

IIT Delhi launches SmartCane™ to assist visually impaired to detect above-the-knee obstacles

SmartCane™ brings safe and independent mobility for the visually impaired at an affordable cost

New Delhi, March 30, 2014: The Indian Institute of Technology Delhi's Assistive Technologies Group (ASSISTech) is proud to announce the launch of the SmartCane™ device; an innovative and affordable navigation aid enabling safe mobility for the visually impaired.

According to the World Health Organisation, 285 million people are estimated to be visually impaired worldwide, with 90% residing in developing countries. India is home for 12 million people with blindness, the largest for any country in the world (2011 census data).

Developed jointly with Saksham Trust and Phoenix Medical Systems, with funding received from the Wellcome Trust (UK), the SmartCane™ helps users detect all obstacles above the knee-level. Utilising modern sensor technology, this device detects obstructions up to a distance of 3 metres and is compatible with the standard folding white cane currently used by millions of visually impaired people across the globe. Further, the SmartCane™ device removes the need for physical contact with the cane in order to detect obstacles in the immediate environment. At times, accidentally touching or poking a stray animal or another human with a cane could lead to an unpleasant response.

The cost of SmartCane™, inclusive of distribution and training costs is Rs. 3000 while comparable navigational devices globally cost Rs. 65000 or more. Notwithstanding its affordable price tag, the manufacturer i.e. Phoenix Medical Systems, Chennai has ensured that the device meets global standards in terms of quality and reliability. Saksham Trust has developed an extensive distribution partner network, geographically spread across India for spreading awareness, training as well as after-sale support.

The various features of SmartCane™ have been driven by end-users' input on their needs and then ratified through extensive field trials with over 150 users. Talking about the product, Dr Rohan Paul, who has played a key role in the development of the SmartCane™ device, said "Blindness is not just a medical condition but possesses the larger dimensions of social exclusion, stigma and neglect. Blind people are often taken by surprise by over-hanging branches, protruding air-conditioners and parked vehicles while navigating through unfamiliar terrain. SmartCane™ warns the user of such objects in their path through a unique system of vibratory patterns, designed to detect potential obstacles even at head height."

Professor M Balakrishnan, Department of Computer Science & Engineering who along with Professor PVM Rao of Mechanical Engineering Department leads the ASSISTech activities, said, "I strongly believe that role of organizations like IIT is to promote technology-based entrepreneurship so that the country develops quality products that find mass acceptance not only in India but globally."

Dr Diana Tay, Business Development Manager for Technology Transfer at the Wellcome Trust said "The SmartCane™ is a mobility aid device that will have a positive impact on the day-to-day activities of the visually impaired in India and possibly further afield. The cross-disciplinary team approach behind the SmartCane™ has enabled the successful delivery of this technology to the marketplace." The Wellcome Trust, a global charitable foundation, provided a research grant of around £450,000 under the "Affordable Healthcare in India" scheme for translational research on SmartCane™.

Mr Dipendra Manocha, Director of Saksham Trust and Delhi-President of National Association of Blind, has provided research and marketing support through its network of organizations. Phoenix Medical Systems, India's leading manufacturer of medical devices for infant and maternity care is the industrial partner of SmartCane™, providing industrial R&D support and executing the manufacturing process.

About ASSISTECH: Indian Institute of Technology Delhi

ASSISTECH is an inter-disciplinary group of faculty, research staff and students engaged in using modern and assistive technology to find affordable solutions for the visually impaired. Formed in the year 2008 with the objective of making a difference in the lives of a million plus visually impaired people, their main focus is to develop technology based solutions for mobility and education of the visually-impaired. Key goal is to search for solution that would enable them to live independently and with dignity. SmartCane™, an aid for the visually impaired, that provides safe and independent mobility that eases their integration into the society, is the flagship project undertaken by ASSISTech. Unlike a typical academic laboratory, ASSISTech focus is on end to end solution; i.e. from need finding to productization. Apart from working on specific solutions based on needs identified by the users themselves, they also work on sensitizing and inspiring a number of young minds towards real day-to-day challenges of the differently abled.

About Saksham Charitable Trust

The Saksham Trust was established in 2003 with the sole purpose of helping underprivileged visually impaired people in their day to day lives by providing special assistance through special teaching methods - Braille, audio description, tactile structures and other non-visual teaching methods. Saksham plays a vital role of determining the specifications, taking feedback from end users and the distribution of SmartCane™. Saksham Trust has also developed entertainment and education material for the visually impaired including audio description movies, books translated in Braille and audio description books.

About Phoenix Medical Systems Pvt. Ltd (PMS)

Phoenix Medical Systems is the industrial partner of the SmartCane™ project, providing R&D and executing the manufacturing process in its ISO 9001 certified factory. They also look after the critical issues of testing and quality control. Founded in 1989, PMS aims at providing cost-effective and innovative solutions that match the best in the world at very affordable prices. PMS is a pioneer in India in the manufacture of products devoted to infant health care, the first product being an infant incubator. PMS follows Six Sigma and other management strategies and is ISO 9000:2001 certified.

About Wellcome Trust

The Wellcome Trust, UK is a charitable foundation based in London that extensively sponsors medical research in UK as well as globally. It is dedicated to achieving extraordinary improvements in human and animal health and supports the brightest minds in biomedical and medical research. The Trust's support includes public engagement, education and the application of research to improve health. Development of SmartCane™ was amongst the first projects funded in India under their "Affordable Healthcare in India" scheme. (www.wellcome.ac.uk/techtransfer/india)

About Penn Schoen Berland (PSB)

Penn Schoen Berland (PSB) is a 'Global Research based Strategic Communication Advisory' that helps clients understand and mould public opinion to negotiate some of their toughest challenges. The office is led by Ashwani Singla, MD & CEO, Asia and formerly the CEO of Genesis Burson-Marsteller (GBM) & Board Member, Burson-Marsteller (B-M), Asia Pacific. PSB is a part of Y&R Brands and WPP. As the Communications Consultant, PSB is committed to help create awareness of SmartCane™ in the community and the product to establish itself as an example of frugal innovation that combines 'common sense technology' with 'user experience' to deliver greater self-assurance to the visually impaired.