Oticon • Tego



There are enough mid-market hearing aids.

"So why make another one?" you might ask...

Because, until now, no-one could provide a single answer for the 7 out of 10 users who choose a mid-market device.

Normal mid-market hearing aids do not include all the most effective digital features such as adaptive directionality, noise reduction, open fittings and feedback cancellation.

Tego does.

However, it's easy to add features, but to create an advanced hearing aid that is still straightforward to fit and easy to wear, is not so simple.

By rethinking the approach to the mid-market, Tego conquers the demands of diversity and price range within one product idea.

And Tego is easy to wear due to a concept called DecisionMaker, enabled by Artificial Intelligence. DecisionMaker makes sure that all features come into play in the right combination, at the right time, in every situation – automatically.

This is, and always has been, the unspoken wish of every user. Fulfilling everybody's wish will make . . .

Tego - the "New Normal".





One idea, two products

Make it simpler...

Our idea was to make a mid-market product that not only performs better, but is simpler in all respects.

Conventional wisdom suggests that as the number of features goes up, a more complicated product results. DecisionMaker reverses this logic, where simplicity is actually increased through the use of Artificial Intelligence (AI).

... and leave the old normal behind.

Tego comes in two versions – Tego Pro and Tego. Sharing basic characteristics, they effectively span your mid-market clients in terms of prices and needs. However, you fit both in exactly the same way, which means that you do not need to invest extra time when learning and using the software.

A fuller feature list

Tego Pro and Tego simply represent an unheard of degree of sophistication for mid-market products.

TEGO PRO

- DecisionMakerTM AI enabled general program
- Identities (Dynamic, Active, Gradual) simple & accurate fitting
- All styles directional except CIC / MIC
- VoiceDirectTM mode speech-focused directional mode
- Adaptive Directionality high precision in attenuating noise
- Automatic Directionality switches automatically between two modes
- Surround mode enhanced omni-directional mode
- WideRange Bandwidth gives a fuller sound picture
- Noise Management multi-band noise reduction
- OpenEarTM Acoustics the most open fitting
- Dynamic Feedback Cancellation without gain reduction
- Wide Dynamic Range Compression increased audibility
- 6 channels simple & accurate fitting
- 4 programs optional programs if required

DecisionMaker is the general program in Tego Pro and Tego. It is also key to their performance and versatility. Identities define the aggressiveness and speed by which DecisionMaker introduces changes. VoiceDirect is a new type of directional system, developed to focus on voices, yet keep them sounding clear and natural.

Adaptive Directionality increases precision when attenuating noise in challenging situations by suppressing moving and stationary noise sources from the sides and behind. Until now, this feature has only been available in high-priced products. From today, Tego Pro brings Adaptive Directionality within the reach of many more clients.

In addition, "The Pro" presents a fuller sound picture thanks to its WideRange Bandwidth. This allows a wider frequency response in the instrument to improve the overall sound quality.

TEGO

Tego has all the features of "The Pro", including DecisionMaker, VoiceDirect, OpenEar Acoustics, Dynamic Feedback Cancellation and more. However, compared to Tego Pro it has:

- Fixed Directionality less precision in attenuating noise
- Standard Bandwidth a less broad frequency response
- 4 channels and 3 programs less fitting flexibility

Less than "The Pro", but much more than anything else you'll find its in price class, Tego is the new reference for general hearing care in the lower end of the mid-market.



DecisionMaker™ = hands-free operation of advanced features

How are users supposed to know when to be in directional mode? And how quickly can they respond? How often will they do so? They won't, they can't and they don't. Until now, most directional systems have lacked the sophistication necessary to be a real user benefit.

DecisionMaker, together with VoiceDirect changes the game by interleaving the advanced features in Tego. In doing so it unleashes the true potential of directionality.

