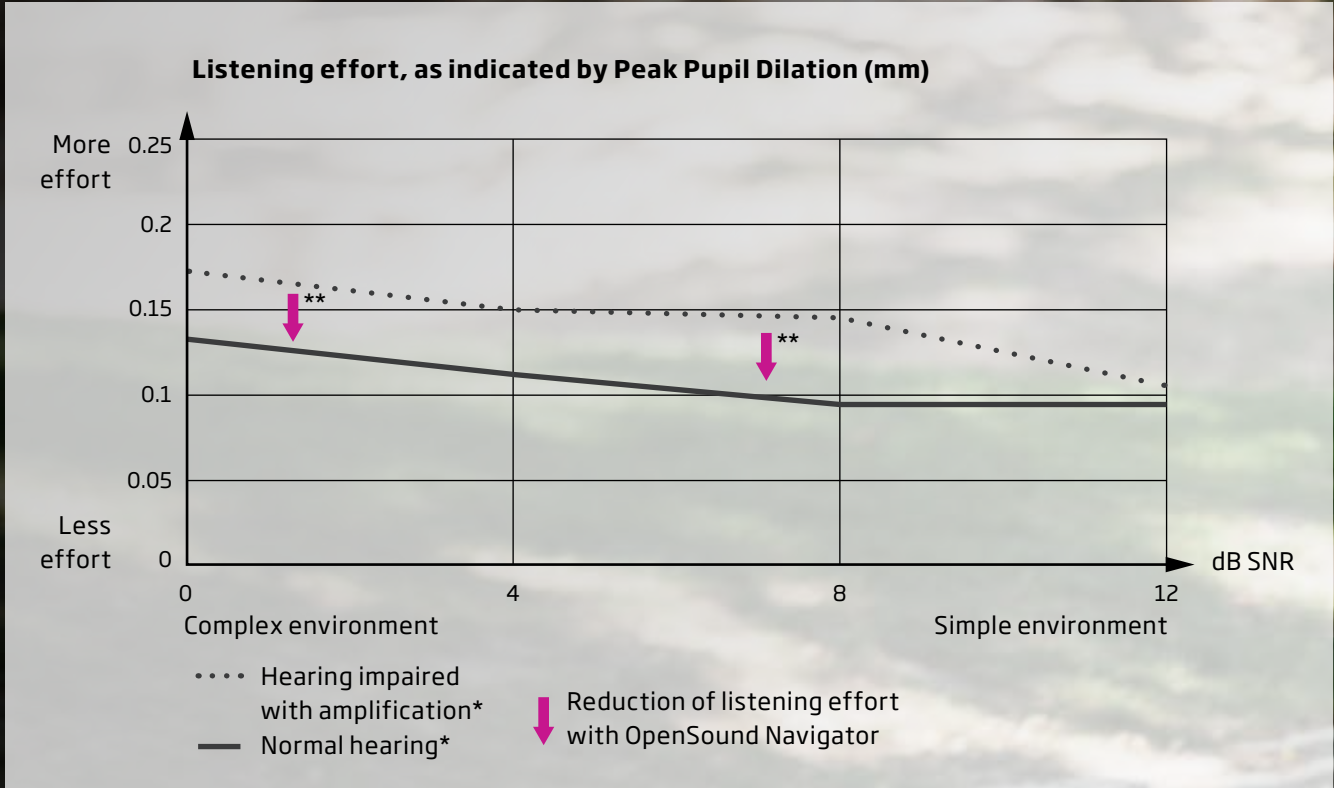


# Oticon Opn™ significantly reduces listening effort – from simple to complex listening situations



With hearing loss, the brain must work harder to make sense of sounds. New research shows a significant increase in listening effort, even in relatively simple listening environments where noise is somewhat quieter than speech. But with the speed and precision of Multiple Speaker Access Technology (MSAT), the OpenSound Navigator™ can reduce noise enough to significantly reduce listening effort in everyday listening environments, while at the same time delivering an open sound experience.

OpenSound Navigator significantly narrows the gap between untreated hearing loss and normal hearing in everyday listening environments. Consequently, people with a wide range of lifestyles will benefit the most from Oticon Opn 1\*\*\*.



\* Ohlenforst et al. "Impact of stimulus related factors and hearing impairment on listening effort as indicated by pupil dilation." Poster, 2016 International Hearing conference Tahoe City CA.  
\*\* Wendt et al. 2016, "Impact of noise and noise reduction on processing effort: A pupillometry study". (under review)  
\*\*\* Only Oticon Opn 1 has the full effect of OpenSound Navigator™.



