



ಸಮರ್ಥನಂ ಅಂಗವಿಕಲರ ಸಂಸ್ಥೆ  
Samarthanam Trust for the Disabled®

## REPORT

**AWARENESS CONCLAVE ON ASSISTIVE  
TECHNOLOGIES FOR PERSONS  
WITH DISABILITIES - FEBRUARY 2023**



**A | T | A**   
Assistive | Technology | Accelerator  
A Samarthanam Initiative Awareness 360°

# REPORT: AWARENESS CONCLAVE ON ASSISTIVE TECHNOLOGIES FOR PERSONS WITH DISABILITIES - FEBRUARY 2023

## BACKGROUND

The Awareness Conclave on Assistive Technologies for Persons with Disabilities 2023, supported by DXC Technology and organised by Samarthanam Trust for the Disabled in collaboration with Centre for Accessibility in the Global South (CAGS), IIIT Bangalore, and Department of Differently Abled & Senior Citizens, Government of Karnataka, assumes that if technology reflects the diversity of all people, there will be no limits to what people can do. Through the Conclave, Samarthanam Trust for the Disabled seeks to discover additional areas of accessible technology, learn from leaders with disabilities, and explore how accessibility empowers everyone within an organisation and community by focusing on the collective voices of people with disabilities. The collective voices of people with disabilities will be collected through a survey of users of currently available technologies. Titled "User-Centred Design," more than 1,500 people with disabilities commented on their needs, requirements, and the challenges they face in their daily lives; a summary of the survey is attached to this report.

The conclave will thus help us focus on the contextual realities of persons with disabilities (from the perspective of India and the Global South) and their specific needs in terms of appropriate AT designs and delivery mechanisms. Similarly, the participation of governments, businesses, and other supply-side actors will create a better understanding and ecosystem of shared concerns and capabilities to meet the needs of people with disabilities in financially viable and sustainable ways. We have attended and participated in many conferences and observed that the need for a user-centric design we have consulted with various technology heads and experts from pioneer institutions and it is in this context we had a consultative workshop on Assistive Technology in Cags, IIITB to understand the needs and requirements of persons with disabilities from the perspective of users of assistive technologies, experts, start-ups and developers of AT. So as a recommendation of the consultative workshop it was decided to conduct an awareness conclave to bring about awareness on Assistive Technology for all stakeholders to bring about 360-degree awareness on building an affordable and easily available AT eco system, So the awareness conclave was planned to bring all the stakeholders together and provide a platform to network and voice out their concerns



Science and technology advancements have spurred digital and innovative assistive technologies (AT) across various sectors. People with disabilities need to be aware of and involved in the design process to ensure their specific needs are met. However, affordability and access remain challenges. The 'Awareness Conclave on Assistive Technologies for Persons with Disabilities 2023' aims to bridge this gap by gathering input from users through a survey and creating partnerships with NGOs and DPOs. The event will focus on contextual realities and specific needs of persons with disabilities, while promoting financial viability and sustainability.

### THE OBJECTIVES OF THE AT AWARENESS CONCLAVE 2023 ARE

- Increase 360-degree awareness among stakeholders for user-centric designs and create an ecosystem for promoting affordable and accessible assistive technology solutions.
- Serve as a participation forum for persons with disabilities, caregivers, disability NGOs, DPOs, government officials, and policymakers to learn about various ATs available for diverse types of disabilities.
- Sensitize special schools for students with disabilities to explore better incorporation of ATs in the learning system.
- Present concerns of the user communities to technology experts to design appropriate ATs for the specific needs of persons with disabilities through focus group discussions. (such as spinal injury groups, people/children with spastic conditions, CP and other rare diseases such as muscular dystrophy, multiple sclerosis etc.)
- Influence policymakers, employers, and investors to invest in AT and facilitate organizations/start-ups to invent/manufacture appropriate technologies at an affordable cost.

