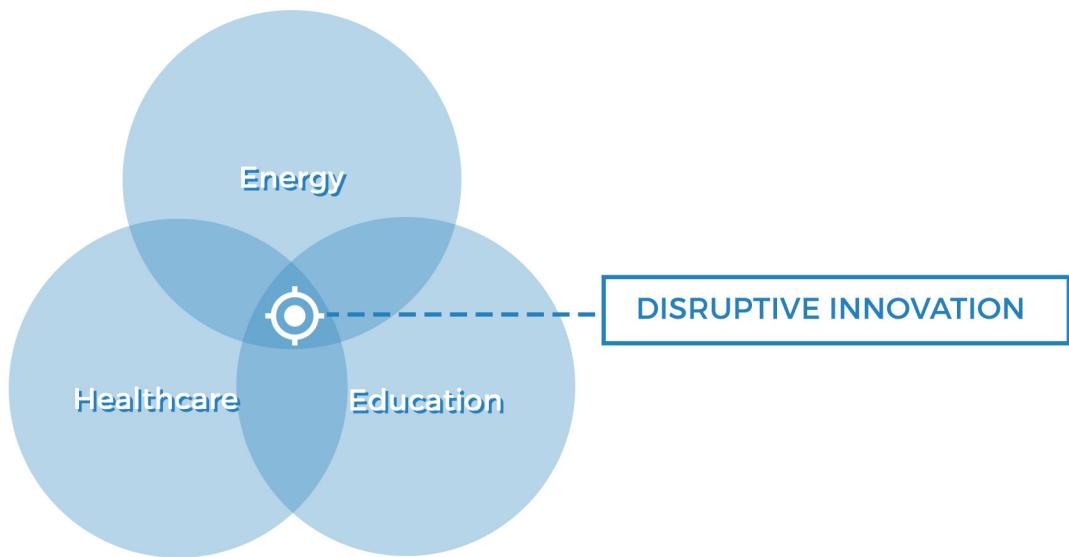




Revolutionizing education, energy and healthcare
with affordable technology

ABOUT INNOVISION

The company is founded by IIT Bombay students with the vision of revolutionizing education, healthcare and sustainable energy by means of innovation. We aim to bridge the income divide in access to basic amenities to create social impact and improve quality of life. Our work focuses on affordable technology based products and services for the masses without a compromise on quality.



BRAILLEME

Affordable "Electronic Braille Reader" for blind individuals

Our first product is **BrailleMe** – a low cost electronic device that will connect the blind to the electronic world in Braille. We want to equip them with technological tools to increase access to information and use applications easily. It seeks to increase blind literacy and offer better range of employment opportunities.

PROBLEM STATEMENT

There are **40 million** blind people globally which is expected to grow to 76 million by 2020; of these 15 million (37.5 %) live in India currently. The blind are faced by numerous challenges in their lives especially due to shortage and high cost of resources. The quality of life of these blind individuals is thus lower and there is a pressing need to bridge the education and employability gap between the blind and the sighted which has been rapidly widening with the growing digitization of information.



READING, WRITING & accessing the INTERNET is very difficult

CHALLENGES FACED WITH BRAILLE

A survey of blind across the world shows need for a device to connect them to the digital world

- 1 Education impossible without Braille as reading, writing not supported by audio device aids.
- 2 Literacy rate of blind is as low as 2% in developing and 10% in developed countries due to low Braille penetration or high cost
- 3 Employment statistics – “15% for non-Braillists , 80% for Braillists” highlight need for Braille

- 3 Times Printing Cost
- 2 Times A4 Paper Cost (\$45 vs \$ 22.5)
- 2 Times Paper Thickness (160 GSM vs 80 GSM)
- Digital Disconnect
- 7 Times Book Volume



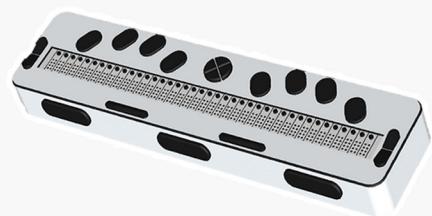
Braille forms the basis of their education but is currently not being utilized in improving employment. Presently there are limited employment opportunities as most jobs are clerical. Additionally the assistive devices that could help bring quality of life at par with the sighted are few and unaffordable (costing upwards of \$3000/ INR 1.8 Lakhs).

PROJECT - BRAILLEME

At Innovision we started exploring ways to convert digital information into a form that could easily be read by the blind. The result was our flagship product BrailleMe an electronic device, that when paired with a computer/ phone/ tablet, displays the visual text into Braille on its tactile display. This device will be the first of its kind low cost **REFRESHABLE ELECTRONIC BRAILLE READER** due to our patent filed magnetic Braille cell technology. It will reduce dependence on printed Braille by providing a substitute at a cost of \$200/ INR 13000 - a 15 fold reduction in price compared to existing devices.

The BrailleMe device consists of a refreshable Braille display with 40 Braille cells stacked along its width, a Braille input keypad and utility buttons - power button, a scroller wheel for navigation, and button speech feedback. BrailleMe interacts with parent devices like smart-phone or PC wirelessly using Bluetooth or USB port. allows a 15-fold reduction in cost when compared to existing devices.