# The open paradigm is expanding

With the introduction of new performance levels and power options, the open sound experience of Oticon Opn™ is now available to even more users.

Oticon **Opn 1**

Oticon **Opn 2**

NEW

Oticon **Opn 3**

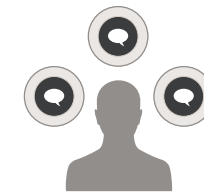
NEW



**Open up** to a product family that takes BrainHearing™ technology to the next level

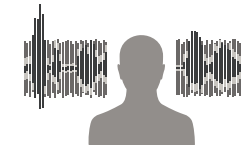


Oticon Opn provides access to all of the important sounds in everyday listening environments, including multiple speakers. Its ability to support the brain in these conditions is made possible by outstanding performance in five key areas, which result in groundbreaking benefits for the user.



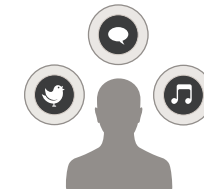
### 1. Open access to all speakers

The open sound experience is built on the foundation of ensuring open access to multiple speakers, even in noisy environments.



### 2. Rapid noise reduction

Intruding noise puts extra load on the brain, so a rapid and precise reduction of noise coming from specific directions, as well as diffuse background noise, is essential to make distinct speech stand out.



### 3. Localization of sounds

With the open sound experience bringing access to all sounds, it's important that users receive precise sound localization information, so they can decide where to focus.



### 4. Speech clarity

To ensure maximal speech understanding with less effort, and a richer listening experience, all speech sources in any location are enhanced and clarified.





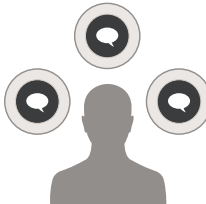




### 5. A personalized listening experience

The performance of Oticon Opn is optimized by making adjustments based on individual needs and personal preferences.



# One open sound experience – three levels of BrainHearing™ support

BrainHearing™ support is delivered by a unique combination of technologies working together to reduce listening effort and provide the brain with better conditions to perform in. All three members of the Opn family provide the unique open sound experience, with access to multiple speakers. However, they differ in the amount of support they give the brain in terms of rapid noise reduction, localization of sounds, speech clarity, and the personalization of the listening experience – **the level of BrainHearing™ support they deliver.**

						
Product	BrainHearing™ support	Open access to all speakers	Rapid noise reduction	Localization of sounds	Speech clarity	A personalized listening experience
Oticon Opn 1	Level 1	Yes	● ● ●	● ● ●	● ● ●	● ● ●
Oticon Opn 2	Level 2	Yes	● ●	● ●	● ●	● ●
Oticon Opn 3	Level 3	Yes	●	●	●	●
Supporting features:		<ul style="list-style-type: none"><li>• OpenSound Navigator™</li><li>• Spatial Sound™ LX</li></ul>	<ul style="list-style-type: none"><li>• OpenSound Navigator™</li><li>• Frequency bands</li></ul>	<ul style="list-style-type: none"><li>• Spatial Sound™ LX</li><li>• Extended Bandwidth</li></ul>	<ul style="list-style-type: none"><li>• OpenSound Navigator™</li><li>• Speech Guard™ LX</li><li>• Clear Dynamics</li><li>• Bandwidth</li><li>• Frequency bands</li></ul>	<ul style="list-style-type: none"><li>• YouMatic™ LX</li><li>• Soft Speech Booster LX</li><li>• Fitting bands</li><li>• Configuration options</li></ul>



# Open up to more power!

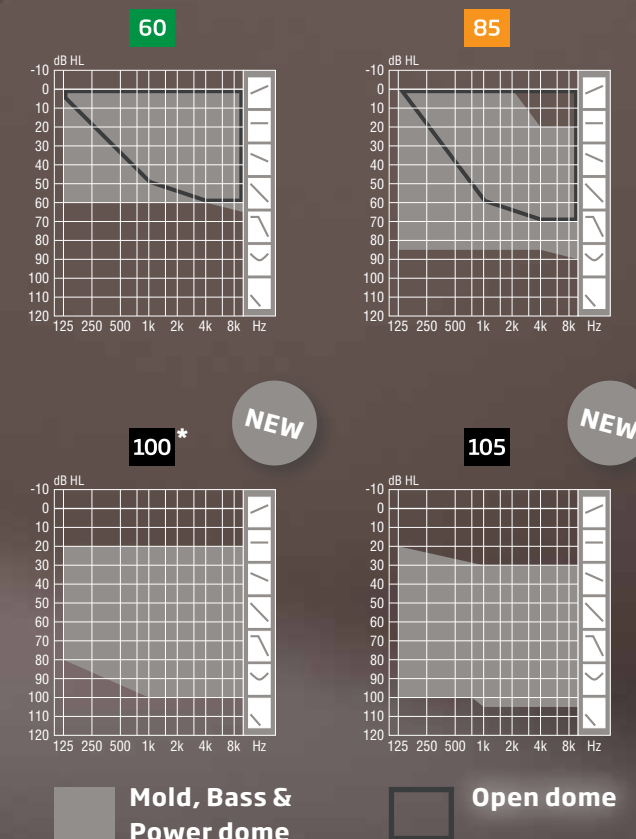
We are expanding the Opn™ range to cover hearing loss from mild to severe-to-profound

