developed by iVISION TECH

iSee

SMART GLASSES FOR BETTER MOBILITY.



Rev. 1.3

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01.Introduction



For most people, technology makes things easier.

For people with disabilities, technology makes things possible.

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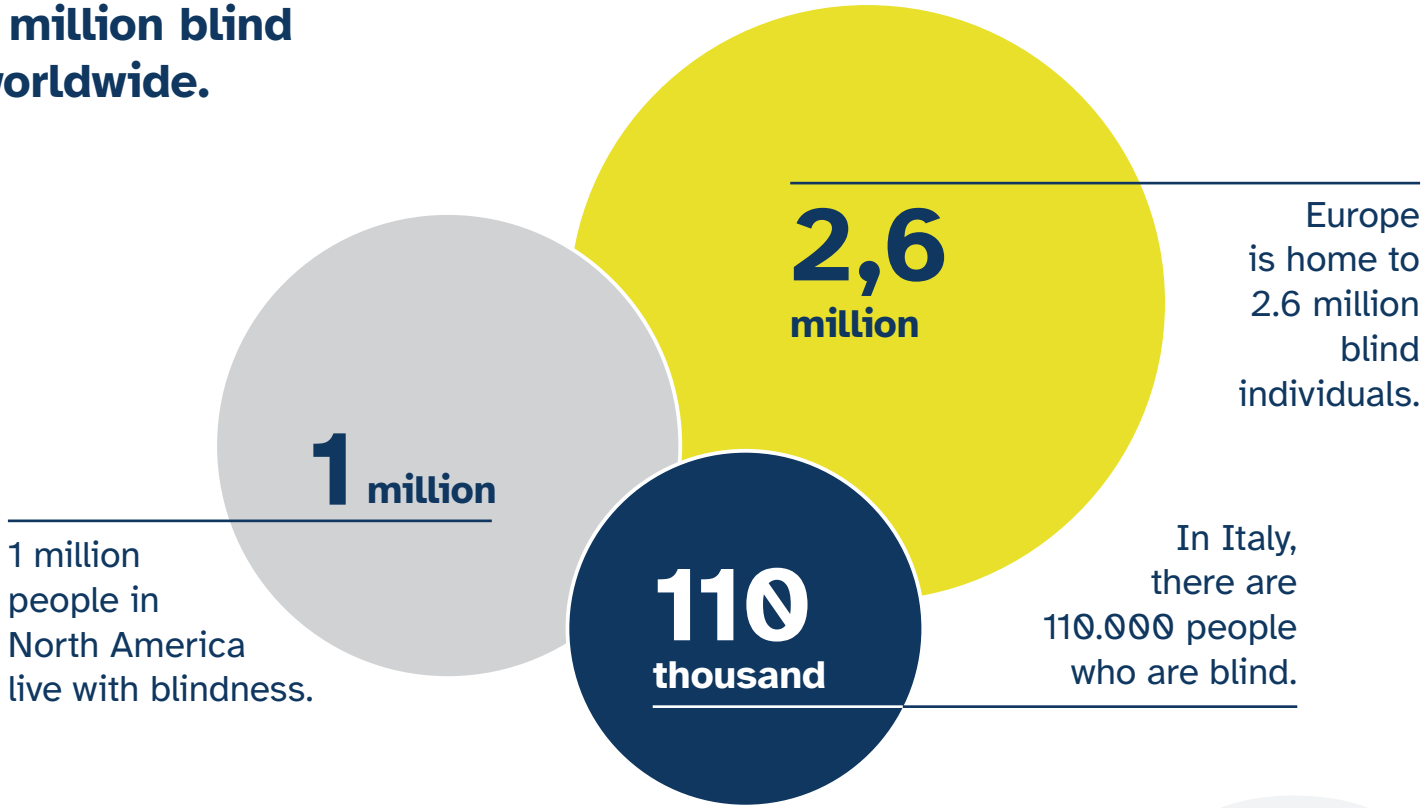
02.The Context

There are 43 million blind individuals worldwide.



03.Geographic Distribution



The majority of blind individuals are located in countries like China and India.



A significant 90% of blind people live in low - and middle - income countries.

