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Director, Telecommunication Development Bureau

Regional WSIS Stocktaking Report 2019-2020

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WSISPublications

ICT Projects and WSIS Action Line Related Activities in Europe

Regional WSIS Stocktaking Report 2019-2020

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Turning targets into action
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ITU

WSIS Stocktaking Regional Report 2019-2020

ICT Projects and WSIS Action Line Related Activities

Europe

(Zero Draft)

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Introduction

The principal role of the WSIS Stocktaking exercise is to leverage the activities of stakeholders working on the implementation of WSIS outcomes and share knowledge and experience of projects by replicating successful models designed to achieve the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development.

The World Summit on the Information Society (WSIS) Stocktaking process was initiated in October 2004 during the Tunis phase of the WSIS. In the years since it has developed into an extensive database that showcases the activities of stakeholders working to implement the eleven WSIS Action Lines to achieve the Sustainable Development Goals (SDGs). The WSIS Stocktaking facilitates the exchange of information on a wide array of projects and it encourages the sharing of best practices among stakeholders in the various regions. The WSIS stocktaking platform provides, for all types of stakeholders, an avenue to network, interact and disseminate knowledge.

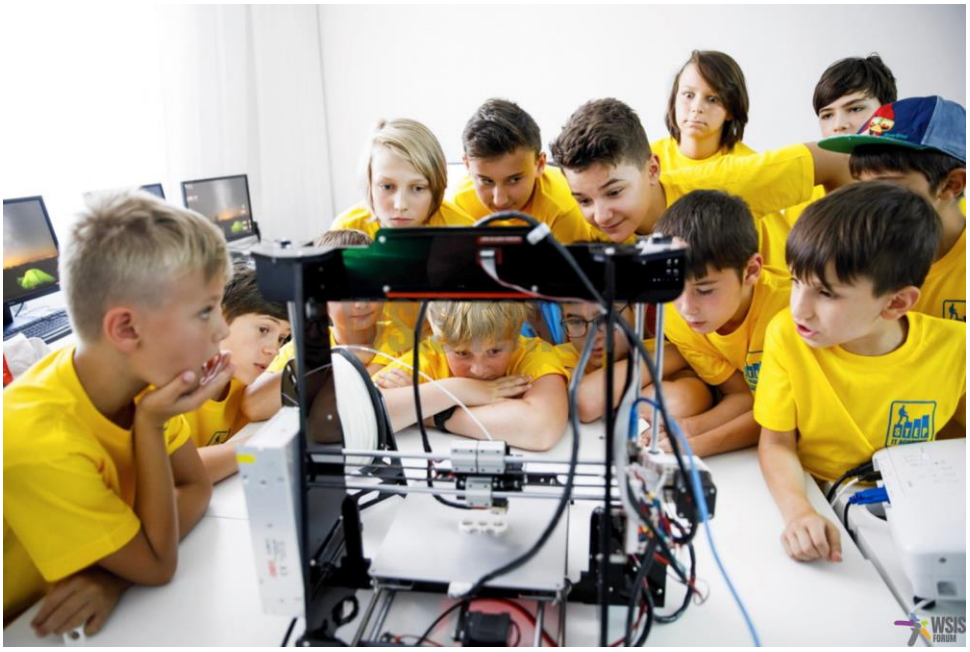


Photo Source: WSIS Photo Contest 2018

WSIS Stocktaking comprises the database of:

- exchanges of information on projects
- sharing of best practices of certain regions
- initiatives related to the implementation of the 11 WSIS action lines
- linkage between the 11 action lines and the SDGs – a linkage that becomes more and more important over the years.

This important international repository provides a register of activities – including projects, programmes, training initiatives, conferences, websites, guidelines, toolkits, etc. – carried out by governments, international organizations, the private sector, civil society and other entities. To that end, in accordance with paragraph 120 of the Tunis Agenda for the Information Society adopted by WSIS, ITU has been maintaining the WSIS Stocktaking Database as a publicly accessible system providing information on information and communication technology (ICT)-related initiatives and projects with reference to the 11 WSIS action lines (Geneva Plan of Action) and 17 SDGs.

ITU has been contributing enormously to WSIS implementation and follow-up from 2005 to the present. The tasks carried out by ITU at the operational and policy level cover all mandates assigned to it relating to the WSIS process, in particular:

- In its capacity as lead facilitator in coordinating the multi-stakeholder implementation of the Geneva Plan of Action (§ 109 of TAIS) and primary organizer and host of the annual event, the WSIS Forum;
- As facilitator for Action Lines C2 (Information and communication infrastructure) and C5 (Building confidence and security in the use of ICTs), as well as C6 (Enabling environment);
- As co-facilitator for Action Lines C1, C3, C4, C7 and C11
- As partner in Action Lines C8 and C9;
- As rotating chair and vice-chair of the United Nations Group on the Information Society (UNGIS) (§ 103 of TAIS);
- As lead partner on Measuring ICT for Development (§ 114 of TAIS);
- As facilitator of the WSIS Stocktaking process (§ 120 of TAIS);
- As organizer of World Telecommunication and Information Society Day (§ 121 of TAIS);
- As lead of the Connect the World Initiative (§ 98 of TAIS).

The United Nations Economic and Social Council (ECOSOC) Resolution 2020/12 "Assessment of the progress made in the implementation of - and follow up to the outcomes of the World Summit on the Information Society" , that reiterates the importance of sharing best practices at the global level, and, while recognizing excellence in the implementation of the projects and initiatives that further the goals of the World Summit, encourages all stakeholders to nominate their projects for the annual WSIS Prizes, as an integral part of the WSIS Stocktaking process, while noting the report on the WSIS success stories.

The outcome document of the UNGA High-level Meeting on the overall review of the implementation of the outcomes of WSIS recognized the importance of reporting and sharing of best practices for the implementation of WSIS outcomes by all stakeholders beyond 2015, recognizing the WSIS Forum as a key platform for doing it. In this context the WSIS Stocktaking process plays a strategic role in supporting WSIS Forum in its endeavor.

Exploring Digital Earth Through Virtual Reality, Confederation of Switzerland, WSIS Photo Contest 2020

Moreover, the WSIS Overall Review called for close alignment between the WSIS process and the 2030 Agenda for Sustainable Development, highlighting the cross-cutting contribution of ICTs to the Sustainable Development Goals. In this context also the WSIS Stocktaking evolves into the unique global process for collection of information on actions carried out in context of WSIS, while underlining their contribution to the implementation of the 2030 Agenda for Sustainable Development.

In the period 2019-2020, WSIS Stocktaking Reports have reviewed 1,838 (1,062 in 2019 and 776 in 2020) ICT-related projects and activities carried out by international organizations, governments, the private sector, civil society and other stakeholders in the Europe Region. WSIS Stocktaking reports are based on the multi-stakeholder approach, including input from stakeholders from all over the world responding to ITU's official call for stocktaking updates and new entries. The inputs from WSIS action line facilitators and co-facilitators also contribute to the reports.

This report consists of 345 projects submitted from the Europe region, and most of entries listed in this Report were also nominated for the WSIS Prizes contests in the period 2019-2020, while some of them were awarded with the WSIS Prize Winner or WSIS Prize Champion recognition. WSIS Prize is a unique global recognition for excellence in the implementation of WSIS outcomes. The contest is open to all WSIS stakeholders.

The WSIS Stocktaking community comprises of more than 300,000 stakeholders who are eager to contribute to the WSIS Process year after year. By identifying trends in implementing WSIS Outcomes, the WSIS Stocktaking Process makes a significant contribution towards building an inclusive Information Society.

An important mention goes to the collaboration between the WSIS Stocktaking and other ITU repositories, including those of the Europe Region Office and the EQUALS initiative of ITU. Bringing these communities together resulted in higher number of projects being submitted and the overall success of the global promotion and recognition of good ICT work from Europe and the world through our international repositories.

We take this opportunity to extend sincere gratitude to all of the stakeholders from the Europe region who have been engaged in the WSIS Process, sharing their national advances on implementation of the WSIS outcomes since 2004. We would also like to invite all ITU Member States and Sector Members of Europe region to continue engaging with the WSIS Stocktaking process by submitting projects relevant to WSIS Action Lines and the newly established SDGs, promote the WSIS Stocktaking process within their communities, and follow new developments of the WSIS Prizes 2020 contest.

The 18 WSIS Action Line Categories

1) The role of governments and all stakeholders in the promotion of ICTs for development
2) Information and communication infrastructure
3) Access to knowledge and information
4) Capacity building
5) Building confidence and security in the use of ICTs
6) Enabling environment
7) E-government
8) E-business
9) E-learning
10) E-health
11) E-employment
12) E-environment
13) E-agriculture
14) E-science
15) Cultural diversity and identity, linguistic diversity and local content
16) Media
17) Ethical dimension of the information society
18) International and regional cooperation

The 17 Sustainable Development Goals (SDGs)

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

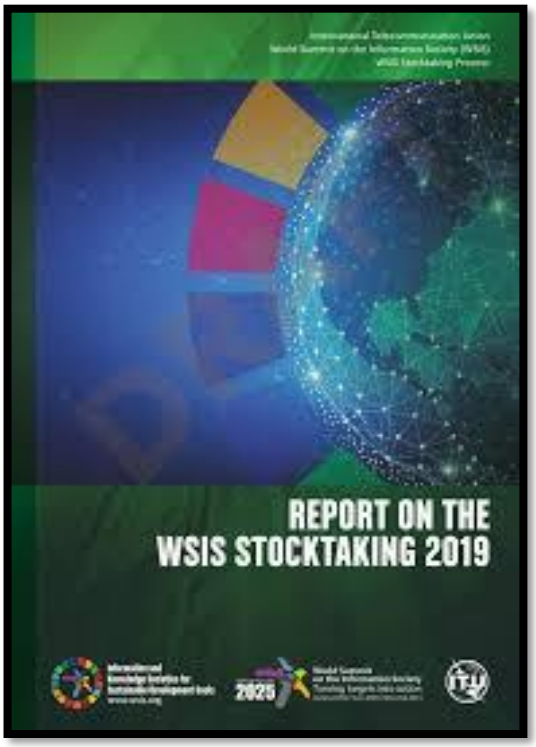
Countries in Europe Region

The Europe Unit focuses on **46** Member States of ITU within the Region and a number of Sector Members including private sectors, industries, scientific organizations and regional organizations:

The list of the countries includes:

1. Albania
2. Andorra
3. Austria
4. Belgium
5. Bosnia and Herzegovina
6. Bulgaria
7. Croatia
8. Cyprus
9. Czech Republic
10. Denmark
11. Estonia
12. Finland
13. France
14. Georgia
15. Germany
16. Greece
17. Hungary
18. Iceland
19. Ireland
20. Israel
21. Italy
22. Latvia
23. Liechtenstein
24. Lithuania
25. Luxembourg
26. Malta
27. North Macedonia
28. Moldova
29. Monaco
30. Montenegro
31. Netherlands
32. Norway
33. Poland
34. Portugal
35. Romania
36. San Marino
37. Serbia
38. Slovak Republic
39. Slovenia
40. Spain
41. Sweden
42. Switzerland
43. Turkey
44. Vatican
45. Ukraine
46. United Kingdom

WSIS Stocktaking 2019: Summary



In 2019, the WSIS Stocktaking Platform has seen the biggest increase in new entries, including the number of stakeholders registered, reaching a total of more than 100,000 stakeholders representing governments, the private sector, international organizations, civil society and others. This has strengthened its position as the major ICT for development (ICT4D) online platform. This increase was predominantly the result of the Online Voting Phase during which almost 100,000 individuals cast more than 2 million votes.

The WSIS Stocktaking Global Report was officially released during the WSIS Forum 2019. It has reflected 1,062 WSIS-related activities that were submitted to the WSIS Stocktaking process for the period September 2018 - January 2020. Most of the submitted projects also ran for the WSIS Project Prizes contest, which as a part of the WSIS Stocktaking Process is a unique way of recognizing excellence in the implementation of WSIS outcomes.

About 30 percent of the projects submitted were government initiatives, while 23 percent originated from civil society, 33 percent from the private sector, 6 percent from international organizations, and another 11 percent from academia. Regarding the geographic distribution, 18 percent of the projects in 2020 were submitted by Arab States, **20 percent were from Europe,** 21 percent from the Asia-Pacific Region, 23 percent the Americas, 14 percent from Africa, 3 percent from the CIS, while less than 1 percent came from international organizations and international NGOs.

The WSIS multi-stakeholder community was invited to participate and cast its vote for one project in each of 18 categories. The list of the 18 most appreciated/ voted projects was identified and winning projects were announced officially to the public during the prize ceremony held during the WSIS Forum 2020. The success stories showcased examples of projects on the implementation of WSIS outcomes, emphasizing the achievements of stakeholders working towards achievement of WSIS goals, transferring experience and knowledge at the global level, and spreading and fostering WSIS values.

WSIS Prizes 2019: Summary

Eighteen tech for development projects were awarded at the opening of the 10th World Summit on the Information Society Forum. “As we mark the Forum's 10th anniversary, let's remember that this decade has seen a period of extraordinary growth and progress for ICTs," said Houlin Zhao, ITU Secretary-General. “But with progress come challenges. So today, I am calling on you to work together across sectors and industries to make technology work for development – and for everyone. It is up to all of us to ensure that ICTs and these emerging technologies continue to prove a force for good."

The WSIS Prizes recognize individuals, governments, civil society, local, regional and international agencies, research institutions and private-sector companies for leveraging the power of tech towards the achievement of the United Nations Sustainable Development Goals. In 2015, the United Nations General Assembly called for a close alignment between the WSIS process – 11 Action Lines - and the 2030 Agenda for Sustainable Development.

Year on year, the WSIS Prizes gain in popularity. This year, for the eighth edition of the contest, a total of 1062 projects were nominated, compared to 492 last year. Furthermore, two million people and entities voted on the projects, which is almost twice as many as in 2018.

- The nominated projects cover the globe: almost one-third of the projects (29%) originate from Asia and the Pacific; 27.7% from Western Europe and North America; 19.4% from Latin America and the Caribbean; 16.9% from Africa; 6.5% from Eastern Europe; and 0.5% are international projects.
- One-fifth (20%) of the projects benefit women and almost another fifth benefit youth, followed by remote and rural communities, people with disabilities, the elderly, unemployed and poor, indigenous and nomadic people, refugees and internally displaced people, and migrants (4%).
- One-third of projects were submitted by the private sector (33%), followed by government (27%), civil society (23%), academia (11%) and international organizations (6%).

RESOURCES

- WSIS Prizes 2019 winners
- WSIS Prizes 2019 Champion projects (nominees)
- All 1062 nominated projects can be found in the WSIS Stocktaking Database
- WSIS Prizes 2019 pictures on Flickr

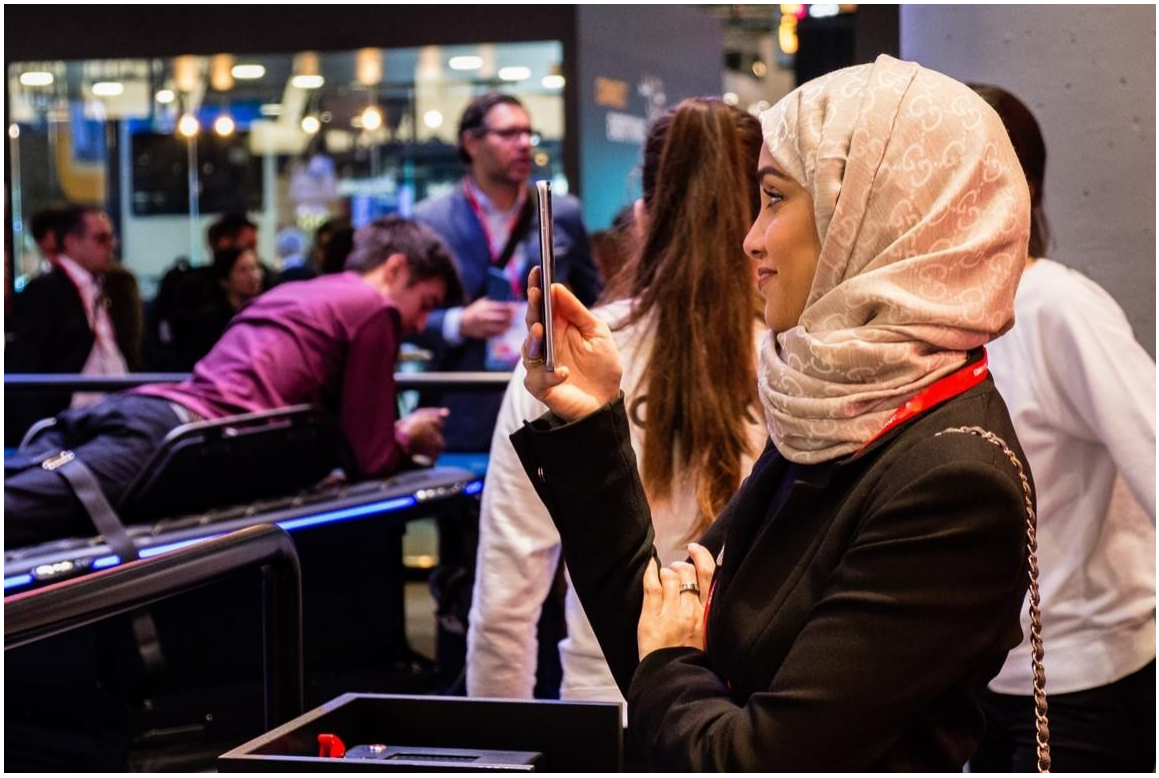
WSIS Stocktaking 2020: Summary

In May 2020, almost 13,000 updated entries were registered in the WSIS Stocktaking Database, reflecting all entries submitted since its launch in 2004. The WSIS Stocktaking Report and the Success Stories for the year 2020 were officially released during the final week of the WSIS Forum 2020 (7-10 September 2020, in Geneva, Switzerland).

Following a comprehensive review of 776 projects submitted, the ITU Expert Group nominated 354 projects, which were published online for public appreciation.

The 354 nominated projects break down into 136 projects from the government sector, 94 from private sector, 41 from the academia, 64 from civil society, and 19 from international organizations. As regards to regional distribution, 88 projects are from the Arab States, 90 from the Asia and Pacific region, 57 from the Americas region, **63 from the Europe region**, 10 from the CIS region and 46 from the Africa region, while 19 nominated projects come from international organizations.

The members of the WSIS multi stakeholder community were invited to participate and cast their votes for one project in each of 18 categories. The deadline for voting was 24 January 2020. More than 1 million votes were cast. The list of the 18 most appreciated/voted projects was published in April 2020 and winning projects were announced officially to the public during the WSIS Prize ceremony held during the WSIS Forum 2020.



Technology to build a fairer and more cohesive society, Spain, WSIS Photo Contest 2019

The success stories showcased examples of projects for implementation of WSIS outcomes, emphasizing the achievements of stakeholders working towards the achievement of WSIS goals and SDGs, transferring experience and knowledge at the global level, and spreading and fostering WSIS values.

WSIS Prizes 2020: Summary

These highly sought-after awards recognize outstanding initiatives from governments, the private sector, civil society and academia that channel the contributions of information and communication technologies (ICTs) towards the betterment of society. Now in its ninth edition, the WSIS Prizes winners represent the year's most innovative and high-impact projects from around the world that demonstrate the vital role of ICTs in achieving the United Nations'

Figure 1 - ICT Projects submitted to WSIS Prizes 2020 are tightly linked with the UN Sustainable Development Goals. Image source: WSIS Stocktaking

Sustainable Development Goals.

The prizes are awarded across 18 categories, each directly linked to the 11 WSIS Action Lines defined in the Geneva Plan of Action. This year, 806 projects were submitted by the WSIS community around the world. Of these, 354 projects were nominated after the deliberation of the Expert Group. From there, 90 Champions were selected based on over two million votes cast by WSIS stakeholders. 18 winners were announced just after the WSIS Forum's virtual opening ceremony.

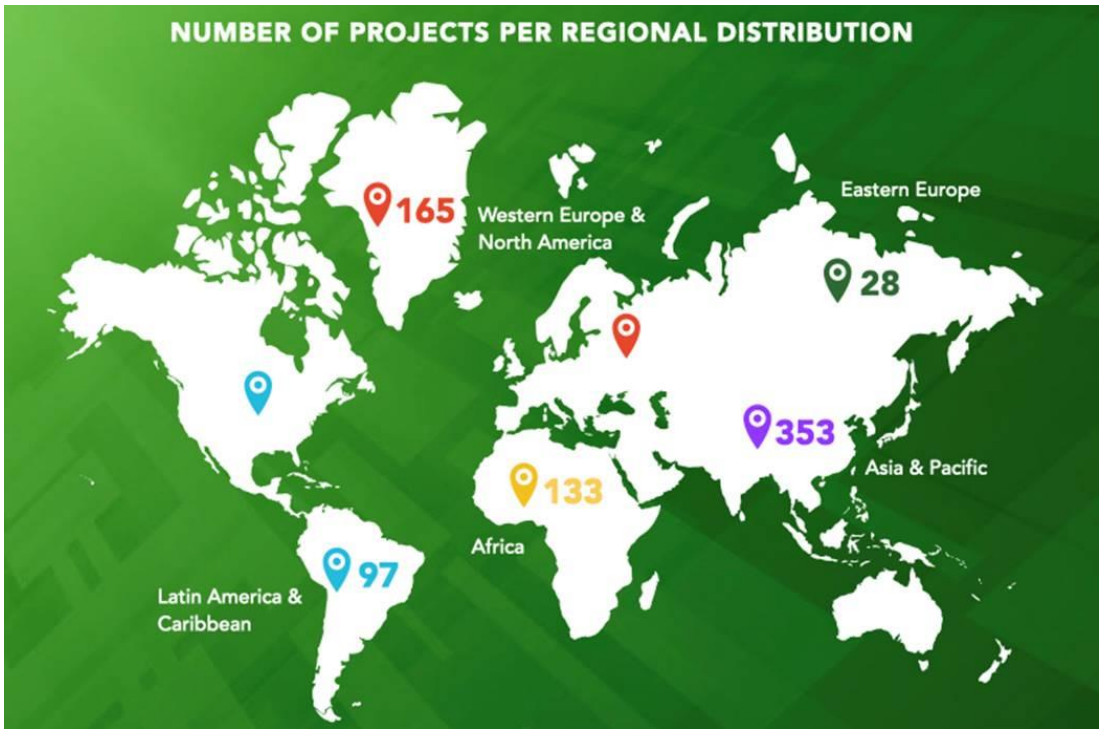


Figure 2 - Contenders for the coveted WSIS Prizes 2020 come from all over the world. Image source: WSIS Stocktaking

Meet the WSIS Prizes 2020 Winners

From open data to digital clinics, to highlighting the voices of women and youth in media, the 2020 WSIS Prizes winners featured a wide range of impact-driven projects that leverage ICTs to improve lives, bridge digital divides, reduce inequalities and more. Below is the full list of the 18 winners, in order of Action Line:

• **Action Line C1** - *The role of government and all stakeholders in the promotion of ICTs for development* Winner: Digital Clinic, Infocomm Media Development Authority, Singapore
• **Action Line C2** - *Information and communication infrastructure* Winner: Digital Inclusion - Free WiFi, Agencia Digital de Innovación Pública, Mexico
• **Action Line C3** - *Access to information and knowledge* Winner: UAE Infrastructure Geo-spatial Platform, Ministry of Energy and Infrastructure, United Arab Emirates
• **Action Line C4** - *Capacity building* Winner: Siberkreasi (Indonesia's National Movement for Digital Literacy), Siberkreasi, Indonesia
• **Action Line C5** - *Building confidence & security in the use of ICTs* Winner: Global Accredited Cybersecurity Education Scheme: Centre of Excellence for Capacity Building and Lifelong Learning, CyberSecurity Malaysia, Malaysia
• **Action Line C6** - *Enabling environment* Winner: Start-up Tunisia, Ministry of Communication Technologies, Tunisia

• **Action Line C7** - *E-government* Winner: Sabooj Sathi Online 3.0, Backward Classes Welfare Department, India
• **Action Line C7** - *E-business* Winner: Business Digital Transformation Centers, Ministry of Information and Communication Technology, Colombia
• **Action Line C7** - *E-learning* Winner: The First International CyberSchool of the future for the new IT generation, KIBERone, Russian Federation
• **Action Line C7** - *E-health* Winner: Early Diagnosis of Breast Cancer using Artificial Intelligence (AI), Ministry of Health, Oman
• **Action Line C7** - *E-employment* Winner: Recruitment Process Management as a Shared Service for Govt Agencies of Bangladesh, Bangladesh Computer Council, Bangladesh
• **Action Line C7** - *E-environment* Winner: China Unicom "Smart Blue" public service big data platform, Network Intelligent Operation Research Center of China Unicom Research Institute, China
• **Action Line C7** - *E-agriculture* Winner: Eyes in the Sky, Smart Techs on the Ground, Technical Centre for Agricultural and Rural Cooperation ACP EU, Netherlands
• **Action Line C7** - *E-science* Winner: Open Data Policy and Portal, Ministry of Transport and Communications, Qatar
• **Action Line C8** - *Cultural diversity & identity, linguistic diversity* Winner: Attaa initiative (العطاء الرق م), Ministry of Communications and Information Technology, Saudi Arabia
• **Action Line C9** - *Media* Winner: Voices of Women Media, Voices of Women Media, Nepal
• **Action Line C10** - *Ethical dimensions of the Information Society* Winner: ICT and Media: Efficient tools for youth to Counter Violent Extremism, Ghana Investment Fund for Electronic Communications, Ghana
• **Action Line C11** - *International & regional cooperation* Winner: Asociación Innovactoras, Spain

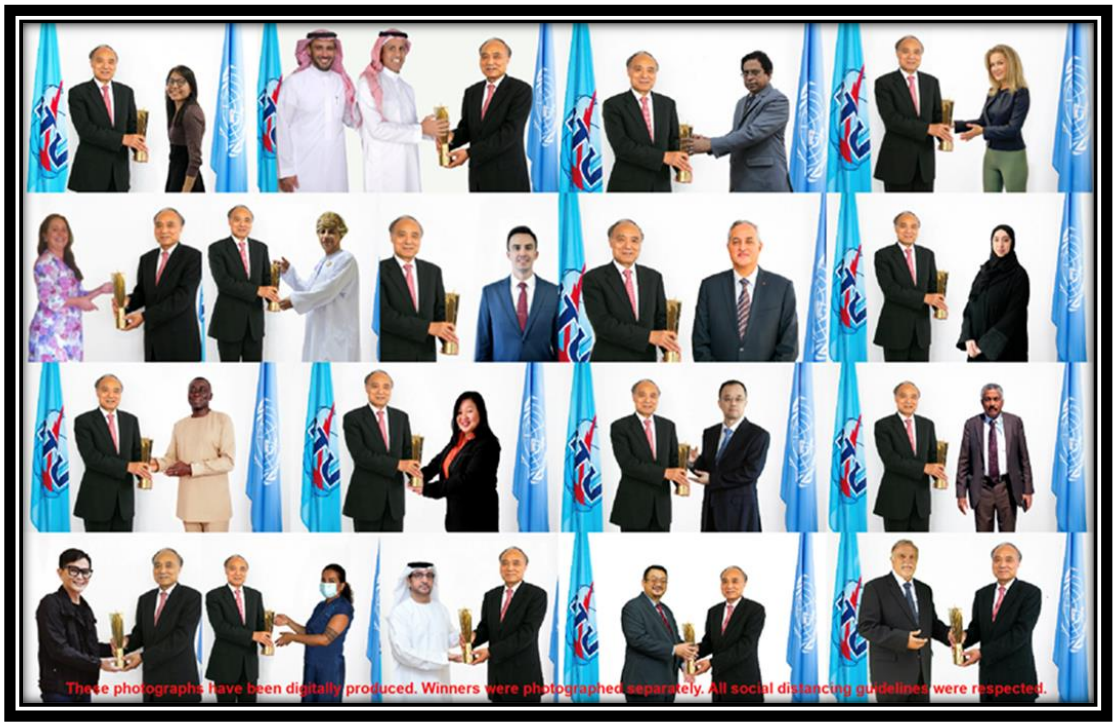


Figure 3 - The WSIS Prizes winners pose with ITU Secretary General Houlin Zhao. The photographs in the above composite were digitally produced, with each winner photographed separately. All social distancing guidelines were respected. Image credit: ITU

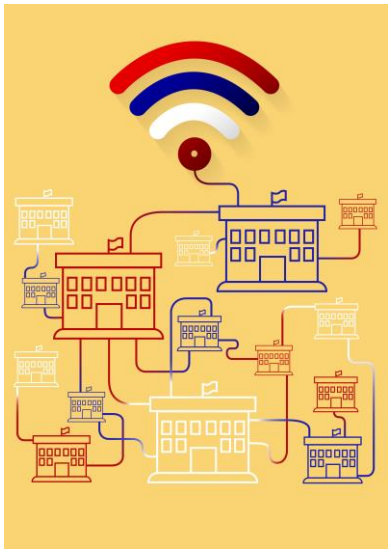
WSIS Stocktaking Regional Report 2019-2020: ICT Projects and WSIS Action Line Related Activities

Action Line 1

In **Italy**, **STEMintheCity** is a great initiative being promoted by the City of Milan in order to develop a "STEM-oriented" culture free from gender barriers and stereotypes to help guide young women to studies in fields of science and technology, to promote careers for women in these fields, and to further digital education at all levels. The project started in 2017 and the second edition was organized in 2018. On 2018 STEMintheCity further extended its reach with the creation of STEM+A. The letter "A" here stands for "art" and has been added to the STEM acronym to indicate both how digital is an enabling factor in all education and career development and how the creative, humanistic component is essential in generating new ideas and innovative content. Target. STEMintheCity offered activities for all ages—from elementary school to on through middle school, high school, university and beyond. Creating an alliance with the adults responsible for the growth and education of our youth is important, so STEMintheCity promoted a range of initiatives intended for parents and teachers. Main activities: training days about coding and digital skills for 50 primary and secondary schools; hackathon for young girls and university students; job speed date, session of role modeling; digital empowerment; conference about gender stereotypes for teachers, parents and companies; events about the value of women in STEM careers and female leadership; the presence of women in politics; International opening event with prestigious female role model from science, military defense, institutions, leading companies in digital transformation. This project is related to **SDG 4** and **SDG 8**.

In **Poland**, the **ASI** project implemented by the Mazowieckie voivodeship (provincial government) in broad partnership with local governments aims to support smart, sustainable development that increases social and territorial cohesion. The project involves developing 50 new e-services for residents, entrepreneurs and institutions via an Internet platform called Gate of Mazovia. Implementation of the project will also create the right conditions for the effective collection and use of spatial information in the region through digitizing spatial data and enter data into the database of the Mazovian Spatial Information System. In addition, the ASI project will contribute to capacity building and the exchange of knowledge, through the creation of regional competence centres. The project is directly linked to **SDG 1, SDG 5, SDG 8, SDG 9, SDG 10, SDG 13** and **SDG 16.**

In **Serbia**, **Connected Schools** is a project aimed at developing ICT infrastructure for educational institutions, by providing fast, stable and secure Internet access through the Academic Network of the Republic of Serbia (AMRES) to all users within the institutions. Hence, the project is aimed at connecting all elementary and secondary schools in the Republic of Serbia, i.e. providing wireless local area network for over 4000 base schools and detached school units, thus encompassing approximately 850,000 students of elementary and secondary schools in the Republic of Serbia. Currently approximately 1650 base schools are connected to Academic Network of the Republic of Serbia (AMRES) and by the end of 2020, all schools, including more than 2000 rural detached school units, will be connected to the Academic Network of the Republic of Serbia (AMRES). When it comes to the provision of wireless local area network and thus providing internet connection to each classroom in school, to date, the network has been built in approximately 400 schools, i.e. for more than 250,000 students. The plan is for the wireless local area network infrastructure to be built in an additional 500 schools by 1 September 2020, i.e. for more than 220,000 additional students, and by the end of 2021 wireless local area network will be provided in all schools in the Republic of Serbia, both in base and detached school units. This project is related to **SDG 4, SDG 8,** and **SDG 10**.

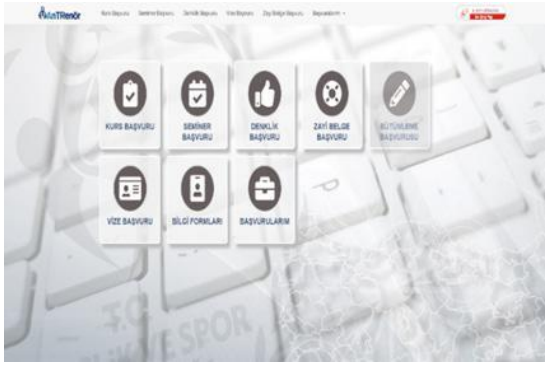


In **Spain**, the ***Campus Tecnológico UGR para Chicas*** **(UGR Tech Camp for Girls)** project aims to present computer sciences and telecommunications as areas free of social stereotypes, working directly with a group of girls in secondary education. The camp is an opportunity for girls who are studying at pre-university level to have contact with the world of technology and find out about and value the role of women in the world of ICT: it also aims to encourage girls to choose a profession in the technology sector. with the XL Academy online curriculum. This project is structured as a two-week activity where participants study at the University of Granada, in Spain. Alongside the event, a semester-long campaign is also implemented on the role of women in science and technology via hackathons, blog posts and talks. The project is relevant to **SDG 4** and **SDG 5.**

In **Turkey**, the **CELSE** application provides a variety of services to lawyers to enable them to follow up proceedings more easily. It was developed by the technical team in the IT Department of the Ministry of Justice. To date, 32 214 lawyers are using the application and that number is increasing rapidly. Using the application, lawyers can list the execution and case files which they are

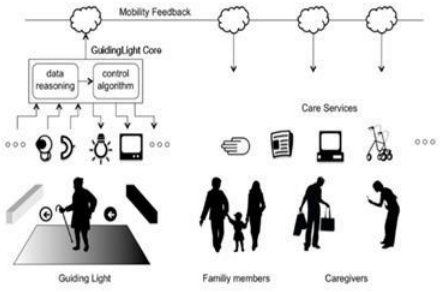
authorized to access and can display the information of the party and proxy, as well as the file cover information. They are able to view their hearings, scheduled for specific dates, on an instant, daily or monthly basis. The CELSE application is open to development and additional services will be added, on the basis of needs. The application has been developed in line with the Lawyer Portal Information System, in order to enhance the effective participation of lawyers, who are the cornerstones of the judiciary, and to facilitate their work. The objectives of the initiative relate to **SDG 9.**

In **Turkey,** the **Sports Information System** aims to transfer all business processes within the scope of the activities and services of the General Directorate of Sports to the information technology environment. In order to raise awareness among people who are active in the field of sport or are interested in sport, the system aims to provide public services to all associated partners, and to deliver accurate, consistent, secure information through e-government and web services. The project, which has become the national sports software, will continue to serve citizens of all ages who are interested in professional or amateur sports, by enabling them to follow their sports-related activities in a public and individual sense. The project is directly linked to **SDG 3, SDG 5, SDG 10** and **SDG 11.**



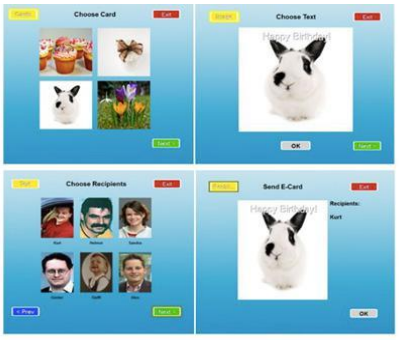
Action Line 2

In **Austria**, the AAL is a funding programme aims to improve quality of life for older people and to strengthen industrial opportunities in the field of healthy ageing technology and innovation. The aim of **Guiding Light** is to develop, tentatively implement and empirically evaluate an intelligent lighting assistance system for maintaining and improving the indoor and outdoor mobility of older people at different stages of the ageing process and to prepare it for market launch. The goal of improving mobility for elderly people will be achieved by enhancing their spatial and temporal orientation by means of a lighting way guidance system. Guiding Light is a light-based assistance system that helps participants to maintain their daily schedule defined by time and spatial locations throughout the day (and night) inside their apartments. The project is relevant to **SDG 3.**



System-Context of GuidingLight

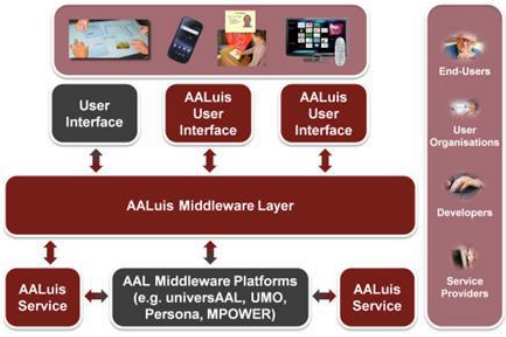
In **Austria**, the overall objective of the Austrian-based **ALICE** initiative is to enhance the quality of life, sense of well-being, social interaction and connectivity of elderly people in their home environments. Elderly people often have limited mobility; they may be housebound, often living some distance away from their friends and family. They may lose touch with their loved ones and friends, becoming socially isolated and lonely. ALICE focuses on the challenge of making their later years happier, more satisfying and socially enjoyable. ALICE aims to research, develop and integrate a set of ICT-based services into users' existing television sets, allowing elderly people to enjoy the experience of communication and social interaction based on ICT. In this way, ALICE seeks to enable elderly people to remotely share moments of joy, laughter and fun as if they were face-to-face with their loved ones. This initiative is linked to **SDG 16.**



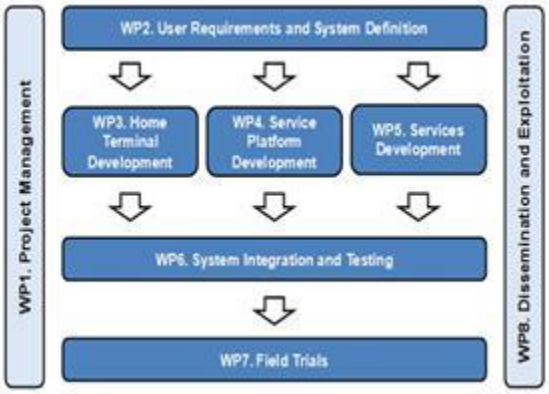
(The process of sending a greeting card with the ALICE service)

In **Austria**, the **2PCS** system aims to improve the mobility, information accessibility and the subjective as well as the objective safety of elderly people. A further goal is to reduce the emotional and psychological burden for carers and family members and to improve mobility, safety and freedom throughout all relevant life phases. The goal is to develop an at-tractive, intelligent, demand-oriented and age-independent personal protection and care system (2PCS device and infrastructure) avoiding stigmatization, restriction of freedom and permanent monitoring. The 2PCS solution is based on a unique com-bination of innovative software features and state-of-the-art technologies aligned to a life-phase-oriented business process logic developed in Austria. The project is directly linked to **SDG 3** and **SDG 16**.

