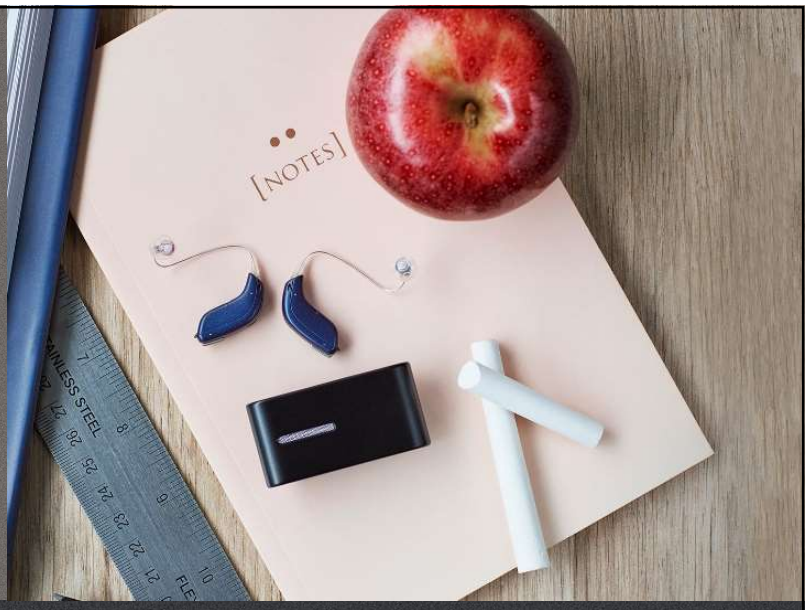
Oticon Pediatrics 2019

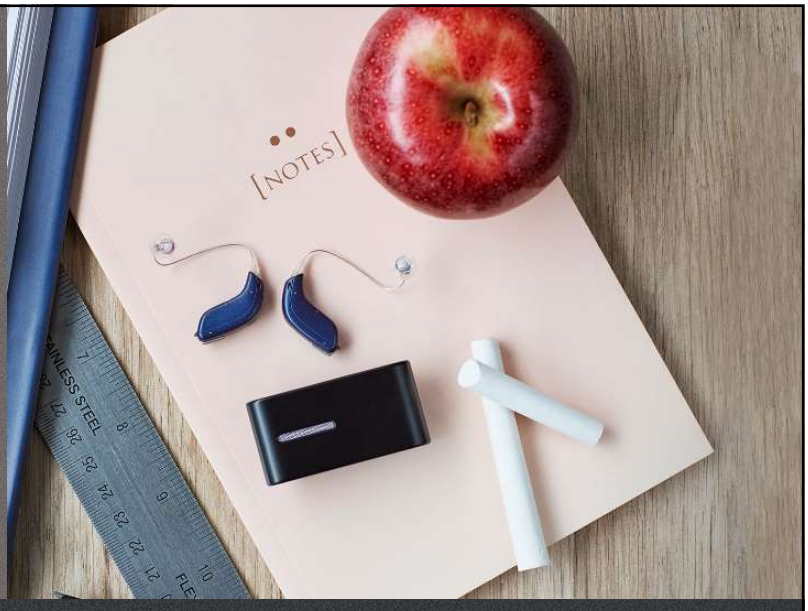


Candace Depp, Au.D., CCC-A, F-AAA
Manager of Sales Excellence & Customer Service Training

oticon PEDIATRICS

Oticon Pediatrics 2019

Solutions That Work Where Children Learn and Play



Candace Depp, Au.D., CCC-A, F-AAA
Manager of Sales Excellence & Customer Service Training

oticon PEDIATRICS

Learner Objectives

Participants will be able to…

- Report the impact hearing loss can have on a child's cognitive development.
- Recognize the limitations of current traditional directional technologies in assisting people with hearing loss to understand speech in complex listening environments.
- Describe how an unprecedented signal processing technology can facilitate provision of a more robust speech signal to the brain and lead to increased performance in complex listening situations.
- List how the technology in the latest connectivity device provides accessibility to multimedia in the classroom.

oticon PEDIATRICS

Speaker Disclosure

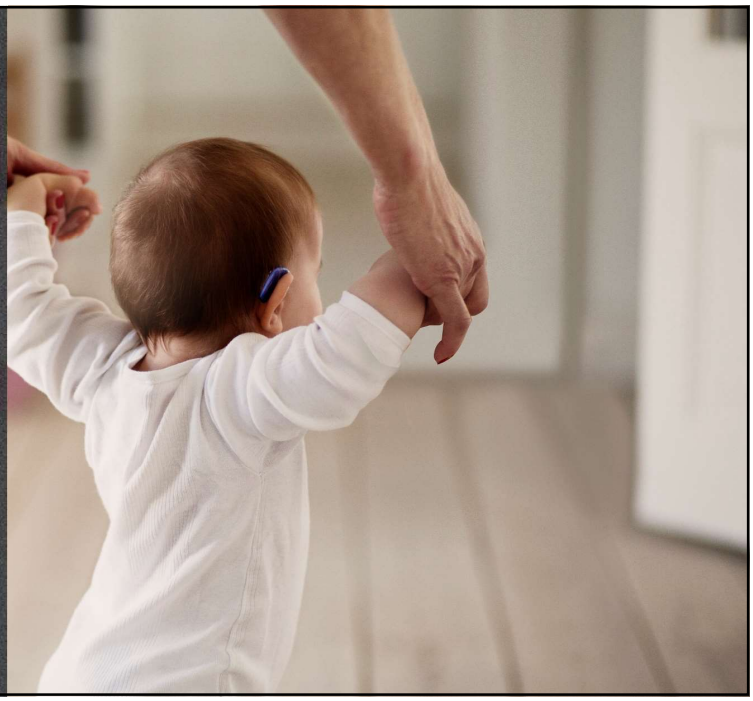
Relevant financial relationships:

