

Jacoti's CEO, Jacques Kinsbergen, brings his innovator's perspective into AuDacity's Innovation Panel session

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AuDacity, Convention of the Academy of Doctors of Audiology of the USA, Nov 10th to Nov 12th. San Diego, CA. Panel: Disruptive Innovation in Audiology: Building the Practice of Tomorrow

Hearing health technology innovations and disruption in audiology. An innovator's perspective. By Jacques Kinsbergen, CEO, Jacoti



Thanks for the opportunity to speak with you about hearing health technology innovations and disruption in audiology.

While innovation is fairly predictable and progressive, disruption is by definition unpredictable, unplanned, and hard to control.

So please don't be surprised if I leave you with a mixed feeling when I'm done.

Please sit back for a moment:

- Imagine that you have 24-hour remote access to all your patients' hearing aids.
- Imagine that you can help hearing aid users, anywhere in the world from your computer in the United States.
- Imagine that you can obtain clinically valid information on a new patient's hearing health status before he or she saw an audiologist.

- Imagine you could manage and maintain an entire school district's assistive listening program, including the devices and their usage, all from the desk in your office.
- Imagine that you could go to your computer and help children hear better not only in your own community, but in Appalachia, Alaska, Hyderabad India, or anywhere in the world.

Well, this isn't just imagination, it is the future of audiology – and that future is already here.

Different worlds are merging and colliding at full speed.

People have become more and more health-conscious, not just in hearing technology but throughout the entire world of healthcare. Patients want to play a more active role in their treatment, they search proactively for solutions to their needs because it is now possible to connect many health devices remotely via cloud-enabled services.

The concept of proximity is changing. Health monitoring and care can be provided effectively outside the provider's office.

Hearing aid manufacturers are trying to hang on and optimise past models, while the consumer technology world tries to enter what it sees as an enormous potential market for hearing solutions via PSAPs, hearables, and software audio personalisation.

This has put the world of regulatory agencies under pressure to reassess its entire regulatory position toward hearing technology and assistance. And as these worlds converge, diverge, and collide, audiologists seek their own place in this rapidly transforming, and often unpredictable environment.

So let's be clear: because hearing loss affects over 20% of the US population ([John Hopkins Medicine](#)), it is both a medical condition and a consumer challenge. And as a result, **the consumerisation of hearing health care technologies has already begun and will have a considerable impact.**

A person with a hearing loss has different needs when considered as a consumer as opposed to a patient.

Consumers are not passive, "*patient*" subjects, but active participants in their own hearing health. For example, they wish to have access to and want to decide who has access to their hearing data, and this also with respect to data privacy.

As we change from a medical/specialist-driven market to a consumer-driven one, more people will have access to - and will use - hearing health technology.

As more and more users with milder hearing losses will use hearing technology, they will use hearing tech only when they need it, high sound quality will be an important acceptance criterion, users will need also easy-to-handle but sophisticated ways to adjust the sound to their preferences.

With these new ways to use hearing technology, also the roles of all parties involved in hearing health – including users, audiologists, and regulators – will be thoroughly redefined. And this brings up some interesting and important philosophical questions.

Is the person a patient? A client? A user?

This is not mere semantics.

When does a change in a person's hearing health, "convert" a user of audio devices into a client who needs some help choosing technology – and then into a patient, someone whose hearing loss is so serious that devices with a high maximum power output are required for him or her to function?

Who protects the user/client/patient? The [FDA](#) and [FTC](#), or the [CTA](#)?

What does this mean from a global perspective?

At Jacoti, we address these and other questions through our research and technology.

Jacoti's mission is to bring advanced hearing technologies in reach of large populations with a focus on children in their school phase. [We focus on the unserved need](#) of the 90% of the world's population in need of hearing support who are not able or willing to use the technologies currently available on the market.

Jacoti realises this mission through the [development of software solutions](#) that transform mobile platforms such as smartphones into advanced hearing support technologies.

Jacoti believes in a "cradle to grave" approach to hearing health, beginning with assessment and possible treatments, as early as possible. We believe that the challenge of hearing health requires continuous dynamic assessment and support via personal tracking and assessment tools that are able to assess and support users' hearing needs over their lifetimes.

This is realised in the form of [Jacoti Hearing Suite](#), a set of interconnected cloud-enabled mobile applications that includes a [hearing test](#), a [software hearing aid](#) that allows for self-fitting and an advanced [assistive listening solution](#) that makes use of standard Wi-Fi and provides lossless CD-quality audio wirelessly between multiple speakers and listeners.

All these technologies are server-connected and have the potential for real-time assessment and machine learning-based optimisation and gives also access for remote optimisation by hearing professionals. [Jacoti's hearing health platform](#) can support "self-driving hearing aids," aural-rehabilitation programs, and more advanced audiometric testing in real-life situations and in real-time. New services can be added, such as an Uber-like audiology platform where audiologists can deliver personalized services on demand.

Jacoti has just released [Hearing Center Pro for iPad](#), an audiometer application that performs clinically valid hearing assessments in a matter of minutes outside an audiological booth. This makes Hearing Center Pro a powerful tool for hearing screening in schools and other environments.

Jacoti's approach embodies a brand new model of hearing assistance technology that is consumer-based and consumer-technology-driven. But as disruptive as its approach and technologies are, Jacoti has a strong commitment to regulatory compliance, this has resulted in the registration of its technology with FDA as medical devices in the US and a CE approval in Europe.

We see also an important role for Jacoti's innovative hearing platform with hearables. While there are legitimate concerns about the over-hyping of consumer-level hearing technology and often bogus claims, I see the next generation of hearables not as a standalone product but as one key component in a comprehensive hearing support chain. Jacoti's platform is ready for this.

But beyond hearing support, hearables can serve a far broader purpose. Already in addition to amplification, the present crop of hearables has started to provide augmented hearing, accurate tracking of vital signs, activity tracking, face-to-face communication, translation, and much more, and should include features as hearing loss prevention and protection.

Because many of these health-tracking features can – and should – be part of future hearing aid designs as well, discussions regarding PSAPs vs hearing aids, and medical vs consumer device regulations and guidelines are essentially discussions about marketing, labelling and quality.

To conclude

Is the occupation of audiologist redundant?

Far from that.

As the profile of the needs and the expectations of the users are changing, there will be an important position for those audiologists that are willing and able to adapt and to find a model that best serves the user who needs appropriate hearing and listening assistance in a fast-changing technological world.

The physics and the complexities of the hearing system are not changed, it is the environment that is changing.

As a lot of parties are lining up for a prime seat in the ear canal, never forget, you can only have one thing at a time in your ear.



About Jacoti

Jacoti BV | Hearing Technologies is a science-based company that develops hearing enhancement solutions embeddable in consumer devices. Its flagship product, Jacoti Inside, optimizes audio to each individual hearing requirement from consumer technologies to fully-fledged medical devices. For more information visit www.jacoti.com

Contact our Press Officer for more information or to arrange an interview with our team.
press@jacoti.com