### SAMARTHANAM'S ASSISTIVE TECHNOLOGY ACCELERATOR (ATA)

ATA was launched in 2018 to boost start-ups in assistive technology for individuals with disabilities. The first summer cohort in 2019 saw 20 start-ups participate, with 3 receiving financial and technical support. Although the initiative was halted due to the pandemic, it resumed operations in 2022 with a renewed aim of providing affordable and accessible assistive technology with speed and scale. The unit plans to connect beneficiaries with products, with a particular focus on MedTech, EduTech, and life function technology. Visit [www.samarthanam.org](http://www.samarthanam.org) for more information.

### A BRIEF ON THE INAUGURAL CEREMONY - AT AWARENESS CONCLAVE



The AT Awareness Conclave 2023 began with a formal inaugural ceremony featuring an invocation song by the Sunadha Team, the lighting of the lamp, and a speech by Dr. Ashwath Narayan C.N, Minister for Higher Education and Electronics, IT and BT, Science and Technology, Skill Development Entrepreneurship and Livelihood Government of Karnataka. Other dignitaries present included Mr. Nilesh Deshpande, Ms. K.S. Latha Kumari, Dr. Mahantesh G Kivadasannavar, Dr. Manohar Swaminathan, Dr. K. Sriram, and Mr. Venkataraman. Dr. Mahantesh G Kivadasannavar gave the welcome address, while Mr. Nilesh Deshpande delivered the supporter address. The keynote address by Dr. Sriram K of Continual Engine stressed the importance of a user-centric approach to technology and the need for assistive technology to be accessible to all. Mr. Nilesh Deshpande spoke about DXC Technology's interest areas of work, including education, humanitarian support, and diversity and inclusion, and their vision to bring about positive change in India.

## PANEL 1 A – ROLE OF THE CORPORATE SECTOR IN PROMOTING ASSISTIVE TECHNOLOGY



The Panel moderated by Mr Satya Gupta, Founder and CEO, of EPIC Foundation, and CEO of Seedeys Innovations was enriched with eminent speakers from the corporate sector such as Mr Nilesh Deshpande, Director - Human Resources, DXC Technology, Mr Venkataraman, Managing Director, ANZ and Dr Mahantesh G Kivadasannavar, Founder & Managing Trustee, Samarthanam Trust for the Disabled also contributed in the panel discussion.

Panel 1A discussed the role of the corporate sector in promoting the assistive technology ecosystem and stressed the need for passionate corporate contributions and the creation of an enabling atmosphere. Mr Nilesh emphasized education, digital and non-digital enablement, collaboration, and removing bias. Dr Kivadasannavar stressed inclusive systems and programs, mainstream solutions, and the role of corporate in creating a differently abled workforce. Mr Venkataraman predicted massive changes in the AT sector and highlighted the challenges faced by rural areas. The speakers all agreed on the importance of affordability, accessibility, user-centric designs, individual assessment and support, and appropriate skilling of the differently abled.

## PANEL 1 B - ROLE OF GOVERNMENT & OTHER ENABLERS IN PROMOTING AT ECOSYSTEM

Experienced speakers such as Anand Sri Ganesh, COO, NSRCEL, IIMB; Ms Pragyan-Portfolio Manager, Social Alpha; and Chetan Shirnali- - Partner - Ccreate Ventures shared their ideas during a panel discussion moderated by Prof. Amit Prakash- Convener, CAGS-IIITB on the role of start-up ecosystems in promoting assistive technology (AT). The panel discussed the significance of community-based AT technologies, sustainable scalable business models, and challenges in terms of reach and affordability. They emphasized the need to shift from traditional charity-based models to customer-focused business models. The importance of collaboration, systemic support, and alternative pricing models were also discussed, with suggestions to partner with government distribution centers such as Anganwadi, PHC, and the Post Office. The Karnataka government's innovation promotion was also highlighted as an opportunity for AT proliferation and strengthening ecosystem.

