

## **Loudness normalization based on goal-oriented free field adaptation**

Loudness normalization is a central component of hearing aid care in order to optimally address individual hearing losses. The aim is to ensure a natural perception of loudness and to improve speech understanding in different environments. Traditional methods of loudness normalization are standardizations and do not take individual hearing profiles and real acoustic conditions into account. One challenge is to precisely model and adapt individual auditory perception. Target-oriented free-field adaptation offers a new approach to this by taking individual hearing ability into account in the free sound field and placing the customer's individual perception at the center of loudness normalization. By taking individual hearing profiles and acoustic environmental influences into account, loudness normalization can be carried out more precisely. This significantly improves listening comfort and speech understanding and ensures faster acceptance. It therefore represents a promising approach for future hearing aid fitting.