In Austria, the **AALuis** project aims to facilitate connecting different services to different types of user interfaces, to enable future users of Ambient Assisted Living Systems to use more services in line with their preferences. Information and communication technology used in combination with services to promote well-being can bring significant benefits to elderly people. Giving users the freedom of choice to use their preferred ICT devices and find the most suitable way of interacting with them is one of the essential factors to promote the widespread use and acceptance of innovative technology. Many services from which elderly people could benefit have user interfaces that are not easy to access, adopt or use owing to the specific needs of the target group, namely the elderly population. The project is relevant to **SDG 3** and **SDG 16.**



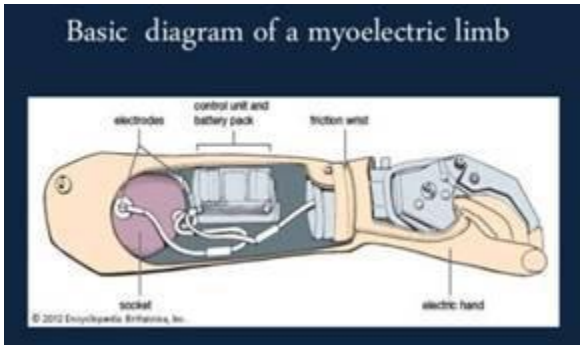
In **Finland,** the **AMCOSOP** project aims to reduce the loneliness and fear of isolation experienced by elderly people by providing users with a sense of contact with their relatives, friends, and healthcare personnel, and ensuring that elderly people are never left alone. A software platform for managing communication and user-friendly terminal devices have been developed. Information from people in the safety net is collected and displayed in visual form to elderly people, enabling them to decide when to initiate social connections or other activities, or to connect to a ser-vice provided by the system. Using the system, it is also possible to connect independently living people to ser-vice networks available in their region. As a new system is developed, it brings new business opportunities for system developers, system administrators and local system service integrators. The project is relevant to **SDG 3** and **SDG 16.**



In **Finland,** there is an initiative to help elderly people to communicate. The results of development and research activity are complete, and a stable interactive platform has been modelled to be used by elderly people to enable them to communicate via the Internet and to use Internet Protocol Television channels or Internet channels in a simpler way. A social media-based website, Old Foxes, has also been developed for the use of elderly people. The product responds to needs relating to technology use for all older adults, bringing to their desks for the first time the possibility of communicating with others with a similar profile via modern technology and the Internet. This application from Finland is expected reach the market in one or two years, due to the large-scale commercial and dissemination activities that first need to be performed properly. The project is relevant to **SDG 3** and **SDG 16.**

SoMedAll

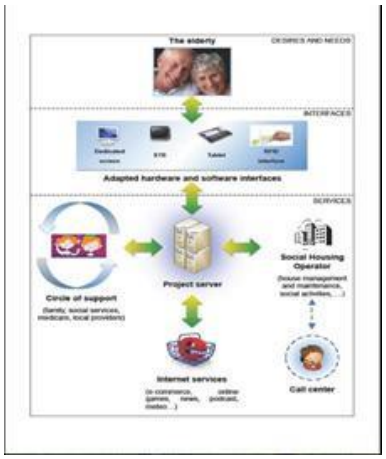
In **France**, the **Bionic hand** project consists of the manufacture of an open source myoelectric fore-arm prosthesis – in simpler terms, the manufacture of a bionic hand for amputees. Since a prosthesis consists of several elements, the project brings together technical skills ranging from mechanics to prosthetics. Based on the user experience (Nicolas Huchet), the project federated volunteers around the disabled persons who were introduced to digital manufacturing and open source in a fab lab. The goal is to document the manufacturing steps and make the prosthesis accessible to as many people as possible. It is therefore not a high-tech product designed by engineers, but a low-tech project seen by makers: that is to say, best and cheap. The project is relevant to **SDG 3**.



In **France**, a new project aims to develop and use recent and rapidly developing biologically inspired technology, involving event-driven, compressive sensing of audio-visual information, to create a new generation of low-power multimodal human-computer interfaces for mobile devices. The visually impaired and elderly people, who often suffer from mild speech and/or motor disabilities, experience significant and increasing barriers in access to ICT technology and services. The proposed project is based on two main technology pillars: an air gesture control set, and a vision-assisted speech recognition set. The air gesture set exploits EDC vision for low- and high-level hand and finger gesture recognition and subsequent command execution; the speech recognition set combines temporal dynamics from lip and chin motion acquired using EDC vision sensors with auditory sensor input to increase the robustness and background noise immunity of spoken command recognition. The project is relevant to **SDG 4.**

In **France**, **W4** is a non-profit organization and Europe's first crowdfunding platform dedicated to promoting girls' and women's empowerment in developing and developed countries, with a focus on harnessing SDG5(b). Founded in 2012 by a team of passionate social entrepreneurs and registered in France and the United States, W4's overarching objective is to promote girls' and women's equal access to, and participation in, information and communication technologies. The team at W4 ardently believes there is an unprecedented opportunity to accelerate girls' and women's empowerment by ensuring their access to skills training and leadership in ICT. The team strive to address the issue of the gen-der digital divide by providing underprivileged girls and women with access to ICTs and digital skills training, ranging from digital literacy to specialized IT skills. The project is relevant to **SDG 4** and **SDG 5.**

In **Germany**, an initiative has been launched to promote autonomy among older consumers by providing a self-service solution system, enabling them to choose how to respond to situations. The project aims to improve the lives of elderly people living in social housing by developing the digital infrastructure for social housing and providing better access to services. The solution aims to provide easy-to-use technologies and services in social housing flats to facilitate better quality communication and improved access to package services for elderly people by piloting a European model of "connected flats" for elderly people, featuring specific equipment enabling easier interaction with family, service providers and housing operators. The partners involved in the project will develop a digital infrastructure for social housing and a gateway to their services. The project is relevant to **SDG 3** and **SDG 16.**

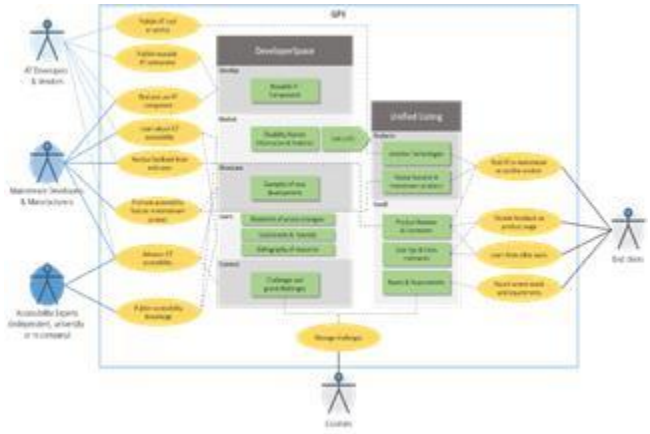


In **France**, A person losing sight is exposed to a strong and rapid decline of his/her psycho-socio capabilities, leading to social seclusion, cognitive decline, and a restriction of mobility. In this context, the access to a digital environnement is nothing but an extraordinary compensation tool, enabling to remain active both cognitively and socially thanks to writing, reading, and the access to communication and information. The **Universally Accessible Personnal Computer** (U.A.P.C) encompasses a full set of assistive technologies for visual-impaired people, regardless their age or their limitations : - an all-inclusive low-vision software suite, enabling to customize colors, themes, type and size of character fonts, contrasts, pointer, zoom *24 etc. - a screenreader available in 12 langages with high-quality voices and customizable for each and every sight and age - a reading machine to make the computer read each and every printed document thanks to a scan or a mini-scanner. - a « Tactos » solution to give access to maps, ² lines, geometrical shapes, thanks to a tactile perception - a braille transcriptor to enable each and every blind user to have a live transcription of every content (music, math or text) This project is related to **SDG 4, SDG 9,** and **SDG 16.**

HYPRA
EMPOWERING HUMAN PROGRESS

In **Germany,** the **ASSAM** project aims to compensate for the declining physical and cognitive capabilities of elderly persons through the user-centred development of modular navigation assistants for various mobility platforms, such as walkers, wheelchairs, and tricycles, thus facilitating sustained everyday mobility and autonomy via a seamless transition from indoors to outdoors in environments such as residential complexes or the local neighbourhood. The goal of the project is to develop modular assistance systems for all platforms. For non-electric platforms, the Navigation Aid comprises odometry hardware in cooperation with a smartphone or tablet computer with GPS that interacts with OpenStreetMap for precise navigation. The project is relevant to **SDG 3** and **SDG 16.**

In **Germany, Prosperity4all** focuses on developing an infrastructure to facilitate the growth of a new ecosystem, based on self-rewarding collaboration; that can reduce redundant development, lower costs, increase market reach and penetration internationally, and create the robust, cross-plat-form range of mainstream and assistive technology-based access solutions required. This will be done through a process based on true value propositions for all stakeholders and will create a system that can profitably serve markets as small as one, at a cost that is affordable for individuals and for society. This infrastructure will use cloud, crowd, game and smart technologies to: bring new players, with both low and high technical skills, into the development and delivery ecosystem; introduce accessibility as a ubiquitous service; and combine auto-configured access features built into mainstream products with assistive technologies and services to create the rich milieu of options needed to bring diverse population groups into the digital future. The project is relevant to **SDG 16.**



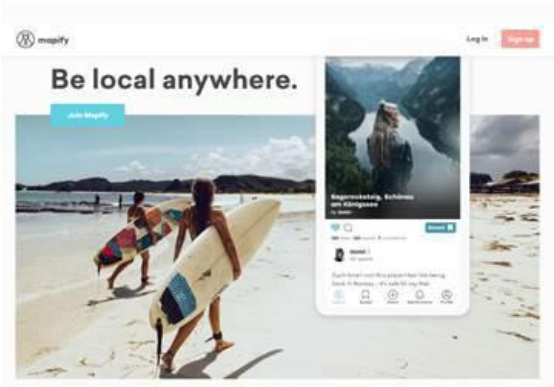
In **Germany**, Wheelmap provides a map for finding wheelchair-accessible places. The map works in a similar manner to Wikipedia: anyone can contribute and mark public places around the world according to their wheelchair accessibility. The places that have not yet been marked according to accessibility have a grey marker. Locations can be marked, quickly and easily, by any user. The information collected in this way is simple to understand, free of charge and can be shared freely. **Wheelmap.org** is based on the world map OpenStreetMap and shows 157 different types of locations. These location types are illustrated by icons marked in green, yellow, red and grey. This is an initiative from Germany that is linked to **SDG 3** and **SDG 16.**

In **Germany**, the objective of the **Adaptable Ambient Living Assistant** project is to develop a mobile robot system that interacts with elderly users, monitors and provides cognitive assistance in daily life, and promotes social inclusion by creating connections to people and events in the wider world. The system is designed for people living alone at home, or in care facilities such as nursing or elderly care homes. The project comprises a mobile robot platform with the capacity to monitor, interact with and access information from online services, without manipulation capabilities. The project also focuses on the issue of social acceptance of robot systems in general, and among the target user groups in particular. The consortium behind the project, which based in Germany**,** aims to integrate a commercial pilot that includes all state-of-the-art communication media. The project is relevant to **SDG 3** and **SDG 16.**

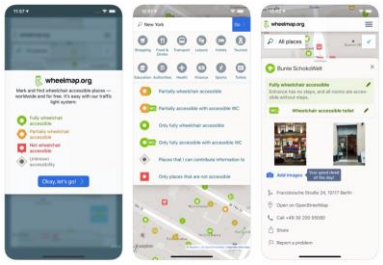
In **Germany**, the **JOIN-IN** project has been developed to combat the problem of social isolation among elderly people, many of whom live alone. Although social isolation is a major health challenge, it is difficult to reach affected elderly individuals. The Join-In Consortium has developed a comprehensive social networking platform for elderly citizens to encourage and support communication and socializing among elderly people. It is connected to an integrated platform and portal called Memofix. Memofix is a computer game aimed at the older generation, designed to maintain and enhance cognitive abilities and to facilitate socializing, which is responsive to different hardware platforms like a biking exercise game and video conferencing that allows bi-lateral or group conferences. The project is relevant to **SDG 3** and **SDG 16.**

Fig. 1 Join-In Social Network

In **Germany**, an initiative called **Mapify** aims to help people plan their travels. Taking the step from browsing for inspiration to actually putting travel plans into action can get exhausting at times. The Mapify team believes that to travel means to inspire and explore, to connect and to re-in-spire, and seeks to ensure users experience exactly that. Mapify is designed to help users discover where to head next, what to pack and who to go with. Mapify is a travel companion- providing users with travel advice and connecting spontaneously- that is available around the clock, while they enjoy exploring the planet. Mapify can also be used to share the places that users have found, the stories of the people they have encountered and experiences they have had along the way. It saves and compiles recent trips in a way that makes recalling and sharing memories easy and beautiful. The goal is to simplify, amplify and "mapify" the way we travel. This initiative is related to **SDG 3.**



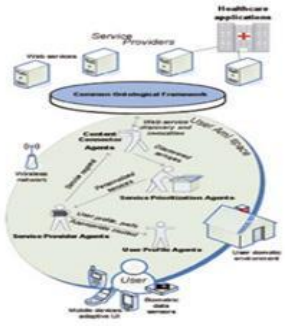
In **Germany**, **Wheelmap**'s front-end is a web-application optimized for mobile devices and native iOS and Android applications. The back-end is a server which can be also used by others through a REST-API. The code is published under an open source license. The back-end not only ingests data from other databases and APIs, but also from Internet-of-Things devices such a hardware sensors. One example is an elevator sensor which measures an elevator's movement to detect whether the elevator is in operation or out of service. This is critical information for people who rely on elevators, such as wheelchair users. In a separate project we explore how machine learning can help decide whether an elevator that does not move for a while needs servicing or is just not being used. The data format of the back-end has been developed under the consideration of dozens of other formats describing the accessibility of physical places (such as restaurants, museums, etc.). This new format is about to go into a standardisation process for everyone to use. This project is related to **SDG 9** and **SDG 16**.



In **Germany**, **EVE** is a cloud-based service that recognizes speech with artificial intelligence and automatically generates live subtitles, live translations and transcripts of videos, events, trainings and lectures. This new digital service makes events accessible to everyone. Artificial intelligence does a lot of work for us today. Algorithms recognize language, faces and are learning every day - without eyes or ears. EVE analyses every single word. First, the algorithm optimizes the signal, and tries to filter out interfering noises, and optimizes the volume of parts that are too quiet or too loud. After that a waveform is generated, which represents the audio signal as an image. EVE compares this image with a huge database of audio signals and searches for similar entries. Each hit is evaluated, but at the end EVE chooses the most likely one. However, EVE does not add data to the database, because of data protection reasons. The database is not the same size for every language. As there are more completed training hours for the English database than the Italian one, EVEs recognition is stronger in some languages than in others. We can measure this accuracy in extensive tests. We translate a test text into the desired language, then a professional speaker speaks the text at normal speed and EVE listens. After that, we correct the result and compare it with the source text. Every mistake in spelling, every wrong word and every wrong punctuation are counting as errors. From this number of mistakes, we calculate the error rate for the corresponding language. EVE has for example an accuracy of 97% for Japanese. EVE is running currently on Microsoft Azure with a server in Western Europe. This project is related to **SDG 9 and SDG 16**.

EVE
AUTOMATED LIVE CAPTIONS

The **REMOTE** project, developed in **Greece,** will advance the state of the art in the fields of tele-healthcare and ambient intelligence. It will enhance elderly people's personal environment through audio-visual and sensor/motoric monitoring and automation capabilities to track vital signs, activity, behaviour and health; it will be able to detect risks and critical situations and to provide, proactively and reactively, effective and efficient support at home. The project aims to enable professional carers to remotely access the past activity and medical data of their patients at any time and from any location, and to promptly diagnose and react to risks to health and life. The project aims to define and establish a multidisciplinary and integrated approach to addressing the needs of frail older adults, especially at-risk elderly people living in geographic and social isolation who also suffer from chronic conditions such as hypertension, arthritis, asthma, Alzheimer's, and Parkinson's, and have coexisting lifestyle risk factors, such as obesity, high blood pressure, smoking, alcohol abuse or low levels of physical activity. The project is relevant to **SDG 3** and **SDG 16.**



In **Greece**, the main goal of the **Elder-Spaces** project is to radically change the way social networking is delivered to, and used by, older adults (typically healthy individuals aged 55 or older), with a view to encouraging them to join social networks and thus enhance their social participation, active living and overall quality of life. Elder-Spaces plans to design a novel ICT-based social networking platform (beyond existing networks for senior citizens), along with a range of applications delivered through this platform. Elder-Spaces aims to make sure that the platform is user-friendly and appeals to people who are un-familiar with technology, as it is designed to optimize quality of life (for example, by providing more recreational opportunities, improved healthcare and better mobility). This initiative from Greece is in line with **SDG 3** and **SDG 16.**

In **Greece**, the **PeerAssist** project focuses on conceptualizing, designing, implementing and demonstrating a flexible peer-to-peer platform that will allow elderly people (not necessarily familiar with ICT technologies) to build dynamic virtual communities based on shared interests and needs. The PeerAssist platform will facilitate establishing, on demand, ad hoc communities with friends, family, neighbours, caregivers, facilitators, care providers and others, based on shared interests and communication needs. The community building and peer-to-peer interaction will be achieved using information extracted from peer roles, profiles and user modelling, a context that describes the overall user environment, and the specific request initiated or service provided by a peer, all of which are represented semantically in a machine understandable form. The project is relevant to **SDGs 3** and **16.**

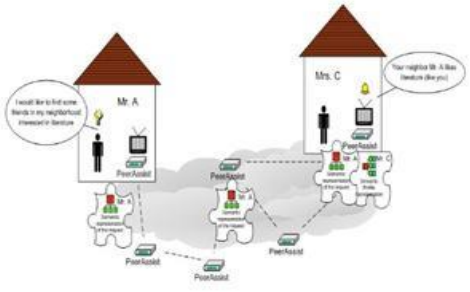
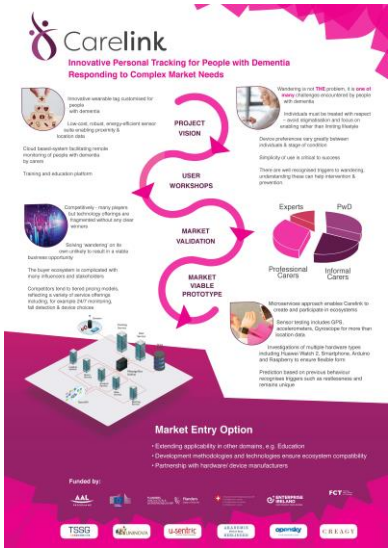


Figure 1: The PeerAssist P2P concept

In **Hungary**, **ELDERHOP** is creating a solution designed to run on existing and future open-source mobile and Internet Protocol-connected television platforms. Mobile platforms and devices (both tablets and smartphones) will be selected on the basis of collected end-user expectations and usability studies. Easy-to-use mobile interfaces will be created and tested, to ensure ease of navigation for elderly people. Homesys will develop an easy-to-use shopping comparison Internet Protocol Television application that will allow users to see what products are available in a given store and at a given price. The application will also use of a near-field communication payment system. Further applications (such as an alarm button, location tracking, etc.) will also be integrated. Field trials will be organized in Hungary and Austria, and end-to-end solutions will be available for demonstration in order to ensure good end-user evaluation. During the field tests, trained mentors will help elderly test subjects to learn how to use the applications. The project is relevant to **SDG 3** and **SDG 16.**

In **Hungary, EVA** voice-controlled eyewear has been developed for the visually impaired. EVA eyewear uses artificial intelligence to recognizes objects, texts, signs and verbally describe what it sees. EVA can significantly improve everyday activities such as walking, reading, recognizing objects and socializing. EVA eyewear can read and vocalize text placed in front of its "eyes" when instructed. It continually scans and analyses its surroundings and relays what is happening in clear sentences. It also establishes its geographic location to identify where users are, and helps them to memorize new routes, helping them to avoid feeling lost when going somewhere new. EVA can access e-mails and texts, read them and help to compose a reply. Eva helps users to stay connected and to communicate. The project is relevant to **SDG 3.**

In **Ireland**, the **Carelink** platform is designed from the ground up to be secure, extensible, and performant long into the future. To achieve this, we have adopted the increasingly recognised microservices approach, where logically distinct pieces of application code are developed and deployed separately. These services communicate with each other using a combination of REST and messaging. This allows services to be improved continuously, and new services deployed at will. "The purpose of Carelink is to safely and positively manage wandering behaviour in people with dementia. Carers can track their loved one's location, dynamically set safe or unsafe zones and receive alerts, with location details, if their loved one wanders into a designated unsafe zone, or out of a marked safe zone. The application can also determine behaviour that may be indicative of an imminent wandering event allowing early intervention and can predict location in the unlikely event of loss of communication. This project is related to **SDG 16**.



In **Israel, GGateway** – the first ICT-focused social enter-prise in the country – was launched in 2012 as an initiative by the United Nations Relief and Works Agency. In 2016, GGateway became an independent non-profit entity, with a hybrid model featuring a business and a social aspect. GGateway works as a bridge between recent in-formation technology graduates and the private sector employment market, offering the first commercially sustainable end-to-end solution to growth challenges facing local ICT businesses. The major objective is to create new job opportunities by hiring recent graduates, especially women, outsourcing information technology services or freelancing opportunities in ICT areas not yet covered by the local market in Gaza, while enhancing the skills and competencies of graduates through capacity-building during their daily work. The project is relevant to **SDG 8.**

In **Israel, Eyesight** offers the most advanced edge-based computer vision and artificial intelligence solutions. The company's technology improves users' daily life experiences in the car, home, and with other consumer electronics, using intelligent interactions that are responsive to users and their actions. The company's technology utilizes proprietary algorithms to deliver a range of applications: from passive sensing with user presence detection, to active interactions using touch-free gesture control. With Eyesight's technology, devices now "see" and "understand" their users, unlocking a world of enhanced user experience. EyeSight has developed an in-car artificial intelligence-based vision system that claims to be able to detect when a driver loses concentration or gets dangerously distract-ed. The project is relevant to **SDG 11.**

In **Israel**, the **RightHear** solution can turn any public space (indoors and outdoors) into an accessible environment for people who are blind, visually impaired or with other orientation challenges. We are proud to work with big companies in almost any sector - from Shopping malls and Hospitals to Government buildings and even airports. There are over 1,000 locations that had already installed our solution and by doing that, allowed our users to navigate and visit there independently and privately. RightHear solution is very easy to install (no electricity, internet or GPS is required) and once done, it helps the venue to be more compliant with the regulations, expending its market and in a relatively low cost. This project is related to **SDG 9** and **SDG 16**.

RightHear

In **Israel**, Introduction People with disabilities make up 15.6%* of the world's population. Investment in Accessibility paves their way towards an equal, independent, and respectful integration into society. **A-Check**, (©Tamar Negishut) is a business-oriented solution created to enable a standard tool that compares the actual accessibility level in an establishment with the regulatory demand. It allows business owners to fully understand the specific accessibility

requirements necessary, in order to create an equal, and barrier-free participation of all people in all daily aspects of life. It also provides a standardized tool for accessibility engineers, to verify regulations in a computerized, efficient, and quick way. Why A-Check is needed? 1. Surveying existing establishments is an important activity. This project is related to **SDG 9** and **SDG 16**.

In **Israel**, **Tunefork** has developed what we believe is the most accurate self-hearing test in the world. With sophisticated algorithms (backed by patents) we allow users to take a short test and obtain clinically accurate results of their hearing condition. With the results Tunefork calculates and makes a unique FIR filter that changes any audio content and adjusts it to answer the user's needs. We are using the benefits of Big Data to capture and analyze hearing test results from thousands of users to improving our technology, by smart analysis and deep R&D process. In addition, we have a data bank of the audio specifications of thousands of devices, headphones, speaker systems and other audio equipment, which we use to help match Audio Profiles to optimum levels. Tunefork invites the user to use our app to conduct a simple hearing test which characterizes the user's specific hearing condition. The haring test is at a professional, clinically accurate standard. It generates a personal Audio Profile, the results of which are calibrated to account for the hardware gain and frequency response, and then used to tailor a high-order FIR filter to compensate for the user's hearing loss. This project is related to **SDG 9** and **SDG 16**.

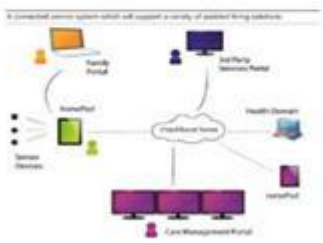
Tunefork
sounds right

In **Italy, OASIS** is introducing an innovative, ontology-driven, open reference architecture and platform, which will enable and facilitate interoperability, seamless connectivity and the sharing of content between different services and ontologies in all fields relevant to applications for elderly people and other groups. The OASIS platform is open, modular, holistic, easy to use and standard-compliant. Over 12 different types of services are connected by the OASIS platform to benefit elderly people, covering user needs and wants in terms of independent living applications (nutritional advisers, activity coaches, brain and skills trainers, social community platforms, health monitoring and environmental control). Applications are all integrated into a unified, dynamic service batch, managed by the OASIS Service Centre and supported on all types of mobile devices (tablets, PCs, personal digital assistants, smartphones, automotive devices, interactive televisions, etc.). The project is relevant to **SDG 3** and **SDG 16.**

In **Lithuania,** the "**smart postal delivery worker**" is a new model for providing postal services, operating in 12 rural areas and some cities. Postal delivery workers are using tablets featuring a special task manager called MLIS, developed in cooperation with *UAB Informacinių technologijų organizacija*. The application helps to automate various tasks and to eliminate the need for paper documents. The mobile system allows postal delivery workers to work more conveniently and to provide all mail services to residents at home. By introducing modern technologies, the initiative aims to increase the availability of postal services, offer new opportunities for convenient use of such services, and improve the working conditions of postal delivery workers. Their work is becoming computerized and paper documents are no longer necessary. The application of modern technology facilitates professional development and encourages learning, regardless of the age of the postal employee. The project is relevant to **SDG 9.**

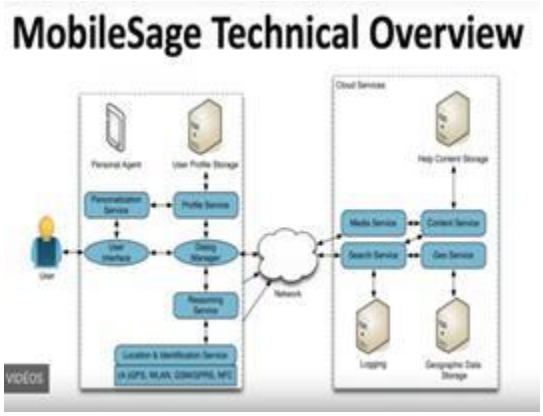
In the **Netherlands**, **ConnectedVitality** seeks to address the problem of loneliness among older people. Decreased mobility, loss of loved ones and diminishing mental capacity can all contribute to the onset of loneliness in older adults. ConnectedVitality aims to combat this problem through the development of a video communication network that is intuitive and facilitates communication on a much deeper level than traditional technology. The project's mission has been to develop a video communication network that enables housebound senior citizens to organize their social network, choose an activity and select levels of social interaction according to their individual needs, abilities and lifestyle. This is an initiative from the **Netherlands** aligned with **SDG 3** and **SDG 16.**

In **Norway**, Inclusion Society provides a preventive health solution for senior citizens at home and in care institutions via a management portal that offers an overview of service users' status using data collected by medical and smart home sensors. By knowing when to take action, the care manager on duty can focus on preventive health principles. The solution consists of the homePad – a user-friendly intuitive touch screen tablet; the friends and family portal – facilitating easy communication and remote care between service users and their families; and the nursePad – designed to be user-friendly and with an electronic medical record function for nurses visiting senior citizens at home or in care institutions. Inclusion Society is a connected service system developed in Norway to support organizations to deliver better community care service. The aim is to help people adapt their lifestyles, improve their health and feel connected. The project is relevant to **SDG 3** and **SDG 16.**



In **Norway**, the **MobileSage** project targets elderly persons with or without motor, perception-related or cognitive impairments. The idea behind MobileSage is to provide elderly people with context-sensitive, personalized, and location-sensitive tools that allow them to carry out everyday tasks and solve daily problems on a self-service basis, as and when they occur. This is made possible by producing and using a mixture of professional and user-generated content that supports the principle of helping people to help themselves. Such help can be provided both in the home environment and on the go. MobileSage denotes a personal agent on the user's

smartphone, aiming to provide relevant, accessible and usable content in a personalized and multimodal manner, and it uses mechanisms for adaptive and learning user interfaces. The project is relevant to **SDG 3.**



In **Poland,** the **arVerse** project is an initiative to create a new generation of augmented reality platforms and ecosystems, allowing this technology to be widely adopted by the mainstream. Users will be able to use powerful augmented reality logic and content to make their lives easier. The community will have access to a unified platform and ecosystem for creating and making a prof-it from the new generation of augmented reality experiences. The arVerse Project aims to revolutionize the world by adding a new, augmented reality-based digital dimension to the real world. Anyone with a smartphone or smart glasses will be able to enter the arVerse digital dimension and experience augmented reality in a new, powerful way. The project is relevant to **SDG 3** and **SDG 4.**

In **Poland,** a **video translator** has been developed to translate from sign language into Polish, and vice versa, using computer software. It facilitates easy and comfortable communication between deaf (or hearing impaired) persons and translators. The device is carried by certified sign language translators. The video translator is designed specifically for all kinds of administrative institutions in Poland (town and city halls, finance offices, police offices, hospitals, etc.). Moreover, the service

is also suitable for private entities that wish to enhance customer satisfaction (for example, banks, private clinics and private schools). The project is relevant to **SDG 3.**

In **Poland**, as part of the Digital Poland Operational Programme, financed from the European Regional Development Fund and the Polish State budget, the Digital Poland Project has been developed to eliminate territorial gaps in access to high-speed NGA networks. The initial aim was to provide access to NGA services of at least 30 Mbps to over 700 000 households located in rural and remote areas, and access to services of at least 100 Mbps to schools throughout Poland. The Digital Poland Project Center invested public funds into 160 projects that are currently deploying over 105000 km of broadband infrastructure in excluded areas. This investment has surpassed our initial expectations, as the projects will provide broadband access to 1.9 million households (70 per cent of all households covered by the project are located in places with fewer than 5 000 inhabitants). Furthermore, telecommunication operators will connect 11612 schools (almost 50 per cent of all schools in Poland). The project is relevant to **SDG 1, SDG 4, SDG 8** and **SDG 9.**

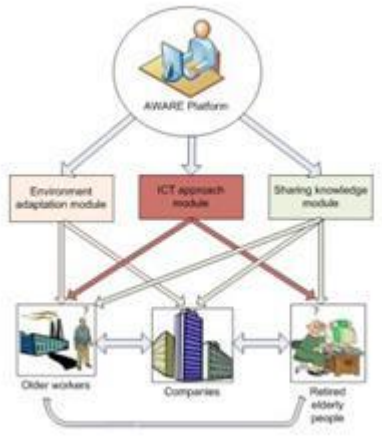
In **Slovenia**, **Feelif** d.o.o. is a high-tech company with a focus on information systems for blind and visually impaired people. Our goal is to empower them to easily access information in a digital format. Feelif d.o.o. has its roots in the well-established Slovenian company 4WEB d.o.o., which has been developing web and mobile applications since 2000. The patented technology developed by 4WEB d.o.o. is used by Feelif in its own research and innovation activities. The company has invented technology that enables blind people to feel shapes on a touch screen.

That technology is now being used to create multisensory digital games and educational content for blind and visually impaired people. With our disruptive technology, we are boldly discovering unknown fields and coming up with new solutions every day to help the blind and visually impaired. The project is relevant to **SDG 3.**

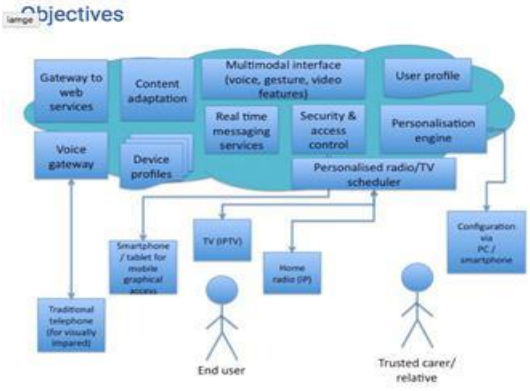
In **Spain, 3rD-LIFE** aims to improve the quality of life of older people providing them with a virtual means of interacting with other users, as well as other functionalities, through the development of a tool featuring a three-dimensional virtual environment especially adapted for use by older people. With only a computer and an Internet connection, users will be able – from their own homes and using their own voices – to communicate with other users, make audio and video calls to real world terminals and have a happier and more active life. Users will be represented as avatars, given the importance of ease of accessibility, usability and navigation. The target group is mainly people aged between 60 to 75 years, without specific cognitive problems. The project is relevant to **SDG 3** and **SDG 16.**

The **AWARE** project is funded by the Ambient Assisted Living Joint Programme and the national funding authorities of **Spain, Germany, Italy** and the **United Kingdom**. The AWARE project, created within the framework of the AAL European Program, aims to help older people remain active through the use of ICT tools, thereby making an important contribution to a “shared economy of knowledge”, and helping to improve their quality of life. To this end, the Senior Experience Network (SEN+) has been developed. The SEN+ platform is a specific social network with three integrated modules on environment adaptation, shar-ing knowledge and an ICT

approach. This novel solution is based on the principles of the social network, where services such as chatting and blogging are complement-ed by specific services aimed at the needs of an ageing workforce and of elderly people. The project is relevant to **SDG 3** and **SDG 16.**



The **GoldUI** consortium is an international collaboration involving **Spain**, the United Kingdom and Italy to ensure complementarity in terms of capability, expertise and market access, and covers all parts of the value chain of the GoldUI project. The objective of the AAL-funded GoldUI project is to improve the independence and participation of older people, for whom technology can present spe-cific problems and difficulties. In order to foster their independence and participation, GoldUI adopts an end-user perspective to develop and test technological solutions in the home environment and relating to users' daily activities. GoldUI will allow elderly people to access a wide range of cloud-based services through multiple devices and communication channels: tra-ditional telephony, smartphones or tablets, Internet Protocol television and home radio. The project is relevant to **SDG 3** and **SDG 16.**



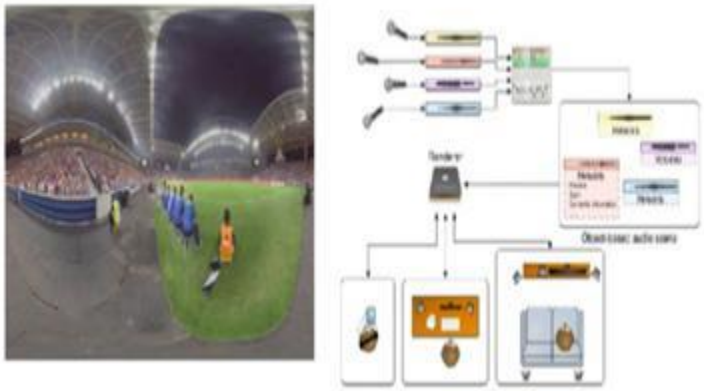
In **Spain**, **NACODEAL** is a European project funded by the Ambient Assisted Living Joint Programme that aims to enhance the quality of life of older people and strengthen the industrial base in Europe through ICTs. The NACODEAL project seeks to find new technology-based solutions to the problems that elderly people face performing daily tasks, enabling them to

remain active members of society. These solutions will be driven by augmented reality technologies on a portable device that will give users instructions on how to carry out different daily activities. The device will enable elderly people with memory disorders to continue to live an independent life and, thanks to its intuitive interface, will provide them with easy access to the digital world. Additionally, the device will project an artificial reality into all the rooms around which the user moves, providing different instructions that may help them with their tasks. The project is relevant to **SDG 3** and **SDG 16.**

In **Spain, WayFiS** is a service providing both a standard web service for route pre-planning and an Android OS application for route guidance. The WayFiS consortium covers all areas in the chain value of the project through international collabo-ation between Spain, Switzerland and Hungary. The European WayFiS project (2011-2013), launched as part of the Ambient Assisted Living programme, aims to improve the capability of senior citizens to plan, manage and execute travel and transportation projects at their own discretion, by solving the problems they encounter when trying to move in unknown indoor and outdoor environments, thus enabling them to participate in a self-service society. The problems addressed by this project relate to access to information, visual problems, walking and/ or motor abilities, cognitive abilities and health limitations. The target group constitutes people aged over 70 years old who are unfamiliar with ICT and with technology in general, who usually live alone and suffer from age-related health limitations. The project is relevant to **SDG 3** and **SDG 16.**

In **Spain**, the goal of the **Immersive Accessibility** initiative is to explore how accessibility services can be integrated with immersive media. With any new technology, it is essential to consider accessibility, especially in Europe, where e-inclusion is a priority of the European Council and the

Single Digital Market. Doing so ensures that the narrative is coherent across languages, ages and abilities, and ensures compliance with regulatory guidelines. It is not acceptable for accessibility to be regarded as an afterthought; it should be taken into account throughout the design, production and delivery process. The Immersive Accessibility initiative will explore new deployment methods for the following services – subtitles, audio description, audio subtitling and sign language – in immersive environments. The aim is to move away from the constraints of current technology into a hyper-personalized environment where consumers can fully customize the experience to meet their personal needs. The project is relevant to **SDG 3**.



