



Zero Project Analysis

Dedicated Research of Innovative Practices

presented by:

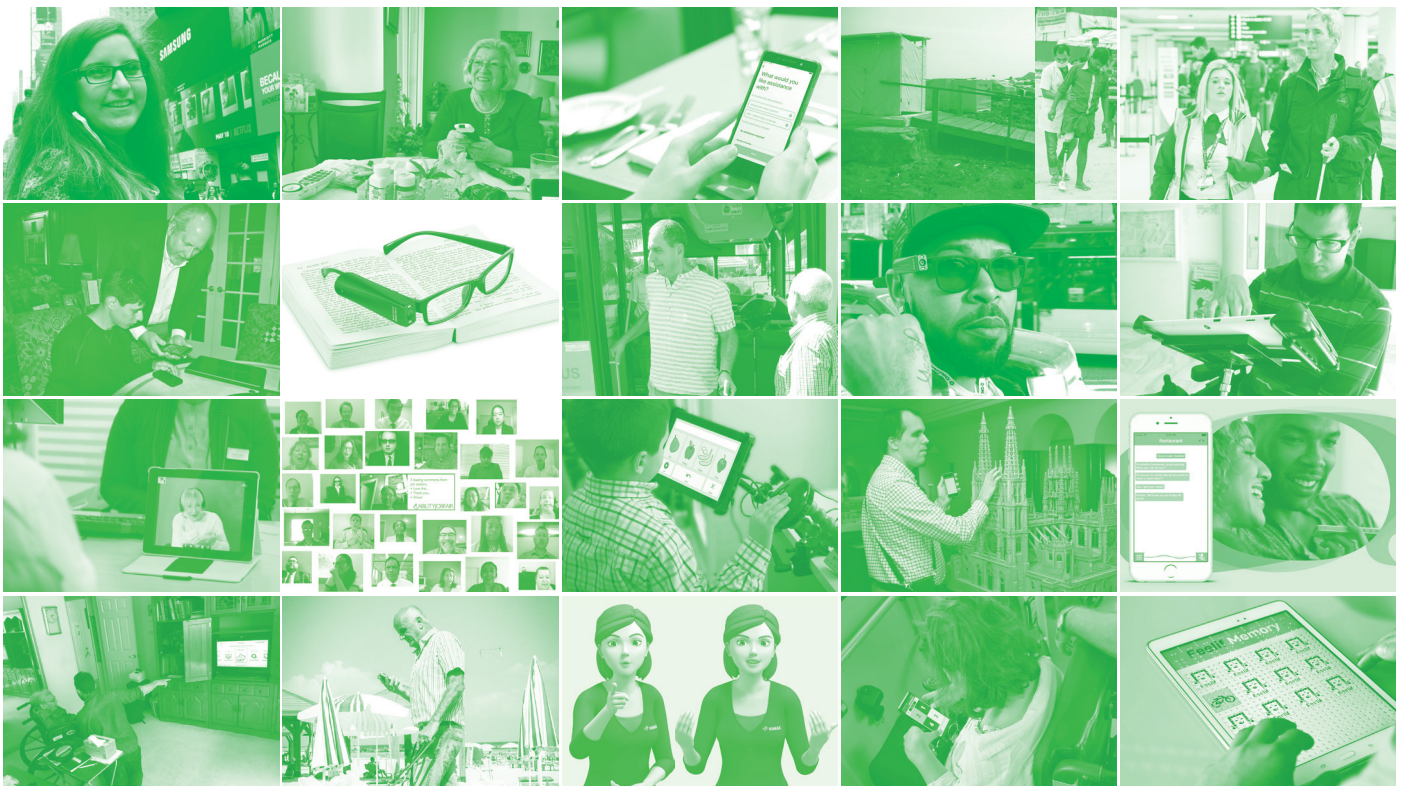
**EASPD and
Essl Foundation**

Edition #2, October 2018

Digital Technologies for Service Providers

15 Innovative Practices to advance Social Care

- AbilityJobfair, United States
- Barclays Bank/SignVideo, United Kingdom
- Bepcons, Spain
- Eneso Verbo, Spain
- Feelif, Slovenia
- Humanitarian Hands-on Tool, Germany
- Neatebox, United Kingdom
- OrCam/MyEye, Israel
- Padius, Italy
- Sign Time/SiMAX, Austria
- Step-Hear, Israel
- The Arc Westchester, United States
- Uniper-Care Technologies, Israel
- Visionless Supporting Network, Austria, Hungary and other European countries
- What matters to me/Bestser, Finland



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Content

Foreword	2
Introduction	3
Executive Summary	4
Ability Magazine and Abilityjobs.com, United States	6
Barclays Bank, United Kingdom	8
Beeacons – ONCE Foundation, Spain	10
Eneso Verbo, Spain, France, and Italy	12
Feelif, Slovenia	14
Humanitarian Hands-On Tool / CBM, Germany	16
“Welcome by Neatebox”, United Kingdom	18
OrCam MyEye 2, Israel	20
Pedius, Italy	22
Sign Time GmbH – SiMAX Avatar Project, Austria	24
Step-Hear, Israel and France	26
The Arc Westchester, United States	28
Uniper Care Technologies (UCT), Israel	30
Visionless Supporting Framework, Austria, Hungary and other European countries	32
What Matters To Me, Finland	34
Table: All 15 Innovative Practices for Service Providers	36
Glossary	37

Why service providers should embrace technology

FOREWORD BY WILFRIED KAINZ

Zero Project Research



Over the last twenty years digital technology has influenced, and even changed, our lives significantly. Starting with the various new forms of communication, such as mobile phones, email, and the Internet, almost all aspects of our professional and private lives as well as our old patterns of behaviour have been altered. We learn in a new way, we communicate with entirely different methods, and even most of our social contacts are managed in a totally new and diverse manner.

The Essl Foundation of Austria is a family foundation created with the one goal of supporting people with disabilities worldwide. Its primary programme, the Zero Project, works towards a world without barriers by identifying Innovative Practices and Innovative Policies that support people with disabilities. By addressing the four primary areas of the United Nations Convention on the Rights of Persons with Disabilities – Accessibility, Education, Employment,

and Independent Living – the Zero Project finds, explores, and promotes products and services as well as legislation and standards that advance and enhance the lives of people with disabilities.

We at the Essl Foundation and EASPD are convinced that people with disabilities and service providers alike will benefit from embracing these technologies. As this Zero Project Analysis makes clear, there are numerous new and innovative examples of software and hardware, apps, beacon technology, devices, and services that are at our disposal. True, for these to be successful, some will require change in our usual behaviour and methods. But in the end both interest groups will not want to live and work without these technologies, any more than we would wish to give up our mobile phones or computers. Like all progress, it is both incremental and irrevocable. And it is only a matter of time before we arrive at a world that is truly accessible to all.

FOREWORD BY LUK ZELDERLOO

Secretary General of EASPD



It is clear to all of us living in the developed world that the rapid advance of technology and the increasing digitalisation of our environment are changing the way we live. As we embrace these ongoing developments, it is crucial to ensure that the human rights of people with disabilities are upheld, and that the benefits of technology can be enjoyed by all, regardless of their support needs.

An increasing amount of evidence demonstrates that technology-based solutions, through the context of support service provision, can assist people with disabilities to lead more independent lives and to more fully enjoy their rights. The European Association of Service Providers for Persons with Disabilities (EASPD) is committed to changing this and to unlocking the potential of technology and digitalisation. Through its Interest Group on Person Centred Technology, EASPD is working to improve and foster the uptake of Person Centred Technology (PCT) in the social care sector primarily, and in society in gen-

eral. The collection of best practices within this Zero Project Analysis showcases promising technological and digital innovations that are addressing the needs of people with disabilities today.

EASPD would like to thank the Zero Project for our continuing collaboration in the collection of these best practices, and to thank the members of EASPD's Interest Group on Person Centred Technology (PCT) for their continued work to support the increased uptake of PCT and a rights-based approach. EASPD would also like to express its thanks to everyone who submitted their practice for consideration for publication in this Zero Project Analysis – 35 proposals in total, of which 15 appear in the following pages. We thank them not only for sharing their work with us but also for striving to be at the forefront of the provision of innovative services that support people with disabilities, thus enabling them to enjoy the benefits of technology and digitalisation alongside the rest of their communities.

The power of technology to improve lives

INTRODUCTION BY EVERT-JAN HOOGERWERF AND SARAH WESTON

EASPD Interest Group on Person Centred Technology



This Zero Project Analysis is fascinating for three reasons. First, because it shows the power of technology to improve lives. Second, because it shines a light on what a truly inclusive society will look like. And third, because it shows the way to make that dream come true.

In an inclusive society all citizens have the same opportunities as well as the possibility to make choices. Person Centred (Assistive) Technologies, whether mainstream or specially designed, make this more possible.



The field of Assistive Technology, like any other technology-related field, is in continuous and rapid development: devices become increasingly smaller and lighter as well as inter-operable and connected, while innovative services are often cloud based, delivered remotely, and well-integrated into existing services. The Innovative Practices here collected by EASPD and the Zero Project show some fine examples of innovative, sometimes even disruptive solutions. They enable people with disabilities to read, write, learn, play, communicate, make choices, stay safe, and more.

Nonetheless, individuals who are empowered with enabling technologies still face important and difficult barriers, as environments and services are often not accessible to them. Fortunately, service providers and people in authority are increasingly aware of the need to break down these barriers, specifically targeting the needs of persons with disabilities. Here again, there are some wonderful examples of such efforts in this Zero Project Analysis.

Many of the products and services presented here are not only the result of creative inventors, they are often the result of a co-creation process and user-centred design. Notably, innovation in products and services are much more likely to be successful if persons with disabilities have input at the start of their development – something that many of the producers of the innovations presented here will confirm

We hope and trust that you will find the examples presented in this Zero Project Analysis to be both informative and inspiring. It is our belief that, working together, a truly inclusive society will soon be not merely a dream but a reality.

On behalf of the EASPD Interest Group on Person Centred Technology,
Evert-Jan Hoogerwerf and Sarah Weston

A new approach to present Innovative Practices

EXECUTIVE SUMMARY

EASPD and the Zero Project have selected 15 technologies that we believe will be of great interest to service providers. The selection is the result of a two-stage process and a qualitative and quantitative evaluation by a dedicated EASPD committee. The three primary selection criteria were Innovation, Impact, and Transferability and of course their relevance for service providers. This Zero Project Analysis will be presented during the EASPD conference on “Technology and Digitalization in Social Care,” October 4–5 2018, in Barcelona, Spain.

Abilityjobfair.org ① is an NGO based in the United States that operates an **online platform allowing qualified job seekers with disabilities to connect directly with companies that are seeking to hire**. Connection can be made in any of several ways, including face-to-face video, audio streams, real-time text-to-speech dictation, chat messaging, and video messaging.

Barclays Bank in the United Kingdom introduced **SignVideo** ② in 2015. Using **technology similar to Skype**, SignVideo is an Internet-based call feature that enables Barclays Bank staff to **connect to a qualified sign language interpreter** in seconds and gives them and their customers who are deaf or hard of hearing the possibility to speak with each other without actually having an interpreter physically present.