Candace Depp is an employee of Oticon, Inc. and receives a salary

Relevant nonfinancial relationships: None

oticon PEDIATRICS

Current thoughts on pediatric fittings



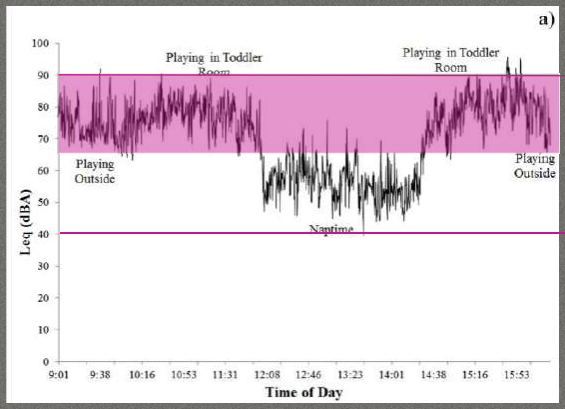
In the classroom

In the schoolyard

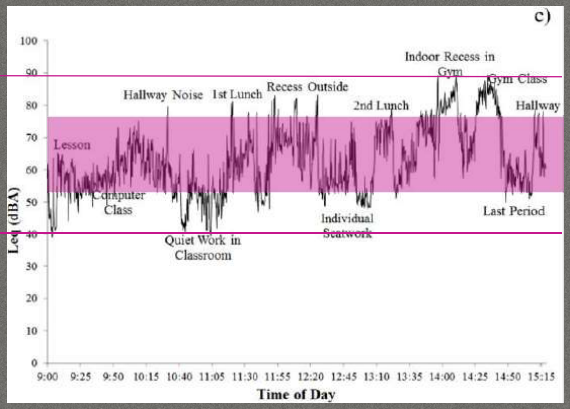
oticon PEDIATRICS

Children's listening environments

Sustained and high sound levels in day-care



Frequent variation in sound levels in school



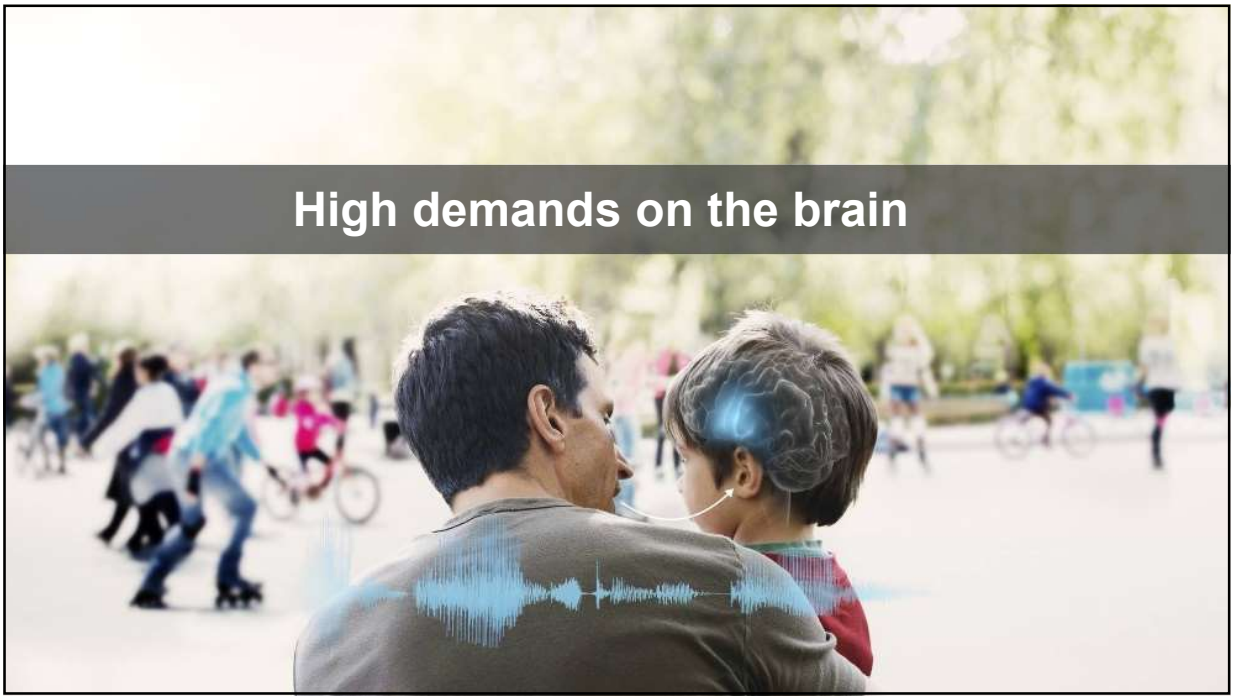
Crukley, Scollie & Parsa, 2011

oticon PEDIATRICS

After school

oticon PEDIATRICS

High demands on the brain



BrainHearing™ for children

- We know speech understanding is a cognitive process
- Our belief: Signal processing should support what the brain already does very well
- We want to provide the brain with the most useful auditory information possible
- We want to fully support the natural course of cognitive development

oticon PEDIATRICS

Sound is a dependable source of information

How does current technology address the needs?

oticon PEDIATRICS

JSLHR

Article

Age-Related Benefits of Digital Noise Reduction for Short-Term Word Learning in Children With Hearing Loss

Andrea Pittman[a]

Journal of Speech, Language, and Hearing Research • Vol. 54 • 1448–1463 • October 2011

oticon PEDIATRICS

How does current technology address the needs?

Omni-directional

oticon PEDIATRICS

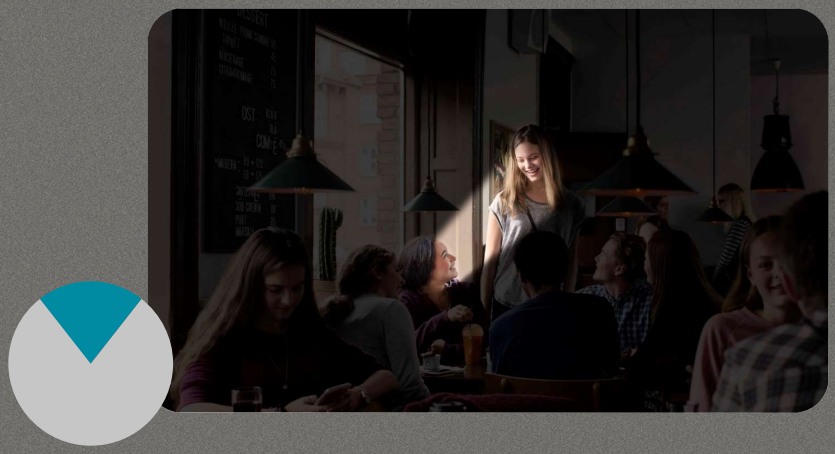
How does current technology address the needs?

Directionality

oticon PEDIATRICS

How does current technology address the needs?

