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Juryrapport
KHMW Jong Talent Afstudeerprijs voor Health Care Innovation for underserved communities 2025

Ir. Pranav Prasun, Technische Universiteit Delft
Ally SenseScape Multisensory Indoor Navigation using AI Assistant for People who are Blind or have Low Vision (PBLV)

In the Netherlands, approximately 300,000 individuals are blind (~50,000) or visually impaired (~250,000).

This graduation project addresses a socially and scientifically significant challenge: enhancing the autonomy and productivity of this substantial group of blind and visually impaired individuals.

At present, the independence of this group largely depends on the use of technologies such as voice assistants and braille devices, as well as aids like the white cane and guide dog. Nevertheless, blind and visually impaired people continue to encounter barriers in their professional and social lives, particularly in relation to navigation, communication, performing daily activities, and accessing information.

The need to address these challenges forms the foundation of Pranav Prasun's graduation project, conducted on behalf of Envision Technologies BV. The project resulted in an original and innovative solution: a virtual personal assistant named Ally SenseScape.

Ally SenseScape was developed to augment, rather than replace, existing technology, specifically the Envision Glasses. Through a holistic design approach, additional non-visual sensory information was integrated into the system, encompassing contextual cues such as floor texture, ambient sounds, and characteristic scents of various environments (e.g., workplaces or educational institutions). This approach represents a novel and highly innovative application of artificial intelligence. Users are guided to their desired locations through auditory feedback and voice interaction via the smart glasses.

The outcome is an intelligent, applicable, and empirically validated solution. It significantly advances the accessibility of professional and educational environments, as demonstrated in real-life testing with a blind participant.

The research distinguishes itself through its interdisciplinary methodology, the effective collaboration with both industry partners and the target user group, and the high quality of the final thesis report. The developed concept is scalable and has the potential to substantially increase the independence of blind and visually impaired individuals, thereby contributing to a more inclusive society.

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Prof. dr. E.A.P. (Eric) Steegers, hoogleraar en afdelingshoofd verloskunde en gynaecologie Erasmus MC
Prof. dr. C. (Cisca) Wijmenga, Lodewijk Sandkuijl distinguished University Professor, lid raad van toezicht Hanzehogeschool, lid raad van toezicht Universiteit Leiden, lid Academia Europae, raadslid Adviesraad voor Wetenschap, Technologie en Innovatie (AWTI), voormalig rector magnificus Rijksuniversiteit Groningen

De jury vergaderde op 16 oktober 2025 via Zoom onder leiding van KHMW-maatschappelijk lid jhr. mr. Th.S. Röell. Tevens was ter vergadering aanwezig prof. dr. A.P. (Ad) IJzerman, bestuurslid en secretaris natuur- en medische wetenschappen KHMW.