“I’ve gone from relying on the help of others to living on my own and doing things for myself.”

Zoe Hartman, OrCam MyEye user

Beeacons ③, initiated by the Spanish ONCE Foundation, has developed an **app for the visually impaired** that helps them to **locate both objects and services in their immediate surroundings** by using pre-placed beacons. These beacons inform the user of the existence of an object or place and provide a brief description via his or her handset.

Eneso Verbo ④, a social enterprise from Spain, provides **educational activities to improve language**

ability and for cognitive rehabilitation. The application creates augmentative dynamic and alternative communication boards for those with communication limitations, in language or read-write form.

Feelif ⑤, a start-up from Slovenia, offers educational and entertainment content to allow people who are **visually impaired to interact with digital content** and to express themselves creatively. Feelif devices are adapted smartphones and tablets that give the visually-impaired the ability to use digital content without limitations.

Through its **Humanitarian Hands-on Tool** ⑥ (HHoT), CBM, an international development organization based in Germany, provides a cost-effective and **efficient way to disseminate knowledge and experience about inclusive humanitarian aid**. It is the first smartphone application to use an innovative digital approach to systematically help people with disabilities in humanitarian disasters.

Neatebox ⑦, a start-up company from the United Kingdom, has designed a cloud-based system that improves the **customer service experience for both the customer with a disability and the customer service team**. “Welcome by Neatebox” helps businesses to build lasting relationships with their customers and supports staff by providing them with essential tips on how to interact with people with disabilities.

OrCam ⑧ is an Israeli start-up company that has developed MyEye, an **artificial vision technology that assists people who are blind**, visually impaired, or have conditions such as dyslexia, prosopagnosia, or aphasia, among others. The device enables users to instantly and discreetly read newspapers, books, restaurant menus, signs, product labels, and computer and smartphone screens.



The presented Digital Technologies range from apps and beacon technology to hard- and software solutions.

Pedius 9 is an Italian social enterprise founded in 2013 as a **24/7 communication service** that allows the **deaf and hearing impaired to make phone calls**. With the help of voice recognition software and other technologies, customers can have real-time conversations when, for example, they need to call a service company, book a table at their favourite restaurant, or talk to their doctor.

SignTime, a start-up company based in Austria, has developed **SiMAX 10**, a **software system** designed to **translate audio and written text into sign language**. It combines several technologies derived from film animation and the 3D gaming industry. The translations are provided as animated sign language videos with an animated 3D-avatar.

Step-Hear 11, a start-up company from Israel, uses beacon technology and smartphones to **provide critical public transit and other information for the visually impaired**. The company operates Audio Signs, which provide voice communications, guidance, and information as part of a complete re-design of the accessibility environment for people with visual impairments.

The Arch Westchester 12, a US-based NGO, **organizes tech conferences, webinars, and public education forums** as well as provides critical training and information awareness on how better to support the

needs of people with cognitive disabilities. Everyday technology and apps can provide essential tools to make social connections, navigate one's community, shop, prepare food, and keep track of one's medications and health, among many other uses.

Uniper Care Technologies 13, a start-up company from Israel, has **developed an in-home interactive TV-based solution**, a community management portal, and a caregiver mobile app. This community wellness platform is helping older adults to live a less lonely, more active, and healthier life.

The Visionless Supporting Framework 14 is a cooperation of NGOs from Austria, Hungary, Portugal, Spain, and the United Kingdom. The framework provides a **simple, effective, and affordable door-to-door navigation and mobility assistance solution** that improves the daily living of blind and visually impaired people in challenging tasks, such as participating in urban mobility.

Bester Oy, a start-up company from Finland, has designed an app that helps users get better services and **helps service providers to understand their special needs**. The app, called "**What Matters to Me 15**," is an online application whereby a person with a disability can share his or her needs in various situations and transmit the information to a service provider via a QR code or a link.

Creating a fully accessible job platform

UNITED STATES / ABILITY MAGAZINE AND ABILITYJOBS.COM

By creating a new platform and modalities for job seekers with disabilities and recruiters to attend job fairs, ABILITYjobfair.org wants to revolutionize the job recruitment and interview process. ABILITYjobfair.org operates an online platform incorporating accessibility at its core, allowing talented and qualified job seekers with disabilities to connect directly with companies looking not only to fulfil their compliance mandates but, more importantly, to find the most suitable candidates for their job openings.

Problem targeted

The unemployment rate for people with disabilities is more than twice that of the able-bodied workforce. In addition to coping with both conscious and unconscious bias, people facing mobility and communications hurdles struggle with issues that others in the workforce need not contend with. The need to travel to traditional job fairs, on-site mobility issues, and communications challenges can all render the core concept of traditional job fairs problematic for many people with disabilities.

“After years of searching I found a job! Wow. I think it was my disability, and now my age, that companies won’t give me a chance. Thank you so much!”

S. Gilbret, client of Abilityjobs.com

Solution, Innovation and Impact

The ABILITYjobfair.org platform allows job seekers and hiring staff to connect in various ways: via face-to-face video, audio streams, real-time text-to-speech dictation, chat messaging, and video messaging. Also, the job fair platform is staffed with sign language interpreters available

FACTS & FIGURES

- ABILITYjobfair.org aims to provide a new way for job seekers to engage in online career fairs by creating a more human experience; removing communication and distance barriers; and increasing efficiency and quality of connections.
- ABILITYjobfair.org's founding sponsor, ABILITYjobs.com, was established in 1995 – and ABILITYMagazine.com established in 1990.
- Founded in 2018, ABILITYjobfair.org's inaugural job fair was held on 26 July 2018.
- ABILITYjobfair.org is or will be funded via public subsidies and grants, civil society (founders and friends), foundations, crowd-funding, businesses, for-profit investment, and income from the project itself, including earnings from sales, licensing, membership fees, and subscriptions.

for job seekers who are deaf. The platform is free for job seekers, with a nominal fee paid by participating employers.

With the support of ABILITYJobs.com and ABILITY Magazine, ABILITYjobfair.org provides an accessible face-to-face video career fair with corporations, governments, and non-profits so that they may actively recruit candidates in the most inclusive and efficient way.



ABILITYjobfair.org offers fully accessible on-line interviews to job seekers with disabilities

Additional accessibility features are live audio/video and screen reader compatibility. The platform is a user-friendly experience with no need for downloading special software. The only requirements are an Internet-connected device with webcam and microphone and a Chrome or Firefox web browser.

Outlook, Transferability & Funding

Thousands of job seekers with disabilities are enrolling, with the inaugural job fair held on 26 July 2018, followed by an event on 20 September, new job seekers and companies register daily.

As ABILITYjobfair.org is still a new platform, its impact is only beginning to be seen. In due time, however, it is expected that this platform will help to revolutionize the way recruiters and individuals with disabilities communicate, apply for, and interview for jobs. Its founding sponsor, ABILITYjobs.com – established in 1995 as the first career site dedicated to helping people with disabilities – has already helped hundreds of thousands of job seekers.

The platform helps companies fulfil their

Americans with Disabilities Act and Section 503 compliance obligations (which prohibits federal contractors and subcontractors from discriminating in employment against individuals with disabilities) in the United States.

In 2018, ABILITYjobfair.org is being rolled-out throughout the United States, and is looking to expand into other countries through licensing agreements.

ABILITYjobfair.org is built on a web-based platform hosted through the ABILITY Corps network. Currently, the project is funded primarily by companies seeking to expand their diversity efforts and looking to hire people with disabilities, though other funding sources are expected.

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Providing video sign language interpretation for bank customers

UNITED KINGDOM / BARCLAYS BANK

Using technology like Skype, a call feature using the internet, SignVideo enables Barclays Bank staff to connect to a qualified interpreter in seconds and gives them and their customers who are deaf or hard of hearing the possibility to speak with each other without actually having an interpreter physically present.

Problem targeted

People who are deaf or have a hearing loss often face barriers when communicating with various organizations, such as a bank, and are dependent on family members, friends, technological solutions, or pre-arranged interpreters. Before the development of SignVideo, Barclays' customers sometimes had to wait several weeks for an interpreter to be available to attend a branch appointment.

Solution, Innovation and Impact

Before developing the current solution, Barclays Bank had to organise weeks in advance

FACTS & FIGURES

- The service is available across all the United Kingdom.
- Barclays was the first UK bank to offer this service.
- Since the app was launched in 2015, more banks have followed suit to offer this service.
- Barclays has witnessed a year-on-year increase in usage of this service as awareness grows.



The on-line sign language interpreter talks to the Barclays customer

for an interpreter to come into the branch, while there was no ability for customers to call Barclays from the comfort of their own home. The solution now developed is a free application available to customers in branch or via an app downloaded to their personal tablet or computer. Barclays customers can now come into a branch with no appointment and, with a member of staff, connect on a branch iPad to a SignVideo interpreter, who works remotely and receives incoming video calls. The customer communicates using British Sign Language while facing the iPad camera, and an interpreter relays this communication audibly back to the Barclays' employee. The same can happen in the customer's home, where they will connect to a SignVideo interpreter using their app, and the interpreter then calls Barclays and again a 3-day conversation takes place to offer instant access to the customer. The service is currently offered from Monday to Friday

“SignVideo helps us to serve our deaf customers instantly and seamlessly using sign language so that they may enjoy equal access to banking in any of our 1,100-plus branches across the United Kingdom.”

Ms. Kathryn Townsend,
Head of Customer Accessibility, Barclays UK

Each branch of Barclays offers online sign language interpretation on request for persons with hearing impairments



(8 a.m. to 8 p.m.) and Saturdays (8 a.m. to 1 p.m.) SignVideo can be downloaded for free from the Apple iTunes online store and can be used on Apple iPads.

Outlook, Transferability & Funding

Barclays will continue to promote these services through the media and by staff members so that

all customers will become aware of them. The iTunes App is now available for other service providers, and Barclays is working with SignVideo to promote and encourage wider adoption to help remove the barriers that users experience in face-to-face environments. The application is free for all businesses to download, but a contract with SignVideo is required.

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Supporting the in- and outdoor orientation for the visually impaired

SPAIN / BEEPCONS – ONCE FOUNDATION

By creating an app for the visually impaired, Beepcons provides a new, innovative system of communication. It is an application designed to aid the visually impaired to locate things and services in their surroundings. As a user approaches a pre-placed iBeacon, the user receives an automatic message on his or her mobile handset. Multiple beacons are shown in a list sorted by proximity, and the app lets the individual access the information they contain as well as make them sound to perceive their position.

Problem targeted

A traditional problem for visually impaired people is localization and access to information about the places and objects surrounding them in an autonomous way. For example, a blind person may need to find out whether there is an information point nearby and walk to it.

