

Benefits of Oticon VAC+

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Introduction

Voice Aligned Compression + (VAC+) is Oticon’s proprietary fitting rationale, designed not only to fit hearing aids, but to evolve with them. Throughout its 20-year history, VAC+ has adapted alongside new platforms, signal processing and acoustic innovations, enabling seamless integration with features such as open sound, feedback prevention, and transient noise handling. It delivers natural sound, comfort, and adaptability across diverse hearing profiles.

A recent clinical investigation was undertaken with the objective of exploring the comparability of benefits when using VAC+ compared to a widely used generic fitting rationale. The study looked at VAC+ and NAL-NL2 and revealed comparable speech access, with VAC+ offering a superior overall listening experience; challenging assumptions about generic rationales and highlighting the value of manufacturer-specific solutions.

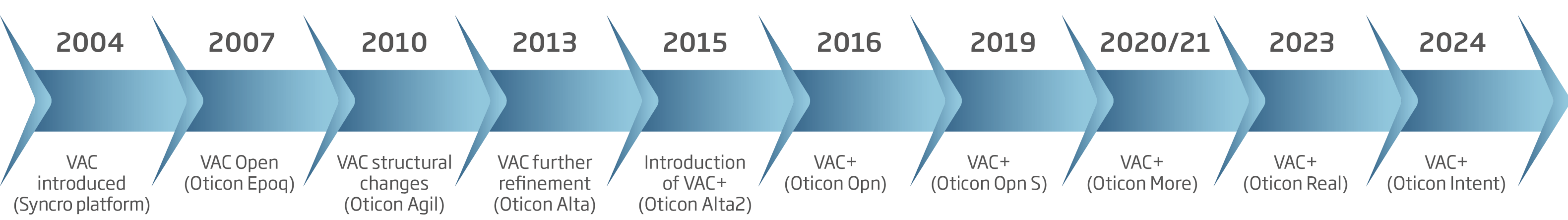


Figure 1: Timeline showing the evolution of VAC+

Methods

Participants

- ▶ Eight adults (aged 52–82, mean age 68) with bilateral symmetrical sensorineural hearing loss and no prior hearing aid experience.
- ▶ All met the inclusion criteria, including English proficiency and suitability for Oticon miniRITE devices.

Equipment

- ▶ Audiological assessments were conducted using the Interacoustics Affinity Compact system.
- ▶ Participants were fitted with Oticon Intent hearing aids (default) powered by the Sirius™ platform, using Genie 2 software (v24.1).

Procedure

- ▶ Over three clinic visits, participants trialed both VAC+ and NAL-NL2 fitting rationales in randomised order depending on their group assignment (Group V or N).
- ▶ Questionnaires with a combination of Likert-scale and open-ended questions were collected after each fitting appointment, assessing categories such as sound quality, speech clarity, comfort, and overall satisfaction. Comparative ratings and qualitative reflections were used to evaluate preferences.
- ▶ Aided Speech Intelligibility Index (SII) values were recorded with VAC+ and NAL-NL2 to quantify access to speech cues.
- ▶ Each fitting was verified via REM Autofit and participants were instructed to wear the devices for 2–4 weeks, 8+ hours daily.

Appointment One: Hearing assessment including pure-tone audiometry and the ACT™ test), followed by an initial fitting with one fitting rationale.

Appointment Two: Questionnaire One and second fitting.