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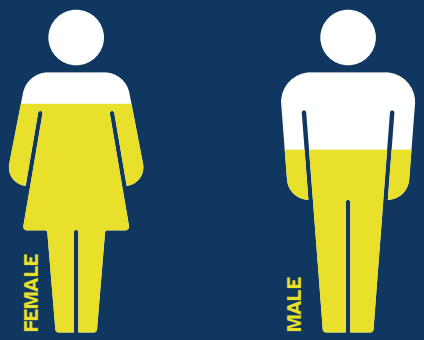
04.Future Projections

The prevalence of blindness remains relatively stable, with a slight majority of female users compared to male users.



By the year 2050, the global blind population is expected to rise

FROM 43 MILLION

TO 61 MILLION

For the expected increase in blindness, 90% of the causes are preventable. However, blindness remains an irreversible condition.

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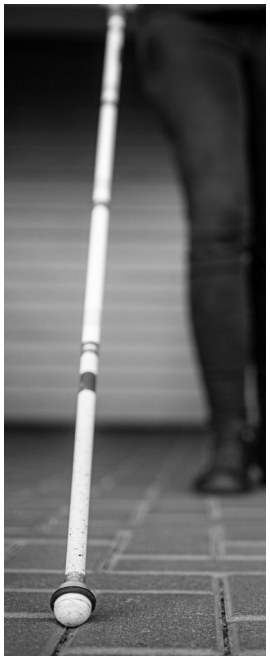
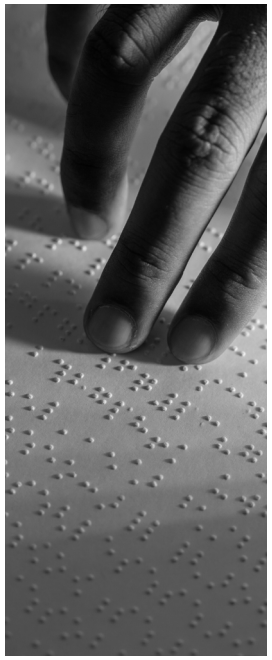
05.Current Solutions

Blind individuals currently rely on traditional aids such as human assistance, guide dogs, mobility canes, and Braille.



Assistive technologies are also increasingly important, offering expanded access to information and enhancing the daily lives of blind users.

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06.The Problem

Despite significant advancements in technology, progress in the field of visual disabilities has been relatively stagnant.

While indoor applications are well-covered by existing assistive technologies, the outdoor mobility sector remains largely underserved.

07.Mobility Gap



The traditional white cane has become an essential tool, providing safety and autonomy for blind individuals, but its capabilities are limited.

Mobile phones, have been widely adopted, yet the challenges of outdoor mobility persist.



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07

08.User Demand



Users are looking for a device that can detect obstacles in their path before they make contact, improving safety and comfort during navigation.

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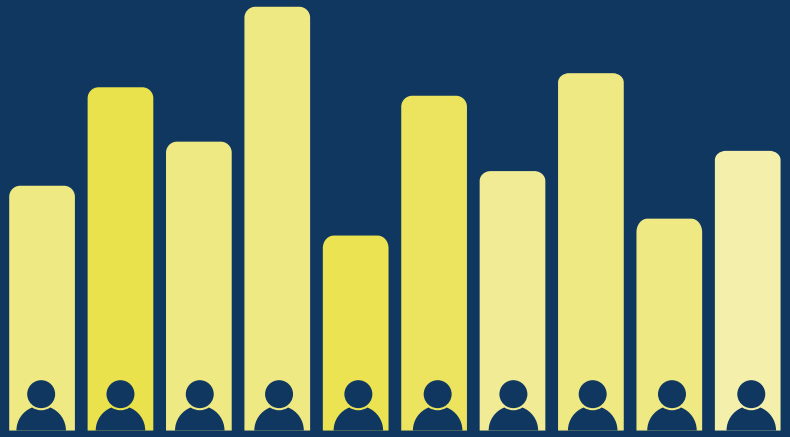
Surveys and research among blind users have revealed a strong desire for a wearable device that allows for hands-free operation.



09.The iSee Project

iVision Tech, in collaboration with a specialized team of blind and sighted professionals, has embarked on a mission to create a socially impactful solution.



The result of this effort is the iSee One device, a groundbreaking piece of technology designed specifically for the mobility needs of blind users.