The text from the visual display is converted into Braille by the software and represented on our device by the electronic actuation of Braille pins to replicate Braille characters in tactile form and vice versa during input of information in Braille. The basic idea is to make a device that can help any blind person to read any form of information like print or text from any source like printed documents, computer, smart-phone or internet in Braille, and also provide them with the tools to edit or write documents.



BrailleMe pairs up with your computer or smartphones via Bluetooth

FEATURES & APPLICATIONS

The key specifications of our patented technology based BrailleMe device are

- 1 Refreshable Braille display, a Braille keypad and navigation utility buttons.
- 2 Interaction with parent devices like smart-phone or PC wirelessly using Bluetooth/ USB port.
- 3 Inbuilt android app and iOS device software packages.
- 4 Supports screen-reading software like Window-eyes and JAWS for Windows, Voiceover for iOS and TalkBack for android



COMPARISON WITH COMPETITORS

This device is similar to existing devices in the global market and with the optimized screen reader offers more features than them. But it is the 15X cost reduction due to our patented technology that will provide higher market penetration and make it suitable for developing countries like India.

DIRECT COMPETITION : Braille Reader Manufacturers



	Brailliant 40	Focus Blue 40	BrailleMe
Bluetooth, USB, iOS, Android, Windows compatibility	✓	✓	✓
Optimized screen reader	✗	✗	✓
Multi-line	✗	✗	✓
Single-line price	₹ 1,84,000	₹ 1,65,000	₹ 13,000
Five-line price	Unavailable	Unavailable	₹ 50,000

Existing players have 10 years established market presence in developed countries but have not been able to lower costs.

INDIRECT COMPETITION : Blind Aids

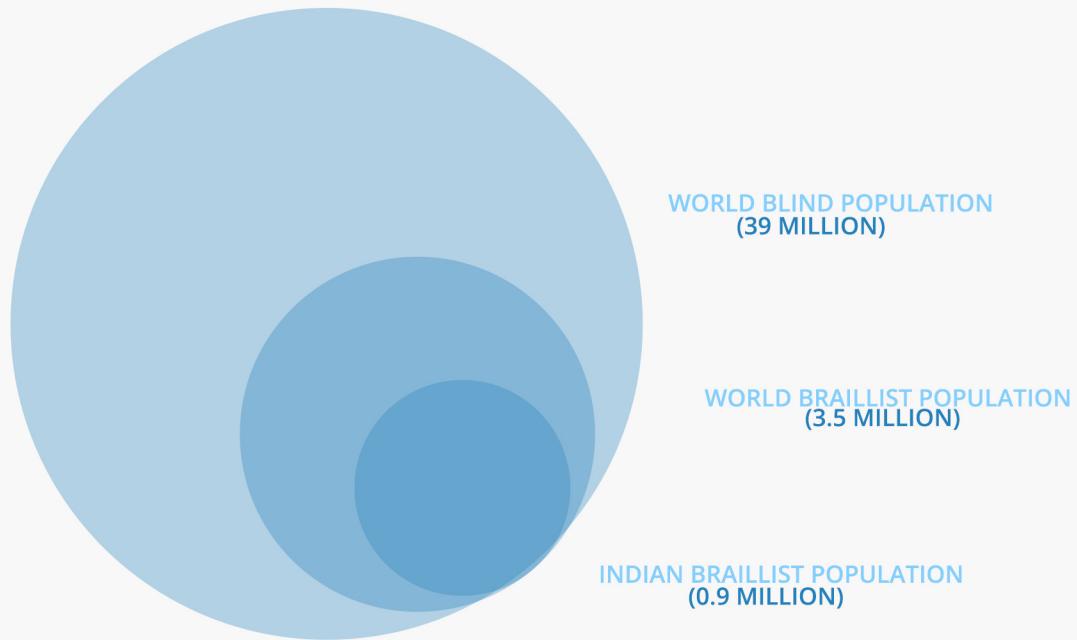
	Speech Software	Screen Reader Software	BrailleMe Electronic Braille Reader
Speech Control	✓	✗	✗
Screen Reader	✗	✓	✓
Multi- Language	✗	✗	✓
Accent	✗	✗	✓
Cost	₹ 5,000	₹ 70,000	₹ 13,000

Electronic use by blind has been limited to audio support due to lack and high cost of Braille devices.

SOCIAL IMPACT

According to WHO reports there are 246 million visually impaired and 39 million people blind worldwide. Of these 80% of the global visually challenged attain blindness after the ages of 40 are not willing to learn Braille and hence do not constitute the primary market.

- ◆ Majority of these blind (~90%) reside in low income settings and would be impacted most socially.
- ◆ The blind population in India makes up for **27.5%** or **15 million** of the total global blind.
- ◆ Market growth: The projected blind population by 2020 is **76 million**, implies a growing market.
- ◆ Opportunity: Existing devices do not penetrate more than 8-10% in developed countries and **0.1 - 0.5%** in developing countries
- ◆ This device would potentially impact the lives of the **3.5 million** blind people currently learning Braille and also improve the reach of Braille to reach the additional 10 million blind who can be made Braille literate with it.



THE DELIVERABLES FROM INNOVISION AND BRAILLEME :

- ◆ Development of assistive technology for disabled
- ◆ Enabling education of blind students.
- ◆ Improving employment opportunities for blind individuals
- ◆ Partnership or association with Braille institutions across India
- ◆ Improving quality of life for the blind - making them self dependent