## PANEL 2- CAPTURING THE VOICES: IMPACT OF ASSISTIVE TECHNOLOGY ON PEOPLE WITH DISABILITIES:

Mr Sunish Gupta - - Manager- Accessibility, Experience Design and Development Group, Co-Founder, Easy Alliance moderated the panel on the impact of Assistive Technologies (AT) on people with disabilities. Eminent speakers, Ms Sugandha Sukrutaraj - Founder, of AMBA for Life, Mr Tarun Sarwal - CEO, of Signable Communications, and Mr Shivaram Deshpande - Head of Operations in Samarthanam Trust contributed as speakers. Education, medical accessibility, and employment were identified as crucial areas of impact where the differently abled population is denied access due to a lack of communication systems or support. Concerns of the hearing impaired, stereotypes about differently-abled people, and simple technological solutions were discussed. Customization and adaptation of existing technologies and the role of the corporate sector were stressed. The panel emphasized the need for proliferation, adoption, and reachability of AT.

## PANEL 3- CAPTURING THE VOICES: PERSPECTIVES OF STAKEHOLDERS AND SEGMENT EXPERTS

The panel, moderated by Mr Mohan Sundaram, Founder of Artilabs and President of the Disability NGOs Alliance and a mentor at NSRCEL IIM, was enriched with eminent speakers Ms Indumathi Rao - Founder & Regional Advisor - CBR Network India, working in 8 countries in South Asia; Dr Homiyar Mobejji - Disability Expert, Prog. Mgmt. [Asia & Africa] Bookshare and Regional Head for BeneTech which runs Bookshare the largest accessible library platform, Mr Vineet Saraiwala Founder & CEO - of Atypical Advantage, an inclusive platform that tries to generate economic livelihood for people with disabilities, Mr Rahul Gambhir - Senior Manager, Accessibility Initiatives, Union Bank of India.

They discussed the importance of education and assistive technology (AT) in integrating differently-abled individuals into society, highlighting the need for appropriate skilling and effective AT provision to create a productive workforce. The panel recognized technology as an equalizer, but also analyzed the significant gaps in AT usage, accessibility, and awareness among rural populations in India. The lack of awareness, political commitment, budget contributions, affordable AT, and policy implementation were identified as major factors contributing to the issue. The panel stressed the need for sector-specific technologies, disability-specific inclusion programs, and early exposure and education of differently-abled individuals to AT to enhance their employability and skill strengthening. The NEP was also discussed, highlighting policy gaps and the lack of human resources and trainers to develop the curriculum, particularly in universities.

## PANEL 4 - CAPTURING THE VOICES: ADAPTATION OF ASSISTIVE TECHNOLOGY FOR PEOPLE WITH DISABILITIES:



The panel, moderated by Dr Sriram K, Advisor, from Continual Engine, discussed Assistive technology (AT) adaptations for people with disabilities and its role in overcoming their challenges. They emphasized the importance of tailored AT services aligned with the unique needs of the differently abled, instead of generic AT support. The panel shared inspiring success stories of those who have achieved great heights with AT, but also acknowledged the accessibility and affordability challenges faced by many. They emphasized the need to create awareness about suitable AT requirements to improve the quality of life and functioning of the differently abled. The discussion also highlighted the status of India and data gaps related to spinal cord injuries from accidents and rare diseases. The panel called for government, NGO, corporate, investor, and start-up support for scaling up and reaching last-mile populations with AT. They suggested making AT a part of the curriculum, utilizing telemedicine and tele-rehabilitation to reach marginalized populations, and creating awareness at different levels. Corporate involvement, particularly in accessible education and the creation of productive differently-abled individuals, was also emphasized. The panel included Ms Vaishali Pai, Founder of Tamahar, Dr Hareesha K. S, Director of the International Centre for Advanced Science, MIT Manipal, and Mr Rayan Fernandez of the Dear Life Foundation, Udupi.