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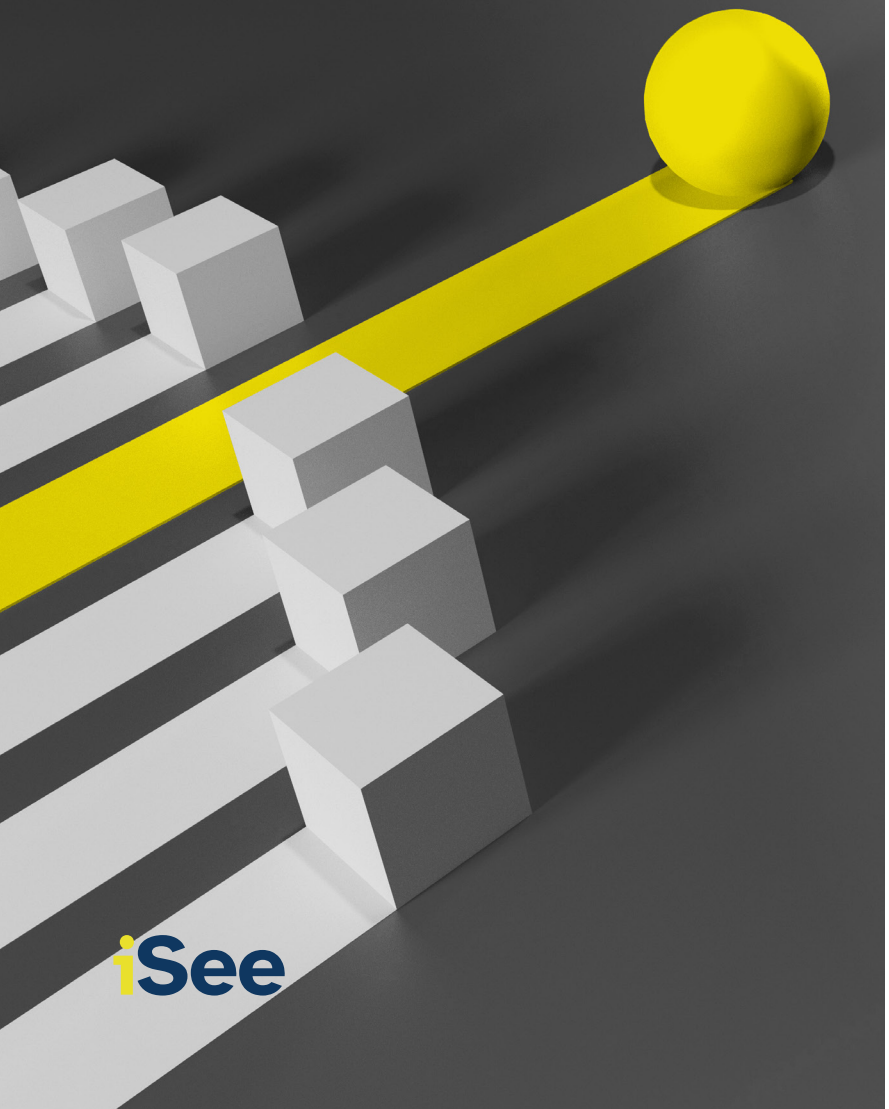
10.The Solution



The iSee One device represents a significant leap forward in assistive technology for the blind, offering a range of features designed to enhance mobility.