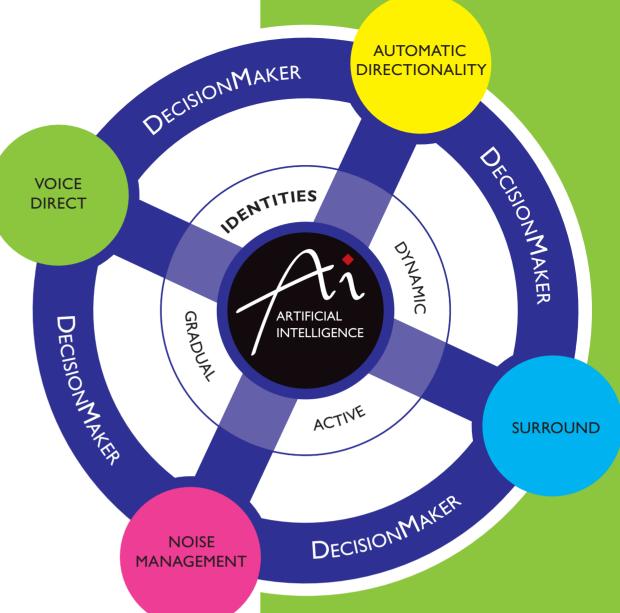
More specifically it determines whether the Surround mode or the directional approach VoiceDirect, would provide the best combination of speech clarity and comfort. This is achieved through Artificial Intelligence techniques involving parallel processing. The selected outcome is then implemented instantaneously and automatically.

Although the calculations are made instantly, the speed at which changes are introduced to the user needs to be carefully controlled. Different users have different requirements. Therefore Identities are used to set the parameters of DecisionMaker for a particular person. These Identities are simple to adjust according to your client's cognitive abilities and preferences.

The intelligence and responsiveness of DecisionMaker¹ means that your client needs no other program². They don't need to worry about settings, they don't need to worry about adjustments. It just works, correctly, all the time.

By deploying AI to make outcome-based decisions Tego's approach is fundamentally different from conventional prediction-based hearing instruments. The practical result is better acceptance by the client and longer daily use.







Artificial Intelligence (AI) is the science of designing systems to perform intelligently in a manner beyond the merely mechanical.

Al is deployed in the newest generation of advanced hearing instruments to continuously evaluate and automatically select the best possible outcome from multiple processing alternatives.

Al represents a significant progression for modern hearing care, as the improvements it delivers are otherwise impossible to achieve given the unpredictability of real-life sound environments.

 $^{1.\} Decision Maker\ also\ controls\ the\ lower\ level\ functions\ of\ Wide\ Dynamic\ Range\ Compression\ and\ Dynamic\ Feedback\ Cancellation.$

^{2.} For special situations, up to four manually selected programs are available, if needed.

How | + | makes more than 2

Conventional directional systems, however good, involve trade-offs and unwanted side effects. For instance, to compensate for the standard low cut filtering found in traditional systems, it is necessary to provide more gain in the lower frequencies to maintain a proper sense of loudness. This might end up masking the higher frequencies, which reduces speech understanding and tends to make voices sound unnatural. VoiceDirect sidesteps these and other limitations.

Due to the way the VoiceDirect and Noise Management work together, Tego provides all the benefits of speech clarity AND comfort – without compromises.

VoiceDirect™ and Noise Management

VoiceDirect is a new directional system which extracts speech from noise. In conjunction with the Noise Management system, VoiceDirect performs a two-pronged attack on extraneous noise.

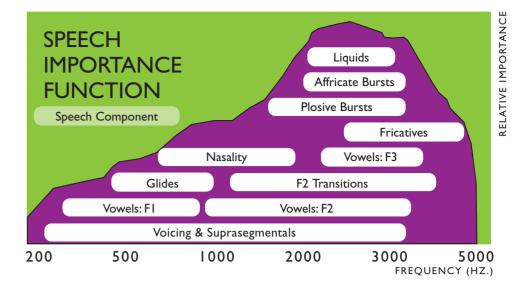
As shown in the graphs opposite, VoiceDirect applies directionality to frequencies where the speech information is greatest, i.e. in the higher range; Noise Management is then applied judiciously at these frequencies.

By contrast, in the range which determines speech loudness, i.e the lower frequencies, VoiceDirect remains in omnidirectional mode. Since this is also where most noise is found, Noise Management can be applied more strongly, whilst voices remain clear and sounding natural.

The result is that all the important voice components are preserved, while noise is reduced to a minimum. In addition the loudness aspect of speech is maintained,

Yet another benefit of this approach is the ability to localize sounds thanks to the combination of VoiceDirect with OpenEar Acoustics. By allowing some sounds to enter the ear from all directions, the brain can identify the location of the source.

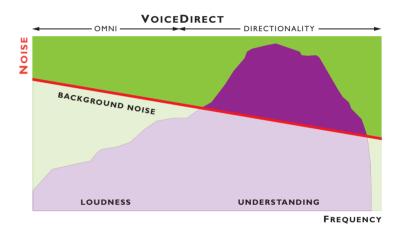
So, it's no longer adequate to talk about directional systems and noise reduction systems in isolation. Intelligent synergies that rise above easy compromises are part of the new definition of mid-market modern hearing care.



