Welcome to our Capital Markets Day 2018

Søren B. Andersson
Vice President, IR

William Demant

Agenda

10.00	Welcome
10.05	**Broad hearing healthcare strategy driving long-term growth**
10.35	**Innovation as a competitive advantage**
12.00	*Lunch*
12.45	**Operational excellence in retail**
14.15	*Break*
14.30	**Opening up the world of sound with hearing implants**
16.00	*Break*
16.15	**Commitment to long-term shareholder value**
16.45	Closing remarks and Q&A
17.30	End of formal program

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Today's speakers

WDH management

Søren Nielsen
President & CEO

René Schneider
CFO

Niels Wagner
President,
Retail

Jes Olsen
President,
Oticon Medical

Finn Möhring
Vice President,
R&D

Guest speakers

Elmar Götz
President,
Audika Switzerland

Prof. Prof. h.c. Dr. med. Thomas Lenarz
Professor and Chairman, Department of
Otorhinolaryngology
Medical University of Hannover

Louise Hatch
Oticon Opn user

William Demant

Practical matters

- We will be filming the presentations and videos will be uploaded to our website within a week from today
- We will have a short Q&A session after each topic as well as a longer Q&A in the end to conclude the day

Investor Relations

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William Demant

Informal dinner at *The Ivy* tonight at 7pm

The Ivy
1-5 West Street
London, WC2H 9NQ
Tel: +44 (0) 20 7836 4751

Welcome drinks will be served at 6.30pm and dinner starts at 7.00pm. Please let Tine Ribergaard know if there are any changes to your registration (tij@demant.com or +45 2680 4521).

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Broad hearing healthcare strategy driving long-term growth

Søren Nielsen
President & CEO

William Demant

Søren Nielsen

President & Chief Executive Officer, William Demant Holding

Curriculum

- Born in 1970
- M.Sc. in Industrial Management and Product Development from the Technical University of Denmark
- CEO since 2017
- President of Oticon since 2008
- Employed with the Group since 1995

Board positions

- Sennheiser Communications
- Vision RT

Founded on care in 1904

Hans Demant was passionate about helping his hearing-impaired wife

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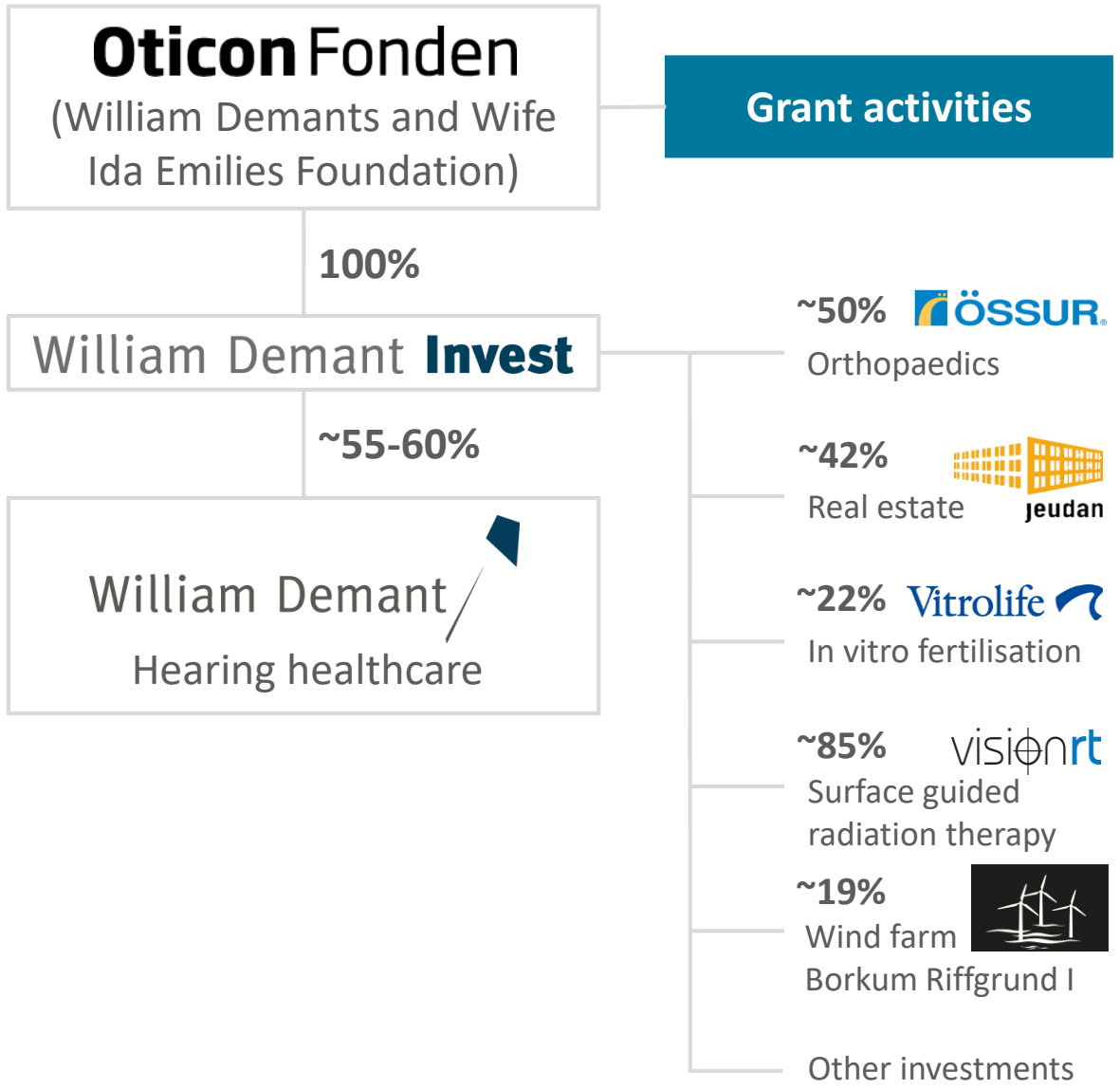
Our vision is to make a life-changing difference to people living with hearing loss

Stable ownership and focus on long-term value creation

- Majority shareholding owned by the Oticon Foundation
- Charter of the foundation ensuring long-term ownership
- Focused on long-term value creation with a strong track record



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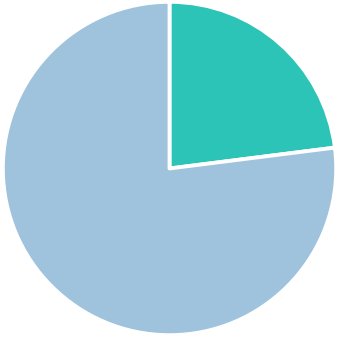
From starting point as pure-play wholesaler to leader in hearing healthcare

Market leader in wholesale of hearing aids	Successfully forward-integrated into distribution	Major player in bone-anchored hearing systems	On a journey to become a leading player in cochlear implants	Market leader in diagnostic instruments

Hearing aids



Wholesale value market share

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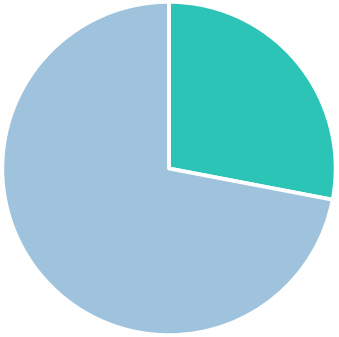
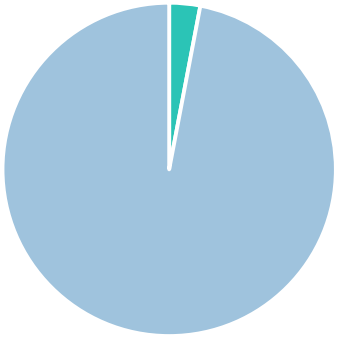
Other

Note: Company estimates

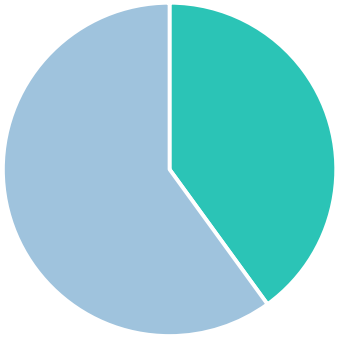
Bone-anchored hearing systems



Cochlear implants



Diagnostic instruments



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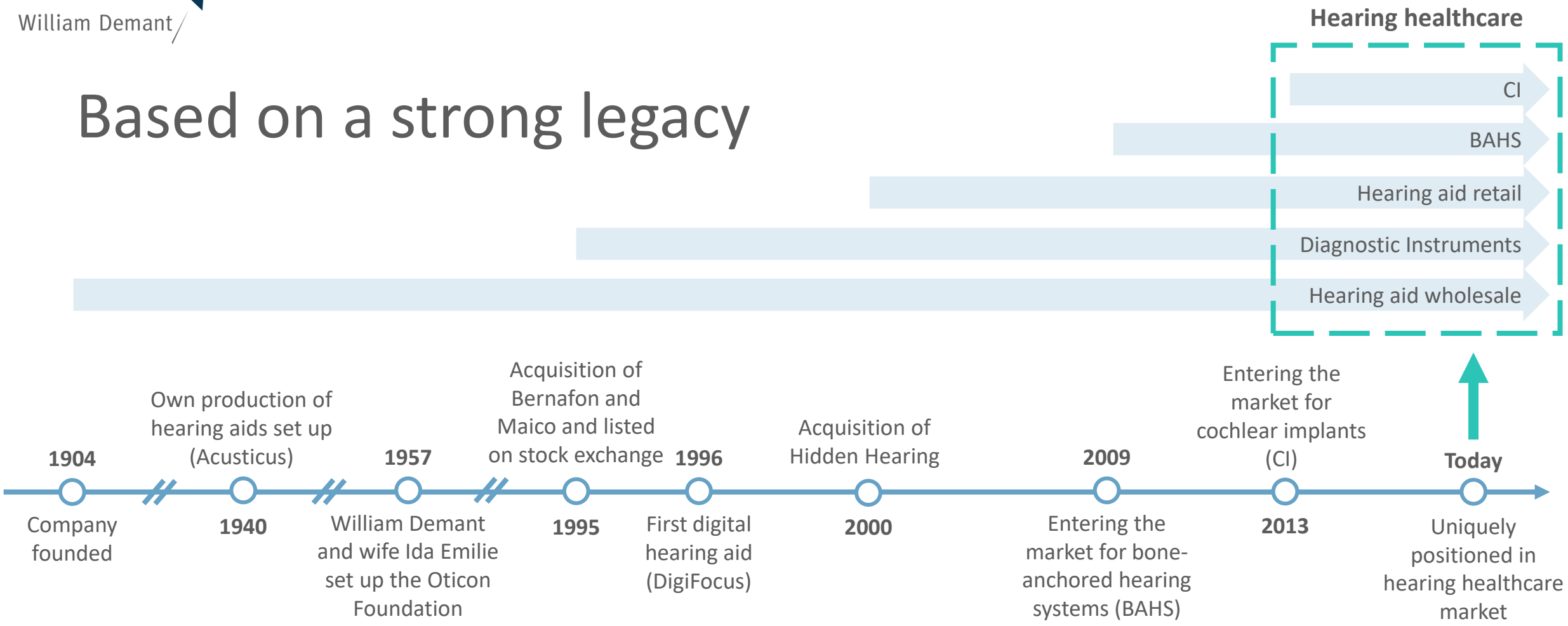
Based on a strong legacy



Competitive situation in the industry

Announced intention to merge

Offerings	William Demant	sonova	Sivantos	GN	Starkey	WIDEX	Cochlear	MED-EL	amplifon	natus
Hearing aid wholesale 	◔	◔	◑	◑	◔	◔				
Cochlear implants 	◔	◑					●	◔		
Bone-conducting systems 	◑						●	◔		
Diagnostic instruments 	◔									◔
Distribution 	◑	◔	◔	◑	◔	◔			◔	

◔ = Relative strength in business segment

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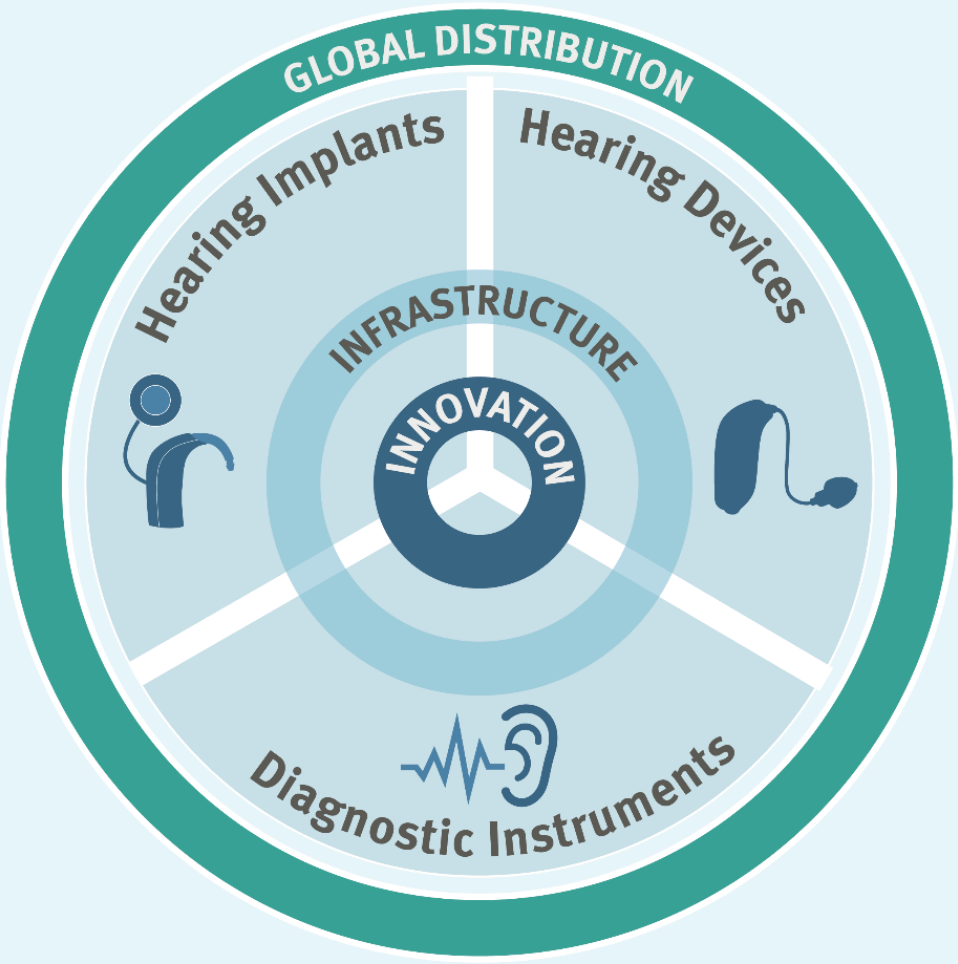
Very significant cross-business synergies



Innovation

- Sharing core platform (DSP, wireless etc.)
- Advanced digital signal processing
- Total fitting flow
- Long-term research at Eriksholm
- eHealth, connectivity and cloud solutions

Global distribution

- Lead generation across businesses
- Global sales and distribution platform with strong back-office
- Market insight across businesses and channels
- Critical mass in local markets
- Experience in regulatory affairs

Infrastructure

- Shared sales companies in more than 30 countries
- Global IT platform serving all business units
- Strong global supply chain
- Strong operational footprint in Poland and Mexico

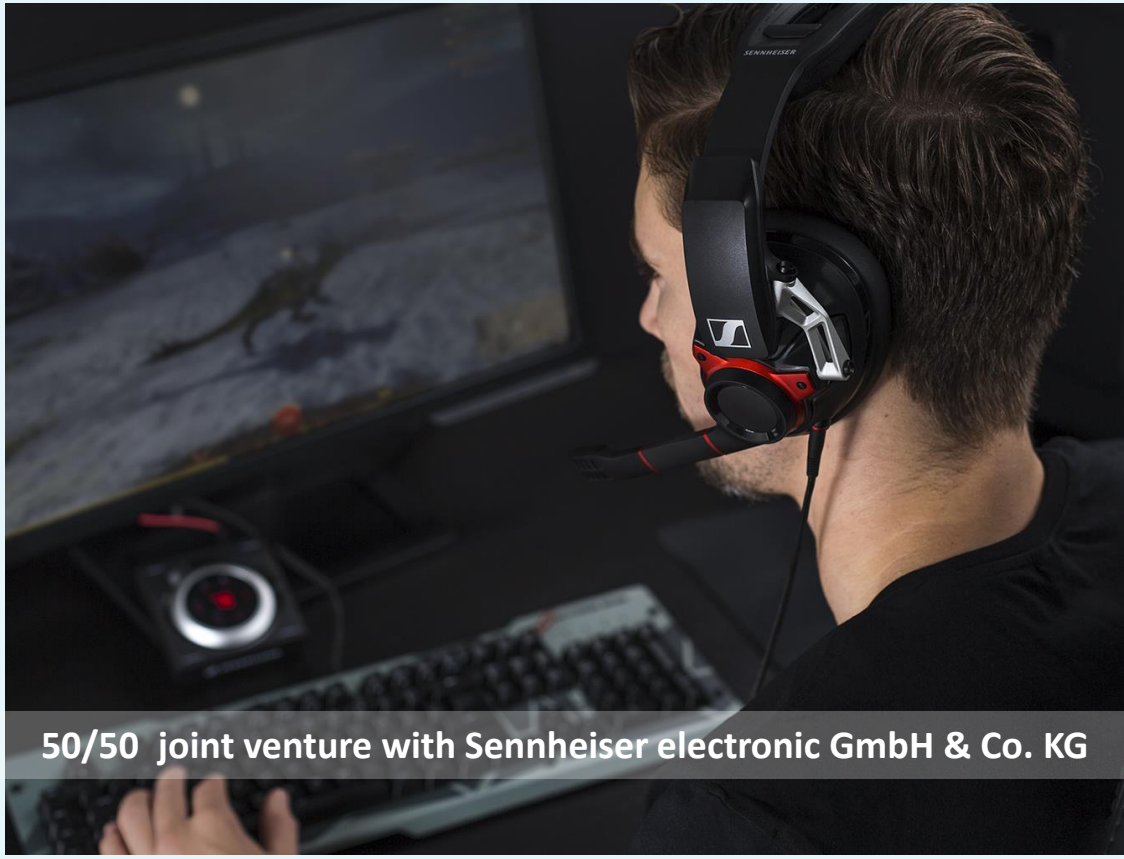
Closer to consumers with Personal Communication

- Three business segments: CC&O (Unified Communications), Mobile and Gaming

- Closer to traditional consumers, e.g.
  - Technology requirements
  - Brand awareness
  - Engagement with customers
  - Direct-to-consumer

- Significant technology synergies to rest of Group

SENNHEISER COMMUNICATIONS



50/50 joint venture with Sennheiser electronic GmbH & Co. KG

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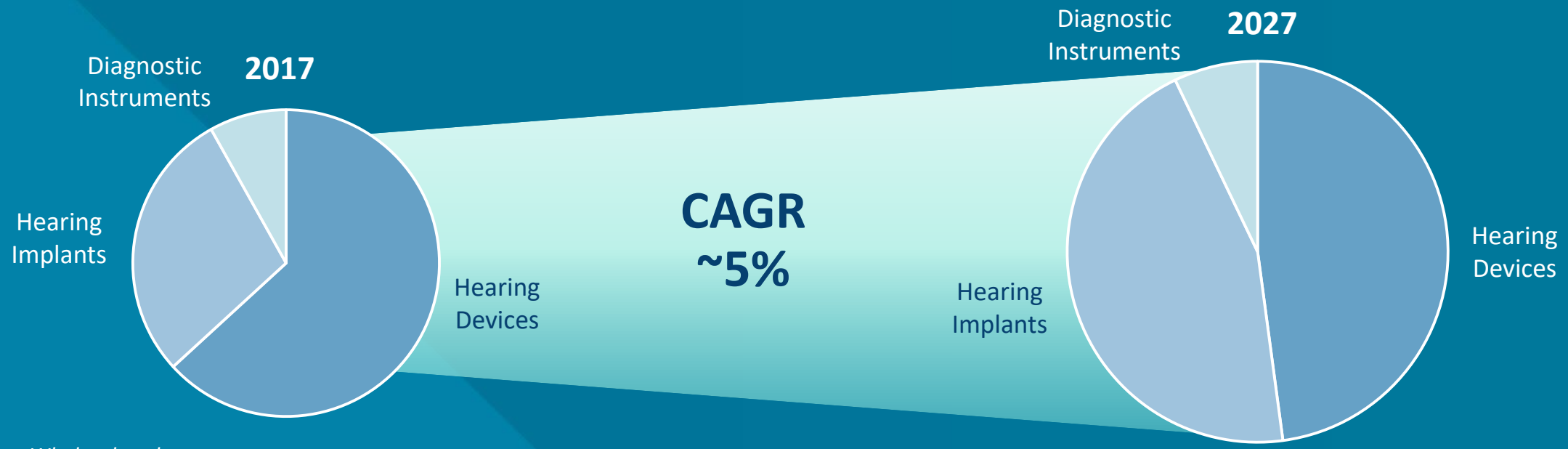
Attractive structural growth in hearing healthcare

Structural growth drivers behind solid value growth rates in hearing healthcare market, particularly in hearing implants

Hearing Devices
2-4%

Hearing Implants
10-15%

Diagnostic Instruments
3-5%



Note: Wholesale values

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The modern senior

Baby Boomers (age 65-75)

- Claim their rights
- Life expectancy is high
- Use modern technologies
- Less trust in authorities
- Invest in themselves
- Take advantage of networks to engage in active social activities

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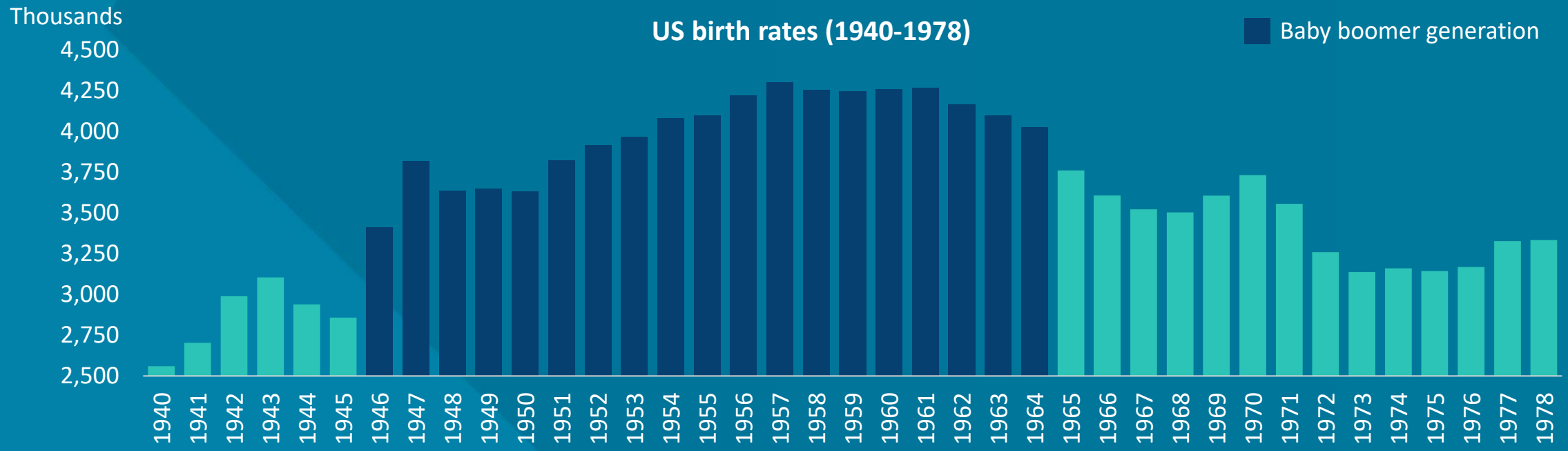
Growth driven by baby boomers in developed markets…

72 years old
Age of the first baby boomers

~69 years old
Average age of first-time user

We live longer lives
Increasing life-expectancy

Active and tech-savvy
Characteristics of baby boomers



Source: William Demant estimates and data from OECD.stat and US Census

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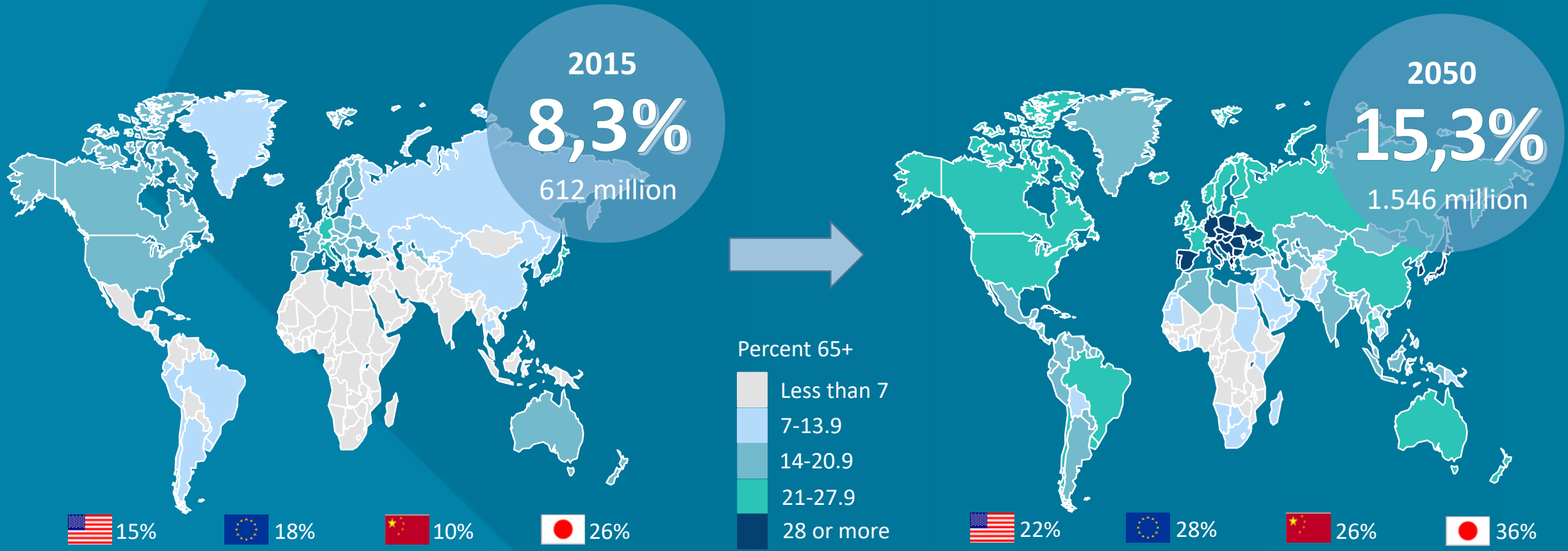
…and an ageing population across the world

Significant increase in share and size of 65+ population



Source: United Nations, Population Division, Department of Economics and Social Affairs; World Population Prospects; The 2017 Revision

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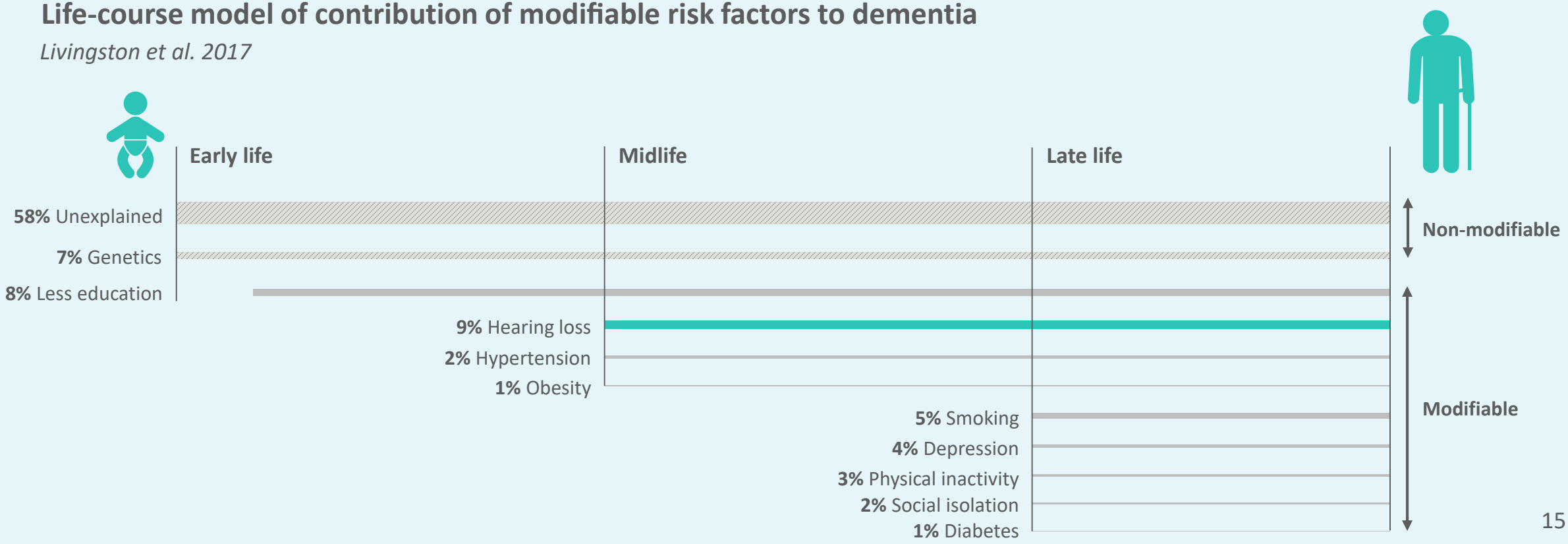
Hearing care is healthcare: Link to dementia

Hearing loss affects overall health and may accelerate cognitive decline and lead to social isolation, e.g. it is shown to be the biggest modifiable risk factor related to dementia

Life-course model of contribution of modifiable risk factors to dementia

Livingston et al. 2017



With hearing aids, ability to remember what is heard is less impacted by aging

Factor	Coefficient (Standard Error) P-Value Model 1	Model 2
Intercept	17.89 (0.36) <.001	15.32 (0.4) <.001
Age (before using hearing aid)	−0.11 (0.00) <.001	−0.1 (0.00) <.001
Age (after using hearing aid)	−0.03 (0.00) <.001	−0.02 (0.00) <.001
Hearing aid use	2.13 (0.41) <.001	1.53 (0.41) <.001
Female		1.11 (0.09) <.001
Married		0.16 (0.07) .04
Education (reference <high school)		
High school		0.97 (0.12) <.001
≥College		1.84 (0.11) <.001
Wealth tertile (reference 1 (poorest))		
2		0.33 (0.07) <.001
3 (wealthiest)		0.58 (0.08) <.001
Smoking (reference nonsmoker)		
Past smoker		0.08 (0.09) .36
Current smoker		−0.05 (0.13) .68
Drinking behavior		0.01 (0.00) .001
Vigorous physical activity		0.17 (0.05) .001
Depression score		−0.11 (0.01) <.001
Number of comorbidities		−0.13 (0.03) <.001

Table 2. Hearing aid Use and Episodic Memory Scores, Coefficients and Standard Errors: Health and Retirement Study 1996-2014

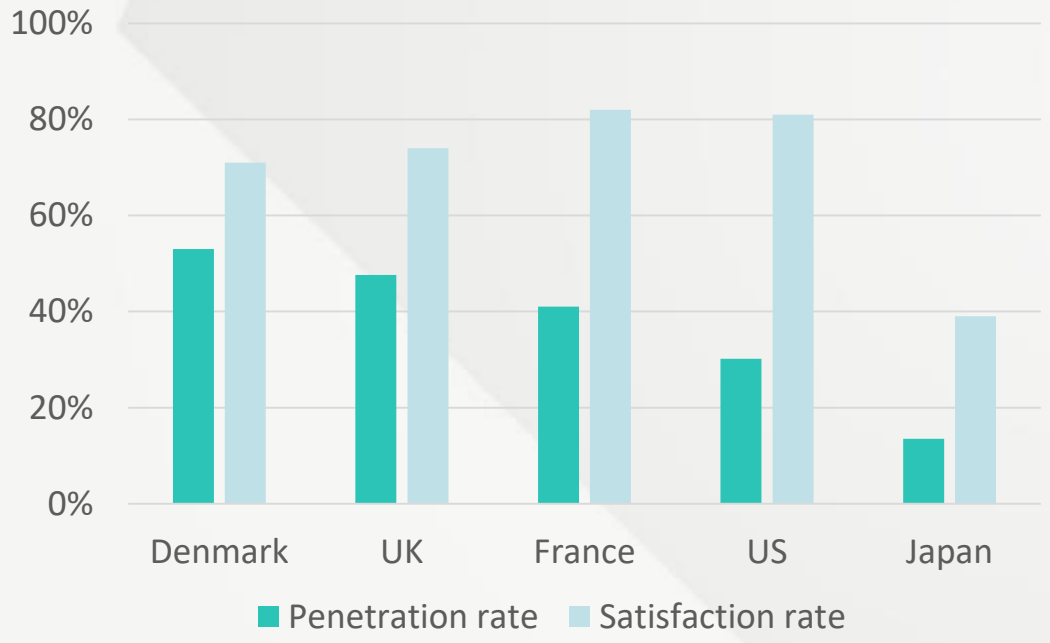
- New independent research* on age, hearing aid use and memory:
  - 2040 hearing aid users aged 50+
  - Hearing aid use 2nd largest factor after education to preserve formation of new memories as we age
  - After starting hearing aid use, ability to remember what is heard is less impacted by aging compared to before

** Maharani et al., 2018 "Longitudinal Relationship Between Hearing Aid Use and Cognitive Function in Older Americans", J. Am. Geriatrics Soc.*

Penetration levels vary greatly across markets

Penetration of hearing healthcare products driven by awareness, market infrastructure, public healthcare systems and income levels and emerging markets remain underpenetrated

Hearing aid penetration and satisfaction rates in selected markets



- Satisfaction rates (for hearing aids) high in markets where end-users can freely choose technology and hearing care professional and have ”skin in the game” (e.g. US and France)
- We remain focused on delivering better outcomes through best-in-class technology to improve satisfaction rates
- **Involvement of a professional remains key for awareness as well as for quality of counselling, fitting and after-sales-service**

Source: EuroTrak (2016 & 2018), MarkeTrak (2015) and JapanTrak (2016) studies

The role of the professional

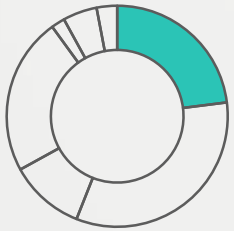
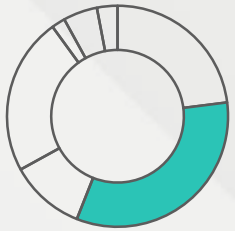
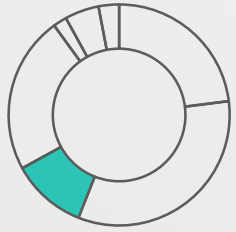
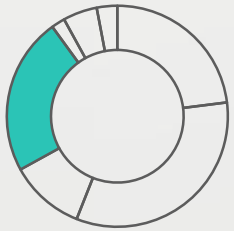
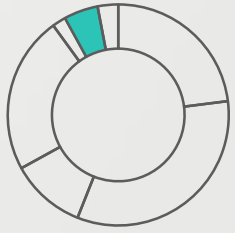
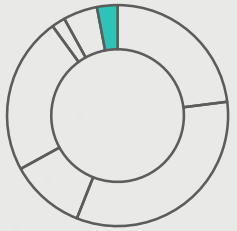
Stigma still key barrier for widespread adoption of hearing healthcare products and professional involvement is needed to overcome this

- Customer journey involves multiple interactions with a professional and is similar for most sales channels
- Digitalisation is opening up new opportunities to improve customer journey, e.g. ***AMTAS™*** and ***Oticon RemoteCare***…

Typical customer journey

Awareness → Diagnosing → Counselling → Fitting → (Trial period) → Service/support

Multitude of sales channels for hearing aids

	Public / hospital settings	Conventional Independents	Buying groups / networks	Conventional retail chains	Direct online sales	Specialty retailers	Multi-line retailers
Description	• **Professional sourcing** • Work with manufacturers with high audiological content and the ability to demonstrate user benefits via clinical studies etc. • Capacity is often the main challenge, and **efficient fitting processes** and highly reliable products are the main drivers	• Owners are an integral part of the operation and typically have a background in hearing instruments and are **dedicated and specialised** • Often **loyal to their main suppliers** based on long term relationship and maybe also financial tie-ins to their suppliers	• Many independents seek help from buying groups to compete in commercial markets • This service is normally financed through negotiation of **discounts with suppliers** • Typically require a high-priced market with margins to finance these services	• Typically have strong marketing and process control as well as strong, central, corporate functions • Strong focus on low purchase price • **High marketing spend** • They expect leading suppliers and always up-to-date technology	• Model tested in many shapes and forms in a number of markets • Challenging to combine online sales with the need for personal counselling and fitting of the hearing instruments • **May rely on one or more physical channels** for actual fitting in exchange for fitting fee	• Pharmacies, opticians etc. • In some markets, attractive alternative source of revenue for opticians • **Leveraging on existing traffic** but limited other synergies • Professional and commercial retailers who expect products that are easy to sell	• Big box retailers • Professional – but not specialised • Leveraging high level of traffic and operating at low margins • Looking for partners who can generate the best retail value • They want top-tier brands • **Low marketing spend**
Level of specialisation	**Specialised professional**						**Complementary business**
Players	NHS		AUDIGY, elite HEARING NETWORK, AHAA AMERICAN HEARING AID ASSOCIATES	amplifon, KIND HEARING	audibene einfach gut hören, embracehearing	fielmann, Specsavers, Boots	COSTCO WHOLESALE, Sam's Club
Market split (Volume 2017)							

Note: Company estimates

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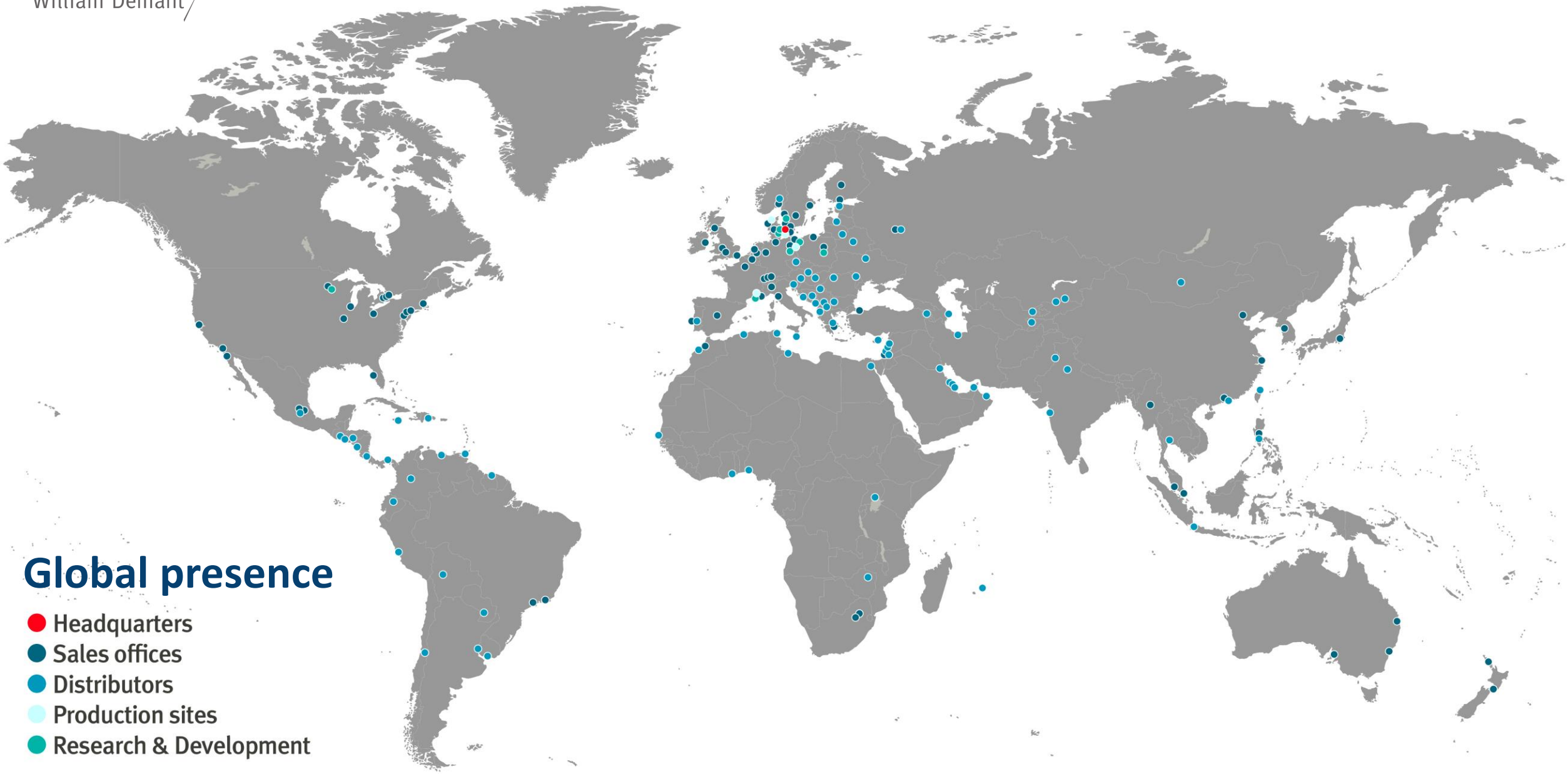
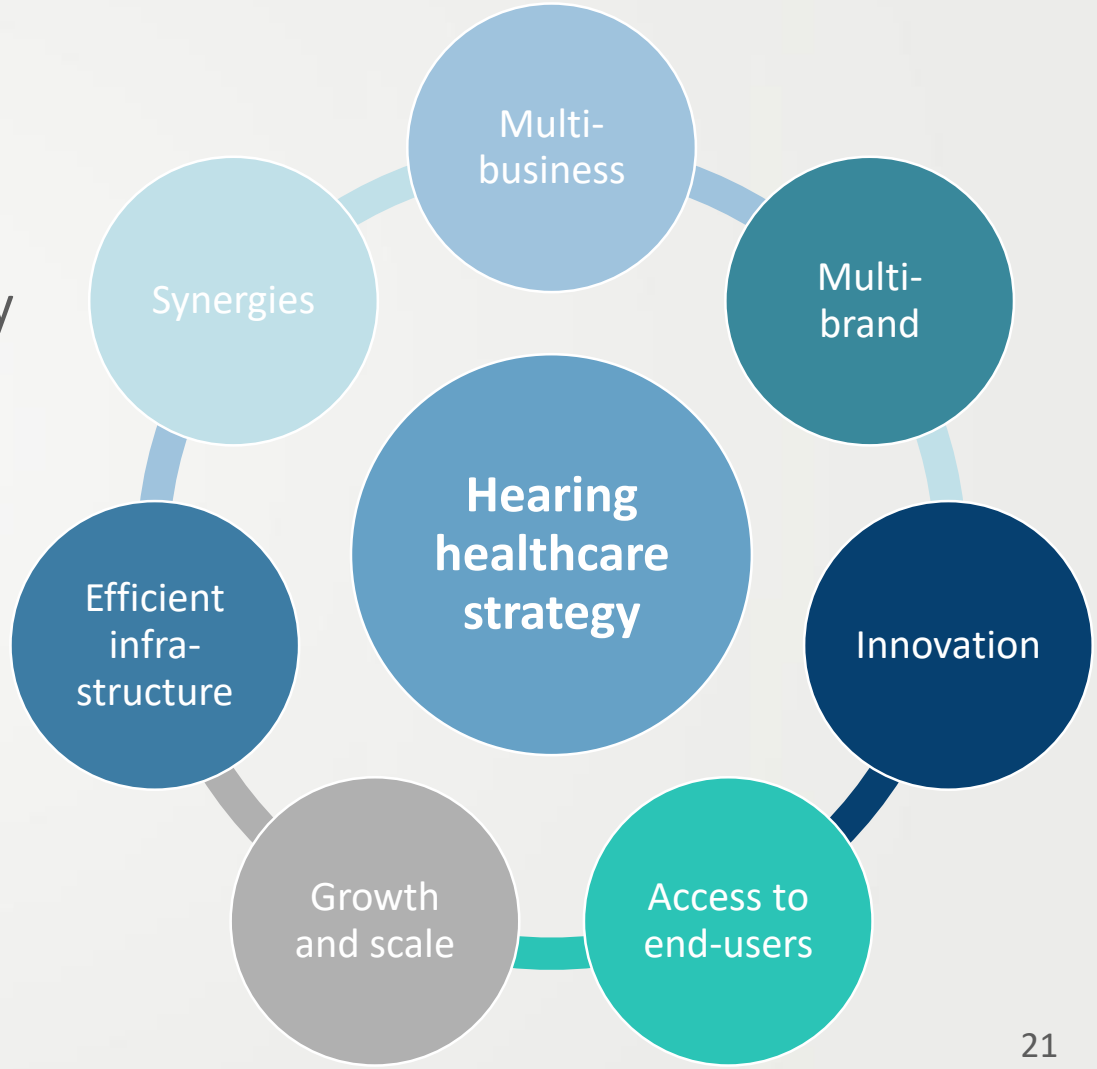


Well-positioned for long-term growth

- Innovation remains key for continued growth
  - Hearing care is healthcare and we stay focused on securing best possible outcomes for patients
- Access to global distribution and support is also key
  - Own retail an important strategic element
  - No single channel or model will “take it all”
- Demographics will support high growth in market for hearing implants
- Diagnostic Instruments business activity ensures understanding of entire spectrum of the market

> *“Our vision is to make a life-changing difference to people living with hearing loss*



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Innovation as a competitive advantage

Finn Möhring
Vice President, R&D

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Finn Möhring

VP, R&D Hearing Devices

Curriculum

- Born in 1965
- B.Sc.E.E. from DTU (Technical University of Denmark) 1987
- Background in wireless and mobile phones since 1988 (AP Radiotelefon, Philips, Nokia)
- Employed with Group since 2010
- Board positions:
  - DTU – Electro Advisory Board since 2016
  - EHIMA Technical Committee since 2018

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Our vision is to make a life-changing difference to people living with hearing loss