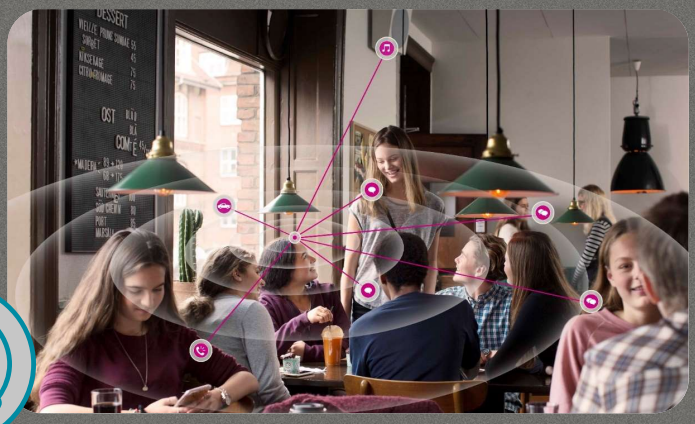
Directionality



oticon PEDIATRICS

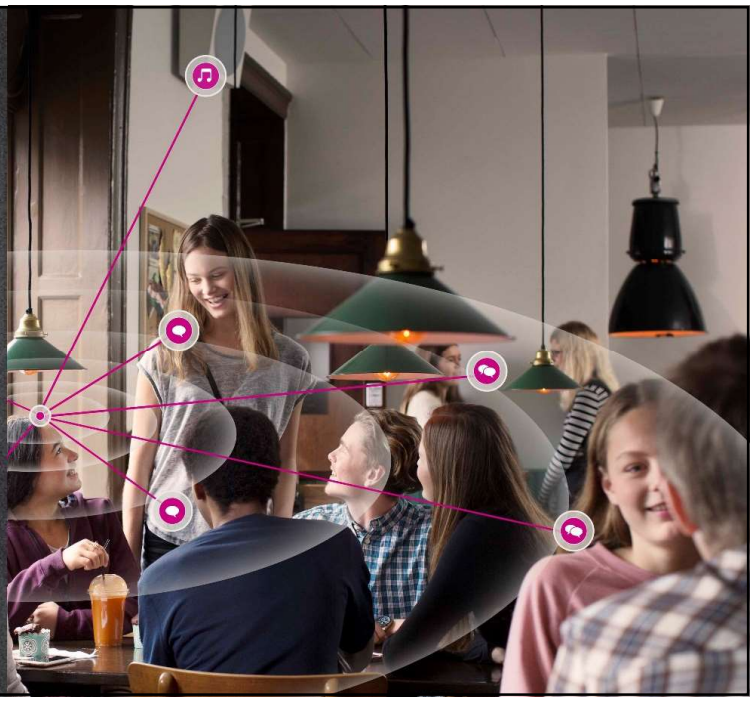
Oticon Opn™

Directionality and Noise Reduction as we know it are a thing of the past



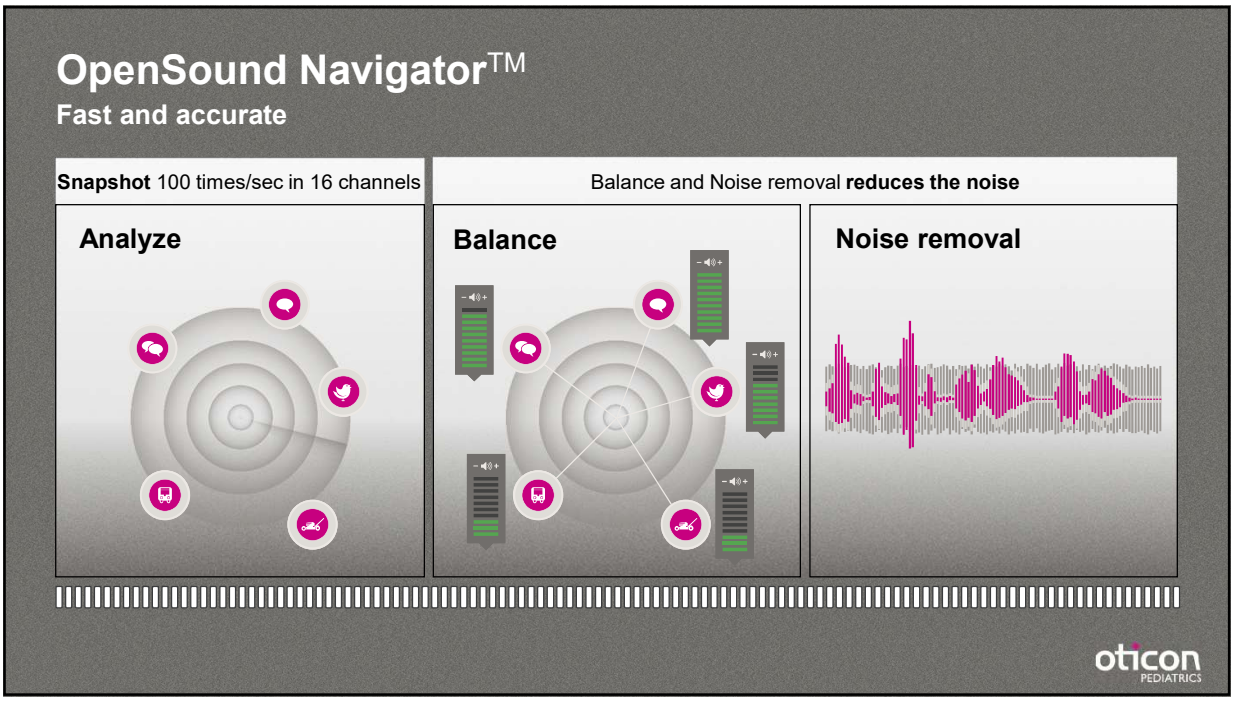
oticon PEDIATRICS

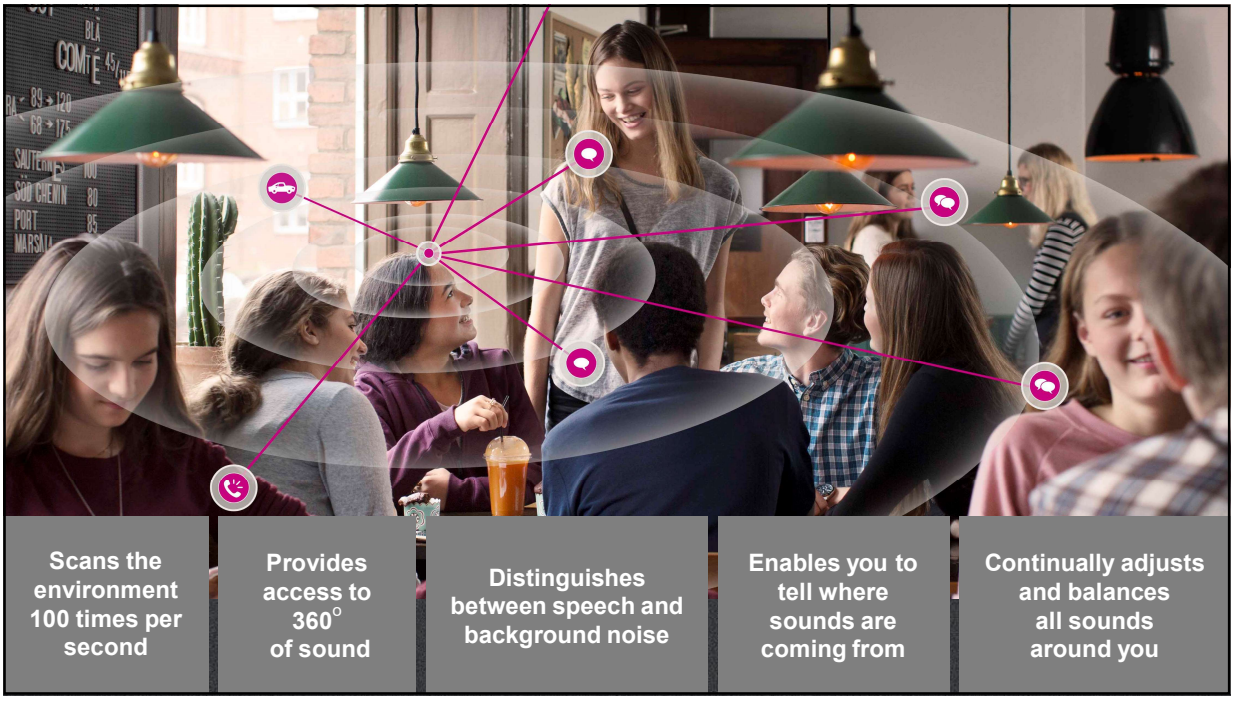
Why Opn?

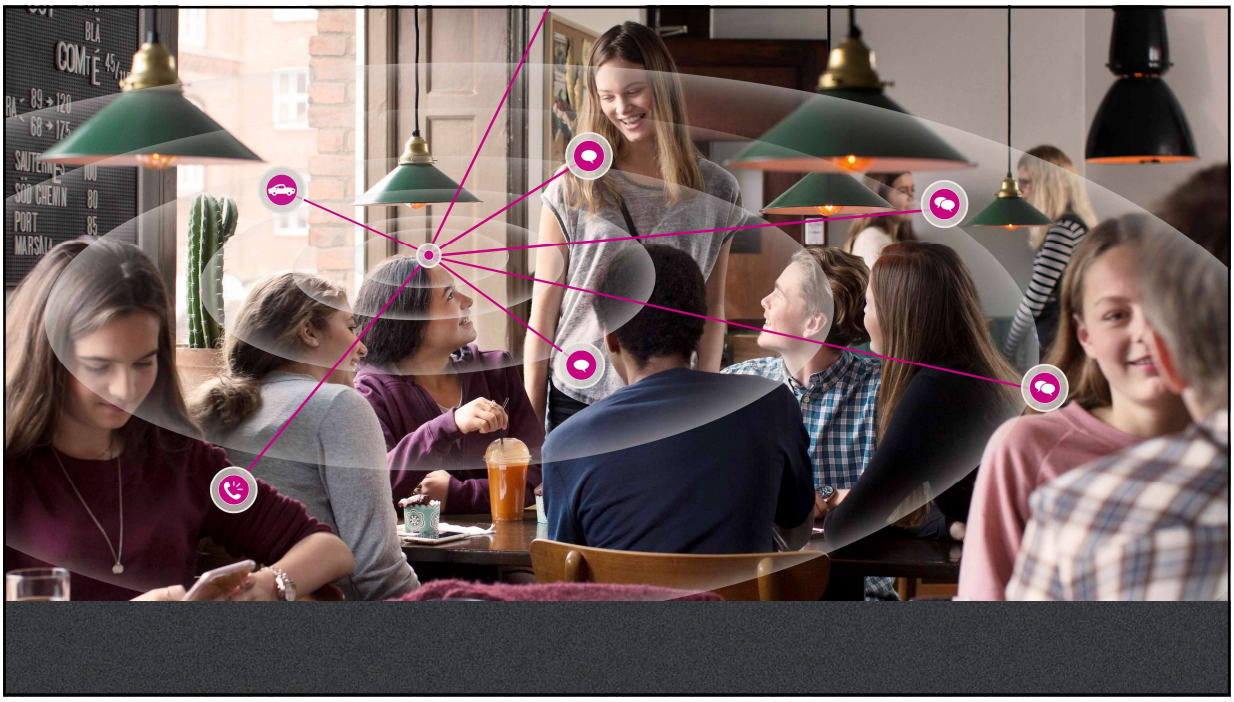


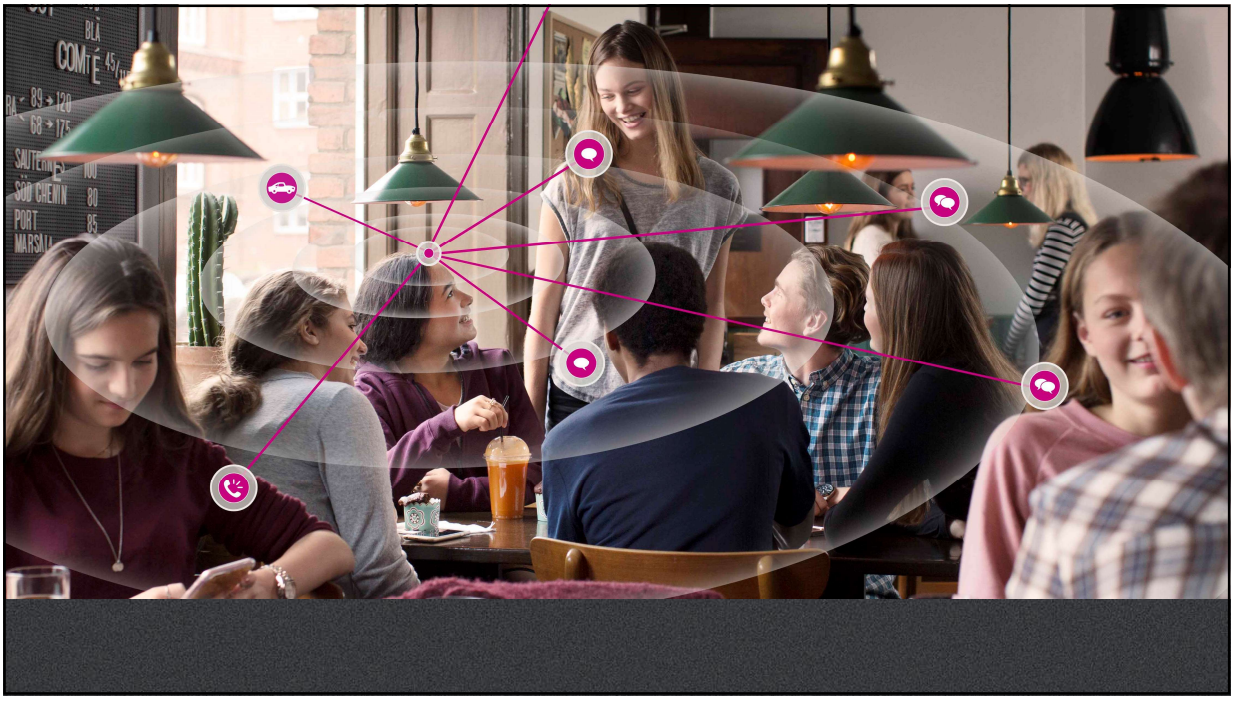
OpenSound Navigator™

oticon PEDIATRICS


OpenSound Navigator™
Fast and accurate
Snapshot 100 times/sec in 16 channels
Balance and Noise removal reduces the noise
Analyze
Balance
Noise removal
oticon
PEDIATRICS