Solution, Innovation and Impact

The Beepcons project, which started in 2015, involves the design and development of a beacon capable of using Bluetooth 4.0 technology and communicating with a smartphone (“iBeacon”) with additional accessibility functionalities such as emitting a beep when the user request it. The beepcons inform the user of the existence of an object or place; provides a brief description of the object and or place; locates the exact point where the object or place is located by emitting a beep; and enhances the information about the object with a URL, if necessary. These devices have been deployed in several spaces of various kinds (such as exhibition or cultural spaces, public and private buildings, hotels, etc.) and can also be used as a base technology to build more complex systems to provide indoor guidance

FACTS & FIGURES

During the first year in the market:

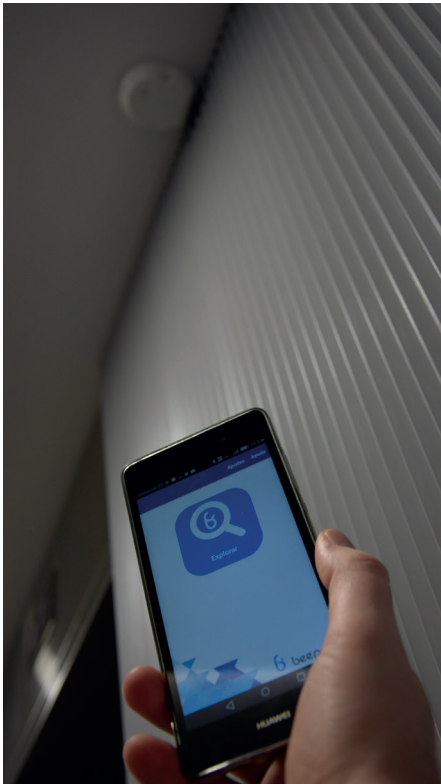
- More than 20 projects successfully finished with a wide variety of clients
- More than 120 facilities (of a wide variety of types) were equipped with beepcons
- More than 1.000 beepcons were deployed

in complex transport facilities (such as in the Barcelona metro).

The Beepcons app is designed to abide by the accessibility guidelines provided by the World Wide Web Consortium, and is user-friendly and compatible with a variety of support products that a visually impaired person might need, such as a screen reader. It uses proprietary technology, having been designed for iOS and Android.

“Beepcons allow me to access information of public and private buildings.”

A blind user



Mobile devices (left picture) receive the transmitted information from beacons and make them accessible to the user via symbols, text or audio. A beepcons user (right picture) receives information about a sight-seeing object.

The cost of the beacons is low (approximately €35 each), and the mobile app is available, free of charge, in the PlayStore and AppStore in Spain.

Outlook, Transferability & Funding

Beepcons has experienced exponential growth since it was first funded in 2015. It has been installed at the VI Biennial of Contemporary Art at the ONCE Foundation, and in the ONCE museum for the blind. The VI Art Biennial, based at Madrid City Hall, exhibited work by 31 artists, more than half of them with disabilities, and attracted more than 185,000 visitors, many of whom were themselves disabled.

Beepcons was also critically involved in a project to facilitate orientation and use of public

transport by blind or visually impaired people at the Fira (Fairground) metro station in Barcelona.

In 2018, work is now being done on a Beepcons guidance and orientation system employing routes that provide the user with accessible information for a museum managed by the Spanish Ministry of Education.

The project started with external financing, of which the ONCE Foundation contributed approximately half the cost of the prototype, hardware, software, patent, integration, pre-series production, and field trials. The product development was financed by ILUNION, which was tasked with marketing it. Income is derived from agreements with the various bodies mentioned above.

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Using a symbol-based language to train people with intellectual disabilities

SPAIN, FRANCE, AND ITALY / ENESO VERBO / ENESO TECNOLOGÍA DE ADAPTACIÓN SL (ENESO ADAPTATION TECHNOLOGY LTD)

Verbo provides educational activities to improve language ability and for cognitive rehabilitation. It is an application for creating augmentative dynamic and alternative communication boards for those with communication limitations, in language or read-write form. It also makes it possible to create educational activities intended to improve language or for cognitive rehabilitation. It is compatible with computers and tablets in a way that makes it possible to create and edit boards on a computer and to reproduce them both on computers and tablets.

Problem targeted

Many people have limitations in verbal communication, either due to difficulties with articulation or because they do not have verbal language. These include persons on the autistic spectrum, with cerebral paralysis, and with ALS. To address this, various alternative and augmentative communication systems have been designed, for example, communication boards based on pictograms.

“I hold the image of Teo and his parents when he first used his communicator to call them, the emotion in the child’s face and the tears of the adults, in high regard. He never ceases to amaze us, because every time he decides to face a new challenge, he solves it with the utmost naturalness.”

Speech therapist of one Verbo user

FACTS & FIGURES

- Verbo is one of the most powerful and flexible augmentative and alternative communication systems available on the market. It is compatible with nearly all the access systems suitable for computer and tablet use: buttons, mice, visual monitoring systems, or joysticks.
- There are currently 350 permanent Verbo licenses: 200 in the Windows version and 150 in the Android version.
- Those with a communication language or literacy problem, as well as their families, are Verbo’s primary beneficiaries.
- Verbo is available in English, French, Italian, and Russian.

Solution, Innovation, & Impact

Verbo is compatible with nearly all the access systems suitable for computer and tablet use: buttons, mice, visual monitoring systems, or joysticks. This ensures that anybody, regardless of his or her degree of mobility and cognitive level, can use it effectively. It is also the only communication software compatible with both Windows and Android, which makes reproduction possible on a tablet with the same boards and with the same appearance as that created on a PC. Further, it is possible to personalize completely the appearance, content, and functionality of

the communication boards and educational activities using an intuitive graphic interface that facilitates use by people who are not technology savvy.

There are currently 550 permanent Verbo licences: 300 in the Windows version and 250 in the Android version. Each license corresponds to a machine, but not necessarily to a user.

Verbo is available in English, French, Italian, and Russian. It currently has specialized distributors in France and Italy, and there is a plan to present it shortly in Russia, South Africa, and Latin America.

Outlook, Transferability & Funding

Verbo's benefits include improved social relations, learning and educational competencies, and self-esteem. Currently, it is being used by speech therapists, therapists, and educators in such public and private organizations as disabled person's associations, regular schools, special education colleges, residences for the disabled, and geriatric facilities.

Those with a communication language or literacy problem, as well as their families, are Verbo's primary beneficiaries. In recent months the system has been becoming the benchmark communication software at various education and alternative accommodation centres. Also, users and professionals are increasingly asking for more adaptation and content creation in addition to training. Verbo is in digital format, and due to the way the system has been designed, it is possible to use the programme in any language, and with any communication system.

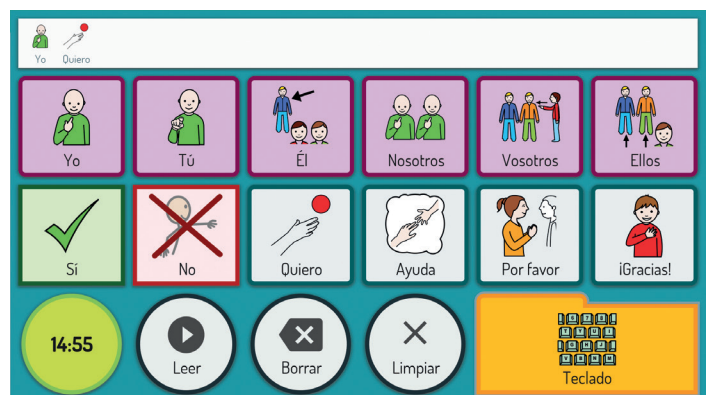
Verbo generates enough income to maintain itself. The system has a permanent licence system, which enables it to be sustainable. It also has a series of service options designed for professionals, family members, and various service centres, including training, technical support, digitisation, adaptation, and creation of content.



This user suffers from cerebral palsy and he cannot communicate verbally. He does not have literacy skills but he is trying to learn how to read, so in his communication board he uses both pictograms (symbols) and written text.



This kid is using Verbo as an interactive, dynamic alternative to his paper homework. He is working on a category-based language exercise using an external switch.



Sample page from a typical communication board using pictograms, text, a message bar and varied shaped and colours to differentiate semantic categories or actions.

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Designing smartphones and tablets for the visually impaired

SLOVENIA / FEELIF

By designing devices that offer a multi-sensory experience for the visually impaired, Feelif offers educational and entertainment content to allow people interact with digital content and express themselves creatively. Feelif devices are adapted smartphones and tablets that give the visually impaired the ability to use digital content without limitations.

Problem targeted

Most visually impaired people have difficulty interacting with modern-day technologies, such as computers and touchscreens. Devices that transform visual information into information that the visually impaired can understand and interact with are very expensive, one-dimensional, and impractical in terms of the time it takes to learn to use them and the difficulty in moving them due to their sheer size. Furthermore, as the world is getting more digitized, the opportunities for the visually impaired to catch up to current-generation technology are becoming limited.

FACTS & FIGURES

- Feelif's devices are relatively affordable compared to other visually impaired aids on the market, and double as standard Android smart devices.
- Feelif has won many awards and accolades, such as the "Best Social Innovation in Europe" at the 2017 European Social Innovation Competition; the 2017 Central European Start-up Award; and the SME instrument Seal of Excellence.

"I loved Feelif Gamer, as it is exactly what a blind person needs. The explanation and the promotion was very professional. It was obvious to me that there was a lot of thought and effort put into making these devices. Great!"

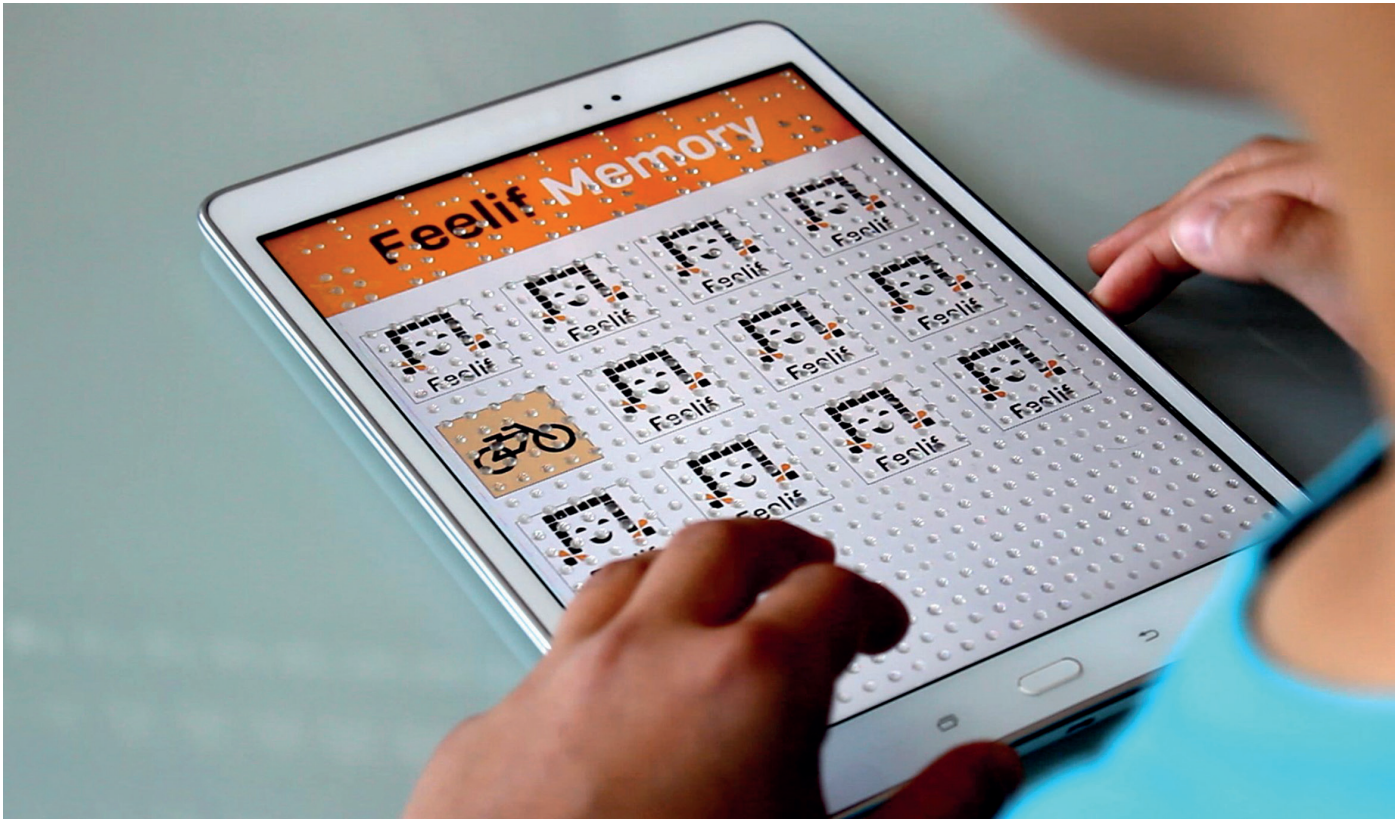
Irena Čurič, mother of a child with a disability