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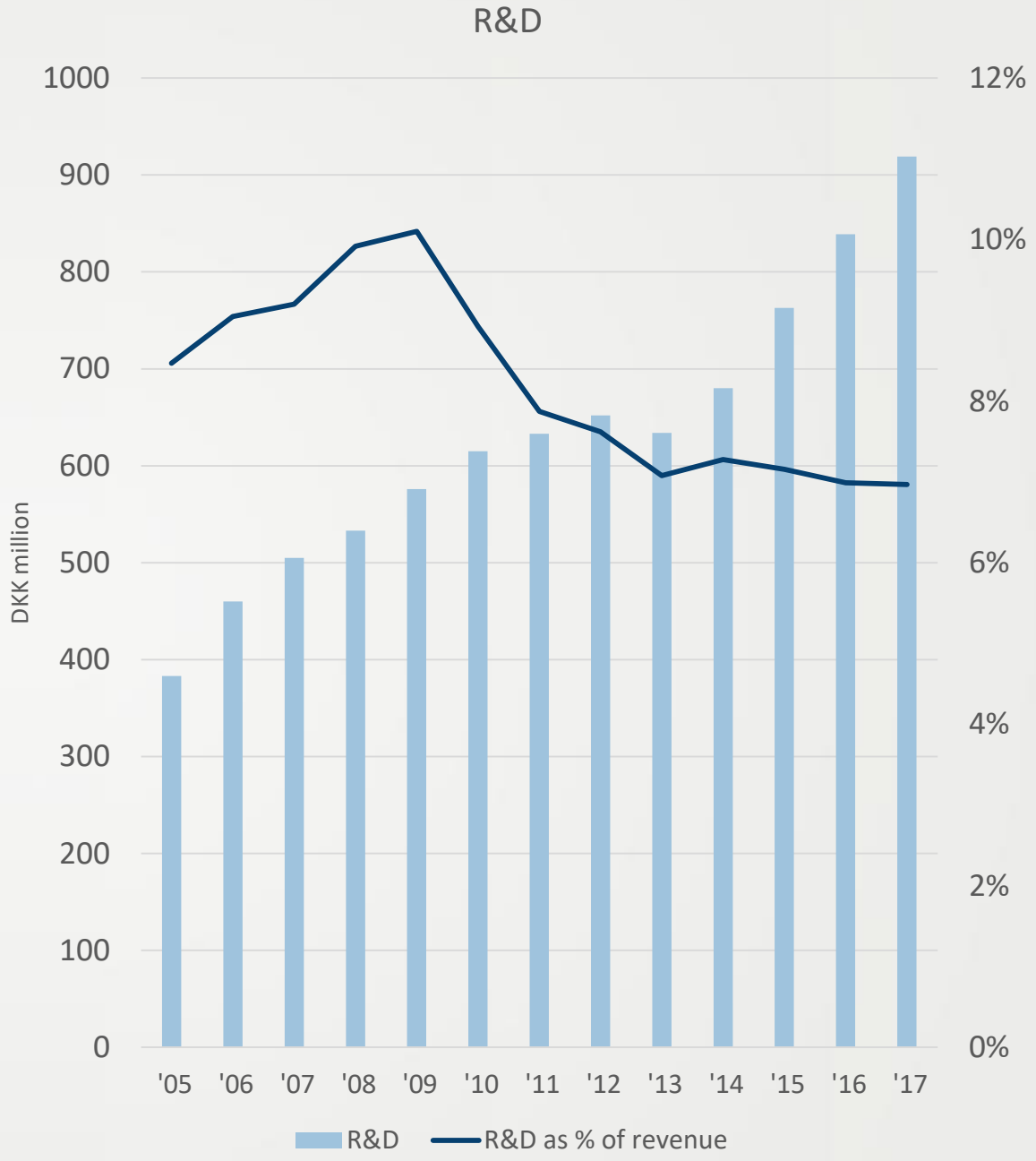
Strong commitment to R&D

- Increased competition, product complexity and demand for software development
- Launch of innovative products with significant user benefits
- Timely and continuous introduction flow
- Strong and ongoing focus on micro-segmentation
- Only manufacturer with own dedicated research centre (Eriksholm)
- Major R&D locations in Denmark, Poland, Sweden and France



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Hearing Devices R&D

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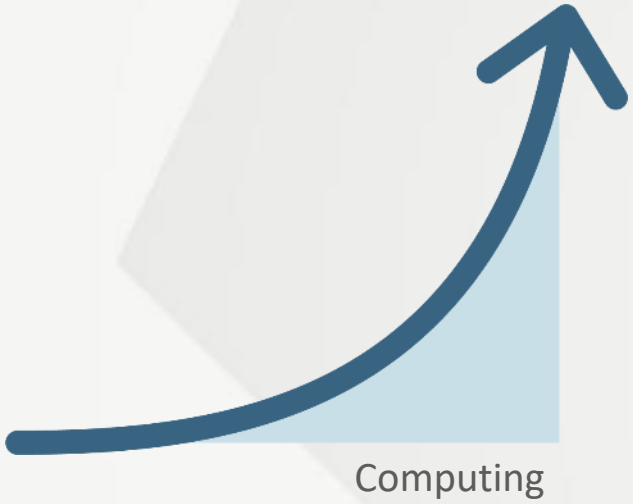
Exponential growth accelerates breakthroughs in tech

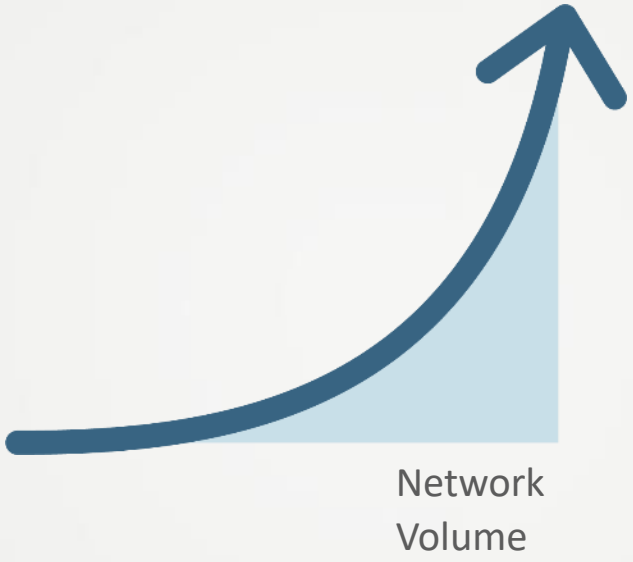
1970



Moore's law

The observation that the number of transistors in dense IC doubles about every two years

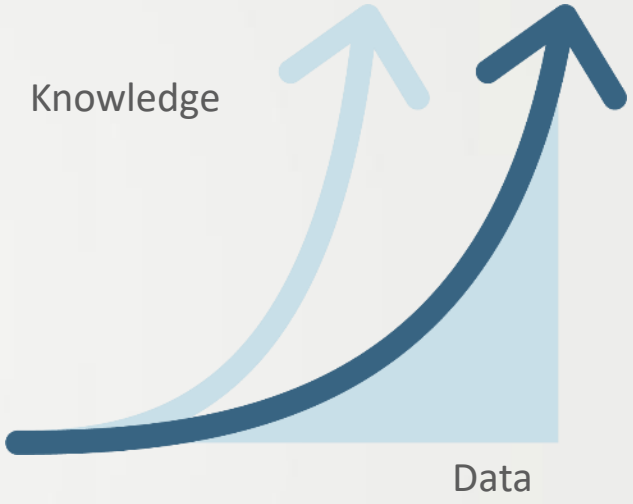
1990



Metcalfe's law

The effect of a network is proportional to the square of the number of connected users

Today



"Watson's" law

Take data, add AI to it and get exponential learning; ability to out-learn every body else

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Overview

1 Market leading portfolio for hearing healthcare

2 Future in hearing healthcare

3 Industry innovation leadership

4 Q&A

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Market-leading portfolio in hearing healthcare

Opn and the Velox platform

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Extreme processing power

Without sacrificing power consumption

	Factor	Velox platform	Inium Sense platform
Transistors (M)	7.4	64.5	8.7
Die size FE+DSP FE+DSP+RF (mm2)	<1	15.8 23.5	23.7 -
DSPs	8	7+1	1
Processors	2.8	11	4
Frequency bands	4	64	16
Processing power index	50	50	1

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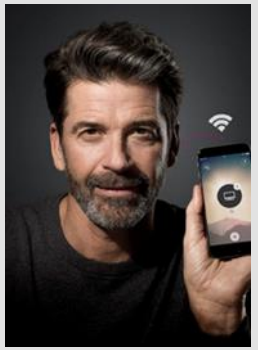
Processing put to use for BrainHearing

OpenSound Navigator

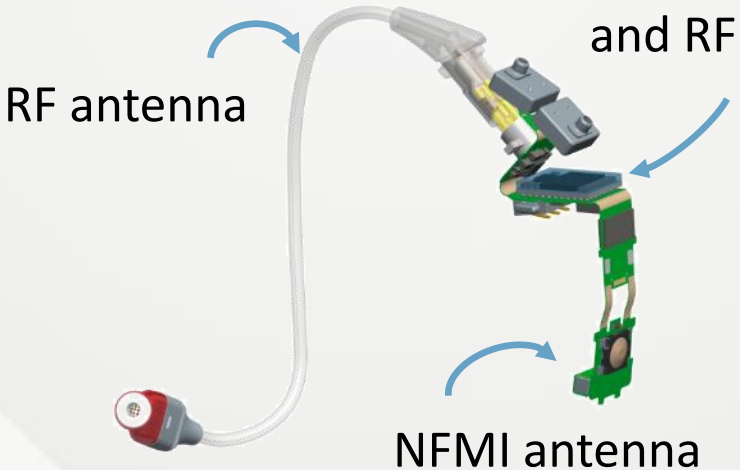
- Analyses and balances >100 times per sec.
- Balances individual sounds
- Attenuates remaining noise

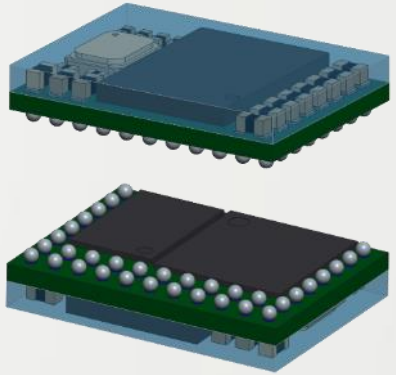
TwinLink

- **NFMI** for “always on” binaural interfacing
- Up to 24 times lower peak current than 2.4 GHz
- **2.4 GHz** receiver with world-class sensitivity (-96 dBm)
- Power consumption enabling hours of streaming during a day
- Resistant to interference



The integration





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Starting the digital journey

IFTTT

if ON then hue

More than 500 devices or services available

FW 5.0
Oticon A/S

Firmware release 1-2 times per year where product is updated with new functionalities

Portfolio and more to come …

Digital/apps

oticon

ON oticon

IFTTT

Genie

Hearing aids

Connectivity

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Future in hearing healthcare

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Future in hearing healthcare

Power – *advances in battery technologies*

Power – advances in battery technologies

Zinc Air

- Non-rechargeable
- Energy density 3-4 times of rechargeable

Silver Zinc/Li-Ion

- First-generation rechargeable
- 1 hearing day (>18hrs)
- Recharge in hours
- Li-Ion driven by consumer electronics and electric cars

Future

- Fast recharge
- New form factors
- New chemistries, e.g. solid state
- Higher densities

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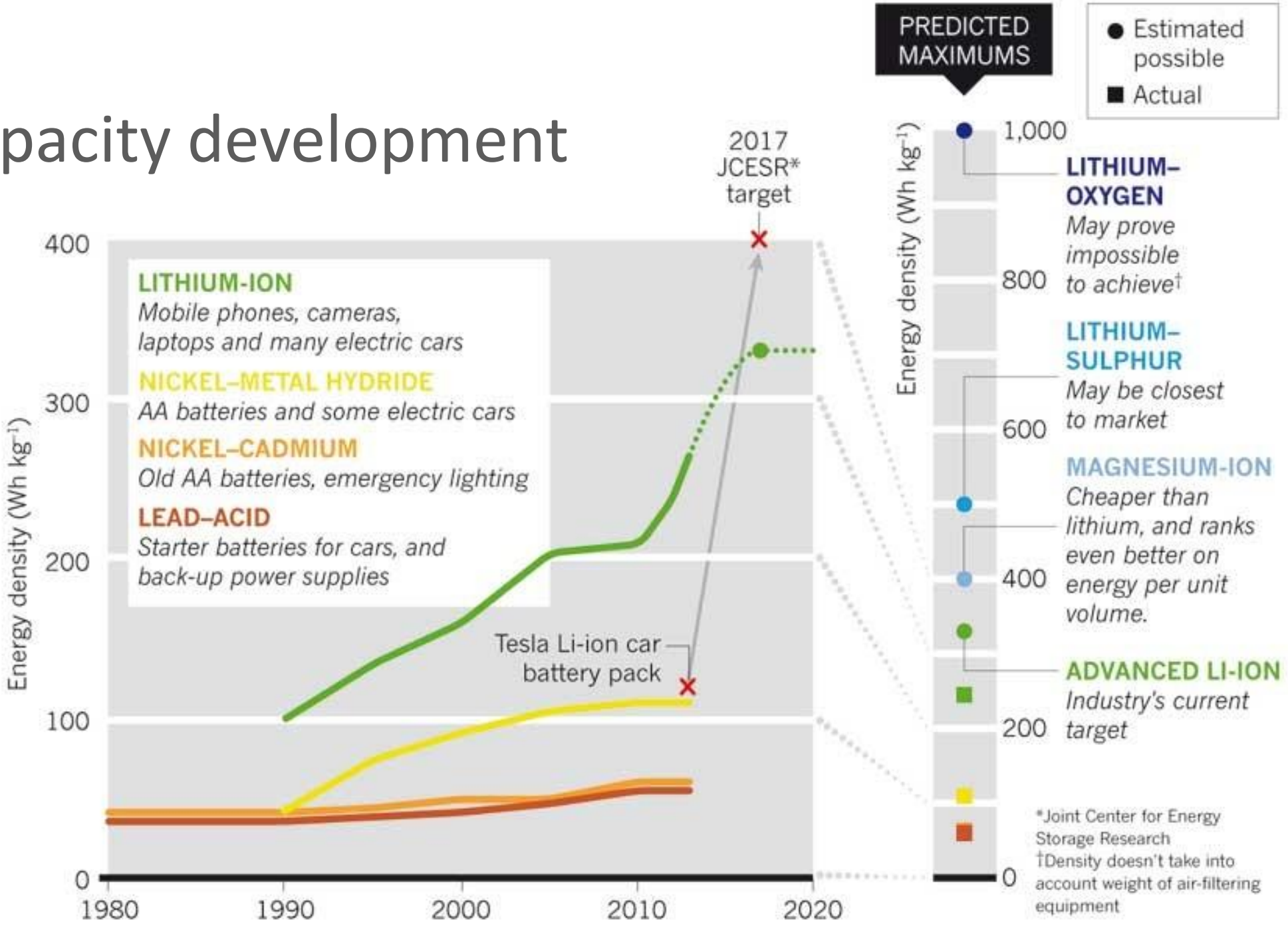
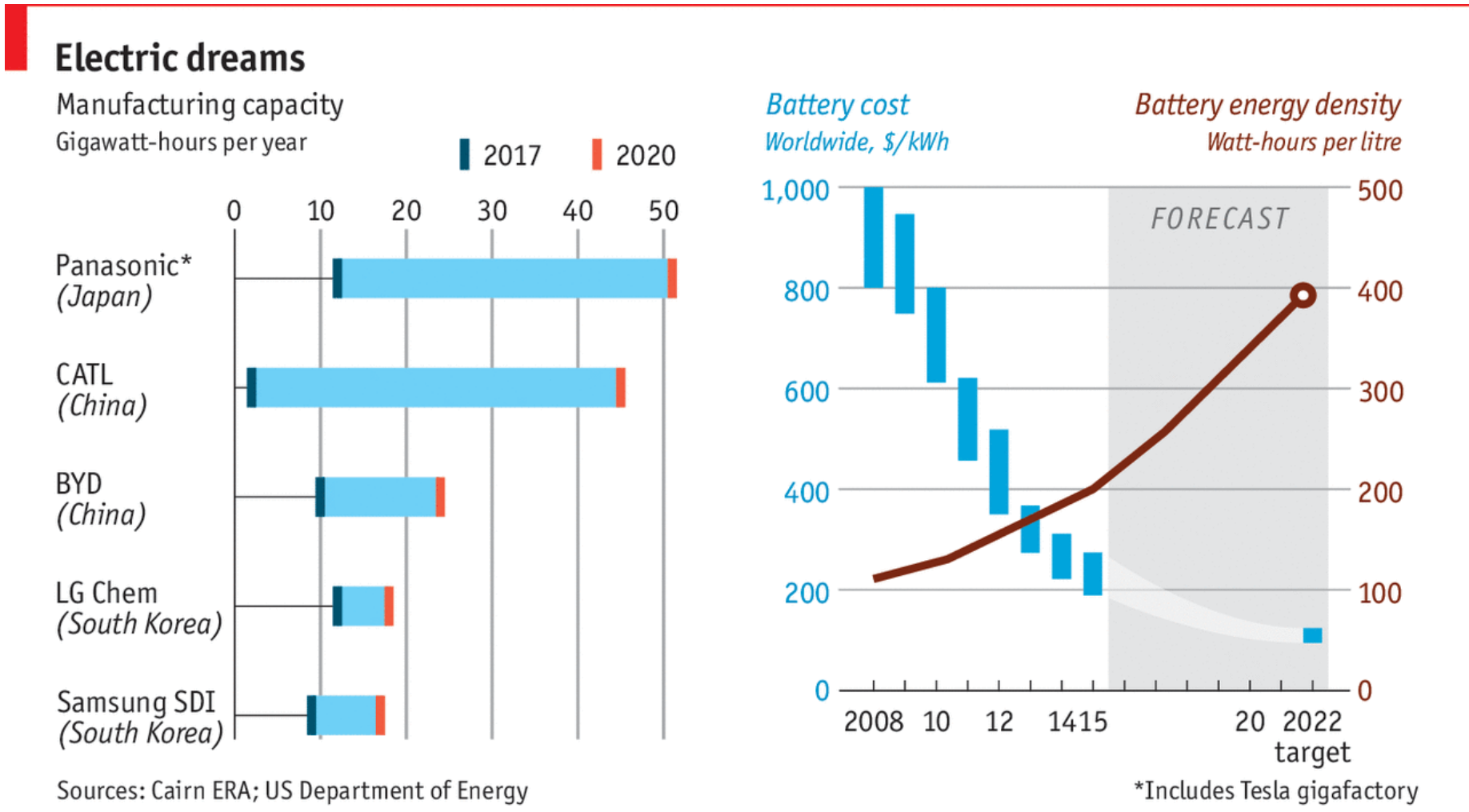
Battery capacity development



Source: https://www.nature.com/news/the-rechargeable-revolution-a-better-battery-1.14815

Cost of battery capacity rapidly decreasing



Source: https://www.economist.com/graphic-detail/2017/08/14/the-growth-of-lithium-ion-battery-power

Connectivity – *connected world*

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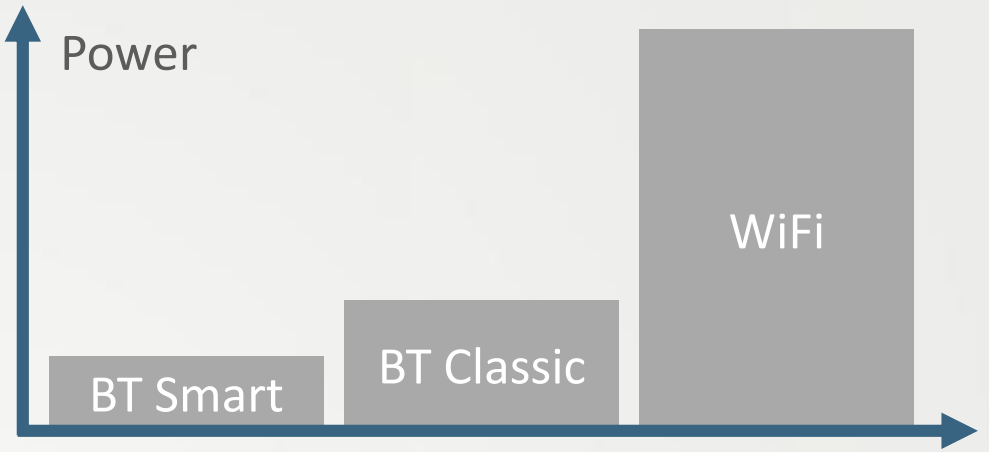
Wireless overview

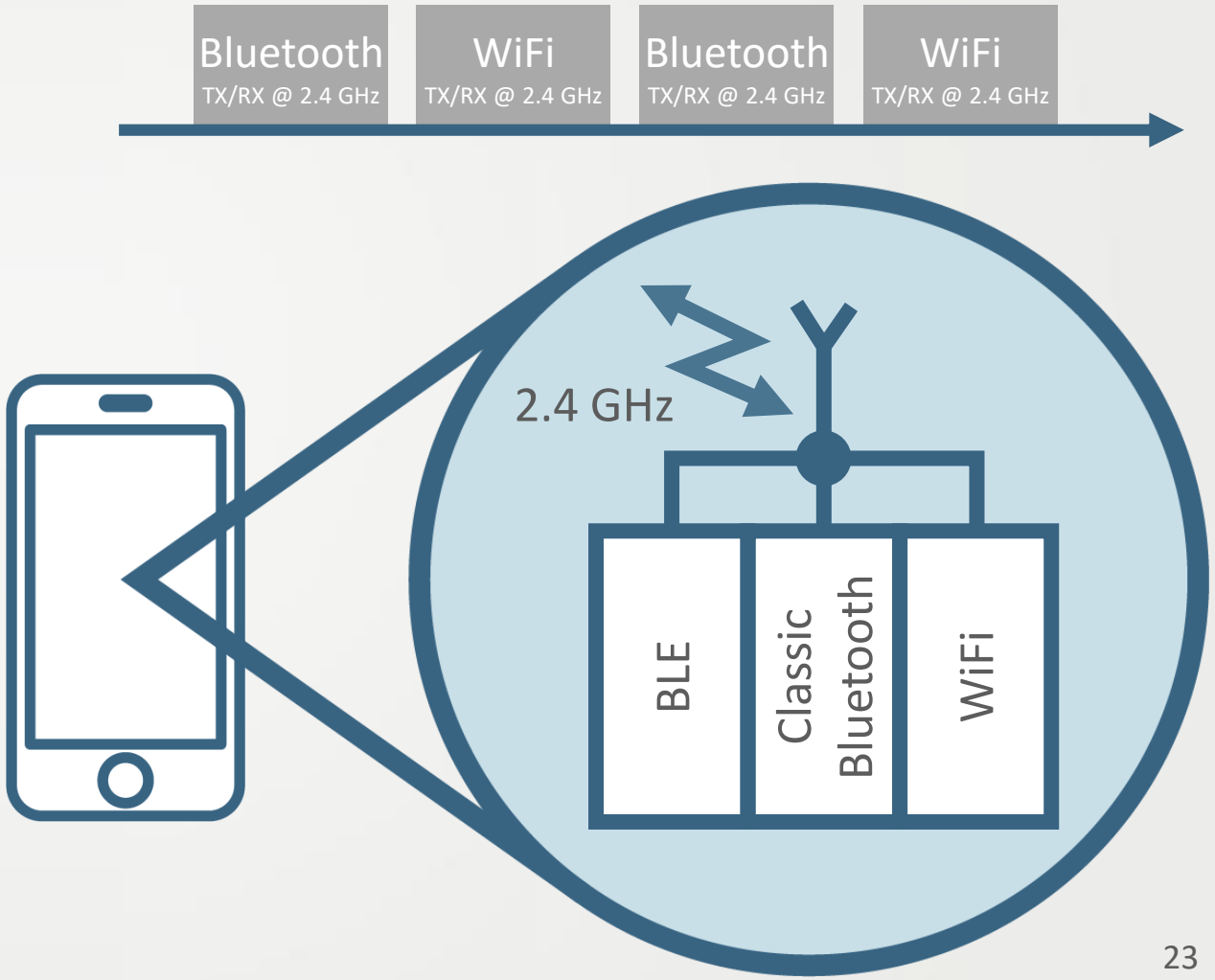


	BT Smart (LE)	BT Classic	WiFi	Notes
Coordinated audio connections supported	2	1	1	• Having two connections in BT Classic requires special shortcuts, leading to significant power consumption imbalance; especially noticeable in music streaming using A2DP • Current BT smart applications are proprietary, e.g. Apple BLE (LEA) and Oticon BLE (OBLE).
Power consumption	100%	~200%	600-800%	• BT Smart designed for low power consumption from the beginning (e.g. low complexity overhead) • WiFi peak currents is a problem for small batteries; WiFi transmission speed approx. 16 times BT
Development cycle	First phase	Final stages	Mid-life	• BT Smart included in BT version 4.0 in 2010

A2DP = Advanced Audio Distribution Profile

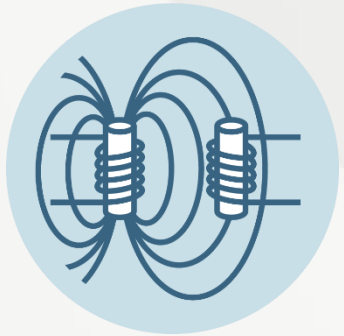
Smartphone using combo IC and sharing antenna

- Bluetooth Classic supports several data rates (e.g. 1 and 2 Mbps)
- Some BT Classic implementations in hearing devices use 1 Mbps audio streaming
- Typical A2DP (music) transport
  - 1 Mbps requires the antenna about 50% of the time
  - 2 Mbps requires the antenna about 25% of the time
  - Other Bluetooth traffic and packet re-transmission add to the total required Bluetooth antenna time
- Today, most smartphones reject A2DP at 1Mbps to optimise WiFi



Advances in connectivity

NFMI



- NFMI
- Telecoil

2.4 GHz

TwinLink
NFMI + 2.4 GHz

- OBLE for connectivity
- LEA for iOS
- Wireless fitting
- NFMI for binaural

Next

ehima

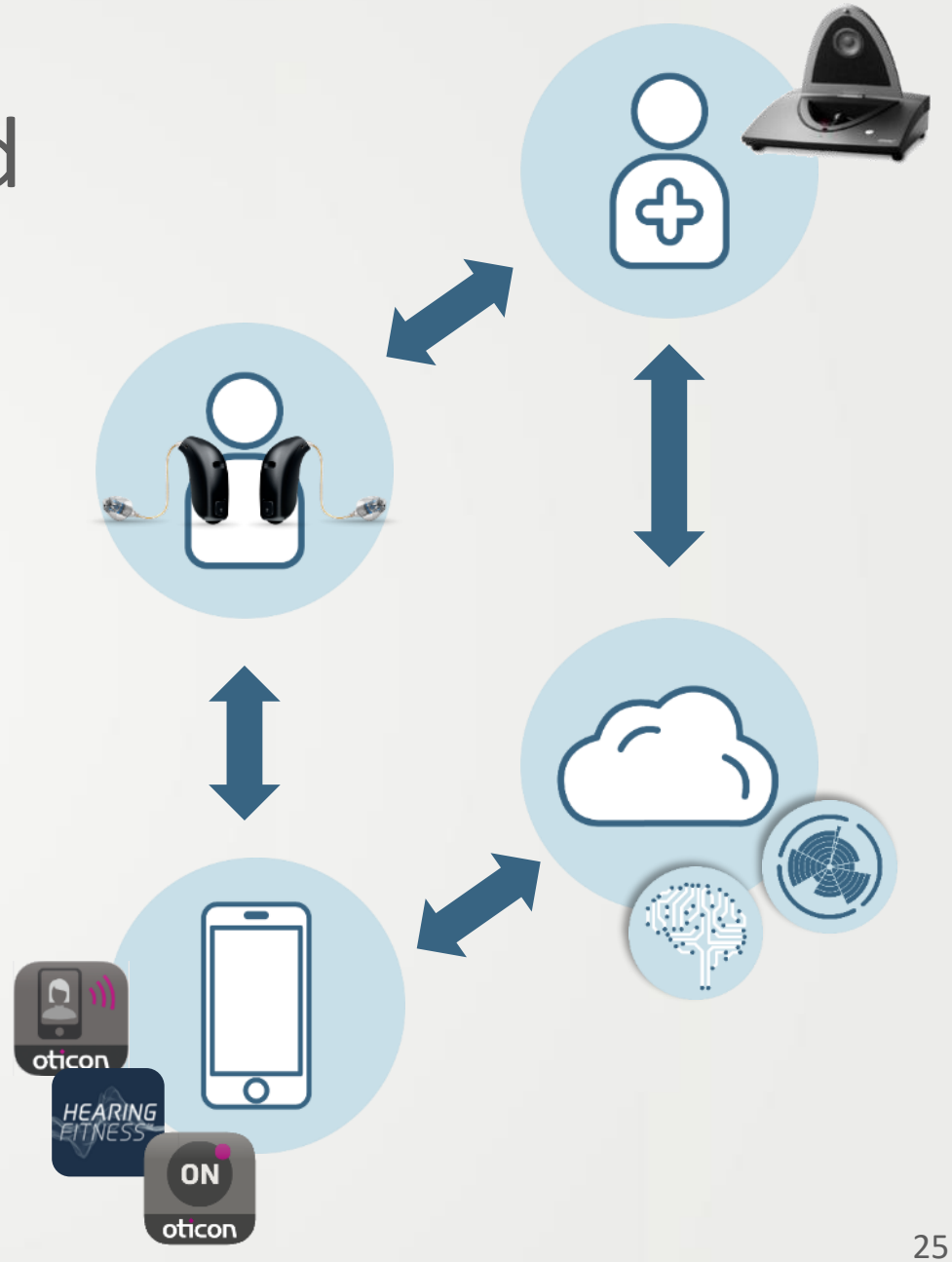
- BT standard driven by EHIMA members
  - New standard to support HI interfacing to consumer devices
  - Optimised for the application

Future

- Network-based protocols in HI – direct connection to LTE/WiFi – need power optimisation
- New protocols for telecoil applications
- More radio technologies to be implemented in the devices

Connectivity – connected world

- Hearing devices are fully connected devices
  - No more monolith – part of an eco system
  - Compatibility and update – software
- Consequences
  - Software updates of hearing devices, apps and fitting software
  - HCPs to be on-line
- Huge perspectives for applications
  - User data (e.g. sensors) logging and analysing
  - Update of settings
  - Optimisation of HCP’s workflow
  - Integration with diagnostic equipment
  - Remote care



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App is the “face of the product”

Example: HearingFitness – the “hearing tracker”

- Hearing data
  - Use time
  - Sound environment
- Health data
  - Sleep, pulse, exercise …
- Data analysis
  - Data mining, clustering, correlation
- Insights
  - Hearing progress versus personal goals

HEARING FITNESS

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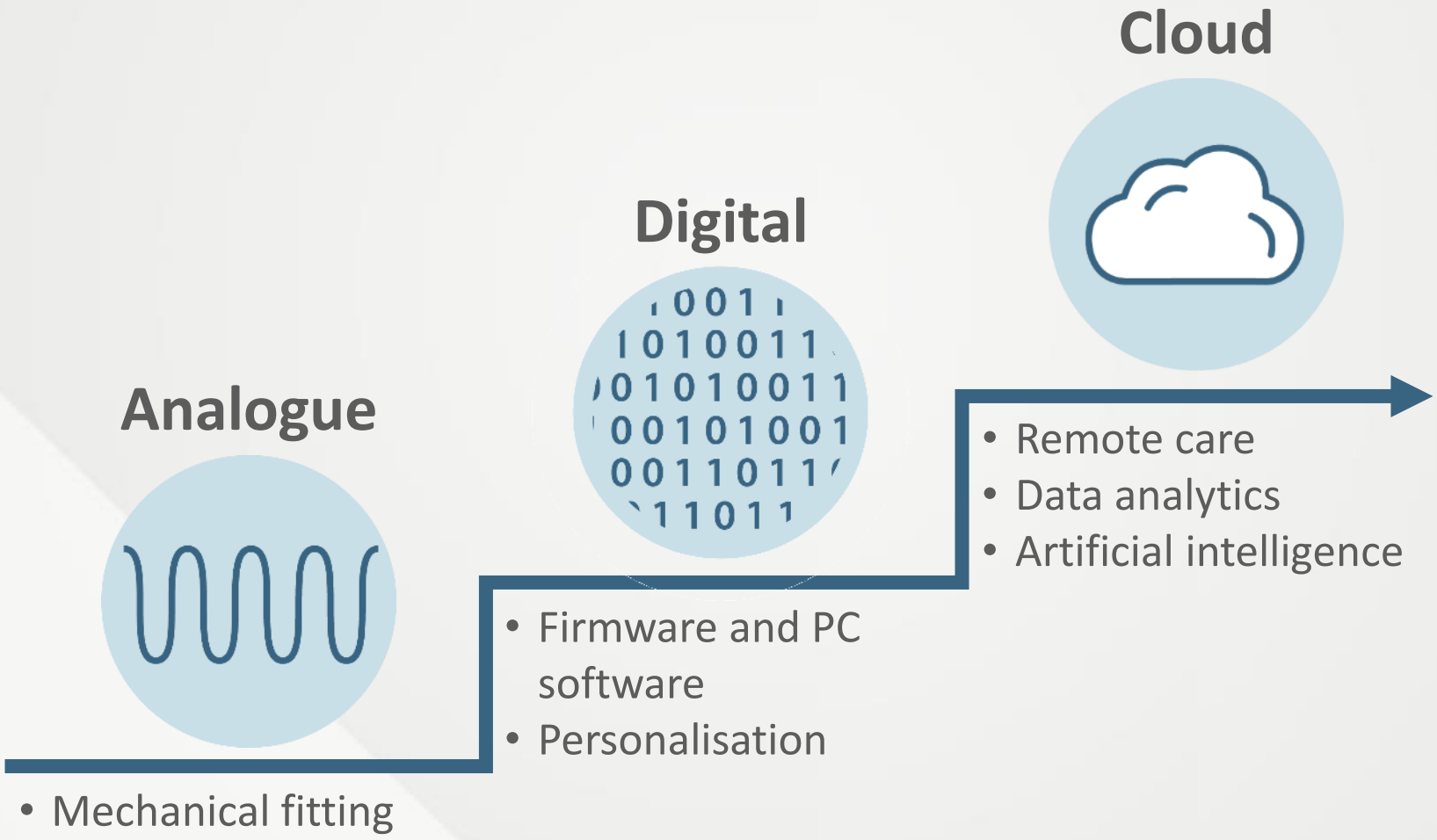
Fitting and counselling – *engaging with end-users*

Fitting and counselling – engaging with end-users

Major steps in hearing device fitting and counselling



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Remote care – online fitting

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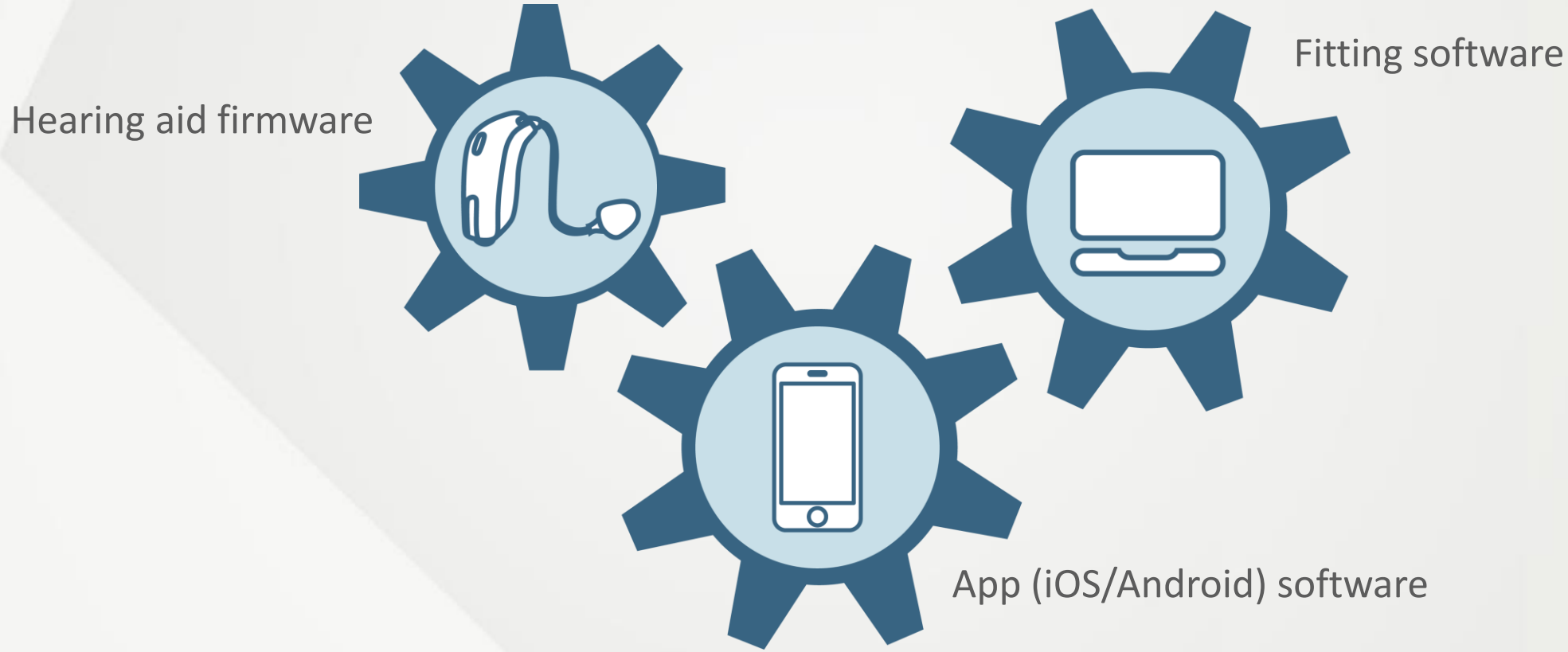
Digitising the fitting suite

Need to synchronise multiple development cycles



Audiology –
continuous innovation and breakthroughs

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Advances in audiology

Analogue

- Gain

Digital

- SNR – DIR
- FBM – open fit
- Binaural

Opn

- OpenSound Navigator
- Speech Guard LX
- BrainHearing
- Information preservation

Future

- New audiology supported by:
  - Brain load
  - Head position
  - Eye tracking
  - Other sensors
  - Artificial intelligence
  - ….

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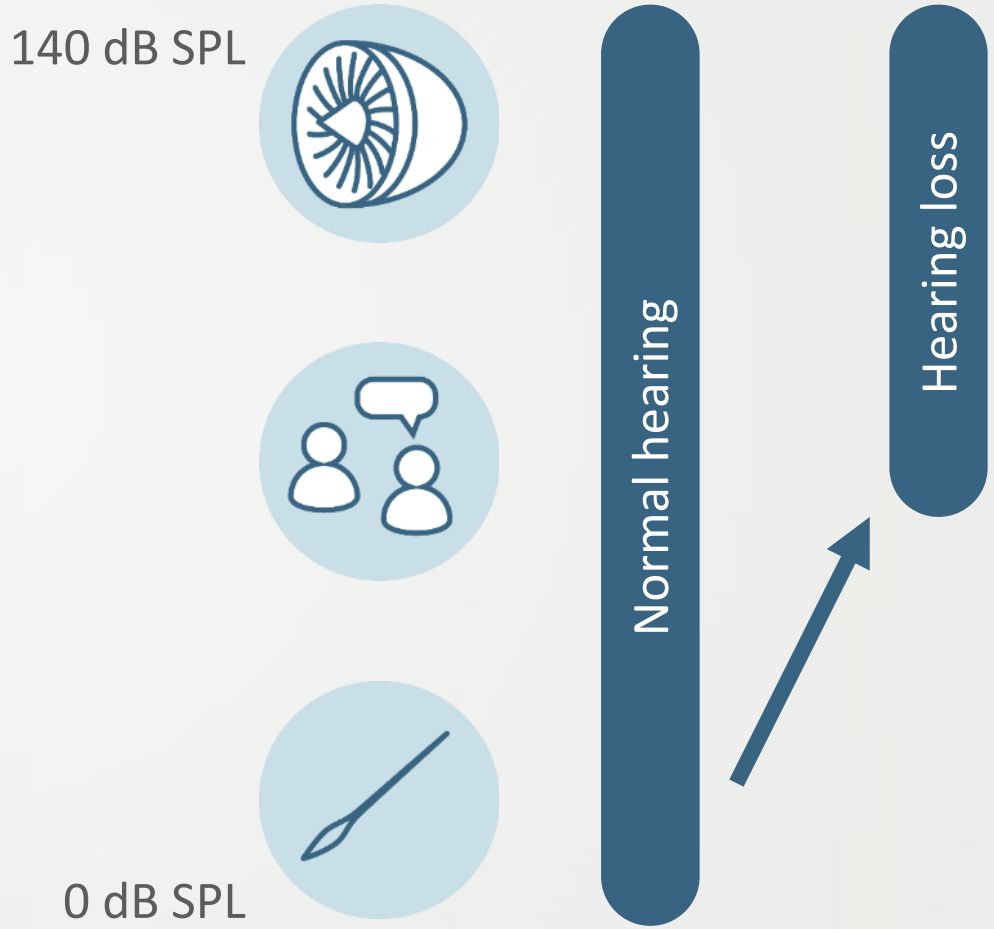
Hearing loss – losing the ability to hear and focus

- Hearing impaired lose the ability to focus and follow a conversation
- Loss of hair cells in the cochlear results in reduced dynamic range (e.g. 140 dB to approx. 60 dB), dependent on the hearing loss
- The auditory system and brain need help
- Traditional compression enhances dynamic range, but includes noise – it becomes difficult to separate noise and speech
- Removing too much noise makes the sound picture unnatural – nuances are lost
- Opn applies an adaptive and intelligent noise reduction system



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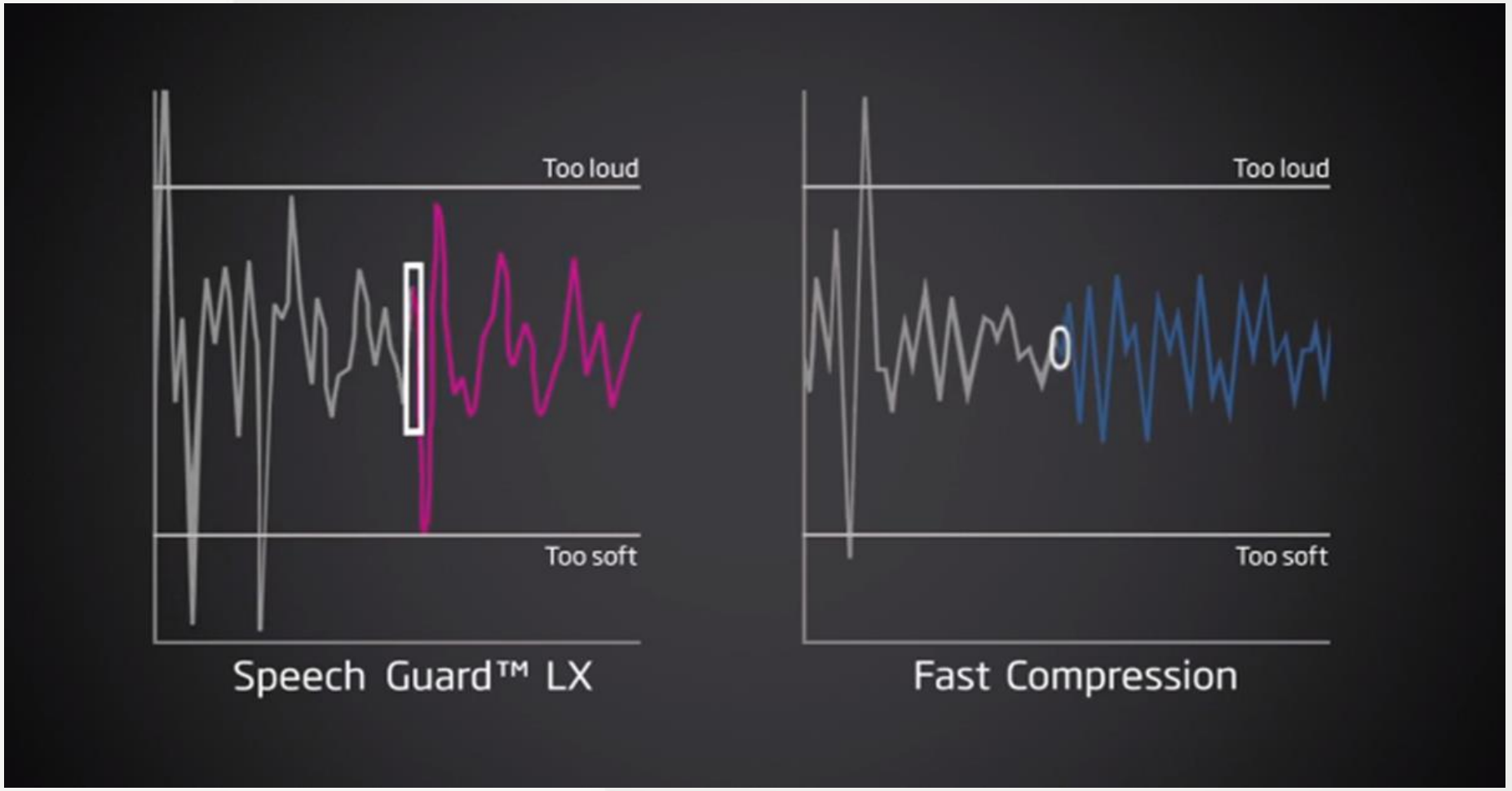
Speech Guard LX compression strategy



Fast

Adaptive

Speech Guard LX preserves clear, transparent sound quality and speech details for better speech understanding with less effort even in complex environments

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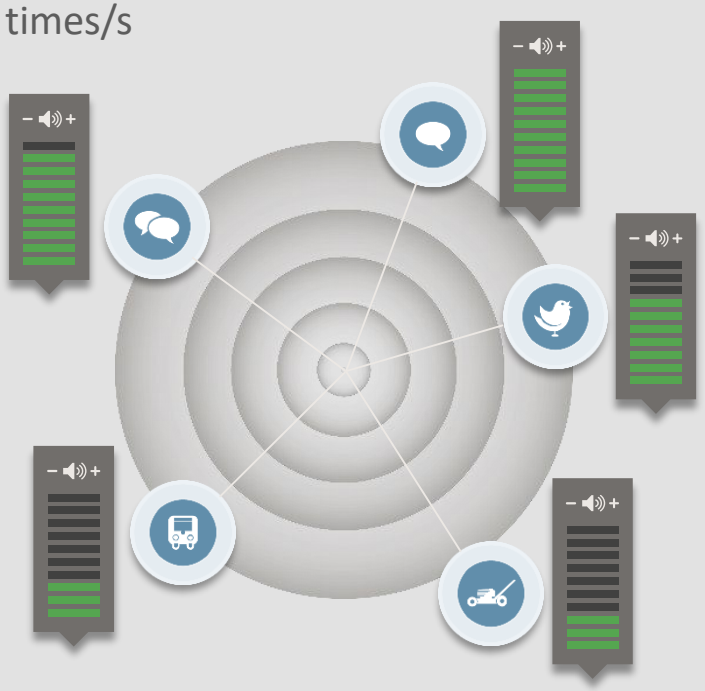
OpenSound Navigator

Analyse

Snapshot of acoustics 500 times/s

Balance

Balancing of noise and speech >100 times/s



Noise removal

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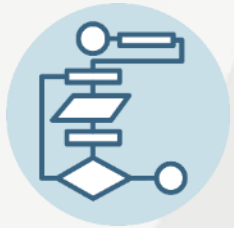
Audiology – continuous innovation



Intelligent algorithms

- Reducing the unwanted, keeping the essential
- Superior feedback management

Improving speech detection and reducing noise

- A natural 360-degree experience
- Towards normal and even super hearing

Recreating the perception of nuances

- Hearing impaired have low dynamic range
- One size does not fit all – personalisation and adaptation