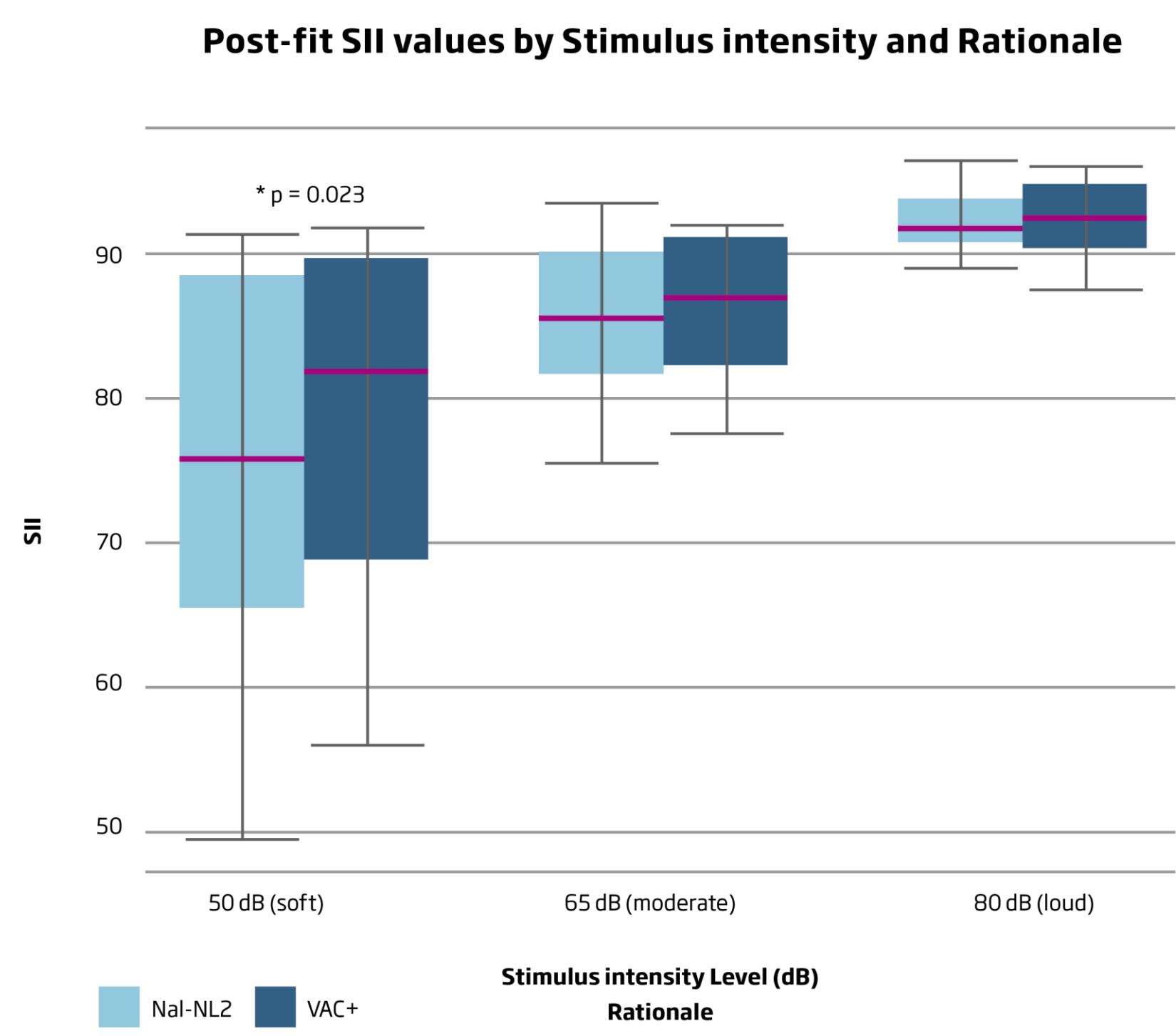
Appointment Three: Questionnaire Two and Speech Intelligibility Index (SII) measurements with both VAC+ and NAL-NL2 fittings.

Reference: Ghamkhar, M. (2025). The Oticon VAC+ fitting rationale. Oticon Whitepaper.