Solution, Innovation and Impact

Feelif are Android smartphones or tablets that cost a fraction of the normal retail price of other blindness and visual impairment aid devices and are easy to learn. They offer a multi-sensory experience that utilizes sound, speech, and vibration to transform visual information into tactile and audible information that the blind and visually impaired can understand and interact with.

Feelif's Open Platform allows teachers and educators of blind and visually impaired people to create content specifically designed for their teaching needs, and to share and sell that content. Going forward, it is hoped that a large enough community will facilitate increased connectivity of Feelif users and offer greater social inclusion options for the blind and visually impaired.

With the help of the information that the tablet offers through vibrations, speech, and sound, users are able to learn braille, feel shapes and



Feelif gives blind persons haptic feedback combined with sound and speech. This picture shows a blind girl playing game of Memory. Each tile has its matching pair. When you find a pair the player is rewarded with a praise sound (hurra , bravo, clapping,...).

graphs, play games alone or with others, and interact with digital stories.

Feelif devices offer a multi-sensory experience and are especially designed for resolving the difficulties that visually impaired people face when interacting with digital content. Its application also offers useful educational and entertainment content, and it adapts digital content to allow the visually impaired to draw and express themselves creatively.

Additionally, the Feelif Open Platform is a marketplace for apps or multisensory content, which can be created and shared by users with no prior programming knowledge.

Outlook, Transferability & Funding

Feelif devices have been introduced in Austria, Canada, Belgium, France, Germany, Slovenia, the United States, and the United Kingdom – all with an overwhelmingly positive response. Teachers and educators of the visually impaired also value how Feelif improves the education of visually impaired children.

Since 2015, the company has led extensive research and development, and has tested the devices over 100 times with blind and visually impaired children, young people, and adults

from Slovenia and abroad. In 2017, the company started contacting foreign institutions for the visually impaired and has continuously implemented their suggestions to improve the products further. In 2018, it committed to extended foreign networking at events such as SightCity Frankfurt and to cooperating with more foreign NGOs, schools, and other organizations that work with visually impaired children.

Feelif is funded by grants, investors, civil society (e.g., foundations and crowd funding), and from the project itself (sales, licensing and in-app purchases).

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The first smartphone app to aid the disabled in a humanitarian emergency

GERMANY / HUMANITARIAN HANDS-ON TOOL / CBM

Through its Humanitarian Hands-on Tool (HHoT), CBM – an international development organization – provides a cost-effective and efficient way to disseminate knowledge and experience about inclusive humanitarian aid. It is the first smartphone application to use an innovative digital approach to systematically help people with disabilities in humanitarian disasters. The app operates as a fully dynamic website, can be downloaded on iPhone and Android devices, and is freely accessible to everyone. As a result, it is expected that within two years the HHoT will become the global standard for humanitarian aid measures.

Problem targeted

Humanitarian aid often ignores the needs and barriers that people with disabilities face in the event of a disaster. Some 75 percent of people with disabilities who have already been affected by a crisis report that they have not had sufficient access to basic services such as water, medical assistance, or food. For example, information on food distribution is only provided orally or in writing, which does not reach the hearing or visually-impaired. And toilet facilities

“The first field tests have already shown that humanitarian workers find HHoT easy to use with very little training and it provides the information they need. When taken to scale I am sure it will significantly increase access to aid for people with disabilities.”

Gordon Rattray; Emergency Communication Coordinator CBM

FACTS & FIGURES

- Created in 2016, the HHoT can be used worldwide, helping countless people with disabilities in emergency situations.
- The app has already been tested on a smaller scale in a real emergency situation in Bangladesh, and field tests are being carried out with three humanitarian aid organizations.
- Extensive field tests aim to improve the app in terms of technology and content, make it more user-friendly, and translate it into Arabic, French, and Spanish.

in emergency shelters are often not barrier-free and thus cannot be used by people with a mobility impairment.

Solution, Innovation & Impact

CBM developed the Humanitarian Hands-on Tool to advise humanitarian aid workers on how to integrate vital aid measures for people with disabilities and other vulnerable groups. The HHoT can be viewed and tested at www.cbm.org/hhot.

A first version of the tool has already been developed, which can be downloaded as a smartphone application. First in 2017, the app operates as a fully dynamic website, can be downloaded as an application on iPhone and Android devices, is freely accessible to every-



The Humanitarian Hands-on Tool (HHoT) helps people with disabilities in humanitarian disaster situations. The app has been tested during a real emergency situation in Bangladesh.

one, and complies with accessibility guidelines. Only for downloading the app an internet access is required. Otherwise, the app can also be used offline in its whole scope. Furthermore, users are encouraged to share content via social media channels. HHoT is also a cost-effective and efficient way to disseminate knowledge and experience about inclusive humanitarian aid. The integrated functions include saving favorites and links to external (digital) resources for further information. There is also a two-minute explanatory video, fully accessible with sign language, voice-overs, and captions.

Outlook, Transferability & Funding

The HHoT application is available for download on iTunes and GooglePlay. Theoretical tests in simulated crisis situations have been carried out, and feedback loops were used to enrich content

and software development. Moreover, practical information regarding several humanitarian aid topics is already included in the tool.

The app has already been tested on a smaller scale in a real emergency situation in Bangladesh, and field tests are being carried out with three humanitarian aid organizations. In addition, Memoranda of Understanding have already been signed with the International Red Cross, Tearfund, and Mercy Corps. The next steps are to conduct further extensive tests under real conditions, to make the necessary technical improvements, and to scale-up the use and impact of the app. The first, positive experiences with the app have also led to plans for a further development of this kind – an app for inclusive disaster risk reduction.

To date, all funding has come via private donations.

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A welcome app to improve services for people with disabilities

UNITED KINGDOM / "WELCOME BY NEATEBOX"

Neatebox has developed a unique solution to remove a major barrier for people with disabilities who are trying to lead an independent life. By using simple technology for increasingly accessible smartphones, Neatebox designed a cloud-based system that improves the customer service experience for both the customers with a disability and the customer service team.

By addressing the issue of inadequate customer service for the disabled, "Welcome by Neatebox" helps businesses to build lasting relationships with customers and to take a major step forward in their accessibility efforts. The system bridges the gap by supporting staff with essential tips on how to interact with their customers with a disability and by giving the app users the confidence that their needs will be met upon arrival at the venue.

Problem targeted

During his work with Guide Dogs for the Blind, Neatebox founder Gavin Neate identified poor customer service as a major challenge for people with disabilities. In fact, 75 percent of people with disabilities report that they have left a shop or deserted a business due to inadequate cus-

FACTS & FIGURES

- Since the launch of "Welcome by Neatebox" in July 2017, the company has had some 1,200 app downloads and 600 visits in participating venues.
- The company aims to grow the app across the United Kingdom and Ireland within the next couple years, with a focus on the aviation, transport, tourism, leisure, hotels, retail, banking, and public sectors.

"There is a purpose in going out if you know that you can get help and not struggle to find somewhere to sit or find a member of staff and I think that is really important. It would be too easy to become house-bound, ordering online and missing out on interaction with other people."

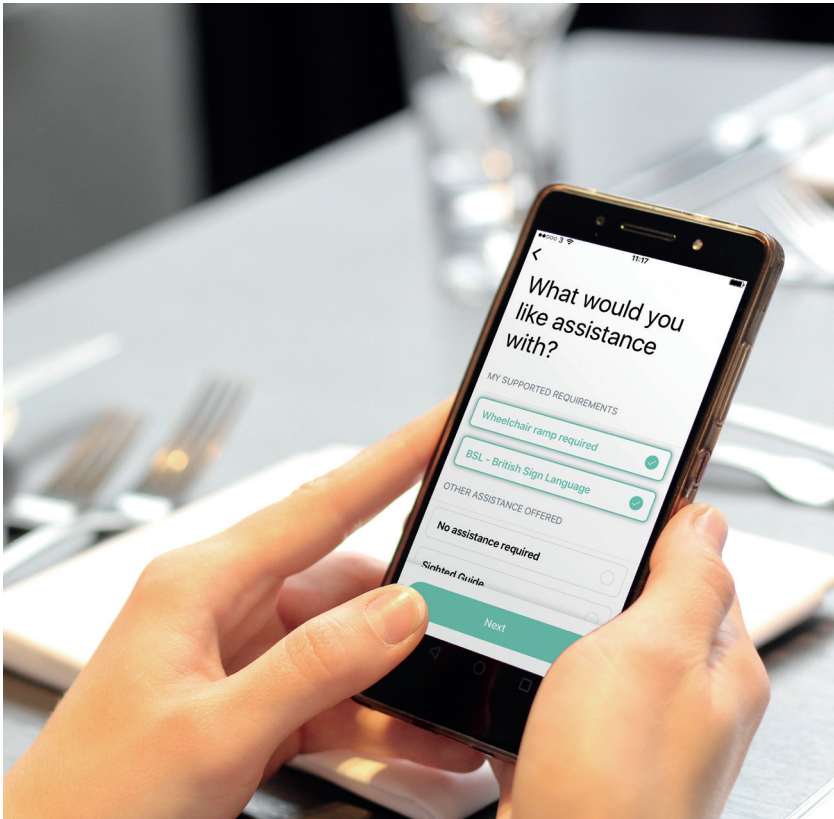
Ann, Welcome User

tomers. While customer service personnel receive some training regarding people with disabilities, they are often nervous about putting it into practice and fail to meet the individual's requirements.