Full-day experience – 20 hours' wearing time

- Optimising the brain load – avoid fatigue
- Comfort – in fit and sound

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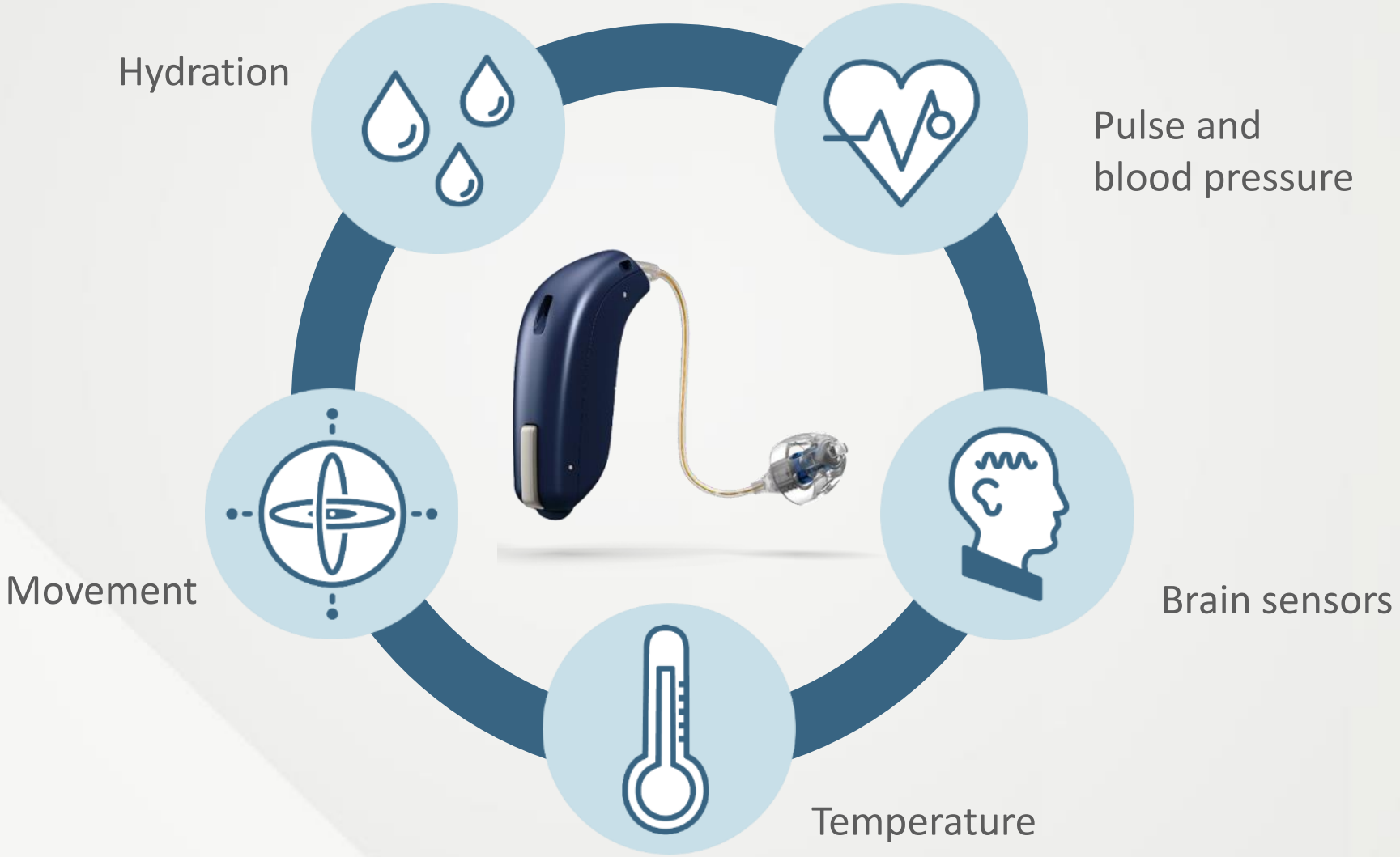
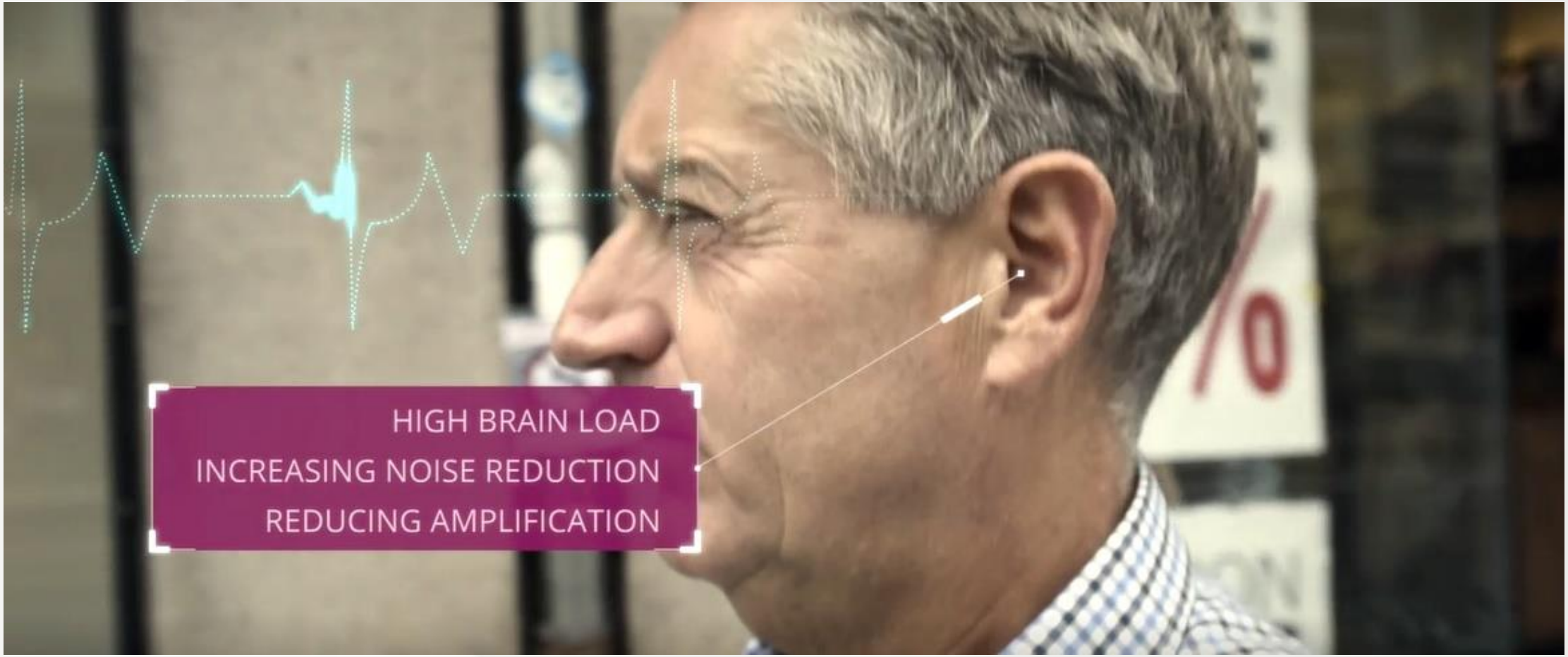
Sensor opportunities



Example – brain load



Quick introduction to artificial intelligence (AI)

Artificial intelligence is a computer system able to perform tasks that normally require human intelligence

Machine learning is the ability of an algorithm to learn from prior data in order to produce a behaviour

Deep learning is a technique to implement machine learning through the use of deep neural networks

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Artificial intelligence successes

- **Self-driving and self-parking cars**
  - Object detection and predictions
- **Photography**
  - Identification of facial features for focus
  - Improvement of focus, colours etc.
- **Face recognition**
  - Access to smartphone instead of fingerprint
  - Recognition of people in photos

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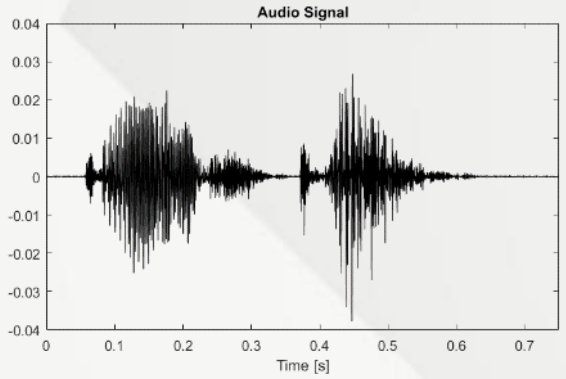
Deep learning on hearing aid audio

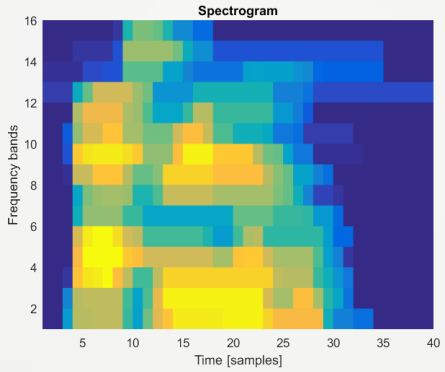
Using image techniques on spectrogram (speech features) – accuracy of up to 95%

Raw audio signal



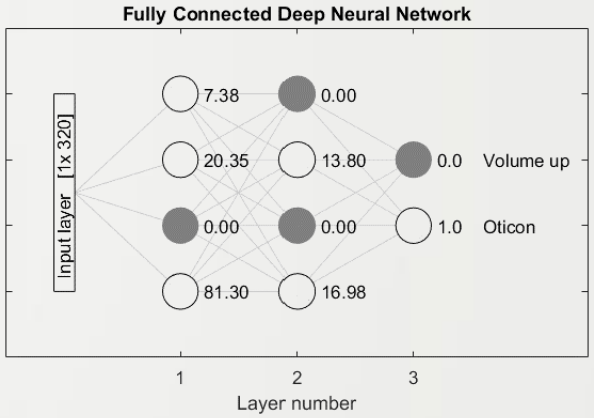
”Oticon”

Image representation



Spectrogram

Predictions



Example network

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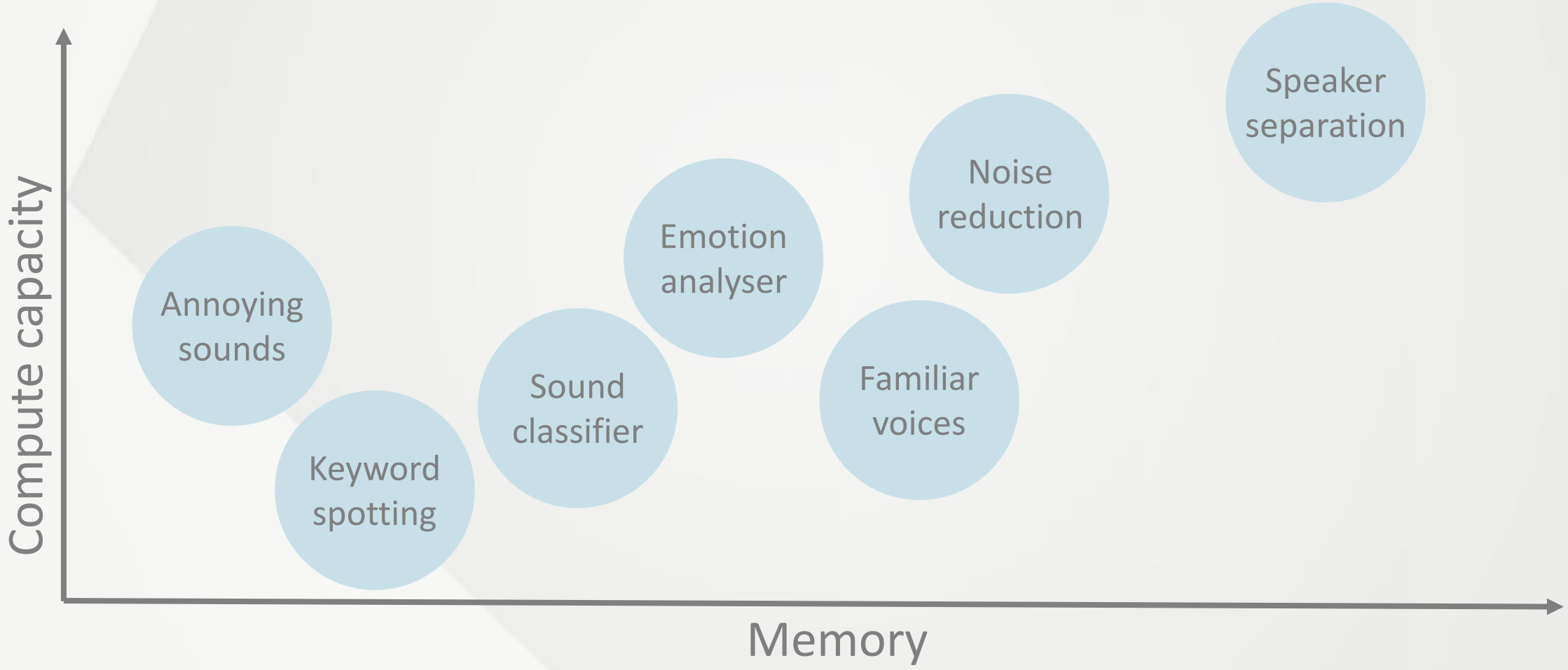
Addressing the future challenges

Significant steps require increased compute capacity and memory



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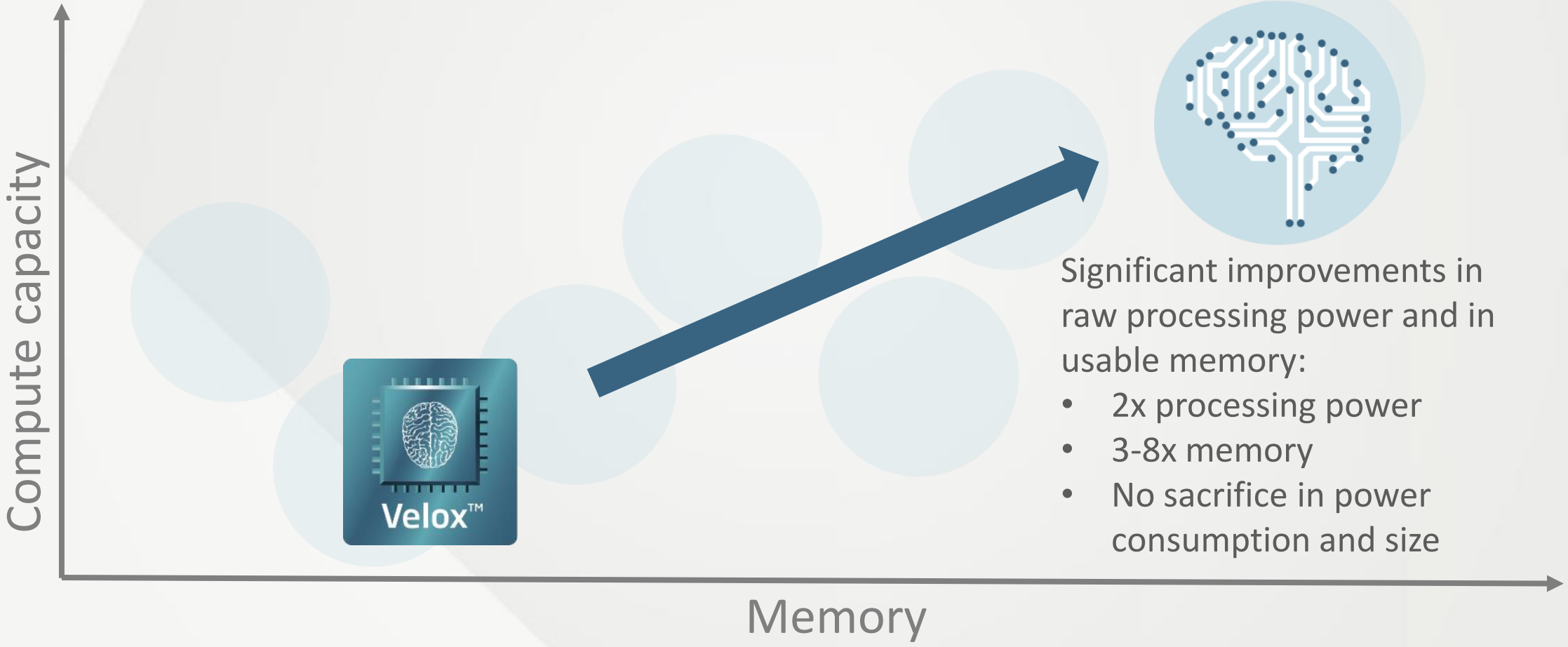
Addressing the future challenges

Significant steps require increased compute capacity and memory

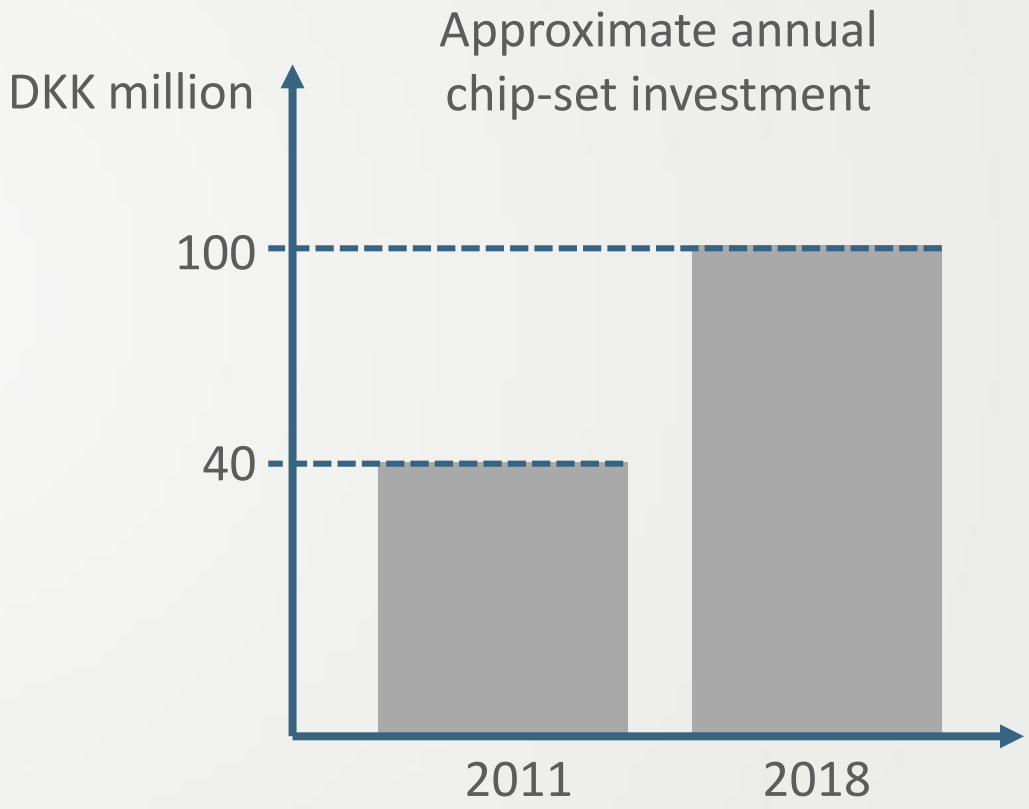


Significant improvements in raw processing power and in usable memory:

- 2x processing power
- 3-8x memory
- No sacrifice in power consumption and size

Driving the performance of hearing devices

- The chip-set makes a big difference in the performance of the solution
  - Computer power and memory needed for running the algorithms and applications
  - Wireless connectivity for binaural, 2.4 GHz, telecoil as well as future applications and standards
  - The optimisation of performance, power consumption and size
  - The ability to operate on several power supply technologies for a full hearing day
- Complexity increasing significantly with the introduction of new technologies, e.g. in wireless, software upgradeability and AI



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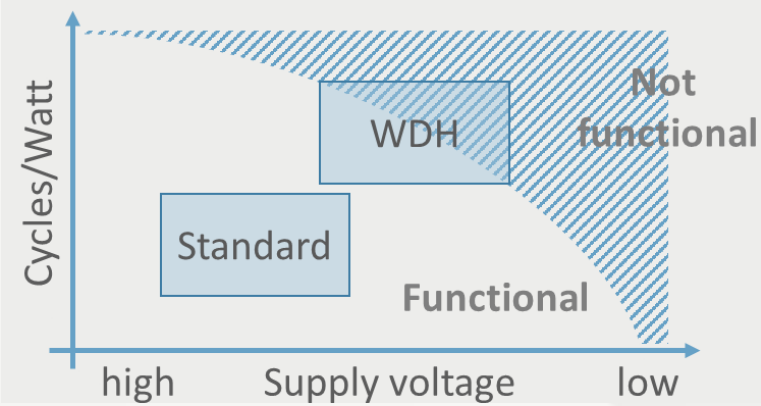
Benefits of in-house design – examples

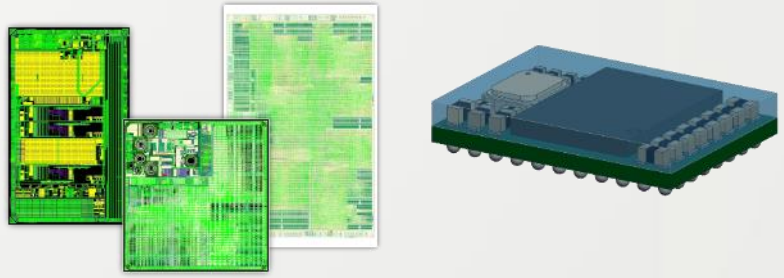
Pushing the boundaries of IC development

- Optimised power consumption for both Zinc Air and rechargeable
- Yield and sorting to optimise performance of integrated circuits
- Aspect ratio of integrated circuits optimised for hearing aid integration



Optimised integration for HI application

- Architecture optimised for simultaneous audio processing, 7+1 cores
- Codecs selected for HI application
- Optimised modular hardware construction
- Full access to all layers in the firmware and software stack, enabling higher performance



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The future – automatic and personal learning

TODAY

- Optimised algorithms and detectors
- Fitting based on audiogram, diagnostics and personal preferences
- Adaptation management

FUTURE

- Combining sensors, wireless and AI
- Optimised automatic learning algorithms
- Fitting also using cloud knowledge base, analytics and AI on Group data
- Life-long adaptation through personal sensor input, context and cloud data

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Industry innovation leadership

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Overview of R&D sites

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Why Warsaw?

Warsaw selected as future location of R&D after intensive project with Deloitte in 2015

- R&D sector including:
  - 75 universities and 250,000 students
  - 150 scientific institutions
- The country's largest science and technology centre
- Access to excellent software competences
- Sixth place in the world according to the Global Investment Intensity Index
- Excellent infrastructure
- Already more than 100 employees in place

Global Investment Intensity Index: Which cities attract the most real estate investment relative to their size?

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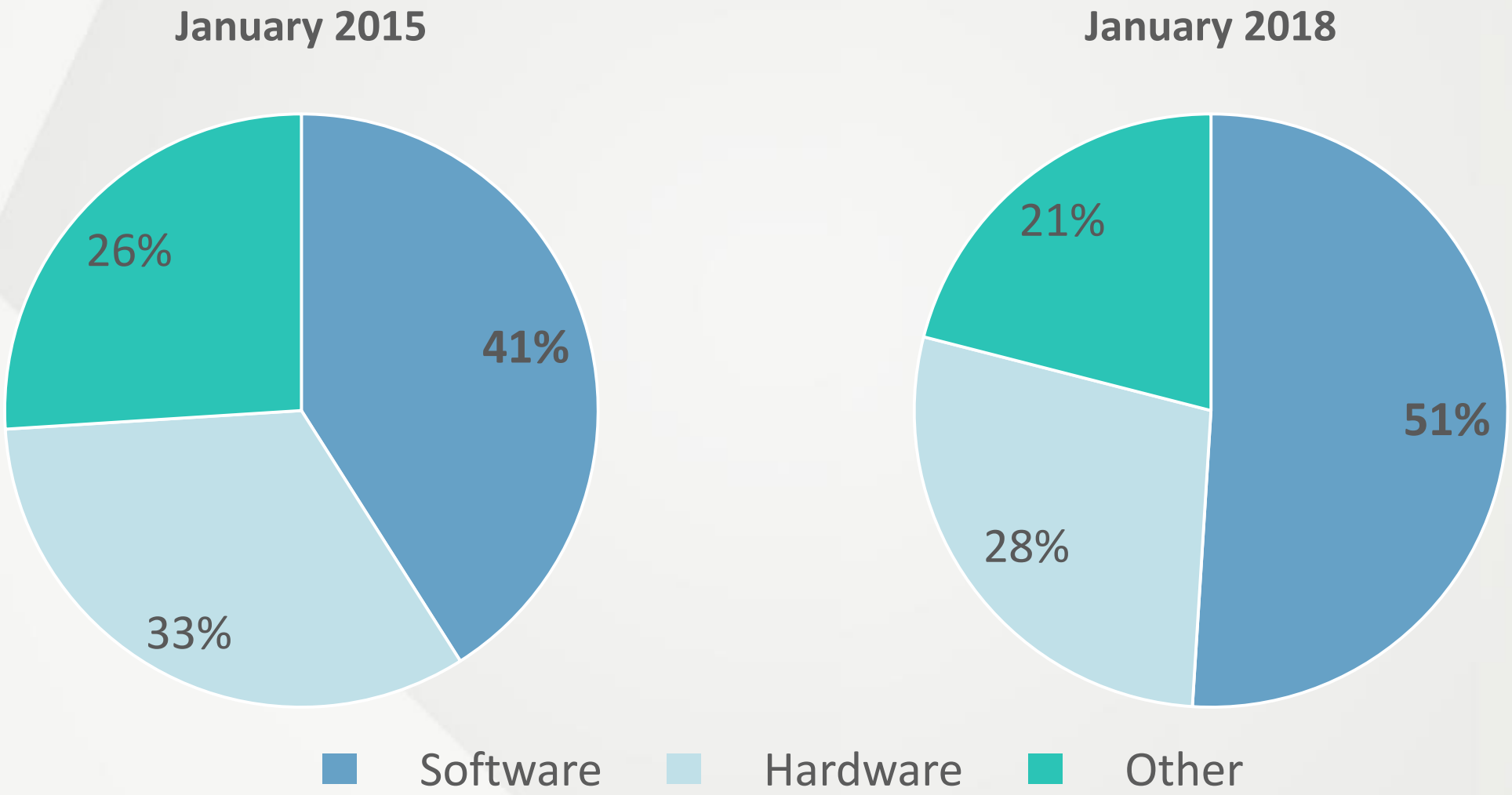
R&D transformation towards software focus



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Access to talent is key

“World of sound” award-winning employer branding video

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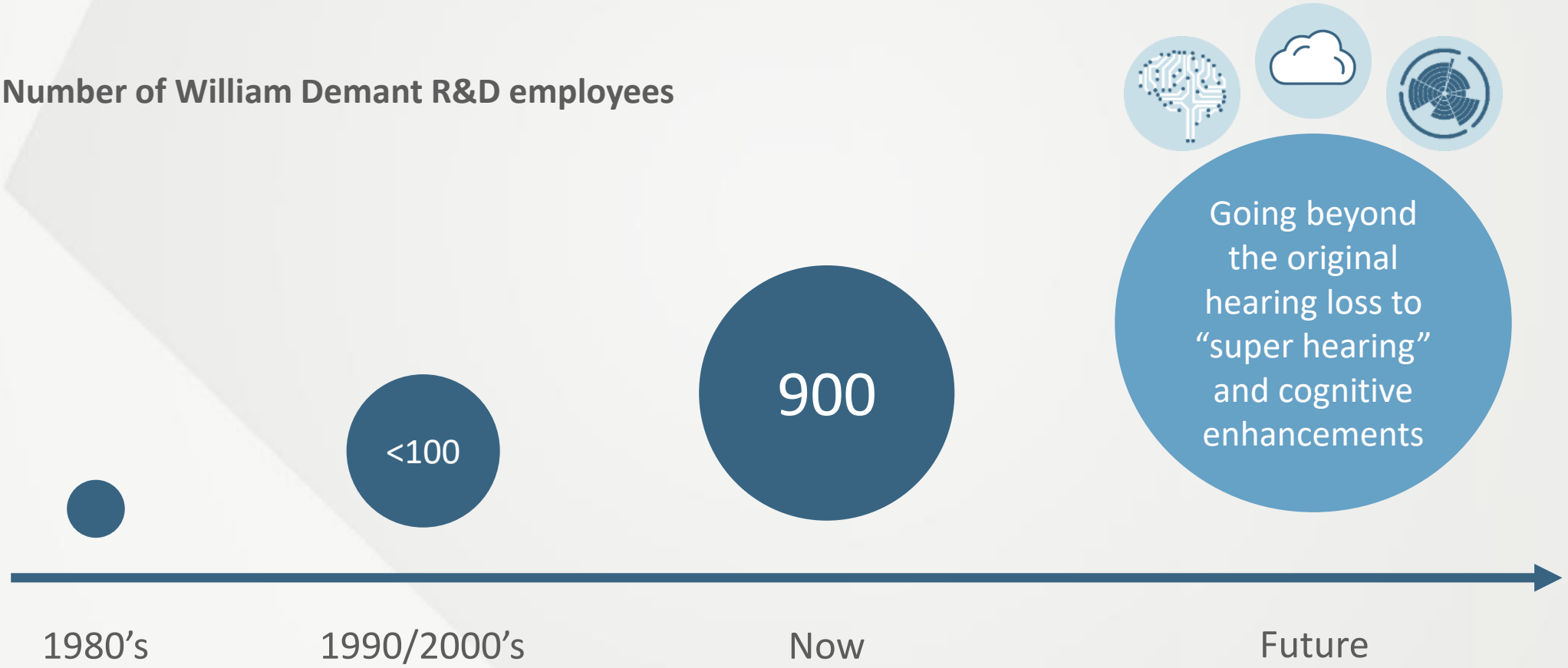
The R&D journey continues

Complexity of hearing aid development is increasing rapidly

Number of William Demant R&D employees



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Q&A

Operational excellence in Retail

Niels Wagner
President, Retail

William Demant

Niels Wagner

President, Retail

Curriculum

- Born in 1971
- Cand. Oecon, Aarhus University
- President, Retail in William Demant Holding since 2007
- Vice President, Retail, GN ReSound, 2006-2007
- Sales Director, Synoptik, 2003-2006
- General Manager, Oticon Australia, 2000-2003

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Retail – an integrated part of Group strategy

First major retail acquisition completed in 2000 (Hidden Hearing in the UK)

Gaining market share

Protecting existing distribution points and gaining new ones with a profitable and attractive business model

Getting closer to the end user

Better understanding of the end-user journey and challenges for end-users and dispensers

New technologies across retail and wholesale

Technology for optimising fitting flow and efficiency as well as ensuring right product development and innovation

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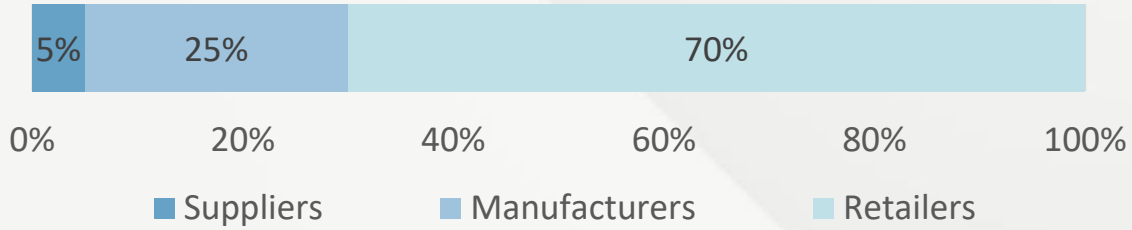
Tapping into a valuable part of the value chain

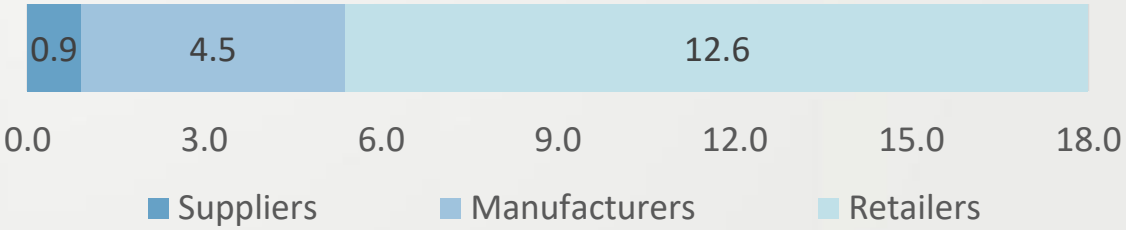
- Hearing aid retail represents the largest part of the value chain
- Significant distribution costs reflect the need for marketing, counselling and after-sales service

- Global hearing aid retail market characterised by continued consolidation for two decades but remains highly fragmented:
  - Independent retailers remain the single-largest distribution channel
  - Few global retail players

Value capture across value chain (%):



Value capture across value chain (USD billion):



Note: Company estimates

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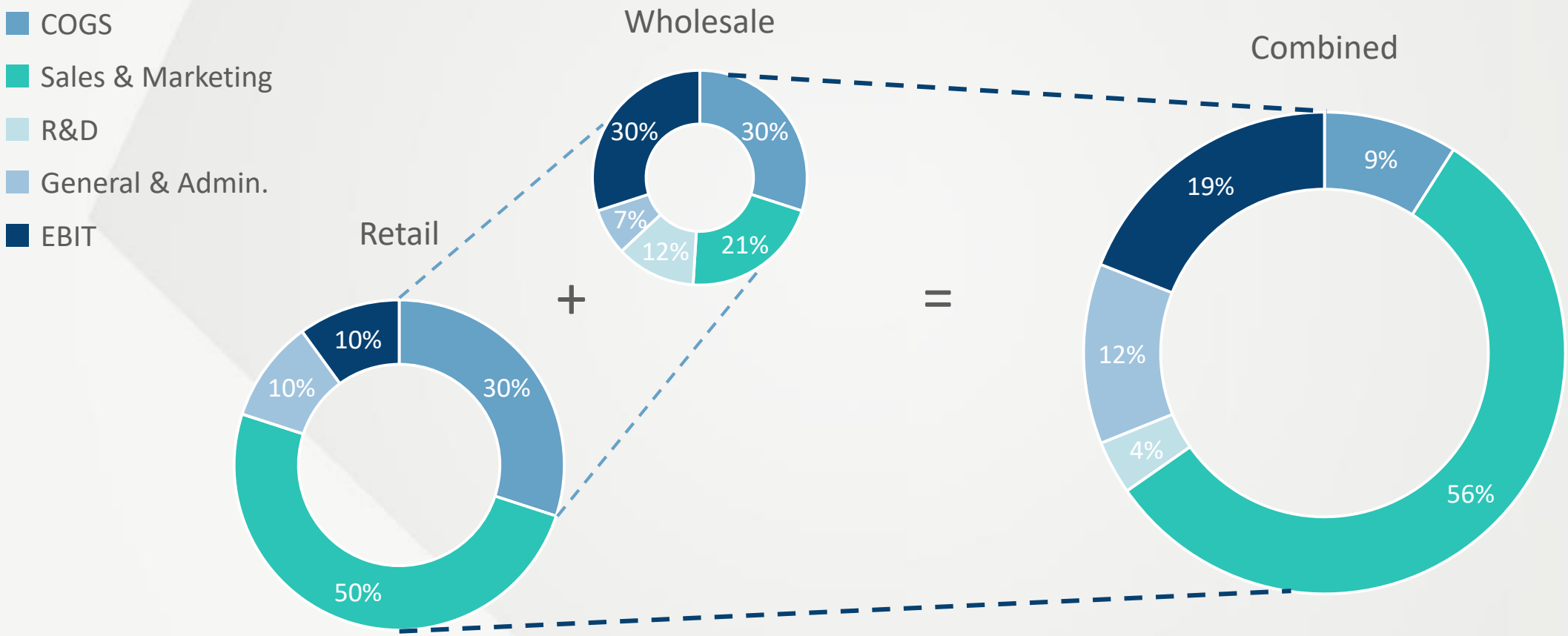
Retail adding scale to Group



Note: The illustration above is a mechanical example, showing percentage of revenue without possible synergies etc.

Approach to managing retail has evolved

1. Consolidation of acquisitions in chains
2. Rebranding
3. Association of own retail with William Demant Group
4. Centralisation
5. One company approach – several names

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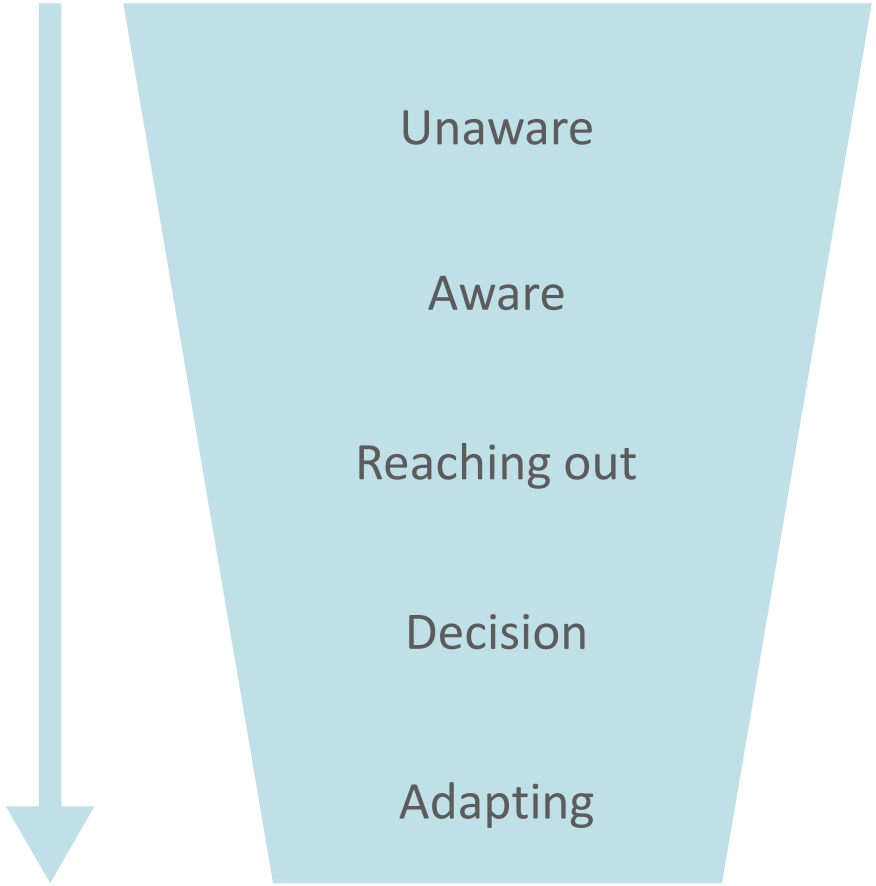
Audika movie

Moving customers through the sales funnel

- Moving customers through the sales funnel is expensive in hearing aid retail
  - Stigma
  - Denial
  - Reluctance
- Overall market potential is significant and the ability to generate and convert leads is key
- Retailers often create their own market rather than steal customers from competitors



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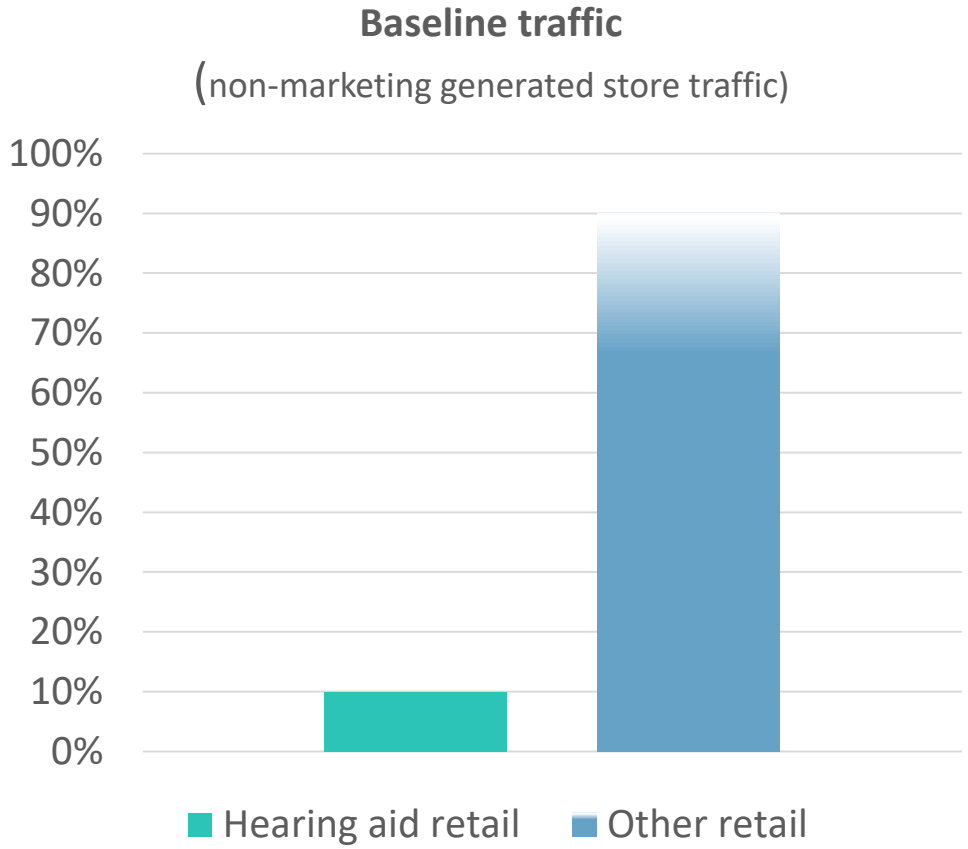
Very low baseline traffic compared to other retail

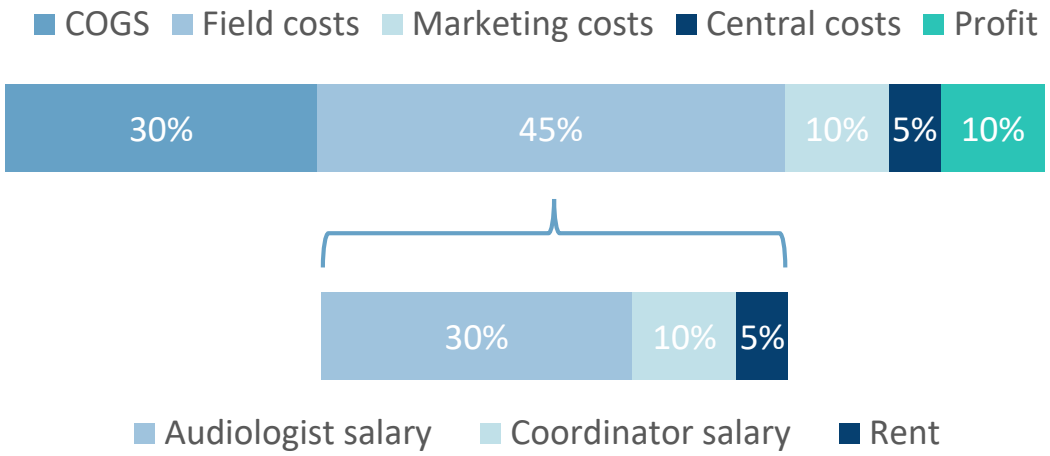
- Hearing impaired are in denial and not actively looking to purchase – and very few drop-by customers
- Marketing is needed to drive traffic and the cost of generating a lead is typically material



Salary of an audiologist is main cost driver in retail

- Time of audiologist is in limited supply
- Step-wise expansion
- Characteristic of fixed capacity in terms of an audiologist's time in any given geography is similar to airline, hotel and restaurant businesses
- Schedule management is crucial in order to increase efficiency

Example of audiologist salary in total cost structure (for indicative purposes):



Note: Round numbers for illustrative purposes (standalone retailer)

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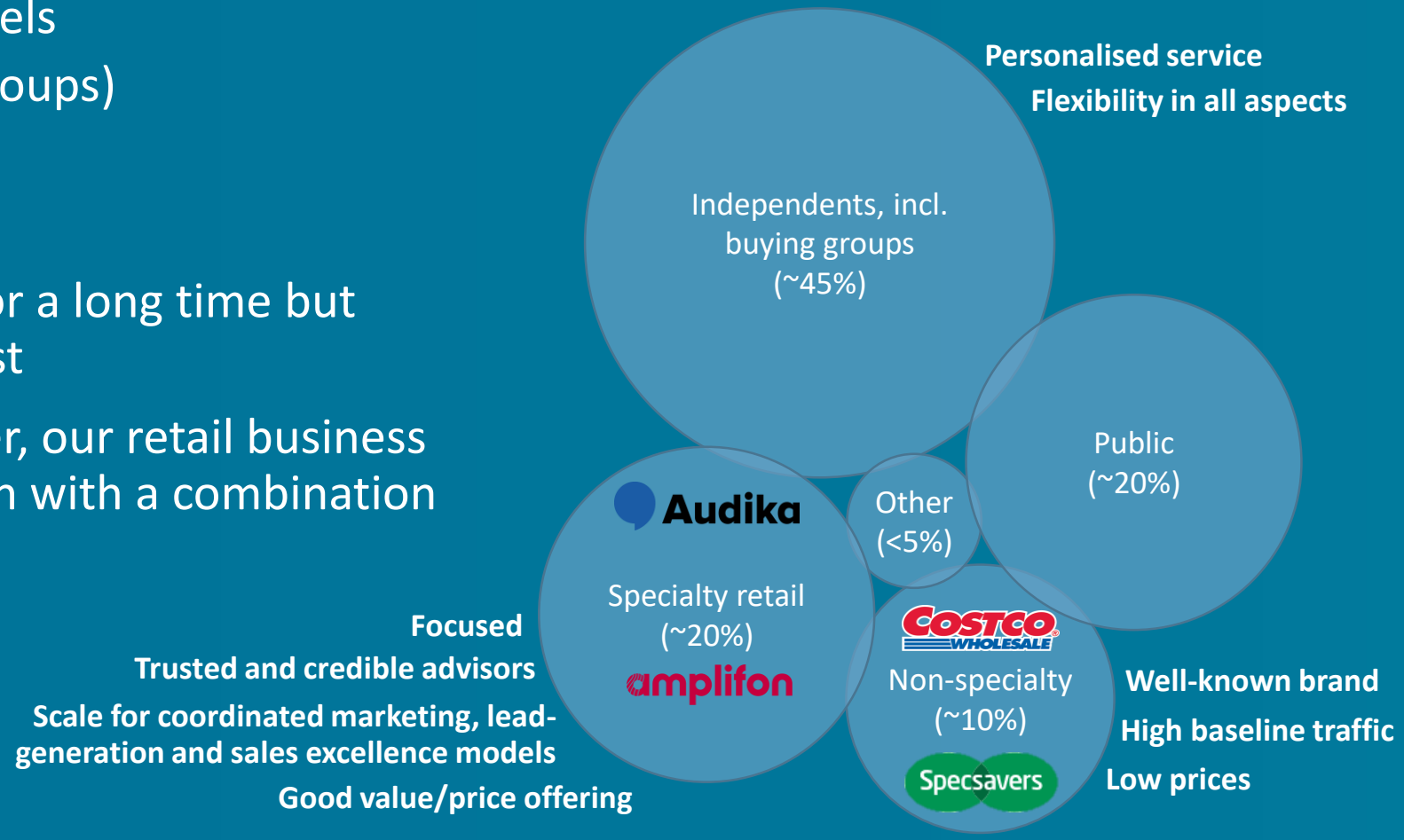
Different sales channels with different positioning

- Three major private sales channels
  - Independents (incl. buying groups)
  - Specialty retail
  - Non-specialty retail
- Consolidation has taken place for a long time but channels will continue to co-exist
- As a specialty hearing aid retailer, our retail business has an attractive market position with a combination of focus, credibility and scale



Note: Percentages are company estimates of respective channel's share of overall market (volume)

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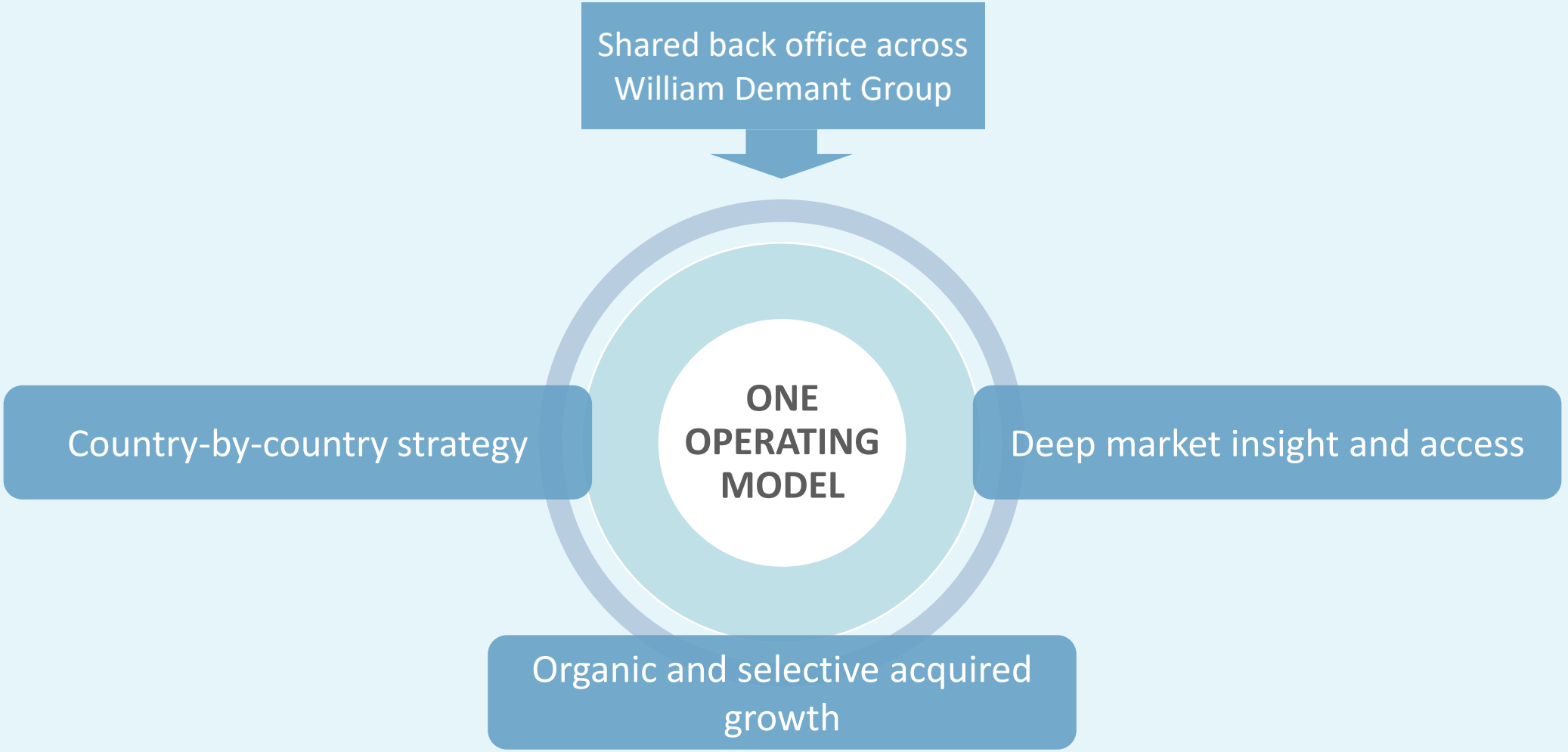
Retail strategy



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One operating model: Core capabilities

Focus on establishing one operating model across our retail organisation to support effective marketing, lead conversion, training, relationship with end-users etc.