Scans the environment 100 times per second
Provides access to 360° of sound
Distinguishes between speech and background noise
Enables you to tell where sounds are coming from
Continually adjusts and balances all sounds around you

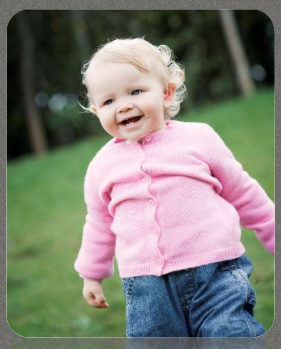




Oticon Opn for All Ages

oticon PEDIATRICS

Oticon Opn for All Ages



oticon PEDIATRICS

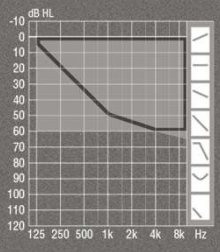
Opportunities with Opn

oticon PEDIATRICS

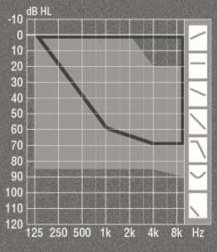
Fitting Range

Now for more losses up to severe with miniFit receivers

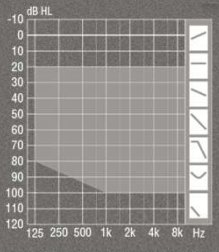
60



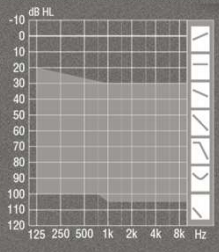
85



100



105

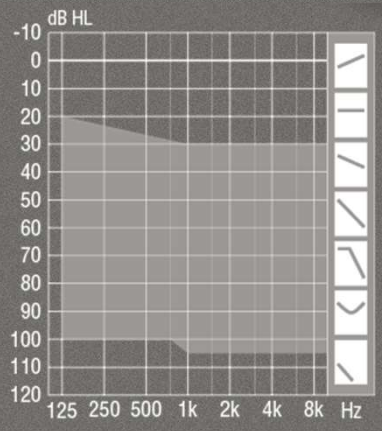


Mold, Bass & Power dome Open dome

oticon PEDIATRICS

Fitting Range

All the way up to severe losses



Mold, Bass & Power dome

oticon PEDIATRICS

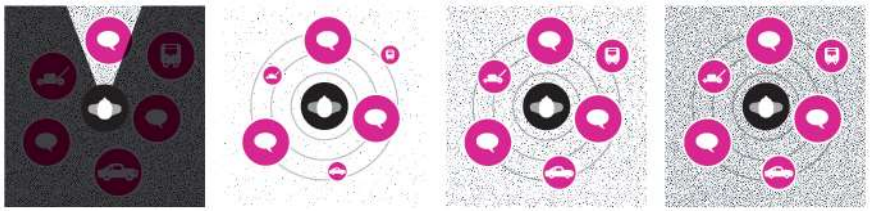
Find Your Favorite Look

8 Color Choices

CO68	CO90	CO94	CO93	CO63	CO92	CO91	CO44
Royal Blue	Chroma Beige	Terracotta	Chestnut Brown	Diamond Black	Steel Grey	Silver Grey	Silver

oticon PEDIATRICS

BrainHearing™ Support Levels



Traditional | Opn 1 | Opn 2 | Opn 3

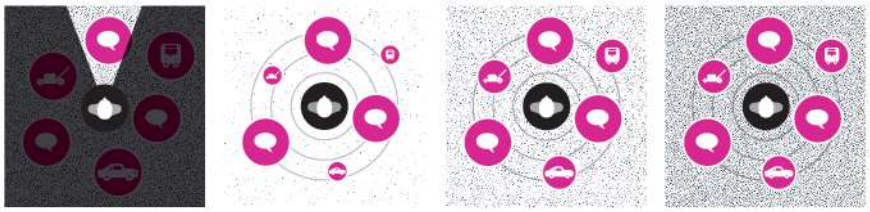
Background noise from all directions

Noise between speakers from specific directions

Distinct speech

oticon PEDIATRICS

BrainHearing™ Support Levels



Traditional | Opn 1 | Opn 2 | Opn 3

Background noise from all directions

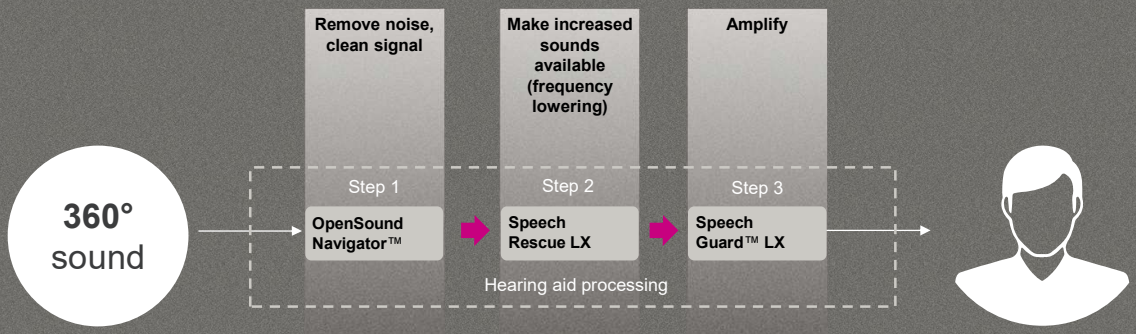
Noise between speakers from specific directions

Distinct speech

oticon PEDIATRICS

A Unique Combination

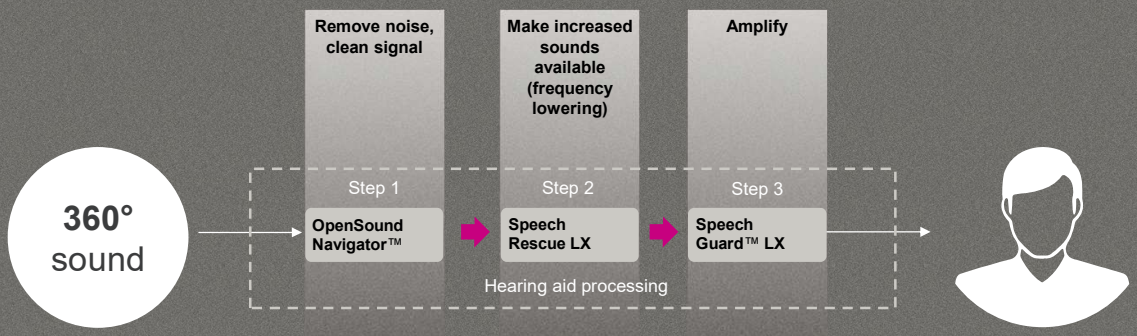
A three-step process to deliver the best audibility