Solution, Innovation and Impact

With the Welcome by Neatebox platform and application, they are providing a solution that empowers both users with a disability and customer service staff to have better experiences. Welcome combines different pieces of technology (App, Cloud-based platform, Bluetooth Low Energy Beacon and Geofencing) to support venues with the tools to provide better customer service and interact with customers with a disability in a way that suits their needs

A three-point notification system alerts staff of users who are approaching and those who have arrived; and the advance notification and training refreshers that are specific to the visitor will make the customer service more streamlined, yet personalized. This is the foundation to building lasting relationships with customers and



The Welcome User announces his visit, for example to an airport and specifies what kind of assistance is required, in this case support during check-in and boarding procedures

to taking a major step forward in terms of business accessibility. It is the first app to empower users with a disability to communicate their needs to customer service teams in a discrete manner, and thus to enjoy their independence when they are out and about.

Outlook, Transferability & Funding


With “Welcome,” users can be sure that there will be someone who understands their needs and who will be able to assist them, if necessary. Instead of becoming housebound and shopping only online, people with disabilities have the confidence to go out and interact with others.

At the same time, by becoming more inclusive, venues can tap into a sizeable and growing market and will benefit from positive publicity. It is also important to emphasize the psychological benefits for staff as they become more disability-aware and are able to provide better service to people with disabilities.

Since the launch of the app in July 2017 there have been some 1,200 app downloads and 600 visits in the participating venues. Additionally, the app not only helps its users but also anyone with a similar disability, in as much as the customer service team receives additional training that helps to build their disability-confidence.

In 2018, 24 venues have signed up with the app, and many others plan to do so. These include such key businesses as the Edinburgh Airport, Jenners House of Fraser, Royal Bank of Scotland and the DoubleTree Hilton Edinburgh City Centre, as well as the Scottish Government. These contracts will enable the platform to grow across towns and communities throughout Scotland and the United Kingdom. It is notable that Jenners House of Fraser was upgraded from a 1.5-star to a five-star rating on Euan’s Guide, a local accessibility review page.

The revenue the company generates by signing up venues to the “Welcome” system is already covering a significant part of the business’s running costs, and the plan is to become cash positive in year two, and to generate revenue to grow the company further.

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Artificial vision device to access text, faces, and much more

ISRAEL / ORCAM MYEYE 2

By incorporating pioneering technology into a wearable platform, OrCam improves the lives of individuals who are blind, partially sighted, or have reading difficulties. All operation is processed offline, without requiring an Internet connection, resulting in real-time audio communication of vital visual information while ensuring data privacy. The HD mini-speaker is pointed to the wearer's ear and built-in LEDs illuminate text in dark environments. The technology has been developed by OrCam Technologies, a start-up company from Israel, is currently in use by thousands of individuals and is available in 15 languages and 26 countries worldwide.

Problem targeted

People who are blind and visually impaired have great difficulty reading printed and digital text, recognizing faces, and in many other daily situations. Further, people with reading difficulties find it difficult to read large quantities of text.

Solution, Innovation and Impact

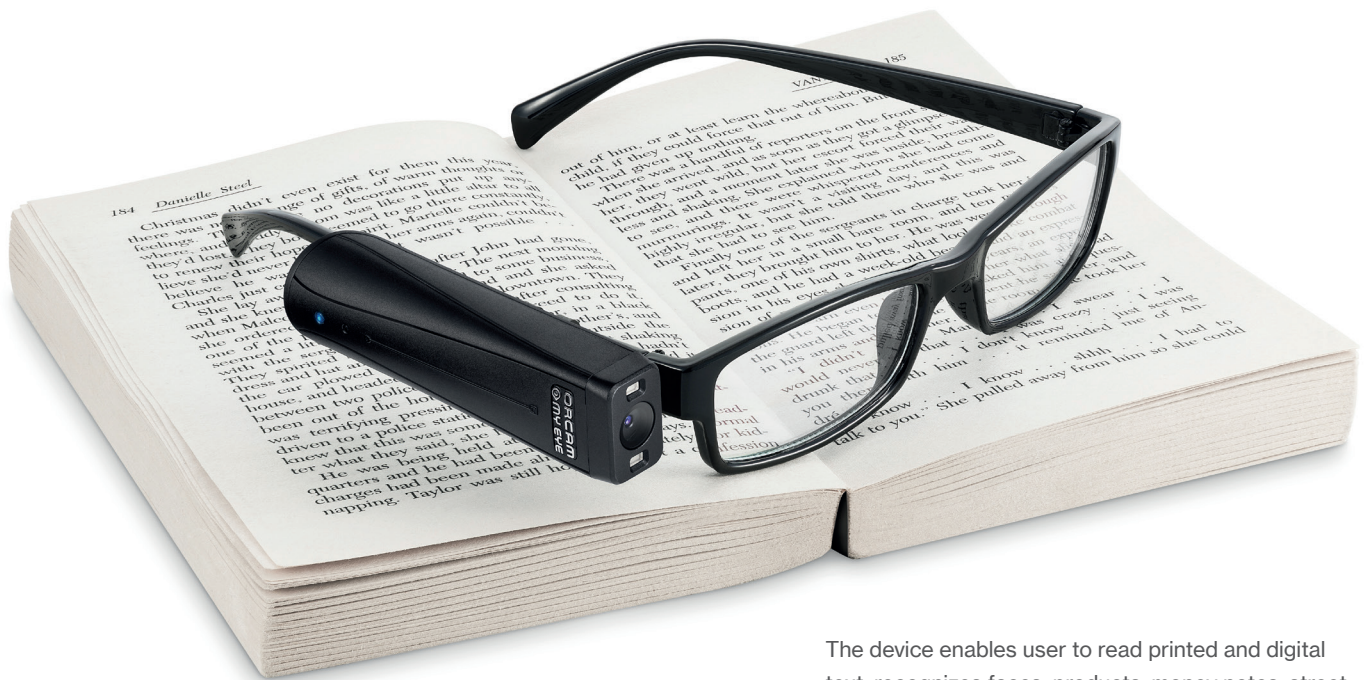
OrCam MyEye's artificial vision technology assists people who are blind, visually impaired, or have conditions such as dyslexia, prosopagnosia, or aphasia, among others. The device enables users to instantly and discreetly read newspapers, books, restaurant menus, signs, product labels, and computer and smartphone

FACTS AND FIGURES

- Some 20,000 individuals have benefited from the product since its launch.
- OrCam MyEye is currently available in 15 languages and 26 countries around the world.
- Founded in 2010, the company is headquartered in Jerusalem.
- Funding is available via government or healthcare schemes.

“Adjusting to and living with visual impairment has its struggles. But OrCam has given me back my independence. I’ve gone from relying on the help of others to living on my own and doing things for myself. I recently started a new job, which I couldn’t have done without my OrCam MyEye. OrCam has truly changed my life.”

Zoe Hartman, OrCam MyEye user



The device enables user to read printed and digital text, recognizes faces, products, money notes, street signs, etc. The user receives all information via cable and headset

screens, as well as to recognize faces, identify products, credit cards and money notes, detect colors, and much more – thereby achieving greatly increased independence.

OrCam MyEye 2, the second-generation device, is tiny and weighs only 22.5 grams. Magnetically mounted on the wearer's eyeglass frame, the device is the only wearable artificial vision technology that is activated by an intuitive pointing gesture or simply by following the wearer's gaze – thus, allowing for hands-free use without the need of a smartphone or Wi-Fi.


Outcome, Impact, & Effectiveness

The company is keen on improving the functionality of the device by adding additional languages to accommodate more and more people across the globe. OrCam focuses on being directly responsive to the particular needs of their users, and many feature requests have been included in recent software releases.

Powered by leading figures in the Computer Vision and Machine Learning fields, OrCam Technologies was jointly founded in 2010 by Prof. Amnon Shashua and Mr. Ziv Aviram, who are also the co-founders of Mobileye, the collision avoidance system leader and autonomous driving innovator.

Government-provided subsidies of OrCam's assistive technology device will positively influence global reach and will help to make the device more affordable. OrCam is currently included in the list of approved devices in Germany and a growing number of locations around the world.



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Enabling the hearing impaired to make phone calls without an interpreter

ITALY / PEDIUS

With the help of voice recognition software and other technologies, customers can have real-time conversations when they need to call service companies, book a table at their favourite restaurant, or talk to their doctor. Pedius is an Italian social enterprise founded in 2013 as a 24/7 communication service that allows the deaf and hearing impaired to make phone calls. From its initial launch in Italy, Pedius has expanded to many countries, including Australia, Brazil, Canada, France, Ireland, New Zealand, Spain, the United Kingdom, and the United States.

Problem targeted

Many common services are generally accessible only by phone, and thus they are not available to the deaf and hearing impaired. Currently, phone relay services for the deaf require an intermediary or interpreter, which can become very costly for the agencies that support these services and are often not available 24/7.

Solution, Innovation and Impact

Starting with TIM Ventures (Telecom Italia Mobile, a mobile telephone service provider and one of the companies that funded the project), other companies such as BNL (Banco Nazionale di Lavoro of the international banking group BNP Paribas) and AXA Assistance Italia Group (a provider of personal, vehicle, property, and legal assistance) have chosen to make their services accessible through the implementation of Pedius into their existing infrastructure. These cooperations have helped the service to grow and to enable new features.