Three core capabilities:

- People: Brand, leadership and culture
- Marketing: Digitalisation of consumer journey
- Systems: IT business systems and new digital technology

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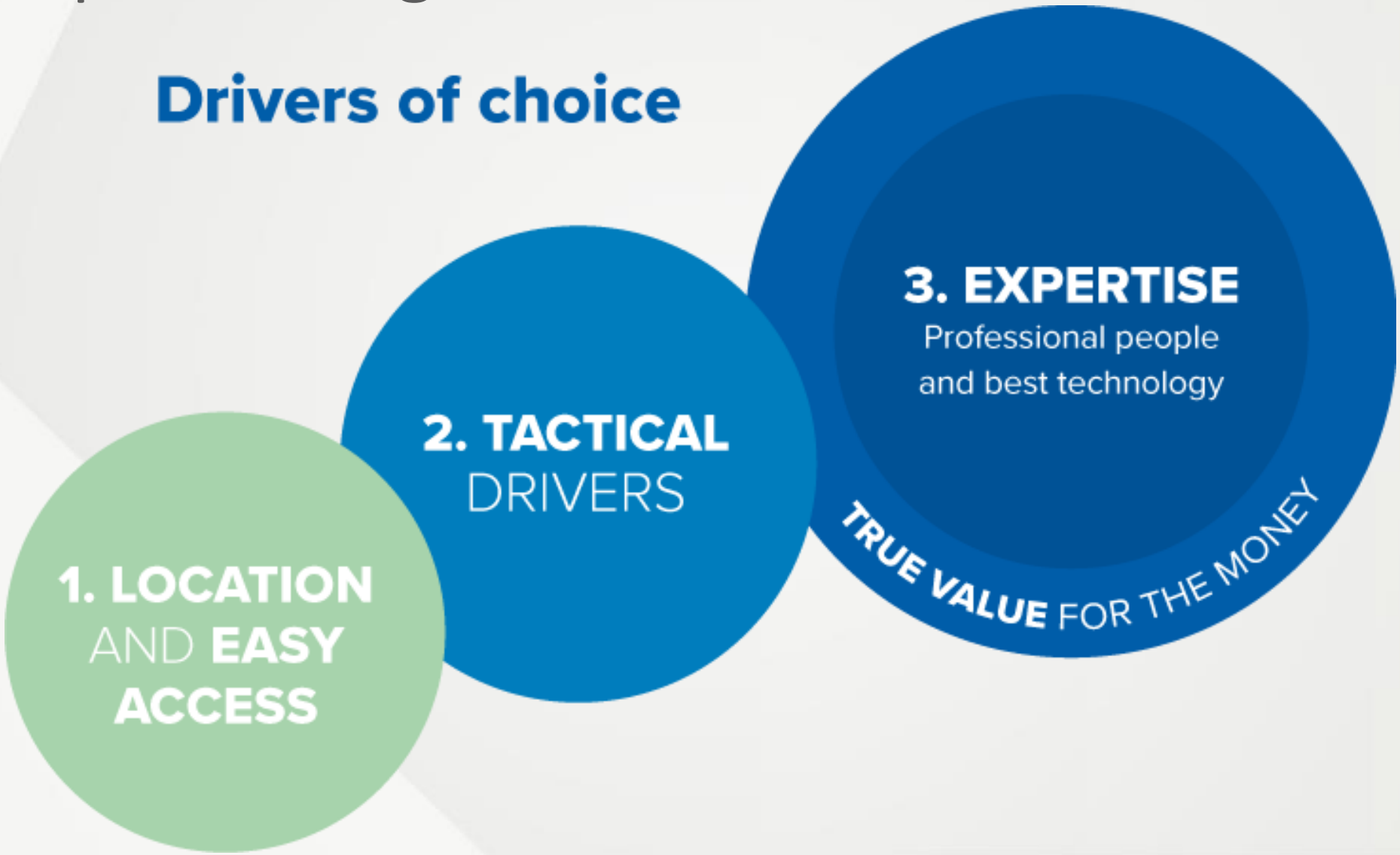
Brand positioning



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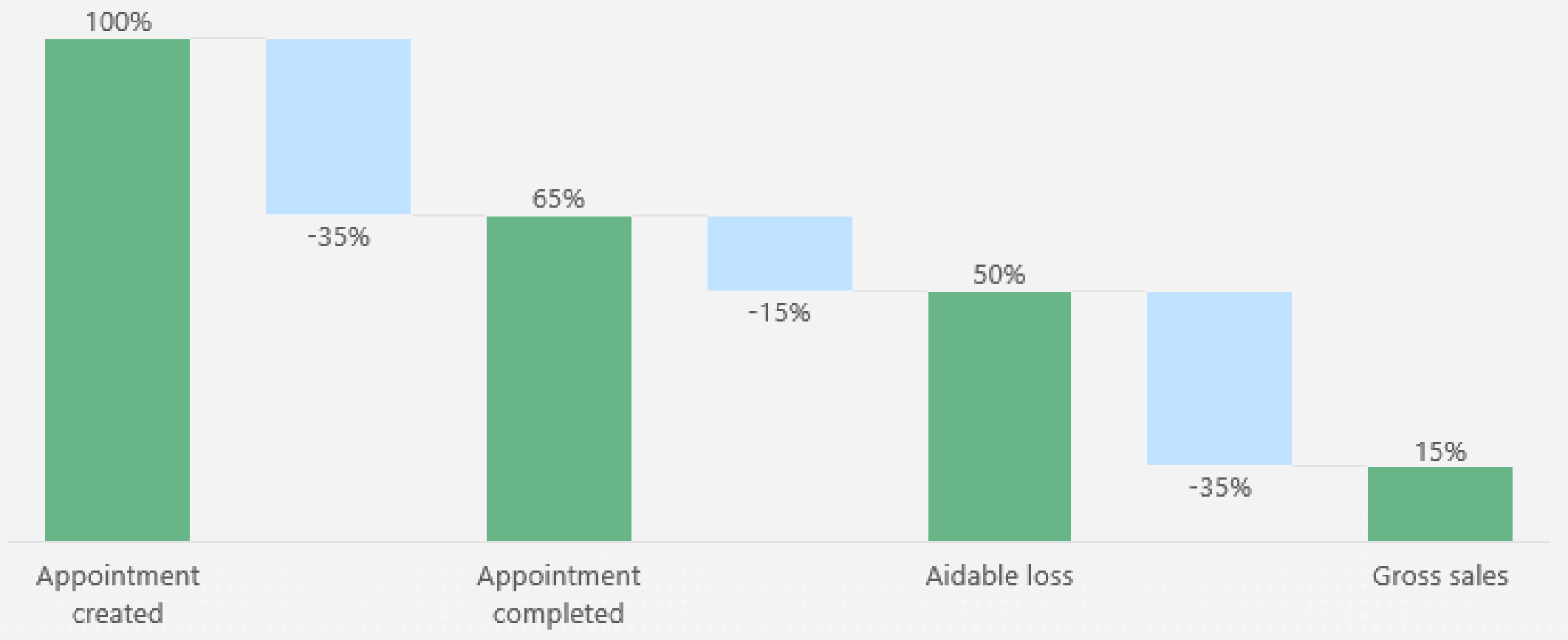
Focus on conversion rates through the sales funnel

For illustrative purposes – sales funnels vary between markets



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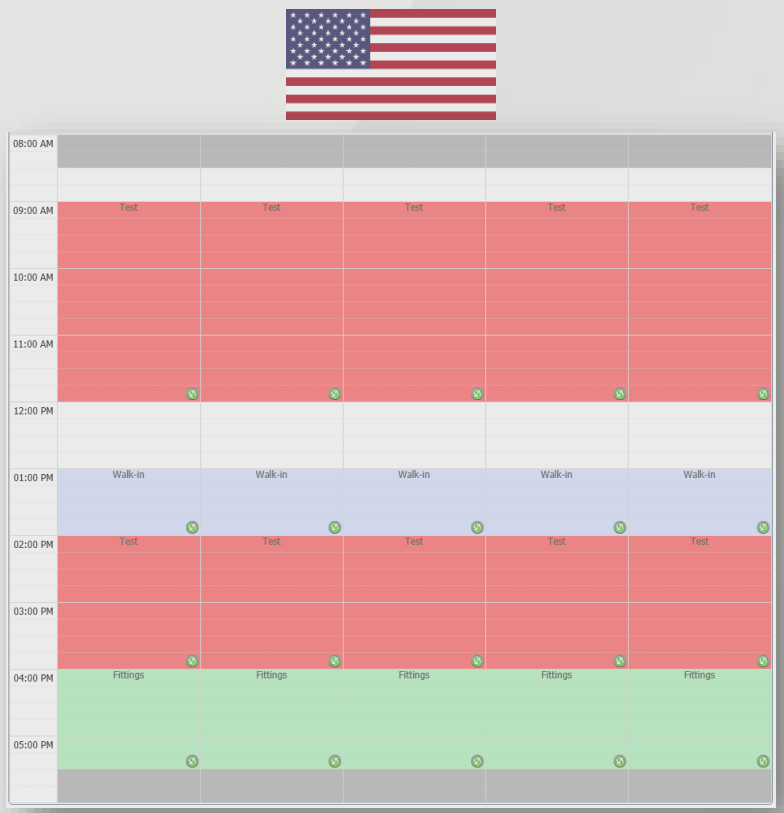
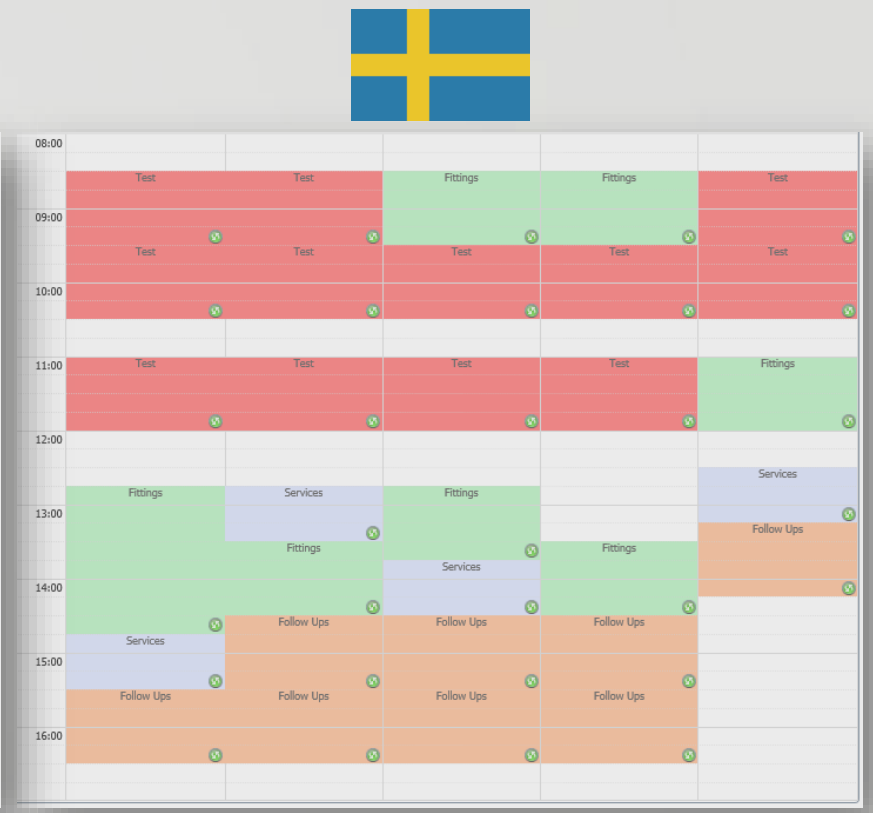
Efficient schedule management





Schedule management is important due to audiologists' time being a scarce ressource

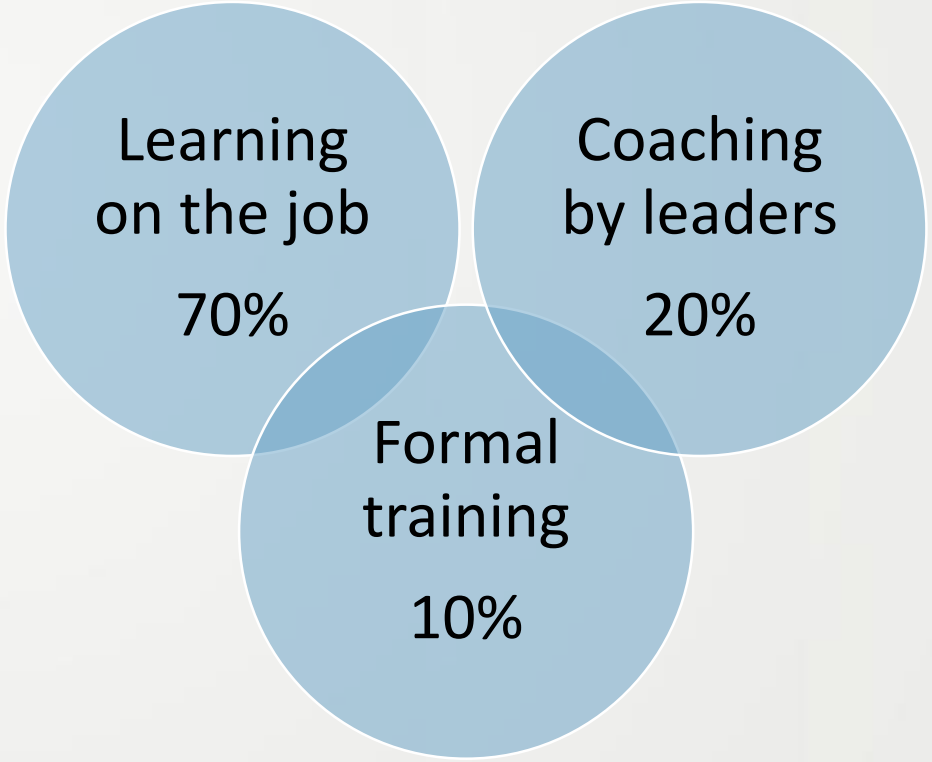
Scheduling varies between countries due to differences in sales funnel drop-outs

Training academy and leadership development

Content

Model

Most training is done in the field



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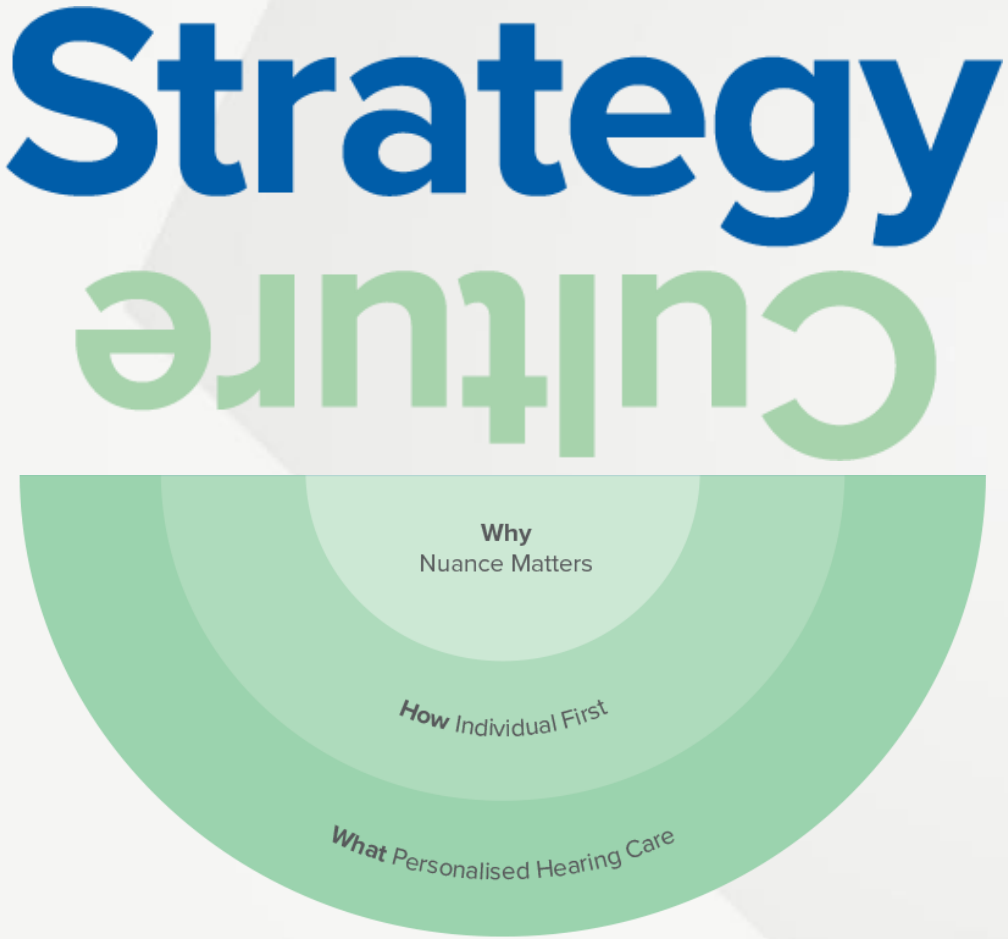
A strong culture is critical for success



"Culture eats strategy for breakfast

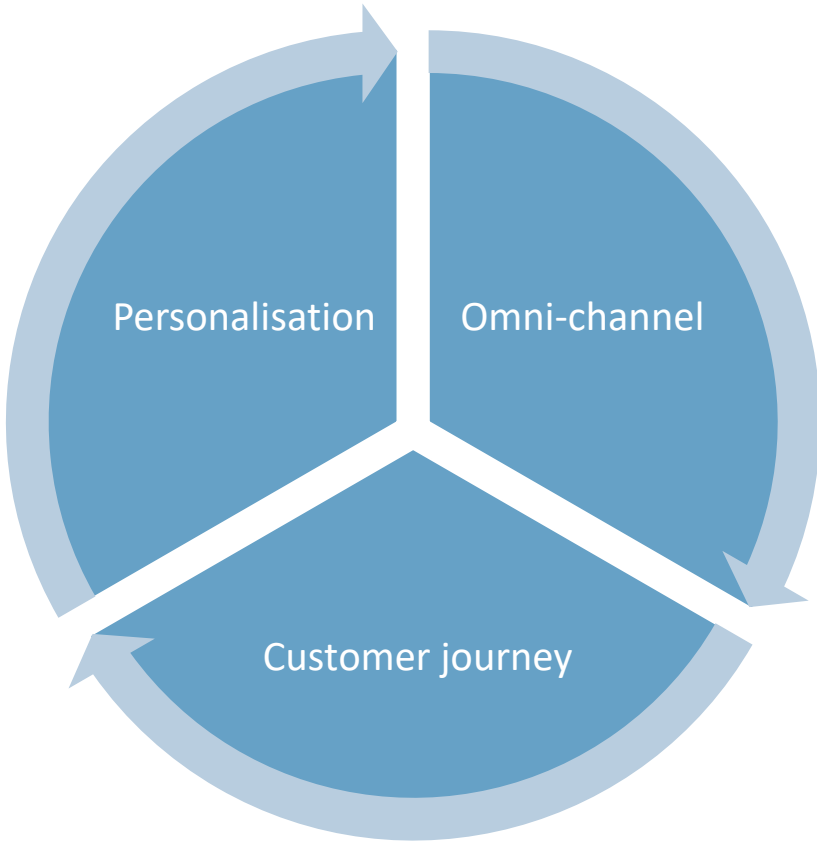
Our consumers are changing: The modern senior

- **Hyper-connected** — Expect immediate response
- **Data aware** — Expect brands to leverage their data
- **Well-connected** — Expect brands in their social dialogue
- **Distracted** — Expect concise content and effortless experiences

The marketing model is changing

New digital opportunities and changing consumer expectations are driving a change in the marketing model

Then	Now
Long lead time	Fast and adaptive
Mass-market approach	Personalised approach
Broad campaigns	Targeted campaigns
Low frequency	High frequency
Imprecise timing	Precise timing



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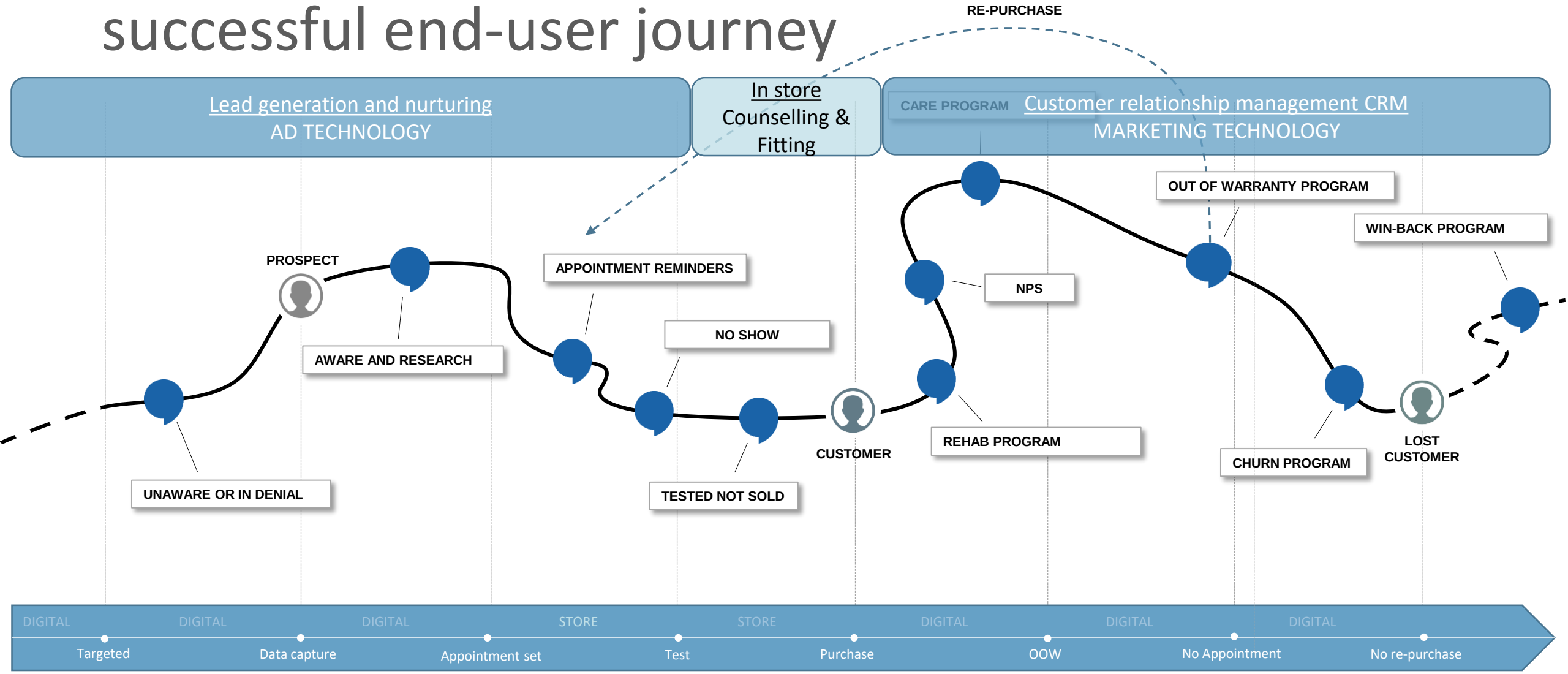
Leveraging digital technology to support successful end-user journey



William Demant

How: ”A Good Start” welcome programme

WHAT

Fully automated, personalised cross-channel program

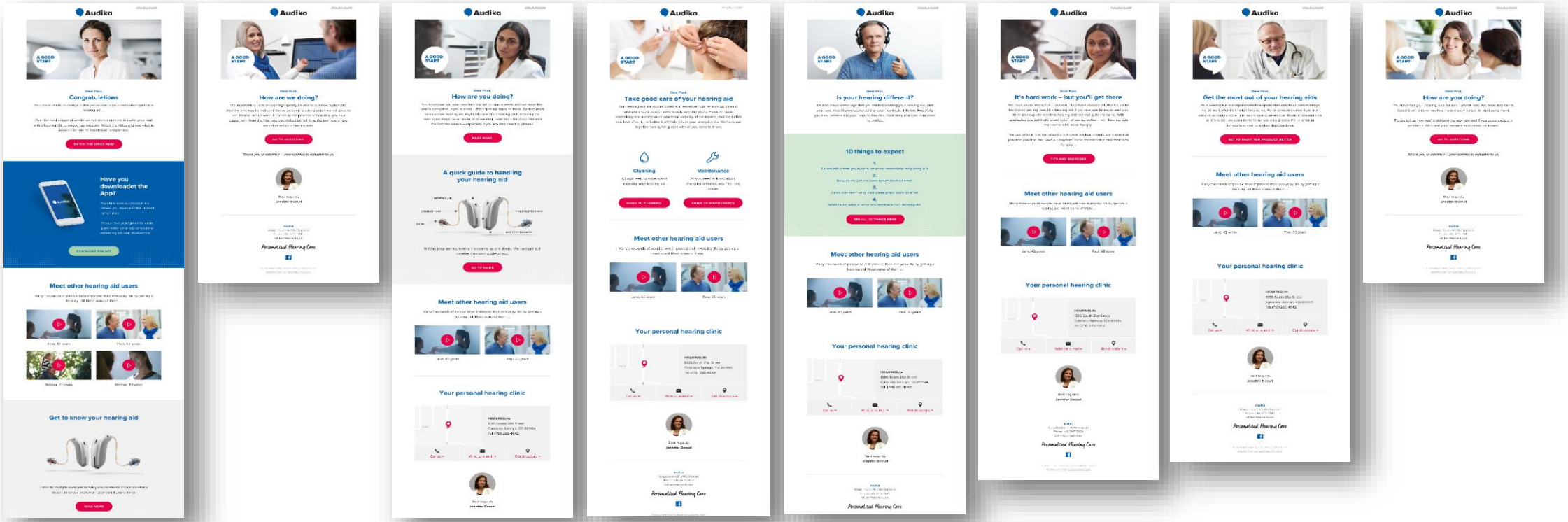
WHY

Helping the new user adapt – and getting the most out of the hearing aid

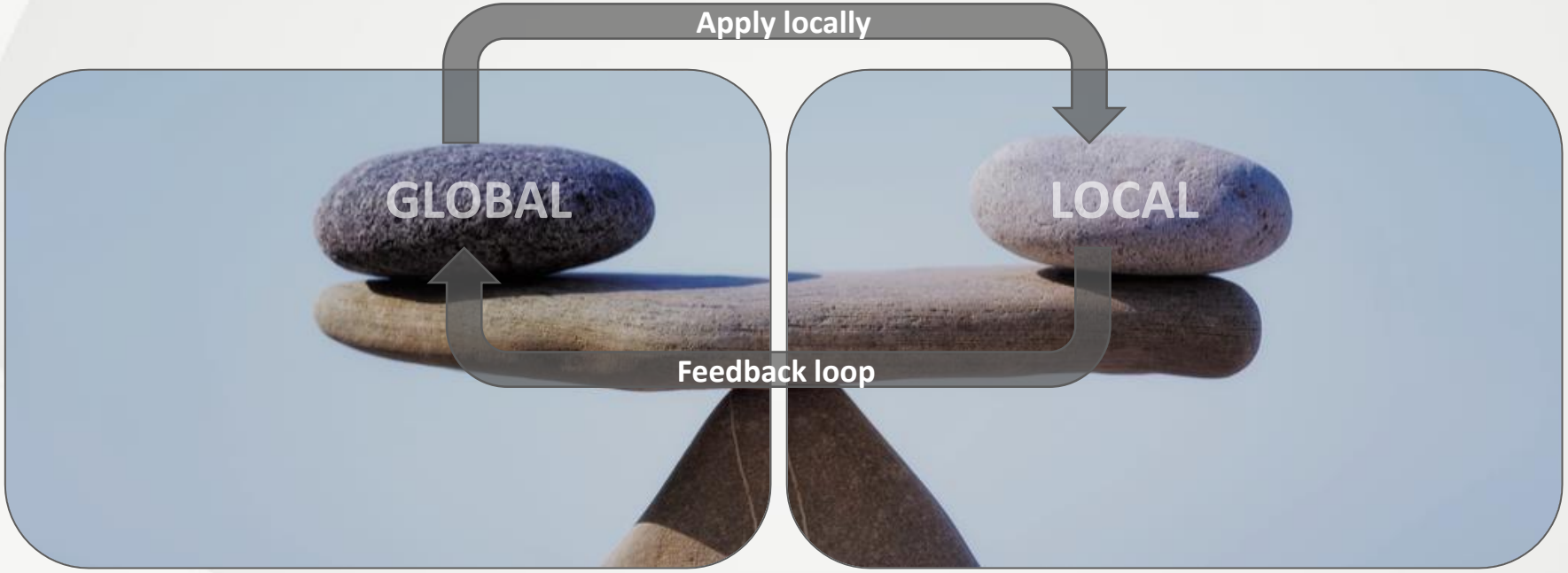
HOW

Guides the customer through the crucial first five weeks with a hearing aid

Welcome | NPS | Comfort 1 | Comfort 2 | Audiological 1 | Audiological 2 | Tech & pairing | NPS + Survey



Global marketing excellence with local execution



Single platform and technology

Scale and knowledge

Programmatic buying

Cultural relevance

Customer connection

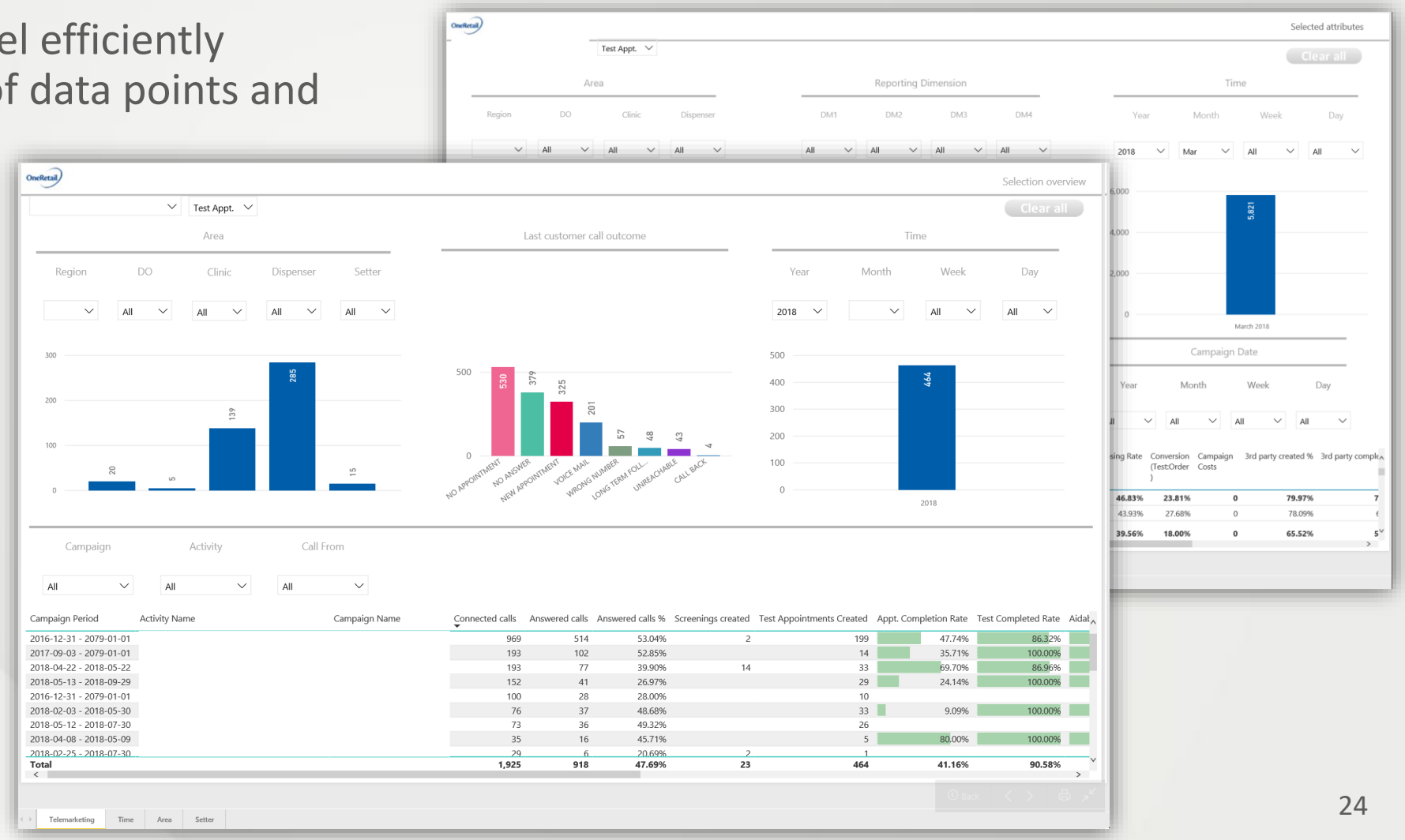
Market differences

William Demant

Business systems and technology

Managing the sales funnel efficiently requires large amounts of data points and the right IT systems

- Performance data
- Behaviour data
- Consumer data



How to build a strong brand and business

Audika Switzerland

Elmar B. Götz

Personal

Elmar B. Götz (56)

- Diplom-Kaufmann (MBA), German
- Experience in wholesale, retail, venture capital, start-ups
- Industries: FMCG, Optical, Hearing Aids, Elderly Care
- CEO, Synoptik AB, Sweden
- Group VP Channel Solutions, Sonova Holding AG, Switzerland
- CEO, Casa Reha Holding GmbH, Germany
- GM, Audika AG, Switzerland

Hearing aid retail market in Switzerland

Size, regulatory, competitive landscape

Market size

83,000 units
(estimate 2017)

Government reimbursement

Type	IV (workers)	AHV (retirees)
Monaural	CHF 840	CHF 630 (= 75% of IV)
Binaural	CHF 1,650	CHF 630 (1,237.50 as of July 2018)

Key players

Audika, amplifon, KIND – Das ganze Leben hören, Neuroth – Besser hören. Besser leben., Fielmann, audibene – einfach gut hören, Sonetik – Rediscover Hearing

Development of Audika Switzerland

A young company with legacy

1937

Foundation of HZ Hörmittelzentralen AG by Swiss hearing impaired association

2014

Take-over of 25 HZ clinics by William Demant (WDH)

2015

Take over of three single companies

2016

Sept. 2016

Audika Switzerland
= merger of several major/minor companies

80 clinics in 3 language areas, approx. 200 employees

2017

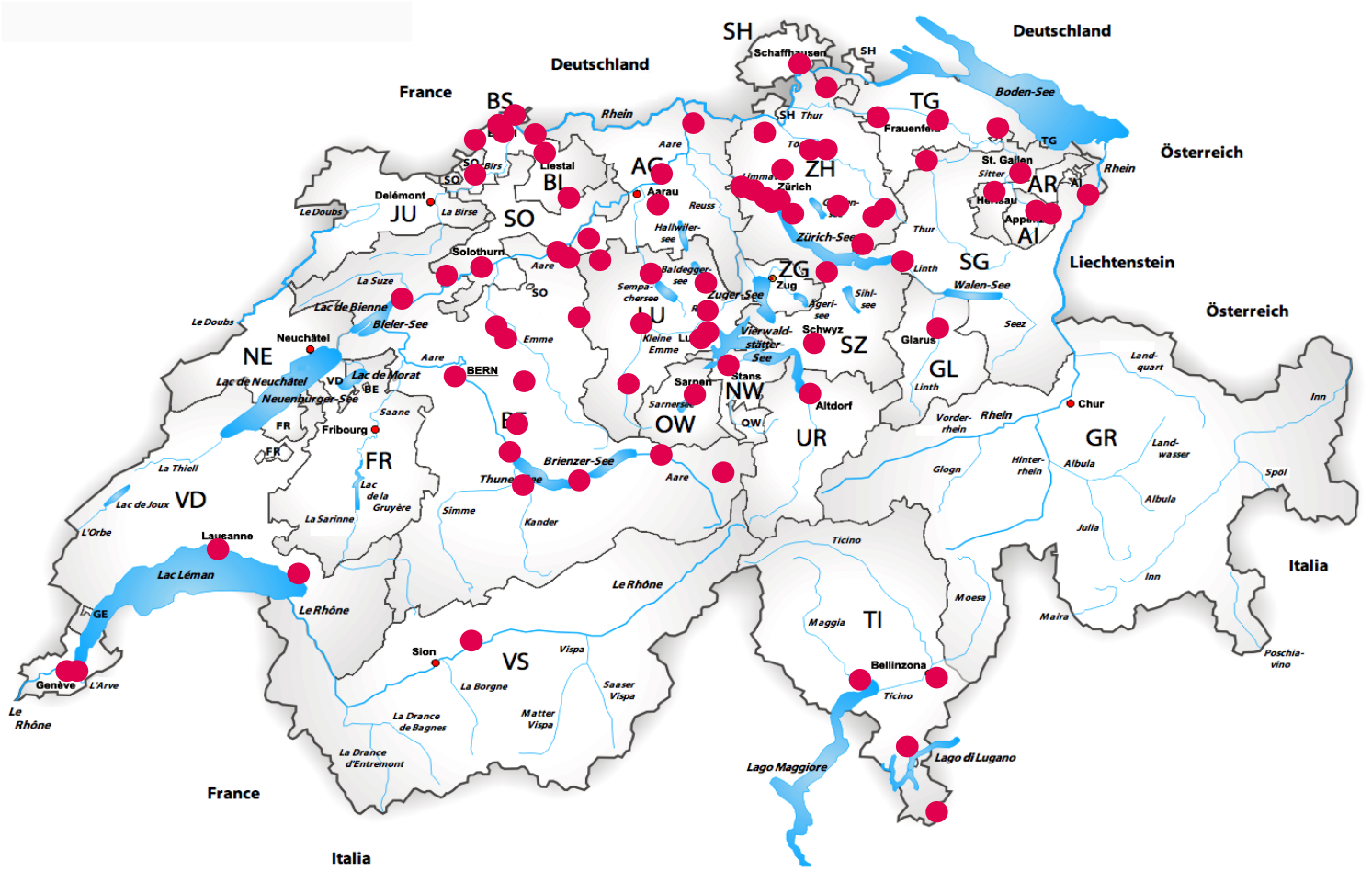
June 2017

New GM:

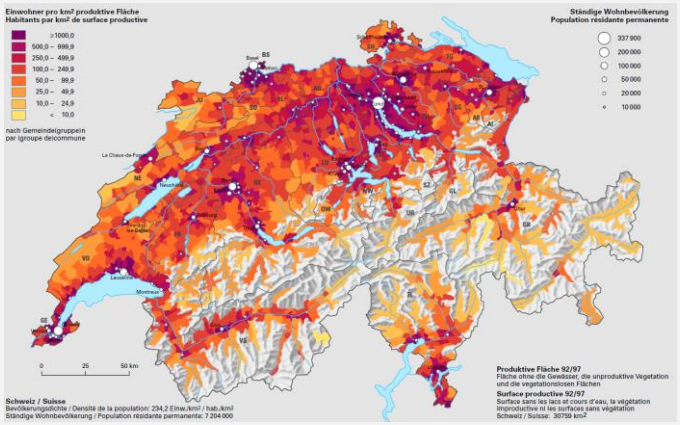
Elmar B. Götz

Audika coverage

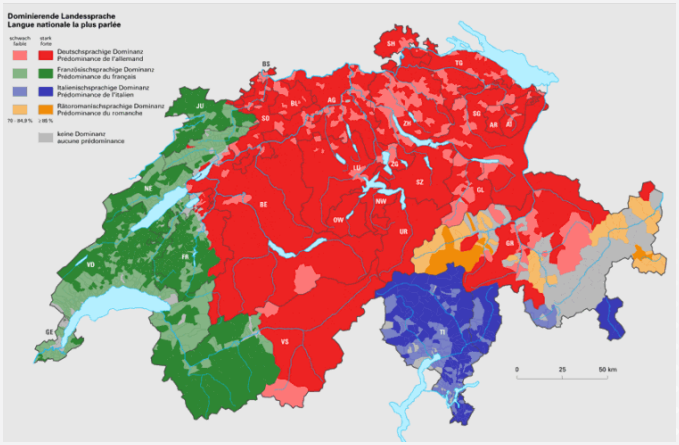
Current locations



Distribution of population



Language areas



How to get in POLE POSITION?

Audika 2018

ONE Audika

How to get in POLE POSITION?