In **Spain**, due to compliance with legal obligations, **ShowMeText** has become increasingly common to include automatically - generated Subtitling in the process of signal distribution. Although there are encoders that allow for automatic generation of good quality subtitles, it is necessary to use fully cloud-based systems that allow for an increase in subtitles quality through automatic learning techniques. The system implemented in RTVE (Radio Televisión Española, the largest public broadcaster in Spain) addresses the need to simultaneously subtitle 11 regional news programs. The impossibility of bringing together 11 stenotypists or 11 re-speakers simultaneously to do manual subtitling for these live news programs led RTVE to use the proposed cloud-based live subtitling system. This project is related to **SDG9** and **SDG16**.

In **Sweden**, at **imagiLabs** we make coding fun for teenage girls. We want girls to have equal opportunities in the future, and if technology is the future then girls need to be equipped with the skills to help shape technology and therefore the future! But today women make up only 17% of the tech workforce as well as university students in technology and there are no products targeting specifically teenage girls in order to spark their interest for coding. imagiLabs is tapping into this underserved market. Our product offering consists of a mobile platform, programmable

accessories, and a community to teach programming. The mobile application pairs with the programmable accessories and introduces users to coding in a fun, tangible and engaging way, removing a large barrier to entry. The app allows sharing and collaboration to retain users' interest through a community platform where users can see what others create with code and can help each other. It also provides access to coding tutorials in the form of games. Girls learn a real programming language and apply it to change the color of the LEDs embedded in their accessory. What makes us innovative is that we are giving an intrinsic motivation for users to want to learn and improve their coding skills: the better the programming skills the cooler the designs on their wearables. The first physical product is imagiCharm, a programmable keychain accessory. imagiLabs creates a unique solution for engaging girls between 12-16 with technology. This project is related to **SDG 4, SDG 5, SDG 9, and SDG 16**.

In **Switzerland, Bestmile** aims to make efficient and affordable transportation available to all. Its main mission is to provide a mobility platform that allows operators to support multimodal, multiservice offerings in a safe, accessible, efficient and lucrative manner by integrating autonomous vehicles into the existing transportation system, together with conventional vehicles. Thus, it provides a software platforms to offer turnkey solutions that enable public transport operators to seamlessly connect autonomous mobility services with mass transit transportation networks. The benefits of autonomous mobility do not lie solely in autonomous vehicles, but rather in what such vehicles can offer when they are operated and managed collectively within an integrated ecosystem. Bestmile's Mobility Services Platform enables the intelligent operation and optimization of autonomous mobility services, managing fixed-route and on-demand services regardless of the vehicle brand or type. The project is relevant to **SDG 9.**

Based in **Switzerland**, Flyability is a Swiss company building safe drones designed to reach inaccessible places. By allowing the safe use of drones inside cities, buildings, and in contact with people, the project facilitates new interactions and services involving unmanned aerial vehicles and solves the two most critical problems facing one of the fastest growing industries: collision

and injury risks. The company's main market is in industrial inspection where the use of drones eliminates the need for people to enter dangerous and confined spaces to inspect power generators, oil and gas or maritime infrastructures. The company is also active in the fields of search and rescue and security, facilitating assess in emergency situations without putting humans at risk. Flyability is backed by experienced investors who have built, grown and sold an impressive number of technology ventures. Flyability was the winner of the USD 1 million Drones for Good Award 2015 and has won more than 15 other technology and business prizes, raised over CHF 6.5 million in funding, and reached triple-digit growth for three consecutive years. The project is relevant to **SDG 9.**

Based in the **United Kingdom, Millicom** is leading the way in gender equality in the telecommunications industry. The aim of the initiative is to increase the proportion of women utilizing mobile Internet and mobile money services, in order to reduce the digital gender divide. In Latin America and the Caribbean, 49 per cent of women have no access to the Internet, with that number rising to over 67 per cent in sub-Saharan Africa. As one of the leading mobile operators in Latin America and Africa, Millicom believes it is the company's responsibility to break down digital gender barriers and connect women worldwide, empowering communities and supporting women's integration into local economies. To that end, the company has taken a leadership role in closing the digital gender divide through its pioneering commitment to GSMA's Connected Women Initiative in Latin America and Africa. The objectives of the initiative relate to **SDG 5.**

In **United Kingdom**, **Innovation factory** is from Birmingham, Great Britain has developed a solution which is capable of detecting a wide range of sounds (both indoor and outdoor) such as smoke alarms, doorbells, babies crying, car horns and more. These sounds are then pushed as

easily understood notifications through a smart device and vibration bracelet. Unique algorithm for smartphones, which detects a wide range of sounds such as smoke alarms, doorbells, baby crying, car horns and more. The App is connected with the Pebble Watch and Android Wear to get better alerts. This project is related to **SDG 9** and **SDG 16**.

In **United Kingdom**, at high level, the solution can be thought of as a telephony environment co-located with a mobile core with offering a responsive web-based UI for end user self-administration. The user interacts with the website, which controls the call and audio prompts to deliver an assessment of how the user hears with their phone. This is then converted into a tailored enhancement for the user. Once a user has completed setup, they use the service with just their mobile (any mobile) and only need to revisit the web UI if they wish to tailor service again. For more details, visit; https://goshawk-communications.com/what-we-do/ From a telephony perspective, we interface to a mobile network core primarily via a SIP interconnect, using RFC 3261 and TS24.229. We have optional connectivity using Cx/Dx. Service execution is typically managed using ETSI CAMEL phase 2 (which routes the call through the real time audio enhancement). The audio is then usually delivered using G711 (and typically RFC2833). This solution is in the process of being evolved to a fully IMS compliant embedded solution, which will deliver even tighter integration possibilities with mobile AND fixed networks. This project is related to **SDG 9** and **SDG 16**.

Goshawk
Hear the difference

In **United Kingdom**, **Waymap's wayfinding and navigation** offering is designed from the group up specifically to deliver to the ITU F921 standard. For the end user, it is an App on their phone that guides them around. For the venue, it is a platform that serves their maps and live facility data feeds securely and supports services such as emergency response, guided tours and post visit analysis. Waymap is based on a breakthrough in indoor location technology that reduces the need for bluetooth infrastructure whilst at the same time, increasing the accuracy of location to meet

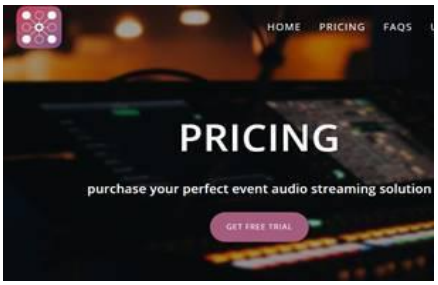
the ITU standard. No bluetooth only solution is accurate enough to do this in public spaces, especially large open areas busy with people. Typically, Waymap sees a 10 to 30-fold reduction in the number of bluetooth beacons required. The technology is also high resilient and continues to provide good guidance even when the installed infrastructure fails (vandalism, theft and poor maintenance are common). This project is related to **SDG9** and **SDG16**.

In **United Kingdom**, at **GiveVision**, we work on wearables that can enhance people's remaining vision as well as enabling them to do more daily living static activities. Our first device is formed of a headset, a phone that acts as a screen and a remote control to operate the device. The kit is registered as a class 1 medical device. People say it is like a portable CCTV. We have developed an augmented reality application in-house which uses image processing techniques to alter the image people look at in order to help them see better. The main functions are the control over the zoom, the contrasts, and the light exposure. We use Android phones and we have tested different image quality and stabilisation to find the one where people have the best experience. We also have tested more than 20 headsets to find one that covers necessary requirements such as comfort and quality of the lenses. As 50% of our testers are over 65 years old, we've designed an easy to use UI. The remote control has 4 buttons. A kit can be customised by us before being deployed and a setup mode enables further customisation in addition to the main functions listed above. This project is related to **SDG9** and **SDG16**.

GIVE **VISION**

Action Line 3

In **Austria**, **auXala** is a unique worldwide audio streaming software that transmits audio in one second via the Internet directly onto mobile devices; no application is needed. The “bring your own device” solution is fully accessible and supports hearing-impaired people at events. The software makes it easy to stream real-time audio; auXala is a multichannel cloud streaming service that will significantly improve the customer’s event experience. It enables users to stream live translations, music or any other audio content from a microphone directly to their smartphone, without the need for an application. The aim is to replace existing audio streaming hardware by providing a more afford-able and scalable solution that is easy to set up – all that users need is a computer with Internet access. Attendees can listen to the audio feed via a website – there is no need to download an application. The project is relevant to **SDG 9**.



In **Austria**, **web accessibility** is an essential part of an open, democratic and inclusive society. The Web Accessibility Certificate Austria (WACA) is the first independent certificate in Austria to prove and demonstrate accessibility in line with international W3C guidelines. It was developed in cooperation with the Johannes Kepler University in Linz, the aid community of the blind and visually impaired people in Austria, the business consultancy my ability and specialized digital agencies. The certificate has been in use since 2016; in 2018, the successful REWE project was launched. The Web Accessibility Certificate Austria is the country’s first quality seal for accessibility on the web in line with international W3C guidelines. This official certificate from the Austrian Computer Society, an independent certification body, is designed to ensure accessibility for all on the website being tested. It fosters web accessibility and complies with legal requirements. The project is relevant to **SDG 3** and **SDG 16.**

In **Austria**, **DayGuide** introduces a novel, ICT-based system supporting older adults suffering from MCI and early dementia in their daily life. Persons with cognitive impairment experience various domestic challenges, depriving them from the pursuit of an independent, self-organized life at home. The project directly responds to these challenges through technology allowing people to live as independent as possible for as long as possible. Our technology provides three major functions to support people diagnosed with related cognitive impairments. Novel, location-specific reminders and guidance. A web-based social platform for communication and organization of tasks. An easy access tool, where access is granted by using a regular mobile phone. This project is related to **SDG 4, SDG 9** and **SDG 16**.

In **Belgium,** the **ABLE-TO-INCLUDE** project seeks to improve the living conditions of people with intellectual or developmental disabilities. The project will produce an open-source Software Developer Kit that will foster the integration of a communicational accessibility layer for people with intellectual or developmental disabilities into any software development project. This will be done by overseeing the creation on an open-innovation community including software developers. The main target users are people with intellectual or developmental disabilities, who constitute one of the most disadvantaged social groups in European countries and require a high level of assistance. Although ICT tools can grant users independence, lack of access to or sparse use of ICTs increasingly constitutes a major form of social and economic exclusion. A secondary but important target group consists of software developers, who will be able to use the new accessibility layer and software developer kit in existing and new software and applications. The project is relevant to **SDG 16.**

In **Belgium, Greenlight for Girls (g4g)** is an international non-profit that aims to reach girls and women of all ages all around the globe, in order to inspire, motivate and help them to succeed in their studies and to take advantage of future opportunities in science, technology, engineering and mathematics (STEM). This is done through incredibly fun events of all sizes that aim to demonstrate the link between STEM subjects and a whole range of careers, and to connect girls with role models and companies, with a view to building their future. Since its inception only a few years ago, g4g has been growing in leaps and bounds. To date, it has reached and personally inspired more than 13 000 students on six continents through more than 90 g4g events, its growing network and its team of over 2 500 role models worldwide. The project is relevant to **SDG 4** and **SDG 9**.

In **Belgium**, the primary end-user group are car drivers aged 55 and more. The **CuARdian Angel II (CARA II)** consortium strongly believes that keeping Europe's ageing population mobile, active and independent is important for a sustainable society. Elderly mobility is paramount for their health, social networks and independent social engagement. Furthermore, prolonging elderly independence reduces societal costs and potentially raises personal prosperity. In the first CARA project (CARA I) our consortium identified relevant needs that are experienced by ageing drivers as well as possible gains and wishes for primary, secondary and tertiary end-users. Through large-scale surveys, in-depth interviews and end-user workshops, valuable insights were gained. With age, driving experience increases, but 'fitness-to-drive' tends to deteriorate, as motoric, sensory and cognitive skills decline. And though so-called Advanced Driver Assistance Systems (ADAS) can offer a mitigating solution, they may also make driving more complex if they are not designed with aging users in mind. This project is related to **SDG 9** and **SDG 16**.

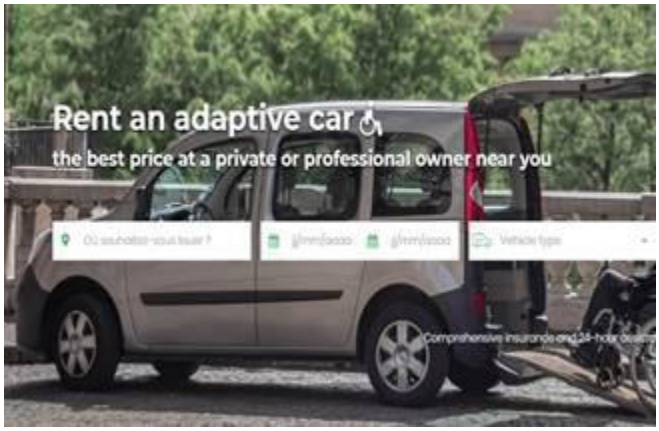
CUARDIAN ANGEL

In **Bosnia and Herzegovina**, people with disabilities are often economically and socially excluded on a much larger scale than in Western Europe. The State has been unable to fully meet its responsibilities to citizens with special needs. People with intellectual disabilities are often placed in institutions, rather than being empowered to live independently. The number of mentally and physically disabled persons in public institutions in the country is estimated at 2 000. Moreover, there is little support for families of children with physical or developmental disabilities. Having to care for a child or other person with a disability precludes parents from working outside of the home, studying, or having any kind of social or personal life. Carers (usually the mothers) become psychologically and physically exhausted, with no end or even temporary relief in sight. The project is relevant to **SDG 3** and **SDG 16.**

In **Denmark**, **DigiPippi** is a non-profit organization working to promote girls' interest in technology and IT on their own terms. DigiPippi makes use of role models, namely women with a wide variety of STEM-based careers; an online and offline community for girls aged 9-13 years to learn more about tech and to break down gender barriers; workshops for girls on relevant topics; and advocacy at national and international conferences and vis-à-vis multinational organizations (most recently at the #DigitalSkills4Her conference organized by the European Union). The aim is to ensure equal opportunities for girls and women to participate and co-create the technological society. This project is relevant to **SDG 4** and **SDG 16.**

In **Estonia**, **DoNotEdit** is the brand name of **ZamenPub**, a medical publishing company registered in Tallinn, with offices in Tallinn and Dusseldorf, that provides services to the World Health Organization and to many medical universities in the fields of medical research and publishing. We have published a large number of articles in prestigious databases such as PubMed and ISI and helped medical doctors and academics in the field of health care to refine research proposals and perform advanced statistical analyses. We also offer special services, such as manuscript translation, design and editing, DOI specification, XML generation, and indexing journals in research database repositories such as PubMed and promoting their scientific publications. The project is relevant to **SDG 4.**

In **France**, **Wheeliz** is a collaborative platform to promote a sharing economy that makes it possible for people in wheelchairs to rent an adapted vehicle from a private individual or a company. Wheeliz is the first website to provide peer-to-peer rentals of cars adapted to wheelchair users. It is now possible to find a vehicle equipped with a ramp or a car with an adapted driving system, throughout France and at a minimal cost. Created in 2015, the website offers individual owners of adapted cars the possibility of renting their vehicles directly to wheelchair users who needs them. With Wheeliz, users have access to the largest fleet of vehicles adapted for disabled travellers, at the lowest rates. Wheeliz was selected as the best social innovation project by the European Commission, and has won multiple awards. The project is relevant to **SDG 3** and **SDG 8.**



In **France**, Rogervoice is an all-in-one telecommunications platform and mobile application that integrates state-of-the-art accessibility solutions. Our platform follows norms recommended by ITU-T T.140 for telecommunications accessibility. We also follow the norms recommended within ETSI and specifically ES 202 975 for relay services. Rogervoice goes beyond this by using voice recognition technology that is augmented by human editors, in real-time, thereby combining the speed (>1000 wpm) with the accuracy (going from 95% to 98%). This project is related to **SDG 4, SDG 9,** and **SDG 16**.

rogervoice

In **France**, **Open Ecosystem Network (OpEN for short)** is a free to use open, cloud based, co-creation environment initiated by Nokia. Open Ecosystem Network empowers individuals to become the next generation of co-creators. Open Ecosystem Network is the place to connect: Discover a world of new opportunities and ideas from the world's leading brands. Collaborate seamlessly with experts from different industries who offer a wide range of skill sets and perspectives. Build, develop and test your idea with your new team using the tools you know and love. Grow by engaging the right people and organisations for incubation and funding, so you can release your innovations globally and make a real-world impact now. As OpEN handles different types of data, security is critical. We take data & IP protection, access rights management, storage and back-ups very seriously. We also maximise data sharing, making it open for women and men to work on and generate new ideas. Providing a secure environment without limiting the access to data is our objective. This project is related to **SDG 1, SDG 3, SDG 4, SDG 5, SDG 7, SDG 8, SDG 9, SDG 10, SDG 11, SDG 12, SDG 13,** and **SDG 17.**

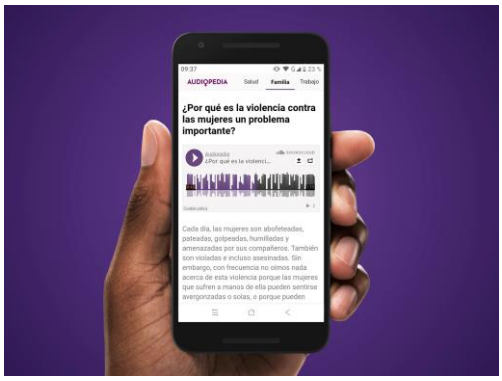
OPEN
ECOSYSTEM
NETWORK

An initiative from **Germany**, **URIDU** is a non-profit, non-partisan organization that empowers rural women in developing and emerging countries. In 2014, more than 200 million people were affected by natural disasters or displaced by conflict and violence. Women and girls make up 50 per cent of refugees. When crises strike, gender inequalities worsen. Access to health care is also limited, increasing mortality and malnutrition rates, particularly for mothers and infants. As a result, 60 per cent of preventable maternal deaths take place in situations of conflict, displacement and during natural disasters. Mobile technology is revolutionizing the world by providing access to critical health knowledge and education. There is a strong case for simple, accessible and cheap technology that can provide free audiovisual content to marginalized populations. We combined the best of both worlds: the ease of use of radio with the versatility of smartphones. This project is related to **SDG 3** and **SDG 4.**

Our Solution for Accessible Health Education

In **Germany**, **FemMap** is a collaborative database that aims to gather information about feminist projects around the world. It seeks to create a historical, trustworthy source about feminism, and to create links between similar projects from different parts of the world, so that project teams can help each other and avoid redundancies in their work. FemMap aims to bring feminists together to achieve gender equality. Launched in January 2016, the website currently features over 150 projects. With articles written in Brazil, Germany, United States, Switzerland, Austria, Netherlands, Egypt, India, Chile and South Africa, FemMap has, to date, reached women on four continents. It continues to work on reaching women all over the world. The project is relevant to **SDG 5.**

In **Germany**, Health and nutrition education programmes tend to engage women, because of their perceived traditional roles as primary care givers. Yet, 500 million women worldwide are illiterate. There is a strong need for a robust and scalable approach which does not rely on the written word to provide knowledge to marginalized populations. **Audiopedia** is tackling this challenge. Audiopedia is a global online project combining relevant and localized SBCC audio contents with easily usable hard- and software. The web site Audiopedia.io was designed to provide access to open knowledge to both CBOs/NGOs and individuals. CBOs/NGOs can benefit by using it as part of their SBCC strategy, as it enables them to search, download, embed and share audio files in several languages. Audiopedia does also provide several technological solutions to make contents accessible to both literate and illiterate audiences. Solar powered audio players have been used to provide health education in several projects in East and Western Africa. Mobile web applications in combination with ad hoc Wifi networks can stream Audiopedia contents without the need of any internet connection and independently from the electric grid. Audiopedia was designed as an open ecosystem, allowing CBOs and NGOs to include their own audio contents, which can be communicated using QR codes or Audiopedia's own link shortening service "mp3.fyi". The goal of Audiopedia is to promote and ease the use of digital audio in SBCC campaigns by providing a coherent infrastructure of contents, technologies and case studies. The community platform Audiopedia.org reflects this claim. This project is related to **SDG 1, SDG 2, SDG 3, SDG 4,** and **SDG 5**.



In **Germany**, Smart technologies are the only way to cope with the demographic change and the lack of nurses as well as medical staff Europe is facing. **Smart Service Power** helps elderly and disabled people to live autonomously in their own homes as long as possible based on an IoT-System with heavy usage of AI. "The digital eHealth assistant ""Smart Service Power"" (SSP) is a new approach in elderly and disabled care integrating sensors, devices, services, and data. People can live independently in their own homes for as long as possible with the safety of a nursing home. The system gives the relatives, who might live far away, freedom of mind – they get information concerning the progression of the state of health, about emergencies and measures taken. This project is related to **SDG 4, SDG 9,** and **SDG 16**.

In **Ireland**, **waytoB** is a smartphone and smartwatch solution that enables people with higher support needs to safely navigate outdoor environments by themselves. It provides icon-based directions on their device, which are based on the user's orientation, and are prompted by vibration. It offers peace of mind to loved ones, who can track the user's location, heart rate and battery life in real time and get notifications if the user gets off track, stops for too long or if other issues arise. The waytoB integrated smartphone and smartwatch solution is designed to help people with intellectual disabilities to get from A to B independently. It allows people to go to new places independently by giving them turn-by-turn directions on a smartwatch or smartphone. The instructions are based on real-time location and orientation data, which makes the navigating experience as easy and stress free as possible. The project is relevant to **SDG 9.**

In **Ireland**, Our technology stack combines the most trusted platforms in the world. Google's Firebase platform ensures robustness, security, and scalability of the **Mobility Mojo** Progressive Web App. We utilize firebase for our hotel vetting process. We use Salesforce, the world's number 1 CRM to allow us to control all aspects of the customer journey and optimise customer service and operational efficiency. And we use Microsoft Azure to ensure all data is backed up safely and securely in order to protect our customers and systems at all times. This project is related to **SDG 9** and **SDG 16**.

Mobility Mojo

In **Ireland**, **Access Earth** aggregates, distributes and curates the world's accessibility information for those living with any form accessibility need. Presently, the Access Earth database can be made use of and contributed to by using the web and mobile application available in the App Store and Google Play Store. Data is currently gathered manually with users, partners and organisations ensuring that accurate accessibility information is updated and clearly portrayed on the Access Earth map. Users can see the rating of a given location - a pub, restaurant, hotel, etc. - and if it has already been rated can use that information to plan their trip. Users may also 'Agree' or 'Disagree' with such information if they believe it to be out of date or inaccurate. An algorithm is used to ensure that each users opinion contributes to the review but does not override it completely without verified user backings. If a venue is not rated, users may simply answer a series of 'Yes' or 'No' questions to easily provide that information back to other users of the app. We have over 100,000 places rated worldwide and over 10,000 registered users. The data gathered this way is analysed and leased out to organisations and government bodies so they can better communicate to their respective constituents and make improvements based on the analytics provided. Access Earth provide this information as a dashboard to paying organisations - sports stadiums, large MNCs, local governments, etc. - so they can better accommodate and include the 15% of people in the world living with a disability. Accessibility information is gathered across the world in multiple different ways using multiple different formats. This project is related to **SDG 9** and **SDG 16**.

Access Earth
Know more. Do more. Live more.

In **Israel, RAY** solutions offer a unique, new mobile experience for blind, vision-impaired and dyslexic people. They can now use mobile phones, smartphones, touch devices and connected digital tools without any obstacles or barriers. The smartphone era – driven by device manufacturers, software and application developers – has brought users worldwide more affordable, more advanced communication with greater access to information and services than ever before. In 2015, the RAY project set out to bring these same lifestyle improvements to blind and visually impaired people in a single, affordable smartphone device that was fully tailored to meet their unique needs. The device features eye-free operation, simple interaction and a com-

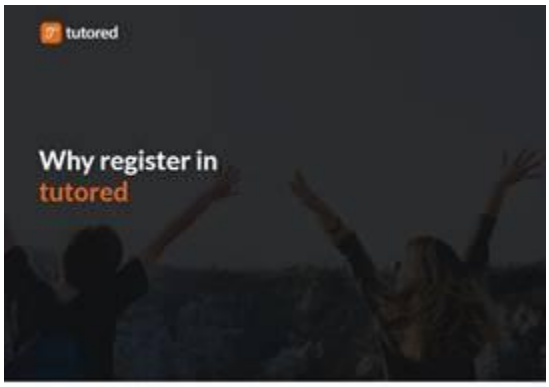
mon interface across any system function – from the operating system to the user interface and specialized content and services. The project is relevant to **SDG 3** and **SDG 16.**

In **Israel**, **Accessttavels.org** provide easy to book accessible for disabled rooms in hotels, no need to contact with a hotel, we collect reviews about accessibility of accommodations, attractions and tours. Only we have the system of local guides with disabilities that can advise to travelers with disabilities from other places best places to stay and to visit with ability to book online. We give to people with disability ability to earn, we give them also travel companions that can help to travel more independently - for example for visually impaired, or professional guides that work in accessible for all travel, we interview and write motivational stories in matter to break also psychological barrier to travel, we also have a special forum that collect day about accessibility. Our solution is multilingual, currently in English and Russian. This project is related to **SDG 9** and **SDG 16**.

In **Israel**, **Carmel 6000** is an Israeli program that empowers young women to solve social problems through high tech. Its mission is three-fold: •Raise, train, inspire and empower a new generation of women social tech entrepreneurs •Use technology to help disadvantaged populations and people with disabilities by working with non-profits and innovating technologies to help them. •Establish Israel as a world leader in social impact entrepreneurship A key program goal is to narrow the gender gap, which sees women, underrepresented as coders, engineers, and entrepreneurs. The program focuses on women, who take part in Israel's national civilian service rather than the military. Carmel gives girls the opportunity to further develop their technical

abilities while bettering Israeli society by helping the most disadvantaged populations. The project focuses on professional and personal empowerment for religious young women. It begins with a programming "boot camp". This project is related to **SDG 4** and **SDG 5**.

In **Italy**, **Tutored** is a social platform dedicated to college topics and talent acquisition with over 300 000 student and recent graduate members. The aim of the project is to help students prepare for university exams in the most effective way, free of charge. Access to free educational tools is key to tackling youth unemployment. Using Tutored, students can share information, notes, textbooks and private lessons with a community of students belonging on the same academic path. Tutored aims to help students create a professional profile and apply for jobs listed by companies that best fit their ambitions. Tutored is also used by enterprises to fill recruitment gaps with skilled millennials. They can enhance their workforce and carry out recruitment activities through a direct connection to an active community of college students and graduates. The project is relevant to **SDG 4.**



In **Italy, PickMeApp** is the intelligent, collective and door-to-door urban transport solution designed for dependent citizens, such as children and young people, the elderly and the disabled. The IT platform includes a user app, a driver app, back-end management software and a smart route optimisation system; the "PickMeApp Mobility" mobile app allows users to book and pay for the service and track passengers on board the vehicle; the smart algorithm processes the various bookings received, producing a shared itinerary and allowing the application of a reduced single fare. The itinerary, planned according to the bookings received and the routes processed

by the optimisation system, is then available on the management software and on the driver app; thus, each single booking is handled by the driver on a timely door-to-door basis. The target of end users of the PickMeApp solution is made up of children, teenagers, the elderly and the disabled people. PickMeApp first of all satisfies their need for mobility and social inclusion. This project is related to **SDG4, SDG9**, and **SDG 16**.

In **Italy**, **Nostalgia Bits** is a web portal aimed at allowing elderly users to upload personal stories. In this part the functions of the portal are structured according to the hierarchy of user types, in expanding circles of available functions from narrow to wide. Back office administrative functions are detailed separately from portal functions. The objective of the Nostalgia Bits project was to develop an innovative social network solution to increase social interaction between elderly people and their families, as well as to improve intergenerational communication. This project is related to **SDG 4, SDG 9,** and **SDG 16**.

In **Italy**, **Nostalgia Bits** is a web portal aimed at allowing elderly users to upload personal stories. In this part the functions of the portal are structured according to the hierarchy of user types, in expanding circles of available functions from narrow to wide. Back office administrative functions are detailed separately from portal functions. The primary targeted users of the portal are the elderly age groups. Keeping the usability of the portal easy and simple is a basic principle of design. Default settings are universally reduced to basic functions, with advanced functions available, but hidden. Accessing advanced functions is a user decision. UI labels are easy to customize or translate during the deployment process. Every type of user is a considered to be a Visitor before login and after logout. Registered members are preferable to unregistered Visitors in using the portal. To foster registration to NoBits, all the functions of the portal are displayed to every user. Members can use all the functions properly. Visitors can use many functions properly. If an unregistered Visitor attempts to use a function that requires registration, Visitor is prompted to log in or register. This project is related to **SDG 4, SDG 9,** and **SDG 16**.

In **Italy**, **Be My Eyes** is a software application developed for iOS and Android devices. The native mobile applications communicates via HTTPS to a web api server, hosted on a Platform as a Service provider. Be My Eyes utilizes the blind or low-vision user's rear-facing camera to initiate a video call with either a volunteer or a company representative. The video call technology is integrated into a simple interface that is easy to navigate and is fully accessible with all accessibility features. The video connection is made through the WebRTC standard using an internet connection, either Wi-Fi or mobile data. After download, the user has to go through a simple registration procedure, signing up as either a blind/low-vision user or a sighted volunteer. After completing registration, the blind or low-vision user has two main options on the home screen, "Call first available volunteer" and "Specialized Help". "Call first available volunteer", will connect the user to a sighted volunteer. The user will automatically be matched with a volunteer speaking the same language. The matching algorithm will also take the timezone into consideration, as volunteers are only contacted during their daytime hours in their local time zone (8 am - 9 pm). The volunteer will receive a notification from Be My Eyes on their device and when answered, they will be connected to the caller. The call consists of a one-way video connection and a two-way audio connection, meaning that Be My Eyes will use the microphone of both parties, but only the camera of the blind or low-vision user, giving the volunteer access to the feed from the blind/low-vision user's camera. Through the Specialized Help feature, blind and low-vision users can connect to company agents at our partner companies. The call in itself works like a call to a volunteer, but will be picked up by an agent at a call center. A desk-top version for company agents is in development. This project is related to **SDG9** and **SDG16**.

In **Italy**, **Pedius** is a communication service that allows the Deaf and Hard of Hearing to make phone calls, without a third-party intermediary, 24/7. We are on a mission to make calling and basic communication more accessible and inclusive for Deaf people. Users type or speak their message into their device and Pedius sends it to the contact they choose, using either the user's own voice or an artificial voice. In real-time the user reads the written translation of the recipient's answer, thanks to Pedius' advanced voice recognition and speech synthesis technologies. Pedius has also developed relationships with large companies that want accessible services for all clients, as well as, work inclusion services for Deaf employees. Most recently, Pedius has launched its subtitling service especially used for events, meetings, and lessons or mandatory courses. With this technology, Deaf, Hard of Hearing, and other individuals with any hearing difficulties are able to follow along in real-time as the transcribed text of the speaker appears on a large screen. This project is related to **SDG 8** and **SDG 10**.

In **Malta**, the many efforts that go into ensuring greater access for persons with disabilities sometimes go unnoticed or are not promoted. **SPOT** seeks to change that situation by enabling members of the public to share their service experiences, and by processing feedback specific to users' needs. SPOT is a free, community-based online platform that lists accessible places across the islands of Malta. At its core, it is a comprehensive directory of available services and related venues. SPOT enables users to browse and filter this information freely. SPOT also lets registered users add new venues and venue reviews. This puts users in control by enabling them to share the most up-to-date information. The project is relevant to **SDG 3** and **SDG 16.**

In the **Netherlands**, humanities research makes extensive use of digital archives. Most of these archives, including KB newspaper data, consist of digitized text. One of the major challenges of using these collections for research is the fact that optical character recognition software (OCR) produces far from perfect results when used on scanned historical documents. Although it is hard to quantify the impact of OCR mistakes on humanities research, such errors certainly have a negative impact on basic text processing techniques, such as sentence boundary detection, tokenization, and part-of-speech tagging. The goal of the new initiative is to bring the digitized text closer to the original newspaper articles through post-correction, which involves improving digitized text quality by directly manipulating the textual output of the OCR process. Although the quality of KB newspaper data would definitely benefit from improving the OCR process itself (improved image recognition), post-correction will still be necessary, because the quality of historical newspapers is suboptimal for OCR. This project is relevant to **SDG 4.**

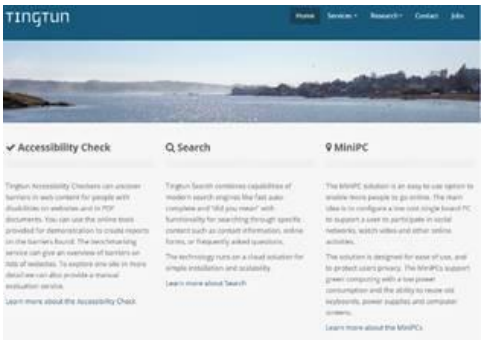
In **Netherlands**, the **FindMyApps** tool, a web application installed on tablets, consists of a library of 180 apps in the domains of self-management and meaningful activities which are assessed as dementia-friendly apps. This was based on a set of important app criteria with regard to interaction, feedback, aesthetic design, app design, customization, obstacles, and age appropriateness. Usable apps are selected by matching personal preferences of people with dementia (i.e. the user profile) with features of apps, and by matching their needs and wishes with the different types of apps. The FindMyApps tool consists of six components, also called pages. Figure 1 provides an overview of the flow of the FindMyApps tool. On the page personal settings (Figure 1a, picture 1), a user profile for the person with dementia is set by answering six questions relating to personal preferences regarding apps with a yes/no button. This user profile is set by informal careers in the training. The preferences are: large font size; less text, many pictures; only in Dutch; real photos; simple to operate; instructions offered. After this, the home page of the FindMyApps tool with the main categories, i.e. 'in and around the house', 'contacts', and 'leisure' (Figure 1b, picture 2), opens. From here, sub-categories (Figure 1c) can be chosen to find usable apps. When a sub-category is selected, the page with an overview of apps in each category (Figure 1d) opens. Each app is presented with a short information sentence, its costs, and an overall score is shown, which indicates the match of the app with the personal preferences;

a higher score indicates a better match. By clicking on the button 'information & download', the page with a description of an app (Figure 1e, picture 3) is opened. More specific information and screenshots of the app are presented, and six scores show the match of the app with all six personal preferences. This project is related to **SDG 4** and **SDG 9**.

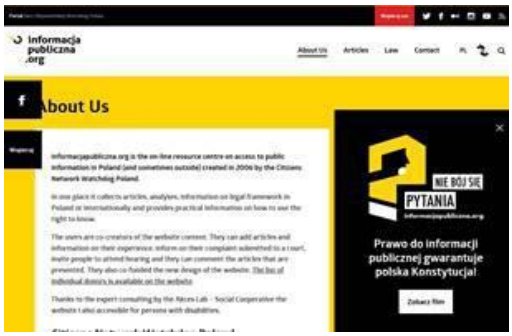
In **Netherlands**, the objective is to recruit stakeholders to engage in the local food supply chain through recruiting and supporting agripreneurs, matching them with the empty space, materials, education, financing and management to grow local, sustainable food. Our results achieved have been organising 150 volunteers, 700 Agtech companies and EU Erasmus programs to transform empty spaces into AgTech AgLabs where they can better grasp the challenges, opportunities and importance of conserving time, space, energy, water to feed their community and the world at large. The impact generated so far has been raising awareness about agriculture among youth, community involvement from a spectrum of stakeholders, investments from EU Commission and private sector, partnerships across the market collaborating in an open-source platform to make consulting more accessible, extending the value and use of empty space to grow food, and make tech materials for building local farms more available. This project is related to **SDG 2**.