FACTS AND FIGURES

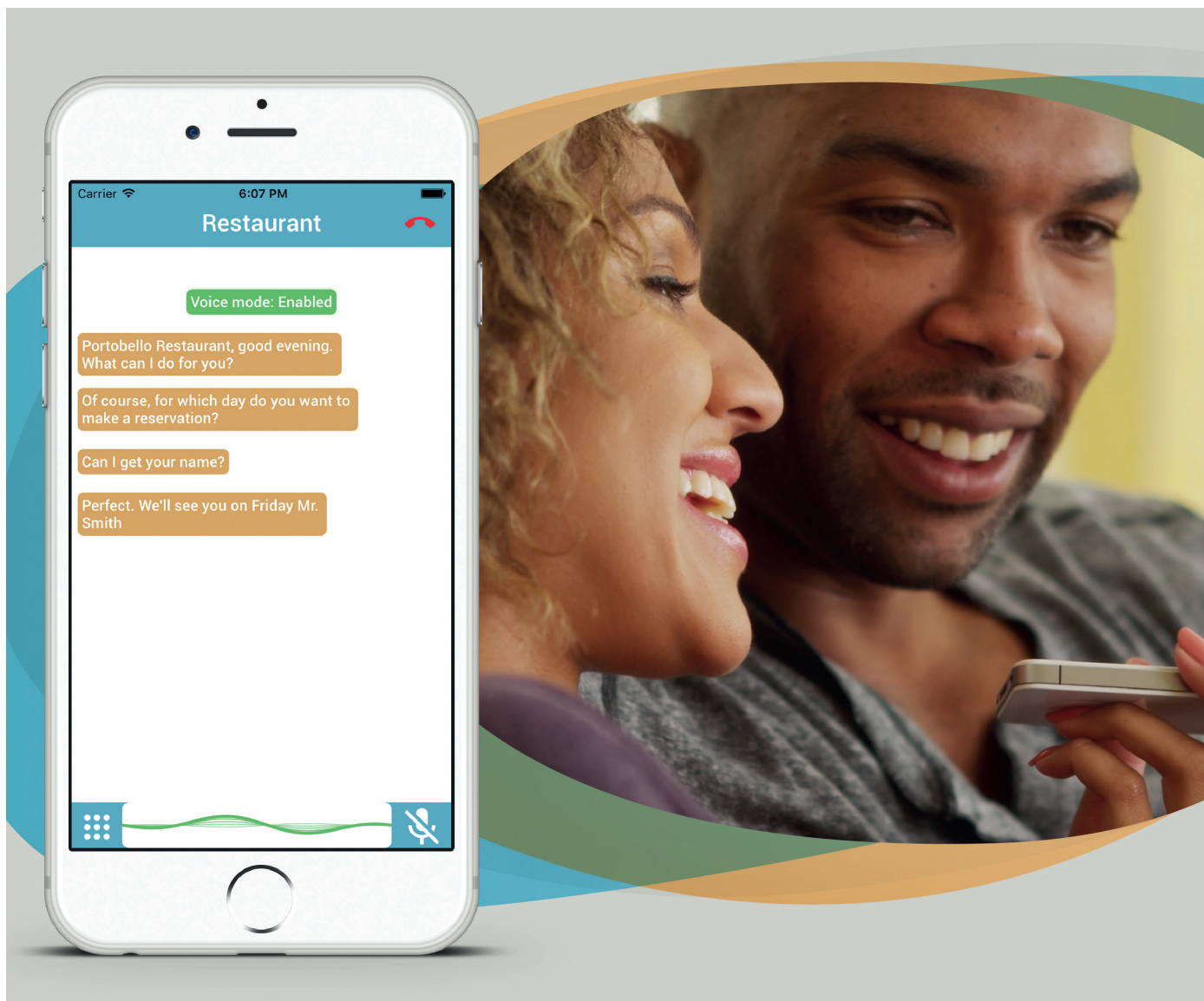
- Pedius had some 21,000 users by mid-2018.
- The company is currently active in 12 countries.
- Pedius's services are supported in seven languages.
- In 2018, Pedius initiated a collaboration with Social Worker Hub, which has served as the official partner for the launch of Pedius in Austria.

Pedius is the first relay service for deaf people that does not require an interpreter. Users type or speak their message into their iPhone or Android device and Pedius sends it to the contact they choose, using either the user's own voice or an automated voice through speech synthesis. In real-time, users read the written translation of the recipient's answer through Pedius's voice recognition software on their device's display screen.

The ease of adoption of the service for partner companies is one of the most important innovative aspects. Companies do not need to install any new hardware/software within existing switchboards, or modify current processes in any way. The operator can answer a Pedius call as any other and talk normally. Beyond everyday use, Pedius has created

“You have changed the life of my deaf son, who is 17. It was one of the best Christmas gifts I ever received!”

Mother of a beneficiary



Users type or speak their message into their iPhone or Android device and Pedius sends it to the desired contact, e.g. a restaurant. In real-time, users read the written translation of the recipient's answer through Pedius's voice recognition software on their devices display screen.

synergies with municipalities such as Rome and with the local police in Andria, Prato, Trieste, and elsewhere. Since the system can be embedded into any communication infrastructure, it has a high potential for continued growth.

Outlook, Transferability & Funding

In 2014, Pedius contributed to writing the Law on Innovative Startups at Social Vocation, thus paving the way for other social innovators. The company is also working with major telecommu-

nication companies to create a standard in the industry that can be easily implemented in other countries.

Pedius is funded by businesses such as TIM Ventures, the Italian holding company Sistema Investimenti, Embed Capital (an enterprise specialized in funding start-ups) as well as the Italian venture capital firms Principia SGR and Invitalia Ventures. Pedius received initial funding of €410,000 and an additional €1.4 million during a second funding round in 2016.

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Translations into sign language, visualized by an avatar

AUSTRIA / SIGN TIME GMBH – SIMAX AVATAR PROJECT

The aim of the project is to develop a quicker and more affordable solution for partly automated translation into sign language by using an avatar, creating also new jobs for persons with hearing impairments. SiMAX combines technology from film animation, the computer gaming industry, and computer-aided translation services.

Problem Targeted

Currently, most information – both written and oral – is not accessible to many people who are deaf, as written text is a foreign language to them.

Solution, Innovation And Impact

SiMAX is a software system designed to translate audio and written text into sign language. It combines several highly sophisticated technologies derived from film animation and the 3D gaming industry. The translations are provided as animated sign language videos with an animated 3D-avatar. Thus, the whole world of information – news, Internet, movies, etc. – should finally be accessible to deaf and hearing-impaired people. As a fully automatic translation is not possible, the translation process is managed by a deaf person who is a qualified interpreter. As such, this system also creates high-quality jobs for deaf people. There are exceptions, however, such as the standardized texts that are used for service announcements on public transportation systems. SiMAX can be used for translating these announcements in public areas, including security alerts, nearly in real time. The system follows the natural grammar

FACTS & FIGURES

- SiMAX can send Graphics Interchange Format in sign language via instant messaging services, such as WhatsApp.
- Join us on facebook – along with more than 19.000 followers:
facebook.com/signlanguage.simax

principles. Facial expressions have a grammar function in sign language (e.g., raised eyebrows symbolize an interrogative sentence), which the avatar is capable of displaying. The figure shows emotion and can move its head and upper body fluently. A “learning machine” is integrated into the system, which saves all previously performed translations and keeps them ready as proposals for future translations. The avatar is exchangeable according to the target group; for example, for a children’s broadcast the avatar has the appearance of a child.

“We make the digital world accessible for deaf people, worldwide.”

Mr. Georg Tschare,
CEO, Sign Time GmbH



The SiMAX avatar is a semi-automatic translation tool from text to sign language. As a fully automatic translation is not possible, the translation process is managed by a deaf person who is a qualified interpreter. Standard texts like traffic announcements can be translated automatically.

Outlook, Transferability And Funding

SiMAX will be able to translate extensive TV content – e.g. feature films or documentaries – quickly and cost-effectively into sign language. SiMAX adapts its physical appearance to that of the actor – this way deaf viewers always know what each protagonist is saying. This allows them to follow the content even better and enjoy the film experience. For deaf children who are not yet able to read subtitles sign language translations remove barriers and create equality. Moreover, SiMAX makes the vital information

in medicine package inserts available to deaf patients. Instruction leaflets are written in a very standardised language – SiMAX translates them quickly and cost-effectively with its learning database. Furthermore, medicine package inserts must be updated regularly – these changes in the translation are quickly carried out with SiMAX.



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Orientation and information app for the visually impaired

ISRAEL AND FRANCE / STEP-HEAR

Using beacon technology, Step-Hear uses smartphones to provide critical public transit and other information for the visually impaired. The start-up company operates Audio Signs, which provide voice communications, guidance, and information as part of a complete re-design of the accessibility environment for people with visual impairment disabilities. Step-Hear also permits the user to connect with the public transportation system.

Problem targeted

Visually impaired persons have great difficulty going from place to place and in coping with daily tasks in the public environment. Step-Hear helps all levels of visually impaired individuals, as well as many others with disabilities.

Solution, Innovation and Impact

Step-Hear develops and markets assistive technologies designed to provide orientation and audio messaging for the blind and visually impaired so as to create equal accessibility for everyone. These include sensors and alert systems that streamline assistance for the visually impaired as well as for people with strollers or wheelchairs in public areas and business loca-

FACTS & FIGURES

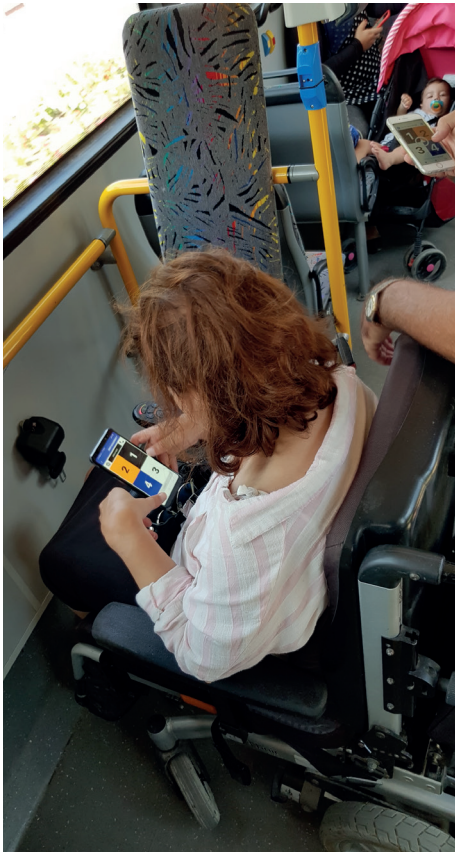
- Launched in 2011, the Step-Hear app uses beacon technology to help people with visual impairments receive information about public transportation, ATMs, vending machines, and more.
- The app is currently sold in about ten countries and is 80 percent self-sustained from sales.
- The organization's goal is to install the system for accessible public transportation on at least twenty public transit lines in 2019.

“As a person who has been active for many years and as a heavy user in the public transportation. I certainly call this moment, the initial operation of the Step-Hear system on buses, the dawn of a new day.”

Amit Unger, The House of Wheels Association

tions. When an individual approaches a base system, his or her activator unit prompts the base, which then initiates an audio message that serves as a guide.

When the user reaches a Step-Hear device environment, their smartphone vibrates and the user can then decide whether he or she wants to receive the information in the same place via the smartphone or via the Step-Hear voice signage. With the same app, the user can be informed when passing an ATM, vending machines, and other key locations and services. For example, when the visually impaired seek to use public transportation, users can operate the system's speaker to hear a coming bus and to send a message (through the fleet system) to the bus driver that he or she is waiting at the next stop.



Step-Hear app uses beacon technology to help people with visual impairments receive information about public transportation, sights, ATM machines etc. The user can decide if he receives the information via the smartphone or via audio message. The pictures show Step-Hear users receiving public transport and tourist information.


Outlook, Transferability & Funding

Step-Hear believes that the use of voice signage is a preferred means of providing information and a sense of confidence for people with visual impairments. With the app, the user receives vital information about their immediate environment. Step-Hear envisions that it will eventually offer an accessible “Waze for disabilities.” Waze is a GPS navigation software that works on smartphones and tablets with GPS support. It provides turn-by-turn navigation information and user-submitted travel times and route details, while downloading location-dependent information over a mobile telephone network. This includes all accessible and inaccessible places

and preferred access routes for the blind or handicap. In this way, it will work with the “wisdom of the crowd” for all disabilities.

The goal for the next year is to install the Step-Hear system for accessible public transportation on at least twenty public transit lines and to adapt and expand the systems to such devices as elevators, vending machines, taxis, and beyond.

The next feature will be “Call-Hear,” which is a call-for-help system that signals when a customer on a company’s premises needs assistance or service. The individual can press the button on the Call-Hear sign to request assistance from an employee.