The journey

AMBITION	DEFINITION
POLE POSITION	• Better business results (compelling place to shop) • Employer of choice (compelling place to work) • Top company reputation (compelling place to invest)
DNA	• New vision • New mission • New company values
ONE AUDIKA	• Standardised labour agreements • Standardised work processes (QM) • Standardised systems infrastructure (IT/audiology) • Digitisation of company • New market appearance/shop design • Scalable high-performance organisation

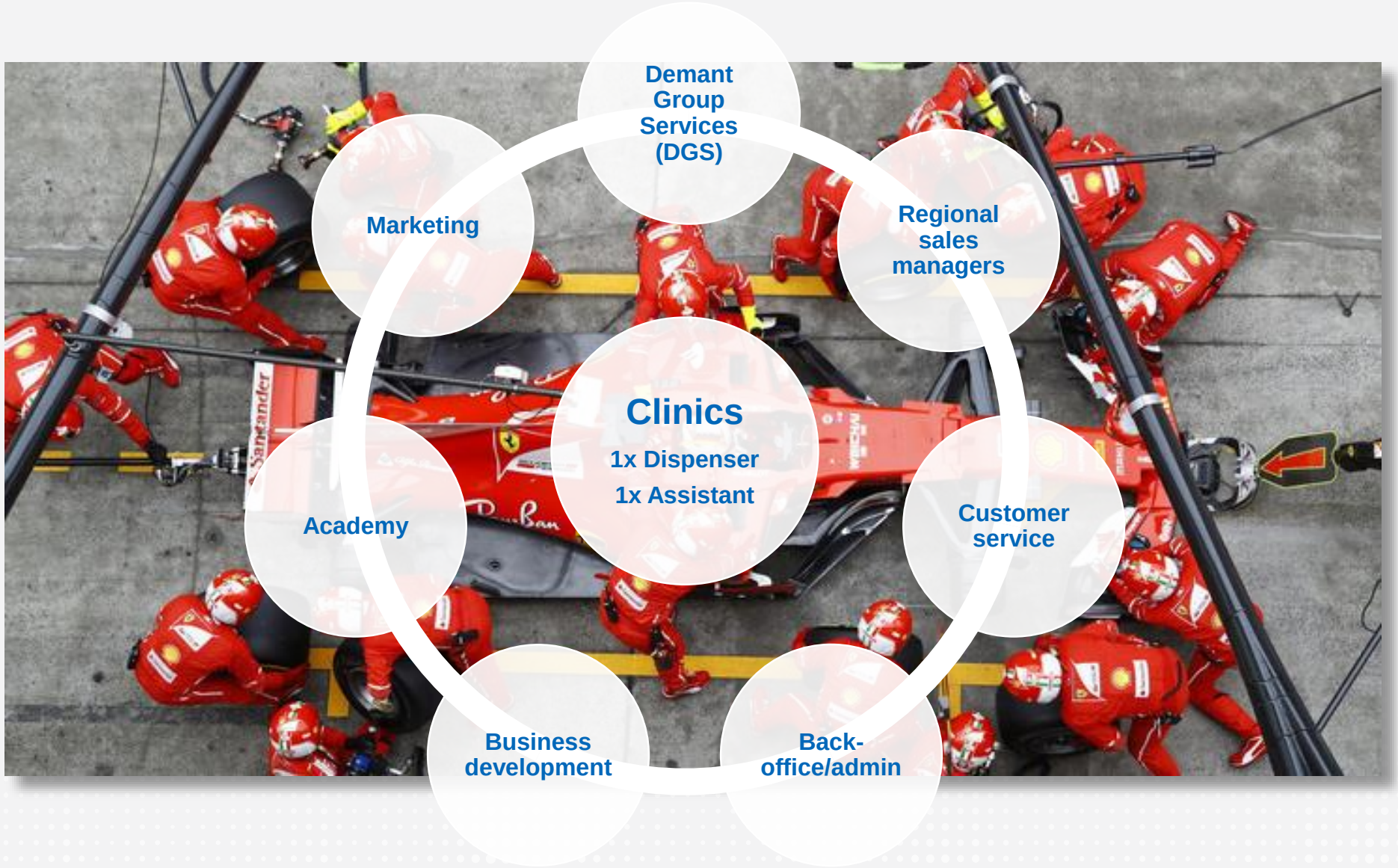
Core capabilities:

- People
- Marketing
- Systems

People

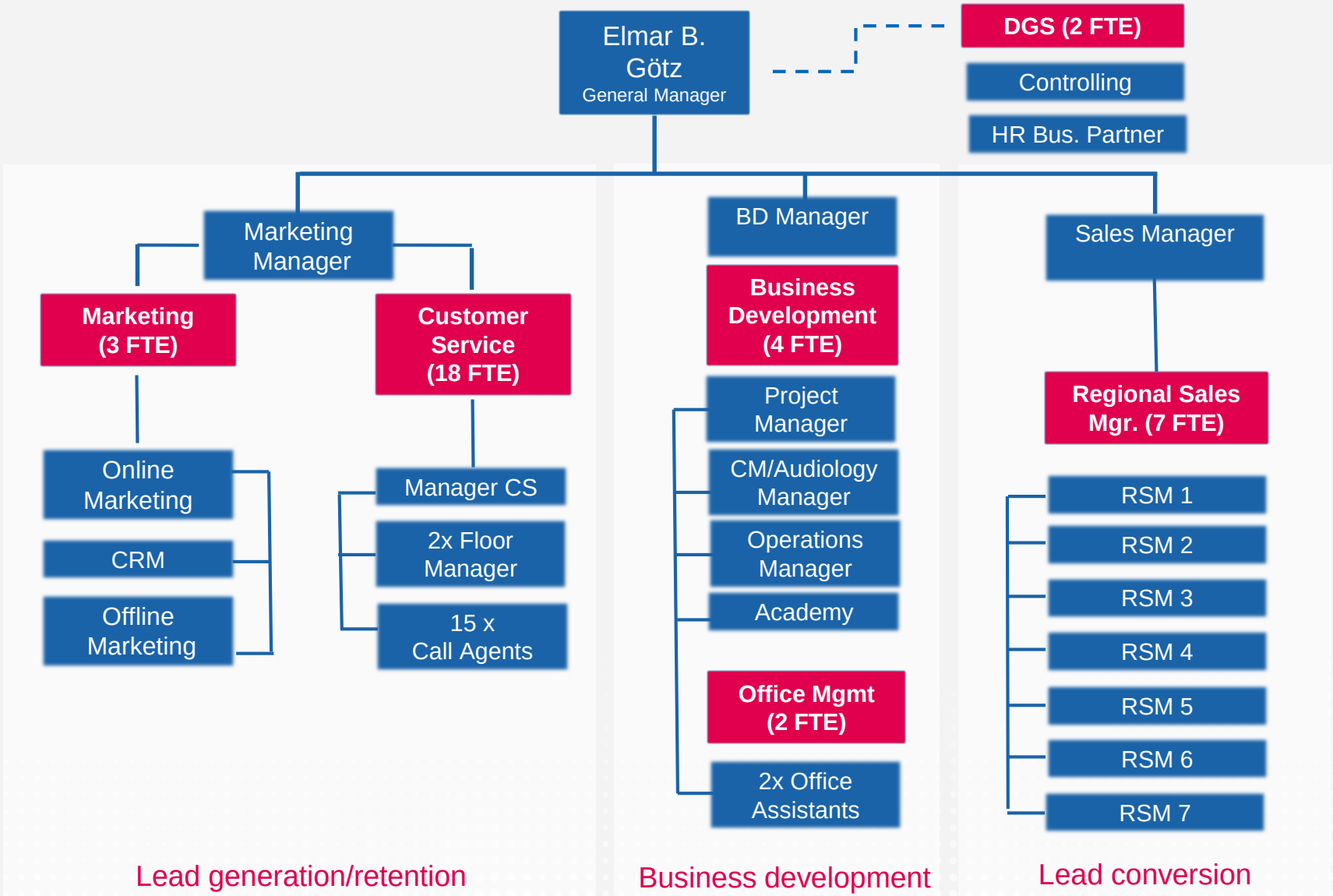
Building block 1: A strong Audika organisation

High-performing team



Organisation Audika Switzerland

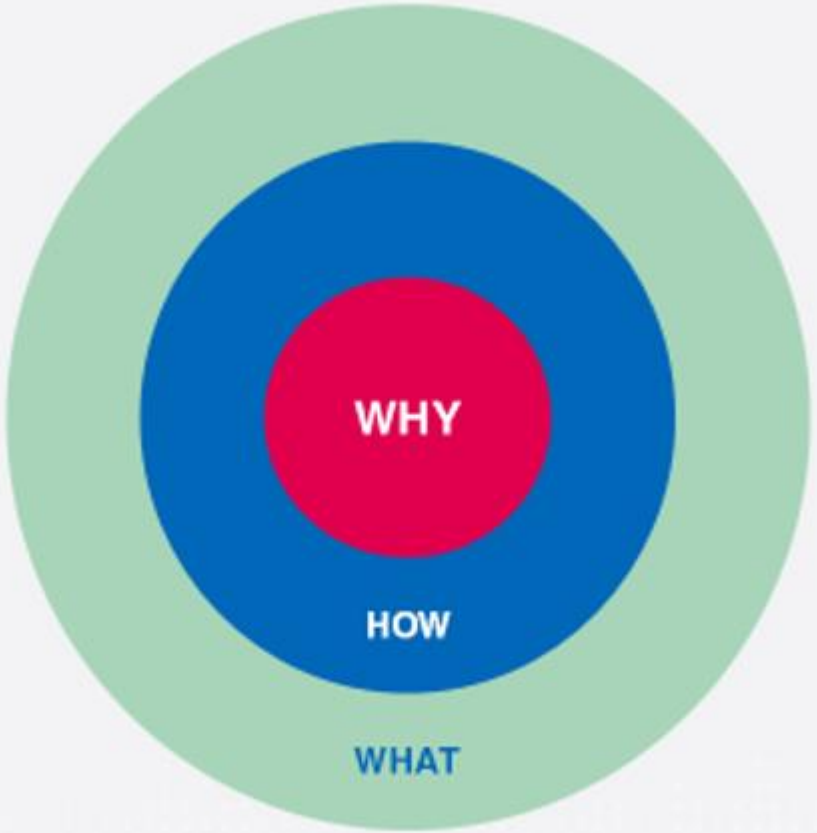
HQ Urdorf



Building block 2: Vision, mission, values

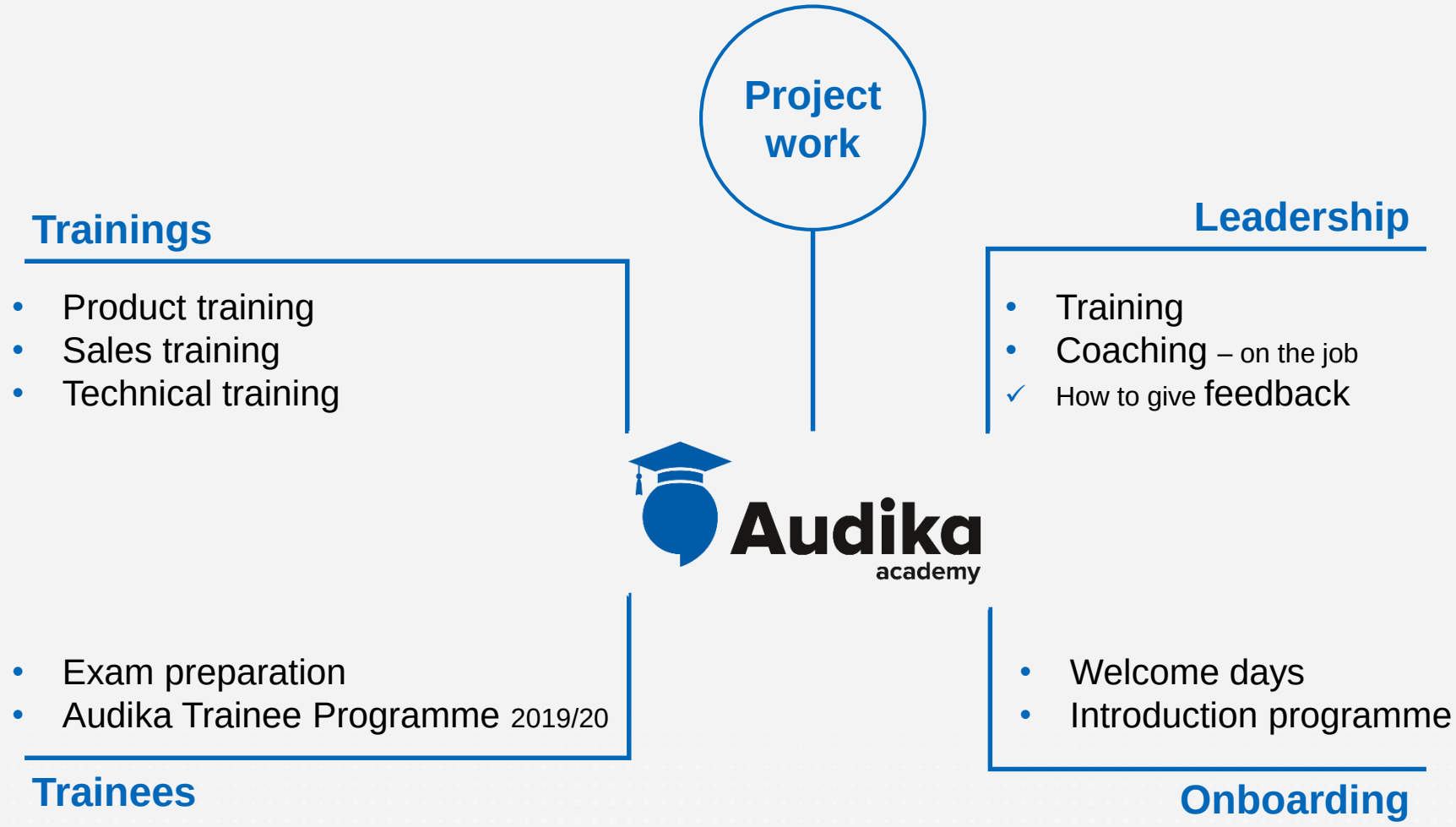
How to have motivated and highly engaged employees

Our Vision:
«Help more people hear better»



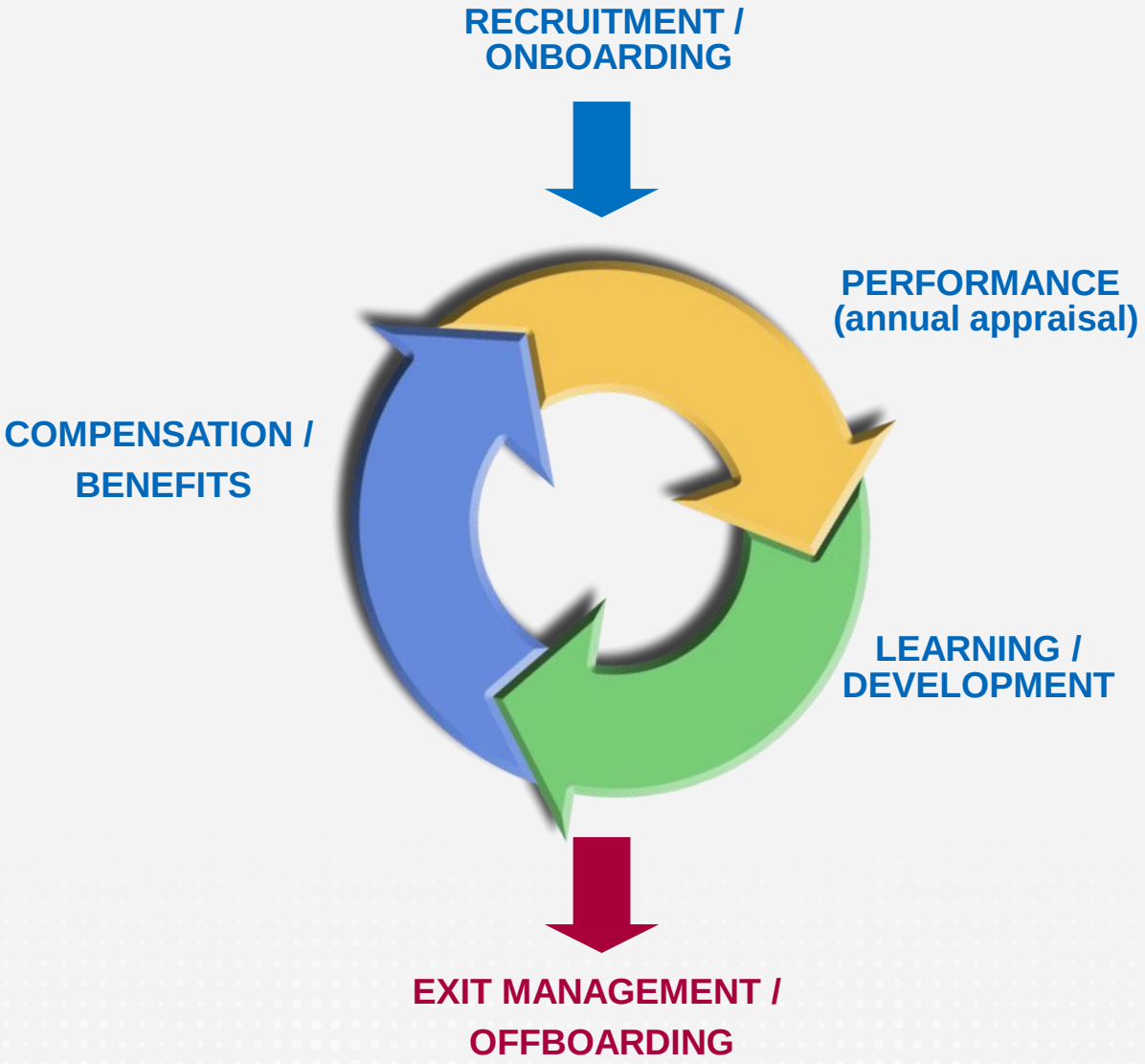
Building block 3: Academy

How to develop core competencies



Building block 4: HR cycle

How to build organisational capacity and HR systems



Building block 5: Culture and leadership style

Communication by the General Manager

Dispersed organization (80 clinics + HQ + DGS)	Regular roadshows in all regions	Monthly store visits
Three operating languages	Monthly update letters/ feedback systems	DemantPulse William Demant engagement programme
Personal appreciation	Personal handwritten birthday card	Thank you/kudo cards

Marketing

Building block 6: Lead generation

Holistic campaigns/multi-channel approach

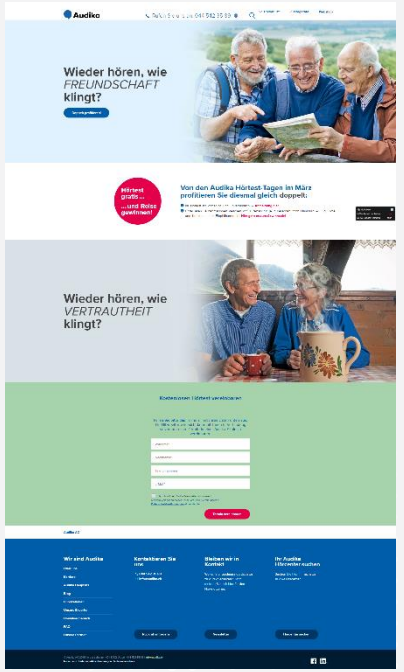
Holistic Campaign: ‘Hear again how …. Sounds… ‘

Print

Store sticker

Facebook ad

Website



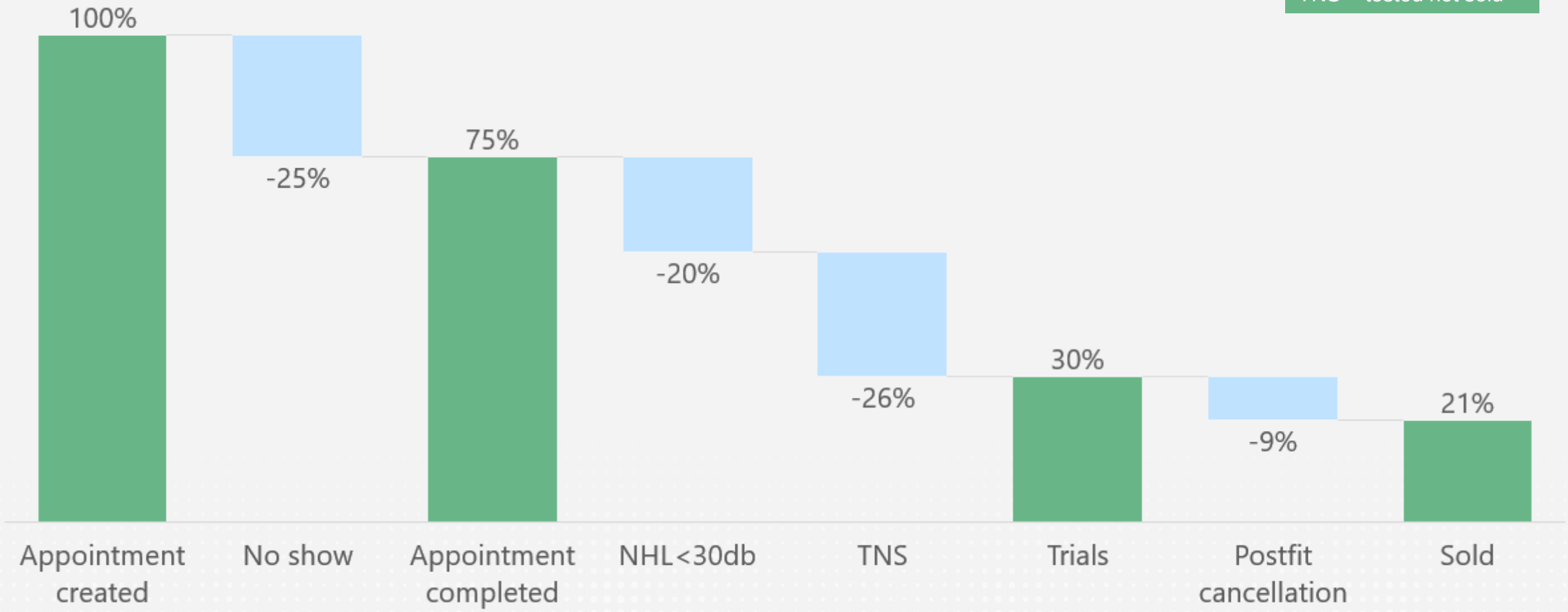
Building block 7: In-store excellence

How to win in-store

Building block 8: Lead conversion

Sales funnel

NHL = no hearing loss
TNS = tested not sold



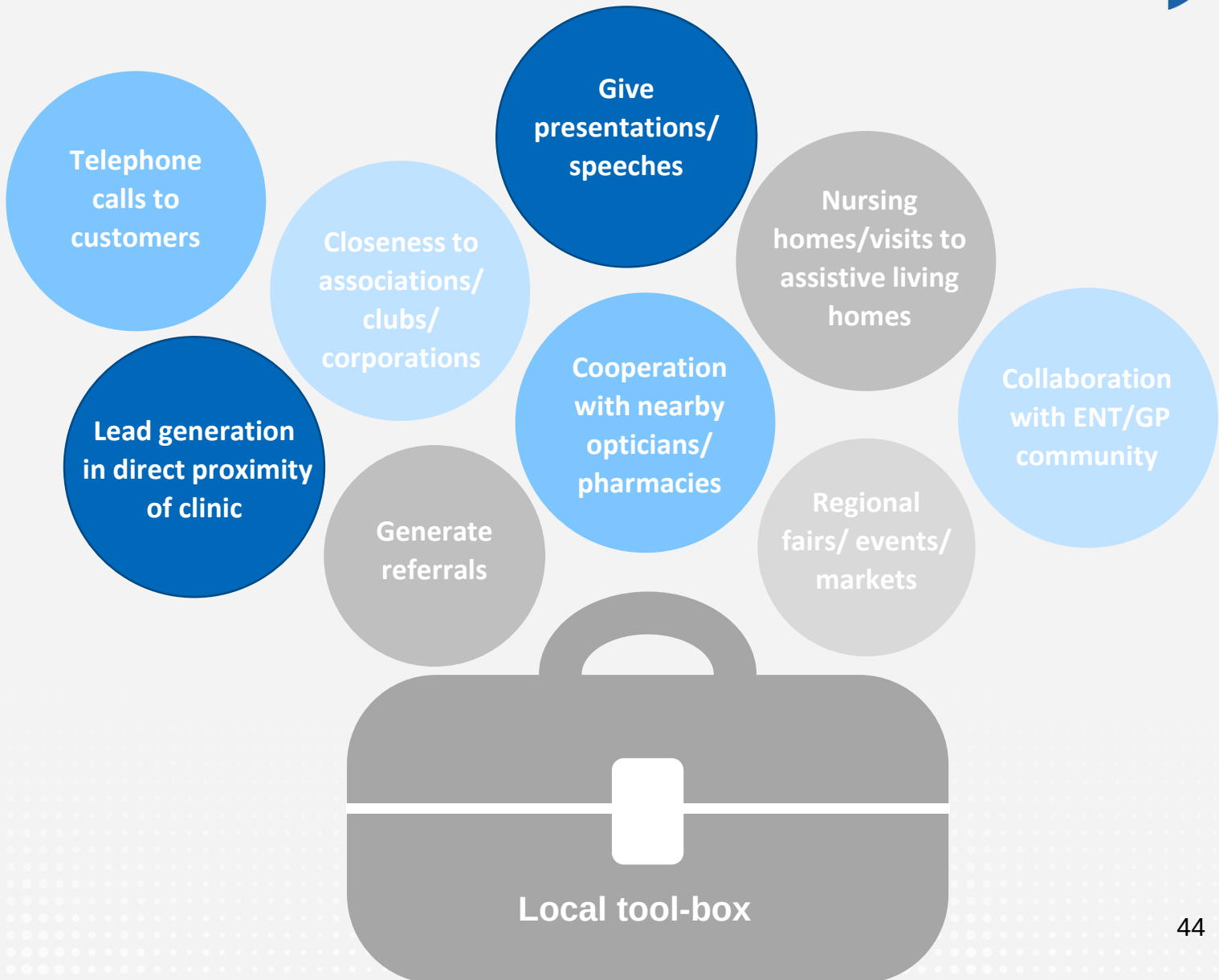
Building block 9: Innovative assortment

Private label «Audika»

Building Block 10: Outreach programmes, regional activities

Local tool-box

- ✓ 9 different tools which can be leveraged by local teams
- ✓ Central support by marketing team
- ✓ Focus on generating leads locally and bond with the local community



In-store promotions/regional activities

Intense and intimate relationship with customers

Building block 11: Customer journey for hearing aid users

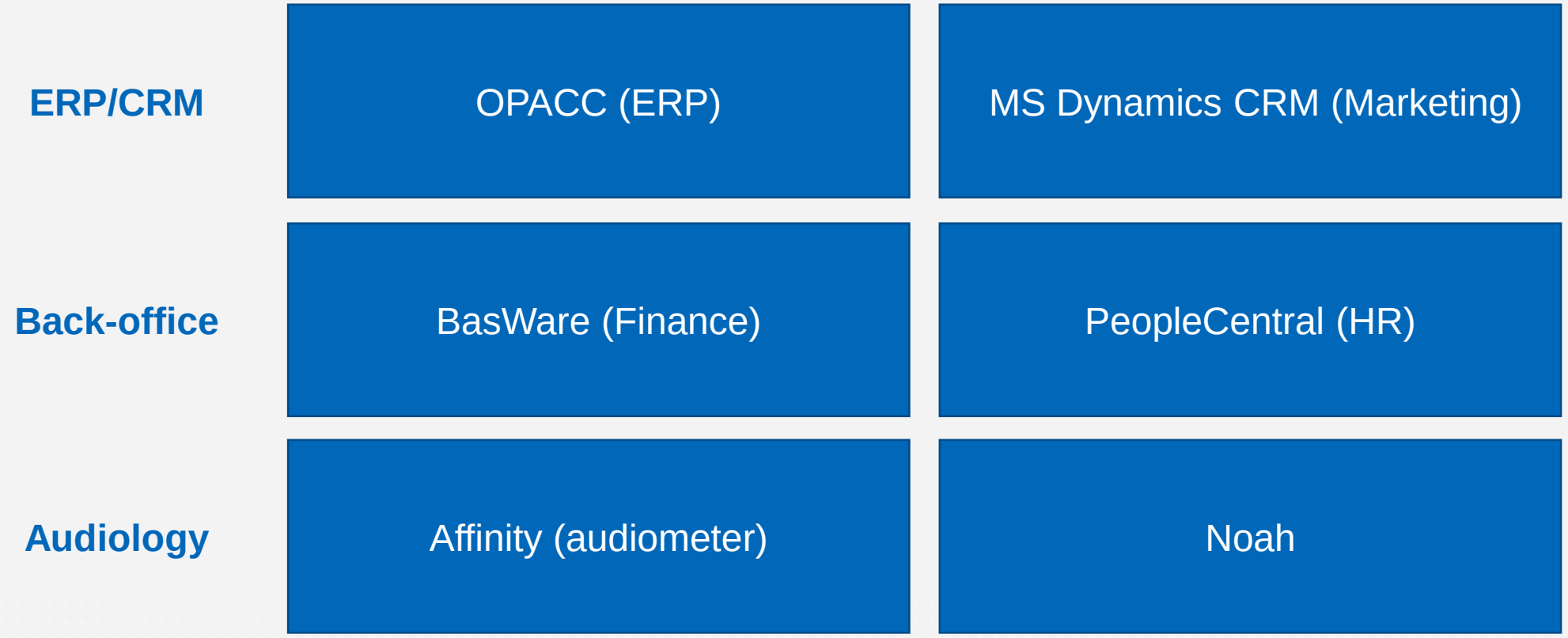
Customer retention/renewal

Year 1	Year 2	Year 3	Year 4	Year 5+
Purchase **Online questionnaire (one month)** **Check-up (three months)**	**One-year anniversary (12 months)** **Mailing with battery offer (24 months)**	**Invitation to hearing test (36 months)**	**Invitation to presentation of new technology (48 months)**	**Follow-up by call centre (58/70 months)** **Invitation to “360° check” or exchange “Old to New” (64 months +)**

Systems

Building block 12: IT systems

Digitisation of operations

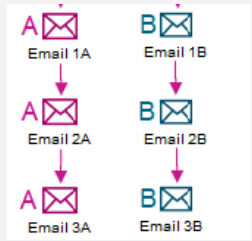


Building block 13: Cloud retail CRM

Automated lead generation, prospect nurturing, customer retention

Lead generation:
- SoMe
- Organic search
- Paid web
- Paid leads

Counselling:
- App
- E-mail/on-line
- Off-line



Prospect Nurturing:
- Leads
- Prospects

Customer retention

Operational excellence: A continuous journey

Wrap-up

Significant progress in operations…

- People
- Sales & Marketing
- Systems

…and work on key focus areas:

- Drive employee engagement further
- Roll-out of key sales excellence initiatives
- Implement new and improved ERP-system

Win with the brand and the business behind continuous operational improvements.

Questions at the end of retail presentation

William Demant

Maturity of our retail varies across markets

- The performances of our retail businesses in various markets are closely correlated with their level of maturity, e.g. in terms of
  - Quality of IT systems and processes
  - Number of operating brands
  - Organisational structure and stability
- The process of establishing and implementing new initiatives takes time but we have the necessary tools in our One Operating Model
- Pace of change also dependent on level of ongoing bolt-on acquisitions

Indicative relative maturity of our retail markets:

William Demant

US retail: Building a business in our largest market

In our largest retail market, the US, we are on a journey to build a coherent business based on a large number of acquisitions completed in recent years

People

• Improved regional sales management structure	*Completed*
• Started brand harmonisation from approx. 80 brands	*Started*

Marketing

• Building central organisation and capabilities 1.0	*Completed*
• Launching digital marketing automation	*Started*

Systems

• New POS, schedule management and CRM system now across all shops	*Completed*
• New call center technologies and marketing technologies	*Started*

William Demant

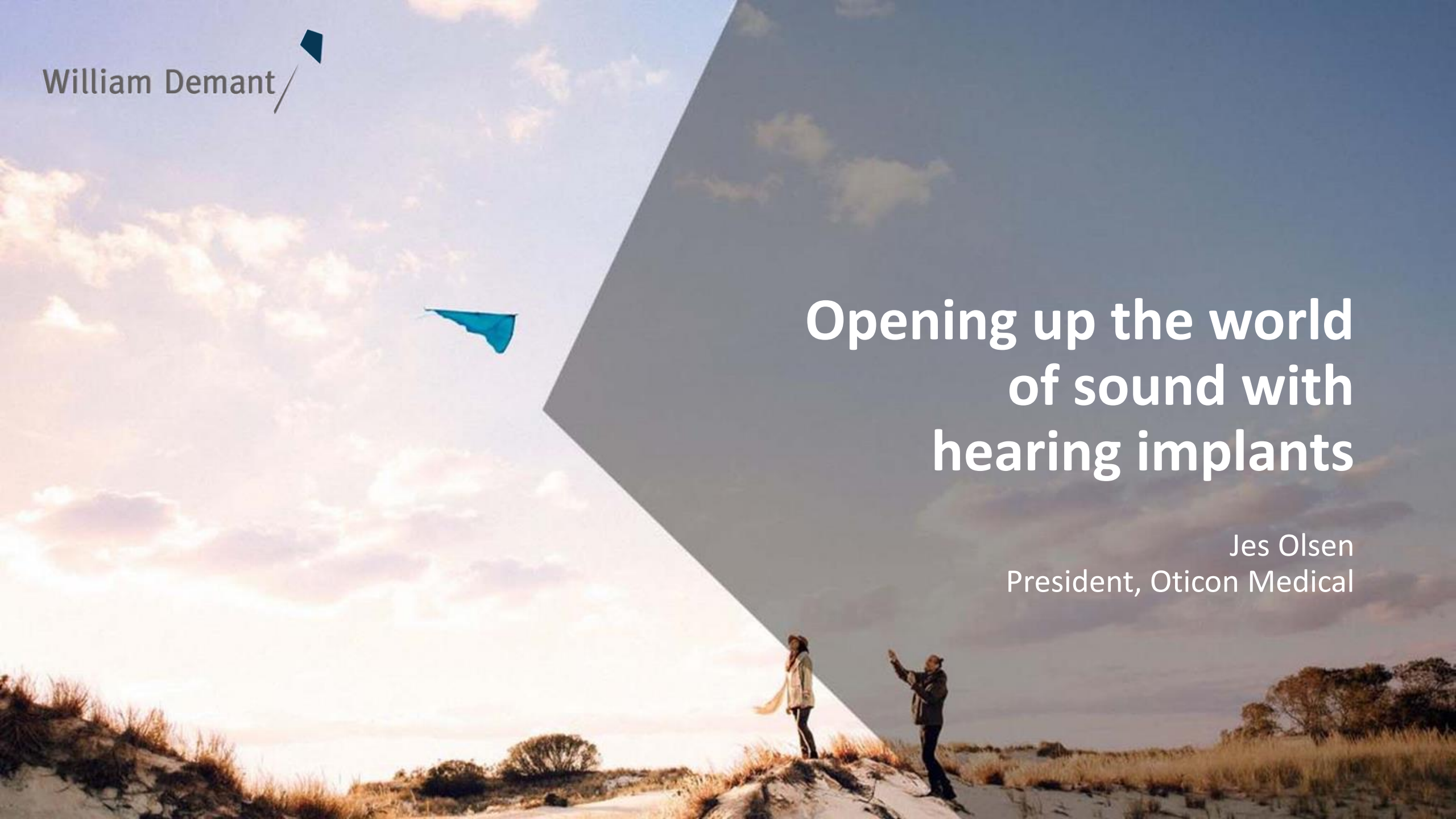
Continued bolt-on acquisitions in retail

- Overall, we continue our strategy of making bolt-on acquisitions on a selective basis
- Our acquisitions are mostly re-active by nature with the seller often initiating the transaction
- We focus on acquisitions in specific geographies, primarily the US and France

- Acquisition prices differ significantly between markets and are driven by
  - Value as a stand-alone company including sales uplift (in mature markets) from leveraging brand and marketing activities
  - Synergies from additional supply of wholesale products

William Demant

Q&A



Opening up the world of sound with hearing implants

Jes Olsen
President, Oticon Medical

William Demant

Jes Olsen

President, Oticon Medical

Curriculum

- Born in 1960
- B.Sc. in electronic engineering and electroacoustics
- Employed with Group since 1986
- General Manager, Oticon AB, Stockholm 1993-1996
- Various senior management roles in Oticon, including Vice President of R&D 1997-2008
- President, Oticon Medical since 2008

William Demant

Agenda

Hearing implants market

Oticon Medical

The Neuro System: Scientific-based outcomes

Prof. Prof. h.c. Dr. med. Thomas Lenarz, Hannover Medical School

The Neuro system: Status

The Ponto system: Innovation fuelling better outcomes

Q&A

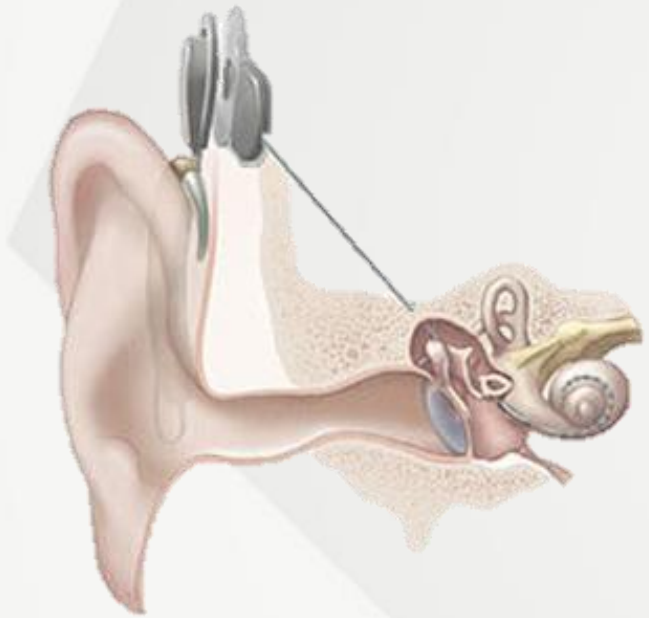
William Demant

The market for hearing implants

William Demant

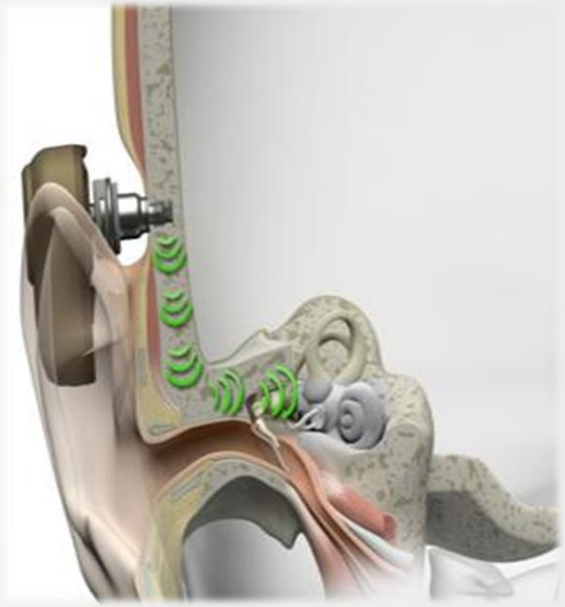
Primary technologies within hearing implants

Cochlear implants (CI)



A cochlear implant makes sense of sound for people with severe to profound sensorineural hearing loss

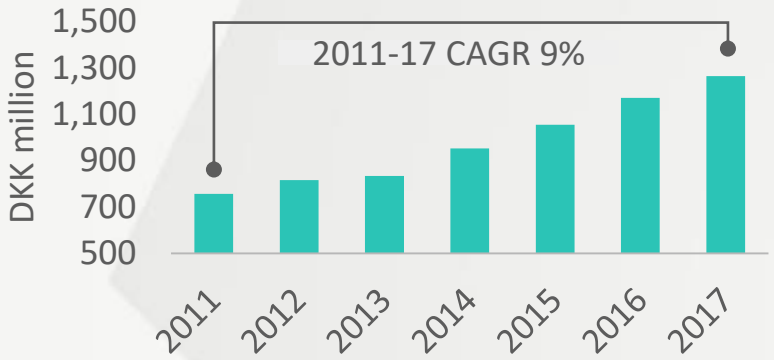
Bone anchored hearing systems (BAHS)

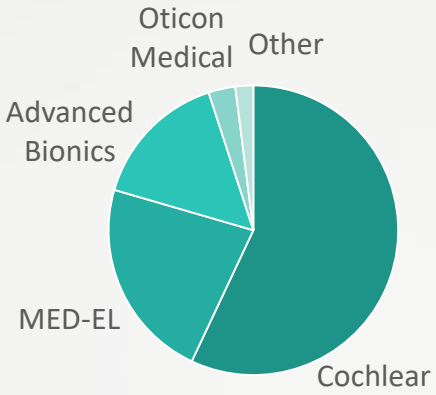


A bone-conducting hearing system is suited for people with conductive hearing loss, unilateral hearing loss or single-sided deafness

William Demant

Cochlear implant (CI) market





2.5%

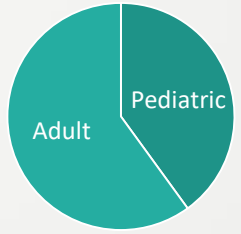
of all aged 75+ have a hearing loss that qualifies them for a CI

130,000+ new CI candidates a year with severe/profound hearing loss

- Significant variations between markets
- Given our small market share, we are focused on current adressable market

Growth drivers

Education, reimbursement, new indications, new markets, innovation, ageing population



40/60 split between paediatric/adult in a market of ~65,000 implantations a year

Total market size of approx. EUR 1.3 billion

Note: Company estimates

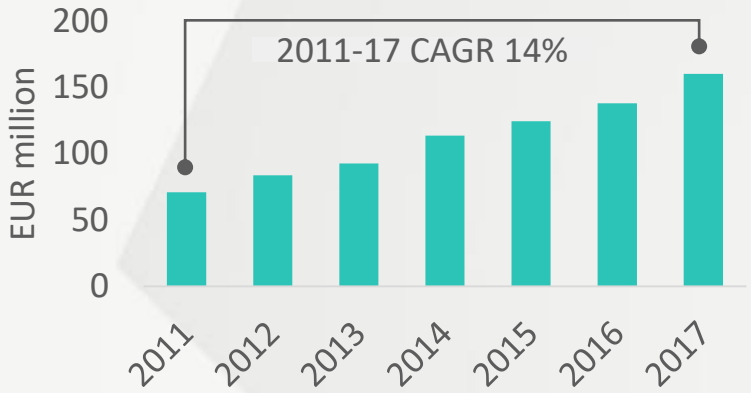
William Demant

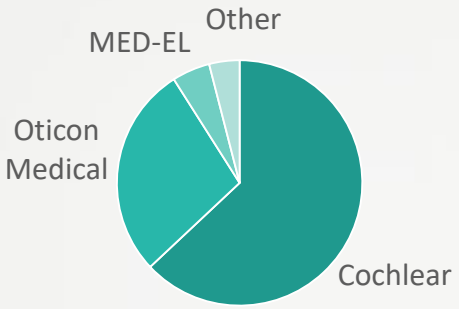
Where does CI market growth come from?

	Emerging markets	Developed markets
Paediatric	***Strong growth*** • Improved newborn hearing screening • Reimbursement in most countries	***Moderate growth*** • Mandatory newborn hearing screening • Increased indications • Mature market
Adult	***Limited growth*** • Generally limited focus • No reimbursement in place	***Strong growth*** • Increased indications • Improved reimbursement and awareness

William Demant

Bone anchored hearing systems (BAHS) market





~5%

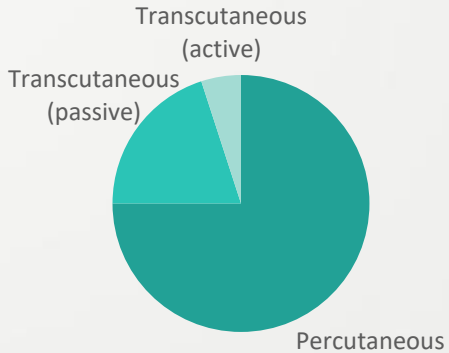
Penetration rate and only approx. 20,000 implantations per year

190,000+ users across the world and fastest growing hearing implant segment

- Growth in BAHS market is highly product-driven

Growth drivers

Education, awareness, reimbursement, innovation, cosmetics



Total market size of EUR 150+ million

Note: Company estimates

William Demant

Where does BAHS market growth come from?

	Emerging markets	Developed markets
Paediatric	***Moderate growth*** • Increased focus but from a low starting point • Limited or no reimbursement in place	***Strong growth*** • Better technology and cosmetics • Awareness of consequences of hearing loss • Reimbursement in place
Adult	***Limited growth*** • Generally limited focus • No reimbursement in place	***Strong growth*** • Awareness of consequences of hearing loss • Reimbursement in place

William Demant

Oticon Medical

William Demant

History of Oticon Medical

Bone anchored hearing systems (BAHS)

2007
Oticon Medical established in Gothenburg, Sweden

2009
Launch of the Ponto System
– bringing digital sound quality to BAHS

2011
Ponto Pro Power
– the first bone anchored digital power processor

2012
Wide Ponto implant
– the industry's largest bone-to-implant contact

2013
Oticon Medical/ William Demant
acquires Neurelec

2013
Ponto Plus and Ponto Plus Power
– the first and most powerful family of processors with wireless connectivity

2015
Minimally Invasive Ponto Surgery (MIPS)
– a truly new perspective on tissue preservation

2016
Ponto 3 family
– the world's most powerful family of abutment-level sound processors

Cochlear implants (CI)

1976
First multi-channel cochlear implantation in France by Prof. Chouard

1977
Development and production of cochlear implants established in Nice, France

1992
Digisonic DX10
– the first digital multi-channel cochlear implant

2001
Digisonic BTE
– our first BTE sound processor

2012
Digisonic® SP EVO
– the atraumatic electrode array to preserve residual hearing

2013
Saphyr Neo collection
– better speech understanding in noise with Voice Track & Crystalis XDP

2015
Launch of the Neuro system
Neuro Zti implant and Neuro One sound processor

Today
Neuro 2
– where sound meets design

Oticon Medical's position in hearing implants

Product innovation

- Size and cosmetics
- Audiology
- Fitting software
- Reliability

Market access

- Access to key markets
- Brand recognition
- End-user lead generation
- Global infrastructure

Leading in BAHS — Advancements — Leading in CI

Synergies with the William Demant Group

Leading cross-functional R&D

Strong retail network

Power house of hearing

Global operations infrastructure

Proven ability to grow businesses

Financial strengths and committed owner

Specialised primary research facility

Founded on care

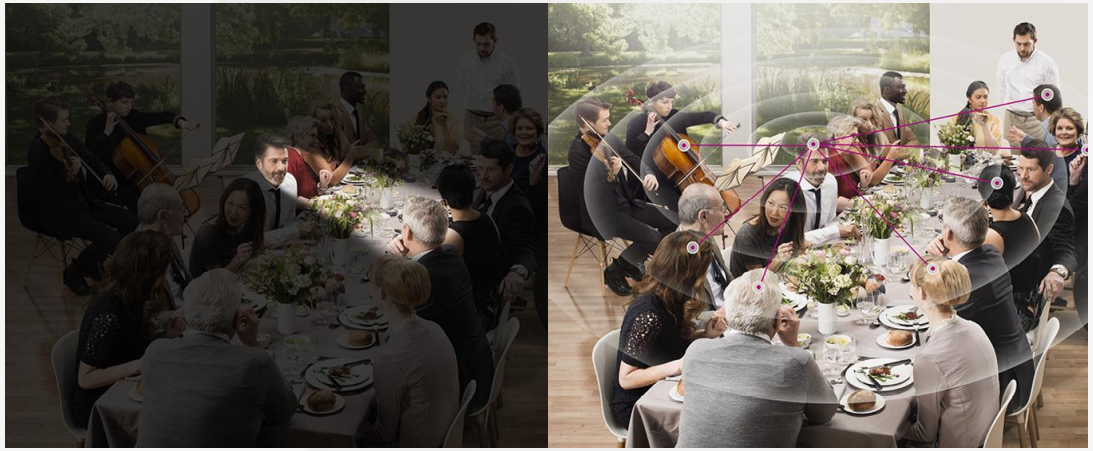
BrainHearing™

“ The ears hear things…

…the brain makes sense of them “

William Demant

From BrainHearing™ in hearing aids …



OpenSound Navigator

Keeping speech clear and other sounds available, but not disturbing

Enjoy **30%** better speech understanding

Reduce your listening effort by **20%**

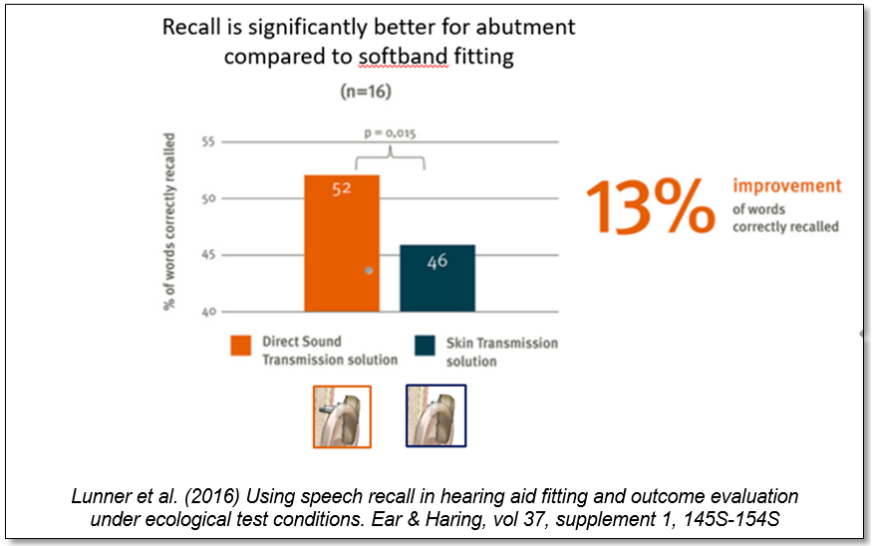
Remember **20%** more of your conversations

William Demant

… to BrainHearing™ in hearing implants

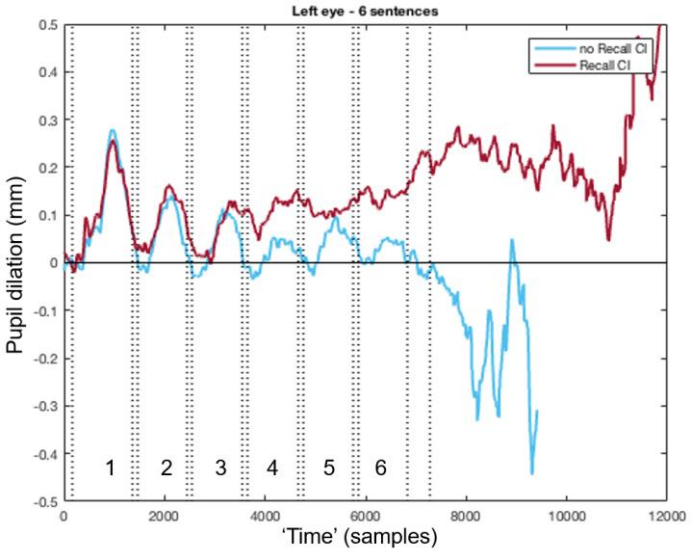
BAHS

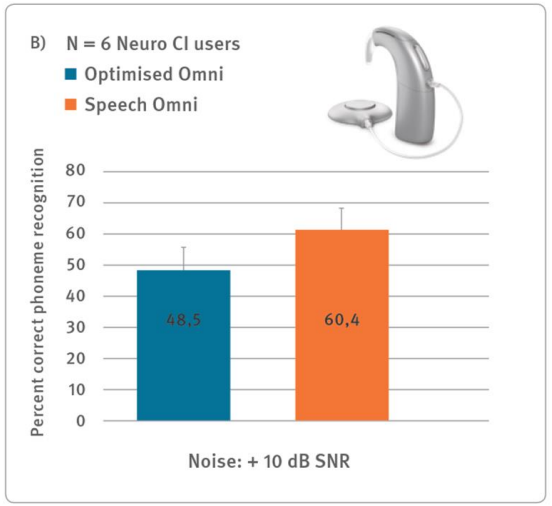
SWIR: Direct Sound Transmission vs. Skin drive