oticon PEDIATRICS

A Unique Combination

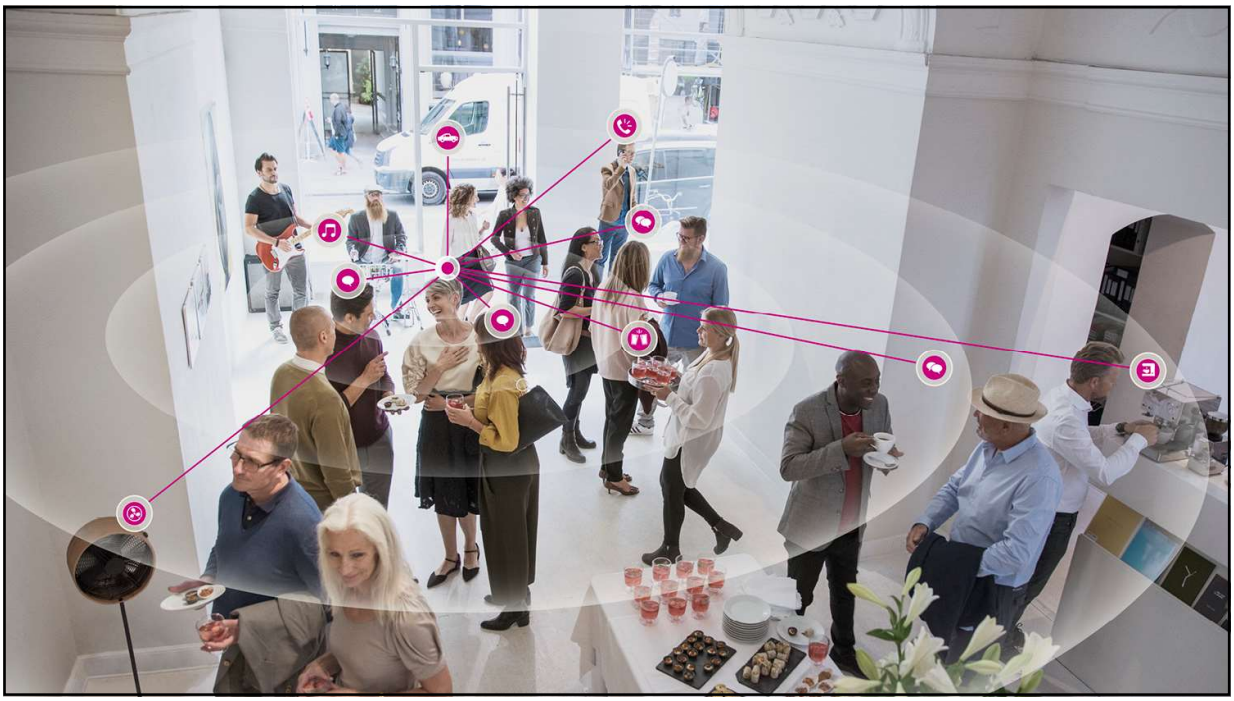
A three-step process to deliver the best audibility



Speech Rescue LX is more effective with OpenSound Navigator
because it receives a better signal

oticon PEDIATRICS

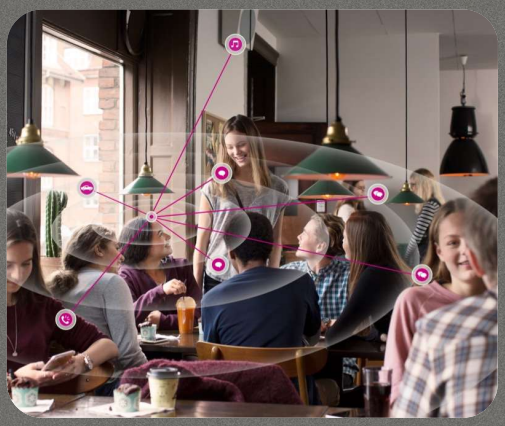
Evidence to support advanced technology



Benefit of OpenSound Navigator in Children

Boys Town National Research Hospital

- 14 school-age children age 6-15
- Authors:
  - Jenna Browning
  - Emily Buss
  - Mary Flaherty
  - Lori Leibold
- Completed 2017



oticon PEDIATRICS

Setup

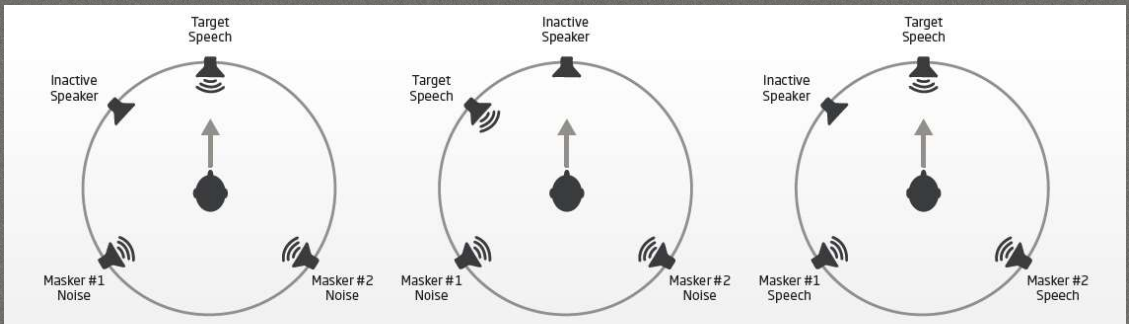
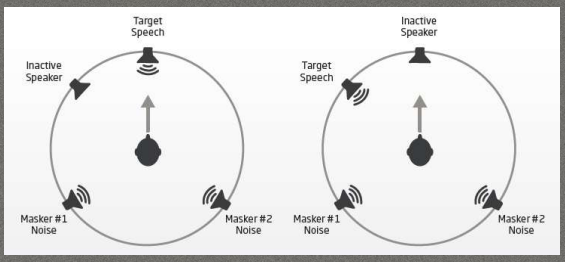


Figure 1. The experimental setup of the study. In conditions 1 and 2, target speech was presented either in front (left panel) or to the side (middle panel) of the listener in a stationary noise background. In condition 3, target speech was presented from the front in the presence of two competing streams of speech (right panel).

oticon PEDIATRICS

Results and Conclusions

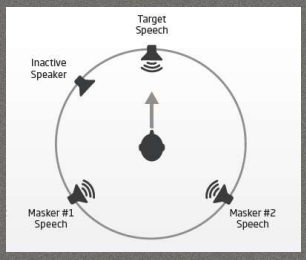
Conditions 1 and 2



- OpenSound Navigator showed improved speech recognition performance by an average of 4.0dB (condition 1) and 3.8dB (condition 2)
- OpenSound Navigator improved speech recognition in noise for children with hearing loss even when the participants were not facing the target speech source

oticon PEDIATRICS

Results and Conclusions
Condition 3



- Statistically no difference in speech recognition performance between OpenSound Navigator and omnidirectional
- Access to other talkers in the environment is fundamental to incidental learning for school-age children

oticon PEDIATRICS

OpenSound Navi

Does not requi
look at the tall
tim

Preserves spe
directi

Benefits of OpenSound Navigator™ in children

EDITORS OF ISSUE

Elaine Ng, *Senior Research Audiologist, Centre for Applied Audiology Research, Oticon A/S*

ABSTRACT

New research shows that OpenSound Navigator improves children's speech understanding in noisy environments when listeners both directly face and face away from the principle talker, yet still preserves additional talkers coming from other locations. This new technology allows access to other talkers in the environment, which is fundamental to incidental learning for these children.

Children move around to explore and learn about their world, and providing appropriate and adequate hearing care to children who are hard of hearing can be challenging. While noise has detrimental effects on speech understanding and learning (e.g. Riley & McGregor, 2012), current technology designed to improve speech understanding in noise, such as directionality and noise reduction, may only have minimal benefits for word learning in school-age listeners (Pittman, 2005). For instance, the benefit of directional microphone technology is effective when the listener is facing the target speaker, but may actually be detrimental when the listener is facing away from the target.

The OpenSound Nagivator (OSN) in Oticon Opn™ hearing aids reduces noise and preserves speech coming from any direction (Le Goff et al., 2016). It provides better speech recognition in noise even when the listener is not facing the talker. This is particularly important for children because spontaneous speech may come from any direction in typical learning environments, and because children do not always turn in the direction of target speech (Ricketts & Galster, 2008). This allows children to have access to other talkers in the environment, while providing opportunities for incidental learning in everyday life.