In **Norway**, the **European Internet Inclusion Initiative** aims to support the recent European proposal for a directive on the accessibility of public sector bodies' websites, and to build a new com-bination of existing tools to support crowdsourcing-enabled user testing, automated evaluation and surveillance of the web and of audio-visual media. As life expectancy in Europe increases, the number of people with disabilities will also grow, as will the need for accessible public services and online content. Several ad hoc reports have examined the accessibility of public services, including the European e-government study from Capgemini in 2009 and the ANEC report from 2011. The MeAC reports provide better progress overview from 2007, 2008, 2010, and 2011. In some countries, such as Denmark, Iceland, the Netherlands and Norway, national surveys are conducted on a regular basis. An open-source approach will ensure accountable evaluation results and facilitate their adoption. In order to empower policymakers to undertake monitoring and to encourage communities to participate in ensuring that information and public services are accessible and inclusive, the European Internet Initiative will facilitate targeted exchange among leading European government agencies, engage communities and combine existing open-source tools in new ways. The project is relevant to **SDG 16.**

In **Norway**, **Tingtun Termer** is a tool to access definitions of terms directly from the text in which they appear. Term definitions can be sourced from dictionaries or customized in-house to improve accuracy. Tingtun Termer enhances users' privacy and saves time. Tingtun Accessibility Check can identify barriers to web content access for people with disabilities on websites and in PDF documents. The online tools provided for demonstration can be used to create reports on any barriers found. The benchmarking service can provide an overview of barriers on lists of websites. To explore a site in more detail, Tingtun can also provide a manual evaluation service. This project is relevant to **SDG 3.**



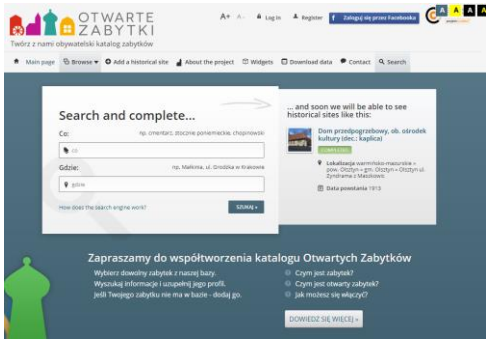
In **Poland**, the **Citizens Network** Watchdog Poland aims to protect freedom of information, including by litigating on behalf of the public and raising citizens' awareness of their right to information relating to courts, institutions and society, and ensuring that right is upheld in practice. Since 2006, the organization has been active in 500 cases, and has submitted around 100 opinions and interventions focused on transparency issues. Annually, it provides 2 000 legal consultations to people experiencing difficulties in enforcing their right to public information. The watchdog takes part in public debates on freedom of information in Poland and actively promotes the right to know. On a daily basis, the organization cooperates with around 300 activists, bloggers and journalists actively advocating on open governance in their communities. Citizens Network Watchdog Poland is an independent, apolitical and non-profit organization that operates as a watchdog and think tank for the benefit of the public. Over the last 14 years, it has worked to promote transparency in the public realm, good governance and accountability in Poland. This project relates to **SDG 4** and S**DG 16.**



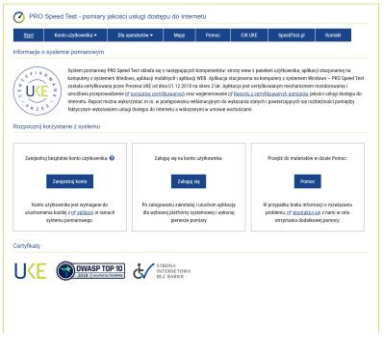
In **Poland**, the **Website Without Barriers** competition is a unique initiative to provide Internet access for all, including persons with disabilities, older persons, poor people or those excluded from digital society. Moreover, the initiative seeks to raise awareness of how to create websites accessible to all, in order to prevent digital exclusion. The Website Without Barriers annual contest is open to everyone, including public entities, NGOs, companies and individuals. The goal of the contest is to select websites that are accessible to people with impaired vision or deaf people. Winning websites will be selected from the following two categories: public sector entities and private sec-tor entities. This project is relevant to **SDG 4** and **SDG 10.**

In **Poland, audiodescription** – as defined and recognized under Polish law on 25 March, 2011– comprises the verbal description of an image or other visual content in an audio-visual stream, intended for persons with visual disabilities. Audio description aims to enable blind people those with impaired vision to consume visual media. The goal is to deliver a thoughtful and accurate description that resembles the original as much as possible. *Fundacja Kultury Bez Barier* specializes in audio description to enable blind people and those with visual impairments to access all kinds of images, particularly films and theatre performances. The foundation offers audio description services for films and performances. It uses professional software (FAB Subtitler and EZ Titles) which facilitate the precise synchronization of subtitles and visual images. This project relates to **SDG 4** and **SDG 10.**

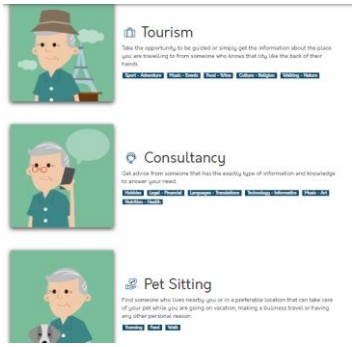
In **Poland**, the ***Otwarte Zabytki*** (Open Monuments) project is designed to facilitate access to knowledge about Polish historical sites and support their preservation. All the project data will be published on the Internet under a Creative Commons Attribution-Share Alike licence, which means that anyone will be able to freely use, modify, copy and share the data. The registry of historical sites (created by voivodeship conservation specialists using data collected by the National Heritage Board of Poland) contains more than 65 000 records. However, because collecting information such as GPS coordinates was not previously a requirement, the registry lacks certain types of data. The project aims to complete the data in the historical sites registry and to demonstrate to users and the public that, through projects such as the registry, it is possible to act together for a common good. This project relates to **SDG 4.**



In **Poland**, the **Office of Electronic Communications (UKE)** aims to ensure that all the consumers can equally benefit from services provided and their rights are fully protected. That is why UKE decided to equip them with a certified tool that would facilitate verification of the Internet access quality. After the selection procedure, President of UKE chose the best tool and certified it for a period of two years (as of 1st December 2018). Available on pro.speedtest.pl, the tool enables users to check the actual speed of connection and compare it with a contract. Moreover, it also generates a report with test results which can be used in court proceedings, if needed. According to the EU Open Internet Regulation Internet Service Providers should provide in contracts a clear and comprehensible explanation of the speeds. Improving the quality of services belongs to UKE's priorities and identification of a monitoring mechanism as a practical enabler of these. This project is related to **SDG 8**, **SDG 9,** and **SDG 11.**



In **Portugal**, **silverskills** allows the elderly to volunteer their skills and time to perform work on a set of areas. People looking for support can then consult the platform for volunteer elderly that match the sought needs, and the platform puts both parties in contact. Our research indicates that most elderly prefer not to move to day care centres and institutions of that kind, suggesting that providing them with activities that can keep them active will be well received by them and have a significant impact in their well-being. The platform serves as a starting point for self-confidence in the use of ICT tools using perception of knowledge and experience transfer become visible in local communities, boosting elderly acceptance and perceived value of ICT solutions. This project is related to **SDG 4, SDG 9,** and **SDG 16**.



In **Spain**, **IRISGO** is the new generation of eye-tracking technology that allows the user to control a device (with a high level of precision) using an embedded webcam of the device (mobile, tablet, PC or laptop), without the need for any additional hardware such as expensive infrared lights. IRISBOND´s advanced software algorithms interpret the eye gaze of the user in order to provide intuitive and hands-free access to information and control over a screen. The current IRISGO version works on PC Windows (from Vista onwards) and has been designed to function on a multiplatform used on Mac, iOS and Android. This project is related to **SDG 9** and **SDG 16**.

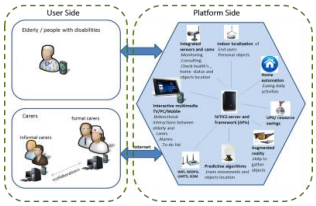
IRISBOND

In **Spain**, Growing up African youth who are interested in sports are constantly reminded that sports is a hobby rather than a career path that they can pursue. They end up sidelining their talent and looking for an academic path to suit them, and neglecting what they truly love. The flaw in this is the fact that when they pursue something that they are not truly passionate about, they either halfheartedly pursue a career they are not truly passionate about, or they fall victim social vices. We believe that sports can be used to tackle social issues ranging from drug abuse to unemployment, and one of the major beliefs we have is that sports activities are a great tool of emancipation of women in a society. Involving girls in sports activities alongside boys can help overcome prejudice that often contributes to social vulnerability of women and girls. When a woman excels in sports, she is a catalyst for challenging gender stereotypes and she promotes and empowers other women to rise up. We aim to ensure that any young, passionate and

ambitious African child who aspires to join the sports industry is not pressured into believing that it is not a viable career path. Most importantly, we want to guarantee that no young girl with a love for sports feels limited in the industry due to her gender. Thus, the **African Sports Network** is a youth enterprise which aims to provide a platform to strengthen and encourage the engagement in sports enterprise and support the creation of ideas and to motivate and facilitate their conversations to become realities which will impact the African continent by increasing engagement and awareness in the business of sports. We believe in the power, innovation and creation of ideas by young people that will challenge the way we think of Sports. We are committed to contributing towards reduced inequalities, and increasing decent work and economic growth in Africa. This project is related to **SDG 4, SDG 5, SDG 9,** and **SDG 16**.

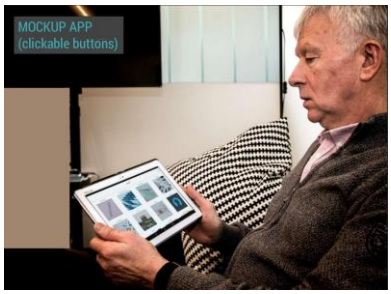
In **Switzerland**, today, with an estimated 570'000 people working in some 4'500 organisations, plus the tens of thousands of individual and spontaneous initiatives, the diversity of geographical, cultural, organisational, linguistic, and professional profiles in the humanitarian field is simply unprecedented. Facing the challenges brought by this diversity, there is an urgent need to support relevant actors to achieve a common understanding of the humanitarian context and relevant key concepts. The **Humanitarian Encyclopedia** project, through its online platform bridging academia and humanitarian (and nexus) sectors, will address three types of gaps in knowledge: •Lack of common understanding on key humanitarian concepts, and fragmentation of knowledge, •Lack of knowledge and mutual understanding from the local up, and vice versa, and •Lack of spaces for knowledge exchange with each other across disciplines and levels. Being developed with a participatory approach, with entries of humanitarian concept explanation, humanitarian organisation database, and reference documents, the HE is to support its partners and users to: Improve mutual understanding of key issues and concepts among practitioners; Accompany the localization of humanitarian knowledge; Make the sector more legible to external stakeholders; and Contribute to the training of current and future generations of humanitarian practitioners. Summary – please provide a short summary/Synopsis of the description in 250 characters or less. The HE project addresses challenges brought by the diversity in the humanitarian sector. The collaboration between the academia and humanitarian sectors, through knowledge co-creation and preservation, will contribute to greater coherence and effectiveness of humanitarian action. This project is related to **SDG 4** and **SDG 17**.

In **Switzerland**, **NITICS** builds upon existing, widely used, technologies to develop a dedicated platform that needs to integrate a variety of sensors and advanced algorithms. The NITICS project designed and built a holistic platform that is expandable and offers advanced ICT services including monitoring and navigational support for the mobility of elderly and disabled persons in their home during their daily activities. Furthermore, it also brought suitable services for elderly and people with diseases or disabilities (mobility handicaps, cognitive disabilities and mental diseases) that can keep their cognitive capability (at both physical and mental levels) intact. This project is related to **SDG 4** and **SDG 9.**



NITICS System Architecture

In **Switzerland**, the core hardware components include a tablet through which the user can interact with the system manually, and a raspberry pi model 3B equipped with a MATRIX creator through which the user can interact with the system by voice. There are several peripheral hardware components as well. The user home is equipped with sensors which detect the state of doors or windows (open/closed), temperature sensors, a doorbell camera, and wearables (ex. fitbit). There is also a backend server which contains the database, API methods to interact with the database, monitoring logic for the sensors, and the dialogue manager to facilitate natural speech interaction. This project is related to **SDG 4, SDG 9, and SDG 16**.



In **Switzerland**, the **Vet Futurist** Team strives to provide context about technology in the Veterinary Field and Animal Sector. We focus on providing a broad view to help veterinarians, companies and policy makers to achieve the most out of digital innovation. To achieve our goal we publish articles and share with our followers the latest news on technological developments. Moreover, we maintain a community of more than 2000 followers across social media that engage actively and discuss these subjects. We envision integration of innovative solutions and technological development of the veterinary and conservation sector, as well as stronger connection, collaborations and communication between institutions and stakeholders across the globe. This project is related to **SDG 3**.

In **Turkey,** the main aim of the **Communications Center of the Presidency (CIMER)** is to strengthen communication be-tween the State and the citizens in the context of a "participatory democracy" and contribute to the development of a public management style that is transparent, accountable and acceptable to citizens. In addition, it enables citizens to contact the judicial and legislative authorities regarding matters that are not related to public administration. CIMER has an easy to use system: children and elderly people can apply by calling the ALO 150 telephone line. In 2018, the electronic information retrieval application systems in the Internet addresses of 2 546 public institutions were integrated into CIMER. In addition, monitoring the performance of 83 000 users in the system has shown that the negative perception of citizens towards the public administration has begun to change. This project relates to **SDG 16.**

In the **United Kingdom**, the **#techmums** project was launched in 2012 by digital evangelist Dr Sue Black OBE, fuelled by the belief that empowering mothers improves their lives, those of their families and their communities. #techmums began by offering free tech courses to mothers across the United Kingdom, on topics ranging from online safety to python coding, and has been credited with opening doors to new careers and further education. Young, disadvantaged mothers comprise one of the hardest groups to reach. Sue and her team wanted to find a way to connect with this group, to help them to feel part of a community, and to increase their confidence. One of the most popular channels used by this group is social media, and Facebook has the best combination of content features (including live video and groups). #techmumsTV started life as a live magazine-style tele-vision show targeted at mothers aged 18-24, broadcast live from Facebook's London headquarters. The show was supported with regularly updated social media content to create a community of people who could connect, share ideas, seek advice and ultimately build their confidence to embrace digital opportunities. The project is relevant to **SDG 5.**

Mapping has always been about discovery: for centuries, two-dimensional maps guided us through the unknown to our destinations. Now, people are no longer limited by the edges of physical maps. In 1985, **HERE XYZ** began with a simple goal in the **United Kingdom**: to digitize mapping and pioneer in-car navigation systems. Over the next three decades, as NAVTEQ and Nokia, the company has built a legacy in mapping technology. Today, it is creating living three-dimensional maps that grow upwards, breathing with layers of information and insights. HERE XYZ enables everyone – especially non-GIS users and developers – to manage and integrate real-time location data. The project helps developers tell a story with geospatial data. This project relates to **SDG 4** and **SDG 8.**

In the **United Kingdom**, **360Giving** supports organizations to publish their grant data in an open, standardized way and helps people to understand and use that data in order to support decision-making and learning across the charitable giving sector. In 2013, Fran Perrin and her husband, the technology expert Will Perrin, supported the creation of an open data standard that allows grant-makers to pub-lish their information in an open, comparable format that anyone can freely access, use and reuse. After a successful testing phase in 2014, grant-makers started publishing to this standard; in 2015, 360Giving was established as a charity to help drive this work forward. When looking to set up the Indigo Trust, Fran Perrin found there was a lack of reliable data on grant-making in the United Kingdom. This absence of data made decision-making harder, more time-consuming and riskier, as it was difficult to find out who had given what, where and what difference that money had made. The project is relevant to **SDGs4** and **SDG 17.**

In **United Kingdom**, Sign Language as a Service (SLaaS) **Signly** browser extension adds functionality to the Chrome web browser. The extension is free to the user. For translation of online content, organisations and companies can subscribe to the Signly web service. The Signly browser extension gives users the option of clicking an interactive logo to be shown a BSL interpretation of the material currently on their screen. If a signed version of a specific page is not already available, users can then select 'Request Signed Content'. This message is immediately forwarded to the service provider, who can approve the request. The Signly team will then create and upload the content, and the user will receive a notification when the new content can be viewed. Signly hope that SLaaS will be rolled into the W3C standard in due course. This project is related to **SDG 9** and **SDG 16**.

In **United Kingdom**, **Chayn** uses everything from GIFs to catchy graphics, podcasts, op-eds and even Snapchat to support women facing abuse in multiple languages. To combat gender-based violence worldwide, we have built a set of free & open-source resources that solve the critical information gaps that put women facing violence at risk globally. We help women find information to answer questions such as, "How do I get divorced?" "What are my rights under the child custody laws in my country?" "Do I have anxiety?" "Do I have PTSD?" To questions like "How can I build up my CV?" we address a range of issues. Chayn is structured in the following way: (a) How to guides that are crowdsourced in multiple languages, (b) country-specific information through 'chapters', and (c) digital services which offer interactive support to women. We are 100% volunteer driven, with a majority of our volunteers being victims and survivors of abuse. This means we practise 'survivor-led design', shaking the power dynamics of the women's sector and delivering simple, critical information in an accessible manner. Our guides are written in a way that makes them applicable internationally. Survivors and experts from different parts of the world are consulted to make this possible. Examples of these include "Getting Better & Moving On", "How to build your own domestic violence case without a lawyer", "Manipulation is abuse" and "Do It Yourself Online Safety". This project is related to **SDG 5** and **SDG 16**.

Action Line 4

In **Albania**, **Females in IT** is a global initiative to raise awareness among girls and young women to empower and encourage them to consider studies and careers in ICT. Under this initiative, an unprecedented event was held in Kosovo within the framework of a conference organized by the A.U.K Training and Development Institute and other partners to mark a paradigm shift in the ICT sector. The conference aimed to inform women of the possibilities in the ICT sector by sharing inspiring success stories of people in the profession at the local and international level, and by providing networking opportunities be-tween women trainees and potential employers active in the sector through a job fair. The conference has become an annual event and was held for the second time in 2016. The project is relevant to **SDG 5** and **SDG 8**.

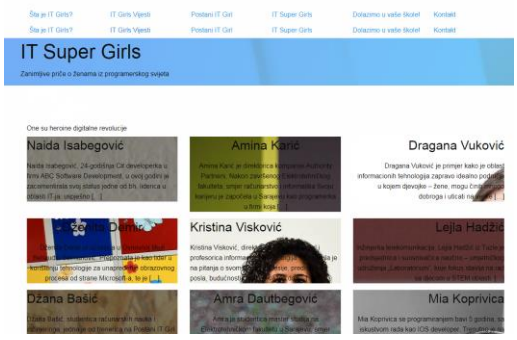
In **Austria**, **Women And Code** is an initiative to bring women* into programming in Austria. We offer different events such as a JavaScript, a Web Dev, and a Python study group for beginners which takes place every second week in Vienna. We also offer intensive workshops and Hackathons to complement our bi-weekly events. Our Mission is important to inspire women to excel in technology. Diversity is very important for healthy networks, work relationships and our society in general. As positive role models we want to inspire other women to join the field of software engineering. We want to have an impact on our city. A new non-profit feminist network and meetup/event-series brings more women into tech and encourages women to help other women. We want to empower women through solidarity, ideas, impulses, network, support, coaching, and sharing knowledge, time and space. Teaching a women-only class is in many aspects different to teaching mixed classes, especially when teaching programming. On the one hand you could have gender bias from a male instructor and on the other hand having even just one male student in class changes the whole group dynamic in the classroom. Some women suddenly do not dare to ask questions. With Women And Code we want to offer an open, inclusive, and non-threatening environment for women to learn. This project is related to **SDG 4** and **SDG 5**.

Comundos seeks to influence education (mostly in the southern hemisphere) by introducing digital storytelling for didactic purposes, thus encouraging analyses and reflection on the contexts and environments of young people. What kind of education systems do we want to create that simultaneously develop critical thinking, collaboration, creative development, innovation, flexibility and communication? How can we enable efficient learning within and outside the school context in this world of increasing complexity and global challenges? We give train-the-trainer workshops in which we teach young people the techniques of storytelling, as well as how to use technology to digitize and disseminate those stories, and how to deal strategically and critically with new media carriers. In an investigative and participative way, we discover the power of storytelling together with educators and young people. This project relates to **SDG 4**.

In **Belgium**, the **Digital Leadership Institute** has a unique mission to promote "inclusive digital transformation" by increasing participation of girls and women in ESTEAM* studies, careers and leadership around the world. The following are DLI-led initiatives in these areas: AdaAwards.com – Global awards recognising outstanding girls and women in digital studies and careers and the people and organisations supporting them, with the Ada Award Ceremony annual flagship event held in a different country every year. inQube – Global network promoting women-led startups in digitally-driven and digitally-enabled enterprises with flagship "Move It Forward" female digital starter weekends carried out on topics disproportionately impacting girls and women in different cities around the world. Digital Brusselles – Europe's first female tech incubator. With support

from the Digital Belgium Skills Fund, launched in October 2017 in Brussels, Belgium, the heart of inclusive digital transformation. DigitalMuse.org – Global network promoting ESTEAM* skills to girls through creative endeavor, in order to increase the quantity and quality of stories by, for and about girls and women in digital media, with flagship initiative "Girl Tech Fest." CYPRO – Cyber professional training and career placement program for women with work experience, focused on increasing the number of women IT professionals in strategic areas including cybersecurity, cloud computing, data science, artificial intelligence, etc. *entrepreneurship, science, technology, engineering, arts and mathematics This project is related to **SDG 4** and **SDG 5**.

In **Bosnia and Herzegovina**, **IT Girls** initiative, sup-ported by the United Nations, UNDP, UNICEF and UN-Women, aims to increase the number of girls and women in the STEM areas. Most of its events centre on children and consist of workshops in elementary schools across Bosnia and Herzegovina, which in general do not focus on girls. IT Girls reached more than 1 000 girls last year in Bosnia and Herzegovina under a pilot model that was set up prior to the launching of this programme in the rest of the world. It should be underlined that no other similar programme exists in the local community and that this initiative reaches a wider community under this umbrella through its different workshops. The project is relevant to **SDG 5** and **SDG 8**.



In the **Czech Republic**, **Czechitas** is the leading platform making technology accessible and relevant for women and girls in their professional and personal lives, regardless of their age, education or work experience. We provide lectures, workshops and long-term courses on programming, web development, graphic design, digital marketing and data analytics at a low

cost to participants. Our training sessions have influenced thousands of women who have chosen or changed their career paths based on their new technical skills, and who have gone on to become successful. Our unique platform connects employers interested in gender diversity for their teams, with talented women searching for new roles. The project is relevant to **SDG 4** and **SDG 5**.

In **China**, Plan International China is an NGO working for children's rights and girls' equality with boys. As part of its work on the Youth Economic Empowerment approach, Plan International works to bridge the digital gender divide by empowering girls in rural areas with digital skills. A baseline survey conducted by Plan International in six rural schools in Chunhua County, Shaanxi province, found that while IT education features on the formal curriculum, it is rarely actually taught, due to a lack of qualified instructors and outdated learning materials, among other things. While the survey found that rural girls are keen to learn digital skills, they are less confident about their existing skills, less knowledgeable about the digital environment and face greater challenges in acquiring digital knowledge and skills than their male peers. The aim of Plan International's pilot project, **Girls and Technology**, was to contribute to bridging the digital gender gap and the digital urban/rural di-vide by empowering youth, particularly girls, with digital skills. The target group for the pilot project consisted of two rural schools in Chunhua county. The project is relevant to **SDG 4** and **SDG 16**.

In **Germany**, Digital platform for the training of mothers, focused on issues of economic security; entrepreneurial skills; home administration; formation of citizen children and politics for mothers; network of services to companies from the home. This project is related to **SDG 4** and **SDG 5**.

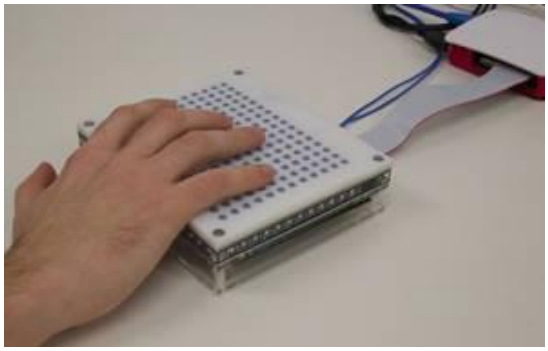
In **Hungary**, Entrepreneurial mindset and skills are required for a financially independent, self-defined and strong middle-class. Entrepreneurs are also keen innovators as they challenge existing solutions, processes and products as they make their way into the global marketplace. **CEU ILab** developed the Bootcamp with the aim to identify new sources of innovations with a focus on cutting edge technology such as AI, and their application in sectors such as Fintech, Foodtech, Edutech and entrepreneurial initiatives, increase the number of new initiatives and contribute to the entrepreneurial ecosystem. This course is highly interactive, and provides the participants with the basic principles of entrepreneurial management as well as an overview of recent technologies and their application in developing new solutions. Essential element of this intense course is to assess technology, a business opportunity and a business development process. Using CEU ILab technology startup case studies give participants an opportunity to analyze real business cases, understand and assess business ideas, entrepreneurial teams, and real-life business situations. Course format: The Bootcamp consists of 10 working days. The course consists of 4 sections: (i) overview and application of latest technologies - 3 days, subject covered include: Banking and Fintech, Bank to the Future, Digital Strategy, Digital Transformation(2) Finance - 2 days lectures and workshops will provide basics knowledge of entrepreneurial finance for ITC companies, (iii) ICT solution startup idea generation, business planning and fundraising – 3 days of workshops and lectures, project work (iv) market strategies and brand positioning (including design thinking workshop) – 2 days covering the basics of customer insight and segmentation, introducing a branding toolkit, learning how to craft marketing and communications plans and how to devise and implement a customer-focused strategy. This project is related to **SDG 4**.

In **Ireland**, **Teen-Turn** aims to influence course decision-making processes, inform participants on education and career options, and combat stereotypes by strategically changing how disadvantaged girls identify with technology career environments through mentored summer work placements, after school activities and alumnae programming. Programming begins with

a work placement in the summer after Junior Cert, during which participants are exposed to projects, introduced to role models and begin to blog about their time so that we can evaluate the effect of the experiences. From there, the girls have the option to join after school activities which include science projects for BTYSE/SciFest, the creation of a social enterprise and app development for Technovation, homework/grinds clubs, or related events like Coder Dojos at company partners. Once participants have completed secondary school, they enter into our alumnae network--which offers numerous opportunities to meet with fellow Teen-Turn participants, mentors who are women working in STEM roles, and career advisors all there to help with qualification completion and to build a professional network. Surveys are taken prior to the work placements and after school programs. As mentioned, blogs are written by every participant, using the approach of a learning journal to create greater impact of experience and to provide better insight into the perspective and change of perspective evident during the process. Group sessions with mentors are conducted and, through an online survey, results, progress and activities are tracked, with further participation encouraged be it for after school programs, skills sessions, or more work experience. This project is related to **SDG 5**.

In **Israel**, the project **she codes;** is a community of women in technology, created to achieve 50 per cent representation of women among the country's software developers within a decade. Founded in 2013 by Ruth Polachek, the community today boas20000 members, including women who want to learn software development or change careers and move into high-tech, developers who want to advance their skills and network with other women in high-tech and high-school students who are learning to program. Its core values are Believe in Yourself, Perseverance, and Community. The community operates more than 30 branches throughout Israel, with activities including learning to programme, co-working on projects with support from community volunteers, tech lectures, events with inspirational women, career advice and more. Volunteer opportunities at she codes; contribute to members' personal and professional development. Branches, planning of learning opportunities, events and more are all volunteer-run. The project is relevant to **SDG 4, SDG 5, SDG 8** and **SDG 10**.

In **Italy**, it is difficult for the visually impaired to access digital graphical content, which is increasingly conveyed through sight. The sense of touch, crucial in the absence of sight, can potentially bridge the gap. The potential and market of tactile displays remain largely untapped, despite a clear demand from users. These devices, however, need to become more versatile, cheaper, portable and socially acceptable. The project has made graphical content accessible through touch by building and field-testing a Personal Assistive Device for the Blind and Visually Impaired **(BlindPAD)**. BlindPAD puts veridical touch-based information into the hands of users, exploiting and enhancing their residual sensory abilities. The BlindPAD has explored several technologies, compared in terms of actuation force, resolution, safety, power consumption and reliability. The project is relevant to **SDG 4**.

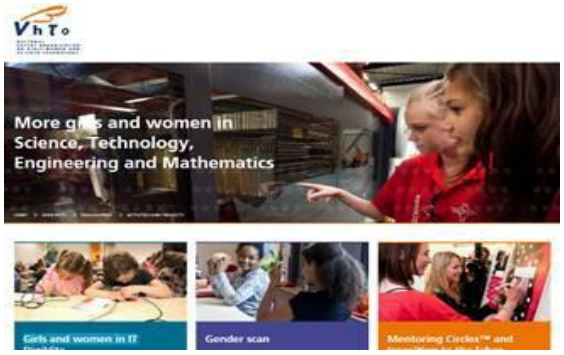


In **Italy**, the development of technologies to support the inclusion of adults and children with visual disabilities poses big societal challenges for ICT research. The ABBI project aims to develop a new set of devices to rehabilitate spatial cognition, mobility and social interaction of children and adults with visual impairment through natural audio-motor and tactile-motor associations, demonstrating and validating technology through user, experimental and clinical studies. The core idea of the project, based on a new understanding of the role of vision in the development of blind and seeing children alike, is that audio feedback on bodily movements might help blind children to develop spatial awareness. The main device to achieve this objective is an **Audio Bracelet for Blind Interactions (ABBI),** which is positioned on the wrist of the child and/or surrounding people. The project is relevant to **SDG 4**.

In **Lithuania**, "**Langas į ateitį**" (Window to the Future) is a knowledge society development initiative launched by private business companies in 2002. The mission of the Langas į ateitį alliance is to promote the use of Internet and e-services in Lithuania and hereby stimulate the growth of the standard of living, as well as Lithuania's competitiveness among European and other countries of the world. Target audience: People living in rural areas, lower-income individuals, less educated, elderly, disabled, unemployed and individuals that are not using the Internet or lack the digital skills. Activities: •Langas į ateitį initiated the establishment of the Free Public Internet Access Points (PIAP) in 2002. As a result of united forces of private and public sector there is a net of 1200 PIAP in public libraries today in Lithuania. •Free digital literacy skills training - over 160 000 ICT training participants. •Promotion of safe e-services usage. • National Digital Coalition coordinator since 2013. •Online learning website for Lithuanian residents - www.epilietis.eu. The aim of which is to encourage public and private e-services usage in the country. •In April 2018 a 3-year European regional development fund ERDF funded project. This project is related to **SDG 4** and **SDG 8**.

In the **Netherlands**, **HackYourFuture** is a code school foundation which teaches computer programming to refugees. The aim is to empower students through coding and promote software development as a career choice. With 40 volunteer developers, HackYourFuture has created a six-month programme during which students learn the fundamentals of web-development. After graduation, students are guided towards employment via the project's network. Besides teaching students to code, HackYourFuture also shows them how to work on projects as part of a modern tech team. Teaching takes place every Sunday in Amsterdam, with online coaching and support to assist with homework provided during the week. Throughout the course, students make multiple business visits, receive masterclasses from various tech experts and get individual career coaching. The project is relevant to **SDGs 4** and **SDG 16**.

In the **Netherlands**, the **National Expert Organization on Girls/Women and Science/Technology (VHTO)** aims to increase the participation of women and girls in STEM fields. Since the early 1980s, VHTO has been building up knowledge on the participation of girls and women in STEM and accumulating experience in deploying this knowledge in areas such as education. With its projects and methodology, VHTO aims to break implicit gender stereotypes in STEM and encourage the growth of girls and young women, and their self-confidence, in terms of STEM subjects. VHTO has developed several successful programmes to bring together female students and recent graduates with female STEM professionals, or role models, across the whole education spectrum, from primary to higher and from vocation-al to academic levels. The project is relevant to **SDG 4**, **SDG 5** and **SDG 8.**



In the **Netherlands**, **Project Prep** is a fictional novel aimed at girls aged 9-15, created to show readers how attractive a career in technology can be. With the increasing preponderance of technology companies, it is vital that young girls learn tech skills in order to benefit fully from future career opportunities and to improve gender diversity in the sector. Project Prep follows the life of Isabel, a 13-year-old girl and role model for readers, who shows how fun it can be to earn to code, create applications and set up a business. The book's introduction was writ-ten by Neelie Kroes and the first copy was given to Queen Maxima of the Netherlands. However, Project Prep is much more than just a novel: it is an entire concept. This project is relevant to **SDG 5**.

In the **Netherlands**, the Ahti's project **Youth4Health Cha**llenge encourages children to reflect on their attitudes to health and behaviour and to create technology-based solutions. Participants work in teams and challenge one another with original ideas, which is the very basis of entrepreneurship. Ahti developed the programme with Stichting Jong Ondernemen, a foundation that promotes young entrepreneurship. Some 280 primary schools outside Amsterdam and 51 inside have requested its school kit. In Amsterdam, the closing of the programme was a real challenge that took place at the NEMO Science Museum. The project is rel-evant to **SDG 3** and **SDG 4**.

In **Netherlands**, the project is starting their trainings in Pakistan and will initially train 75 young women in digital skills to re-integrate into the workforce. Yes. **The Code To Change** has been successfully running in Netherlands (with focus on migrant and refugee communities). They worked in Northern Pakistan with 50 women and now plan to train 75 more women in Punjab, Pakistan. The Code to Change, Pakistan, will work to minimize the digital skills gap and bridge the digital gender divide in the technology sector. Through boot camps, mentoring, events and meetups, the initiative encourages women to build their own technology products, become entrepreneurs and sustain their livelihoods in the technology sector. The initiative provides a safe space for collaboration, support and communication for women working in the digital sector. This project is related to **SDG 5** and **SDG 16**.

the Code to Change
Program Your Future

In **Netherlands**, ´´**VHTO: more girls and women in science, technology and IT**´´ in the Netherlands. VHTO is committed to increasing the participation of girls and women in science, technology and IT. Dutch girls opt less for education and professions in science, technology or IT than boys. Even though girls often have talent for science / technology subjects and they generally perform just as well on this as boys do. Causes are: • (gender-stereotyping) influences from the environment: parents, teachers etc; • a limited view of science and technology training and professions and unfamiliarity with the social innovations that technology makes possible; • the lack of role models (female professionals in science, technology or ICT); •limited self-confidence

in their own talent As a result, perhaps surprisingly, girls in the Netherlands often do not fulfill their full potential in these fields. VHTO focuses on the entire chain from primary education, secondary education, secondary vocational education and higher education up to and including the labor market. Parents and the media are also involved in the activities. VHTO carries out activities to increase the participation of girls and women in science, technology and ICT in the Netherlands. Only by encouraging more girls / women in science, technology and ICT can the Netherlands maintain and strengthen its position as a knowledge country in the field of science and technology. This is where PlatformDIT are essential, this is a collaboration between major ICT companies in the region to specifically address engaging more girls in the ICT space. VHTO is an advisor and founding partner of PlatformDIT. Partnerships: VHTO is an advisor and collaboration partner of the government, of educational and research institutions, companies, sector organizations and intermediary organizations in the Netherlands with regard to the theme of girls / women and science, technology and ICT. This project is related to **SDG 5**.

VhTo
NATIONAL EXPERT ORGANISATION ON GIRLS/WOMEN AND SCIENCE/TECHNOLOGY

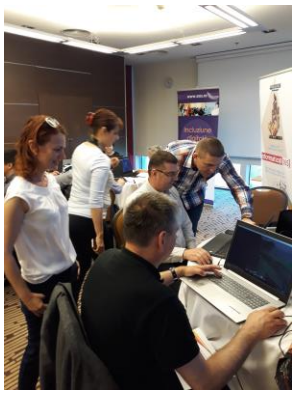
In **Poland**, Idea of **GO_PRO!** Network was positively recognized by WSIS (Zurich 2015), It was nominated, as one of 30 best ICT capacity building initiates. In Poland the project was nominated to a prize: New Technologies Locally 2015, which is annually granted by Polish – American Cooperation Foundation. It was described as one of ten best initiatives of 2014. Network was supported also by Reading and Writing Foundation – Public Libraries 2020 initiative, as one of 6 best initiatives involving libraries. Within this call we submit first international edition of GO_PRO! project. Project was implemented within Erasmus+ capacity building in the field of Youth Program. We collaborated with organizations from Croatia, Spain, Kenya, Indonesia, Thailand, Vietnam, Peru to develop international Regional Programming Centers network. Within the project we built the capacity of partner organizations to develop ICT skills and support digital and social inclusion of Youth in local communities. We created space (non-formal education centers) for developing ICT and programming skills. The basic idea is to use the existing infrastructure, only reconfigure it. To create previous GO_PRO! Centers we cooperated with partner organizations – school, libraries, NGOs. Partners organized interesting IT lessons, but also allowed (during so called Coder Clubs) youth to develop programming skills during their free time. Coder Clubs are based on challenges. Each week there is a new problem, new challenge, which Club has to solve together! The project included 2 mobilities for Youth Workers (in Thailand and in Poland) each of them helped them to be better trainers of ICT competences in their communities. Partner organization

received grant to buy proper equipment (laptops, Lego Mindstorms), to lead innovative and interesting ICT workshops in their areas. During the Coders Week (X of 2017 and 2018) we organized collaborative awareness rising actions in order to promote network. We also developed training materials, which are available on project webpage. This project is related to **SDG 4** and **SDG 10**.

In **Moldova**, the programme **Girls Go IT** has single-handedly created a new generation of girls active in IT. It is one of the few do-nor-funded programmes to be present in almost all districts throughout the country, reaching many minorities and marginalized groups, and already self-sustaining after just one year. Its mission is to prepare girls for STEM studies and, during their studies, for the ICT labour market through internships at ICT companies. This has led to a new mentality among girls, who are now just as likely as boys to choose a profitable career in IT, one of the few viable and economically attractive career paths for young Moldovans today. The attitudes of parents, teachers and employers have also changed thanks to the programme and its demon-strated success. The project is relevant to **SDG 4** and **SDG 5**.

In **Romania**, the I**nfromatica365** project implemented by EOS has delivered a national Computer Science teacher training to gymnasium teachers who are teaching the compulsory Informatica and TIC subject. With an extraordinary reach of over 50% of the total Computer Science and Information Technology teachers nationally, the project included events and in-depth courses focused on using Minecraft/MakeCode and Intro to Micro:bits to help teachers introduce the basics of coding to 11-14 year olds. In Romania, which ranks last in EU in terms of Digital Skills on the EU DESI, the opportunity is huge considering the context: Computer Science was introduced as a discipline in school year 2017-2018 and EOS in partnership with MoE and Microsoft stepped in fast to help the teacher community ramp up for the new study object. The project offered ICT training to over 3000 teachers and has reached through them over 100.000 students. The projects

and the innovative partnership around it has been recognised by the European Commission through the Coalition for Digital Skills and Jobs. This project is related to **SDG 4, SDG 5,** and **SDG 10.**



In **Spain**, the ***Campus Tecnológico UGR para Chicas*** **(UGR Tech Camp for Girls)** project aims to present computer sciences and telecommunications as areas free of social stereotypes, working directly with a group of girls in secondary education. The camp is an opportunity for girls who are studying at pre-university level to have contact with the world of technology and find out about and value the role of women in the world of ICT: it also aims to encourage girls to choose a profession in the technology sector with the XL Academy online curriculum. This project is structured as a two-week activity where participants study at the University of Granada, in Spain. Alongside the event, a semester-long campaign is also implemented on the role of women in science and technology via hackathons, blog posts and talks. The project is relevant to **SDG 4** and **SDG 5.**

In **Spain**, **Albaydar**; - Target audience: vocational school women students from 16 - 45 - Major objectives: (1) enrich the professional profile of the women; (2) broaden their job opportunities; and (3) improve their digital competences. - Activities: (1) digital competences assessment; (2) motivational TIC talks; (3) on-site class and/or online course; (4) tests to evaluate their digital knowledge; (5) Official Certification of Microsoft Office Specialist; and (6) take part in National and International MOS Championships; This project is related to SDG4, SDG5.