Lunner et al. (2016) Using speech recall in hearing aid fitting and outcome evaluation under ecological test conditions. Ear & Haring, vol 37, supplement 1, 145S-154S

CI: Combined SWIR and pupilometry



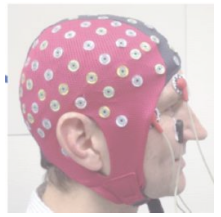


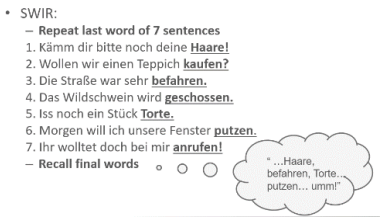
Speech audiometry scores with Speech Omni
Compared to Opti Omni in 6 Neuro CI users

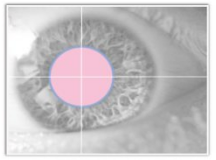
William Demant

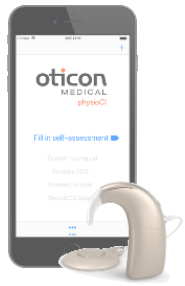
Committed to BrainHearing™

- Our portfolio of studies is large and growing
  - EEG measures
  - Behavioural tests, e.g. SWIR Recall
  - Pupilometry solutions (several set-ups, SMI, Tobii, Pupil labs etc.)
  - Functional near-infrared spectrometry
  - Heart rate changes
  - Infield research platform (self-assessment app, sound, HR data)
  - ….
- Partner in several EU H2020 projects on cognitive hearing







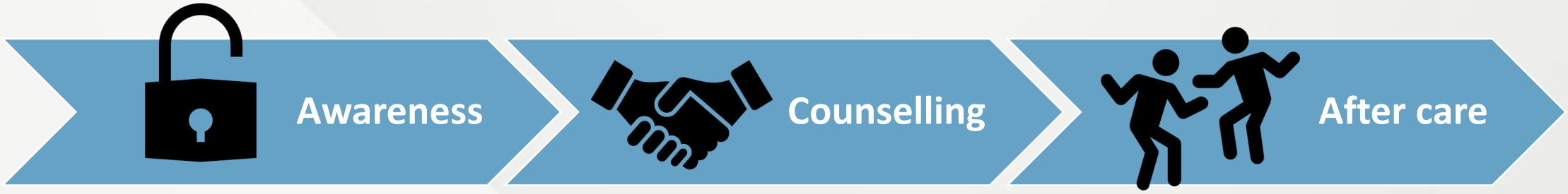


HearECO ITN

William Demant

Patient journey – focus on people

- With hearing implants, you are on a life-long journey with the end-user
- Continuous innovation and long-term commitment are crucial factors for success
- Winning the customers takes time – and it should
- You should be easy to do business with and ensure easy access to information
- Recurring business and obligations when winning the customers' loyalty



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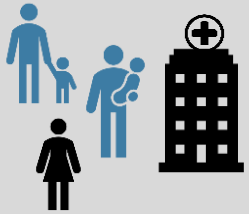
Patient journey – funnel

ENT
Newborn hearing screening
Hospital
Retail
Communities
On-line activities



Availability
Functionality
Product sourcing
Partnerships
Research

Fine-tuning
Innovation (upgrades)
Accessibility
Compatibility

Awareness

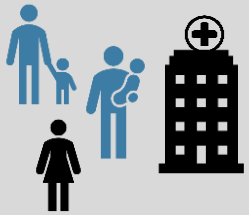
Counselling

After care

William Demant

Patient journey – synergies with rest of Group

Customer network
Group retail
Diagnostic division
Power house of hearing
On-line communities



Global presence
Strong infrastructure
Audiological expertise
Professional relations
Strong brand

Support centres
Global presence
On-line activities
In it to win it

Awareness

Counselling

After care

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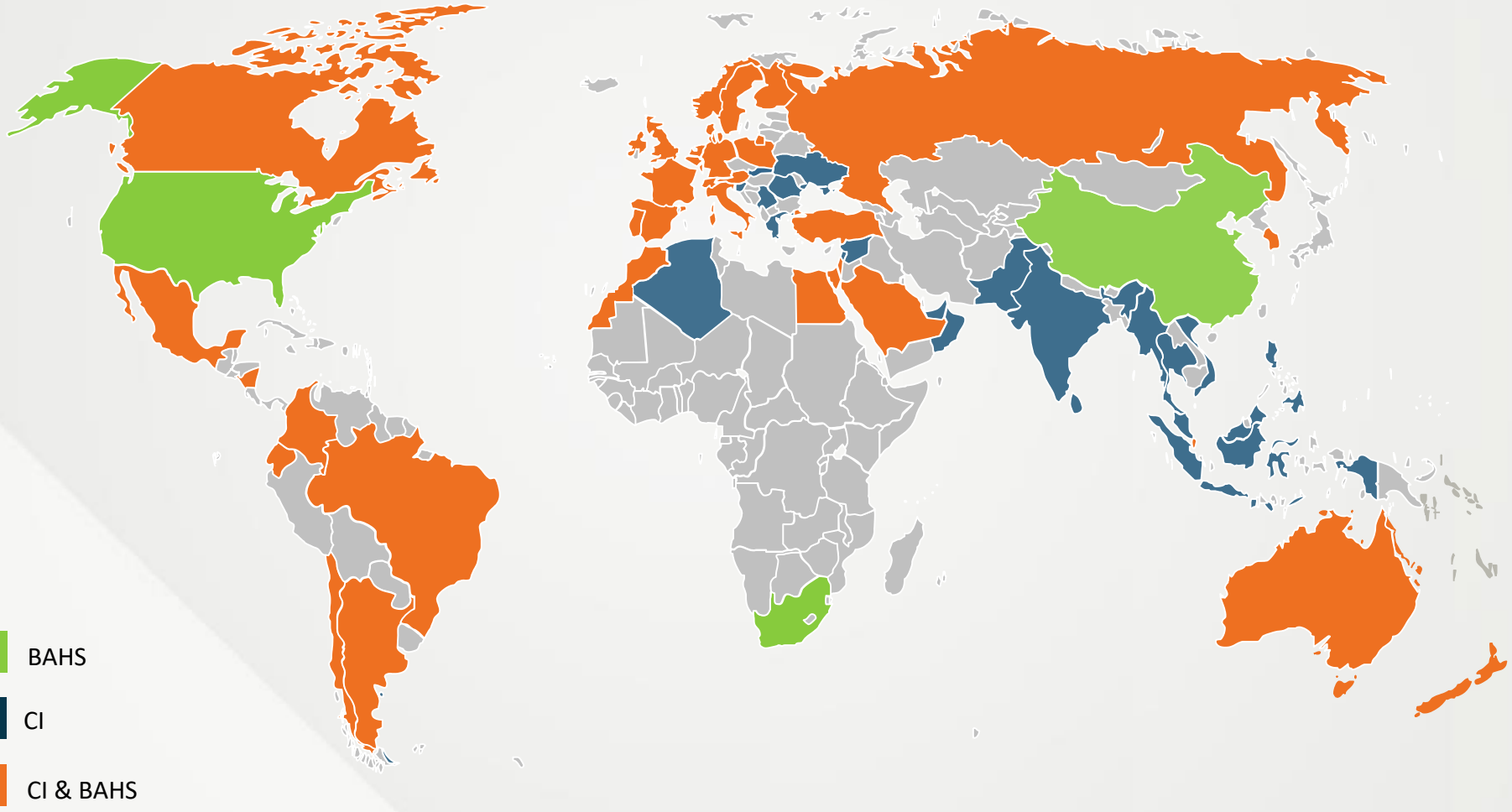
Oticon Medical: Our world



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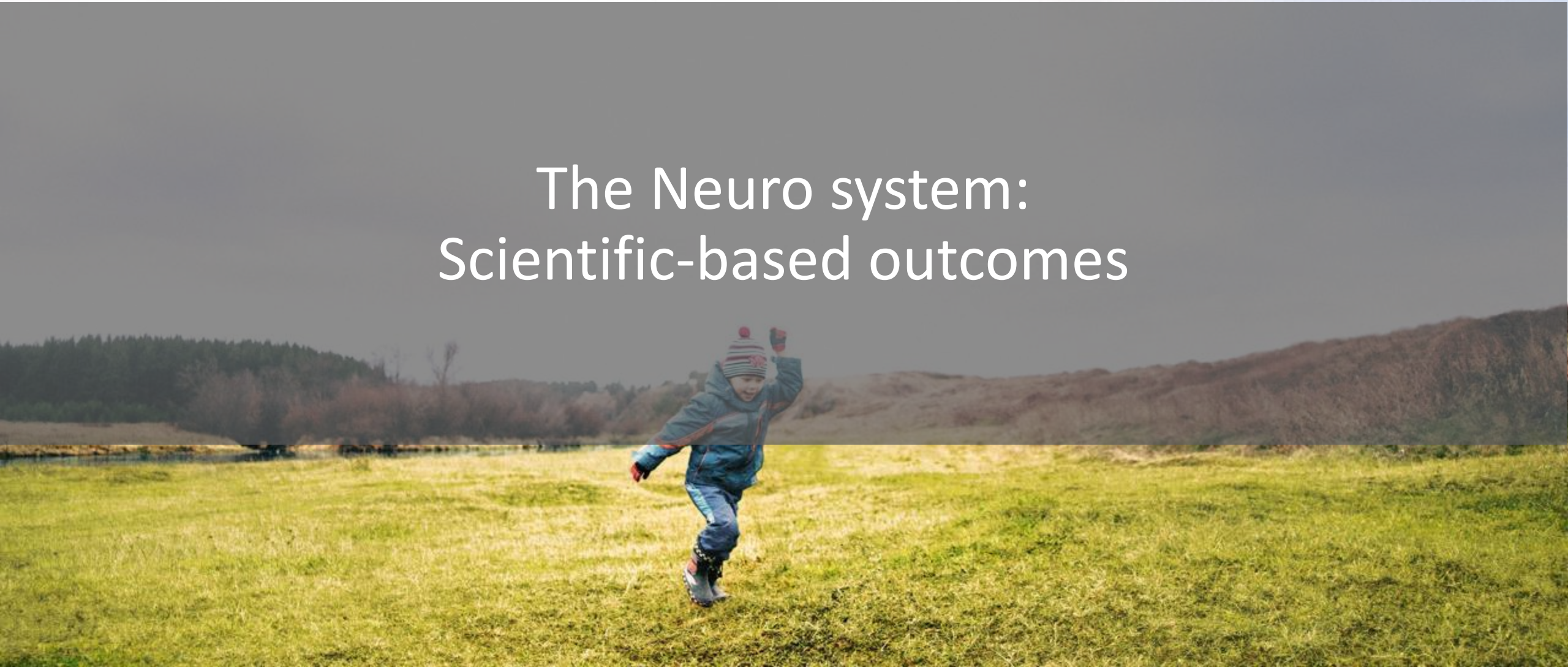
The Neuro system: Scientific-based outcomes



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Neuro Zti cochlear implant

New standard in MRI compatibility

No risk of magnet extrusion at 1.5T– rigid body
No pain due to receiver movement – fixation system
Removal made easy and safe for compatibility at 3T

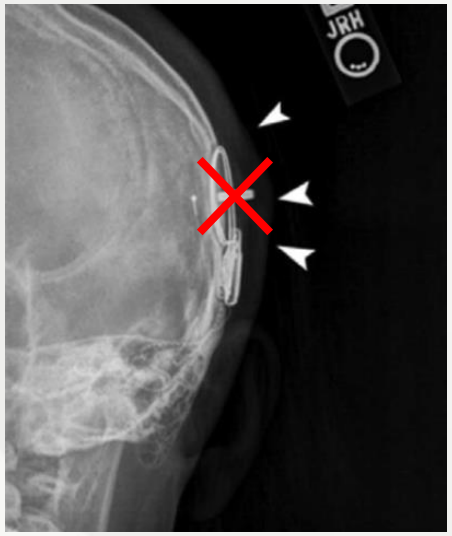

Fig. 1. AP skull film demonstrating 90 degree rotation of the internal magnet. There is associated protrusion of the scalp tissues (arrowheads).

First independent study published
Todt et al., JOHNS 2018

Comparing two technical solutions for MRI compatibility: Neuro Zti and Competitor A


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Journal of Otolaryngology - Head & Neck Surgery

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Abstract
Background
Methods
Results
Discussion
Conclusion
Declarations
References

Original research article | Open Access

Cochlear implants and 1.5 T MRI scans: the effect of diametrically bipolar magnets and screw fixation on pain

Ingo Todt, Grit Rademacher, Gloria Grupe, Andreas Stratmann, Arne Ernst, Sven Mutze and Philipp Mittmann

Journal of Otolaryngology - Head & Neck Surgery 2018 47:11
https://doi.org/10.1186/s40463-017-0252-9 | © The Author(s). 2018
Received: 13 May 2017 | Accepted: 28 December 2017 | Published: 5 February 2018

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Abstract

Background

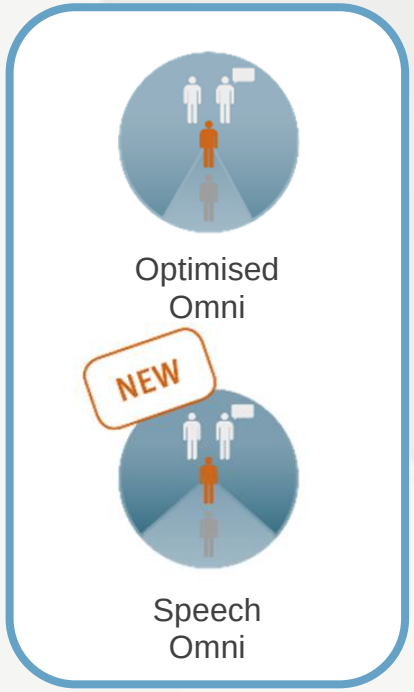
The probability that a patient will need an MRI scan at least once in a lifetime is high. However, MRI scanning in cochlear implantees is associated with side effects. Moreover, MRI scan-related artifacts, dislodging magnets, and pain are often the most frequent

Neuro Zti is comparable to the best competitor product in the domain and outperforms products from two other manufacturers.

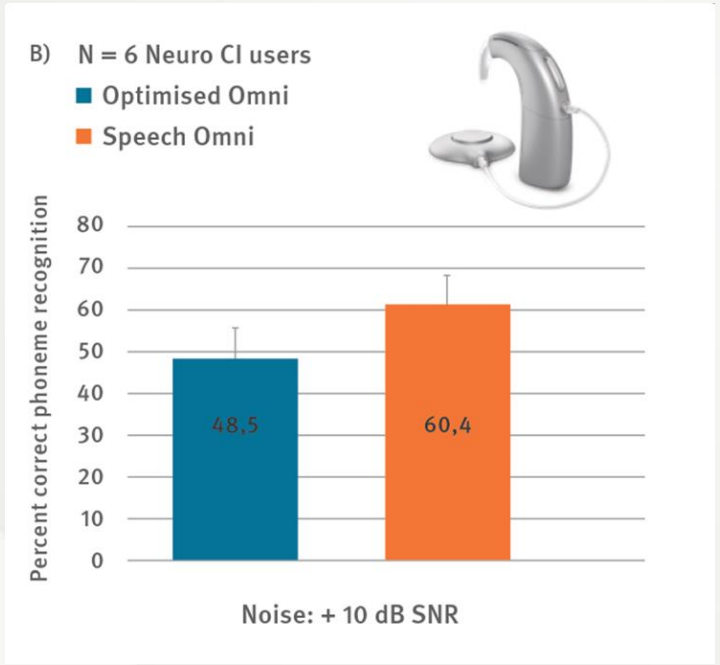
BrainHearing™ and the Neuro 2 sound processor

Speech Omni setting in FreeFocus directional system

Technology inspired by the brain



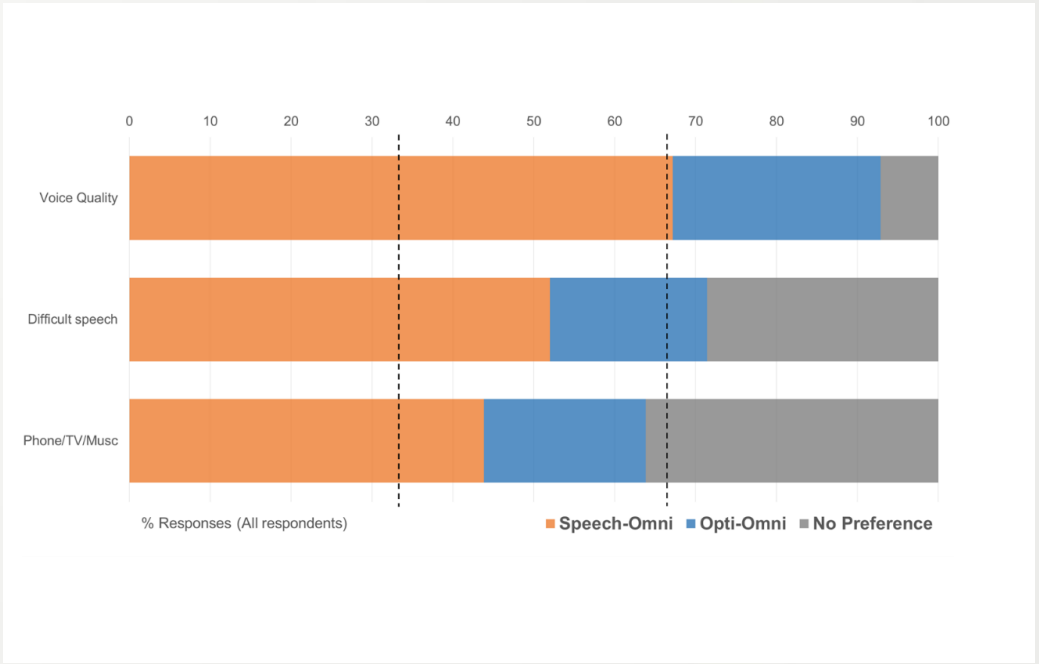
Providing measurable benefits …



Speech audiometry scores with Speech Omni compared to Optimised Omni in six Neuro CI users

… that patients want to use

oticon MEDICAL UNIQUE



Subjective preference in different listening situations for Speech Omni vs. Optimised Omni in 35 Neuro CI users

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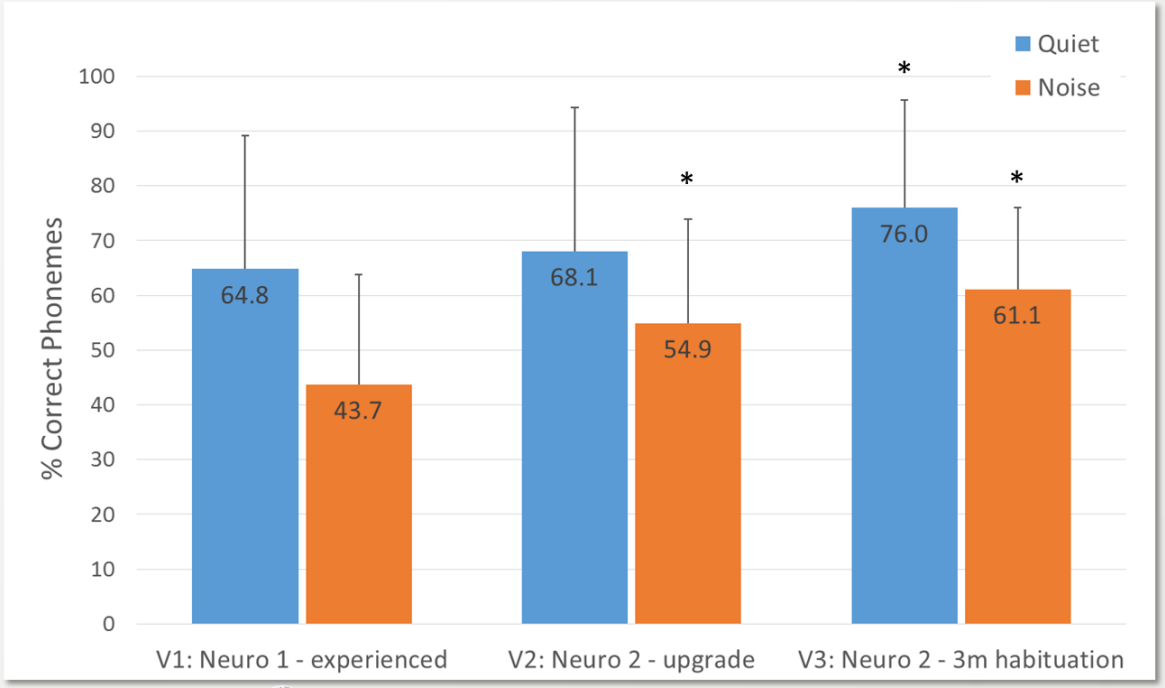
Neuro 2 sound processor

New standard in terms of battery life and design
Industry-unique aesthetic characteristics in combination with superior performance and increased outcomes

Objective measure: Speech audiometry scores



Opening Up the World of Sound With Hearing Implants

Thomas Lenarz, MD PhD

Department of Otolaryngology
Hannover Medical School, Germany

WDH Capital Market´s Day, London June 12, 2018

Medizinische Hochschule Hannover

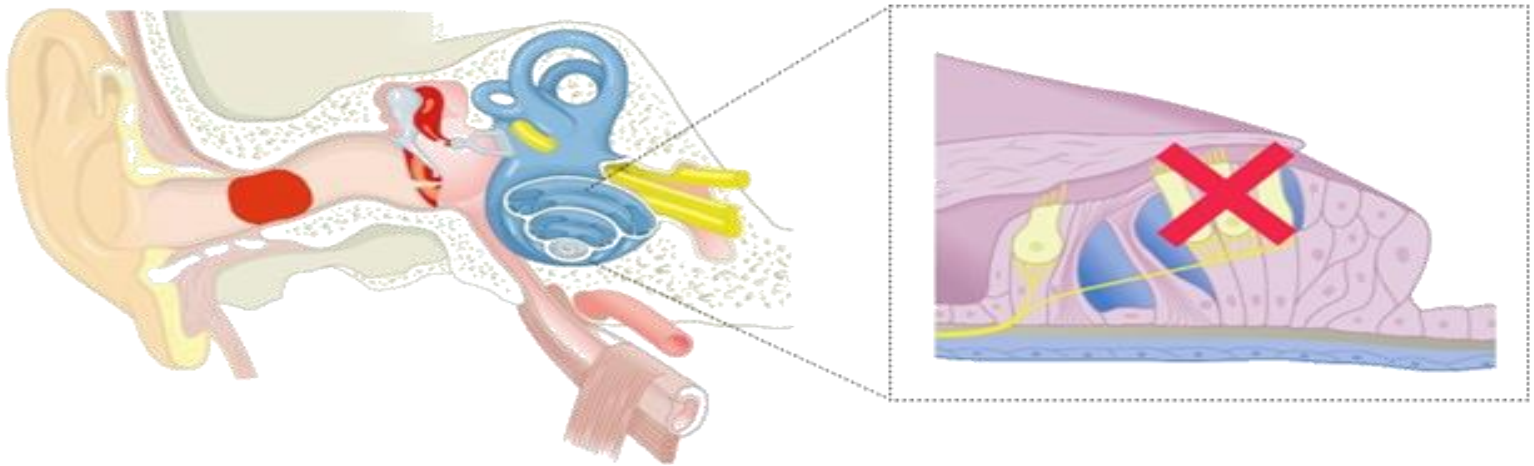
DHZ Deutsches HörZentrum Hannover

VIANNA

Hearing 4all

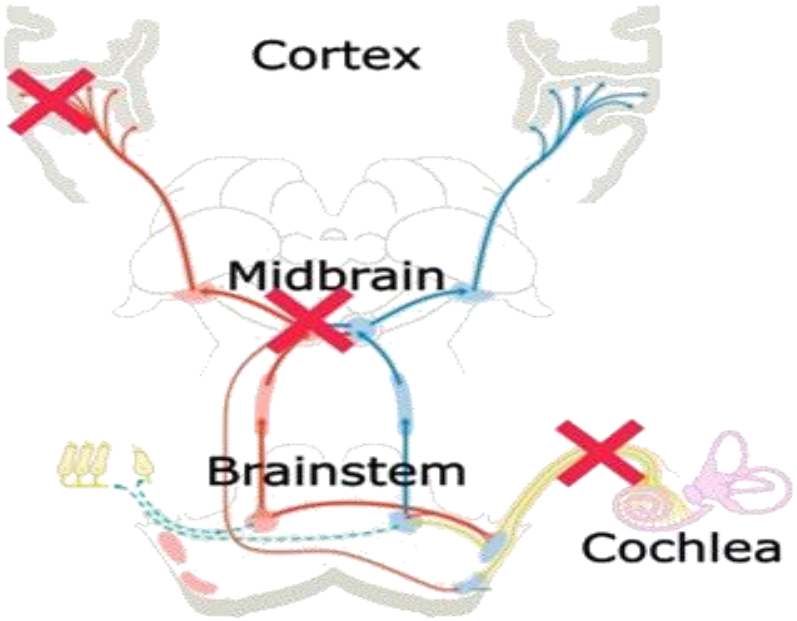
Hearing Disorders

Outer and middle ear



Inner ear

Auditory pathway

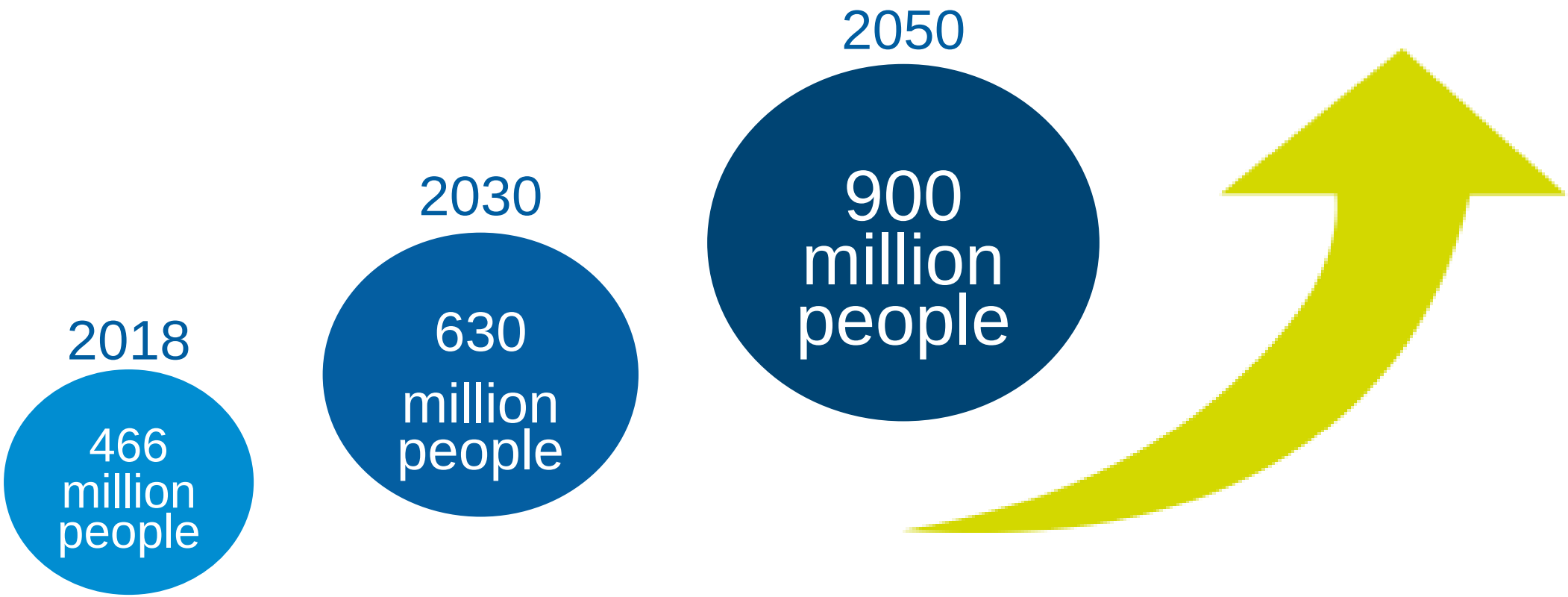


Conductive loss

Sensory or cochlear loss

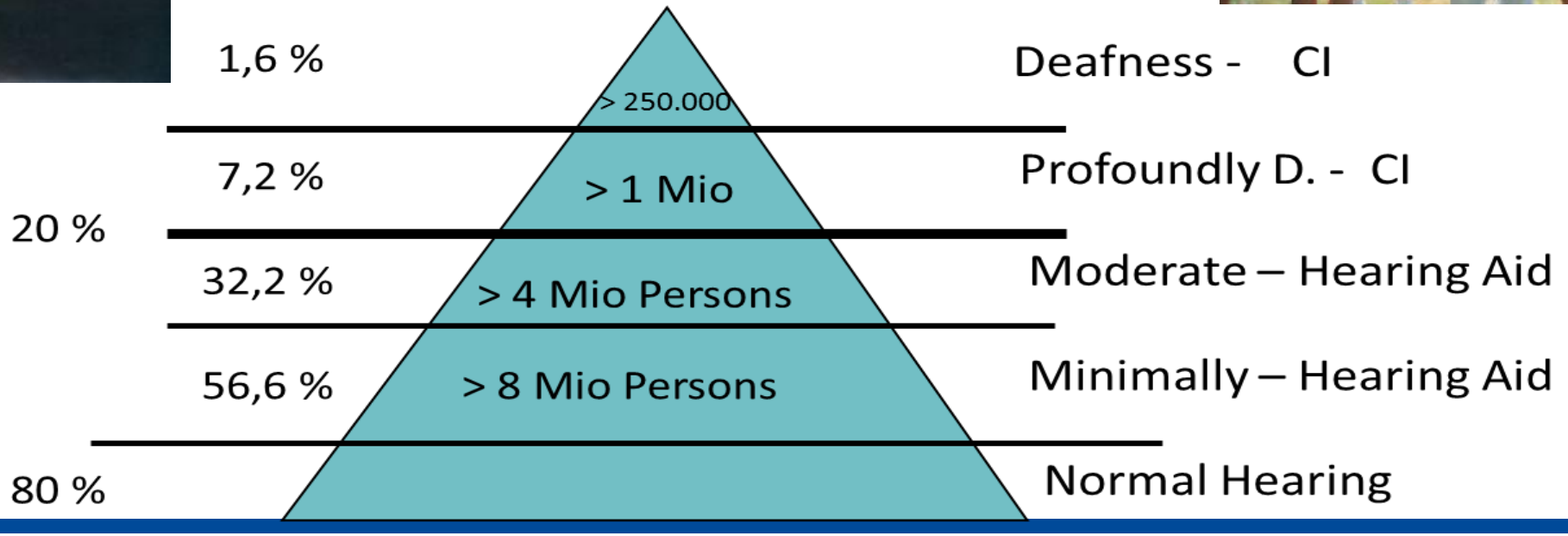
Retrocochlear loss

Hearing Loss: A GROWING GLOBAL EPIDEMIC



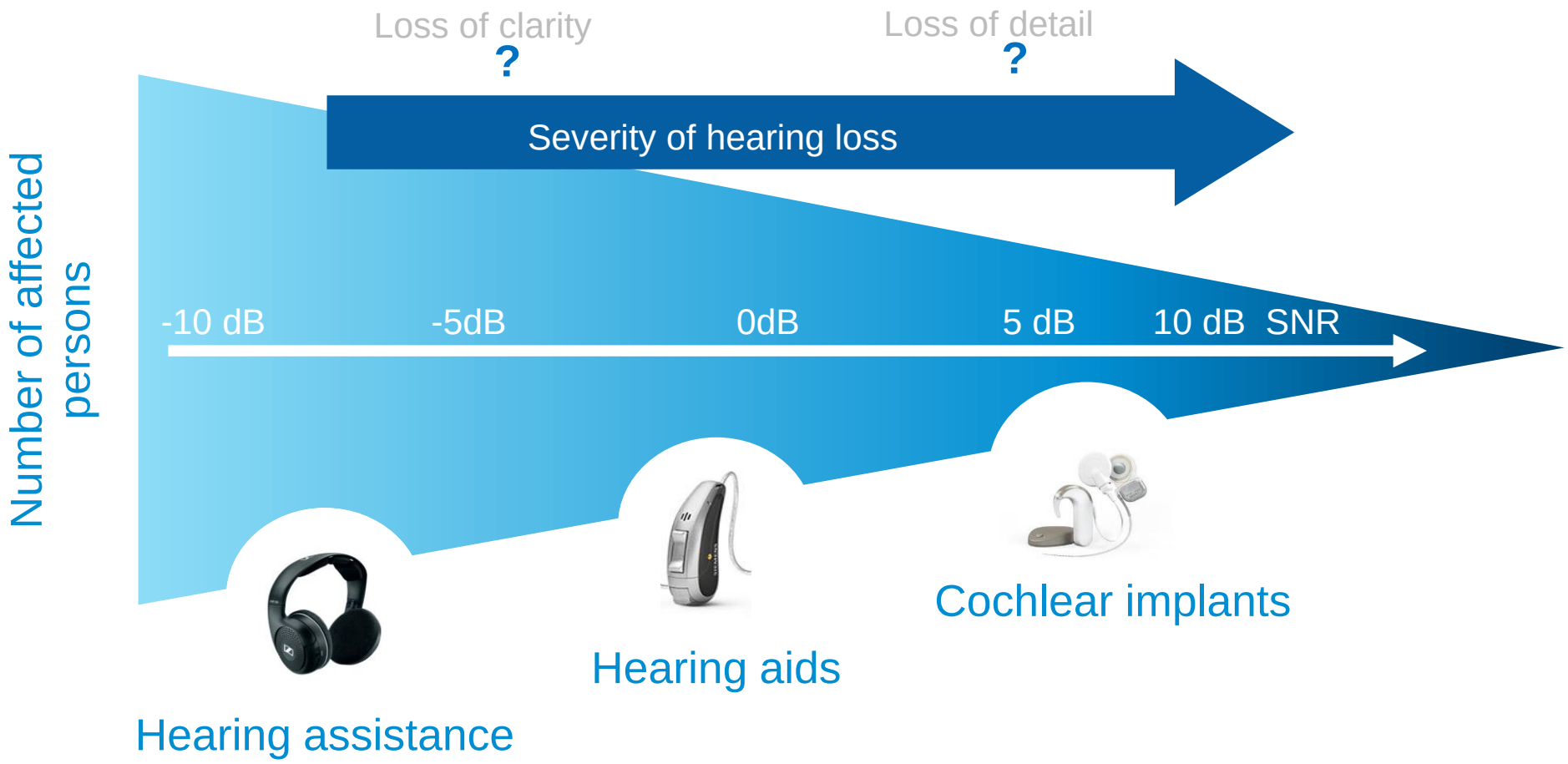
Hearing Loss in Germany

14 Mio. Hearing Impaired
in Germany
Every 2nd above 65 Years
2 in 1000 Children

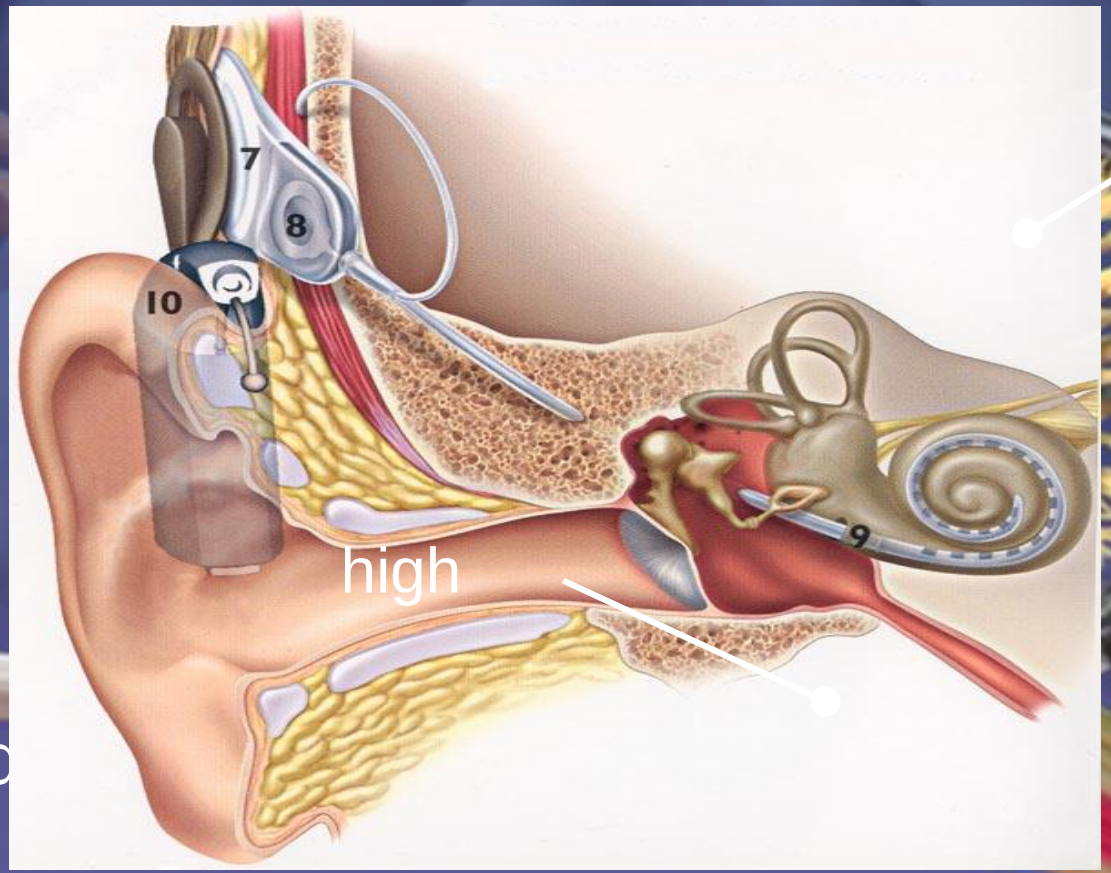


CI = Cochlea Implant

Hearing Loss: Auditory Devices



Cochlear Implant



low

Electrod

Auditory Nerve

The “success story” of Neuroprotheses

> 500.000 Recipients Worldwide

Candidates in Germany: 1 Million

Implanted in Germany: 50.000

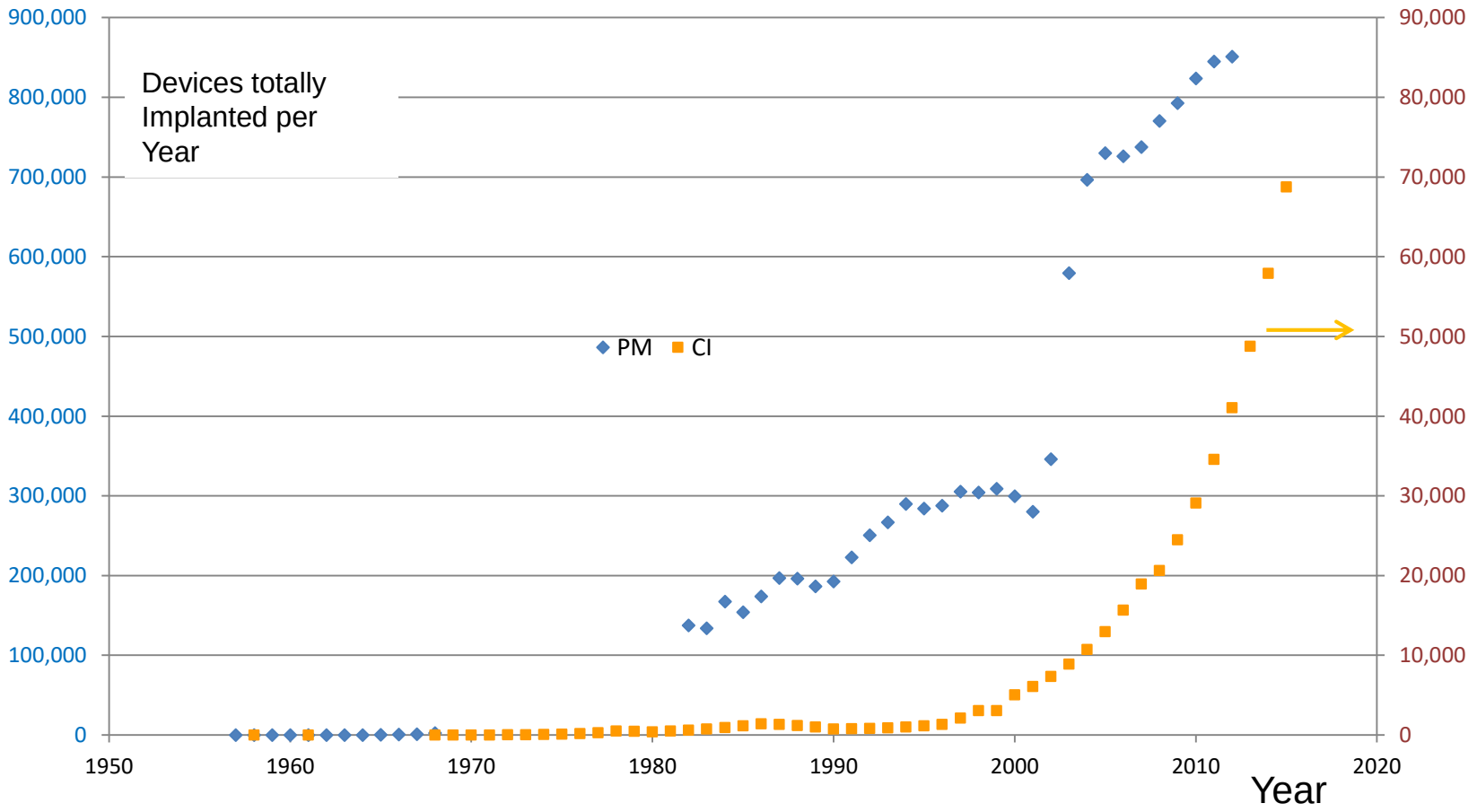
Contact with the world of sound	Speech discrimination in a majority	Speech discrimination in all	Speech in noise & music perception in all
First	Then	Now	Future

Time

Fig. 49. Photograph of the portable prototype speech processor developed by the University of Melbourne.

History and Future of Active Implants

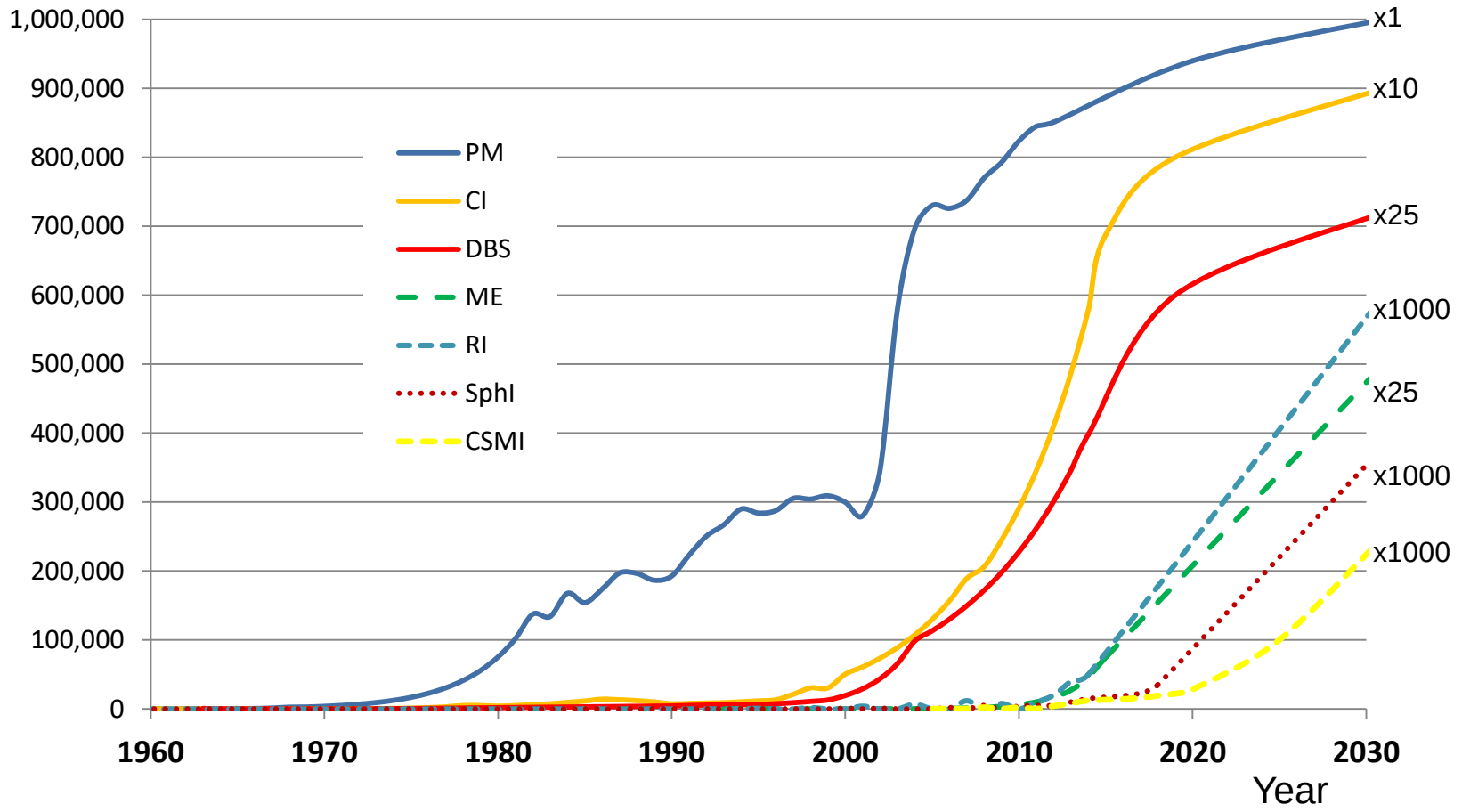
"…implants that rely for functioning on a source of electrical energy or any source of power other than that directly generated by the human body …"(90/385/EEC MEDDEV)



- Pacemakers
- Cochlear Implants

Conservative Market - Expectations

Devices Implanted per Year



Conservative means early Saturation!

Innovative Breakthrough like PM are always possible, but:

Medical Devices have long Delays due to Testing & Approval!