TECH PAPER
2017

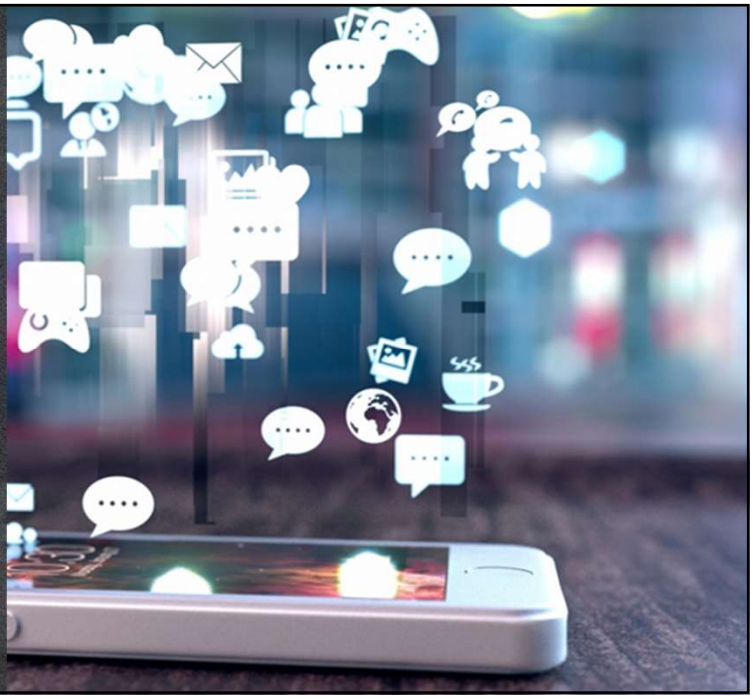
oticon PEOPLE FIRST

may move
eely

alkers in
undamental
earning

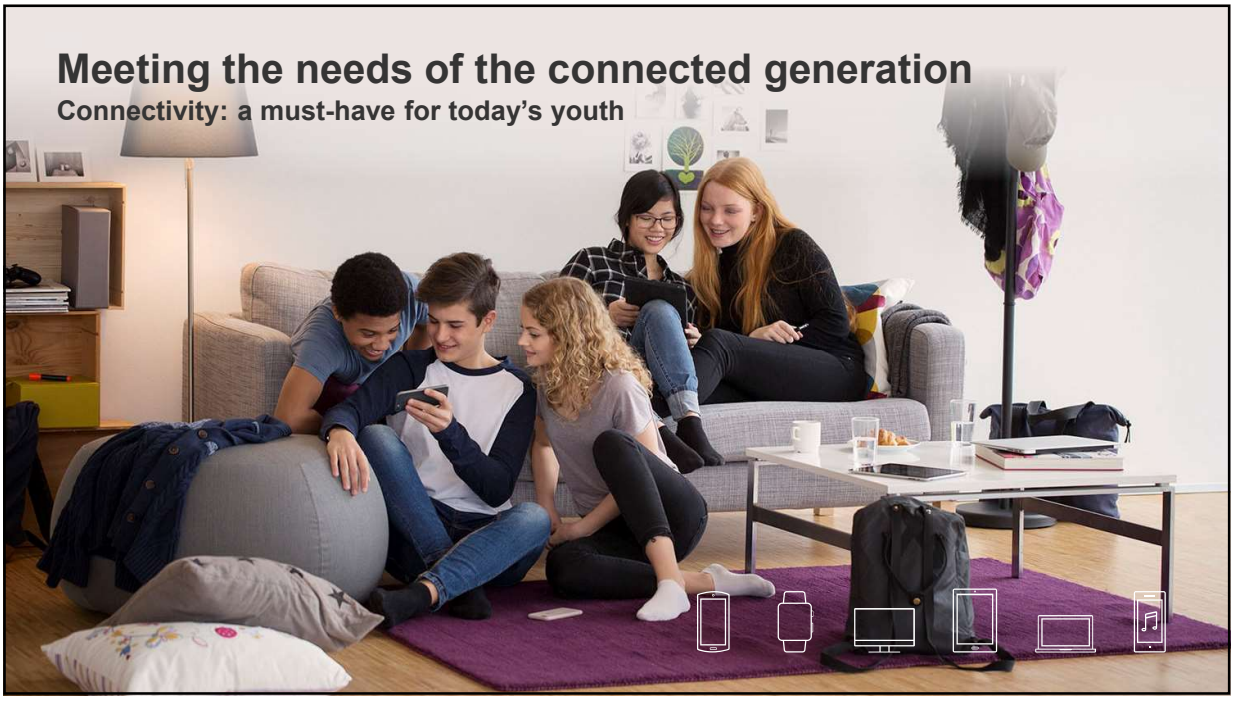
oticon PEDIATRICS

Staying connected



Meeting the needs of the connected generation

Connectivity: a must-have for today's youth

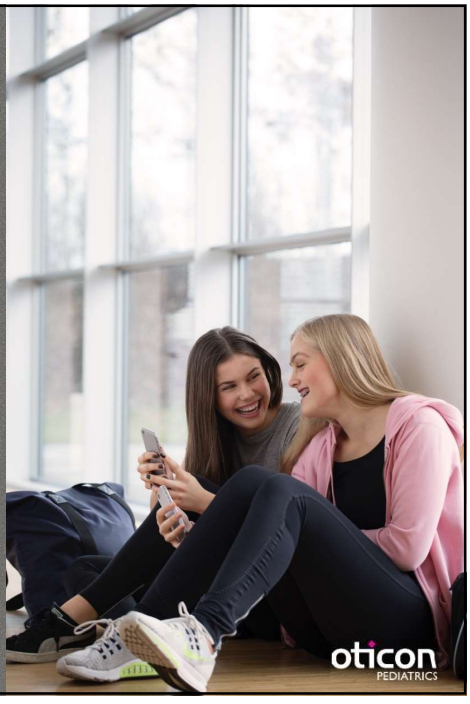


TwinLink
NFMI + 2.4 GHz

oticon PEDIATRICS

Made for iPhone®

Apple, the Apple logo, iPhone, iPad, iPod touch, and Apple Watch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc.