Developed under the guiding principle of User-Led Design

iSee ONE

PATENTED PATENTED

embodies the idea of

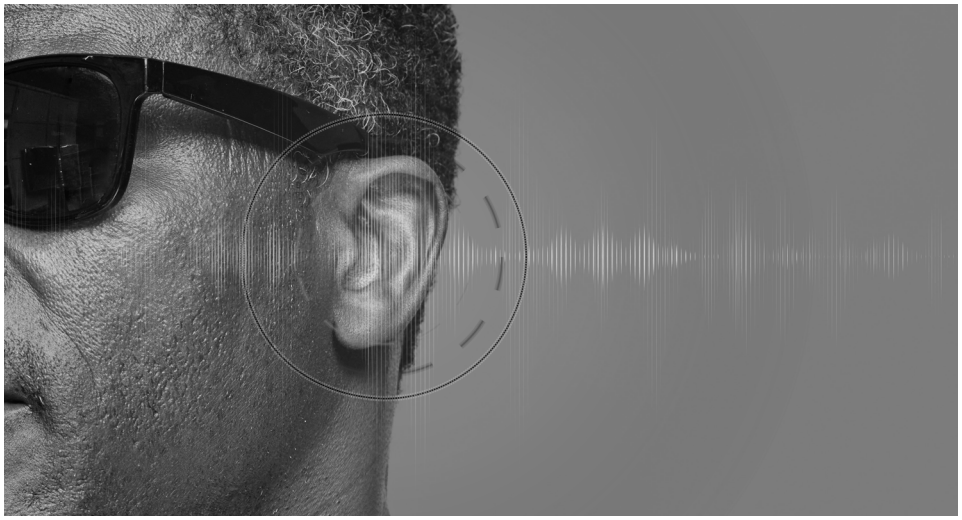
THOUGHT BY USERS, DESIGNED FOR USERS.

11.Key Features /1

Advanced Environmental Sensors

- The iSee One device is equipped with state-of-the-art sensors that detect obstacles in real-time, up to 4 meters away.
- These sensors provide comprehensive spatial awareness, mapping the surroundings to help users navigate with greater confidence.
- The technology enhances users' ability to move through complex environments safely and independently.



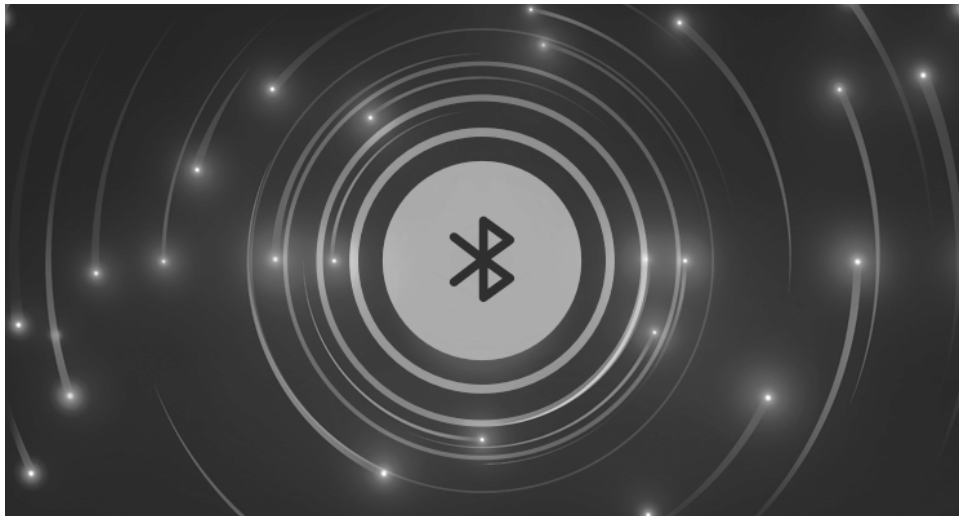


Audio Technology

- The device utilizes MEMS Speakers to deliver clear, high-fidelity sound without blocking the ears.
- This allows users to remain fully aware of ambient sounds while receiving crucial audio cues and alerts from the device.
- The technology ensures that users can navigate safely without sacrificing their ability to hear the world around them.

Bluetooth Connectivity

- iSee One offers seamless Bluetooth connectivity to smartphones and other external devices, enabling users to access voice assistants, make phone calls, and listen to audio playback.
- This feature enhances the device's versatility, allowing it to integrate smoothly with existing tools and technologies.
- Users can customize their experience, ensuring that the device meets their specific needs and preferences.