The “success story” of Neuroprotheses

> 500.000 Recipients Worldwide

Candidates in Germany: 1 Million

Implanted in Germany: 50.000

Contact with the world of sound

Speech discrimination in a majority

Speech discrimination in all

Speech in noise & music perception in all

Time

First

Then

Now

Future

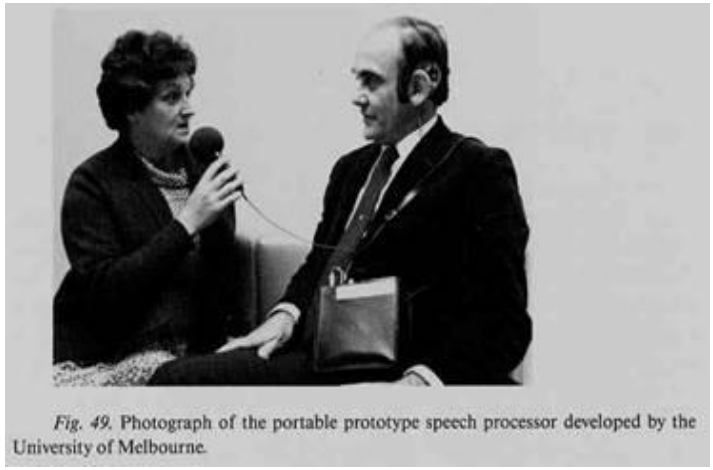


Fig. 49. Photograph of the portable prototype speech processor developed by the University of Melbourne.

Objective: Develop auditory precision medicine

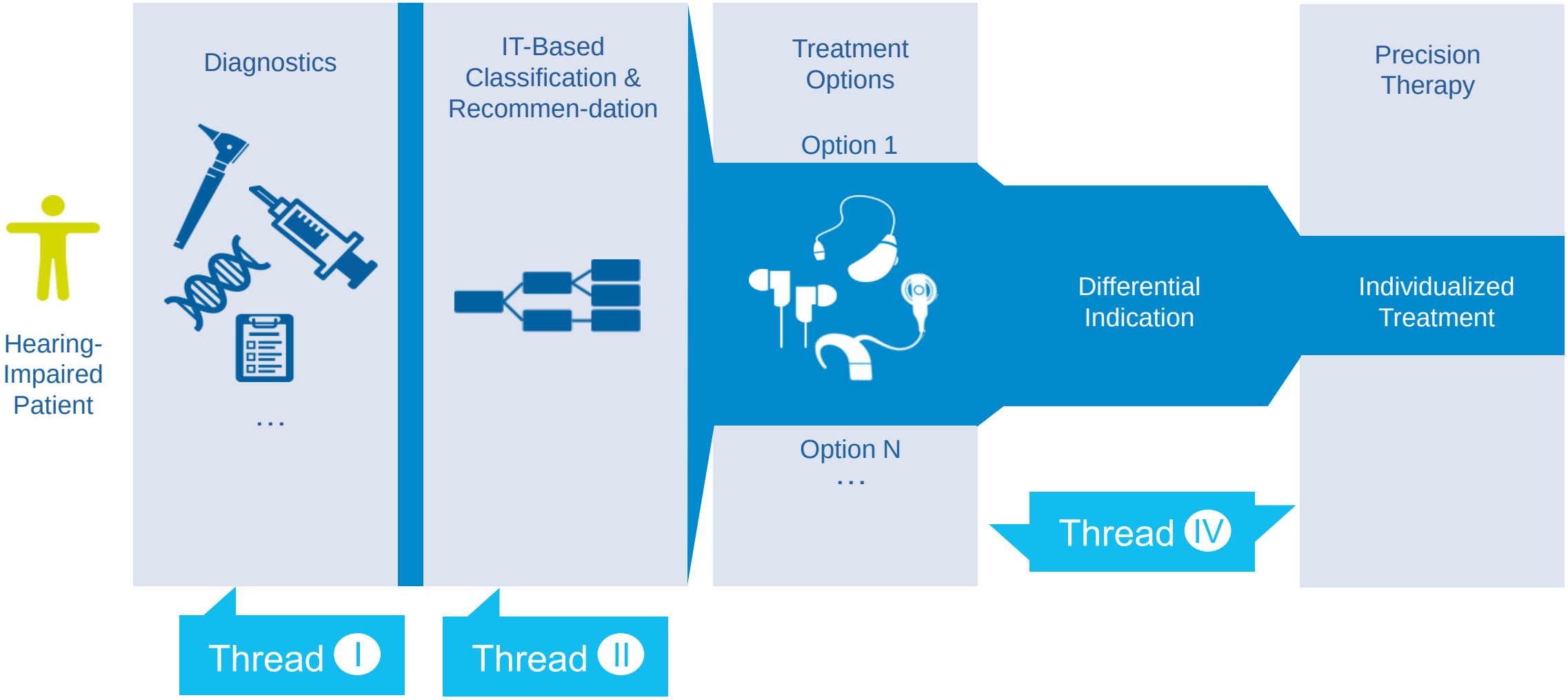
Every patient with hearing impairment is

Diagnostics

Intervention

Precision Medicine

Precision Treatment for HearingLoss

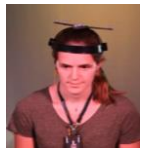


Hearing Implant of the Future

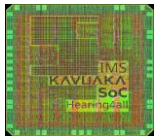
Closed-Loop Hearing Device Control

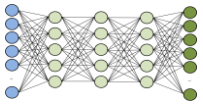
Individualized Computer-Aided System Fabrication Platform

Sensors



Hardware & Software





Interfaces

Stimulation

Patient Monitoring

Thread II

Algorithm Configuration/ Fitting

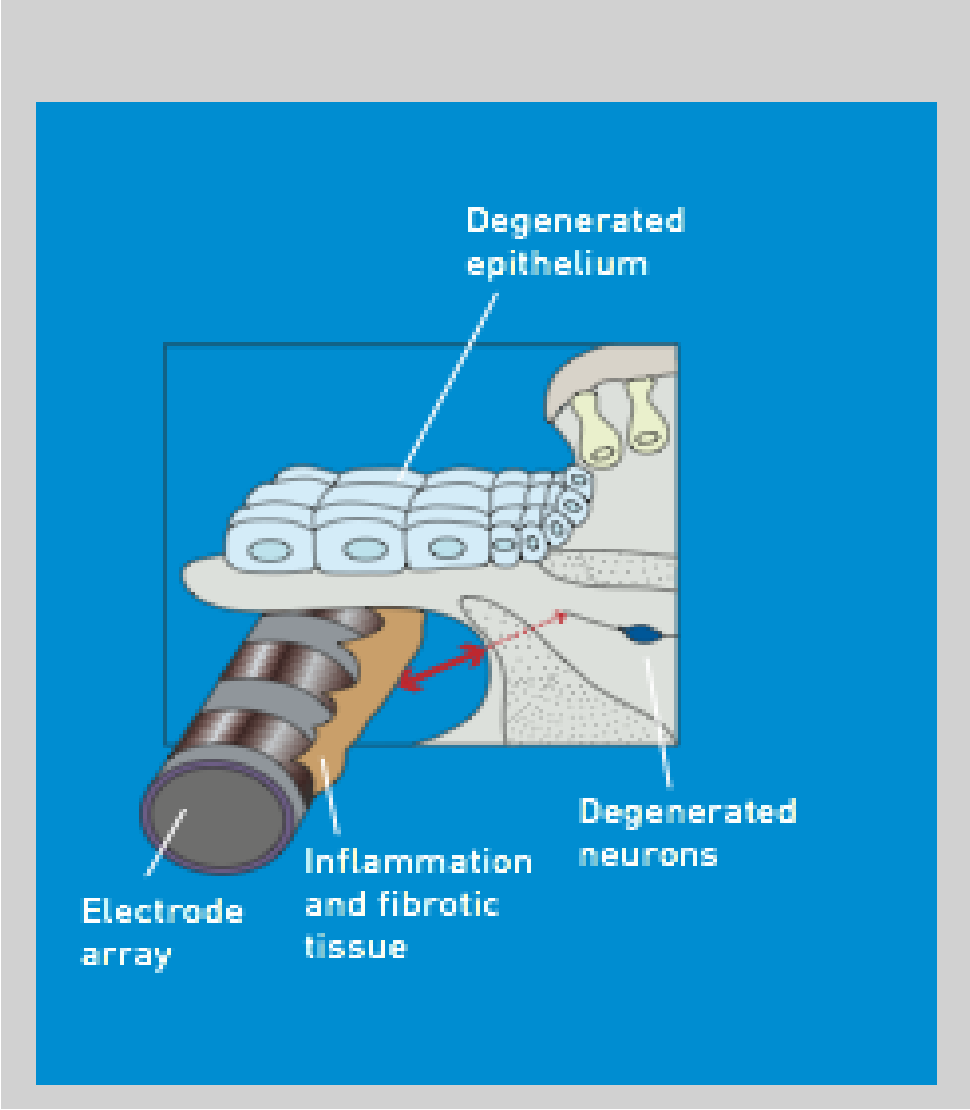
Thread I

Stimulation Options

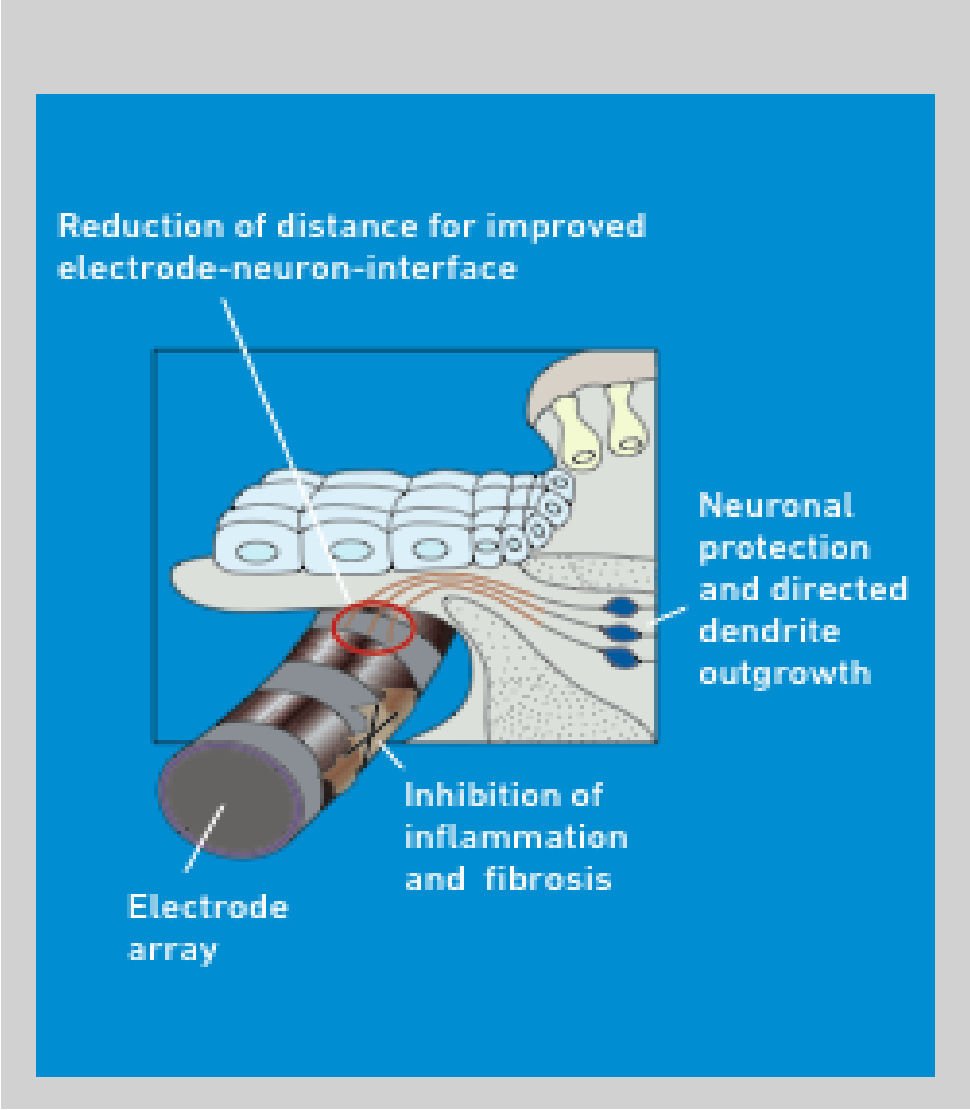
Thread III

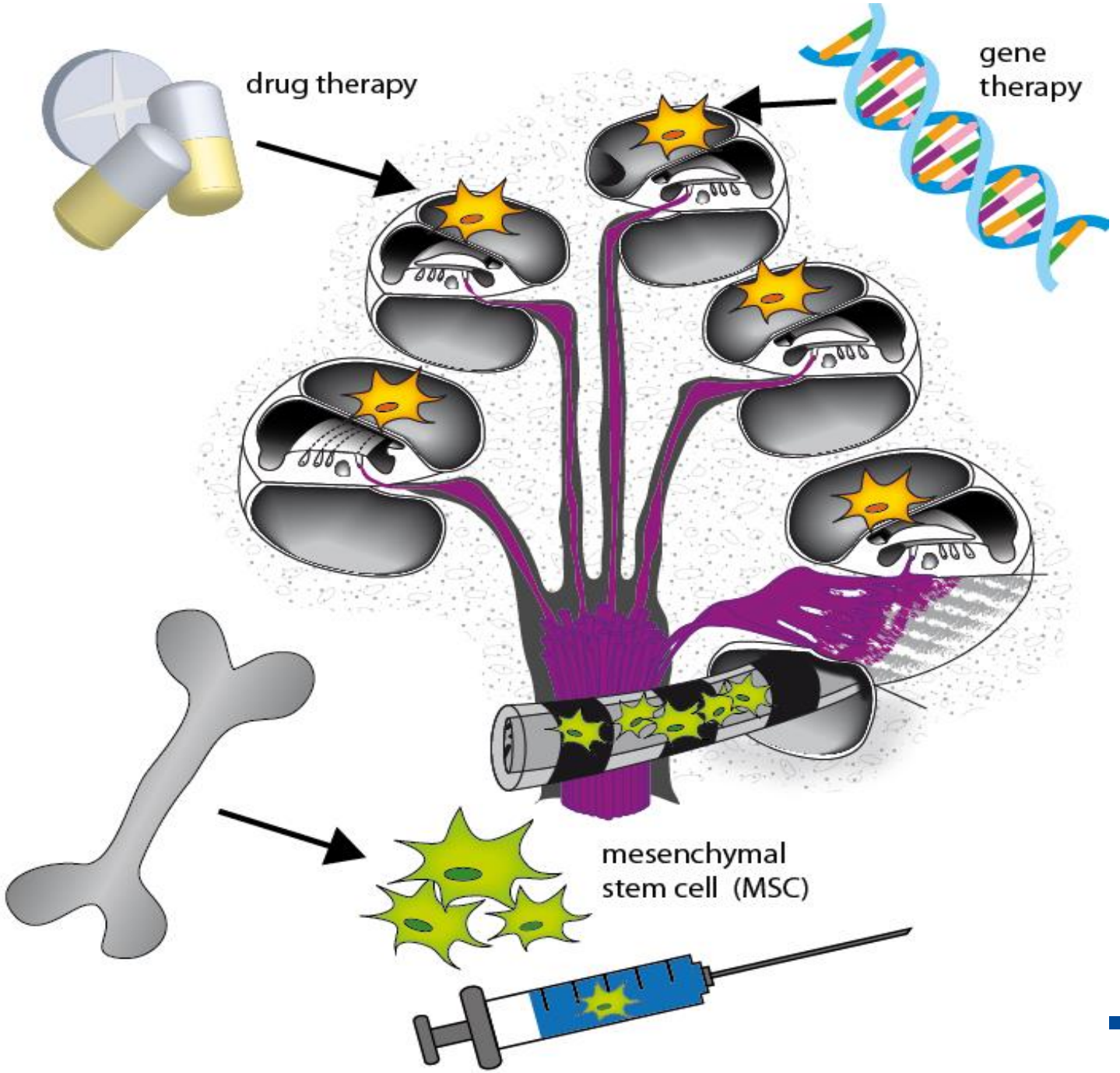
Spotlight — Advanced Auditory Implants

CHALLENGES



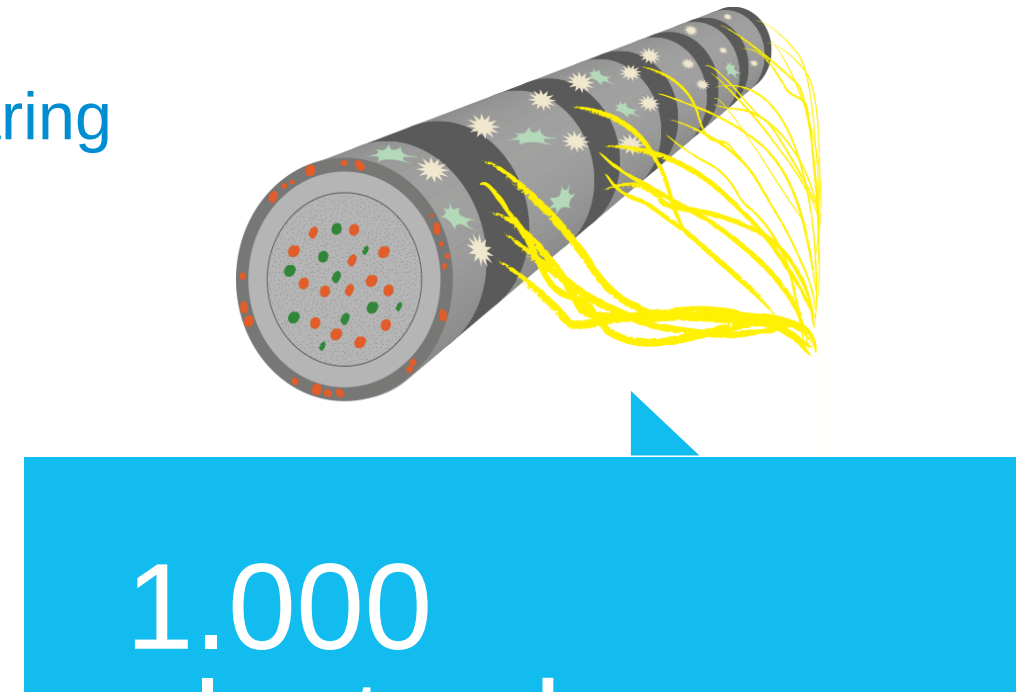
OBJECTIVES




drug therapy
gene
therapy
mesenchymal
stem cell (MSC)

Clinical translation challenges

- Bionic devices: bring biology into technical hearing solutions
- Artificial synapse
- Analogue-digital conversion
- Complete restoration of physiological hearing



Cochlear Implant Program in Hannover

Steps toward excellence:

1984	1st CI
1992	Children´s implant Center
2003	German Hearing Center
2003	Collaborative Research Grant Medical implants
2013	Center of Excellence Hearing4All
2016	VIANNA in NIFE
2016	Fraunhofer Center of Biomedical Excellence

Clinic – with 25,000 outpatients and 6,000 inpatients each year
600 Cochlear Implantations per year – 10.000 in total

German Hearing Center – patients go with hearing loss

NIFE– laboratories of experimental otology basic research

VIANNA – transfer basic science into new products Companies

Fraunhofer ITEM – production, testing and certification

Centre of BioMedical Excellence

Translational Medical Engineering

Fraunhofer Excellence Cluster
Supporting Structure

Institute of AudioNeuroTechnology (VIANNA)

NIFE
Niedersächsisches Zentrum für Biomedizintechnik, Implantatforschung und Entwicklung

Medizinische Hochschule Hannover

VIANNA

Auditory and Neuroimplant Research Cluster

Hannover Medical Park

Fraunhofer ITEM

Leibniz Universität Hannover

LZH LASER ZENTRUM HANNOVER e.V.

MED EL

Cochlear™

oticon MEDICAL Because sound matters

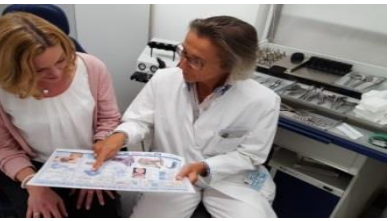
OtoJig GmbH

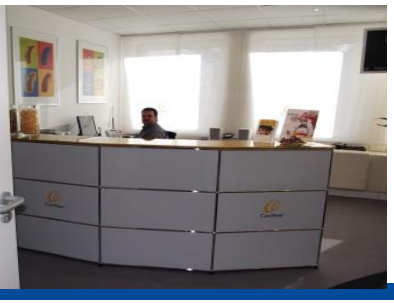
AB

BLACKROCK® MICROSYSTEMS

German Hearing Center (DHZ)

- Integrated care for hearing impaired people
- One-stop shop
- Complete spectrum of diagnostic procedures
- Candidate selection
- Postoperative care and rehabilitation
- Conservative treatment of hearing loss
- Service centers of manufacturers for direct support of patients
- Remote care center hub and spoke
- Clinical research in fields of speech coding, electrodes, and acoustic implants





Head of clinical service:
Prof. Dr. Anke Lesinski-Schiedat

Head of technical service and research:
Prof. Dr. Andreas Büchner

Remote Care :
Patient monitoring and Service

Hub and Spoke: 25 partners across Germany

Full service with spare parts, implant check and upgrade

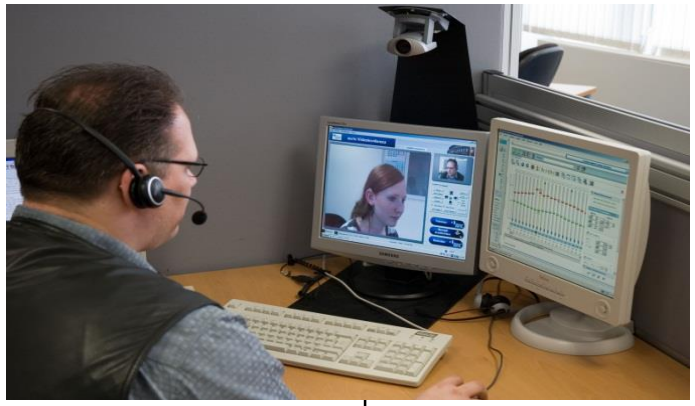
Can be connected to the CI center any time

Future self fitting and automated patient monitoring through data transfer

Remote Care with 2 way audio-visual connect

CI Center

Satellite



2 MBit SDSL

2 MBit SDSL

Hannover Medical School Experience with Oticon Neuro Implant

Because sound matters

oticon MEDICAL

The Neuro Cochlea-Implant system

Neuro One

- Oticon Technology Inside (Inium)
- Coordinated Adaptive Processing

Neuro Zti

- Compact design
- Future-proof technology
- Conventional and atraumatic electrode arrays

The Neuro Cochlea-Implant system

Neuro 2

- Oticon Technology Inside (Inium)
- Coordinated Adaptive Processing
- Smallest BTE processor in the market

Neuro Zti

- Compact design
- Future-proof technology
- Conventionel and atraumatic electrode arrays

Neuro Zti: feature summary

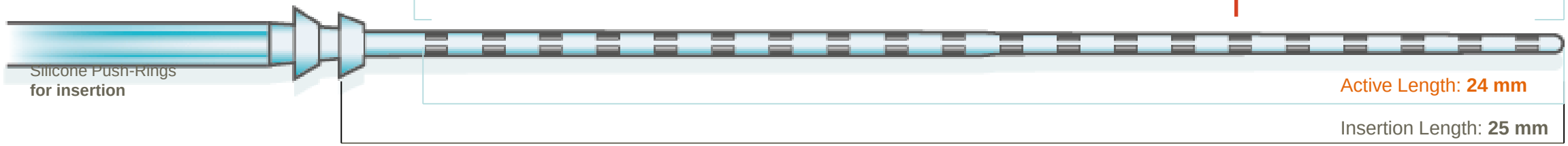
- Antenna protection inside the case
- 2nd generation fixation system
- Removable magnet
- MRI safe up to 3T with magnet removed
  - **1,5T with magnet in place**

Electrode options

EVO

Diameter
at base: **0.5 mm**

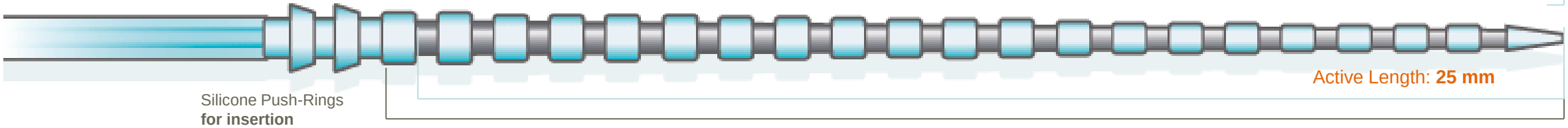
Diameter
at apex: **0.4 mm**



CLASSIC

Diameter
at base: **1.07 mm**

Diameter
at apex: **0.5 mm**



Technological highlights: Neuro Zti

- 24 independent high-precision current sources
- Configurable ASIC with substantial reserves for future development in the area of signal processing
- 28 hermetic sealed feed through
- **Build-in DSP for signal processing**
  - **ECAP**
  - **future: E-BERA or other AEPs**

Neuro Cochlea Implants at MHH

- Up to now, 67 Oticon Neuro ZTI systems implanted at MHH
  - Average age: 62,3 yr.; avg. hearing impairment: 26,7 yr.; avg. deafness: 13,5 yr.

  - All patients fulfill our expectations related to achieved listening performance with CI
  - Automatic features of the Inium Sense chipset (AGC-free signal processing, beam former, noise reduction, etc.) are easy to program und perfectly accepted by the patients
  - ECAP measurement system provides curves with good signal-to-noise ratio. We are collecting data for further analysis of reliability.

Oticon Neuro Implantation at Hannover Medical School





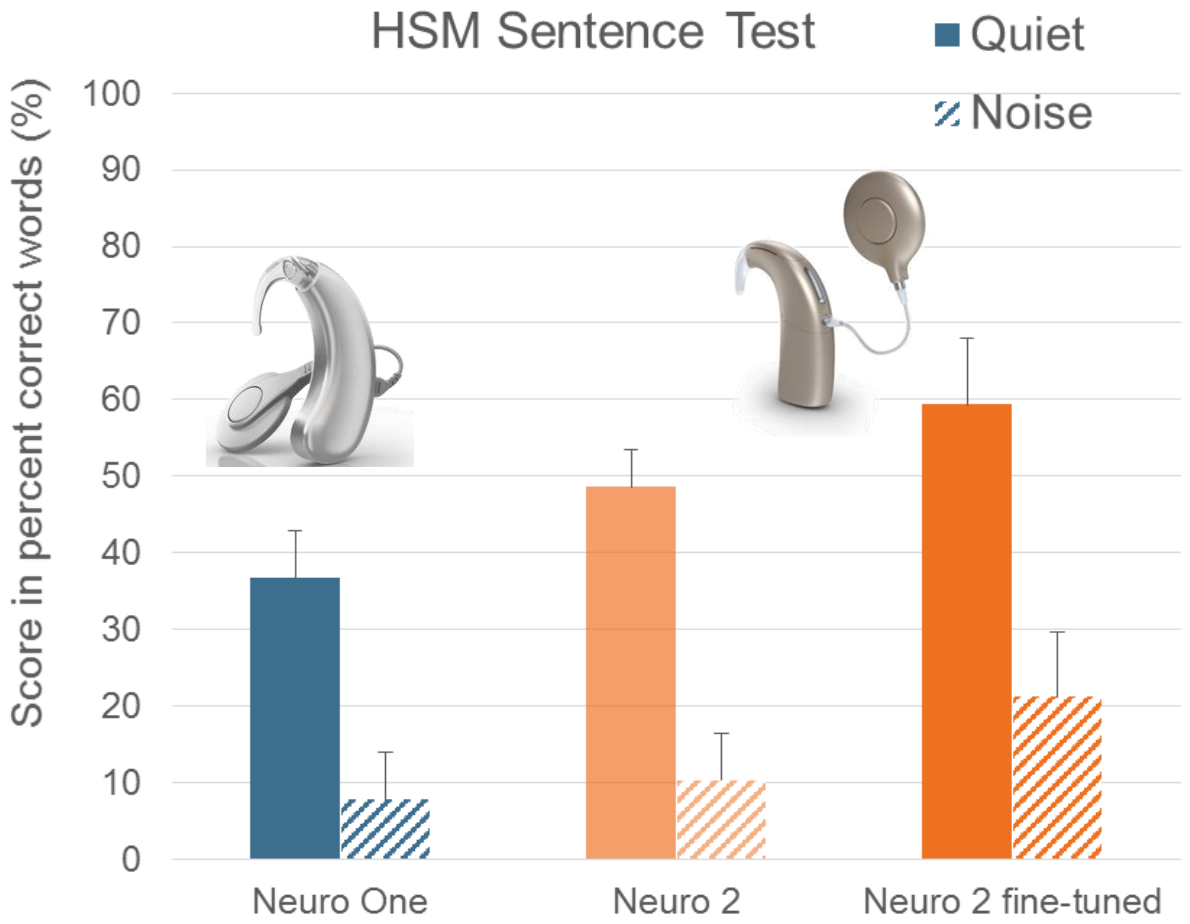
Because sound matters

oticon MEDICAL

First data on Neuro 2

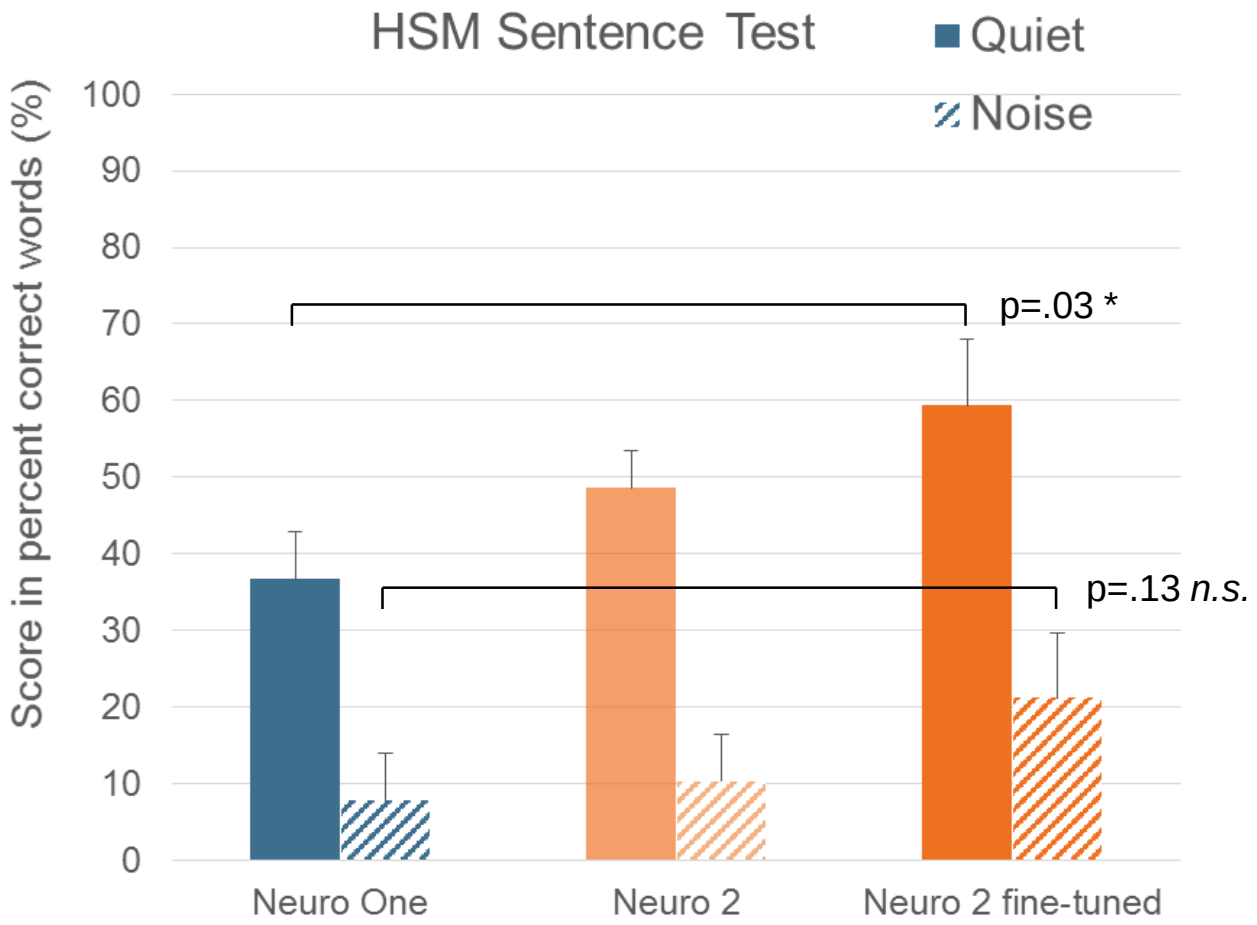
- Since February 2018, the Neuro 2 sound processor is available
- Up-to-now, 55 upgrades have been conducted
- Patients report significant improvements in sound quality and clarity
- Therefore, we are conducting comparing measurements at each upgrade visit with both, Neuro One and Neuro 2 sound processors in the sound field.

Preliminary performance data



N = 8
Average Age: 68,5 yr.

Preliminary performance data



Wilcoxon matched pairs signed rank test

Summary

- In total, 67 Oticon Neuro Systems have been implanted at MHH
  - All surgeries have been conducted without complication
  - Pleased with level of OM inter-operative support provided

- All Neuro Zti patients at MHH are within expected listening performance, Neuro 2 obtains significantly better speech understanding results compared to Neuro One

- The signal processing chain in Neuro 2 is controlled by the Inium Sense Chip. Der Inium Sense Chip is widely used in Oticon's high-end hearing aids and allows for latest signal processing advances to be utilised in cochlear implant systems.

- As for all CI systems, technical support by the producer is essential. We are very satisfied with the support provided by Oticon Medical.

Thank you


MHH


German Hearing Center


Verbundinstitut für AudioNeurotechnologie
und Nanobiomaterialien Hannover
VIANNA

William Demant

The Neuro system: Status

William Demant

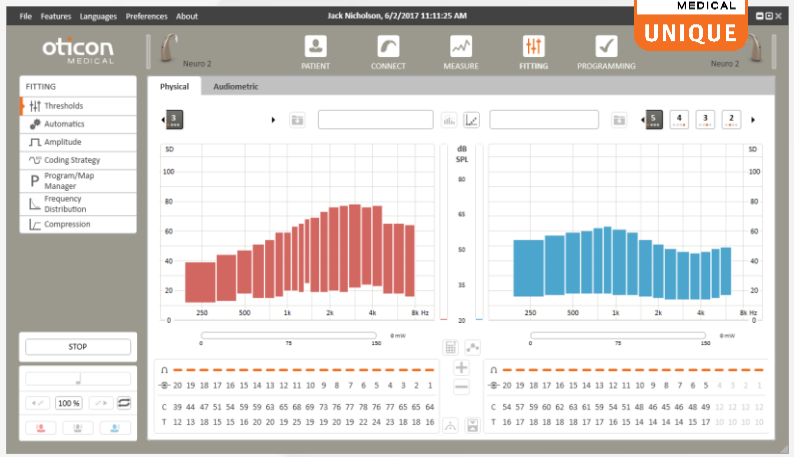
The Neuro system

Neuro 2 launch status

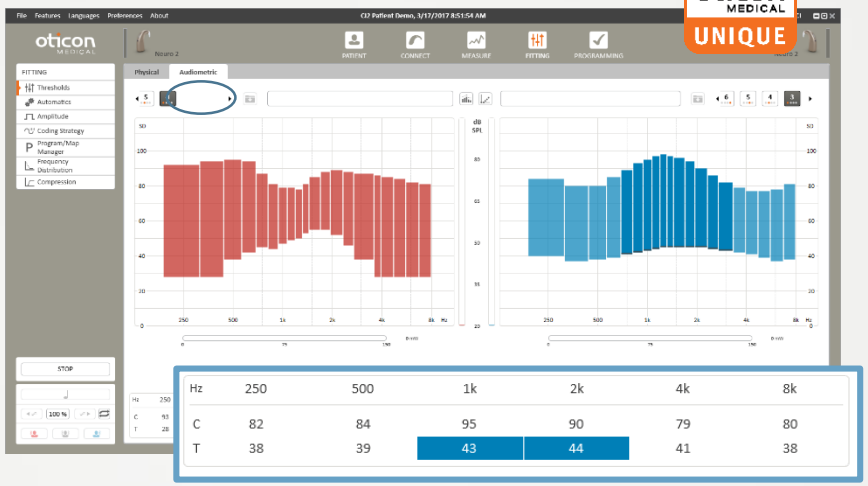
- 500+ patients fitted with Neuro 2 in key markets
  - First users fitted at the end of February
- Focus on upgrading Neuro One exchange program users
  - Excellent feedback from users on: Sound quality, usability, battery life, rechargeable batteries and the comfortable physical fit of BTE on their ear
- Professionals are very excited about the easy fitting process and the general quality of the new Genie Medical CI
- Significant interest in the system; comprehensive training programmes are ongoing at key CI centres
- The vast majority of exchanges have been completed in the addressable markets
- Focus on roll-out to remaining markets

Genie Medical CI – designed for audiologists

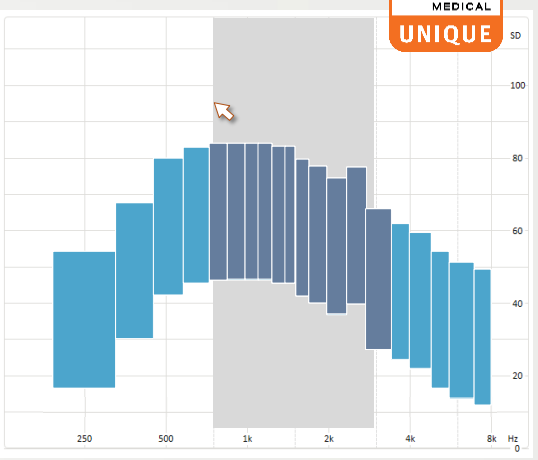
Logarithmic frequency axis



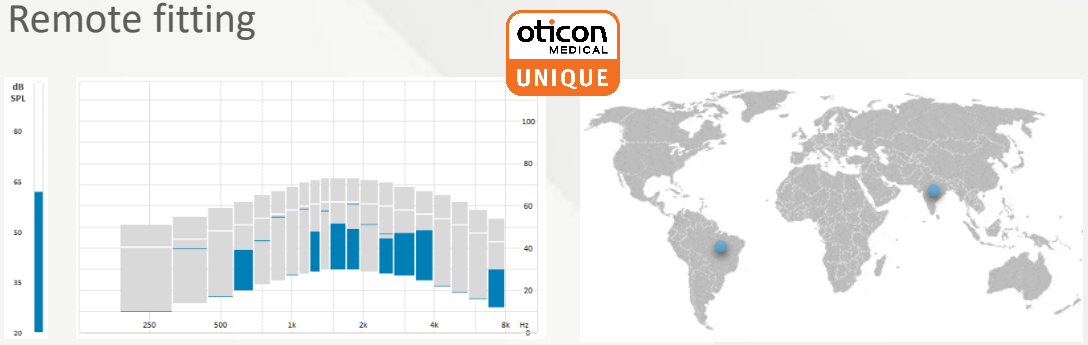
Audiometric frequency table



Free frequency selection
Smooth adjustments



Remote fitting



Live bilateral loudness adjustments

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Multiple design awards for Neuro 2

reddot award 2018
winner

Red Dot Award 2018
Winner for Product Design
(Healthcare)

reddot award 2018
winner

Red Dot Award 2017
Winner for Design Concept
(Bionics)

iF DESIGN AWARD 2018

iF Design Award 2018
Winner for Product Design
(Medical Device)

DANISH DESIGN AWARD FINALIST 2018

Danish Design Award
Finalist 2018
(Daily Life)

2018 WINNER EUROPEAN PRODUCT DESIGN AWARD

European Product Design Award 2018
Gold prize winner
(Life ScienceDesign/Aids/ Prosthetics)

GERMAN DESIGN AWARD WINNER 2018

German Design Award
Winner 2018 for Excellent Product Design
(Medical, Rehabilitation and Health Care)

GOOD DESIGN

Good Design 2017
Winner
(Personal)

A'DESIGN AWARD WINNER 2018 GOLD

A'Design Award
Winner 2018 Gold
(Scientific Instruments, Medical Devices and Research Equipment Design)

IDA DESIGN AWARDS GOLD WINNER 2017

IDA Design Awards
Gold Winner 2017
(IndustrialAnd Life Science Design-Aids/Prosthetics)

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The Ponto system:
Innovation fuelling better outcomes

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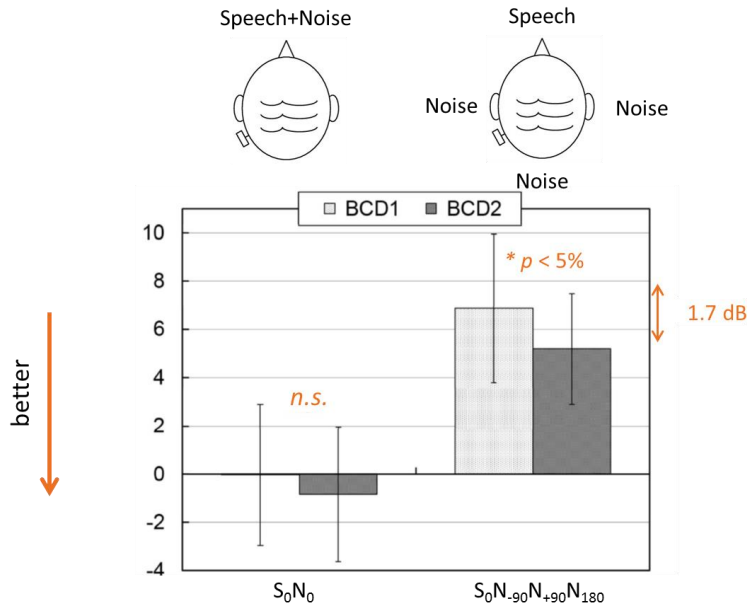
Ponto 3 SuperPower: The strongest abutment-level sound processor

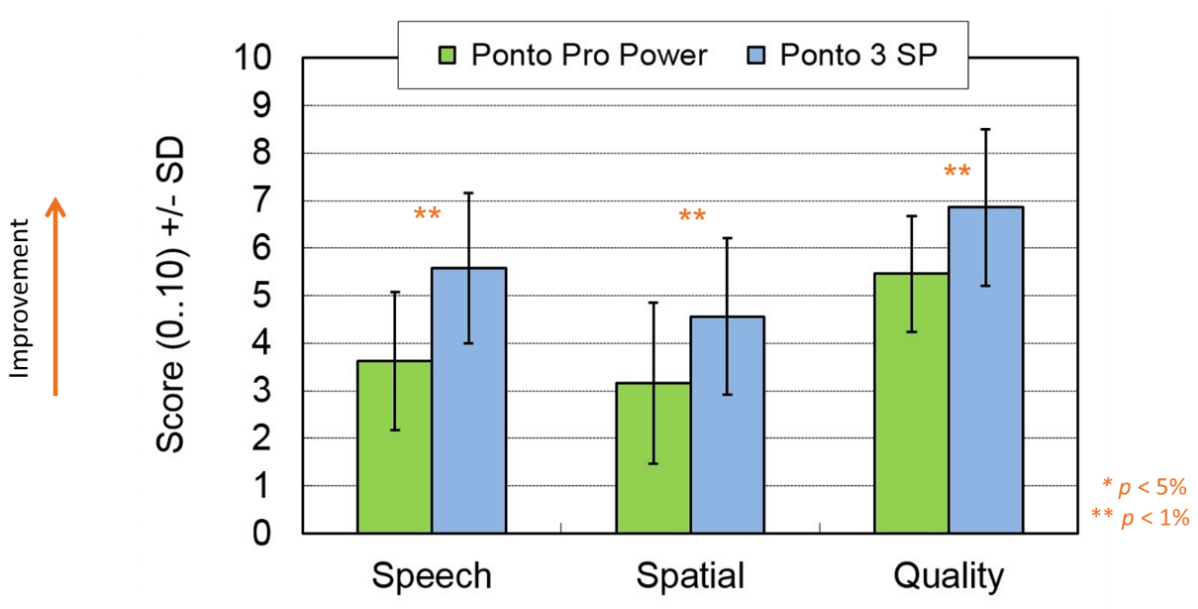
Significantly better speech understanding in complex situations

- Including effect of FreeFocus feature

Significantly better patient ratings

- Including effect of higher maximum output





Bosman AJ, et al. (2018). On the evaluation of a superpower sound processor for bone-anchored hearing. *Clinical Otolaryngology.*

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Ponto on softband: A proven solution for children

Data from bilateral microtia-atresia infants

(i) **Children's auditory development reported for 40 infants**

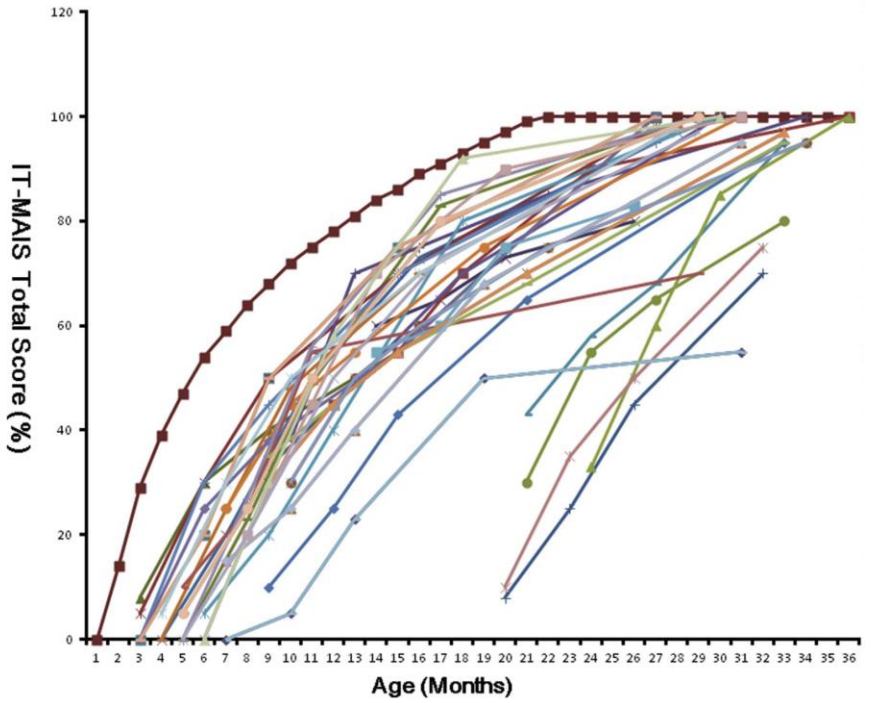
- Ponto sound processor on a softband improves auditory development

(ii) **Treatment gives significant improvement over time**

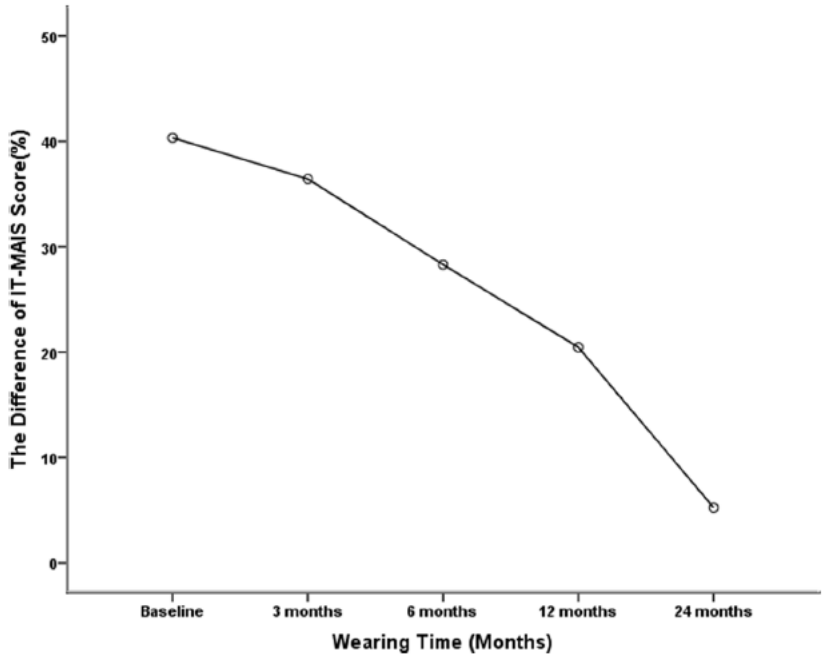
- On average, close to normal scores being achieved after 24 months' use of the sound processor

Wang, Y., e tal (2018). Hearing improvement with softband and implanted bone-anchored hearing devices and modified implantation surgery in patients with bilateral microtia-atresia. International journal of pediatric otorhinolaryngology.