Results

Quantitative findings

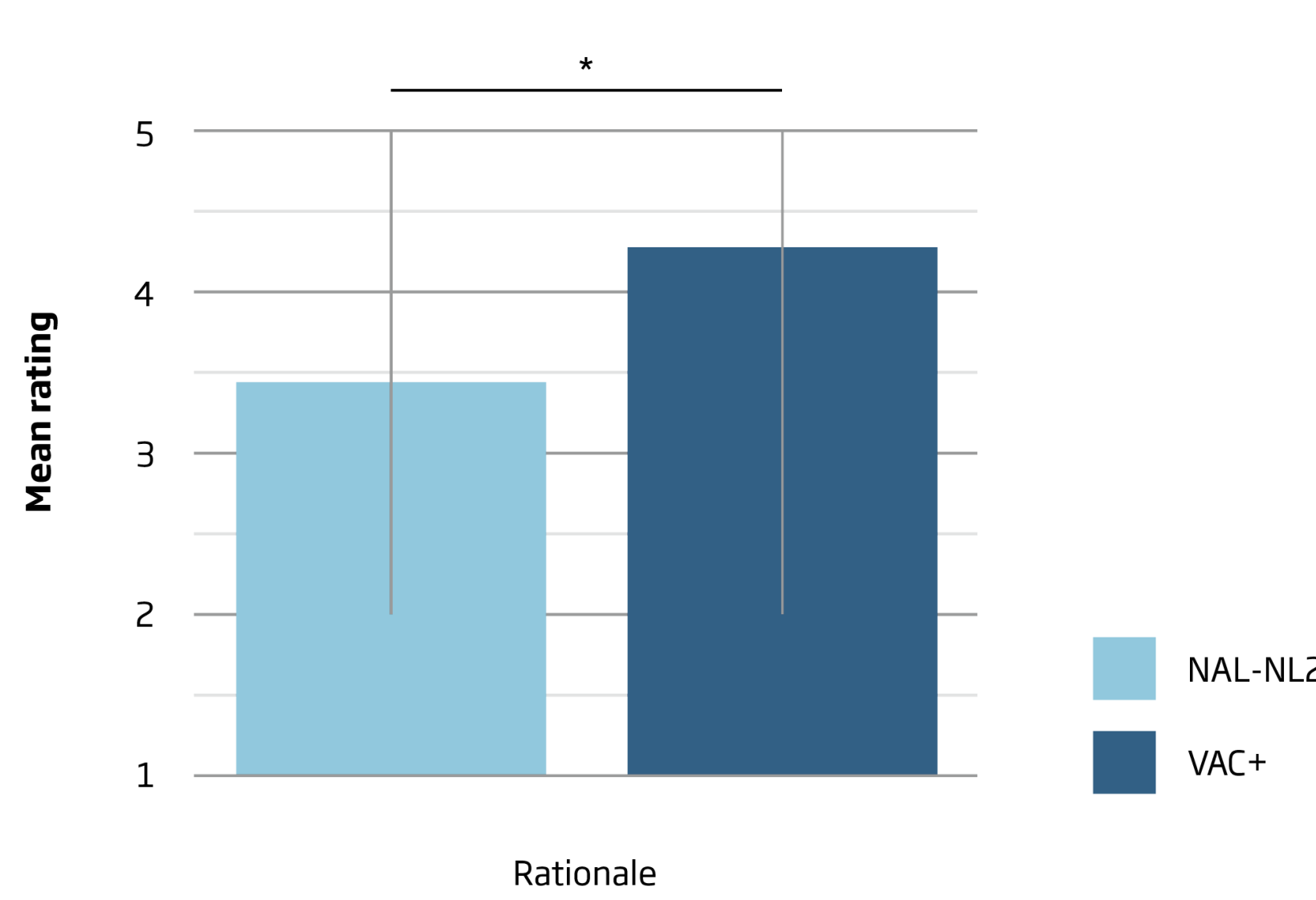
Figure 2: Analysis of aided SII values showed comparable performance between VAC+ and NAL-NL2 across most input levels. However, VAC+ demonstrated a statistically significant advantage at 50 dB SPL ($p = 0.023$), indicating improved access to soft speech. No significant differences were observed at moderate or loud input levels.



Qualitative findings

Figure 3: No differences were found between VAC+ and NAL-NL2 across most questionnaire items including listening comfort, sound quality, and speech clarity. However, VAC+ yielded a notable 25% improvement in participants’ overall subjective hearing experience, with significantly more users reporting high satisfaction. This highlights a potential advantage over generic fitting rationales.

Perceived improvement in overall hearing



Summary and conclusion

- ▶ This study compared user outcomes between Oticon’s VAC+ and the generic NAL-NL2 fitting rationales using both objective and subjective measures.
- ▶ Quantitative analysis showed overall speech intelligibility was similar across both approaches, with VAC+ offering a statistically significant advantage for soft speech (50 dB SPL), consistent with prior findings on the Soft Speech Booster feature.
- ▶ While VAC+ showed a higher median SII overall, the difference was not statistically significant, suggesting comparable acoustic performance in most listening conditions.
- ▶ Qualitative results revealed no significant differences across most listening domains, including comfort, clarity, and adaptation.
- ▶ However, participants reported a 25% improvement in overall hearing satisfaction with VAC+, indicating a meaningful subjective benefit.
- ▶ These findings suggest that VAC+ performs at least as well as NAL-NL2 and may offer enhanced real-world listening experiences. As a rationale co-developed with Oticon’s technology, VAC+ represents a clinically effective, user-centered option for adult hearing aid users.

Limitations and future research

- ▶ While this pilot study offers insights into the comparative performance of VAC+ and NAL-NL2, the small sample size ($n = 8$) limits generalisability and statistical power.
- ▶ Retrospective questionnaire data may be affected by recall bias; subjective reports may be influenced by fitting order and environmental factors.
- ▶ Future research could involve larger, more diverse cohorts, blinded conditions, and objective data logging. Real-time feedback methods and longitudinal designs are recommended to better understand user adaptation and outcomes for personalised hearing aid fittings.