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Using everyday and affordable technology to provide more effective caregiving

UNITED STATES / THE ARC WESTCHESTER

By organizing tech conferences, webinars, and public education, The Arc Westchester is providing critical training and information awareness on how better to support the needs of people with cognitive disabilities. Everyday technology and apps can provide essential tools to make social connections, navigate one's community, shop, prepare food, and keep track of one's medications and health, among many other uses. While these technology resources exist, information on their availability and practical applications is somewhat limited and is not conveyed simply and effectively for use by people with disabilities or their support staff.

Problem targeted

Everyday personal technology, such as tablets and smartphones, have become more affordable alternatives to traditional assistive technology: People with disabilities are often the last to be included in mainstream trends, and they need access to the same digital tools that most people now take for granted. Moreover, they also need to be exposed to the apps that can make their everyday lives much easier.

Solution, Innovation and Impact

There is an increased need for caregivers to help the people they serve become digitally literate and socially included by utilizing the powerful tools of everyday personal technol-

“At some point, Max’s communication by text seemed so different from the past that I called my wife and asked her, ‘Are you coaching Max when he responds to my texts?’ He was responding with full sentences, instead of ‘yes’ or ‘no’ like in the past. But, in fact, my wife wasn’t coaching Max. It’s just that with expert training, he has gotten so much more comfortable with being able to text.”

Bernie Krooks, father a client of Tech Supports for Everyday Living at The Arc Westchester

FACTS & FIGURES

- Using webinars, website resources, and e-books, The Arc Westchester provides caregivers the digital literacy they need to help the people they serve.
- The organization’s tech conferences, webinars, and public education efforts have reached well over 750 people, and it is estimated that 125 of these have been people with disabilities, along with their caregivers, teachers, and rehab professionals.
- The Arc Westchester has received multiple grants and awards, including from the Coleman Institute for Cognitive Disabilities in 2015.
- In March 2018, The Arc Westchester completed its third annual Tech Supports for Cognition and Learning Conference at Mercy College, which has grown in attendance each year.

ogy. Using the tools of technology – webinars, website resources, and e-books – The Arc of Westchester is making the transfer of information much more efficient for caregivers and the people they serve.

The organization is spearheading a public education effort targeting people with cognitive disabilities, their families, support staff, rehab specialists, and special education teachers using tools such as webinars and other web-based resources, along with community events and di-



During conferences and webinars of The Arc Westchester, people with disabilities become digitally literate and socially included by utilizing the powerful tools of everyday personal technology.

rect tutoring. This is achieved by: (1) developing a basic tech certification programme for care workers and other caregivers; and (2) publishing in e-book format a curriculum of tech supports for living skills that can be made available to all caregivers.

There are over 500 human services agencies supporting people with cognitive needs in New York State alone, where the organization is based, and the organization's efforts will expand the technology knowledge base of these agencies so that their resources can be leveraged to help people live more independently. In addition, participants from other states are attending the organization's webinars, which means that it could easily expand its digital footprint.

Outlook, Transferability & Funding

The Arc of Westchester completed its third annual Tech Supports for Cognition and Learning Conference in March 2018 at Mercy College, which has grown in attendance each year. It has also expanded its line-up of webinars to now include "Take A Byte Lunchtime!" sessions, featuring vendors talking about their digital products; Tech Learning Exchange sessions, during which people from around the state and country exchange information on personal technology

challenges and solutions; and Tech Ambassadors, whereby the organization's personnel provide turnkey lesson plans in the use of various apps and web resources. Going forward, there exists the strong potential for replicating these programmes throughout the United States.

The Arc Westchester provides non-financial support to its community partners, which include Mercy College, the Westchester Library System, and the Visiting Nurse Service of Westchester, among others. The Arc Westchester's public outreach and education activities concerning personal technology is presently supported by personal and corporate fundraising. A concerted advocacy effort is underway in the country to persuade government funders to modify their policies and support smart device purchases and training supports so that this technology can be adopted by many more people with cognitive disabilities.

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Upgrading TV-sets to support senior citizens at home

ISRAEL / UNIPER CARE TECHNOLOGIES (UCT)

Using an in-home interactive TV-based solution, a community management portal, and a caregiver mobile app, Uniper Care Technologies tools help keep elders connected, socially active, and in their natural communities. Uniper Care Technologies (UCT), founded in Tel Aviv, is a community wellness platform that is helping older adults live a less lonely, more active, and healthier life. The company and system are demonstrating great success in Israel working with the government, cities, non-profits, and more. It has also operations in California and was introduced in Australia as well.

Problem targeted

With baby boomers now hitting retirement, governments, societies, and economic structures need to find lean and non-disruptive ways to cope with massive demographic changes. Hospitals, geriatric institutions, and care facilities are prohibitively expensive for most, and the great majority of older adults prefer staying in their own homes and communities.

Solution, Innovation and Impact

Built with direct input from the elderly, The UCT platform consists of an in-home interactive TV-based solution (also available on the web), a community management portal, and a caregiver mobile app, which together offer senior care organizations the ability to build healthier communities, on valued based outcomes and a holistic integrated care solution. To date, the measured outcomes are very encouraging, indicating that the platform can indeed reduce loneliness, the sense of isolation and even depression. More importantly, people claim to feel better (perceived health outcome).

FACTS & FIGURES

- The company's unique technology aims to profile users (using artificial intelligence and machine learning practices) to know how best to deliver integrated care from the different care providers (senior care, mental care and health care). The platform allows for different virtual intervention programs to take place, allow live health and wellness activities to take place and promote educational content supporting active and healthy aging.
- Currently, there are approximately 800 users of the UCT platform, and the company projects that it will have over 25,000 users in Israel, the United States, and Australia by 2020.
- The company won the Aging 2.0 Regional and European Contest and were finalists in the Global Aging 2.0 Summit in San Francisco.

“Please keep doing what you’re doing, it helps people who are at home become happier and healthier.”

A user of Uniper Care Technology

The company has created cutting-edge technology and integrated-care approach addresses the needs of the different stake-holders in the eco system. The programme is showing extraordinary engagement and retention rates, mainly due do to it being so very accessible for the older adults.

Besides its accessibility, the company has unique technology that aims to profile users so as to identify the best way to deliver the content and activities that they need in order to make



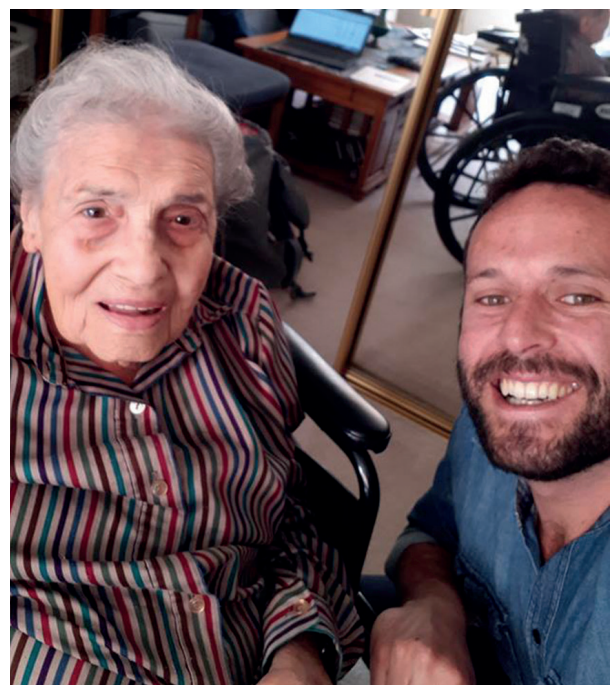
An interactive TV set offers daily live exercising activities such as yoga, mindfulness, fall prevention etc. to Uniper clients. Furthermore, they can make video calls, watch pictures or entertainment content.

their lives better in four primary areas: social (focused on reducing social isolation and loneliness); mental (focused on reducing depression); cognitive (to help with memory issues); and physical (helping users build a daily exercise routine).

Outlook, Transferability & Funding

The platform has been demonstrating very encouraging outcomes in practice thus far. Initial outcomes have been researched by Dr. Michael Isaacson, a Haifa University and MIT age-lab faculty member, focusing primarily on decreasing loneliness and social isolation. Initial findings include: 81 percent of users declared a reduction in loneliness; 83 percent reported an increase in quality of life; 78 percent claim to be feeling better (perceived health); 91 percent state they would recommend the programme to a friend; 70 percent use the system regularly and at least once a week; and 36 percent have formed a daily routine around the system using it at least once a day.

In addition to Israel, the platform has been implemented in the Australia and United States and has the potential to be transferred wherever there is the necessary technology base.



Celina, who just turned 100 years old, is a delighted user of Uniper Care Technology!



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Door-to-door navigation tool for the blind and visually impaired

AUSTRIA, HUNGARY AND OTHER EUROPEAN COUNTRIES / VISIONLESS SUPPORTING FRAMEWORK

By providing a simple, effective, and affordable door-to-door navigation and mobility assistance solution, the Visionless Supporting Framework improves the daily living of blind and visually impaired people in challenging tasks, such as participating in urban mobility. The Visionless Supporting Framework (VUK), a network cooperation of various organizations, virtually rebuilds the interior of buildings and creates improved indoor maps with accurate information to facilitate the guidance and mobility of blind and visually impaired people.

Problem targeted

An aging population facing age-related sight loss will have a significant impact on health and social care services of the future. Serious sight loss can lead to a decrease in the quality of life, reducing the activities of daily living and physical mobility, and possibly leading to social exclusion and depression.

FACTS & FIGURES

- The generation of map materials is crowd based, and thus can be limitlessly expanded.
- Volunteers can also register themselves as so-called “Place Helpers” whereby persons who need support in finding their way can place a request for personal assistance.

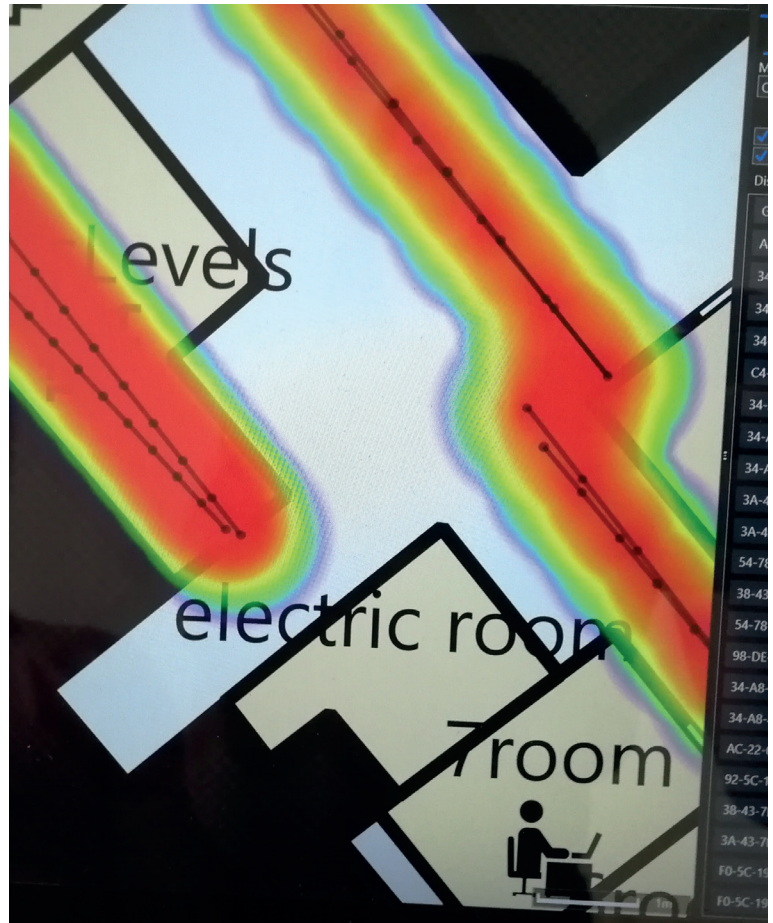
“With VUK I the get the opportunity to explore new places without having to memorize every turn and every route. This freedom allows me to appreciate my travels much more and to really relax instead of always being stressed.”