## BRIEF ON TECHNOLOGY EXHIBITION

The live demonstration of Assistive Technology by Mr. Shankar, Mr. Rajendra, Mr. Pradip, and Mr. Muthuraj was a prime example of how actions speak louder than words.

## PROBLEM STATEMENT: VOICES OF PEOPLE WITH DISABILITIES ON AT CAPTURED



Samarthanam conducted an online survey using google forms to collect the concerns and abilities of 1500 children and adults with disabilities. The survey included individuals with sensory, physical, intellectual, and multiple disabilities from both rural and urban areas, and different genders. The data was analyzed by a team of US-based volunteers from the Georgia Institute of Technology. The survey aimed to capture the challenges faced by differently-abled individuals in various sectors such as education, employment, health and emergency, sports, cultural and leisure, daily living, and essential services. Additionally, technological-related responses were also assessed and analyzed.

## DISABILITY SITUATION IN INDIA AS PER 2011 CENSUS

INDIA'S DISABILITY SITUATION (2011 census): 2.21% (26.8 million) have disabilities - visual, hearing, speech, locomotor, and mental. 56% male, 44% female, 49% literate, 34% employed, 69% rural. Globally, 2.5 billion people require assistive products.

Types of Disabilities	Percentage
Locomotor – Movement disability	22%
Visual Impairment- seeing disabilities	18%
Speech and Hearing disabilities	18%
Multiple disabilities	8%

## PROBLEM STATEMENT: SUMMARY OF ANALYSIS AND FINDINGS

The survey included 44% of people with physical disabilities (including locomotor), 46% with sensory impairments (such as hearing and vision), and 5% with intellectual and multiple disabilities.

### Problem Statement: A Detailed Analysis of the Responses captured

Rural	80%	Urban	20%
Physical	34%	Physical	12%
Sensory	38%	Sensory	8%
Intellectual and Multiple Disabilities	8%	Intellectual and Multiple Disabilities	2%

## PROBLEM STATEMENT: A DETAILED ANALYSIS OF SECTORAL PROBLEMS AND CHALLENGES

Education	60%
Employment	60%
Health and Emergency	56%
Sports	70%
Cultural and Leisure	51%
Daily Living and Essential services	46%
Respondents using AT	65%
Respondents not using AT	33%

60% of respondents face education challenges, including 26% with physical, 29% with sensory, and 5% with intellectual and multiple disabilities. In employment, 27% have physical, 28% have sensory, and 4% have intellectual and multiple disabilities. 24% of physical, 28% of sensory, and 4% of intellectual and multiple disabilities face health and emergency challenges. 70% face sports challenges, including 32% with physical, 33% with sensory, and 5% with intellectual and multiple disabilities. Challenges in cultural/leisure activities and daily living/essential services affect 26% and 22% respectively.

### PROBLEM STATEMENT: SUMMARY OF CHALLENGES

#### Challenges for Mobility:

- Environmental barriers: infrastructure and travel access
- Technology challenges: difficulty using computers and mobile phones
- Hearing and visual challenges: trouble reading signs, walking at night, and low vision
- Mobility challenges: difficulty walking and lack of proper equipment
- Common challenges: using mobile apps for daily needs, lack of tech education and awareness

### NEEDS EXPRESSED BY THE RESPONDENTS TO MAKE ASSISTIVE TECHNOLOGY AVAILABLE TO THEM.

- Awareness and training.
- Government support.
- Establishing digital centers that are accessible for individuals with disabilities.
- Financial Support.

### 1500 RESPONDENTS RECOMMEND:

- Make technology and STEM learning accessible for blind and partially sighted.
- Ensure school content is accessible for deaf and hard of hearing, with sign language apps.
- Use technology to identify mental illness and detect emotional imbalances.
- Provide technology-based solutions for multiple disabilities, including ADLS and communication.
- Use technology to manage bowel and bladder control for spinal injuries.
- Improve intelligence and reduce severity of issues for those with intellectual disabilities through chip technology.
- Use technology for oral hygiene, improve nervous system function, and detect fits for cerebral palsy.

