Obstacle detectors for visually impaired people

L. Dunai, I. Lengua, I. Tortajada, F. Brusola
Universitat Politècnica de València, Valencia, Spain

Abstract
This paper carries out a review on Electronic Travel Aid Systems (ETAS) for visually impaired people and describes a new wearable Cognitive Aid System for Blind People (CASBliP) developed within the frame of European CASBliP project, in which the authors are taking part.

Information on the environment enables humans and vertebrates to know about sources that are in many different directions, particularly signals that are outside the detection range of other senses. Sound source localization is inherently important for safety-survival and navigation. In addition to the acoustical cues, the visual cues such as object detection, tracking and distance measurement play an important role in the navigation not only for robots, but also for blind people, since they are often dependent on artificial intelligence.

Due to the fact that blind people make maximum use of sound not only to know the obstacle presence, but also how dangerous it is, in order to avoid it effectively, the CASBliP devices use acoustical sounds in order to represent the visual information detected by the sensors and artificial vision systems.

References