(i)



(ii)



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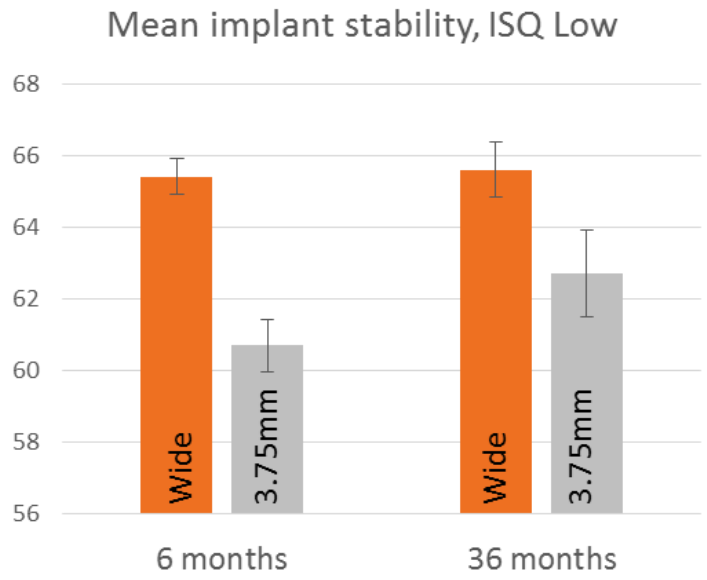
Ponto: Long-term randomised controlled study of 60 implants

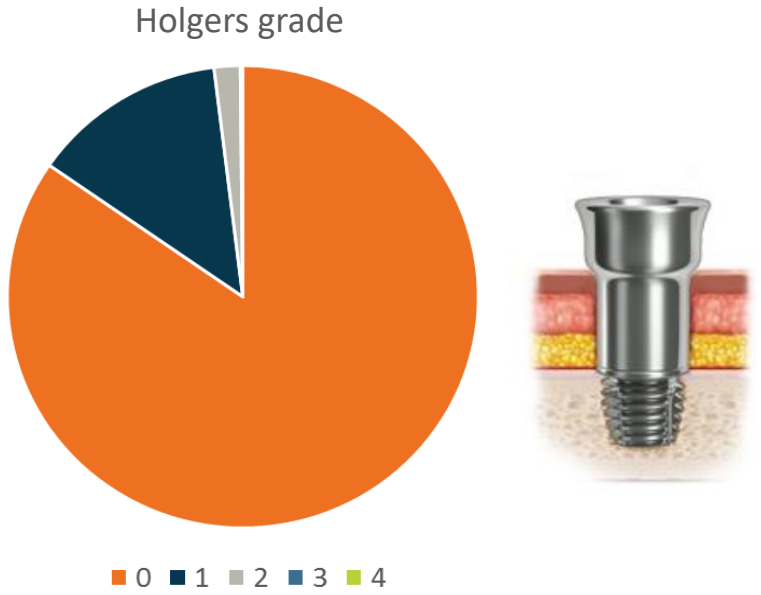
Excellent stability and survival over three years

- High implant stability and survival rates

Very few skin complications with Ponto implants

- Only 2% of visits reported skin complication in need of treatment (Holgers ≥2)





Kruyt, I. J., et al. (2018). Three-year Outcomes of a Randomized Controlled Trial Comparing a 4.5-mm-Wide to a 3.75-mm-Wide Titanium Implant for Bone Conduction Hearing. Otology & Neurotology.

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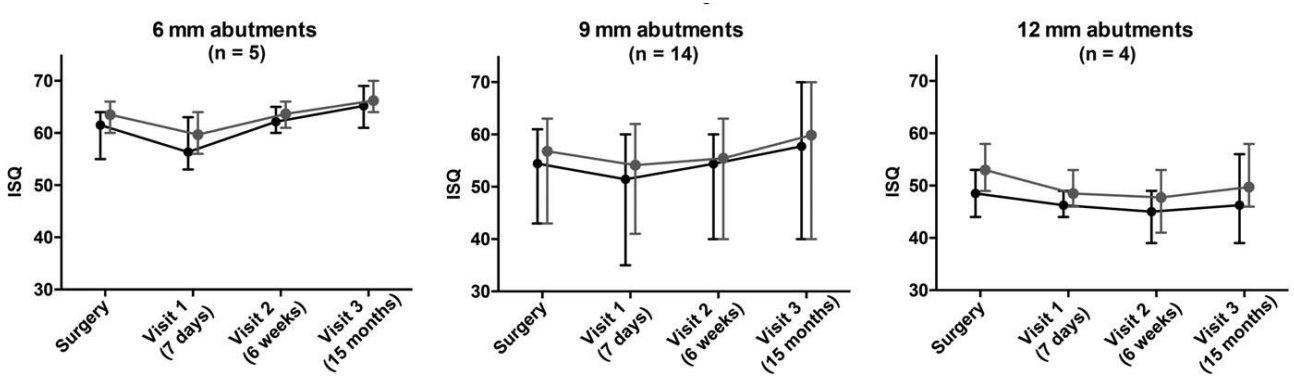
First clinical data on the Ponto BHX implant support earlier pre-clinical data

Clinical data from world-leading centres

- High implant stability and survival rates

Supporting unique osseointegration properties

- Stronger than bone



CORRESPONDENCE: OUR EXPERIENCE WILEY 761

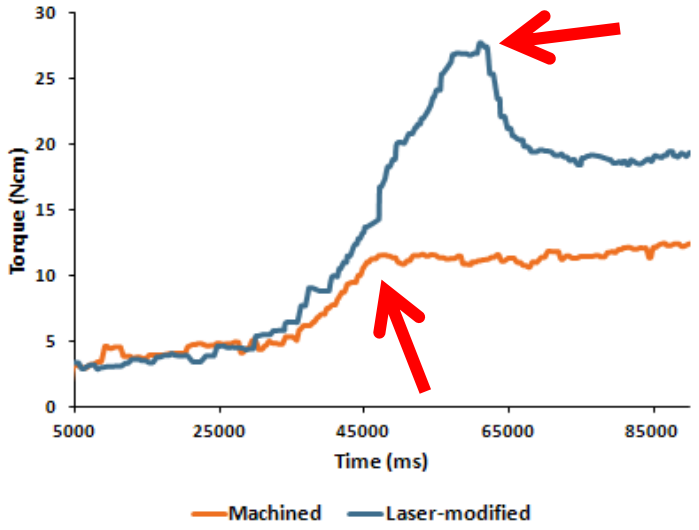
DOI: 10.1111/coa.13060
Accepted: 22 December 2017

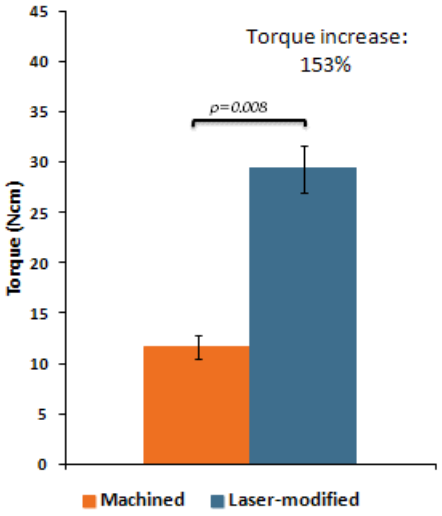
Clinical evaluation of a new laser-ablated titanium implant for bone-anchored hearing in 34 patients: 1-year experience

1 | INTRODUCTION

Successful bone-anchored hearing implantation requires good osseointegration of the titanium implant in the temporal bone and

Queen Elizabeth University Hospital (Birmingham, England) and James Cook University Hospital (Middlesbrough, England). In these centres, patients eligible for bone-anchored hearing implantation test all available hearing restoration options in daily life situations to





Oticon Medical – well positioned for growth

- Strong product portfolio in BAHS and CI with great outcomes
- Scientific approach to support customer choice
- Well integrated with Group R&D and Operations
- Positioned to exceed long-term market growth
- Global infrastructure and a strong local support organisation
- Substantial synergies for market access
- Long-term commitment and support from owner

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Q&A

Commitment to long-term shareholder value

René Schneider
CFO

René Schneider

Chief Financial Officer, William Demant Holding

Curriculum

- Born in 1973
- M.Sc. in Economics from Aarhus university
- CFO in William Demant Holding since 2015
- Background in pharmaceuticals (Novo Nordisk and NeuroSearch)

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Update on strategic initiatives (2016-2018)

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Strategic initiatives on track

The ***strategic initiatives*** announced in 2016 are designed to create the best possible platform for future growth and are all on track

Major initiatives

- Transfer of activities from the production site in Thisted, Denmark, to Poland to be completed in December 2018
- Eagan site has been closed down, and all activities have been transferred
- Successful ramp-up in Mexico continues
- Transfer of R&D in Switzerland to Denmark and Poland completed
- New site for R&D software development has been opened in Warsaw and is expanding
  - 115 FTE currently working in the new Demant Technology Centre in Warsaw

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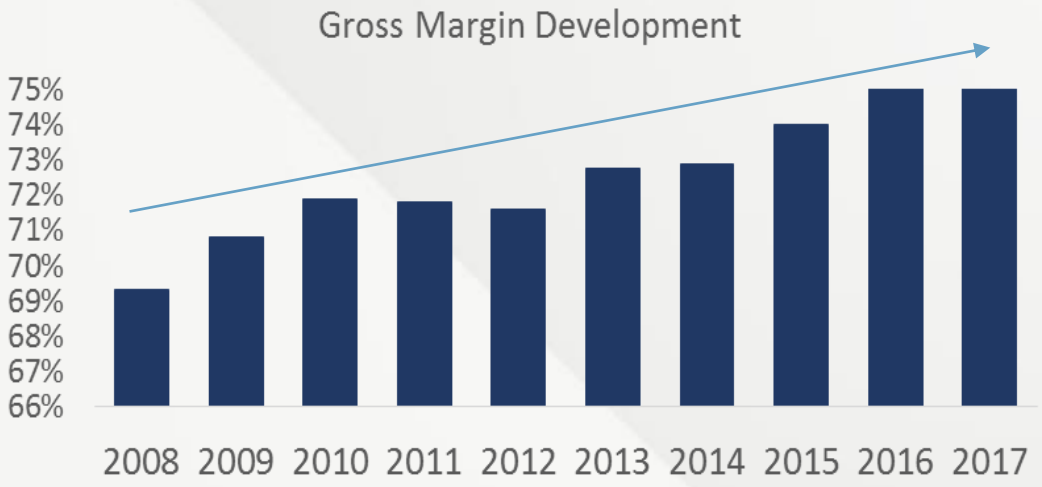
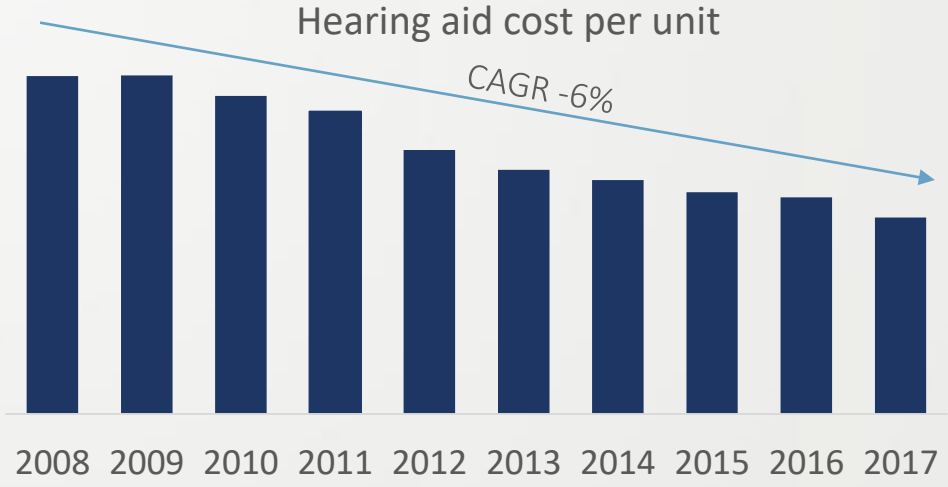
Continuous focus on operational efficiency

Expanding industry-leading gross margins despite lower prices

Lower prices	Operational efficiency	Economies of scale	Retail acquisitions
(negative for gross margin)	(positive for gross margin)	(positive for gross margin)	(positive for gross margin)





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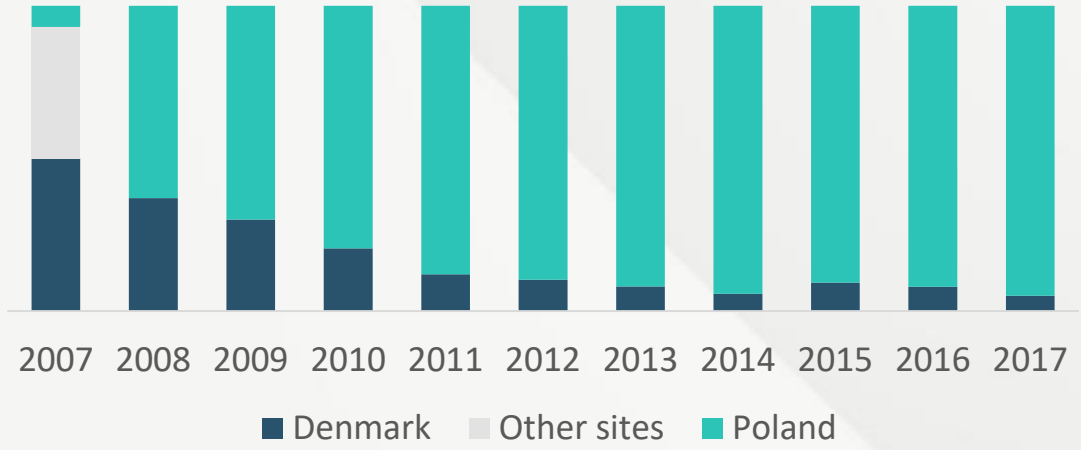
Streamlined global operations footprint

- Central production
- Leveraging economies of scale
- Future ambition to build two main production hubs

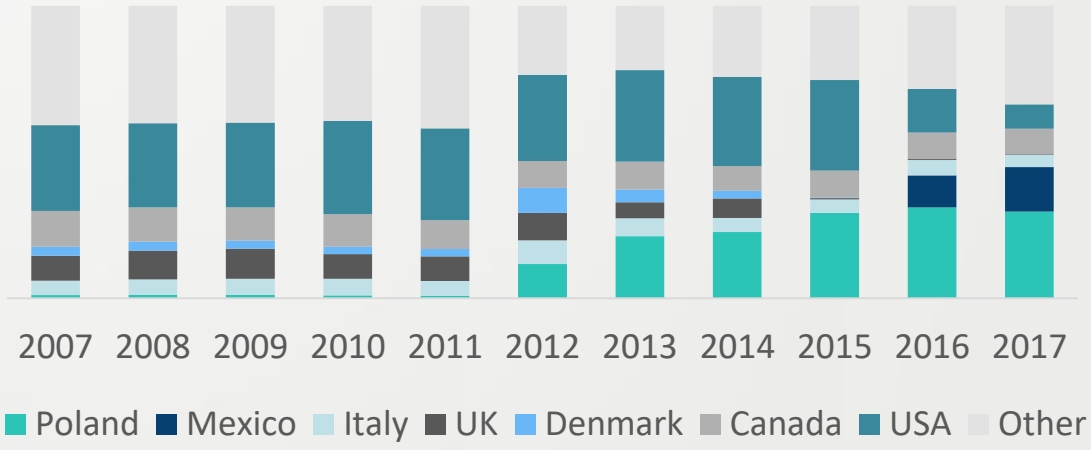
Global locations:
Poland and Mexico

Major local locations:
Denmark, Italy, Germany, France, USA, Canada, China, Korea, Australia and Japan

Manufacturing of standard products



Manufacturing of custom products



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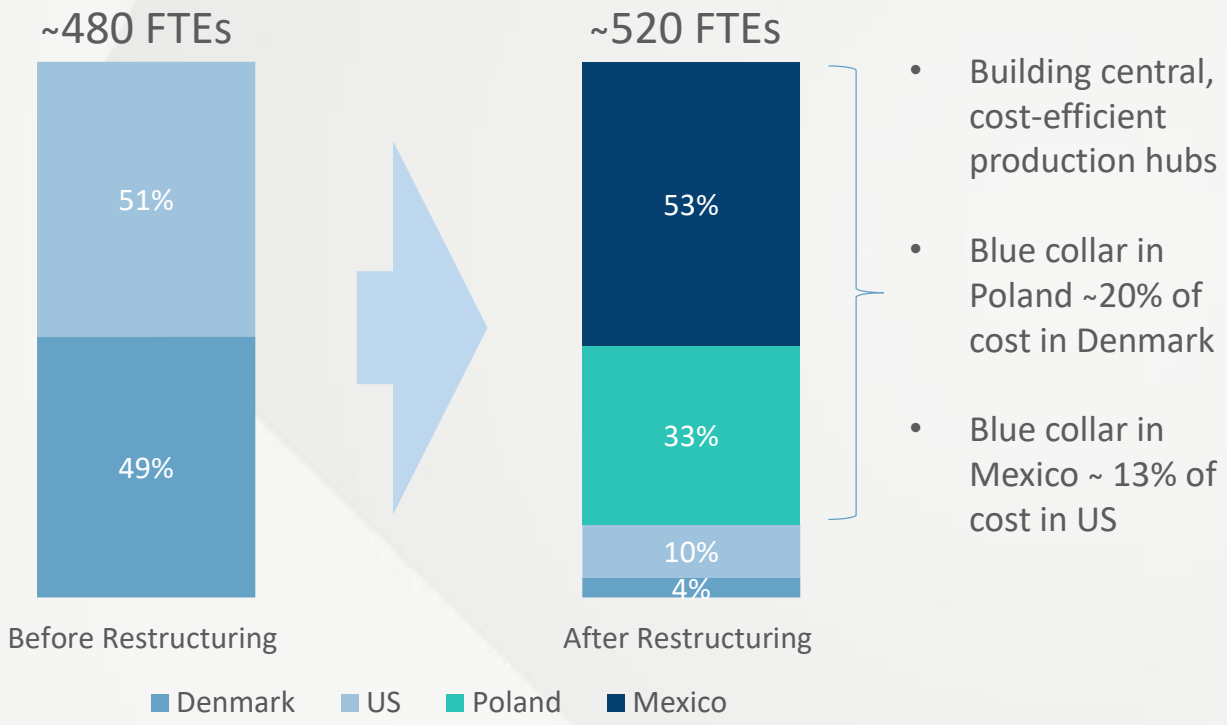
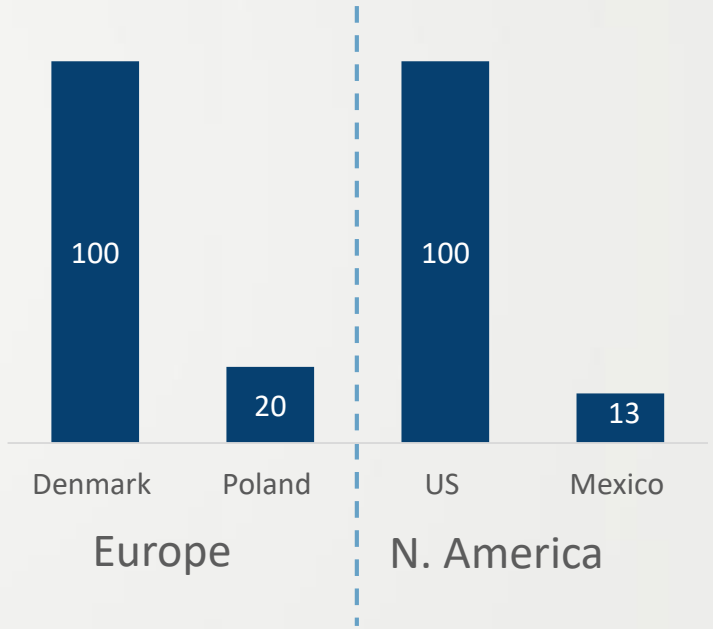
FTE development across affected production sites

FTE share per production site



- Building central, cost-efficient production hubs
- Blue collar in Poland ~20% of cost in Denmark
- Blue collar in Mexico ~ 13% of cost in US

Salary index – blue collar



Salary index: Denmark = 100 for Europe, US = 100 for North America

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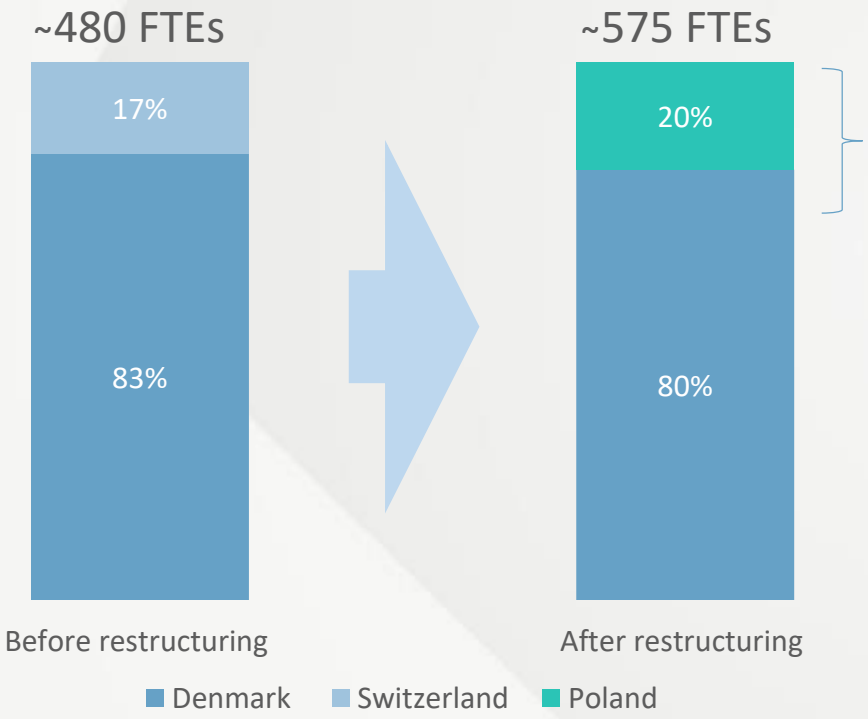
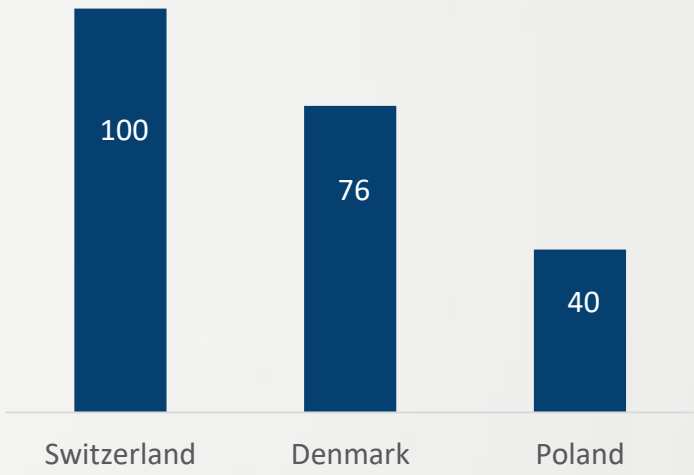
FTE development across affected R&D sites

FTE share per R&D site



- R&D set-ups to grow and become more cost-efficient
- The cost of an FTE in Poland is approx. 40% of an FTE in Switzerland

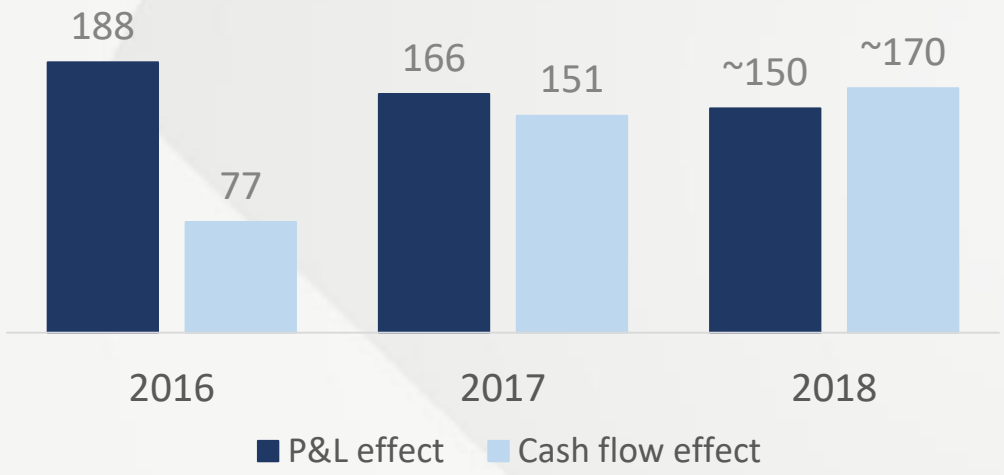
Salary index



Salary index: Switzerland = 100

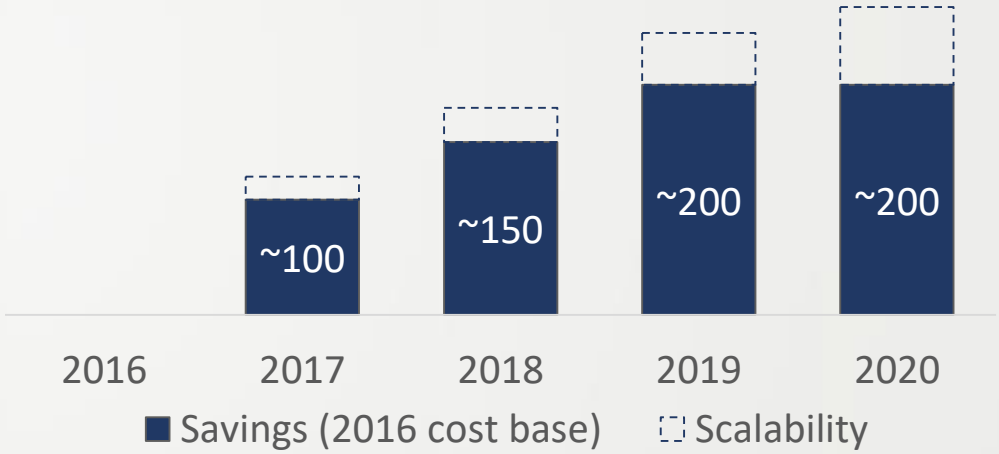
Financials from strategic initiatives

Restructuring costs (DKK million)



Restructuring costs of approx. DKK 500 million from 2016 to 2018 (cash flow effect of approx. DKK 400 million)

Savings (DKK million)



Savings of DKK 200 million on 2016 cost base when initiatives are fully implemented as well as improved future scalability

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Driving long-term shareholder value

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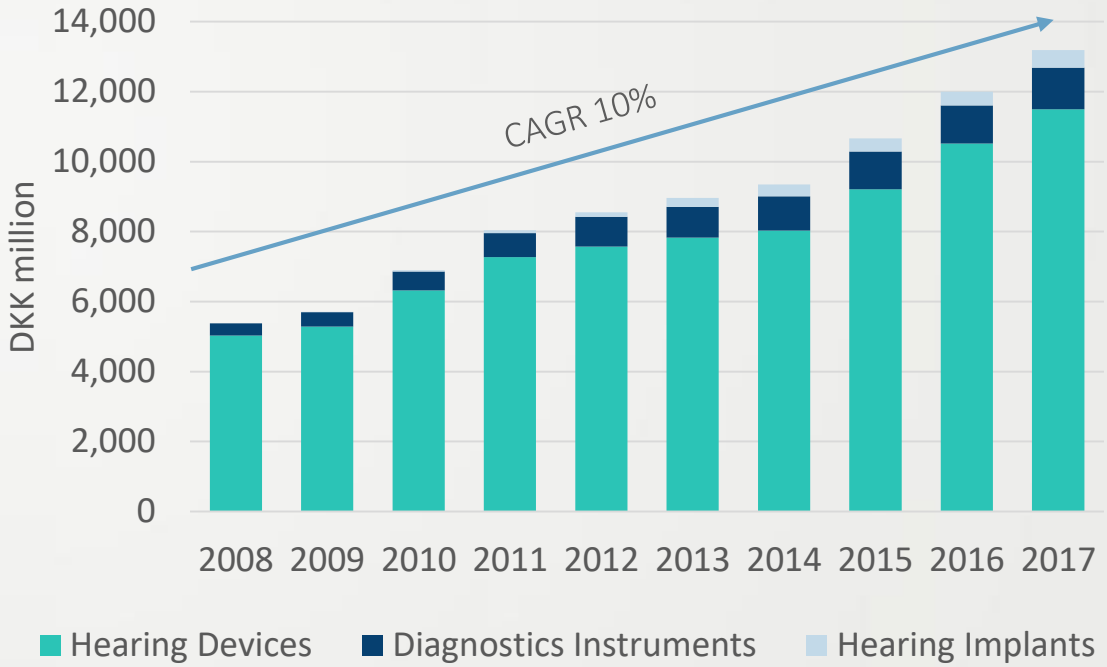
Well-positioned for continued growth

Future growth drivers

- Hearing healthcare market growth of 5+%
- Market share gains across all business areas
- Launch of innovative new products and services in all business areas
- Selected bolt-on acquisitions

- 1-2% decline in wholesale ASP per year

Revenue



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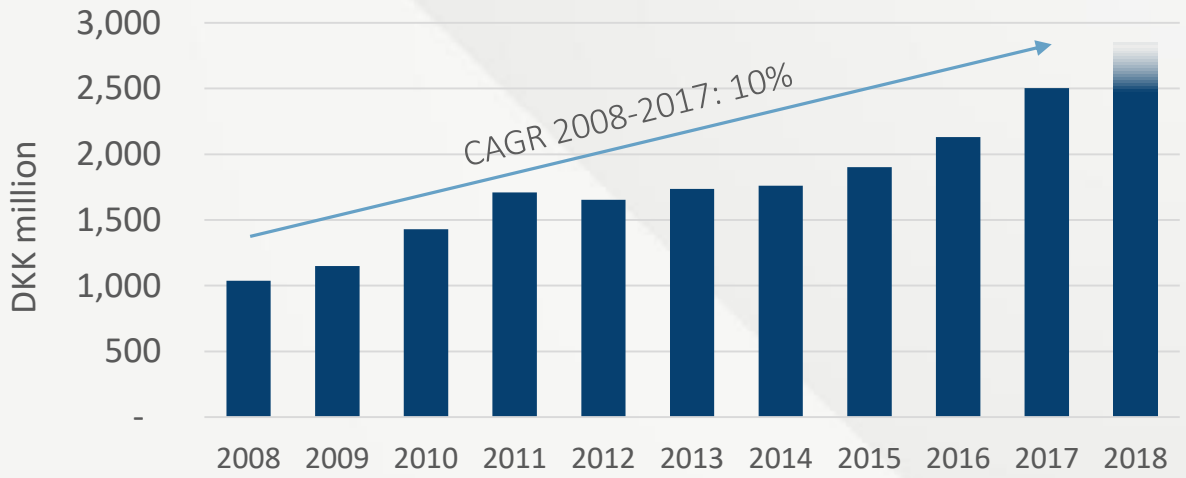
Several profitability drivers in all business activities

Group	Hearing Devices Wholesale	Hearing Devices Retail	Hearing Implants	Diagnostic Instruments
• Scalability on global infrastructure • Further leverage Shared Services Centre • Scalability in central functions	• Continued growth • Continued consolidation of operations • Improvements in supply chain	• Digital marketing, lead generation etc. • Operational efficiency supported by IT	• Market share gains and access to high-value markets	• Scalability in operations • R&D leverage • Emergence of new business models (software and service)

Operating profit (EBIT) (adjusted for 2016-2018)



- Ambition to improve profitability in all business activities over time subject to mix changes (geographies, channels, brands and products)
- Profitability on Group level subject to changes in mix between business activities

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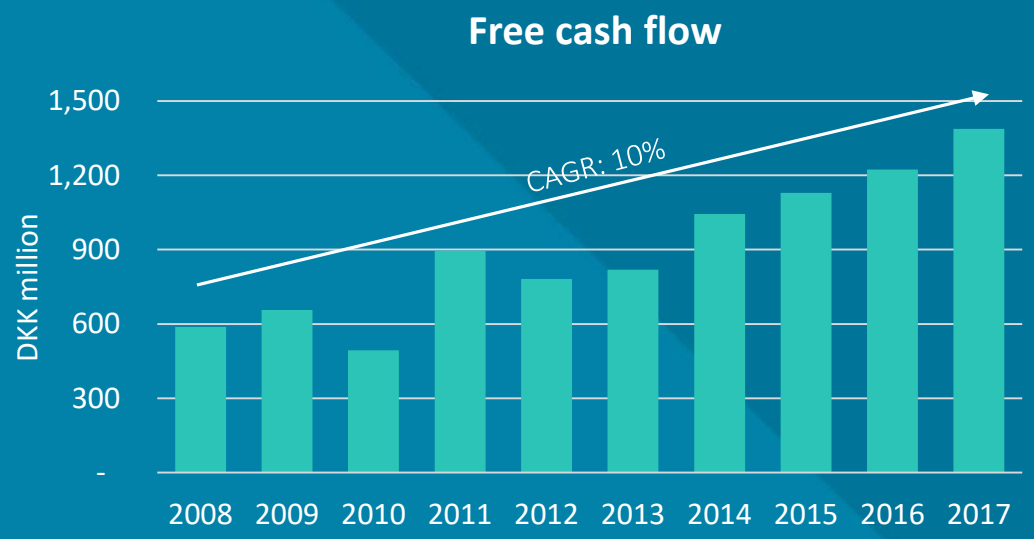
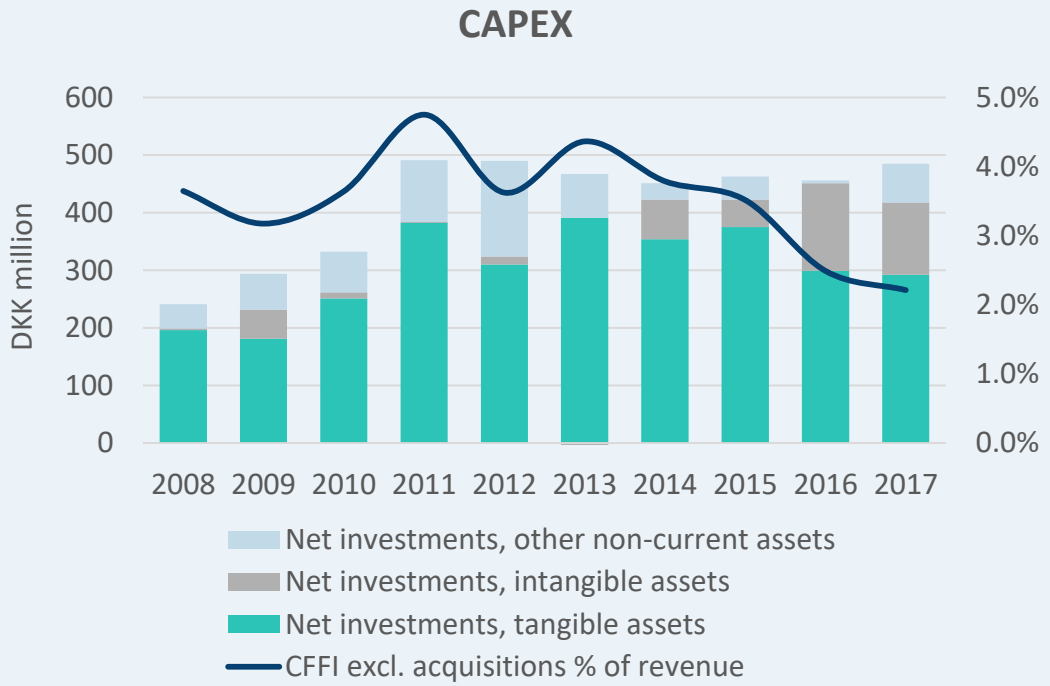
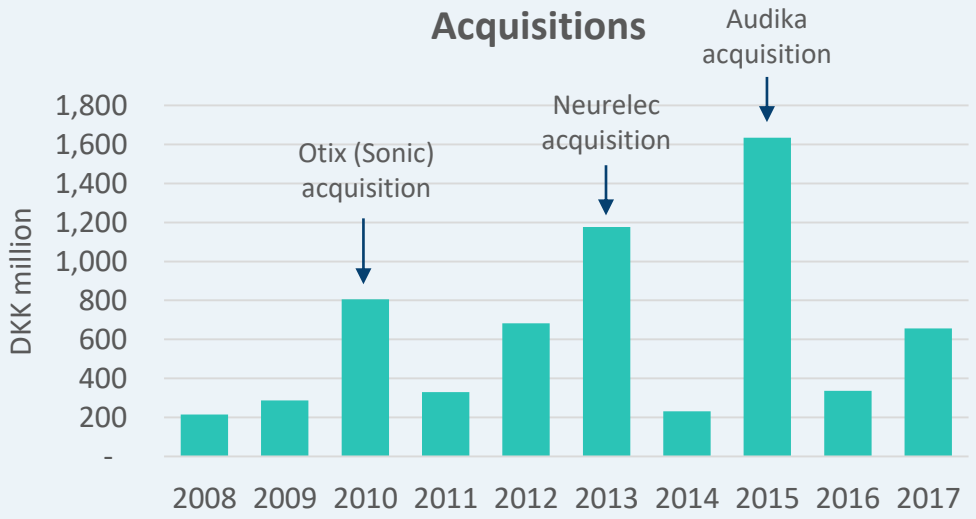
Strong free cash flow generation

- Stable development of CAPEX in an asset-light industry
- Continued bolt-on acquisitions and selected major transactions







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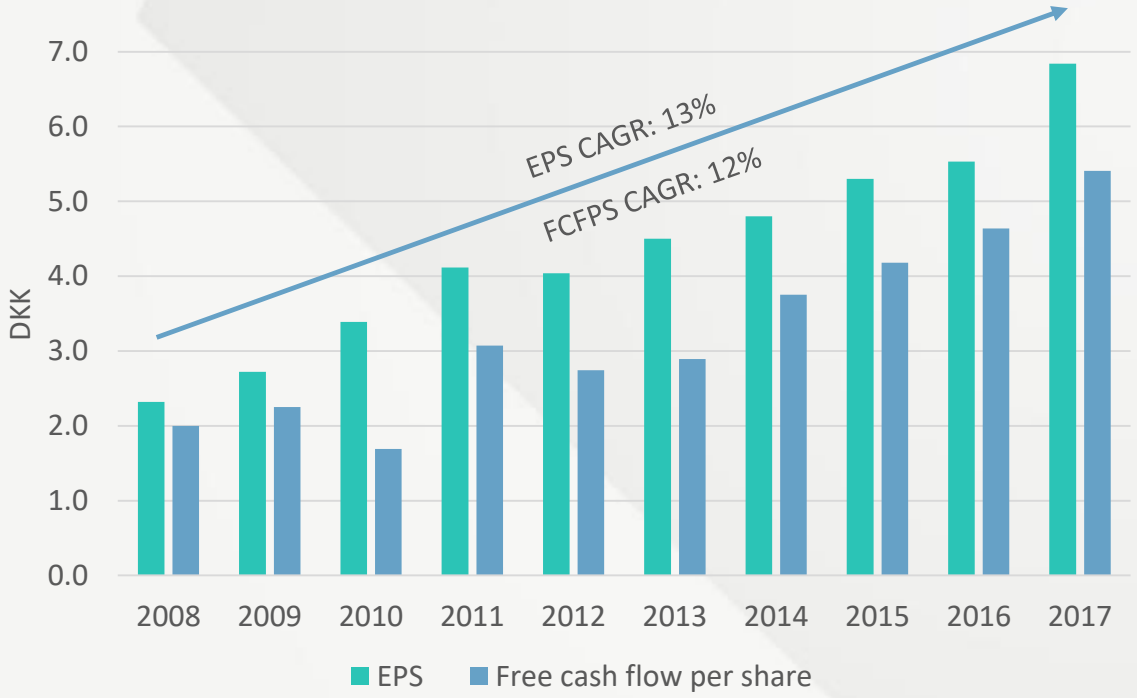
Focus on driving shareholder value

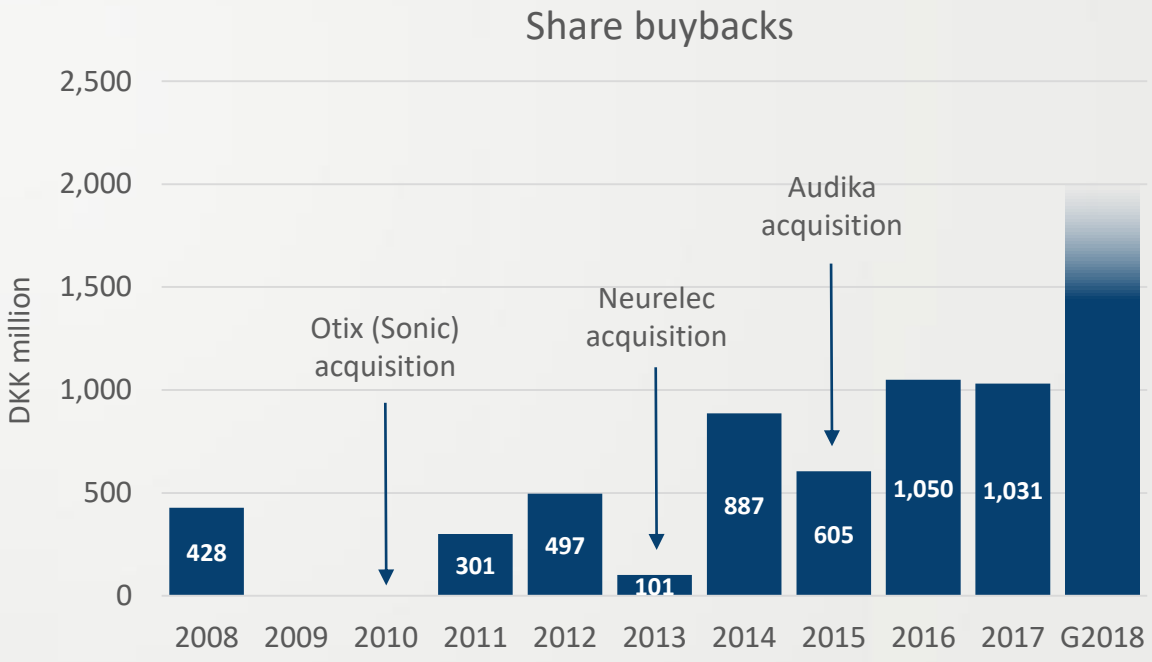
Continued growth in:

- Earnings per share: 13% CAGR (10 years)
- Free cash flow per share: 12% CAGR (10 years)



Significant increase in share buybacks:

- FY2017: DKK 1,031 million
- Guidance for FY2018: DKK 1,500-2,000 million



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An attractive investment case

Key investment highlights:

- **Global leader in hearing healthcare** industry comprising hearing aids, hearing implants and diagnostic equipment
- **Attractive market growth** of ~5% driven by strong structural demographic trends including ageing population and increased life-expectancy
- An industry characterised by **high level of complexity** in terms of technology, distribution and diverse regulatory environments
- **Unique positioning** with ability to address all customers across all channels and markets through multi-business and multi-brand strategy
- **Significant synergies** between business areas and **economies of scale** in all parts of the value chain
- **Innovation leader** with world-leading miniaturisation capabilities, dedicated in-house chipset design and core research facility
- Focus on **long-term value creation** backed by a highly stable ownership structure with Oticon Foundation as majority shareholder
- **Strong growth track record**: 10-year CAGR of 10% in sales and 13% in EPS combined with high level of cash generation and share buy-backs

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Closing remarks

Søren Nielsen
President & CEO

William Demant

Attractive structural growth in hearing healthcare

Structural growth drivers behind solid value growth rates in hearing healthcare market, particularly in hearing implants

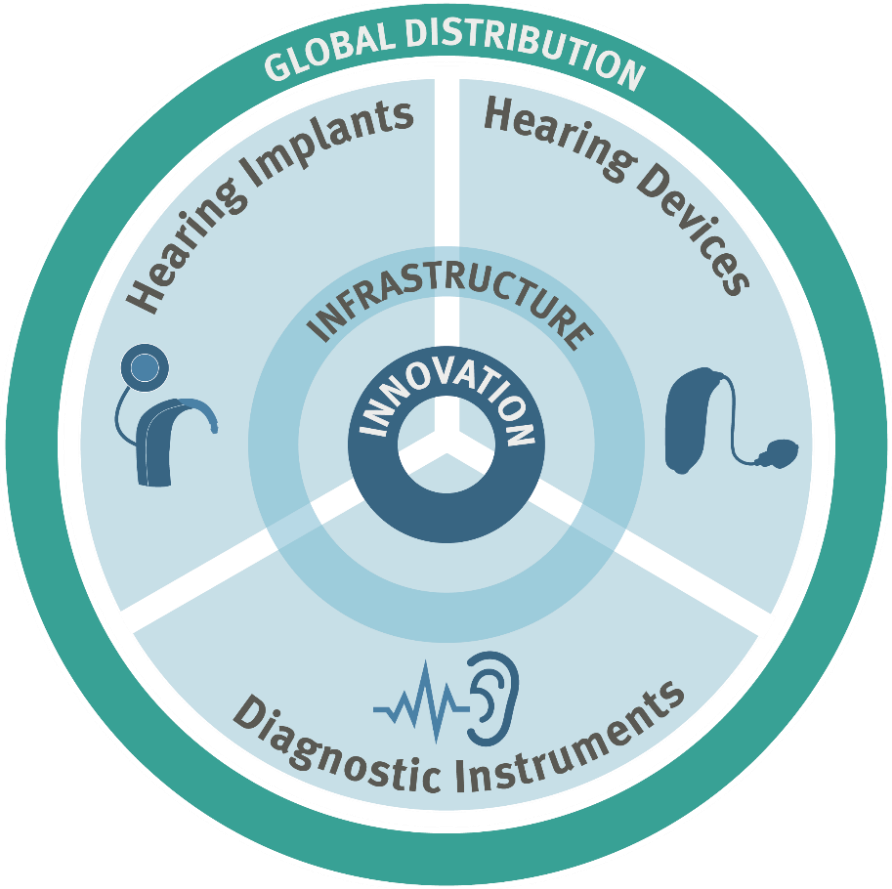
Hearing Devices
2-4%

Hearing Implants
10-15%

Diagnostic Instruments
3-5%

Note: Wholesale values

Short- to mid-term focus areas



Hearing Devices Wholesale	Expanding position in markets and channels where we see potential to grow, including the US, selected European markets, Asia as well as with some of the large retail chains
Hearing Devices Retail	Driving operational excellence by implementing the same operating model across all markets combined with acquisitive growth on a selected basis
Hearing Implants	Continuing to roll out innovative products, ensure strong support capabilities and establish long-lasting relationships with key customers in both existing and new markets – fuelled by high market growth
Diagnostic Instruments	Building on strong market position to launch new products and services and exploit opportunities in emerging markets, particularly China

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Q&A