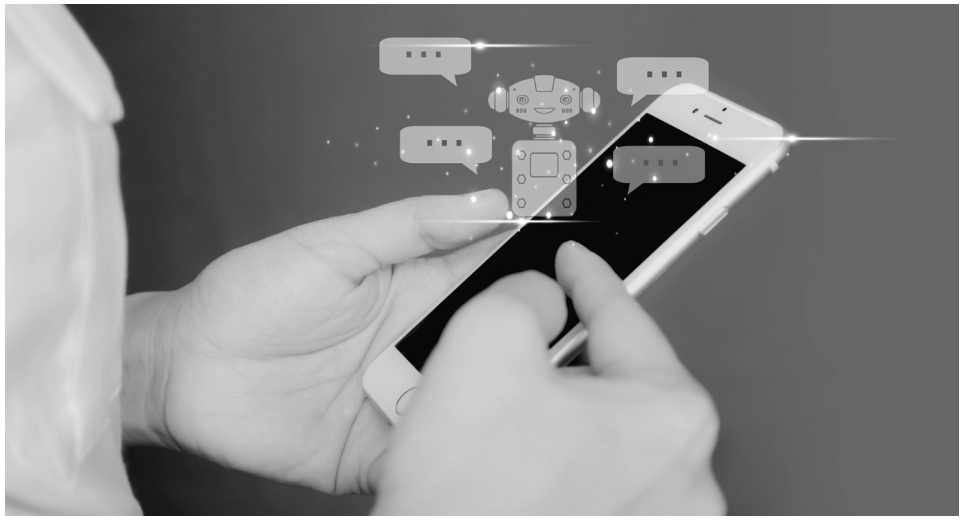


Continuous Feedback Loop

- The device provides real-time updates on the proximity of obstacles, helping users navigate more effectively.
- It offers descriptions of objects in the environment, relayed through audio feedback that adapts to the user's choice of vocal or acoustic feedback.
- This continuous feedback loop ensures that users are always informed and can react quickly to changes in their surroundings.

Customizable Alerts

- Users can choose between vocal or acoustic alerts, tailoring the device's notifications to their personal preferences.
- Alerts can be adjusted to suit different environments, whether quiet or noisy, enhancing the device's usability in a variety of settings.





User Interface & Controls

- iSee One features simple, intuitive controls embedded within the frame, designed for ease of use.
- The device offers hands-free operation, requiring minimal effort to learn and use effectively.
- A voice-guided setup and instructional system ensures that users can start using the device immediately, with no steep learning curve.

12.Technological Innovation

The frame of the iSee One is manufactured using cutting-edge 3D printing technology, resulting in a lightweight, durable, and robust structure made from high-performance Nylon.

The design process prioritized comfort and aesthetics, ensuring that the device is not only functional but also visually appealing and comfortable to wear.

The flexible manufacturing methods employed allow for future customization options and just-in-time production, enabling a tailored experience for each user.

13.Benefits

iSee One is designed to integrate seamlessly into the daily lives of blind users, offering a comprehensive solution for mobility while also being versatile enough for indoor use.

The device's ability to receive

OTA (OVER-THE-AIR)

updates means it can evolve over time, introducing new features and improvements based on user feedback.

With its intuitive design and simple setup, iSee One requires no extensive training and can be used immediately following a brief audio introduction.

14. Availability

iSee One is set to launch by the end of the year and will be available for purchase through the official iSee website as well as authorized retail channels.



The device is expected to be priced like a mid-high level designer eyewear, offering an accessible solution for blind users seeking advanced mobility assistance.



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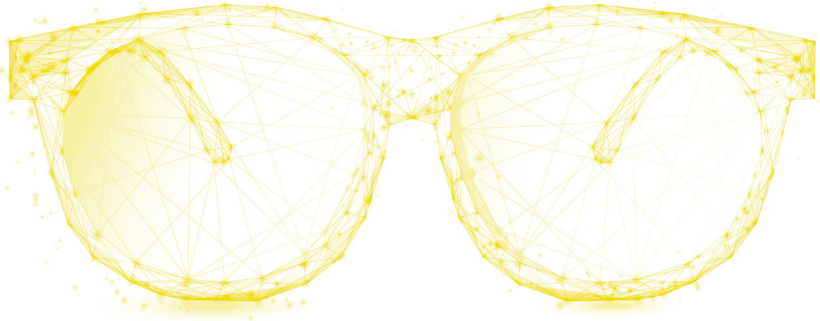
15.Partners and References

The development of iSee One involved close collaboration with leading technology companies such as InvenSense and USound, as well as high professionals from technical backgrounds in telecommunications, satellite technology, and applications related to environmental mapping and geolocation.



These partnerships have ensured that the device benefits from the latest innovations in smart eyewear technology, making it a state of the art product in the assistive technology market.

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