The graph above shows how the relative importance for speech components varies with frequency. In particular, it shows how higher frequency components are relatively more important than the lower ones. The "understanding" of speech comes mostly from the higher frequencies while "loudness" of speech comes mostly from the lower frequencies.

Aim: Our aim is to reduce noise while keeping the speech "understanding" and "loudness".

In terms of the graph opposite we want to reduce the noise, and reveal more of the speech components.



2 Solution: Treat the "loudness" and "understanding" frequencies differently.

A: Noise in "understanding" frequencies is mainly attenuated by directionality.

Careful noise reduction is also applied.

B: "Loudness" frequencies remain omni-directional. Strong noise reduction can be applied without dramatically affecting understanding.

B: Attenuation by noise reduction

LOUDNESS

WOICEDIRECT

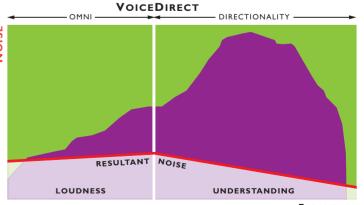
DIRECTIONALITY

A: Attenuation by directionality and noise reduction

UNDERSTANDING

FREQUENCY

3 Result: Better speech understanding with minimal noise and a less fatiguing listening experience.



FREQUENCY



Give your clients what they want

What do clients want from their hearing aid?
They want something that is instantly comfortable,
enhances hearing in all situations and is trouble free.

Now you can give them what they are asking for.

TEGO provides

- Better speech understanding in noise
- Minimal occlusion
- No feedback
- Hands-free operation
- Less fatigue
- No worries about whether the aid is set properly
- Comfort
- Natural sounding voices
- Better sense of location
- Less instructions to remember
- Full support and full control
- Reliable performance

For the majority of your mid-market clients there's probably a Tego that fits – and at a price that suits them.

Counselling

Important studies have demonstrated that spending quality time in the counselling and fitting process leads to fewer adjustments and follow-up visits, as well as higher levels of initial acceptance and client satisfaction.



Making it easier to provide better care

Tego was conceived to give you more time for client counselling. The beauty of DecisionMaker is that you don't NEED to explain so many hard-to-grasp technologies and instructions. Instead, you can concentrate on ensuring your clients needs and expectations are correctly addressed, with dramatic effects on clinical productivity.

You don't need anything other than the Tego products to cover your entire mid-market. You will discover many efficiencies come from having a single solution for most clients. Less software, less inventory, less spare parts, less training, less reading, more styles, more colours, more prices, more versatility – all in all, more straightforward operations.

Tego is a concept that delivers both effectiveness and efficiency. However, this takes more than products alone. The Tego portfolio covers everything from traffic-building marketing to comprehensive aftercare, including:

- The new Genie 6.0, which gives better, "right first time" fittings meaning greater client satisfaction and fewer follow-up appointments.
- Electronic Client Assisted Product Selection (e-CAPS) that guides you and the client through the process of determining actual needs and requirements.
- Tego Live, which shows in an easy-to-understand way, how DecisionMaker and VoiceDirect work for the benefit of the client.

Providing quality hearing care will never be a matter of "plug and play". It requires too much expert knowledge and experience. However, the Tego philosophy is to make things simpler wherever possible.

Getting started with Tego

Although Tego is packed with features, sounds great and is easy to use, success requires much more than a good product. The actual hardware is just one part of a larger process that involves finding suitable clients, staff training, counselling, fitting, trial, client education and after-care.

Therefore, in addition to the creation of Tego, a "support system" has been developed around the instruments. Some elements of this system are shown on these pages, illustrating how straightforward it is to get started with Tego.