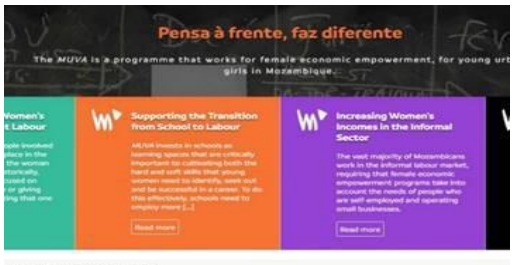
In **Spain**, **Power to code** is a nonprofit organization in Spain, founded in 2016. Their goal is to reduce the gender gap in technology and empower women to become leaders in technology by promoting STEM vocations in, especially focusing on programming, technology and entrepreneurship. Power To Code run Technovation Challenge Madrid. Technovation Challenge is the world's largest global tech entrepreneurship program for girls. In teams guided by mentors, they create mobile apps to solve social problems in their communities and participate in a global competition with more than 120 countries. The program itself consists of a 12-week educational curriculum, which is worked in groups between January and April. The main objective of the project is the dissemination of the different STEM disciplines and, in particular, of technology, among school-age young people and their families. For this purpose, concepts that are not yet prevalent in the school curriculum are addressed, such as the programming of mobile applications, in a practical way, since at the end of the program the participants have a fully functional application, made by themselves. The second objective of the Technovation program is to reduce the gender gap in technology at a time close to the choice of educational itinerary in the fourth year of secondary school, showing them the technological option, usually not considered by adolescents, due to the lack of references in this field. Through the program, not only do they meet women who work in all fields of technology, but in the final event they have the opportunity to interact with hundreds of girls and young participants, thus normalizing their involvement. This project is related to **SDG 4, SDG 5, SDG 9,** and **SDG 16**.

In **Sweden**, **Inicio** is a non-profit organisation empowering teenage students (13-19 years old) to develop their dreams and talents with the help of technology. Our goal is for teenage students to get the guidance they need to choose the educational and career path that fits them best. We do this by a mentoring approach and hands-on activities for students and teachers in schools. Our goal is to awaken curiosity and interest in future careers that involve technology. Inicio collaborates with schools, libraries, youth and community centres to organise hands-on workshops. At our workshops the participants can build electronics, 3D print, practice coding etc and see the connection between technology and other subject areas like art, fashion and music. Our workshops are designed to align with the existing school curriculum and meet the digitalisation requirements set by the Swedish National Agency for Education. Inicio is passionate

about inclusive education and access to technology to prepare the next generation for the smart and digital societies of the future. Since 2016 Inicio has celebrated the international day of Girls in ICT in Stockholm. Every year we invite girls from different schools to take part, with the help of mentors from universities, in hands on activities and case studies provided by the ICT industry. This way we provide a network for teenage girls in the ICT sector and empower them to pursue education and careers in tech. All the activities are free of charge and designed to meet the requirements set by the Swedish National Agency for Education. This project is related to **SDG 5, SDG 9,** and **SDG 16**.

In **Switzerland,** the **AZUNI Initiative** is aimed at strengthening the role and resilience of youth in this age of significant societal change, and help build a generation ready to meet the challenges and opportunities brought by the Fourth Industrial Revolution. This is because the full societal implications of the Fourth Industrial Revolution remain largely unknown, and are often either over-hyped or under-estimated, especially among the actors of tomorrow, i.e young people. Indeed, the Initiative has at its core the primary goal of awakening youth and build their capacity in not only understanding these implications, but also be proactive and take a front-line position in building the future digitalised society. The Initiative, since its inception, has attracted a growing number of participants, that have gone from passive receivers, to curious learners, to advocates, by formulating the Youth Opinions on the Future of Society, in consultation with key actors in the fields of data protection, cybersecurity, and legaltech, just to name a few. This project is related to **SDG 4**, **SDG 10**, **SDG 17**.

MUVA Tech was designed to empower women and girls, in particular the more vulnerable, through ICTs, by developing their skills in the field and, thereby, increasing their employability in Mozambique. In order to increase the number of female ICT consumers and producers, MUVA Tech has developed a bespoke approach, including broad awareness-raising activities and tailored training in slum areas. Its be-spoke training for vulnerable girls and women aged 18-24 adopts an innovative approach using technology as a tool for human empowerment, so that technology is not only an end in and of itself, but also a means of achieving new economic opportunities. The project is relevant to **SDG 1** and **4**.



In **United Kingdom**, The GSMA's **Tech4Girls** programme offers underserved girls technical skills as well as exposure to role models and mentors in the mobile sector. It is part of GSMA's Women4Tech programme, which focuses on addressing and reducing the persistent gender gap in the mobile industry. Tech4Girls provides technical workshops for elementary, middle school and high school girls to inspire careers in Science, Technology, Engineering and Arts and Design and Math (STEAM) studies. Participants from local schools and underserved communities learn new skills such as coding and programming from industry professionals and have a chance to hear from women in STEAM careers and see live demos from the latest technologies. The Tech4Girls programme connects professionals from established companies to foster mentorship opportunities. GSMA works with its member operators and organizations to ensure that the workshop offers girls unique experiences in office settings, where girls get a chance to engage with female leaders on their career journeys. Activities for girls take place across the world and throughout the year, including Girls in ICT Day. According to the World Economic Forum report "The Future of Jobs" (2016), only 19 per cent of people employed in the mobile sector are women. To change this, it is necessary not only to ensure the development of technical skills, but also to change the perception of technology as a male preserve, and make women and girls feel welcome in the industry. Tech4Girls launched in March 2018 in GSMA North America. To date, approximately 300 girls have participated in workshops and activities held in Atlanta, Buenos Aires, Guyana, Trinidad and Tobago, Barcelona, Beijing, Brussels, Dubai, Hong Kong, London, and Nairobi. Participants have developed a wide array of technologies including an artificial intelligence tool such as Google Home, a Kano Computer, a mobile app, and a mobile ring tone, to name a few. This project is related to **SDG 1, SDG 4, SDG 5,** and **SDG 16**.

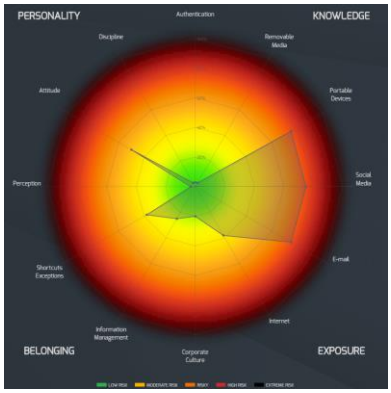
In **United Kingdom**, **Plan International** works to ensure free, equal access to quality education for all children, especially girls – from early learning to secondary education. We work with children, their families, communities, wider society and governments, and advocate at both local and international levels, so that all children are able to get a quality education. In Central America, Plan has partnered with Samsung Electronics Latinoamerica, with the aim of leveraging technology to this end. Children from less privileged families in the target countries primarily attend public schools. These schools however lack resources to incorporate technology into their curricula, meaning their students are less likely to be taught digital skills essential for the future. Girls in these schools are further disadvantaged, as social norms and stereotypes favour boys in the context of technology. This project was developed by Plan and Samsung in primary and secondary public schools focusing on integrating technology into education. The aim was to bridge digital divides both due to privilege as well as gender by developing model "classrooms of the future", where technology is leveraged both to enable learning and as the subject of learning.

The programme's target was both students and teachers in 18 public urban and rural schools. The objective was to teach digital skills to children, especially girls, attending underprivileged, public schools, as they are otherwise unable to acquire these skills, which form a crucial basis for future employability. In addition, the objective was to sensitize teachers to the fact that girls and boys are equally suited for careers in STEM, and give teachers access to modern, tech-based pedagogical tools. A key focus was on ensuring these tools were open source to enhance sustainability and replicability. This project is related to **SDG1, SDG4, SDG5,** and **SDG16**.

In **United Kingdom**, **#techmums** was relaunched in 2018 by Tech Evangelist Dr Sue Black. #techmums was created as direct response to the noticeable lack of female representation in the Technology Industry, which still only sits at 17% in 2017. #techmums trains women in key areas including: Tech Skills, The Cloud, Digital Safety and Coding to allow them to enter a new career path and gain confidence regarding returning to employment or setting up their own businesses. Our two flagship programs are #techmumsClubs and #techmumsTV: #techmumsClubs- we developed in-person, 10 weeks clubs run by our partner organisations across the UK. We are in the process of working with new international partners to take the program global. The course covers a range of topics starting with basic digital skills, staying safe online, managing household finances through technology, to web design, app design, and an introduction to coding. #techmumsTV- sponsored by Facebook and supported through the MumsConnected project, a collaboration with Home-Start UK (HSUK) funded by the Nominet Trust. #techmums ran Season 1 of #techmumsTV- a live-streamed series of episodes targeting mothers with content and discussions that help mums become more tech-savvy. We reached over 300,000 views and are in planning for our next Season. https://www.forbes.com/sites/kittyknowles/2018/03/08/international-womens-day-coding-sue-black-techmumstv-facebook/#7f2beb525d9b
This project is related to **SDG 5** and **SDG 8**.

Action Line 5

In **Estonia**, CybExer Technologies and the Estonian Information System Authority have developed a novel e-learning tool for advancing cyber hygiene among public servants and public service providers of Estonia. It provides a training environment for lifelong learning on cyber threats for public sector employees. Moreover, it is an invaluable mechanism for increasing trust and effectiveness of public institutions by enabling a secure and inclusive digital transformation of all types of public services. The project **DigiTest** was launched as a three-year pilot. The first iteration was published in 2017 with updated versions in 2018 and 2019. The updates reflect changes in the threat landscape. The e-learning tool is used to develop capacities within ministries, government agencies and health workers. For the pilot, 50 000 licences were prepared for the Information System Authority to manage the cyber hygiene course on behalf of the public sector. This accounts for around 50% of the entire government workforce. The impact of the project on individual and organisational capability has led to a continuation of the course beyond the pilot. DigiTest's success instils great confidence in its ability to deliver results globally. Interest has already been shown by governments across Eastern Europe, CIS countries and the Middle East. This project is related **to SDG 4** and **SDG 16**.



In **Latvia**, the fifth annual data security forum **Digital Era: EU GDPR** and Data Security is the largest event in the Baltics devoted to general data protection regulation (GDPR), adopted by the European Union in 2016. The forum is organized by one of the most recognizable Baltic IT industry companies Data Security Solutions, a specialist in data and cyber security, and the Association of Latvian Certified Data Protection Officers, in cooperation with the Ministry of Justice and Data State Inspectorate of the Republic of Latvia. The project is relevant to **SDG 4, SDG 5, SDG 8, SDG 10, SDG 11** and **SDG 17**.

In **Poland**, Apius **WorkSAFE®** is an original and fully autonomous working environment characterized by high stability, safety and speed of operation. A very high level of security

combined with hardware flexibility is a unique selling point. WorkSAFE® can be run traditionally from a hard drive, but it can also be run from any data storage device, as long as the hard-ware architecture enables it. As a result, users can take their office with them wherever they go and can use it on any computer, laptop or terminal without worrying about data security. Whether on a hotel cybercafé computer, a university terminal or office hot-desk, data will always be safe. On private and public networks alike, and even shopping mall Wi-Fi networks, transmission is encrypted end to end by default and in such a manner that third parties are not able to eavesdrop or take user data and information. The project is relevant to **SDG 3**.

In **Sweden**, **YubiKey**, is a small USB and NFC security key securing access to any number of IT systems and online services. The YubiHSM, the world's smallest hardware security module, has also been created to protect secrets on servers. For easy integration with any IT system, developers are offered open-source servers, support and hosted validation ser-vices. Yubico was founded in Sweden in 2007 with the mission of making secure login easy and available for everyone. In 2011, Stina, CEO and Founder, and Jakob, CTO, moved to Silicon Valley to make the dream a reality. In close collaboration with market and thought leaders, Yubico has created native support for its security keys via the major online platforms and browsers, enabling a safer internet for billions of people. The project is relevant to **SDG 3** and **SDG 16**.

In **Switzerland**, Exeon Analytics AG transforms network log data into actionable security in-sights. It often takes months, if not years, for data breaches to be detected, as they are hidden among

millions of regular activities and typically caused by the web browsing of employees. Our **ExeonTrace** flagship product features award-winning algorithms and machine learning to specifically analyse an organization's web traffic. This enables the quick detection and containment of data breaches caused by sophisticated cyber-attackers, browser plugins and software collecting private information. ExeonTrace is light-weight and easy to deploy, as it loads network log data from existing SIEM solutions like Splunk and Elasticsearch. The project is relevant to **SDG 10** and **SDG11**.

In the **United Kingdom**, the **Adoption, Use and Diffusion of Innovative Information and Communication technologies in Society: A Digital Divide Study** is a project based on the principles and mechanisms of variables taken from theories of diffusion, adoption, use and implementation in social, organizational and government realms and how they can be brought to fruition using modern technologies. Research is focused on the socio-technical aspects of Internet-related technologies, namely the digital divide among users, the diffusion and adoption of ICTs and the social aspects of information systems, namely, gender, age and culture, stakeholder theory, e-health and electronic commerce. The project is relevant to **SDG 4** and **SDG 5**.

In the **United Kingdom**, **Sovrin** is a project that provides identity for all. The creators believe that humanity deserves a digital identity that is permanent, portable, private and completely secure; in other words: self-sovereign. Shortcomings in the Internet's original design made this impossible, at a cost of trillions each year. Today, the invention of distributed ledger technology makes self- sovereign digital identity a possibility for the first time. Now that self-sovereign

identity is possible, it has become inevitable and will change every-thing. The project is relevant to **SDG 3**.

In the **United Kingdom**, **Shape** was found-ed in 2011 to disrupt automated attacks on web and mobile applications, based on the premise that organized criminal organizations function based on economics, much like other businesses, and that if it helped customers to shift the economic burden onto the attackers, then attackers would change their targets. Shape achieves this by making it prohibitively expensive for attackers to identify how to penetrate customers' applications, forcing them to give up and go after softer targets. Everyone at Shape is passionate about fighting crime on the Internet. The project is relevant to **SDG 3**.

In **United Kingdom**, Founded in 2018 by Stephanie Itimi, **Seidea** is a social enterprise that exists to close the cybersecurity gender gap faced by Black, Asian and Minority Ethnic (BAME) women. We offer cybersecurity e-learning lectures and webinars from industry experts for a membership fee of £14.99 per month and reinvest 35% of our profits on our community initiatives: Sei-Code, Sei-Policy and Seipod. Membership Benefits: - Exclusive access to recruitment events and roundtable discussions. - Discounted career coaching and CV reviews. - Discounted certification training with our partners - A series of cybersecurity e-learning lectures and live webinars from industry experts. Community Projects: Sei-Code: an empowerment project sponsored which teaches BAME girls aged 9-16 how to code and build up their confidence through animated storytelling. Using Scratch, Google CS-First, the coding club introduces students to programming through fun video game development. Sei-Policy: Birthed out of UN Women #16DaysOfActivism, Sei-Policy is an annual survey which aims to fill in the data gap on cyber violence against women. Focusing on BAME women in the UK and Women in Nigeria. Seipod, a monthly podcast focused

on empowering BAME women with the knowledge needed to be secure online This project is related to **SDG 5** and **SDG 8**.

Action Line 6

In **Finland**, the **Super-Ada 2018 event**, held on 10 February 2018 at the Haaga-Helia Univesrity Pasila Campus in Helsinki, Finland aimed at encouraging girls and young women to study technology by representing the IT industry now and in the future. The event was organized for the fifth time by Nice Tuesday – an independent network of women in IT. The main goal was to attract in particular girls and young women aged be-tween 16 and 22 years to the IT industry. In addition, the event brought together female influencers, learning institutions and corporations within the industry. The project is relevant to **SDG 5.**

In **Netherlands**, the **Internet Governance Middle East and North Africa (MENA)** Region Programme is a pioneer in building the capacity of civil society in the MENA Region in Internet policy through various activities. The programme empowers both women and men to take the lead in pushing the Internet policy agenda in their countries and to become engaged in the regional policy dialogue at the Arab Internet Governance Forum and in the global discussion. The programme works with alumni to develop tools to influence the decision-making process and to play an active role in promoting and safeguarding the public interest. The project is relevant to **SDG 3, SDG 5** and **SDG 16.**

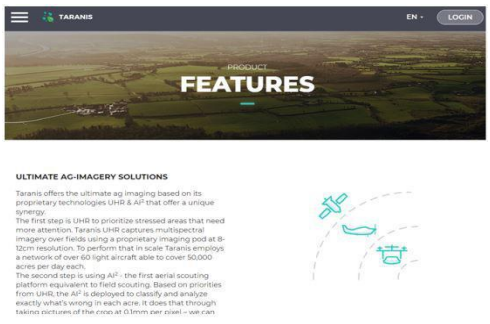
In **Poland, the Office of Electronic Communications (UKE)** has developed an innovative Accessibility Policy that addresses persons with special needs. The Policy applies to five areas of our activities: customer, communication, services, human resources, and management. Within each of these we do our best to meet requirements of persons with special needs. UKE, as the National Regulatory Authority aims at creation of genuine digital inclusion. It means that each and every citizen is able to fully use all the facilities available and benefit from emerging new technologies. One of our target groups are deaf and hearing-impaired customers. It is our responsibility as well as privilege to provide them with the highest quality of service, at each step of their contact with UKE. Therefore, we assist them in all the possible ways - making our website accessible (translation of main articles and documents in the Polish Sign Language), providing a Polish Sign Language translator when required (either in person or online), enabling deaf and hearing-impaired persons to equally participate in recruitment process, etc. The deaf and hearing-impaired persons are one of our target groups that are included in the Accessibility Policy. The Policy addresses all persons with special needs and is an innovative solution that proves our Office to be accessible to every customer. This project is related to **SDG 9**.

In **Portugal**, **GovTech** is a public competition that rewards innovative products and services of SMEs that address at least one of the 17 SDGs. It stimulated the national start-up ecosystem and dynamism, promoting sustainable economic growth, fostering innovation and opening up new economic opportunities based on the 2030 Agenda for Sustainable Development. To participate in the competition, start-ups had to submit functional prototypes of products or services, based on feasible business cases. The public then voted to choose six finalists using blockchain technology, and a jury of experts selected the three winning projects. In this first edition, 113 prototypes were approved and 1 744 people/investors registered on the GovTech website. The winning projects were: INFORMAT – Intelligent Forest Management Technologies; Green Salt and Healthy Life for All, which intends to use Salicornia to reduce salt consumption; and Bio2Skin, for medical adhesive-related skin injuries. The project is relevant to **SDG 4, SDG 8, SDG 9, SDG 12, SDG 16** and **SDG 17**.

In **Spain**, **EmpoderaORG for the SDGs (Empodera por los ODS)** is an ecosystem of collective, integral, disruptive and resilient intelligence that creates social innovation processes to resolve challenges and realize citizens' initiatives aimed at achieving the Sustainable Development Goals. All civil society, institutions and organizations are welcome to join and start to change the world. Empodera.org is an initiative of the Cybervolunteers Foundation (Fundación Cibervoluntarios), a non-profit organization made up of social entrepreneurs to promote the use and knowledge of new technologies as a means of bridging social gaps, generating

Action Line 7 E-AGRICULTURE

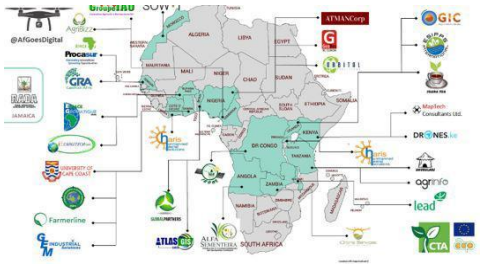
In **Israel**, **Taranis** initiated the full stack solution for high-precision aerial surveillance imagery. Taranis is an international precision agricultural–technological start-up that offers a full stack solution for high-precision aerial surveillance imagery to pre-emptively avert crop yield loss due to insects, crop disease, weeds and nutrient deficiencies. Introducing the world's first "air scouting" capability, the Taranis platform helps service providers, land managers and producers monitor their fields, make informed decisions and then act on them. Taranis combines field imagery in three different levels from satellite images, through plane imagery to drone leaf level imagery, and is using artificial intelligence deep learning technology to recognize crop health issues. The project is relevant to **SDG 2**.



In **Italy,** Exporting countries use Phytosanitary certification to attest that consignments of plants and plant products meet phytosanitary requirements of the importing country. The **IPPC ePhyto Solution** project is a global initiative to facilitate electronic exchange of phytosanitary certificates between various trading partners in a digital form. The UNICC was contracted to build the global Hub for the IPPC as the leading provider of ICT services within the United Nations. The UNICC developed the GeNS software to minimise costs by maximising economies of scale. It will also host the Hub and the GeNS for the IPPC and participating countries. The IPPC ePhyto Solution is composed of the following: •The Hub: a central exchange system that can be used by all countries to which it is linked. •The GeNS: a centralized web-based system that allows countries without their own national electronic certification system to produce, send and receive ePhytos through the Hub. •Harmonization: a harmonized and standardized approach to format, structure and codes in the certificate exchange process. This project facilitates the safe, global trade of plants, plant products and other regulated articles by providing internationally agreed certification and related procedures. An ePhyto exchange via the global Hub will reduce the need for complex and costly bilateral agreements required to undertake an exchange therefore simplifying and streamlining the international trade processes. Benefits of ePhyto relate to efficiencies in border operations and trade movement by the reduction in documentation work and trade costs. The project will directly promote the national interests of participating economies by contributing to sustainable economic growth, infrastructure development and investment, ease of doing business and e-commerce. This project is related to **SDG 2, SDG 5, SDG 8, SDG 10, SDG 15, and SDG 17**.

In the **Netherlands**, the Technical Centre for Agricultural and Rural Cooperation came up with the project **Transforming Africa's Agriculture: Eyes in the sky, smart techs on the ground**. By embodying components such as scientific research, proof of concept initiatives, capacity building, support to investment, enterprise development, networking, experience capitalization and communication, this project has started transforming African agriculture into a high-tech industry, with decisions being based on real-time gathering and processing of data, productivity and yields. The establishment of 30 rapidly expanding, youth-led enterprises offering drone-based services for agriculture in 17 African countries represents a significant development for the continent and a milestone for the building of the African Information Society. Started at the end of 2016, this project caught the attention of young entrepreneurs who were selected via a competitive process, trained, and technically and financially supported in offering drone-based services to farmers' organizations, agribusinesses, government and international development agencies and other interested parties. A recent survey confirmed that the enterprises has been recruiting staff, investing in new equipment and increasing their business portfolio. A consortium is being formed to enable individual enterprises to group and be more competitive on the national and continental markets. Considering the fact that in 2017 drones were a new tech for Africa, the project played an important role in creating an enabling environment. It supported the African Union's appointed High-Level African Panel on Emerging Techs in selecting "drones for precision

agriculture" as one of the most promising technologies that would foster Africa's development. In January 2018, the African Union Executive Council recommended that all Member States harness the opportunities offered by drones for agriculture. A full report entitled "Drones on the horizon: Transforming Africa's Agriculture" was launched at the Africa Innovation Summit in Kigali (6 June 2018). Project implementers co-authored the report and have been advising national civil aviation authorities in developing regulations for the responsible use of drones. The project is relevant to **SDG 1, SDG 2, SDG 8 and SDG 13.**



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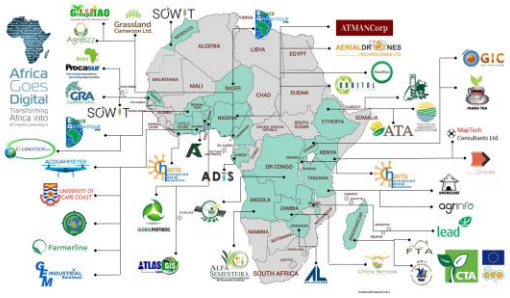
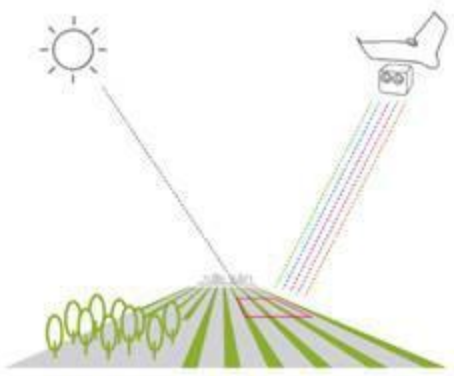


In **Poland**, there is an online platform that serves as a natural and real food market – a virtual space where local farmers share their products with citizens. They share what they produce with their own hands, what they tried to make the best. The website is a platform to provide users with local and organic food; it connects the farmers and small producers directly with inhabitants of big cities, who often do not have easy access to these kinds of products. It is a win–win situation: citizens get to find local and healthy food just around the corner, and farmers get more clients and are able to sustain themselves and their production. The website is a collection of pick-up points (and available products) that can be found nearby based on a user's location (when this option is enabled in a one's browser). The project is relevant to **SDG 2** and **SDG 3**.

In **Switzerland**, **Gamaya** improves efficiency and sustainability of farming businesses by offering unique and compelling agronomy solutions, enabled by hyperspectral imaging and artificial intelligence. Its decision to support and automate services helps industrial farmers reduce the costs of water, chemicals, fuel and manual labour, while reducing environmental impact and improving the quantity and quality of their produce. Unique, commercially viable hyperspectral imaging technology allows them to address global food production challenges. Gamaya's current generation hyperspectral camera captures 40 bands, which is ten times more than the typical four-band multispectral cameras. Plants with different physiology and characteristics reflect lights differently. Hyperspectral imaging, and its ability to capture reflectance in a much more detailed

and precise way, allows us to detect problems such as diseases, nutrient deficiencies and other crop issues. The project is relevant to **SDG 2** and **SDG 12**.

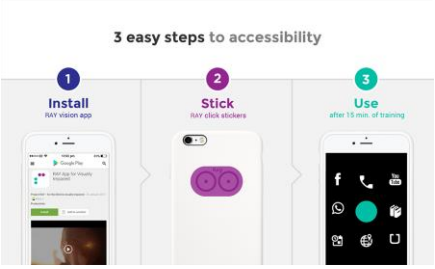


In the **United Kingdom**, **Hive Explorer** is a smart insect home that empowers users to recycle their food waste into fertilizer and proteins with the superpower of mealworms, all while learning how they can help create a healthy planet. Bringing nature indoors in a safe, regulated way allows grown-ups and kids to start growing precious products on food waste and start exploring the fascinating life of the Hive inhabitants (mealworms) easily. The Hive holds open-source technology that controls the climate and micro-ecosystem for the insects. This and the future generation need new methods and technologies to reduce food waste and effectively recycle waste into high-value products. The food waste goes into the smart insect home, which consists of several compartments that house the entire life cycle of mealworms (egg > mealworm worm > mealworm cocoon > mealworm beetle). STEM is a curriculum based on the idea of educating students in four specific disciplines – science, technology, engineering and mathematics – in an interdisciplinary and applied approach. STEM integrates them into a cohesive learning paradigm based on real-world applications. The project is relevant to **SDG 2**.

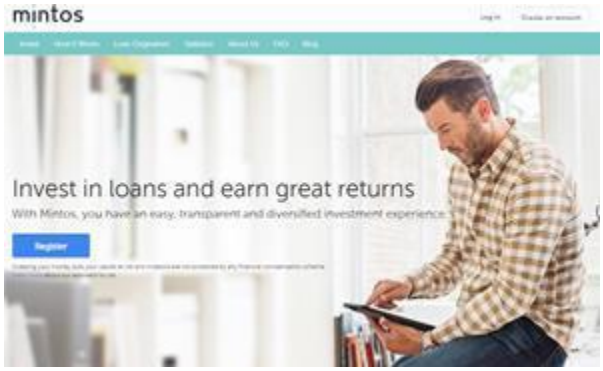
Action Line 7 E-BUSINESS

In **Austria, The Menual App** simplifies the selection of food and beverages, makes a visit to a restaurant more efficient, and digitizes and thus optimizes the business processes of the catering industry. Restaurant guests do not have to wait long, but can, immediately after entering the restaurant, inform themselves about the offer or even get automatically the food recommended to the taste, the preferences and the nutrition of the user. Menual acts as a personal recommendation or nutrition coach, who knows exactly what the user tastes, what he should eat and drink and, above all, what he is allowed to eat and drink based on the current location. Users can fully rely on the underlying algorithms and the artificial intelligence of the Menual recommendation system. Difficult decisions are eliminated and orders can be placed quickly, easily, securely and with a clear conscience. Another unique feature of Menual is its accessibility. The complete app is developed in such a way that it can also be used by people with visual impairments. This is reflected not only in the UI layout of the smartphone application, but also in its UX implementation. This project is related to **SDG 9 and SDG 16**.

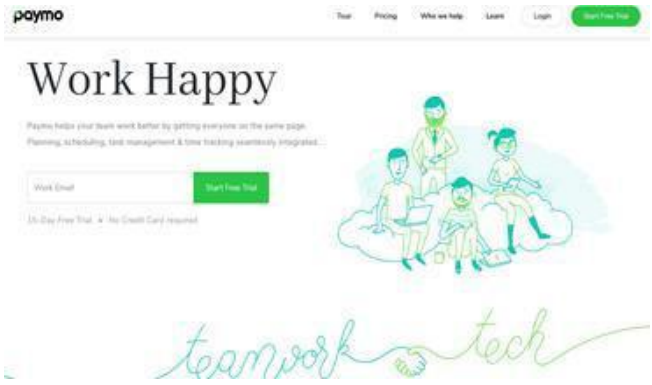
In **Israel**, **EyePhone** is an innovative and disruptive solution designed to allow the visually impaired to access and use touchscreen technology on smartphones at a price much lower than comparable solutions. EyePhone is a smartphone and tablet application that once installed, automatically imposes a special user interface (UI) across all system functions, daily used applications and life-changing set of services, reading aloud the contents on the screen so no sight is required. Using RAY's simple user interface, with common and consistent behavior that works the same across the entire system, users can learn in a matter of minutes to easily access their smartphone and all its features, including any third-party apps. This is done through a real-time conversion of the original visual presentation of these applications into a simpler interface made of two screen elements. This project is related to **SDG 9 and SDG 16**.



In **Latvia**, **Mintos** is an online marketplace for loans, connecting investors and alternative lending companies around the world. It provides retail investors with an easy and transparent way to invest in loans originated by a variety of alternative lending companies. Its mission is to facilitate free and efficient movement of capital. At Mintos, investors can invest in different types of loans originated by many different loan originators. There are no fees for investing on Mintos. Investors can invest in multiple currencies and start small. Loan originators gain access to flexible and scalable funding for growing their loan book. The project is relevant to **SDG 8**.



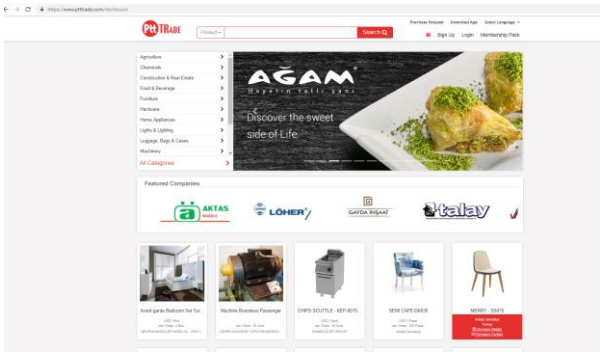
In **Romania**, **Paymo** serves over 100 000 small businesses and freelancers with their project management needs. Paymo helps clients' teams work better by getting everyone on the same page. Planning, scheduling, task management and time tracking are seamlessly integrated. Paymo is an online project management application dedicated to freelancers and SMEs from industries such as web design and development, creative agencies, software and ICT services, architecture and construction, legal services, marketing and social media and business consultants. Paymo offers a full set of tools that help teams and individuals reduce stress levels while working, create better plans and schedules, and overcome uncertainty. It also uses advanced task management tools, Gantt Charts or Kanban Boards to create ac-curate plans and schedules, so each member of the team knows exactly what to do and when, and helps clients manage projects from start to finish. The project is relevant to **SDG 8**.



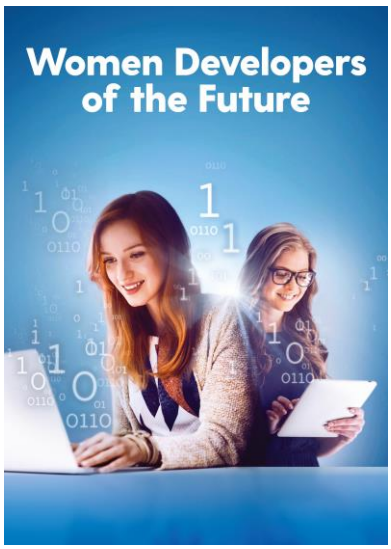
In **Turkey**, the **PTT Insurance Platform** project's first objective was to gain the young and middle-aged customers, compared with customers' portfolios, which is mainly elderly persons. The second was to earn profits by entering such high-yielding markets as postal operator. Companies are increasingly using computer and Internet technology to facilitate doing business. In the modern world, the Internet provides a vast amount of opportunities for businesses to help run their business successfully. The younger generation (particularly millennials) is using mainly online services instead of classical ones. This is creating a greater need for digital relevance. This business offers services that can easily be sold, by setting up e-platforms for those ser-vices. The company has gained a remarkable increase in revenue. With this project, PTT has provided expanding added value for itself, customers and its insurance portfolio. The project is relevant to **SDG 9**.

In **Turkey, www.ready2sale.com** is an international online trade platform filled with millions of products in different categories from several countries, especially Turkey. It adds users' desired product categories to their websites; makes them ready for sale; and diversifies and increases the number of products on their website, allowing them to raise their sales and e-commerce value. If users wish, the platform can manage their sales, marketing and digital marketing operations. They can set up and integrate their payment systems and send products of different suppliers in a single package. Ready2Sale.com is an e-export platform where millions of products come together in different categories. A user's store at www.epttavm.com is added to the platform with a single click to make their products ready for sale at Ready2Sale. com. The sales platforms in different countries are offered for sale. Products are ordered by customers. Following the ePttAVM.com panel, the invoice, including VAT, is deducted and delivered to PTT Cargo authorities to be taken to the e-export office. The project is relevant to **SDG 8** and **SDG 17**.

In **Turkey**, **PttTrade** is a market-oriented smart e-market, business-to-business portal that provides the communication and infrastructure facilities for the products and services produced in Turkey to the whole world, and the communication and infrastructure possibilities of the buyers and sellers for international trade. This portal allows easy use of integrated e-commerce, logistics and payment services systems. In addition, it serves as an e-commerce and e-export environment that paves the way for efficient, effective, national producers and SMEs all over the world. PttTrade is a new generation e-marketplace that allows buyers and sellers to trade internationally. PttTrade enables marketing and sale of manufactured products and services to the world. PttTrade Platform Ptt's With close experience of two Asra SMEs International Help them trade. The project is relevant to **SDG 17.**



In **Turkey**, The aim of the "**Women Developers of the Future**" is to train women regarding software, to support them in developing mobile applications, and to increase the employment capacity and entrepreneurship. The program offers two amazing opportunities for the women who have completed the initial in-class and online mobile application development training. Firstly, there is the 'Entrepreneurship Journey', where women learn how to develop and create successful business model for their own mobile apps. The second opportunity is the 'Tester Journey' where 100 women are actually employed by Turkcell to contribute to Turkcell's strategic product and services by conducting end user test. The project is relevant to **SDG1, SDG5, SDG8**.



In **the United Kingdom**, **Trussle** is the new hassle free way to get a mortgage. The company helps first-time buyers and existing homeowners save time and money securing a great value mortgage online. It then continues to monitor users' mortgages and help them switch to a better deal later on, so they're never paying more than they should. The project is relevant to **SDG8, SDG16**.

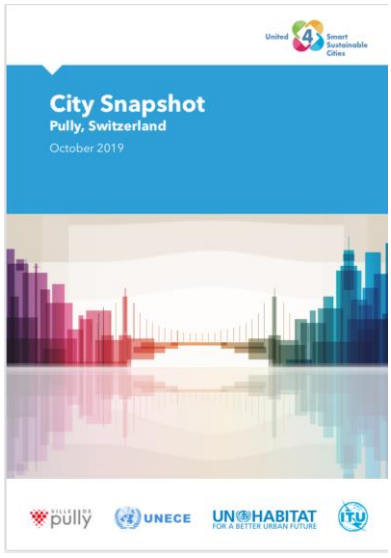
Action Line 7 E-EMPLOYMENT

In **Israel**, **SKILLSET** is a unique characterization and selection system for job applicants with disabilities, providing reliable profiles with a high predicting ability concerning the performance of individuals with disabilities. SKILLSET streamlines the recruitment procedure for people with disabilities and promotes equal and quality employment for the candidate as well as the employer. SKILLSET's system focuses on locating and predicting the variety of actual performance abilities of the candidate. SKILLSET integrates advanced technological systems with "Job Analysis" questioners providing the candidate with practical and specialized tests, simulating the future work-related tasks. The project is relevant to **SDG9, SDG16**.

In **Portugal**, an online project to support the use of digital social networks to strengthen new forms of active job search and promote employability, social integration and socialization in the Region of Madeira, Portugal. The goal is to help unemployed adults take advantage of social networks (e.g. Facebook) to improve in their employability. These social global tools can respond to these needs and contribute to the development of local communities. Currently, the various online spaces involve more than 50,000 people, in a region that has less than 255.000 inhabitants. The online spaces we have been managing have become very dynamic, with many testimonies of people who have been able to find jobs through the sharing of job offers available there. Although the main results are not measured directly, because it is about inducing changes in behavior and attitudes, studies indicate that the project has already contributed to 2,957 people finding some kind of job (temporary, part-time, full time). It should also be noted that 6,428 people have said

to know someone in these circumstances. **ReBIRTH on the internet (REviver na Rede)** has a strong pedagogical, social and solidarity basis, relying on voluntary work, in a social entrepreneurship spirit. We are already planning to expand it to another context, and further replicate it (inter)nationally. VIDEO: https://youtu.be/MbguKMLfaHE The project is relevant to **SDG4, SDG8**.