Made for iPhone®

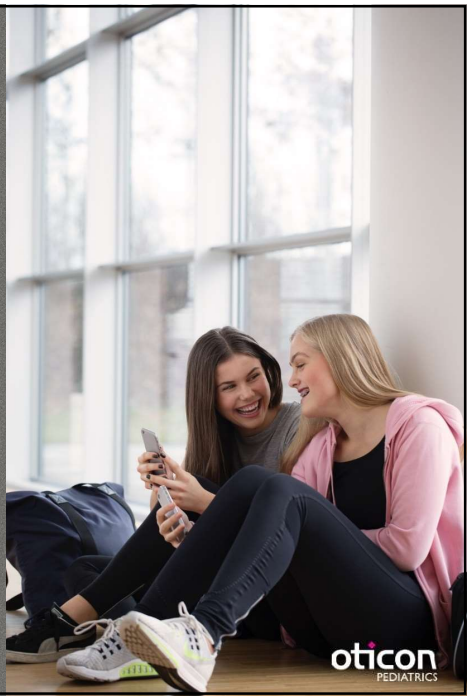
Easy control of Oticon Opn

ON oticon

Download on the App Store

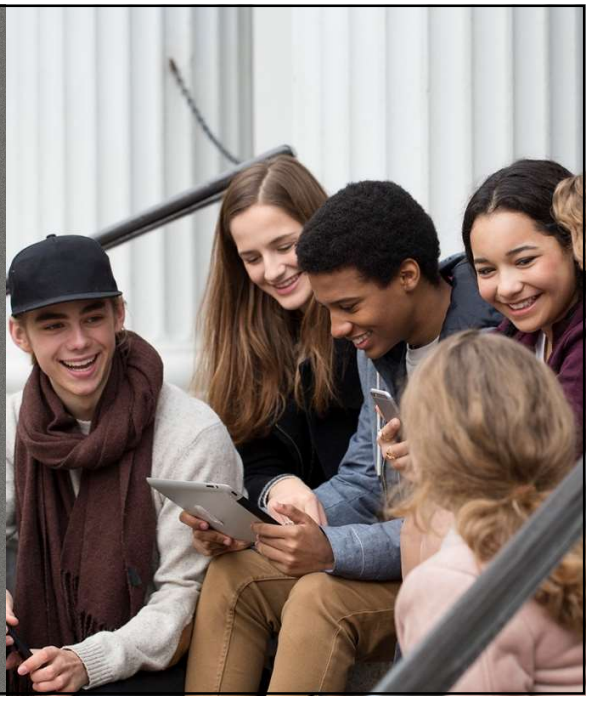
GET IT ON Google Play

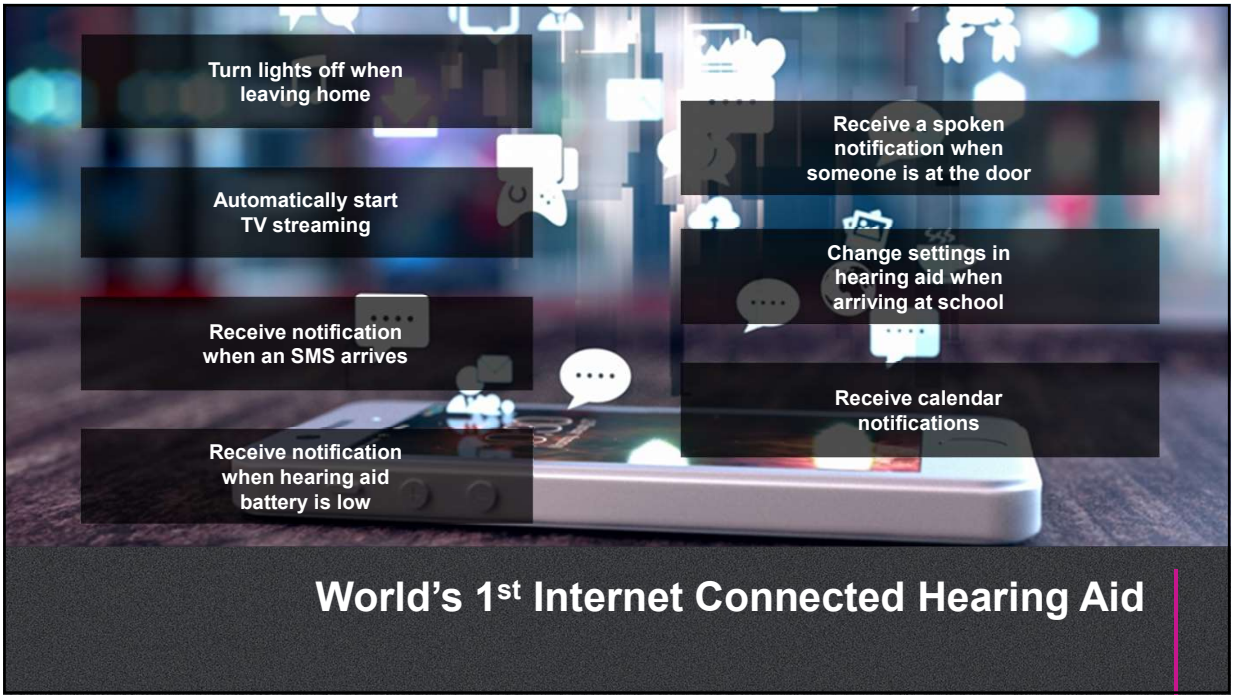
Apple, the Apple logo, iPhone, iPad, iPod touch, and Apple Watch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc.



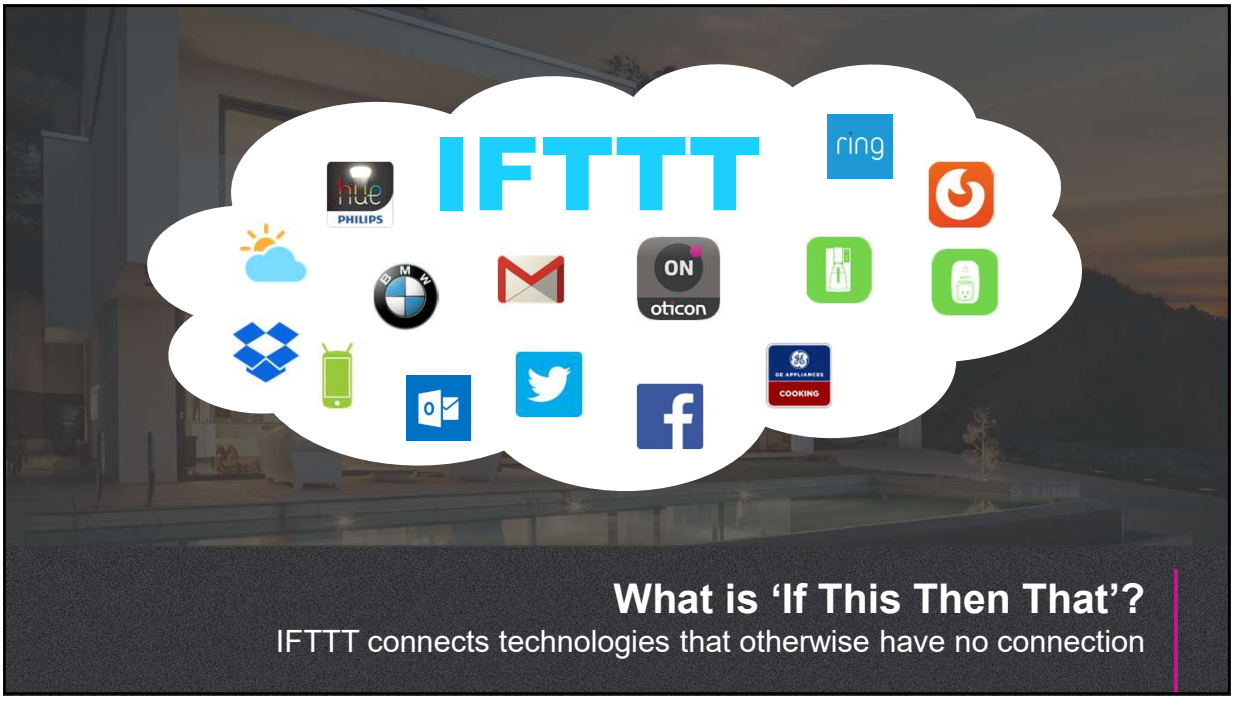
Made for iPad

- Directly connect to iPads in school, at home, or anywhere learning takes you for easy and clear audio streaming.





World's 1st Internet Connected Hearing Aid



What is 'If This Then That'?

IFTTT connects technologies that otherwise have no connection

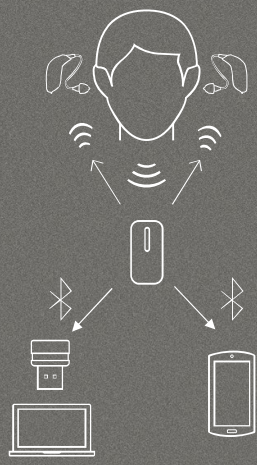
IFTTT

Craft your own connections

oticon PEDIATRICS

ConnectClip

- High-quality streaming to both ears
- Hassle-free & efficient connection to any modern smartphone
- Up to 10kHz bandwidth
- Sleek and small design
- Up to 8 paired Bluetooth devices
- Fast noise reduction based on OpenSound Navigator™
- Compatible with previous and future Opn devices with Firmware 5.0 update



oticon PEDIATRICS

ConnectClip

Transform Opn hearing aids into a wireless headset

Hands-free calls

Remote control

Computer

Remote microphone

Works with any modern smartphone

oticon PEDIATRICS

Talk to the world

USB Adapter

- Connects to any computer via ConnectClip
- Hearing aid as headset for Skype, Messenger etc.

Hear the speaker more easily

Remote Microphone

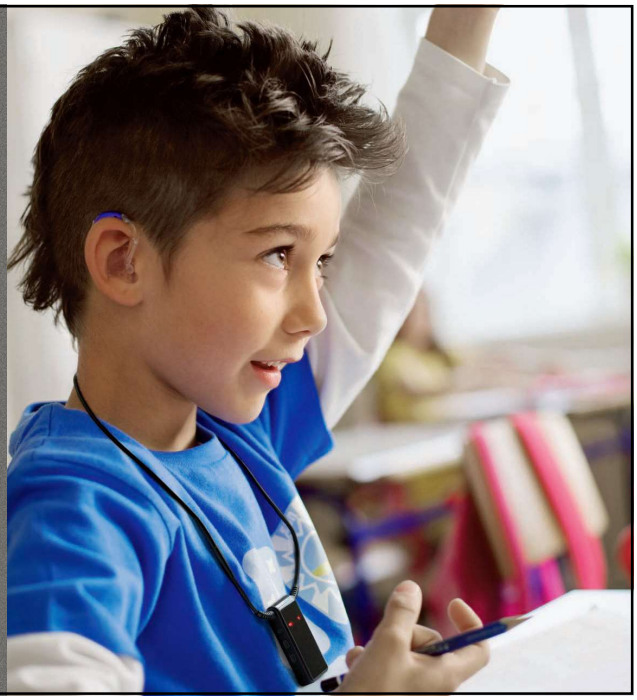
- 1:1 solution
- Built-in Bluetooth® low energy
- Binaural streaming with no need for additional device
- Up to 10kHz bandwidth
- Range up to 65 feet
- 8 hour battery life
- Personalized adjustments made in ON App

Other HAT options

Other HAT options

Amigo Arc

- Telecoil receiver
- LED indicator
- Volume up/down
- Can be worn with headphones alternatively



NEW Ear-level FM options for Opn

Two options:

- Universal access via FM10 adapter shoe
- Dedicated Amigo R12G2 for:

oticon PEDIATRICS

NEW Ear-level FM options for Opn

Two options:

- Universal access via FM10 adapter shoe
- Dedicated Amigo R12G2 for:
- Opn BTE13PP
- Siya BTE & BTEPP