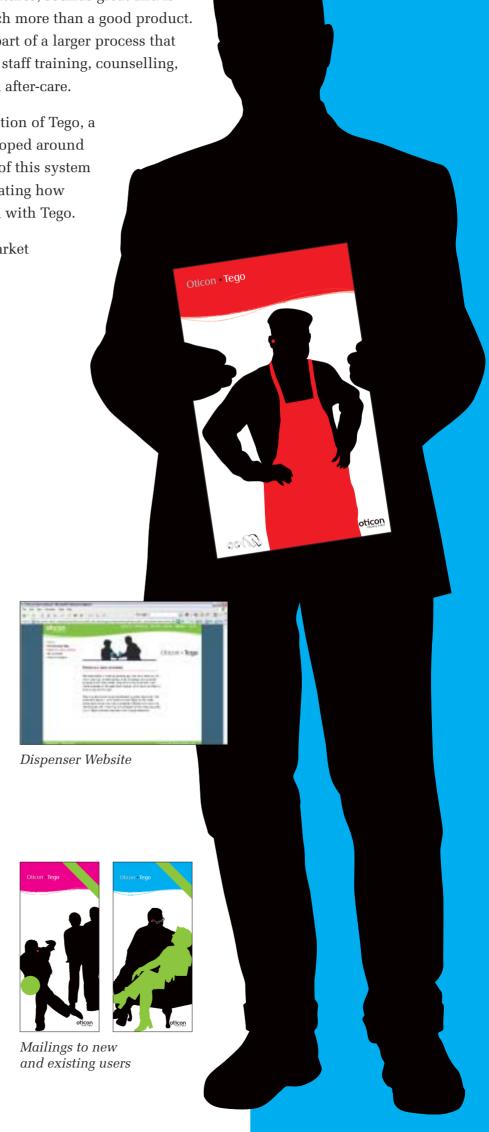
So, why not rethink your mid-market provision around Tego?

Learning about Tego

- Product Brochure
- Product Information Leaflet
- E-seminar
- Dispenser Website (www.tego.oticon.com)
- Support (Telephone & Account Manager)

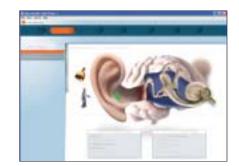
Generating Traffic

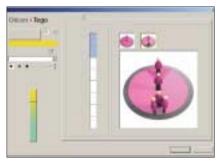
- Mailings (New + Existing Users)
- Newspaper Ads
- Consumer Website (www.tego.oticon.com)
- Public Relations



Counselling

- e-CAPS
- Tego Live
- COSI





e-CAPS

Tego Live

Fitting and Fine Tuning

- Genie
- Genie Sound Studio
- Fitting Guide (in Product Information Leaflet)
- Quick Fitting Guide (Mouse Pad)





Genie 6.0

Genie Sound Studio

Trial and Use

- Expectation Brochures
- Demo Products
- User Instructions
- Diary



Expectation
Brochure
(experienced users)



Expectation
Brochure
(new users)



 $User\ Instructions$

Office Preparation

- Banner
- Posters (4)
- Postcards (4)
- Postcard Holder
- Ellipse Stand



Banner









Postcards

People first

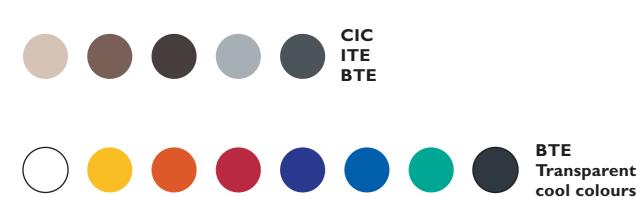
We believe that it takes more than technology and audiology to create the best hearing instruments. That's why we put the individual needs and wishes of people with hearing loss first in our development of new hearing care solutions.



Hardware configurations

TYPE	STANDARD	OPTIONS	BATTERY	Max. dB HL
BTE Power	DirectionalPush ButtonTelecoilVolume Control		13	100
ВТЕ	DirectionalPush ButtonTelecoil	Volume Control	13	90
ITE	DirectionalPush ButtonVolume Control (Only with 13)	TelecoilAuto PhoneVolume Control (Only with 13)	13 or 312	80
ITC	DirectionalPush Button (Only with 312)	Auto Phone	312 or 10	70
MIC MIC	• Push Button		10	70
CIC	• Push Button		10	70

Colours available



Full list of features

Tego Pro

- $\bullet \ \ Decision Maker^{\tiny TM}$
- Identities
- All styles directional (except CIC / MIC)
- Adaptive Directionality
- Automatic Directionality
- VoiceDirectTM mode
- Surround mode
- Noise Management
- WideRange Bandwidth
- OpenEarTM Acoustics
- Dynamic Feedback Cancellation
- Wide Dynamic Range Compression
- 6 channels
- 4 programs
- Auto Phone
- Phone programs
- NAL-NL1, DSL i/o

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New Terminology

DecisionMaker - General program, enabled by Artificial Intelligence

Identities – 3 settings (Gradual, Active, Dynamic) that minimise fine-tuning

VoiceDirect - New directional system. Works together with Noise Management

Auto Phone - Automatic switch on ITC/ITE products that switches to a Phone program

Phone programs – Phone programs developed specifically for telephone usage