In **Switzerland**, recognizing the growing impact of digitalization, Pully has embarked on a journey to integrate new technologies into its city operations. In the process of becoming smarter and more sustainable, Pully has implemented numerous ICT projects aiming to improve the quality of life of its residents, strengthens relationships among citizens and leverage the full benefits of digital technologies. In 2017, the city decided to partner with the U4SSC in piloting the Key Performance Indicators for Smart Sustainable Cities. The objectives of this partnership is to test the viability and applicability of the KPIs, to measure the effectiveness of the smart projects the city has developed so far and to measure the city's progress in the SDGs. The results of this collaborations are contained in this project. **Implementation of U4SSC KPIs in the City of Pully** has successfully highlighted and measured the contribution of ICTs in different aspects of the city, from environmental quality, water and sanitation, culture, to education, food security, housing, employment, innovation and more. Each indicator is connected to one or multiple SDG targets, therefore, the results have constructed a holistic view on the city's progress on the SDGs. The outcomes of this project has supported Pully in improving its smart strategy and establishing a clear pathway to reach the SDGs. The project is relevant to **SDG11**.

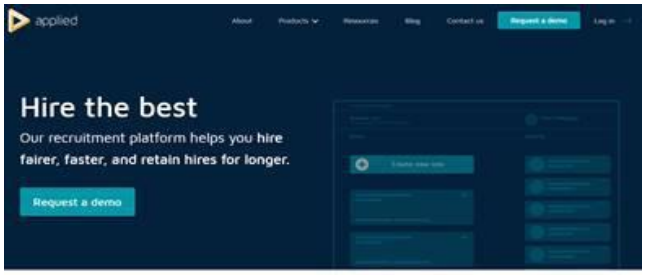


In **Turkey**, **Design Your Future** Program focuses on 3 main areas; ICT training, Entrepreneurship and employability. The program aims to develop digital skills and capacity of youth to support their employability and entrepreneurship in the ICT sector. In the context of ICT training, we give training on coding for children, digital literacy, cloud computing and IoT training for young people. In the context of entrepreneurship and employability, we organize entrepreneurship and informatic seminars, technology meetups, entrepreneurship camp, and hackathons. The project is relevant to **SDG4, SDG8, SDG10, SDG17**.

In the **United Kingdom**, there is a recruitment platform that gives users world-leading behavioral science to remove bias and improve predictive validity in hiring. "**Applied**" is the way to overcome bias in hiring. London -based start-up Applied has bagged GBP 1. 5 million (approximately USD 2 million) in seed funding for a fresh, diversity-sensitive approach to recruitment that de-constructs and reworks the traditional CV-bound process, drawing on behavioral science to level the playing field and help employers fill vacancies with skilled candidates they might otherwise have overlooked. Fairer hiring is the pitch. Founder and CEO Kate Glazebrook says, "If you're hiring for a product lead, for example, it's true that loads and loads of product leads are straight, white men with beards. How do we get people to see well what it is that this job actually entails? It might actually be the case that if I don't know any of the demographic background, I discover somebody who I would have otherwise overlooked." Applied launched its software as a service recruitment platform in 2016, and Glazebrook says so far it is been used by more than 55 employers to recruit candidates for more than 2 000 jobs, while more than 50 000 candidates have applied via Applied to date. The project is relevant to **SDG 8**.

Action Line 7 E-ENVIRONMENT

In **Finland**, Slush established **Carbon Offsetting Partnership**. Slush is a dynamic event that brings together 17 500 attendees, including over 2 000 start-ups from 124 countries. Slush Global Impact Accelerator is a programme created in collaboration with Finland's Ministry of Foreign Affairs and other multiple global partners. It supports impact start-ups and showcases exciting business opportunities in emerging markets, which are vital for implementing the 2030 Agenda for Sustainable Development and solving complex challenges. At Slush, the teams will be seeking partnerships, funding and perhaps even buyers for their enterprises. They will also pitch to a panel of judges and an audience of regional and global leaders in tech and business.

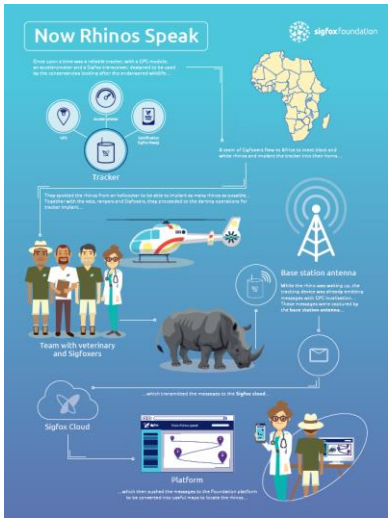


This year, Slush is partnering with Fortum and CHOOOSE to offset the equivalent not only of the organization's car-bon footprint, but also that of its 20 000 attendees' flights, food and hotel stays for the time of the event. The equivalent of 10 000 tons of carbon offsets will be made possible by Fortum, and powered by CHOOOSE, by investing in a thin film solar power project in Gujarat, India. This Golden Standard carbon offset project services the grid in an area mostly covered by a coal power plant, meaning the solar power provided can partially replace coal power in the area. The Slush–Fortum contribution is directly financing the operations of the power plant for half a year. The project is relevant to **SDG 13**.

In **France**, **Sigfox** gives a voice to endangered species in order to promote **less intrusive conservation of rhinoceros**. Many solutions have been deployed to help endangered species. But looking closely to these devices (e.g. collars, tags) all are very intrusive, very expensive and consume a lot of energy. They are not adapted to wildlife, which needs as little human or technical intervention as possible. The Sigfox Foundation, using the Sigfox network, has imagined a new tracking solution, to help rangers to better monitor a population of wild rhinos in Africa. The Foundation has rolled out the Sigfox frugal network (low energy, low cost, long-range radio signals): three base stations fully working in autonomy, covering a 4 000 km2 conservancy area. Partnering with a group of rhino conservationists, it prototyped a small tracker giving three GPS signals per day, directly installed in the horn of around 20 black and white rhinos. It allows collection of extremely valuable data on the location and movements of the animals in a very simple way. The project is relevant to **SDG7, SDG9, SDG15, SDG17**.

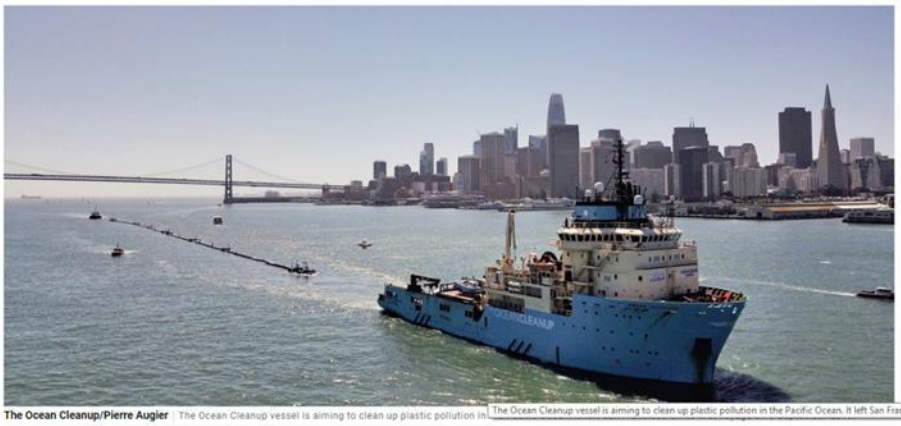
In **France**, a lot of solutions have been deployed to help endangered species. But looking closely to these devices (collars, tags) it is a known fact that they all are very intrusive, very expensive, consume a lot of energy and do not last long in terms of autonomy. As a result, these wild animals need to be bothered very often to get the equipment renewed. It is not adapted to wildlife which needs as little human or technical intervention as possible. The Sigfox Foundation, using the Sigfox 0G network, has imagined a new tracking/monitoring solution, to help rangers to better monitor a population of wild rhinos in Africa. The Foundation has rolled out **the Sigfox frugal network** (low energy, low cost, long-range radio signals): three base stations fully working in autonomy, covering more than 3000 km² conservancy area. Partnering with a group of rhinos' conservationists, we prototyped a small tracker giving a GPS signal everyday, directly installed in the horn of around 20 black and white rhinos. It allows collection of extremely valuable data on the location and movements of the animals in a very simple way. This prototype is much less intrusive, barely more than an inch but having a battery autonomy of several years and estimated at around 50 dollars per unit. The next step is to produce more sensors at the lowest price to equip a maximum of rhinos and contribute to their survival. With this objective in mind, Sigfox

Foundation is currently working with a manufacturer to develop an industrial version of the prototype. The design, hardware and software of this very small device are available in order to accelerate the development of similar devices for other species and amplify the impact globally. Our objective is also to foster innovation and the use of emergent, simple and affordable technologies to tackle global causes. In addition to the rhinoceros device, our Foundation is working on a PoC to use sensors to connect parks and reserves, in order to provide rangers with information about asset movements. The project is relevant to **SDG7, SDG9, SDG15, SDG17**.



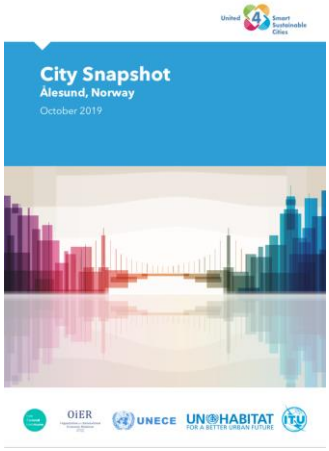
In the **Netherlands**, Ocean Cleanup initiated the **System 001 Deployment**. The ocean is big. Cleaning up the Great Pacific Garbage Patch using conventional methods – vessels and nets would take thousands of years and tens of billions of dollars to complete. This passive system (System 001) is estimated to remove half the Great Pacific Garbage patch in just five years, and at a fraction of the cost. The system consists of a 600-metre-long floater that sits at the surface of the water and a tapered three-meter-deep skirt attached below. The floater provides buoyancy to the system and prevents plastic from flowing over it, while the skirt stops debris from escaping underneath. Both the plastic and system are being carried by the current. However, wind and waves propel only the system, as the floater sits just above the water's surface, while the plastic is primarily just beneath it. The system thus moves faster than the plastic, allowing the plastic to be captured. The project is relevant to **SDG14**.

‘Great Pacific Garbage Patch’ clean-up project launches trial run: UN Environment

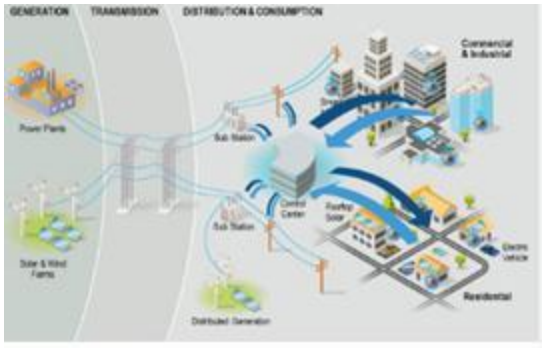


The Ocean Cleanup/Pierre Augier : The Ocean Cleanup vessel is aiming to clean up plastic pollution in The Ocean Cleanup vessel is aiming to clean up plastic pollution in the Pacific Ocean. It left San Francisc

In **Norway**, the City of Ålesund recognizes that climate change is a global challenge that requires the city to work with local entities, regional actors, and the international community to develop truly global solutions. In response to climate threats, the city has taken up the challenge to become the second lab for the development of smart sustainable city. The Lab has since developed smart solutions using simulation and visualization technologies that aimed to improve the quality of life of its citizens, accessibility to social services, make the city more climate resilient, promote e-mobility, e-governance, and more. However, the Lab recognizes that in order to foster the digital innovation and ensure the smart solutions are effective, it is important to leverage benchmark tools that are able to evaluate smart performance and sustainability at the same time. In 2018, the Lab decided to partner with the U4SSC to pilot the Key Performance Indicators for Smart Sustainable Cities. The KPIs have successfully evaluated the contribution of ICTs in the three key aspects of the city: environment; economic; and social and culture. **Implementation of U4SSC KPIs in the City of Ålesund** have given the Lab vital information on how to improve its approach to digital technologies and strengthen its capacity to develop more reliable, more effective and more innovative solutions. Most impressively, by piloting the U4SSC KPIs, it has also reported on the city's progress on the SDGs since the KPIs are connected to the SDG targets. This has allowed the Lab to further catalyze actions on the SDGs. The project is relevant to **SDG11**.



In **Switzerland**, **Gilytics** works to improve public participation in and social acceptance of virtual reality/artificial intelligence in planning future sustainable large energy and transportation infrastructures. Power grid operators still plan new power lines by hand and they have to go through time-consuming steps to get permits and communicate with local communities. Gilytics provides IT interactive and automated solutions to support power grid operators in identifying optimal routes of new transmission lines and to improve the interaction with authorities and communities with the use of 3D visualization and augmented reality on mobile devices. The platform can also be applied for planning distributed energy infrastructures (e.g. wind farms and pipelines) and transportation networks and systems (e.g. roads, railways, etc.). The project is relevant to **SDGs7, SDG12, SDG13**.

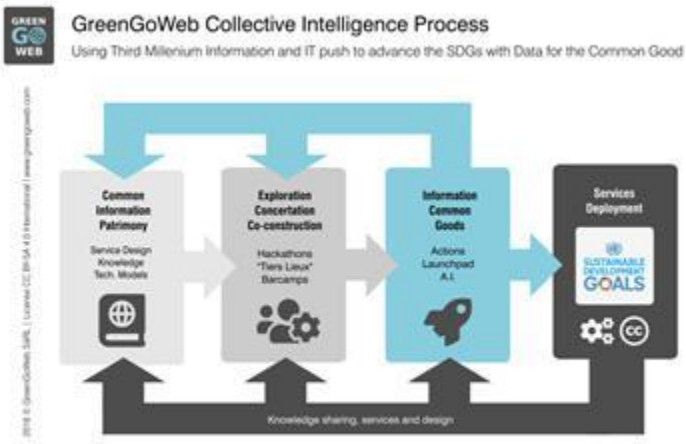


Customized tool for the optimal planning of large linear and punctual infrastructures using advanced mathematical and spatial approaches

Customized solutions for optimal spatial planning

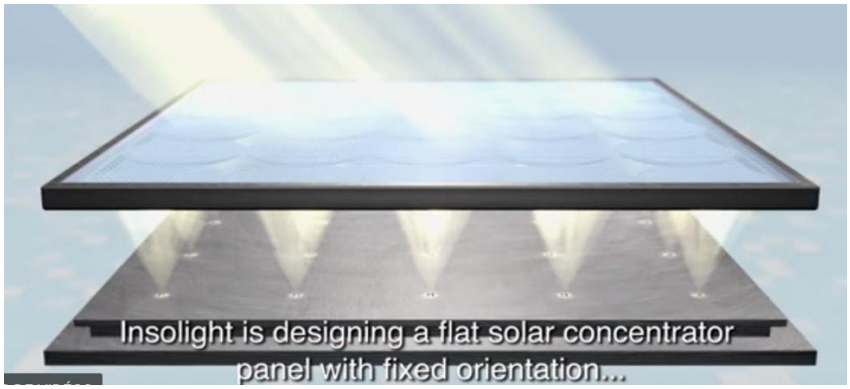
In **Switzerland**, **GreenGoWeb**, is the pioneer in applying gamification principles in the field of sustainable development. The company fosters innovative cli-mate-mitigation solutions by engaging individuals, and non-State and subnational actors. This unique “pledge-and-review” system allows for network creation and dynamic collaboration among participants. The data, treated anonymously, provide a clear visual on consumption patterns. GreenGoWeb led original research and development in 2012, with Proctor and Gamble, Europe and Accenture, to create and launch one of the only tools where participants don’t need to enter data. GreenGoWeb provides a set of comprehensive measures to reach out and engage individuals in effective, yet feasible, bottom-up actions. It creates a virtuous circle, whereby it generates metrics that are

converted into tangible performances, which in turn are monitored and certified. In so doing, it helps organizations contribute to the SDGs, and savings can contribute to nature preservation projects. The project is relevant to **SDG12, SDG13**.



in **Switzerland**, **Daphne Technology SA** is developing a catalyst-free scrubber technology to help the petrochemical, power and transportation industries to reduce air emissions to the levels required by international and nation-al regulations. Daphne Technology's patented nanotechnology -based solutions can be miniaturized and are especially well-suited to meet the requirements of marine vesse. Enabling air pollution control with nanotechnology, Daphne's exhaust gas cleaning technology can help commercial ship owners to comply with the new international SOx and NOx marine air emission regulations entering into force in 2020 in the most economical and environmentally-friendly manner available, saving ship owners up to 50 per cent in fuel costs. The project is relevant to **SDG13**.

In **Switzerland**, **Insolight**, noticed that, in the past decade, the solar market has boomed. However, conventional silicon panels still lack efficiency, and the return on investment for end users is limited. Insolight developed a flat optical panel that directs sunlight on smaller and highly efficient solar cells, which are normally used in satellites. The technology can produce twice as much electricity for the same surface area as conventional panels. In August 2016, the yield (the quantity of electricity produced from the light energy received) of Insolight's first prototype was validated at 36 per cent by a third party. This can be considered as a world record, while solutions currently available on the market offer through-put of only around 18–20 per cent. The business model is to deliver a blueprint solution that is licensed to established manufacturers, who will produce and distribute the solar panels. The next step is the construction of pilot installations with partners, which will be at the same time a technological and a market validation. The project is relevant to **SDG13**.



In **the United Kingdom**, **ForestSENTINEL** came up with a near-real-time forest cover change information service using satellite data. ForestSENTINEL is a mobile and web platform that allows the dissemination of near-real- time forest cover change in-formation using satellite data. Real-time change alerts to designated forest officials allow action against deforestation. Auditable forest information is gathered using the forest monitoring feature, and live dashboards show forest changes over specified periods. Solution Overview: Data are processed using statistical learning algorithms to detect forest change. The resulting forest-cover change map and alerts are disseminated via a smartphone app to community forest associations and national agencies for action and feedback. The project is relevant to **SDG15**.

Action Line 7 E-GOVERNMENT

In **Albania**, **ePosta** is a digital platform that enables the customer to perform online a variety of Albanian Post services through a smartphone, tablets, computer. So the customer can: 1.track & trace his/her mail items; 2. search & pay online electricity, water bills, penalties and custom fees for his/her mail items; 3. track his/her money transfer incoming/ongoing; 4. find the nearest post office to his/her actual location. The customer register his credentials and then can save his/her contracts/plates/mail item so he/she can check online anytime. The project is relevant to **SDG9**.

POSTA SHQIPTARE

In **Germany**, **Polyteia** is building a platform that would allow city leaders to unify and analyse the data that represent the constituents they serve. The problem, the company says, is that local governments collect a lot of data, but they aren't always great at organizing and using it efficiently. Polyteia automatically integrates data from various legacy systems, transforming and visualizing them into real-time insights. Polyteia provides all relevant key performance indicators in one place, re-al-time analytics and reports, seamless data integration, and European data security and protection standards. The project is relevant to **SDG11**.

In **Latvia**, within the framework of the pilot project, the Register of Enterprises, by using artificial intelligence technologies, established the innovative tool for the client service sector Virtual Assistant **UNA**, which provides answers in writing, in Latvian, to frequently asked questions of clients 24/7 on the website, as well as on the Facebook Messenger application of the Register of

Enterprises. Communication with clients through a virtual assistant enables employees to settle much more complicated client situations; thus, the labour force resource is being more usefully used, performing work that requires more qualifications. The virtual assistant UNA makes the communication with the client more available and friendly. Clients do not have to attend the client service centres in person, saving time and money. They do not have to wait for a conversation with the operator of the Register of Enterprises in the call centre, because re-plies to questions of clients are provided immediately. The statistics of use of the virtual assistant shows that it is used every day, both on the website as well as on the institution's Facebook Messenger application. The project is relevant to **SDG3.**

In Latvia, **tax returns using an automated process solution** with elements of artificial intelligence that provide the State Revenue Service with a system that automatically calculates and repays all overpaid value-added tax (VAT) and income tax returns by Analyzing data from huge volumes of e-submitted VAT and income tax return documents. This solution greatly reduces the amount of the agency's time, and human and monetary resources needed to process the information that would result with a tax return getting to the taxpayer in an effective and convenient way. The main objectives are:(a) preserving resources; (b) tax refund automatization; (c) increasing public satisfaction with the agency; and (d) speeding up the process of tax calculation and repayment. As a result, a more effective tax administration is ensured and, by automating the process of handling tax returns, the proportion of e-processed documents increased to 95 per cent of the total number of documents submitted, and the cost of processing just one single declaration decreased by more than 95 per cent. The project is relevant to **SDG3**.

Valsts ieņēmumu dienests

In **Latvia**, everyone starting construction has faced the endless mountains of documents necessary to have construction approved and receive building permits. **Construction Information System(CIS)** is an electronic environment that provides circulation of information among the construction process participants, and maintains registers necessary for the construction process and e-services related to the construction process and registers. Currently, 6 registers and 30 e-services are available in the CIS. The CIS might be called a digital construction document shelf, where all necessary actions, starting with creation and submission of intent up to receiving the building permit and construction process supervision, are possible electronically. The project is

Būvniecības valsts kontroles birojs

relevant to **SDG11**.

In **Latvia** – by investing in available data resources, such as court data, human resources data, finance data, etc. – the country has implemented a thorough set of data using BI tools to access data of court work in many different forms. **Court data availability using business intelligence tools** has had a great impact on the just-finished court reform in Latvia. The necessary output can take form in either simple reports or graphical dossiers, and results can be automatically sent by schedule or by a certain trigger. In an automated and dynamic fashion, Latvia can access and judge evaluation data, data of court work, courtroom expenditures, expenditure per case and various other types of data that represent court work and help the country to investigate potential problem areas, to enable decisions based on data. This implementation has also enabled Latvia to follow the work quality of courts and to predict necessary training for judges. The country is also planning to make this information publicly accessible and thus promote trust in courts among society. Latvia believes that, by implementing this project, it has positioned itself as a world leader in the effective use of available data about courts. The project is relevant to **SDG4, SDG10, SDG16.**

Court Administration of the Republic of Latvia

In **Poland**, **Otwarte Dane/Open Data** is a one-stop shop for data from over 100 public institutions. The portal is a source of reliable, constantly updated data, made available free of charge for reuse. An up-to-date list of data providers is available in the Institutions section. Poland has created this website for: (a) citizens interested in the activities of the State; (b) companies that build innovative products and services based on data; (c) non-govern-mental organizations using data in their daily work; (d) scientists carrying out research; and (e) officials preparing reports and analyses. No registration is required to use the portal. If users would like to access additional functionalities, including creating their own data sets and conveniently tracking data updates, they should create an account on Poland's portal. The project is relevant to **SDG3, SDG4.**

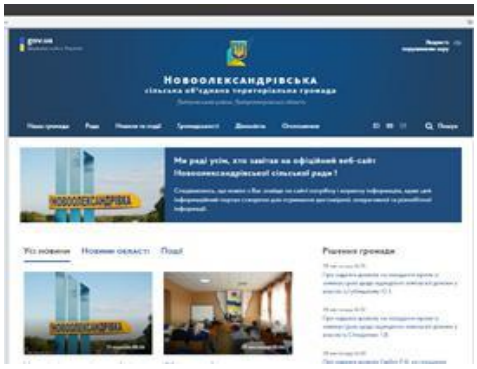
In **Poland**, the Ministry of Digital Affair's dedicated PoC helps Facebook users re-appeal for their removed content or accounts to be restored. The IT tool has been available on the Polish government website GOV.PL since mid-December 2018. Up to the date of this submission there have been over one thousand entries to the system, with almost 35% of appeals leading to Facebook content restoration. **Social media Point of Contact** is the first tool of this kind ever developed by any government entity together with an on-line platform as big as Facebook. The service is free of charge. The project is relevant to **SDG9, SDG16, SDG17**.

In **Spain**, the **VioGén System** is a computer application aimed at protecting women victims of gender-based violence and children in charge of gender-based violence. VioGén System is based on a Web application included into the SARA Network to which any State Public Administration, as well as the European public administration, has access. VioGén gathers information from different sources: police, judicial, prison and assistance. Its objectives are aimed at: bringing together the different public institutions that have competences in matters of gender-based violence; integrating into a single database all the information of interest considered necessary in this matter; facilitating the assessment of risk of further violence, through a police risk assessment system for victims of gender-based violence. Considering the level of risk appreciated, follow up on the case and, if necessary, provide protection to the victim throughout the national territory; helping the victim to draw up a "Personalized Safety Plan" with adapted and individualized self-protection measures and, finally, carrying out preventive work, issuing notifications to the different institutions involved, when an incident or event of interest for the protection of the victim is detected. The project is relevant to **SDG5, SDG16**.

In **Turkey**, as part of the Action Line of 2016, with the aim of developing the quality and effectiveness of Judicial System, empowering the notification system and enhancing the usage of informatics systems in the judiciary, **e-Notification** Project has been started. e-Notification is transmitting of formal letters to the related persons electronically. To be able to make e-Notification to one, he/she must have a KEP (Registered e-mail) address and inform the related units of that address. E- Notification bears the same legal consequences with the physical one. Thanks to Project the notification progress that takes weeks can be completed just in seconds. Advantages of e-Notification : -While it takes days to reach the physical notification to the address, thanks to e-notification it takes just seconds, thus it provides time and energy saving. It is a nature-friendly Project, contributing protection of nature and green since no paper is used at e-notification, while physical notification costs 14 Turkish Lira , e-notification costs 4.5. It makes a major contribution to the budget. When taking into consideration that it provides %50 saving, it seems that it has saving effects on operational costs. Since the physical notification is made to local authority, law enforcement officers etc. in case of the related person is not at the address, it's possible the notification not to reach the related person but e-notification is made to the e-mail address that he/she registered and he/she is informed with SMS about the notification it is impossible he/she does not see the notification. Time and labor saving. It was achieved to make judiciary notification progress possible at little cost, within the shortest time, transparent and reviewable with own resources. When considering the human factor of making possible faults like miswriting the address, registering the notification wrongly could cause delays and forfeiture of the citizens. With project, it becomes possible to avoid from user-based wrong data entries. The project is relevant to **SDG9**.

In **Turkey**, signed many reforms within the scope of a trusting and accessible justice approach, The Ministry of Justice of Turkey has also facilitated access to justice services by using the opportunities of technology. Accessing to case files brought into mobile platforms via the application called by "**e-justice for Citizen**". With the new application prepared for Android and IOS, citizens will be able to have immediate information about open or closed files in judicial and administrative jurisdictions and see their contact information registered in UYAP (National Judicial Network Project) Information System. Via e-justice Citizen App, citizens can see all their judicial information registered in UYAP Information System because the application prepared in a comprehensive manner. Citizens can see e-mail, phone and address information from the contact information shortcut within the application and make them updates if necessary. In the application menu, they have the opportunity to query their files by filtering the judiciary type, judicial unit, file status, file year and file order. Also they have knowledge about the current status of their files in the judicial unit. By means of "My Hearings" menu, citizens can see detailed information about the hearing and viewing day in terms of hours, days, months and years. With the agenda menu, they can see the developments related to the file on the days that are listed monthly on the mobile device's agenda, and when they select any relevant day from agenda, they can see all the progress is related to that day. Thanks to the e-Justice Citizen application, citizens have time limited access to their case and hearing information. It is provided to save labor and labor force of court officials and call center agents. With this mobile apps it is expected significantly decrease of the workload onto the information channels will as considering CIMER (Presidential Communication Center) applications are mainly about "What are my cases which are currently continue on judicial units. The project is relevant to **SDG9**.

In **Ukraine**, the **E-Governance for Accountability Participation (EGAP)** programme is intended to apply modern ICTs that will help improve the governance quality and inter-action between the Government and citizens, and promote social innovations in Ukraine. As the decentralization process is ongoing in Ukraine, new **amalgamated communities** are created all over the country. By September 2018, 831 communities had been created. Newly formed communities need websites to publish their decisions, information about administrative services, contact information and news, and to communicate with citizens. Websites are needed to inform citizens about government activity. EGAP created a platform that gives the ability to create a standardized website for an amalgamated community with all necessary sections, without programming and hosting. The project promotes freedom of information access, transparency of governance and equality. The project is relevant to **SDG 16**.



In **Ukraine**, EGAP developed the **Participatory Budgeting Service** in response to this rapidly growing instrument of citizens engagement in local development. Municipalities requested the instrument that will allow citizens to initiate and identify small projects to be funded from local budgets. This mechanism became popular in 2015–2016, and subsequent development of the e-voting procedures allowed many more citizens to participate in decision -making. After an initial quick response to this request through introducing the voting mechanism on the e-dem platform (30 municipalities used the first iteration of the service), EGAP collected feedback from users (activists, municipalities and moderators). Based on the feedback, EGAP developed a Participatory Budgeting Service that serves the whole participatory budget cycle. Each participating municipality can select its own procedures, decide on who can vote for the projects and how many projects to support. A Total of 59 local authorities use the Participatory Budget Platform, 10 of them for the second year. More than 150 000 users registered in the system. The project is relevant to **SDG16**.

Action Line 7 E-HEALTH

In **Austria**, more than half of persons with spinal cord injuries are suffering from impairments of both hands, which results in a tremendous decrease of quality of life and represents a major barrier to inclusion in society. Functional restoration is possible with neuro-prostheses based on functional electrical stimulation. However, current systems are non-intelligent, non-intuitive open loop systems without sensory feedback. **MoreGrasp** aims at developing a multi-adaptive, multimodal user interface including brain– computer interfaces for intuitive control of a semi-autonomous motor and sensory grasp neuro-prosthesis to support activities of daily living in individuals with spinal cord injuries. With such a system, a bilateral grasp restoration may become reality. The multimodal interfaces will be based on non-invasive brain– computer interfaces for decoding of movement intentions with gel-less electrodes and wireless amplifiers. The neuro-prosthesis will include functional electrical stimulation electrode arrays and different sensors to allow for implementation of predefined or autonomously learned sequences. MoreGrasp will consequently follow the concept of the user-centred design by providing a scalable, modular, user-specific neuro-prosthesis, together with personalized electroen-cephalogram (EEG) recording technology. The project is relevant to **SDG3**.

In **Austria**, **CARE** developed a non-wearable and stationary mounted bio-inspired stereo vision sensor, which does not record images but only detects motion at a high temporal resolution. The sensor can detect activities without seeing the person, so that privacy is ensured. The CARE project result is a stationary (non-wearable) smart sensor (like a fire detector), that can be mounted in every home to automatically detect falls and wirelessly send alarms. Such a system does not exist so far in the market. Two large elderly homes were involved in Germany and in Finland for the CARE pilot testing. The time to market of the system is approximately five years, as some steps are needed: (a) wide evaluation with more test persons, (b) redesign of the sensor as a finalized prototype to be smaller (like a fire detector) and cheaper, and (c) finding sensor investors for manufacturing of large quantities and wide deployment. The project is relevant to **SDG3**.

In **Austria**, **FEARLESS** is a project designed to detect a wide range of risks with a single sensor unit, enhancing mobility and enabling the elderly to take an active part in the self- serve society by reducing their fears. As the elderly often refuse to wear any additional sensors to activate alarm calls, FEARLESS will visually and acoustically detect and handle risks by contacting the relatives or caretaker organization (e.g. TES or SAM) automatically, without the need of any user intervention. FEARLESS not only enhances mobility by reducing fears, but also triggers an alarm, if significant behavioural changes (e.g. less mobility, change of health condition and many others) are detected. The actual low penetration of the technology is expected to offer growth opportunities to information and communications infrastructure providers, social alarm equipment suppliers and community service providers. The project is relevant to **SDG3, SDG16**.

In **Austria**, **VASSIST** aims at providing specific voice-con-trolled home care and communication services for two tar-get groups of older persons: seniors suffering from chronic diseases and/or those suffering from (fine) motor skill impairments. The goal of VASSIST is to provide specific voice-controlled home care and communication services for older persons. The results of VASSIST are multilingual natural voice interfaces for a specific set of communication and telemedicine services, along with specific hardware and software developments, to provide these services in older users' home. In this way, VASSIST will provide an alternative and easy access to existing communication and tele-medical solutions for senior persons. VASSIST will reduce costs related to service delivery by using existing on-site hardware and infrastructure, such as TV, smartphone and PC. The project is relevant to **SDG3, SDG16.**

In **Austria**, Erich is 73 years old and just recently returned his driving license to the district authority. Since he nearly never used public transport before, it is quite challenging for him to find the way to the underground. Erich uses the smartphone app **Guide Me** to contact his daughter Anita, who can then tell him the way. But today, she cannot be reached by phone. So he turns to a professional operator from Guide Me. The employee uses the GPS location and especially the camera from Erich's smartphone to lead him successfully to the subway. Guide Me can be directly integrated into customers' apps. It is a permanent travel companion that works everywhere, even indoors. It is for everyone – non-local, older, handicapped... everyone. It has comprehensive indoor navigation, and is useful for deaf specialists, mobility coaches and foreign language professionals. It provides help via video, audio, API, GPS, Internet or with people. It is a service for exact information on public transport. The project is relevant to **SDG3.**

In **Belgium**, in order to both support the independent outdoor mobility of persons with intellectual disabilities (PwIDs) themselves and to reduce the caregivers' burden due to companionship of the person during the trip, the geographic information system–based application "**Viamigo**," by which an individual can be monitored in real time from a distance, was developed. PwIDs are taught a known individual route, which they can accomplish independently afterwards while non-intrusively being monitored by a personal coach (caregiver, family member or friend), taking care of this individual while making a trip. Viamigo determines the location of the user and compares this in time and space within a predetermined range, so that deviations from the planned route, an incorrect speed, entering a dangerous zone, among others; can be detected. In that case, the project is relevant to **SDG9, SDG16**.

In **Croatia**, the **Omoguru** mobile application offers a set of specific tools that facilitate reading for dyslexics. The tools have been developed by our specialised team that has over 10 years of experience in the field and scientific research. The core of the system is the proprietary OmoType font system shaped to satisfy specific needs of dyslexics. Right now we offer Android and iOS mobile apps, we have a plugin for Chrome and we are starting the development of web application. All these tools make the Omoguru ecosystem that helps people with dyslexia read and learn. They are cross platform and connected through user account enabling each user to collect notes and use content of handheld and desktop devices. The project is relevant to **SDG4, SDG10, SDG16**.

In **Denmark**, the overall objective for the **E2C** consortium was to develop, test and deploy a web ser-vice, which stimulates and facilitates personal storytelling, and enable interest-based connections and communication among elders, and thereby empower them and enrich their lives. The fundamental innovation behind the Storyville games was an initial understanding of the relations between pictures/ music, gameplay and social settings, which allow for the design of digital board games that enhance social connectedness among participating players. The Express to Connect proposal addresses the over-all European challenge of preventing loneliness and isolation among elderly people as stated in this active and assisted living (AAL) call. The E2C solution is targeted at a point in the service ecology (value chain) where it can contribute to a decrease in care- and health-related social costs, and a rise in quality of life among elderly people. The project is relevant to **SDG3, SDG16**.

In **Denmark**, **RoboBraille** is an automated solution for making inaccessible documents accessible and available in alternate formats, such as audio, large-print and Braille for people with print disabilities. RoboBraille is freely available for individual, non-commercial use. RoboBraille is accessible 24/7 as a self- service solution, and is available free of charge to individual, non-commercial users not affiliated with an institutional setting obligated to provide support (academic institution, organization, association or similar). Users need not register in order to use the service. The objective is to support and promote self-sufficiency of people with special needs socially, throughout the educational system and in the labour market. The project is relevant to **SDG9, SDG16, SDG17**.

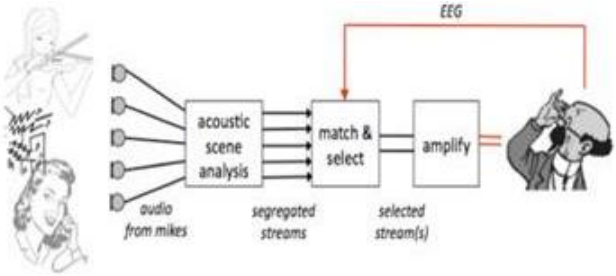
In **Denmark**, **RemPulse** works by inducing deep, sonic vibrations into the patient's abdomen. The vibrations are masked by soothing audio, putting the patient at ease in a relaxed state. The vibrations is 100% controlled and managed. The device therefore consists of a vibration transducer, a pair of headphones, an Audio Control Unit (ACU) and an iPad with an app, allowing the patient to control the treatment session. The transducer is mounted in an applied part. The mobile version employs a corset, which holds the transducer in place on the patient's belly. The recliner chair holds the transducer against the patient's lower back. Lastly, the bed solution sends vibrations through the mattress in the region around the belly. All solutions thus induce the vibrations in a manner that targets the patient's abdomen. PaciniMedico help people getting their life back and the main use case for RemPulse is to do professional treatment in clinics and at home of. A. Chronic pain B. Chronic and temporary mental illness. The project is relevant to **SDG9, SDG16**.

PACINI MEDICO

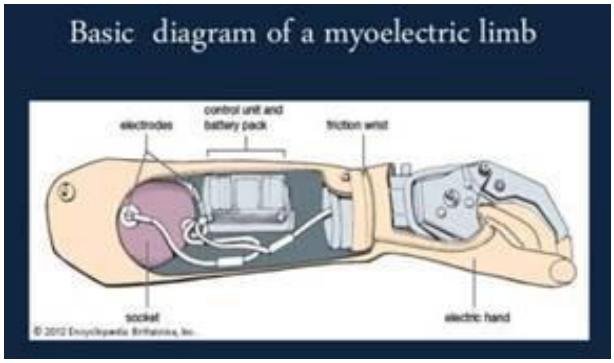
In **Finland**, the **HearMeFeelMe** project aims at developing ICT-based systems that provide elderly people with visual impairments an easy, simple and intuitive way to access information and digital services in their home environment. The medication management service concept covers the service chain from the pharmacy to the home of the vision-impaired older user. The results of the project tackle the problem of identifying objects when the user has eye-sight problems, and the user inter-faces of traditional computing devices are challenging because of de-creased vision and hand-eye coordination. The project originally concentrated only on medication management, but one of the results was expanded to cover audio tagging of any objects. The estimated time to market is two years. The project is relevant to **SDG3, SDG16**.