(Compatible with Inium Sense BTE13PP: Alta2, Nera2, Ria2)

oticon PEDIATRICS

Compatibility overview

Style & family	FM receiver (New)	FM adapter	DAI adapter
BTE13 PP Alta2 Nera2 Ria2 Opn 1 FW 6.0 Opn 2 FW 6.0 Opn 3 FW 6.0	Oticon Amigo R12G2 dedicated FM receiver	FM10 (142328) Transparent	AP1000 (142207) Grey
BTE PP and BTE Siya 1 Siya 2			

oticon PEDIATRICS

NEW Ear-level FM options for Opn

- Flight mode activation for FM programs (Velox)

oticon PEDIATRICS

NEW Ear-level FM options for Opn

- Flight mode activation for FM programs (Velox)
- Sleep mode ‘ON’ when signal is absent

oticon PEDIATRICS

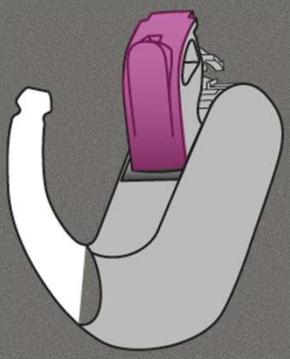
NEW Ear-level FM options for Opn

- Flight mode activation for FM programs (Velox)
- Sleep mode 'ON' when signal is absent
- Bluetooth connection in Sleep mode

oticon PEDIATRICS

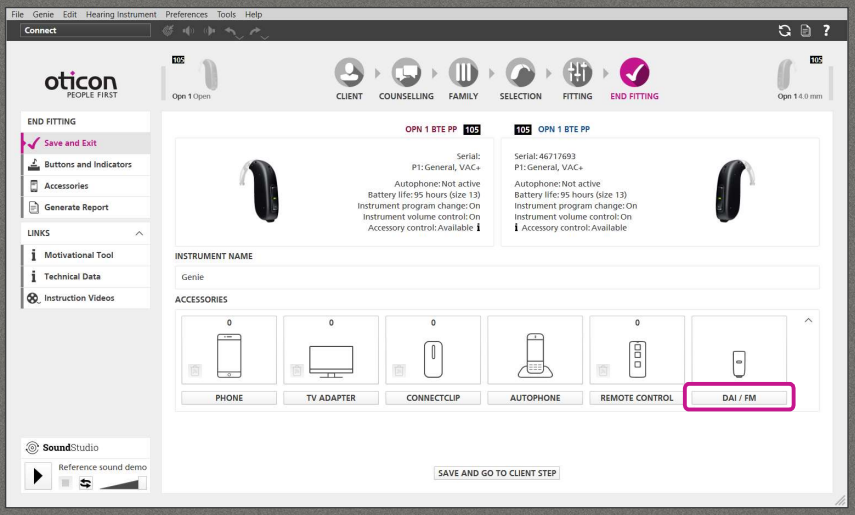
Adapter battery drawer

- Required to use FM/DAI accessories
- Comes in all hearing aid colors
- Placing orders – specify HA model



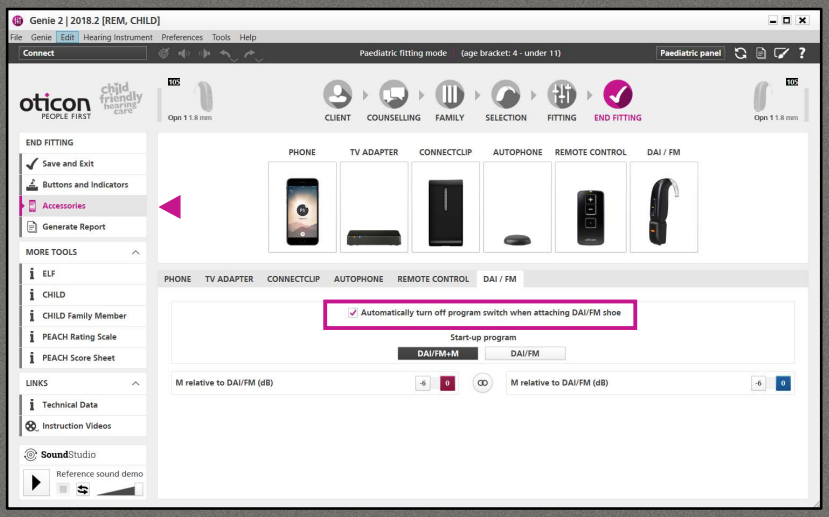
oticon PEDIATRICS

DAI/FM in Genie



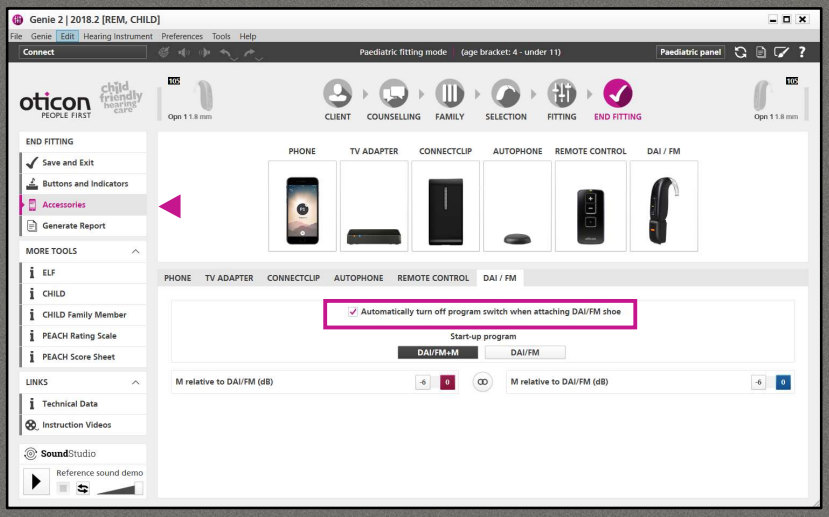
oticon PEDIATRICS

DAI/FM in Genie



oticon PEDIATRICS

DAI/FM in Genie



oticon PEDIATRICS

Amigo Star

Volume Control

LED Light

Channel Seek button

Thin Tube

Intelligent Sleep and Off Modes

312 Battery

Tamper Resistant Door (optional)

oticon PEDIATRICS

Front Row Juno

www.gofrontrow.com

oticon PEDIATRICS

Support Materials

Dedicated Pediatric Customer Service 1.888.684.7331 (OTI-PED1)

- Resources on Oticon.com & MyOticon
  - Amigo R12G2 Technical Data Sheet
  - Oticon Hearing Aids and DAI/FM Overview

New

- Instructional videos for BTE included in Genie 2
  - Battery door – How to exchange
  - Tamper resistant battery door – How to exchange accessory

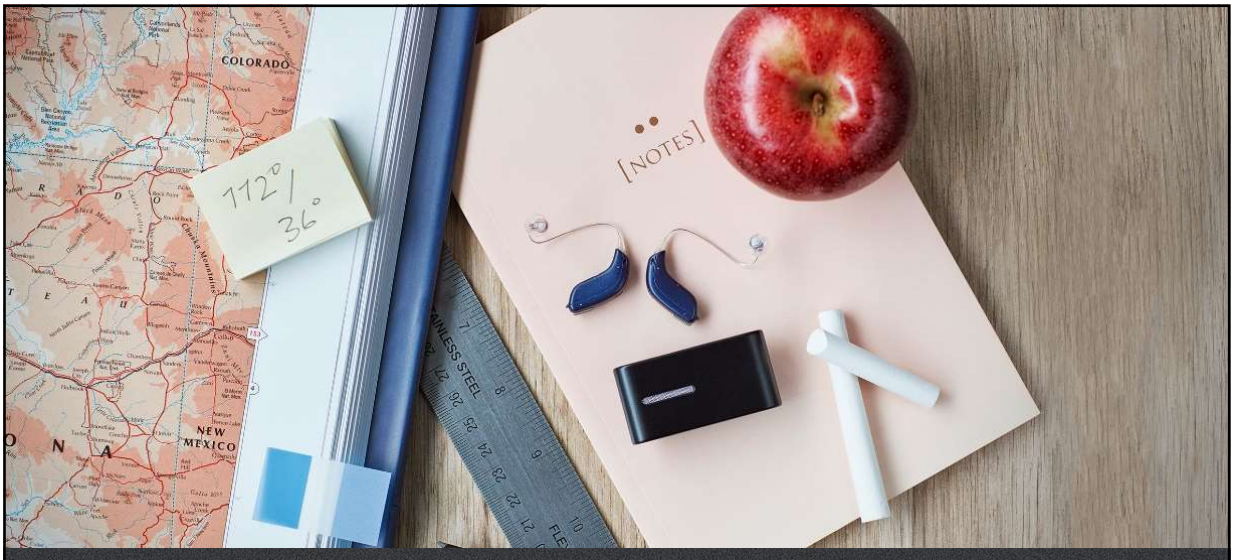
oticon PEDIATRICS

Learner Recap

Participants will be able to…

- Report the impact hearing loss can have on a child's cognitive development.
- Recognize the limitations of current traditional directional technologies in assisting people with hearing loss to understand speech in complex listening environments.
- Describe how an unprecedented signal processing technology can facilitate provision of a more robust speech signal to the brain and lead to increased performance in complex listening situations.
- List how the technology in the latest connectivity device provides accessibility to multimedia in the classroom.

oticon PEDIATRICS



Oticon Opn empowers listening and learning

Questions?
c.depp@oticon.com

Contact Oticon Pediatrics
888-684-7331