User of VUK

Solution, Innovation and Impact

The goal of the project is to support the daily living of blind and visually impaired people in challenging tasks, such as participating in urban mobility, by providing a simple, effective, and affordable door-to-door and indoor navigation and mobility assistance solution.

Unlike the usual tools that provide only outdoor navigation, the VUK also supports travel through unfamiliar indoor environments, such as subway systems and train/bus stations, as well as through such complex buildings as shopping malls, business centres, and public offices. In addition, the generation of map material is crowd source-based, thus anyone able to draw a map is a potential contributor. This allows the VUK to be easily expanded worldwide. Notably, the indoor navigation tool does not rely solely on a single sensor to calculate the current position of the individual but uses a variety of inputs to track the user and generate his or her precise location. This significantly reduces the deviation shown by most navigation solutions, and so minimizes the risk of



The VUK technology supports travel through unfamiliar indoor environments, such as subway systems and train/bus stations, as well as through such complex buildings as shopping malls, business centres, and public offices. The person in the left picture runs the VUK application to navigate to her office. The picture on the right shows a computer screen with the WiFi-Heatmap-Tool that has been developed for VUK.

inadvertently bumping into obstacles or falling down stairs.

Another pillar of the Visionless Supporting Framework is its community-building aspect. In addition to generating maps, volunteers can also register themselves as so-called “Place Helpers” whereby persons who need support in finding their way can place a request for personal assistance, which can then be responded to directly through the platform.

Outlook, Transferability & Funding

The main impact of the VUK on the blind and visually impaired is the enhanced mobility in unfamiliar environments that can be provided. This significantly widens the areas that can be accessed by these groups and reduces the need for taking supporting persons along, overall opening whole new parts of the environment to them.

As the solution is mainly a digital platform where everyone can participate, the scaling-up of the solution and its distribution to other locations can be done quite easily. There is basically

no regional limitation, and from a technical standpoint there is no additional equipment required to employ the Framework at any given location. Additionally, the available languages for text output and input can be readily expanded, so that users can communicate in their native setting.

Moreover, it is easy to include other impairments or to provide navigation for everyone. The underlying maps and the connected information can already be structured in a way to accommodate other requirements, such as wheelchair accessibility. Indeed, the longer-term vision is to provide guidance to non-impaired groups as well. The project is currently funded under the AAL-Europe Programme.



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Improving communications between people with disabilities and their service providers

FINLAND / WHAT MATTERS TO ME

By designing an app that helps users get better services and helps service providers to understand their special needs, What Matters to Me provides digital opportunities for people with disabilities to relay their needs more easily and efficiently. It is an online application by which people with disabilities can share his or her needs in various situations and easily transmit the information to a service provider via a QR code and a link, thus ensuring better services.

Problem targeted

People with limited functional capacity often cannot communicate orally or in writing about what they need. Additionally, it is often tedious to explain repeatedly one's situation and needs. Moreover, most service providers do not know what is needed to make their services suitable for everyone. Thus, there is a need to increase and improve the level of services received by people with disabilities, and particularly to increase the understanding of service providers as to how they can make their services more barrier-free.

Solution, Innovation and Impact

At the start of the project, the developers interviewed people with disabilities about the needs they would like to relay to service providers to ensure that their interactions would go smoothly and that the app's

FACTS & FIGURES

- People with disabilities can readily show their needs to service providers using their phone or tablet, or they can send a link to the service providers beforehand to ask how they can meet a specific user's needs
- The application can be connected to the European Union Disability Card (launched in Finland in June 2018) via a QR code. A person with a disability can show the card and a provider can see what kind of service is needed.
- What Matters To Me is 50 per cent funded by a bank loan and 50 per cent by the company's own assets. There is a nominal fee to use the app.

“I am the father of a boy with intellectual disabilities. I use the ‘What matters to me’ service to describe and communicate his needs.”

Esa Lahtomaa, father of a child with a disability

Select needs that are relevant to you ?

Assistance in service situations



You can ask if I need help but don't help without asking

Additional information



Don't touch me without my permission



Don't move me without my permission

Need categories

Assistance in service situations

Travelling and accessibility

Lodging

Foods I don't eat

Eating situations

Diets I follow

My contact persons

What matter to me is an online application by which a person with a disability can share his or her needs in various situations and easily transmit the information to a service provider.

features would be suitable for them. Notably, the technical structure of the app makes it easy to re-design it for many languages. Users will be able to describe their needs in their mother tongue, and the app will translate the message in a language that is better known to the service provider – thus greatly supporting the ability of people with disabilities to travel.


The application was launched in June 2018, and the number of users is growing almost daily. Before launching, What Matters to Me cooperated with several organizations representing people with disabilities the better to understand the user's point of view.

The What Matters To Me app is both flexible and affordable, designed to meet the ever-changing needs of its users.

Outlook, Transferability & Funding

Because the app was launched very recently, it is too early to report on the number of users who have benefitted from it. What is known, however, is that there are some 300,000 people with disabilities in Finland, and the goal is to reach at least 10,000 of these persons.

Investment for the app is 50 percent funded by a bank loan, and 50 percent by the company's own assets. Currently, there is a very low user fee. Going forward, it is hoped that the number of users will repay all the initial investment, spurring further development and helping to cover maintenance costs.

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15 Innovative Practices at a glance

All selected Innovative Practices by organization, country, technology used and disabilities that are targeted

Organization/Product	Country	Technology	Target group
Abilityjobfair	United States	Fully accessible app	People with disabilities looking for a job
Barclays Bank/SignVideo	United Kingdom	Video sign language interpretation	Hearing impaired and deaf
Beepercons	Spain	Beacon technology	Visually impaired and blind
Eneso Verbo	Spain	Hard and software	Intellectual disabilities
Feelif	Slovenia	Hard and software	Visually impaired and blind
Humanitarian Hands-on Tool	Germany	App	People with disabilities in emergency situations
Neatebox	United Kingdom	App and beacon technology	People with all kinds of disabilities
OrCam / MyEye	Israel	Hard and software	Visually impaired and blind
Pedius	Italy	App	Visually impaired and blind
Sign Time / SiMAX	Austria	Sign language avatar	Hearing impaired and deaf
Step-Hear	Israel	Beacon technology	Visually impaired and blind
The Arc Westchester	United States	Webinars	Intellectual disabilities
Uniper-Care Technologies	Israel	App	Elderly and people with all kinds of disabilities
Visionless Supporting Network	Austria, Hungary and other European countries	Door to door navigation	Visually impaired and blind
What matters to me / Bestser	Finland	App	People with all kinds of disabilities

Glossary

ALS: Amyotrophic lateral sclerosis (ALS), also known as motor neurone disease (MND), or Lou Gehrig's disease, is a specific disease which causes the death of neurons controlling voluntary muscles. Some also use the term motor neuron disease for a group of conditions of which ALS is the most common.

App: An app is computer software, or a program, most commonly a small, specific one used for mobile devices. The term app originally referred to any mobile or desktop application, but as more app stores have emerged to sell mobile apps to smartphone and tablet users, the term has evolved to refer to small programs that can be downloaded and installed all at once. Some apps can be downloaded for free, while others must be purchased from an app store.

Assistive technology (AT): is to be understood in its widest sense as any product or technology-based service or solution that enables people with activity limitations of all ages in their daily lives, work, education and leisure. Beside more traditional areas of AT, this definition embraces fields of interest that reflect a wider orientation on disability, technology and inclusion such as e-Accessibility, Ambient Assisted Living, Design for All.

Beacon technology: A beacon is a small Bluetooth radio transmitter which repeatedly transmits a single signal that other devices can receive. A Bluetooth-equipped device like a smartphone can "see" a beacon once it's in range and receive its signal.

Cloud computing: Cloud computing describes a type of outsourcing of computer services. The user can use storage, computing power, or specially crafted development environments, without having to worry how these work internally. Cloud computing is usually Internet-based computing.

Geofencing: A geo-fence is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated – as in a radius around a point location, or a geo-fence can be a predefined set of boundaries (such as school zones or neighbourhood boundaries). The use of a geo-fence is called geo-fencing, and one example of usage involves a location-aware device of a location-based service (LBS) user entering or exiting a geo-fence. This activity could trigger an alert to the device's user as well as messaging to the geo-fence operator. This info, which could contain the location of the device, could be sent to a mobile telephone or an email account.

Open Source: Open source material is computer programming code or software that anyone can use or modify without asking permission from the company that developed it.

Person-Centered Technology (PCT): refers to both specialist (e.g. Telecare) and mainstream (e.g. quick cooling hobs) technologies that can be used to enhance people's independence and safety making them less dependent on carers. Person-Centered Technology includes electronic assistive technologies, telecare and telehealth, environmental controls, mobile communication, and other supportive technologies (e.g. voice prompts, bath sensors etc.).

URL: A URL is an address that shows where a particular page can be found on the World Wide Web. URL is an abbreviation for 'Uniform Resource Locator'.

About the Zero Project and Essl Foundation

The Essl Foundation has been founded by the Essl family with the one goal of supporting people with disabilities worldwide. Its primary programme, the Zero Project, works towards a world without barriers by identifying Innovative Practices and Innovative Policies that support people with disabilities. The Zero Project finds, explores, and promotes products and services as well as legislation and standards that advance and enhance the lives of people with disabilities. More than 4,000 experts from all sectors of society are part of the Zero Project Network. More than 400 Innovative Practices and Innovative Policies have been awarded between 2013 to 2018. The annual Zero Project Conference has been attended by more than 3.000 persons since 2012.

www.zeroproject.org

Join the Zero Project Network!

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ON TWITTER

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ON YOUTUBE

www.youtube.com/user/Zeroprojectorg

About EASPD

EASPD (European Association of Service providers for Persons with Disabilities) is a European NGO network representing over 15,000 social and health support provider organisations across Europe and across disabilities. The objective of EASPD is to promote equal opportunities for persons with disabilities through effective and high-quality service systems. EASPD works towards ensuring the full implementation of the UN Convention on the Rights of Persons with Disabilities (UN CRPD) and is accredited to the Conference of States Parties to the Convention on the Rights of Persons with Disabilities.

www.easpd.eu