In **Finland**, the **Ageing in Balance (AiB)** project aims to develop a new solution for preventing the falls of older adults, which would reduce the costs produced by the falls and increase the quality of life of older people. The solution will include two aspects: assessing the fall risk and preventing falls. The fall risk assessment tools will include full-scale professional assessments and also short assessments, which can be used for self-assessments or by care professionals. The prevention tools will consist of physical and cognitive exercises and also environmental guidance. In AiB, an innovative model of risks of falls will be developed. The model will include all possible risk factors as described by the various studies and assessments from all aspects (mental, physical and environmental; intrinsic and extrinsic). Preventing the majority of falls would save a lot of money and improve and prolong the good quality of life of ageing adults. INTR is a platform allowing trader for easy The project will also survey the willingness-to-pay point of view as well as better define the costs and effects. User involvement is crucial in this project. Users from Spain and Finland will be engaged in the specification, development and testing phases so that the development can be based on their feedback as well. The project is relevant to **SDG3**.

In **France**, we propose to design a **hearing aid system** that can be mentally (cognitively) steered so as to allow a more "natural communication" for the hearing disabled, a population that forms over 7 per cent of Europeans (50 million people). Hearing disabilities lead to a degraded quality of life, exclusion and associated costs for society. Hearing aids (and cochlear implants), while effective in quiet places, are still unreliable in noisy reverberant environments typical of realistic everyday life situations. Based on recent success in decoding non-invasive cortical recordings (EEG, magnetoencephalography), and our multidisciplinary team (of engineers, neurophysiologists, psychophysicists and audiologists), we propose to develop and implement algorithms to decode brain signals picked up by EEG electrodes to extract intention signals, and to match them to acoustic sources within the environment. These in turn will steer an acoustic beam-former towards the targeted speaker or sound source. We propose to implement the design within a real hearing aid, and to evaluate the outcome with normal and hearing-impaired subjects. The results of this project will benefit the hearing aid and cochlear-implant industries, and the end users, who are the elderly and hearing-impaired. It will also lead to increased scientific understanding and knowledge of attention mechanisms, and how they might be harnessed to control sensory inputs. The project is relevant to **SDG3.**

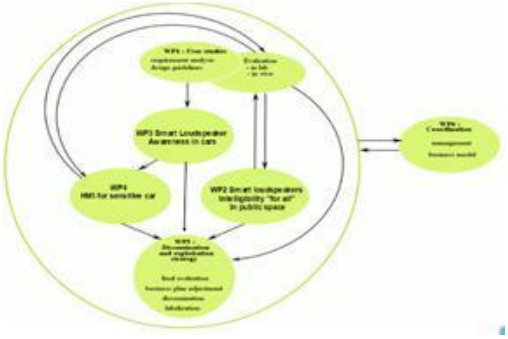


In **France**, the **Bionicohand** project consists of the manufacture of an open source myoelectric forearm prosthesis – in simpler terms, the manufacture of a bionic hand for amputees. Since a prosthesis consists of several elements, the project brings together technical skills ranging from mechanics to prosthetics. Based on the user experience (Nicolas Huchet), the project federated volunteers around the disabled persons who were introduced to digital manufacturing and open source in a fab lab. The goal is to document the manufacturing steps and make the prosthesis accessible to as many people as possible. It is therefore not a high-tech product designed by engineers, but a low-tech project seen by makers: that is to say, best and cheap. The project is relevant to **SDG3**.



In **France**, the robot Kompaï helps older, dependent or disabled people to live independently at home for as long as possible. Kompaï was designed to accommodate in particular people suffering from cognitive decline. People can be safe at home and stay in permanent connection to the outside world due to Internet access and dedicated applications in Kompaï. Kompaï has been developed by the French company Robosoft. The European Union's AAL Joint Programme funded the **DOMEO** project to design the first generation of Kompaï and have it tested by potential users. The robot recently received the Worldwide Innovation Challenge award launched by the Government of France. After extensive trials, Robosoft will be taking the prototype into production in 2017. The goal for 2020 is to produce 10 000 units a year at the selling price of EUR 5 000. The company is also planning to enter the Far East market soon, as the demand is particularly strong there. Robosoft estimates the total market for the first generation of cognitive assistive robotics at 2.8 million units for Europe, 1.7 million for the United States and 1 million for Japan. The project is relevant to **SDG3**.

In **France**, the **I'CityforAll** project aims at enhancing the sense of security and self-confidence of presbycusic people, whose hearing degradation increases with age. Two mobility environments are considered: public confined spaces and urban space. The ICT solutions consist of intelligent loudspeakers for better intelligibility of vocal messages in public con-fined spaces, and systems embedded in vehicles for better localization of urban sound alarms such as ambulances, police cars, fire trucks, etc., as the presbycusis alters the perception of distance and the direction of sound source. The targeted population corresponds to people older than 50 years of age in mobility situations and affected by presbycusis, which induces a loss of sense of safety and self-confidence. I'CityforAll innovations will be tested by using the analysis software developed by CENTICH (Centre d'Expertise National des Technologies de l'Information et de la Communication) and involving 90 users of the targeted population, which will be compared to a normal population group. The results of this assessment will form the basis of a labelling procedure that can be extended to other technological solutions. The project is relevant to **SDG3**.



In **France**, **ENTRANCE** will develop an innovative platform for trip planning, indoor and outdoor navigation and Internet service use. The platform will comprise a home terminal with a serious game and a multisensory mobile interface for navigation and wayfinding. The home terminal consists of a usable hardware (a silent computer to be used in living rooms) and software adapting to users with different levels of technology proficiency. The software is used to learn how to book e-tickets and vacation packages. The ENTRANCE platform also comprises a serious game to be used by older adults to improve their spatial competence and, subsequently, their ability to navigate indoors and outdoors. Using a state-of-the-art credit risk model, Pesa Zetu then offers the best loans to its borrowers. Lenders can lend manually by picking the loans they want or can set up preferences for automated lending allocation. This automatically allocates funds to loans and automatically recycles repayments based on the lenders' risk profile settings. The project is relevant to **SDG3, SDG16**.

In **Germany**, **PAMAP** developed an ICT-based system for accurately monitoring and promoting the physical activity of older adults in both specific structures and in daily life at home for both private (primary prevention) and professional use (secondary prevention and rehabilitation). The purpose of this system is to enable better supervision of therapies and success measures, and encourage the elderly to improve their level of physical activity. The PAMAP system consists of four major self-contained components: Body-worn sensory equipment (miniature inertial sensors, heart rate monitor) and a mobile processing unit, which are used to acquire information. Two key innovations of PAMAP are (a) providing a holistic way of physical activity monitoring by supporting monitoring, guidance and follow-up of typical aerobic activities; and (b) supporting personalized monitoring adapted to the elderly population. Hence, fit and healthy older adults can profit from the PAMAP technology, as can, for example, cardiac or functional patients, who represent a high percentage of cases in the elderly population. The project is relevant to **SDG3**.

The figure shows the oldes participant at 86 years testing the digitial fitness trainer. First results of the clinical trials show that elderly users really benefit from PAMAP's digital fitness trainer.

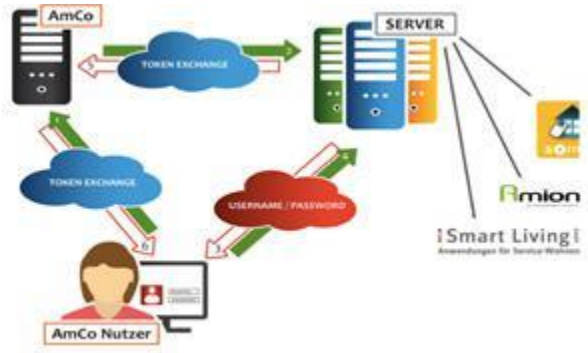
In **Germany**, "**Quality of Life is Contagious**" is a European e-service created by and for elderly persons and their caregivers, for sharing their experiences regarding ageing well at home. By doing so, each **HOPES** user may search and use successful experiences from others or, better, propose their own experience to the "elderly community" for autonomy, quality of life and independence. Beneficiaries of HOPES service are older adults. Their caregivers may also benefit, specifically when they are not so experienced, while professionals may find it beneficial to share experience and/or recommend such service that is easily accessible (24/7) and of high quality. HOPES is a pre -commercialization project. Many prospects with potential institutions and clients confirmed that potential. The remaining step is to finalize the service and develop the strategy to transform it into an economic success. The project is relevant to **SDG3, SDG16.**

HOPES
Quality of Life is Contagious

In **Germany**, **ELISA** (the name of the project product) is a combination of non-technological hardware and software running on a tablet PC, that enhances the social interaction, communication, information and inspiration of the elderly generation. Specifically, ELISA consists of software that has three parts: s Backend system, able to gather, filter and show content adapted to the users' needs form different social networks (Facebook, twitter…), as well as send and receive messages and e-mails and realizes videoconferencing. ELISA involved more than 350 test persons aged 50 and over. **SISCREEN** is in contact with some possible investors and recruiting staff for the new company. Potentially, 12 months after the end of funding from investors, SISCREEN should be able to reach the market with the first product. The project is relevant to **SDG3, SDG16**.

In **Germany**, **V2ME** is a novel approach to alleviate and overcome loneliness in Europe's ageing population. It combines virtual and real-life social networks to assist users in fostering meaningful relationships with their peers. For the first time, V2ME provides easy access to an individual training and guidance tool that relies on both state-of-the-art mobile and virtual reality technology. A Virtual Coach resides in the apartment of the users, helping with system usage, facilitating social connections and teaching new skills. V2ME was created using a user-centered design approach with involvement of potential users in all stages of the design process. In the initial requirements-gathering phase, 30 end users were interviewed and two workshops with ten professionals were held. The full system can be deployed to assisted living facilities and municipalities, deploying and using the services on a large scale. Tablet users can download a V2ME app for a low cost, and purchase additional lectures created by professionals. Persons benefitting from a Virtual Coach can purchase the full system. The project is relevant to **SDG3, SDG16**.

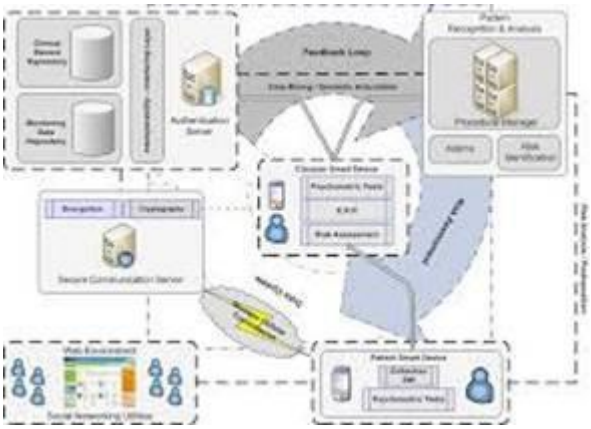
In **Germany**, the aim of **AMCO** is to develop a new, innovative and integrated standard AAL platform to enhance the quality of life and help all, especially elderly people coping with everyday life, such as bed linen changing, cleaning or party services. Therefore, smart living services are offered, adjusted to the needs of the individual. Communication should be endowed, advocated and inspired, i.e. by easily videoconferencing and digital blackboards. Furthermore, individual safety is increased, i.e. by automatic cooker deactivation or in-house emergency calls. So the individuals' potential can be brought into action. Developing a new standard AAL platform is the main purpose of the AMCO project; therefore, the AMCO platform is the most remarkable result of the project. Another result will be the academic evaluation of the pattern-of-use categorized by demographic respectively geographic parameters, which can be consulted in future AAL projects. Furthermore, the evaluation can be used to design service portfolios for new applications. The project is relevant to **SDG3, SDG16**.



In **Germany**, the highest good that we possess ALL, to protect our health and our lives! Living together, without fear - never again alone on the way. We are very proud to be nominated with our cooperating organizations ZfK e.V. and WIS LLC as technological partner / developer for the ITU Telecom Award 2019 in Budapest, as finalist for the best scalable solution. In an emergency, our applications can transmit the conventional 5 W questions including photo/sound documentation and emergency passport to the responsible control centers police / fire brigade (rescue services) on all existing infrastructures in the control center system without a call & local/language knowledge (very suitable also for tourists!) as well as inform relatives of the affected person (f/m/d) of the emergency as a first aider. These emergency call messages are made in an end-to-end encrypted procedure and not via a cloud-based solution. Every person in the world, with or without disabilities, who owns a smartphone or tablet, can make an emergency call to his helper network via **HandHelp - Life Care App** or connectable mobile emergency button and request optimized first aid in an emergency situation within seconds. This solution for barrier-free emergency calls does not exist anywhere in the world and was previously tested by our patent attorneys, so that we granted a European patent and validated in 21 countries for our innovation on 24.10.2018 for the first time. The project is relevant to **SDG9, SDG16**.

In **Greece**, **RAPP** is a three-year research project (2013– 2016) funded by the European Commission through its FP7 programme. The RAPP project will provide an open-source software platform to support the creation and delivery of robotic applications. These robotic applications are in turn expected to increase the versatility and utility of service and assistive robots. The emphasis of this project will be on applications that will enable robots to understand and respond to the intentions and needs of people at risk of exclusion, especially the elderly. The project is relevant to **SDG3**.

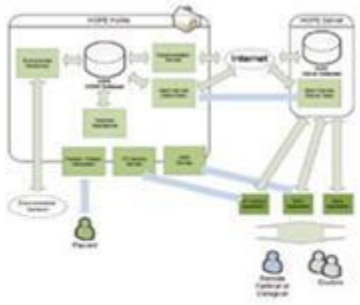
In **Greece**, the vision of **ALADDIN** was to develop a trustworthy and reliable system supporting patients with dementia and their informal caregivers in the management of the disease from home. The system aims to detect symptoms early that predict decline, avoid consequent emergencies and secondary effects and, ultimately, prolong the period that patients can remain safely cared for at home. The platform supports caregivers, patients, clinicians and other service providers in efficiently planning, managing and monitoring the patients' and caregivers' health status, primarily to avoid emergencies. The system features described above have a direct impact on the quality of life of dementia patients and their caregivers, but they might also have a significant impact on the national healthcare systems, allowing for the reduction of costs resulting from the delayed institutionalization of the patients. The balance between patient tools would require further investigation. In parallel, technical innovation towards integrated platforms is required to allow a more diverse set of conditions to be managed. The project is relevant to **SDG3**.



In **Greece**, **AMICA** is aimed at the disease management and medical care of chronic obstructive pulmonary disease (COPD) patients. The vision of AMICA was to develop a reliable system that supports such patients in disease management from home, increases patients' quality of life and levels of therapy compliance, and reduces public and private healthcare costs, hence creating interesting business opportunities. The Platform, developed under AMICA's vision, is a software and hardware product that provides patients, caregivers and clinicians with a range of interaction modes and tools, providing a novel methodology for care delivery at home and taking all relevant actors in the loop. A physician/patient-centered design was performed to guarantee functionality. Given the resulting ergonomic design, elderly patients can easily operate the sensor by themselves, without any external help. The project is relevant to **SDG3**.

amica
Autonomy, Motivation & Individual Self-Management for COPD patients

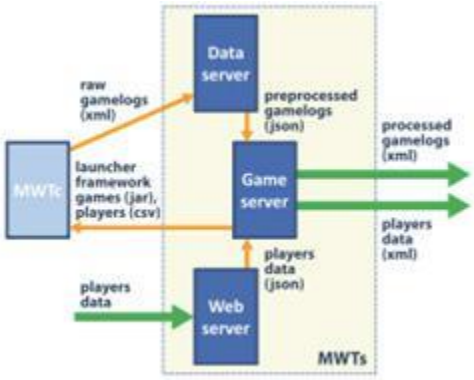
In **Greece**, **HOPE** was a budgeted solution that is installed at older adults' homes, providing services for (a) lifelong, self-organized, appropriate educational environment and access to information; (b) care management and health support; and (c) self-monitoring and decision-making. The HOPE solution consisted of an integrated, smart platform that manages a smart home with different functionalities for security, fall detection and communication. The system can be split up into two main blocks: the Server Block and the Home Block, which represent the main agent and every subsystem at each elderly user's home respectively. The main innovation is primarily on user interface and service concepts. The service and the user interfaces have been tailored for users who have challenges with mainstream digital applications and devices. The estimated time to market is two years. The project is relevant to **SDG3, SDG16**.



Scenario based Environmental and Home Health Care system architecture

In **Greece**, **HOMEdotOLD** is an ICT-based project that uses the TV medium to deliver a number of cost-effective services to elderly people. The targeted services aim at advancing the social interaction of elderly people by bridging distances and reinforcing social volunteering and activation, thus preventing isolation and loneliness. The HOMEdotOLD services can all be accessed through the TV and belong to one of the two following categories: personal motivation services and social networking services. The HOMEdotOLD services have been de-signed in close cooperation with elderly users and aim at catering to their preferences and needs when using online facilities. The full deployment of the HOMEdotOLD services is expected to start in 18 months, after the completion of the project. The project is relevant to **SDG3, SDG16**.

In **Hungary**, the **M3W** project attempts to utilize the fact that online games are able to collect behavioral data in order to measure mental (and motoric) abilities, and especially their changes over time. The ambition is to compare one's mental wellness to his/her own past mental wellness conditions (in relative values), not to compare one's mental ability to others'. ICT and web technologies should be used maximally. The goal is to develop a mental wellness toolset for self-usage, specifically computer games, tailored for elderly people. Visualized mental changes and tendencies are measured in an entertaining way. Indications (warnings, alarms, reports) are given to elderly persons, relatives, friends or caregivers. The project should bring improvements to the quality of life of individuals, their relatives and friends, and thus the quality of life in the whole society will develop. The project is relevant to **SDG3**.



In **Hungary**, the **Nostalgia Bits** project was to develop an ICT solution to increase social interaction between elderly people and their families. The Nostalgia Bits project aims to provide a platform for the elderly and their families for capturing, digitally archiving and sharing their memories encapsulated in letters, newspaper clippings, postcards, photos and other artefacts. The artefacts can be uploaded to a dedicated website, and thereby become both a means for connecting the elderly with members of their own generation and a significant resource for use by subsequent generations. The market potential is huge and continuously growing: at this point, close to 60 million people over 50 years of age regularly access the Internet in Europe, and this number is steadily increasing. The number one target market is people over 50 using the Internet. However, all Internet users interested in the past and/or in their (grand)parents can be taken into account as secondary and tertiary target groups, just like those elderly people who have no affinity to digital media but have helping hands from the younger generations around them. The project is relevant to **SDG3, SDG16.**


NOBITS

Nostalgia Bits

The objective of the NOSTALGIA BITS project was to develop an ICT solution to increase social interaction between elderly people and their families. The NOSTALGIA BITS project aims to provide a platform for the elderly and their families for capturing, digitally archiving, and sharing their memories encapsulated in letters, newspaper clippings, postcards, photos, and other artifacts. The artifacts can be uploaded to a dedicated website, and thereby become both a means for connecting the elderly with members of their own generation and a significant resource for use by subsequent generations.

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In **Ireland**, **mHealth4Afrika** has co-designed and validated a standards-based, comprehensive patient-centric health platform for use in resource constrained environments. mHealth4Afrika integrates Electronic Health Record (EHR) and Electronic Medical Record (EMR) functionality with the use of medical sensors and analytical, data visualisation and decision support tools at the point of care. It supports automatic counting of aggregate program indicator data required by Ministries of Health and SMS appointment notifications. HL7 FHIR integration was undertaken to support transfer of vital sign readings from CE approved medical sensors, lab system data exchange, and the ability to import and export individual patient records to support patient mobility. mHealth4Afrika leveraged a user-centered design and Collaborative Open Innovation based approach, working in partnership with Ministries of Health, District Health Offices, Clinics Managers and healthcare professionals in healthcare facilities in Ethiopia, Kenya, Malawi and South Africa to inform required functionality, workflow and usability requirements. Following three years of co-design, alpha and beta development, the pilot platform was formally validated in real-life environments by 23 intervention health facilities in Northwest Ethiopia, Western Kenya and Southern Malawi and by clinicians from South Africa, between October 2018 and April 2019. It supports a holistic "cradle to grave" approach to patient centric healthcare. The project is relevant to **SDG3**.

mHealth4frika

In **Italy**, ICT-based services aimed at supporting safety, autonomy and effectiveness of feeding daily activities are proposed, either home-based (in the kitchen environment) or Internet-based. The **FOOD** system relies on a technical infrastructure, made of sensors, smart kitchen appliances and users' interaction tools (interfaces), thus building a kitchen networked environment. The kitchen is therefore connected to external physical and digital networks (i.e. neighborhood community, shops and the web), enabling service aimed at increasing safety, at providing help and guidance in food preparation, and at fostering exploitation of inherent social and cultural implication of feeding. End users (which include elderly people as well as their supporting network) have been involved in system and service design since its earlier phases, exploiting participatory design tools. Services supporting independent and rewarding kitchen activities will be made available and tested on an 18-month pilot phase, in three European countries. Users and market perspectives will be assessed through evaluation tools, also exploited for iterative trimming of devised solutions. The project is relevant to **SDG3, SDG6**.

In **Italy**, **Pedius** is a communication service that allows the deaf and hard of hearing to make phone calls 24/7 through the Pedius app. It is on a mission to make calling and basic communication more accessible and inclusive for deaf people. Through its app, users can call landline and mobile phones. Using speech synthesis and voice recognition technologies, after login users can insert a phone number and start a call. Calling is simple; users type a message and Pedius will send it to the contact they choose, or they can use their own voice during the phone call. During phone calls, a voice will read what users write and users will be able to read it on screen in real time, no matter what the other person says. If users prefer to talk, they simply press the icon to start a call in Voice mode and begin their conversation using their own voice. If the voice transcription is not accurate enough, Pedius automatically shows a few alternatives, and if that is still not enough, users can easily ask to repeat through the "R" button. The project is relevant to **SDG3, SDG16**

In **Italy**, the **MirrorHR** project will use currently available wearable consumer sensors (e.g. Apple Watch, Polar sensor, 'pajama' sensor) paired with iOS devices. The device will capture data and will:

a) Actively monitor patients to alert family/friends when a seizure is happening as soon as possible (real-time).

b) Provide a video log feature that allows caregivers and patients to log daily routine and lifestyle related information in order to gain insights to be shared with doctors. Mario is one of over 50 million people in the world living with epilepsy.

It is the fourth most common neurological disorder, characterized by unpredictable seizures and causing other health complications, affecting people of all ages. It is There are a wide range of seizure types and medicines for effective control vary from person-to-person. The project is relevant to **SDG6, SDG16**.

In **Italy**, **BrainControl** is a framework for human-machine interaction through bio-feedback (brain electrical signals, movements, gestures, gaze, etc.). Application of the BrainControl technology targets the medical sector (assistive technologies, diagnostics and rehabilitation) and in the future, also, IoT and Robotics (automotive, industrial, home/office). This first released product is our MVP, BrainControl BCI AAC, a disruptive medical device CE Class I assisting severe disabled people to easily communicate and interact with others and their environment in their everyday activities with their mind (non-invasive Brain-Computer Interface). The MVP target application is the medical market for assistive technologies. It allows controlling a user interface on a tablet PC with several functionalities as sentence finder, virtual keyboard and advanced communicator features. It acts as a "mental joystick" usable by anyone. It only requires complete cognitive skills (sight is not required) and the desire to use thoughts related to movement. It does not require physical movement, making it usable for people with severe disabilities. From the end user perspective who receives the kit that includes a tablet pc with BrainControl software installed and a commercial EEG headset, the user, assisted remotely by a trainer, starts the training sessions with the possibility to interact through imagined movements controlling the BrainControl UI. Technologically, the core innovation of the system is a classifier of signal pattern coming from wearable biometric sensors based on a Machine Learning technology for the customization and prediction of the specific needs of each patient. It allows advanced communication and entertainment (web browsing, interaction via sms, social networks, e-mail, web radio), home automation (lighting, alarms, temperature) and robotics (humanoid robots and exoskeletons). Some of these functionalities are already implemented, others need to be further improved. The project is relevant to **SDG9, SDG16**.

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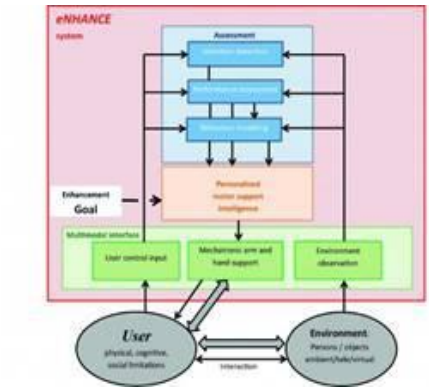
In the **Netherlands**, the **eNHANCE** project's key objective is to symbiotically mechanically support and motivate people with motor impairments resulting from muscular or neural degeneration (e.g. stroke) to perform complex daily life tasks. The project's system aims to assist users in performing their daily life interactions with the environment through an intelligent multi-modal adaptive interface controlled by a high-performance intention detection input interface and a personalized behavioural model. The eNHANCE active support orthotics enable the users to achieve their desired movement actions, while motivating them to maximize their own force contribution. This will maximize user performance relative to their personal capacity, and so maximize therapeutic effects. This requires a personalized mechanical support system, taking into account personal behaviour in response to arm and hand support characteristics, supplementary motivational inputs provided by the system, and context. The project's personalized behaviour model will be constantly predicting user performance. This model is adaptively identified based on the discrepancy between observed and predicted user performance. The project is relevant to **SDG3**.



In the **Netherlands**, the main goal of the **A2E2** project was to develop an adaptive and easily expandable ICT solution that addresses physical activity. A2E2 consists of a home-based and a mobile component, integrating off-the-shelf technology (e.g. biosignal and ambient sensors), and builds on existing structures (e.g. digital television sets and Internet access), thus permitting an individually tailored approach. The A2E2 system is the end product of this AAL Joint Project work. End users can have the system installed in their houses and receive personalized virtual coaching and psycho-education for healthy daily activities schedules through connecting to the A2E2platform. The system addresses the need for physical well-being, autonomy, connection, play and learning. The technological innovations are virtual coaching as well as implicit support and feed-back based on sensor information. The social innovation is a significant reduction in disease due to unhealthy lifestyle patterns, providing more autonomy and connectedness. The expected time to market is two to three years. The project is relevant to **SDG3, SDG16**

In **Netherlands**, The **ROSETTA** project has developed an innovative, integrated system aimed at prevention and management of the problems that can occur to elderly persons as a result of chronic progressive diseases. The system monitors the activities of the residents by means of multiple and different sensors, generating an alarm in case of unexpected/deviant (in)activity, which is forwarded to the caregiver. Thereupon, the system generates a warning in case of long-term variations in the patterns of daily living, which is forwarded to the caregiver. It supports the resident directly in carrying out his or her daily activities. The major unique selling point of the ROSETTA system is that it is a very elaborate and flexible system combining all functionalities that are needed during the whole process of dementia, while the existing products on the market focus on the needs of distinct stages of the disease. At the end of the project, a surveillance product was almost market ready and therefore it was selected to be launched as first to the market in

the Netherlands in 2013. More information about this can be found at www.dutchdomotics.com. The project is relevant to **SDG3**.

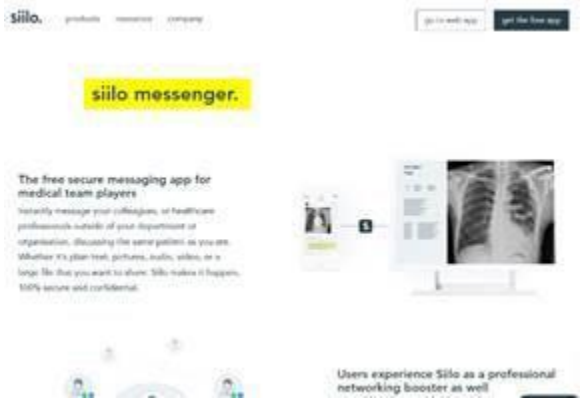
In the **Netherlands**, the main goal of one proposed project was the development of an ICT-based Virtual Collaborative Social Living Community for Elderly (**CO-LIVING**) people. CO-LIVING was based on an innovative Social Community Network, integrating different mobile wireless ICT-based services addressing the elderly social interaction context categories of care and wellness, guidance and mobility monitoring. The solution used and scaled up the successfully developed Information Society Technologies Sixth Framework Programme mPower open-source middleware platform to be applicable to the older adults social community interaction field, thus achieving the expected CO-LIVING time-to-market perspective of two to three years after the project's end. The CO-LIVING target group was the large group of healthy elderly or those with light physical or psychological health problems who are self-supporting, able to move around, and can still contribute actively. They find pleasure in getting help or stimulation to be active in an outward environment. The aim of choosing the specific target group was to prevent, or reduce the risk, that these people would be spending most of their time at home as they got older for a variety of accumulated (physical, psychological, psychosocial and cultural) reasons. The project is relevant to **SDG3, SDG16**

In the **Netherlands**, the **WeCare** project's primary goal has been to encourage older people to participate in social networks in order to enable them to contribute their valuable experience to society, to prevent isolation and loneliness, and to improve their well-being. By increasing their social embedding and autonomy, older people will be able to live at home longer, and will preserve their quality of life. Furthermore, by enabling the planning of family or informal care to

older people more efficiently, the demand for professional care and social services will decrease and the risk of burnout of informal caregivers will also decrease. In very general terms, the following business models could be appropriate: in Finland and Spain, the WeCare service can be integrated into existing care services, in order to improve the services' quality and to reduce operational costs. In Ireland and the Netherlands, the WeCare service can be packaged with existing services, in order to improve the added value of these services and to raise revenues. The ultimate goal of the WeCare project has been to enable (local) governments or providers of care or social services to successfully develop and deploy services such as WeCare. The project is relevant to **SDG3, SDG16**.

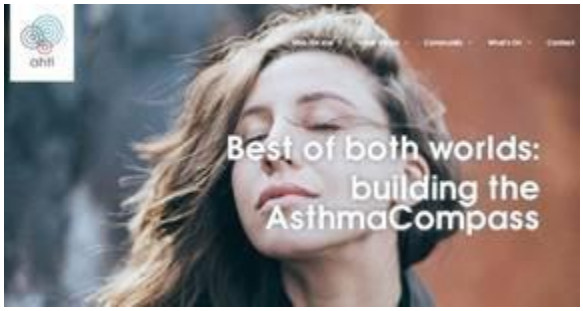
In the **Netherlands**, **CARE@HOME** is about enabling empowerment, wellness and social care services to the home of the elderly through the interactive multimedia SmartTV. The idea is to enclose the social support system for the elderly and carry this as a personalized communication and service channel in their homes. CARE@HOME involves continuous, automatic and remote monitoring (e.g. by mobile phone/wireless/fixed sensors) of real-time emergencies and lifestyle changes over time in order to manage the risks associated with independent living. CARE@HOME enables such care services to the home environment without the prohibitive costs of retrofitting existing dwellings. The progress beyond state- of-the-art of the CARE@HOME project is that relevant technology regarding sensors, wireless networks, communication and multimedia is to be integrated in community-driven products and services for the elderly, which are highly personalized and easy to use. Because of the easily accessible "design platform" of Philips' SmartTV, development of new applications and services is in reach for many organizations and companies. The project is relevant to **SDG3, SDG16.**

In the **Netherlands**, **Siilo** messenger is a free secure messaging app for medical team players. It allows users to instantly message their colleagues, or healthcare professionals outside of their departments or organizations to discuss the same patient. Whether it's plain text, pictures, audio, video, or a large file that they want to share, Siilo makes it happen, 100 per cent securely and confidentially. Users experience Siilo as a professional networking booster as well. They can create a compelling profile page to show their medical skills. Through the app's network menu tab, they can easily find people in their organization who are not in their contact list (yet). And if their profile is verified, they can feel free to search Siilo's verified user base to find people or specialists outside of their current network. As the famous poet John Donne wrote, "No man is an island". So users can start practicing medicine together. The project is relevant to **SDG3**.



In the **Netherlands**, **Ahti** brings together people to work on innovation and entrepreneurship in health. Through its extensive network of health and business professionals, it helps payers, providers and entrepreneurs develop solutions for better quality of care, higher patient satisfaction, and more cost-efficiency in Amsterdam and the rest of the world. Ahti brings people together to work on innovation and entrepreneurship in health. For Ahti, it is critical to work in partnership with others, either as a catalyst for new ideas and relationships, or as a content expert or project manager. The City of Amsterdam is Ahti's major funder. Ahti worked together with its partner Duke University (Durham, North Carolina, United States) to develop the VMP, which is based on a successful existing programme developed by Prof. Jesko von Windheim. Ahti facilitated the course at the Amsterdam Health and Technology Centre. The project is relevant to **SDG3**.

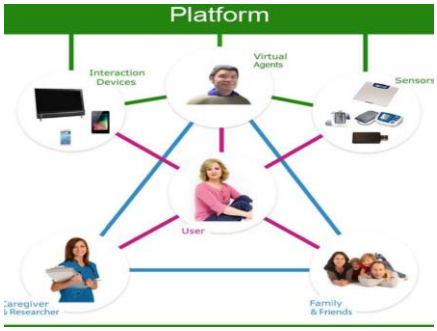
In the **Netherlands**, **AsthmaCompass** is a project in developed phase within HealthInc. The aim is that asthma patients should be empowered by provision of a personalized asthma action plan, reinforced with education and regular feedback. What is unique about this product is that HealthInc integrates all these components to create an effective and personalized system for self-management. The idea is that the system will be implemented by hospitals. The patient visits the practitioner, who invites him or her to use the app. This app will be connected to multiple devices, such as a smart inhaler or spirometer. The patient can also use it to check information about air pollution and concentration of pollen. The project is relevant to **SDG3**.



In the **Netherlands**, the **CVRM** Project is a digital health service that brings cardiovascular risk management (CVRM) to people's homes. By using a dashboard and an app, the general practitioner can monitor patients from a distance continuously and intervene when needed. The patient is more involved in his or her treatment and does not have to visit the clinic as often. In this project, Ahti works together with digital experts, researchers, cardiologists and general practitioners. Ahti initiated the project and brought together experts in the field of health tech, clinical care, CVRM and behavioural science, through its extensive network of health and care professionals. In this collaboration, it acts as the project manager to drive the development of the service. The project is relevant to **SDG3**.

In **Netherlands**, a platform connects bio-sensors for movement, weight, heart rate and blood pressure with wireless interactive devices of cell phone, tablet and touch screen PC/TV with a 3D virtual coach. The virtual coach interacts with the sytem users as their personal virtual coach and friend. **Adaptive ambient empowerment of the elderly** has been developed for combining and integrating the senor and user information for health care judgements and decisions. The end

users are: patients, their family and friends, healthcare organizations and scienctific researchers and developers. Specific software was developed for command control rooms for the health care and scientists. Specific software was also developed for the family and friends so as to follow the patients on distance. In additions software has been developped for interactive lifestyle change programs given by the virtual coach, for breaking sedentary lifestyles and loneliness. Specific software was developed for the emotional, verbal and nonverbal expressions for the virtual coach and the avatars. The system is developed in a Living lab and fulfills all standard AAL EU and ISO international requirements. The project is relevant to **SDG4, SDG9, SDG16**.



In **Poland**, Pro-PLUS SA initiated the **Telemedical Platform**. Telemedicine (medicine at a distance) is an innovative form of providing medical services and health care, combining elements of telecommunication, IT and medicine. Using new technologies enables geographical barriers to be overcome, making it possible to exchange specialist information by sending static as well as dynamic pictures (sending highest-quality ECG, USG and MRI pictures). This enables a diagnosis to be made at a distance. The Telemedical Platform is one of the solutions of modern telemedicine. It allows users to (a) integrate a patient and a doctor; (b) collect medical data; (c) use modern tele-medical devices, enabling remote patient care; (d) monitor selected medical parameters; and (e) provide easy access for all users (doctors, nurses, patients, family members, monitoring centre) from anywhere in the world through a web browser. Advantages of the Pro-PLUS Telemedical Platform include efficient operation of the Platform made possible by devices equipped with Pro-PLUS GSM, Wi-Fi and Bluetooth modules, which al-lows for an immediate and wireless data transfer after measurement. The project is relevant to **SDG3**.

In **Poland**, **BabyDoc24** is the next generation paediatrician symptom checker built with artificial intelligence. It concentrates on paediatric patients only and non-emergency conditions to save money, time, unnecessary treatment and stress. The developers have known each other since 2010 and have been working on numerous projects with success together. Each of them has his own area of expertise and as a team are capable of accomplishing the goal. They want to create a product to solve the real problem of access to the paediatrician and give parents the feeling that there is always help for their children. Currently, most people Google their symptoms. That is the front door of health care, but the information is unreliable. BabyDoc24 wants to change this. So how does its next-generation symptom checker work? Its vision: BabyDoc24 concentrates on paediatric patients only and non -emergency conditions to save money, time, unnecessary treatment and stress. In combination with medical data and machine learning technologies, it will create models and a path to prompt and precise diagnoses. Its goal is to create an application (as a service) with a functional interface for parents and business partners. First, they ask about patients' symptoms, how long they've had them, and whether they're getting better or worse. Their algorithm analyses their answers in real time and decides the most important questions to ask next. In minutes, the algorithm gains a detailed understanding of the case for which they will see options for what to do next, personalized to each patient. This will tell them whether to treat the problem at home or see a doctor. If they need medical attention, they will be able to send them to one of their partners across the world. The project is relevant to **SDG3**.

In **Portugal**, the Personal Assistant to Enhance the Social Life of Seniors (**PAELIFE**) focuses on individuals who are recently retired, who are used to some level of technology usage and who want to keep themselves active, independent, productive and socially engaged. PAELIFE is a proposal for a Personal Life Assistant, a virtual presence that supports social communication, learning/teaching and entertainment, and new solution of multimodal (speech, touch, gesture and biometric) human computer interaction, making the elderly relationship with computers and technology easier and more natural. PAELIFE brings improved communication capabilities and productivity to these citizens, enhancing social interaction, providing more autonomy, better sense of control, safety and self-esteem, allowing active ageing and improving quality of life. The project is relevant to **SDG3, SDG16**.