The groundbreaking MSAT technology and the open sound experience are now also available to users who need more power, who will gain significant support from the unique BrainHearing™ benefits of Oticon Opn™, especially in complex and noisy environments.

In addition to miniFit 60 and miniFit 85 receivers, Oticon Opn can now be used with the miniFit 100 and 105 power receivers to reach a broader range of hearing losses.

For hearing losses ranging from mild to severe-to-profound, Oticon Opn 1 delivers 20% less listening effort, 20% more capacity to remember and 30% better speech understanding\*\*.

## Speaker fitting ranges



Fitting range details for Oticon Opn 2 & Oticon Opn 3 are available in technical data sheets.  
\*The miniFit 100 with custom power mold will be introduced in early 2017.  
\*\*Le Goff et al. 2016, Opn Clinical Evidence, White Paper, Oticon, Inc.



# Open up and connect to the world



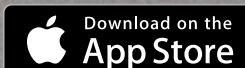
## On the go

Oticon Opn provides seamless and easy connectivity with iPhone® by turning the hearing aids into superior quality headphones.



## Full control with the Oticon ON App

The Oticon ON App enables users to discreetly control their hearing aids, adjusting volume and sound inputs with just a tap.



## At home

Oticon Opn hearing aids and the ON App connect wirelessly to devices used in everyday life, such as radios, TVs, laptops and many more, without using a streamer around the neck.

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# Oticon Opn™ – the world's first Internet-connected hearing aid

Hearing aids are now part of Internet of Things















## Unlock the power of the Internet of Things

An excellent opportunity to grow your practice

By downloading the Oticon ON App, users can control their Oticon Opn™ hearing aids from their mobile phone and interact with other Internet-connected devices and services as part of the If This Then That (IFTTT.com) service. The growth of IFTTT and its integration into hearing care provides you with excellent opportunities to differentiate and grow your practice.

Since the introduction of Oticon Opn, users have devised a wide range of creative uses for their Internet-connected hearing aids.

### IFTTT

- |   |   |   |  |
|---|---|---|--|
|     | Change settings in hearing aid when arriving at work      |     | Receive calendar notifications                   |
|   | Automatically start TV streaming                          |   | Receive notification when a text message arrives |
|   | Receive notification when hearing aid battery is low      |   | Turn lights off when leaving home                |
|   | Receive a spoken notification when someone is at the door |   |  |



Oticon invites all Opn users to go to [oticon.com](https://oticon.com) to explore the endless possibilities available when connecting Oticon Opn.



# The **open** revolution is expanding

From breakthrough features and new performance levels to an extended fitting range



**New small, discreet miniRITE: Oticon Opn™ is available in a sleek and modern miniRITE that sits discreetly on the ear, offering a wealth of new features and functionalities.**



#### **OpenSound Navigator™**

20% less listening effort. 20% more capacity to remember.  
30% better speech understanding.\*



#### **Spatial Sound™ LX**

Locate, follow and shift focus to the most interesting sounds



#### **YouMatic™ LX**

Tailors OpenSound Navigator to individual needs and preferences



#### **Speech Guard™ LX**

Improves speech understanding in noisy environments, making it easier to follow and engage in conversations



#### **Soft Speech Booster LX**

Improves soft speech understanding up to 20% - without turning up the volume



#### **Clear Dynamics**

Better sound quality with less distortion in loud environments



#### **Wind Noise Management**

Optimizes conditions for better speech understanding - even in situations with wind noise



#### **Feedback shield LX**

With the new dual-microphone feedback system, feedback is eliminated rapidly and effectively

\* Le Goff et al. 2016, Opn Clinical Evidence, White Paper, Oticon, Inc.