## OUTCOMES AND IMPACT OF THE AT CONCLAVE

The AT Conclave had several positive outcomes and impacts, including:

- The Conclave provided a platform for leaders with disabilities and allies who specialize in disability culture, workplace accommodations, organizational responsibility, and disability policy. The event helped to amplify the perspectives of people with disabilities towards a more inclusive world.
- The Conclave saw significant participation from persons with disabilities, caregivers, special schools, DPOs, disability NGOs, technology start-ups, social/impact investors, corporates, government, academia, and employers of persons with disabilities.
- The conversations, discussions, and demonstrations during the Conclave focused on developing better insights into the contextual realities of persons with disabilities (from an Indian/Global perspective) and their specific needs concerning appropriate AT designs and delivery mechanisms.
- The Conclave served as an effective platform for other key stakeholders to develop a better understanding of mutual concerns and capabilities, thus helping them to serve the needs of persons with disabilities in a financially viable and sustainable manner.

300 stakeholders, including persons with disabilities, practitioners, special school teachers, AT start-ups, investors, corporates, and government representatives participated in the conclave. Discussions focused on understanding the contextual realities and needs of people with disabilities regarding AT, including awareness creation, policy gaps, affordability, and delivery mechanisms. The event aimed to create a network of stakeholders to promote affordable and accessible AT solutions and ensure the mainstream development of people with disabilities. The conclave was a collaborative effort between Samarthanam Trust and DXC Technology.

## LEARNINGS:

- After conducting the conclave, we realized that it would have been better to extend it to 2 days instead of cramming everything into one day. This would have provided more opportunities for interactions during panel discussions.
- We found that the administration of the user-centric tool lacked systematic capturing of the voices of people with different types and degrees of disabilities during focus group discussions. As a result, the responses we received were shallow.
- There is a need for greater involvement of investors and corporates in the field of assistive technology. We believe that we could have invited more corporates to invest in this area.
- We recognized the potential to collaborate with the government to increase awareness and investment in assistive technology. We suggest that future investments be made in sensitizing grass root government department workers to reach the last mile.
- Planning and conducting an awareness conclave of this scale on short notice is not ideal. We recommend that similar events be planned at least 6 months in advance to ensure successful execution.

## CONCLUSION

The highlight of the conclave was the attendance of 300 participants and a significant social media impression of 5000+, Along with virtual attendance of 1000+ via youtube live streaming.

"The event was a resounding success, thanks to the tremendous support from educational institutions, prominent families, and everyone else who provided valuable input. Looking forward, the need of the hour calls for disability-specific conclaves to address research and innovations in the field of diverse disabilities, in accordance with the Rights of Persons with Disabilities Act of 2016.

In light of this, a proposal for monthly core committee meetings leading up to an annual major conclave has been put forth, with a focus on strategic planning and utilization of the core committee." DXC has pledged to invest in the future and provide continued support, both in digital and non-digital forms of the ATA.

#### MEDIA CLIPS AND LINKS

<https://www.deccanherald.com/city/life-in-bengaluru/conclave-on-assistive-devices-for-disabled-1194244.html>

<https://timesofindia.indiatimes.com/city/bengaluru/80-pwd-have-assistive-device-woes/articleshow/98222810.cms>

<https://www.newindianexpress.com/cities/bengaluru/2023/feb/24/tech-should-aid-specially-abled-senior-citizens-minister-ashwath-narayan-2550368.html>

[www.saamrthanam.org/ata-conclave](http://www.saamrthanam.org/ata-conclave)

#### EXHIBITION STALL VIDEOS

**Part – 01:** <https://www.transfernow.net/dl/20230318PTNjTZMh>

**Part – 02:** <https://www.transfernow.net/dl/20230318zB2yo6EF>

