Wearable Guidesense

Novel Assistive Tool for Independent and Safe Mobility for the Visually Impaired

Guidesense is a wearable mobility assistive device. It is worn around chest, like a common heart rate monitor belt. Guidesense monitors the obstacles in front of the user and uses vibration and/or voice feedback to convey this information to the user. Guidesense enables visually impaired to perceive their environment better and safer.

The operation of the Guidesense device is based on high-frequency radar technology which makes it unique. The radar signal goes through typical clothing materials. This makes it possible to use Guidesense beneath clothing, for example under a jacket.

Guidesense technology has been developed by VTT Technical Research Center of Finland Ltd in 2014-2016 in collaboration with Finnish Federation for the Visually Impaired. The device has already been clinically tested in trials approved by the National Supervisory Authority for Welfare and Health (Valvira), and in collaboration with Kuopio University Hospital. The test group included 25 visually impaired people, who presented a wide range of potential users of different handicap, age and way of living.

Clinical trial results showed that

- 92% of users felt that the device helped them to perceive surroundings
- 80% felt that the trust in their ability to move around independently was improved
- 32% would immediately start using the test device in its current form

Clinical trial results reduce risks of commercialization. A global market is believed to exist for the device, since there are around 300 million visually impaired people in the world.

More information
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