In **Portugal**, the **SmartBEAT** is composed of a mobile phone that collects health data through a set of sensors. This data is then send to a server that can be retrieved for visualization in a web portal. Within the portal, there is a built-in algorithm that can be customized by the health professional to generate alarms. These alarms are listed to the health professional so it can effectively follow-up and intervene on the patients most in need. The sensors provided to the patient are a weight scale, a blood pressure monitor, and a smartwatch (for activity tracking and continuous heart rate). In the mobile, the patients answer a short questionnaire for heart failure related symptoms, register their medication intake, and receive motivational messages. It also has available an educational menu with short and simple information on heart failure self-care and the importance of monitoring regularly these health parameters. In the portal, the health professional can customize the default algorithm (developed by SmartBEAT's cardiology team), manage patient adherence, manage patients' medication and analyze patients' trends through time. The project is relevant to **SDG9, SDG16**.

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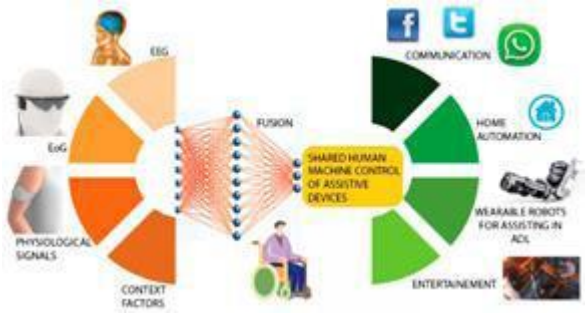
In **Romania**, **CAMI** was found as artificial intelligence-based system for self-management and sustainable quality of life in AAL. The target group of CAMI is older adults in general and older adults with a risk for cardiovascular diseases, diabetes or mild cognitive impairment. CAMI aims to provide flexible, scalable, and individualized services that enables self-monitoring of this group. The main features are: i) Health Monitoring - performs regular monitoring of the user's blood pressure, heart rate, weight, number of steps; ii) Fall Detection and Alarm - detects the falls-cases and sends an alert to the formal and informal caregivers of the user (using Vibby Oak fall detector together with its IoT gateway); iii) Home and Environment Management - monitors different environment parameters and controls the smart devices; iii) Physical Activity Monitoring – it stimulates the physical activities of the user through games. If the user activity is reduced, the user will be advised, to perform some physical exercises; iv) Program Management - it allows the management of the user's personal data such as: the user's medical plan, exercise planner, interactions-related information, the program planning; v) Multimodal Interactions – it allows the

multimodal interactions between the user and the system –it allows speech, touch, gesture and emotion inputs together with phonetic and visual outputs; vi) Robotic Telepresence – it allows the user to interact with the system through two robots: Pepper (it can perform dialogs with the user; it can identify, track and follow the user and display information on its tablet) and Tiago with manipulator capabilities. The project is relevant to **SDG9, SDG16**.

In **Slovenia**, the objective of the Assistance for Better Mobility and Improved Cognition of Elderly Blind and Visually Impaired (**ALICE**) project is to develop an assistive device with navigational and cognitive abilities. The ALICE device will consist of a smartphone wirelessly connected to local or in perspective remote processing unit. Apart from the camera, ALICE will utilize sensors for position detection, orientation, movement and distance from obstacles. The position and distance mapping will be cross-referenced and processed in combination with the visual information, avoiding ambiguities in the semantics. ALICE will use artificial intelligence to plan and anticipate based on fusion of sensory inputs and previous knowledge. The system will verbalize its perceptions trough an intuitive audio system and synthesized voice to translate visual to verbal in a comprehensive and user-friendly manner. The user will be able to communicate with the system through a voice interface. Principal end users are elderly blind people who will be involved in each iteration of ALICE development by providing suggestions and guiding the change of requirements according to their experiences. Other users of the system are relatives and caregivers who will set up and share routes for navigation leading to the development of a respective community. The project is relevant to **SDG3, SDG16**.

In **Spain**, the **Adaptive Multimodal Interfaces to Assist Disabled People in Daily Activities** concept goes beyond the current state of the art in using a novel modular multimodal perception system to customize an adaptive multimodal interface towards disabled people's needs. The multimodal interface will analyse and extract relevant information from the identification of residual abilities, behaviors, emotional state and intentions of the user, from analysis of the environment and from context factors. Finally, the humanEmachine cooperative system will be designed in accordance with specific user needs. A series of applications for the AIDE system have been identified across several domains in which disabled people could greatly benefit: (a) communication: the main objective is to improve the communication of severely disabled people for social autonomy; (b) home automation: the goal is to allow severely disabled people to interact with the devices present at their smart home environments; (c) wearable robots for assisting in ADL: adaptively and dynamically modify the level of assistance provided by the intelligent robotic exoskeleton in accordance with specific user needs; and (d) entertainment: severely impaired people have reported that participation in normal entertainment activities, like playing a computer game or watching a movie, as an important need. The project is relevant to **SDG4, SDG5, SDG11**.

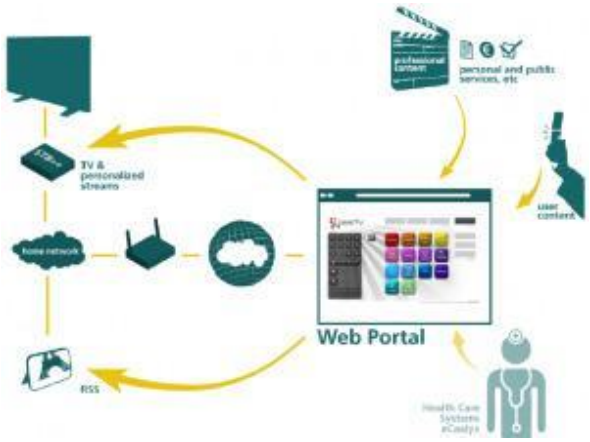


In **Spain**, the **BEDMOND** (Behaviour Pattern-Based Assistant for the Early Detection and Management of Neurodegenerative Diseases) project results include an ICT-based system for the early detection of Alzheimer's Disease and other neurodegenerative diseases, focused in elderly people while living at home. The complete platform provides professional tools for healthcare professionals, caregivers and the elderly at home. With such early detection, health professionals can also soon apply an early treatment that helps the elderly to live longer in an independent way at home (by delaying as long as possible Alzheimer's Disease appearance and progress) while decreasing expenses to the Health System (by moving forward in time the institutionalization stage). Technological innovation comes from the benefit of making use of the whole set of sensor and detection devices installed (and installable) at home, normally for comfort and safety. Social innovation comes firstly from the benefit of early detecting neurodegenerative diseases, and improving and adding extra value to the tele-care services provided by public and private healthcare service providers. The project is relevant to **SDG3**.

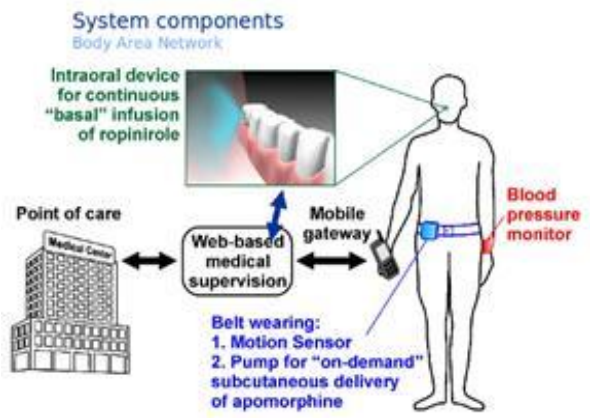
In **Spain**, the **E-MOSION** (Elderly Friendly Mobility Services for Indoor and Outdoor Scenarios) proposal aims at enabling integral outdoor and indoor localization and mobility services for elderly people with age-related sensory (visual, auditory) and cognitive (memory) impairments, helping them in their daily routine activities far from home. The solution will be based on a combination of existing and future open mobile platforms, an IP-connected server platform and a home security sensor network. Applications for these will be developed and customized. Furthermore, an accessory portable easy-wearable device will allow easy control of the main functionalities of the service to interface with the mobile phone. The development and analysis of applications consists of two parts: the identification of services and features to be exploited and/or offered, and the development of a user-friendly graphic interface. The aim is to create an open platform in E-MOSION that highlights the need and wish of the consortium to be compatible to or even better reuse other open AAL platforms, such as universAAL. The project is relevant to **SDG3**

In **Spain**, the exploitable results of the **eCAALYX** (Enhanced Complete Ambient Assisted Living Experiment) project come in two forms: (a) the eCAALYX system itself and (b) the components of the system that have been developed by each partner. The outcome of the eCAALYX Home System is a robust, auto configurable and expandable home healthcare solution, which at this moment is a prototype. The eCAALYX system offers to the clinical professionals (i.e. caregivers, doctors, nurses) a tool to provide medical services to enlarge the independent living of the elderly at their homes. The eCAALYX system architecture is, by itself, an innovative approach to user monitoring,

providing a reliable and scalable solution, as it was verified during the trials. New and off-the-shelf components can seamlessly be added, requiring only the development of device drivers, ensuring the system can evolve to meet ever-changing user requirements. Several components include innovative features, such as the garment/Wearable Body Sensor, the home gateway, the mobile gateway and the data mining system. The project is relevant to **SDG3**



In **Spain**, the **Home-based Empowered Living for Parkinson's Disease Patients (HELP)** project has created two new cutting-edge products that will lead to a major breakthrough in the treatment of Parkinson's disease: a sensor that detects Parkinson's symptoms and an intraoral device that provides a non-invasive way of administering Parkinson's Disease medication. The sensor and intraoral devices are connected to the platform by means of a gateway application running on a mobile phone. All developed products were integrated in a system so that doctors would be able to monitor and control Parkinson's Disease patients. The HELP project has worked on a cutting-edge drug delivery system that greatly improves the quality of life of patients wearing subcutaneous and duodenal pumps, but also patients following a very strict scheduled oral treatment. Both products will be distributed as part of the current Parkinson's Disease treatment packages provided by pharmaceutical companies. In the case of the sensor, these companies are very interested in including this device in the product portfolio. The project is relevant to **SDG3**.

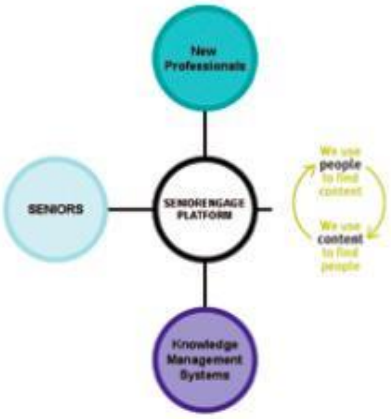


In **Spain**, the **Rehabilitation Gaming System** developed and tested a novel virtual reality-based system for the rehabilitation at home of motor disabilities of the upper extremities of elderly people after stroke. The system deployed an individualized and specific deficit-oriented game training that combines movement execution with the observation of a correlated action by virtual limbs that are displayed in a first-person perspective. The specific project objectives were as follows: (a) development and integration of the hardware and software for the Rehabilitation Gaming System, including the rehabilitation scenarios; (b) development of user-centred and neuro-scientifically grounded diagnostic and training scenarios; (c) evaluation of the clinical impact of the Rehabilitation Gaming System at the functional and neuronal levels; (d) gathering of user requirements involving all the stakeholders; and (e) establishing the theoretical and empirical foundation of the rehabilitation and diagnostics methods implemented in the system. The project is relevant to **SDG3**.

In **Spain**, the system developed during the **SOFTCARE** project is a fall detection solution for elderly people living independently with some degree of home care. The main de-vices are: (a) the bracelet: light and comfortable accelerometry-based device incorporating a panic button; (b) the static nodes: small devices plugged at the user's home (one per room) acting as signal repeater and allowing the user location when indoors; and (c) the gateway: device acting as network sink, being the "decision-maker" that establishes the voice communication channel towards caregivers if a hazardous situation is detected. A notebook is used for this purpose in the current prototype. The project managers are currently negotiating with potential commercial partners from the United Kingdom. In the current stage, they plan to arrange a bigger pilot (around 100 users) in which SOFTCARE will be integrated with an existing commercial system (they will use their gateway and, probably, web interface). The project is relevant to **SDG3**.

In **Spain**, the goal in the **SeniorChannel** project is to integrate innovative technologies and high added-value content in order to pro-vide elderly people with an opportunity to interact and share their knowledge, opinions and aspirations with the wider community, and derive enjoyment from the experience. The integrated system has been tested and evaluated, setting up a television studio and production centre in Spain, and broadcast programmes to a pilot user group involving 44 elderly people in the three countries: Spain, France and Italy. Finally, the SeniorChannel concept and methodology are intended to result in a ready-to-market solution for promoting interaction and socialization among elderly people. Critical to the project's success has been clearly thought-out dissemination and exploitation strategies, and carefully executed business plans, together with associated intellectual property rights management. The project is relevant to **SDG3, SDG16**.

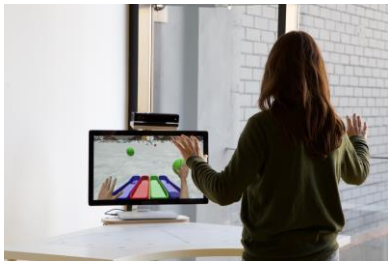
In **Spain**, while there are countless online social networks focused on target markets of people under the age of 50, there are currently no European online gathering places dedicated to seniors. **SeniorEngage** provides a practical networking site aimed at eliminating social exclusion, sustaining mental ability and facilitating intergenerational learning. The project aims to strengthen the social structure of older retired and semi-retired professionals, by allowing them to continue to actively participate in the community and contribute knowledge, regardless of health conditions or physical impediments. The application innovation lies in the fact that this is the first European attempt at such an ambitious goal. Time to market is approximately nine months after the project's end, and no barriers to entry are foreseen other than the ability to reach a critical mass of users in the first year of exploitation. The project is relevant to **SDG3, SDG16**



In **Spain**, **Trainutri and Nutrition Senior Social** helps seniors to develop healthy habits (keeping them physically active and actively involved in their health maintenance) and enables people to share and exchange healthy habits-related activities. The Trainutri Consortium provided IT-based end-user services, combining intelligent wireless sensor network technologies, data processing, Web 2.0 and social network models, and a web portal providing user feedback on goals achieved and supporting interaction with peers. End users could communicate using the web portal, their smartphones or both. An extension with activity recognition technology and a global positioning module made it possible to advise the user about integrating exercise goals and nutritional goals into daily life. The older adult target group is focused on those who choose to carry out a healthy lifestyle. They will be able to build a healthy personal environment configuring their activities according to their condition and preferences. They will count on direct professional support to make this healthy personal environment consistent. The project is relevant to **SDG3, SDG16**.

In **Spain**, **Visualfy** creates innovative technology for people with hearing loss, and for companies and organizations committed to accessibility. Visualfy offers accessibility through technology to improve deaf people's lives. The system takes the audio information of their environment and sends it to the smartphone or any other wear-able in a visual or a sensory way. Visualfy has developed a unique algorithm, based on artificial intelligence, that recognises sounds and translates them into visual alerts on any connected device. The company works every day to improve the algorithm and develop applications that add even more value. It designs and manufactures in Spain. The project is relevant to **SDG3, SDG16**.

In **Spain**, **cRGS** will be developed to tackle unsolved problems in diagnosis, treatment, and prevention of cognitive impairments after stroke, dementia and depression, that affect more than 400 million people worldwide, creating a severe health-related burden adding up to annual costs that are measured in trillions of euros, with depression being the leading cause of disability worldwide. cRGS taps into the latest technologies such as AI, VR, big data, and cloud computing to provide treatment that does not require the presence of a health professional. cRGS solves two significant obstacles in delivering healthcare, namely, the lack of resources and the lack of trained professionals. The project is relevant to **SDG4, SDG9, SDG16**.



In **Spain**, **InnovCare** combines ICT eHealth solutions, services and products by adapting and integrating different innovative AAL solutions. The high level of interoperability and standards of use of the InnovCare platform make the difference, allowing a high flexibility and adaptability to other complementary solutions. This open approach enables a personalized service composition and a central health-focused information point, accessible for different user groups. Hence, the aforementioned features of the solution can be summarized in the following advantages: •Common open platform, enabling the dynamic composition of packages of services based on interoperability and standards, taking into consideration the growing need for self-management, integrated care and support by informal caregivers. The current InnovCare solution structure includes: Wearable sensors to monitor activity/rest/falls, vital signs and alarms; Smartphone application to monitor neurological state ; Collaborative tool, including video-conferencing •Decision Making System: open IoT input/output hub, which provides an integration middleware for sensors and devices into the InnovCare platform. The data gathered via this hub enables algorithms and rule-based services, aimed at enriching the business layer of the common open platform for providing personalized recommendations of services and user interfaces. The project is relevant to **SDG9, SDG16**.

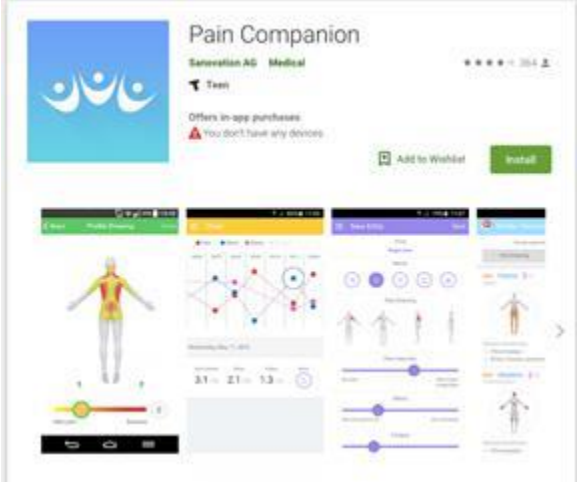
In **Spain**, **Kwido Mementia** has been developed along with psychologists and geriatricians with broad experience in performing cognitive stimulation therapies with elderly people, healthy or suffering from dementia or Alzheimer's. Its multi-platform scope (Android tablet, PC, iPad, touch screen, digital whiteboards, etc.) offers the versatility that it can be used on any of the organization's touch equipment. It uses a SaaS approach for the backend (using Grails framework and MySQL database) and HTML5 for creating the serious games used by the elderly users. We also use an algorithm that learns how the user plays using Artificial Intelligence techniques to analyze how they are playing and the possible cognitive impairment that may start suffering due to their performance while playing. The project is relevant to **SDG3, SDG9, SDG16**.

In **Sweden**, the **Enabling Social Interaction through Embodiment (EXCITE)** project has developed mobile robot telepresence devices for use in the homes of elderly users to enable social interaction. A key novelty in the project is that user feedback has been gathered using longitudinal trials where users have the robot at home for several months. EXCITE has used the Giraff telepresence unit developed by Giraff Technologies AB. At the beginning of the project, the unit was in an initial prototype stage with limited functionalities. After three years, user feedback from EXCITE has led to the development and change of the unit, and the synthesis of various releases in a manner that is coherent with users' requests. Regarding social and economic impact, care organizations in Sweden have validated the cost savings of the Giraff solution in the appropriate care scenarios, and the increased "peace of mind" experienced by elderly residents and family members. The project is relevant to **SDG3**

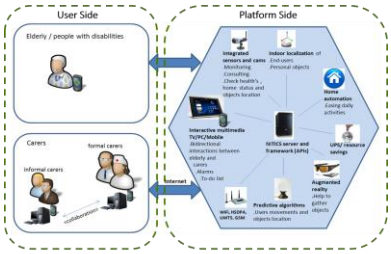
In **Switzerland**, the **CARU** smart sensor is a unique smart communication and sensing device that is used in living environments. A room that is not equipped with any kind of technology becomes intelligent within minutes once CARU is placed there. No technical know-how is required to use and benefit from it. One of the applications is Care, where it helps patients or elderly people, their relatives and caretakers to connect more efficiently and to exchange relevant information. CARU is an attentive roommate and security system, and contributes to the process optimization of services. For some users, CARU creates more security, for others self-de-termination and yet others social inclusion. For all of them, CARU means an increased quality of life. The project is relevant to **SDG3**.

In **Switzerland**, **1Drop**'s goal is to improve patient lives by enabling personalized health care through non-invasive diagnostic tests pro-viding actionable health information that is accessible to everyone at any time. 1Drop facilitates the early detection, prevention and management of disease, and empowers people to live better lives. 1Drop highly values collaboration, prioritizing the needs of customers and rapidly delivering solutions. 1Drop's innovative diagnostic solutions for multiplexed assays of proteins, nucleic acids and peptides serve as tools for the development of new therapies and drugs, disease research and clinical diagnostics tests. The company is based in Neuchatel, Switzerland, and Boston, United States, and is supported by some of the most highly regarded experts in the field of biosensors. The project is relevant to **SDG3**.

In **Switzerland**, **Sanovation** is an app that al-lows chronic pain patients to visualize their pain and learn from others. One out of five adults suffer from chronic pain and half of those patients have been suffering for more than seven years. Sanovation's goal: If a patient finally finds a satisfying solution, all similar patients should be able to benefit from this solution as well. To reach this goal, Sanovation is developing the intelligent pain diary CatchMyPain, which allows the detailed description and tracking of chronic pain. Based on the diaries, CatchMyPain identifies clusters (groups) of similar patients. Besides allowing the interaction between similar patients in a homogeneous community, CatchMyPain is going to identify the most probable diagnoses and the most promising treatments for each cluster. This empiric information will be provided to doctors and patients in order to increase the efficiency of chronic pain treatments, and to improve the quality of life of millions of patients world-wide. The project is relevant to **SDG3**



In **Switzerland**, the quality of life of elderly persons does not rely on the combination of health and environmental parameters detecting their interaction with the surrounding ambient. **NITICS** seeks therefore the wellbeing of such persons affected by mild cognitive dementia, cardiologic problems and diabetes not only by collecting medical data, but also by providing support in daily life along with ICT-enabled social counsel. NITICS goes beyond common ICT systems in Telemedicine and Active Assisted Living because: - it unifies the collection of data from sensors exploiting different transmission protocols; - it merges the physiological measurements with localization and context-awareness; - it processes large volumes of data through new approaches based on "big data" methods. The project is relevant to **SDG4, SDG9, SDG16**.



NITICS System Architecture

In **Switzerland**, **Care Campus** is focused on professionalizing the vocation of caregiving based on the principles of person-centered care. We work with current caregivers, or those seeking to enter the field, to provide the comprehensive knowledge needed to help older adults age with dignity. Through our structured learning programs, students can become certified as a caregiver and learn how and when to integrated into the broader care team including healthcare professionals. Successfully matriculating students can then seek employment within Bangladesh or look for opportunities elsewhere. We also provide training and education to family members seeking to provide better care for their loved ones. Our curriculum democratizes advancements made in the world's leading medical institutions and universities and provides it to those people who need it the most – caregivers – to perform their daily work with the greatest impact. By doing so, we are able to improve care while lowering overall cost to the healthcare system. The project is relevant to **SDG3, SDG4, SDG5, SDG10, SDG11**.

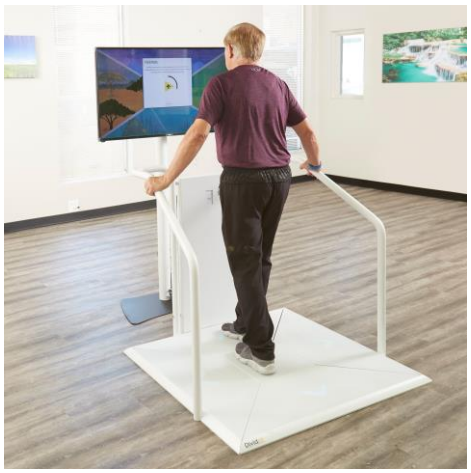
In **Switzerland**, being able to concentrate data from a wide variety of sensors, **NITICS** offers for the first time a real solution to caregivers assisting elderly persons affected by mild dementia, cardiologic illnesses or diabetes, and unharnesses the novel capabilities of a network where information coming from medical and domotic sensors are synergically used end enhanced by AI techniques, to ensure the wellbeing of the clients benefitting from the service and to preemptively address situations of risk. Users are chosen in a constituency of elderly patients which begin being affected by limited mental problems (mainly related to degradation of memory) and/or age-related illnesses, but appreciate the possibility of continuing living in their homes if support to daily activities and protection/assistance in case of incidents can be immediately provided. The project is relevant to **SDG4, SDG16**.

Dashboard of medical sensors installed in a NITICS network

In **Switzerland**, **POSTHCARD** consists of a simulation engaging player into a unique experience where he will be able to experiment various situations of the daily living with a patient suffering from Alzheimer disease. In this simulation the player plays its own role and must interact with a patient suffering from Alzheimer disease to achieve successfully a selection of activities of daily living (eating, personal hygiene…). To interact with the patient, the player is proposed with a set of choices not only reflecting different actions to perform but more importantly reflecting different way of communicating these actions. Therefore, two actions aiming at the same goal (for instance, asking the patient to sit on the chair) can be expressed on very different way (using humour, being directive…) and have very different results. In this sense the simulation teaches the player that it is more his attitude than the action itself that matter in interacting with patients suffering from Alzheimer disease. The project is relevant to **SDG3, SDG9, SDG16**.

POSTHCARD
Alzheimer training for caregivers

In **Switzerland**, the **Dividat Senso** consists of an input device (plate), a standard computer, a standard 43 inch screen and a web-based software that is accessed via a browser. INPUT DEVICE: The input device was development by Dividat. It is a highly sensitive and measures force on an area of 100cm x 100cm. COMPUTER: The computer runs an operating system that is developed by Dividat (PlayOS). The PlayOS operating system is based on NixOS, a free Linux distribution released under a permissive MIT/X11 license. Compared to other standard Linux distribution NixOS is much more reliable. In existing distributions, actions such as upgrades are dangerous and can often break things. Biggest advantage for the users: They can't do anything wrong, the software only does what it is supposed to do. Updates are done by Dividat only after an intensive testing procedure. The project is relevant to **SDG9, SDG16**.



In **Switzerland**, **To Know Me** has developed an integrated digital platform that facilitates hospitals' and clinics' ability to engage with people prior to their admission to systematically and efficiently gather the key information most important to them regarding their care. This product, called MyProfile, is specifically engineered to ensure global data protection regulation (GDPR) compliance. It has a lap-top portal that patients use to establish their profile that is then linked to the hospital's unique patient identification number. Each profile can be readily accessed by healthcare professionals on their smart phone through a unique QR-code. The information is displayed in a way that allows care workers to review the information in under two minutes, prior to engaging with patient being cared for by them. This efficient process provides a sublime process for transforming quality of care by enabling each person's preferences, needs and concerns about their care to be efficiently captured and displayed to facilitate person-centered care at the bedside. The project is relevant to **SDG3**.

In **Switzerland**, The WHO-ITU **Be He@lthy, Be Mobile** initiative was set up in 2013 to support the scale-up of digital health services for non-communicable diseases (NCDs). Its mission is simple: to see digital health make a tangible contribution to creating a healthier world. As a collaboration between the UN agencies for health and ICTs, it works with governments to scale-up digital health services for NCDs and their risk factors, using evidence-based content and best practices. It now works with 12 countries from a range of regions and income levels, tackling issues as diverse as raising awareness on cervical cancer to helping people quit tobacco use. Since its inception, BHBM has reached over 3.7 million end users. Some of our programs, such as India's mTobaccoCessation program has reached 2.1 million subscribers and has been translated into 12 languages. The tobacco cessation program in India had an improved self-reported quit rate among a sample of users. In addition, India's mDiabetes program has had over 105,000 users. BHBM's mDiabetes program, which runs during the month of Ramadan in Senegal, is in its sixth year. More than 200,000 users have registered in 2019.; 180,000 users in 2018, including 10,000 health care workers (HCWs). A biometric evaluation has shown improved glycemic control among subscribers. The initiative's innovation comes from its emphasis on scale. It is the first UN initiative to use population-wide mHealth prevention services at scale, and is the largest scaled mHealth initiative for NCDs in the world. It is also unique for its development of a multisectoral approach to ensure that programs are sustainable, by bringing together stakeholders from across the mHealth ecosystem: Ministries of Health, Ministries of ICTs, academia, local NGOs, and private sector. The project is relevant to **SDG3, SDG17**.

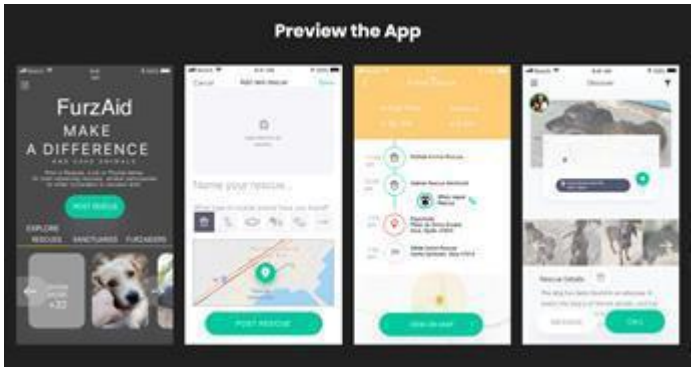
Air pollution alone kills 7 million people yearly, reduces our life expectancy by 20 months, and costs 6% the gross world product. In worldwide, 6 people out of 10 have no access to treatment or are not encouraged to follow it. Devices to assess lung capacity remain often unavailable in low / middle income countries. In **Switzerland**, the group co-create inclusive, open science knowledge and technologies to foster respiratory health and air quality: open-source hardware controllers, and **libre/gratis digital games** to raise awareness on risk production and exposure (outdoor and indoor air pollution, smoking, lack of physical exercise, malnutrition), and make care fun for people affected in their respiratory health. The project is relevant to **SDG1, SDG3, SDG4, SDG8, SDG9, SDG11, SDG12, SDG17**.

In **Turkey**, **ePrescription** for Narcotics is a central system to take control of the distribution of "controlled drugs", which some patients need for their diseases. Most known controlled drugs are narcotic and psychotropic drugs. These types of pharmaceuticals have to be tracked in the national markets in order to stop any possible abuse. In individual countries, there are regulatory agencies responsible for controlling the supply chain of these drugs. In Turkey, con-trolled drugs are composed of four levels, each level of drugs are prescribed with colour names: Orange, Green, Purple and Red prescriptions. A patient who needs these drugs shall have an official report taken from a related health committee, which is valid for a restricted period. There are several outcomes of the system: (a) the Ministry of Health estimated 5 000 coloured prescriptions, but after the system was introduced, it saw 12 000 daily; (b) a special control process is digitalized 100 per cent; (c) healthcare committee reports are digitalized, which stops abuse of duplicate or fake reports; (d) duplicate coloured prescriptions are avoided; and (e) distribution of controlled drugs in pharmacies is under control The most important measure was that narcotic drug usage decreased 26 per cent compared with the previous year. The project is relevant to **SDG3, SDG16**.

In **Turkey**, **RSD system** is established to monitor and control the whole drug supply chain in Kingdom of Saudi Arabia. RSD has also a free mobile app for citizens to be able to check the status and recall information of a drug by just scanning. RSD is recently awarded as best eHealth application in GCC countries. In this concept, all drugs are serialized uniquely in box level, and the movement and transfer of the boxes are tracked in real time. Since the system records all history of the drugs, each loop of the end-to-end supply chain is connected to each other strongly and no counterfeit or fake drugs can enter into the middle of supply chain. Governments are responsible to provide safe drugs to their citizens. However, counterfeit in pharmaceuticals has an average of 15% counterfeit worldwide. Based on WHO statistics, annual human deaths in world caused by drug counterfeit is between 500k-1million. This can be considered biggest war. For this reason, the need arises to find solutions for this problem by help of technology. The central system connects all manufacturers, warehouses, pharmacies and hospitals in one central system, which is called RSD. A patient can be 100% sure that, the drug purchased in the legal supply chain is original. For this reason, RSD not only protects human health, also protects the patients, governments and also the stakeholders to lose their money. As acronym, in Arabic language RSD means "to monitor". All stakeholders have to connect the system forced by legislation, which means building the capacity for 12k+ stakeholders by trainings. For those reasons, RSD system is not just a technology, but is a whole concept of knowledge-technology-training-law. The project is relevant to **SDG3, SDG12**.

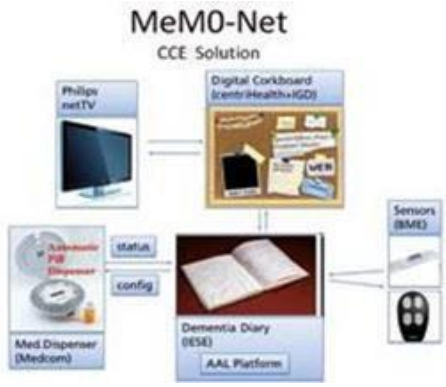
In **Ukraine**, **specialized multimedia training courses on e-health** were developed by A.S. Popov, Odessa National Academy of Telecommunications, with support from ITU, as part of the Regional Initiative on "Development of e-health to ensure healthy lives and promote well-being for all, at all ages", adopted at the World Telecommunication Development Conference in 2017 (Buenos Aires). The course is divided into three standalone courses: (a) ICT for Medical Students (a course for medical students on the use of ICTs in health care); (b) ICT for Doctors (an advanced course for practicing medical staff on the use of ICTs in health care); and (c) e -Health for ICT Engineers (a course for ICT specialists on working with medical IT systems). Each part is divided into thematic modules, with tests after each module. After finishing tests, ITU's certificate is issued automatically on completion. The course contains more than 140 interactive slides (screens), including clips, images, photos, etc. All slides are voiced. The project is relevant to **SDG3**.

In the **United Kingdom**, **FurzAid**'s mission is to arm every animal lover, sanctuary, organization and volunteer with the tools needed to make a difference for animals in need. With the FurzAid Animal Rescue App, users can easily bring assistance to any stray, lost, injured or ill animal that they find, anywhere in the world. The application is designed to assist both people who want to help animals in need, and organizations, vets and volunteers that have the re-sources to come to their aid. If one stumbles upon an injured animal or loses a beloved family pet, with this app all they have to do is capture (or upload) a photo with their phone, add a location tag and post the rescue. FurzAid will take it from there. They will reach out to those in the location who can bring the best assistance to the animal or help with a lost pet. The project is relevant to **SDG3.**

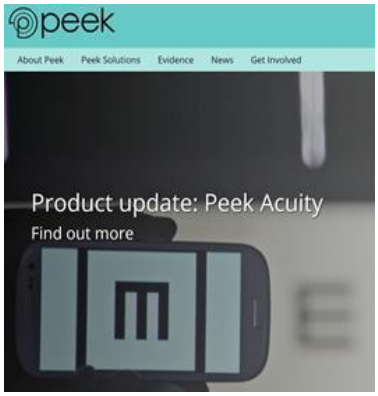


In **the United Kingdom**, **CompanionAble** addresses the issues of social inclusion and home care of persons suffering from chronic cognitive disabilities prevalent among the elderly, a rapidly increasing population group. Those people need the support of caregivers, and are at risk of social exclusion, yet this problem is not well addressed by ICT technology, but would lead to social and economic pressure for staying at home as long as possible. The main unique selling point of the CompanionAble project lies in the synergetic combination of the strengths of a mobile robotic companion, with the advantages of a stationary smart home, since neither of those approaches alone can accomplish the demanding tasks to be solved. Positive effects of both individual solutions shall be combined to demonstrate how the synergies between a stationary smart home solution and an embodied mobile robot companion can make the care and the caregiver's interaction with her assistive system significantly better. The project is relevant to **SDG3, SDG16**.

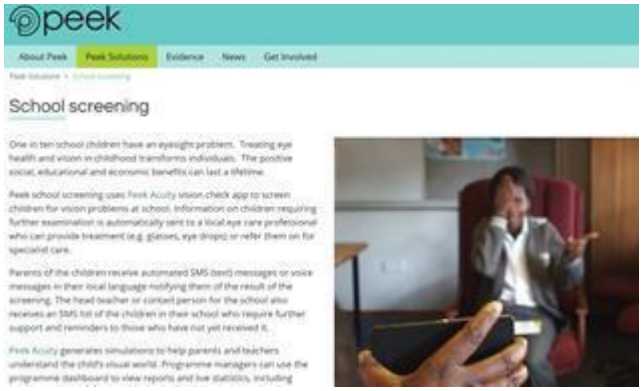
In **the United Kingdom,** the **Connected Care for Elderly Persons Suffering from Dementia** project has developed the Memo-Net solution for the elderly with early stages of dementia, which will enable them to live a more prolonged life independently. The Memo-Net system consists of the following hardware and software components: (a) a TP Vision (formerly Philips Net TV), which provides a user interface for a digital corkboard; (b) a digital corkboard application; (c) a set of sensors that monitor the behaviour and activities of the assisted persons; (d) medication dispenser; (e) a dementia diary that documents daily activities for the assisted persons; and (f) a middle-ware platform that integrates all of the data. From a technological point of view, the Memo-Net system potentially meets the requirements of elderly people with early stage dementia. It helps create flexible, service-oriented dementia applications that can be taken apart and recombined to meet changing needs more efficiently and effectively. Memo-Net holds a large potential market and there is proven interest from resellers. The project is relevant to **SDG3**.



In **the United Kingdom**, **Peek Acuity** is a smartphone-based vision check app. It has been engineered by eye experts and allows anyone to check visual acuity using only an Android smartphone. Peek Acuity is designed to help screen and identify people who need further examination. It is not intended to replace detailed examinations from a qualified optometrist. Peek Acuity offers a clinically validated visual acuity test on a smartphone. Developed by Peek Vision, the app calculates the visual acuity and presents it at the end of the test. Integrated with the mHealth Studio platform, this means seamless patient, facility and test data management and reporting features. The project is relevant to **SDG3**.



In **the United Kingdom**, the **Peek school screening** uses the Peek Acuity vision check app to screen children for vision problems at school. Information on children requiring further examination is automatically sent to a local eye care professional, who can provide treatment (e.g. glasses, eye drops) or refer them on for specialist care. Parents of the children receive automated SMS (text) messages or voice messages in their local language notifying them of the result of the screening. The head teacher or contact person for the school also receives an SMS list of the children in their school who require further support and reminders to those who have not yet received it. Peek Acuity generates simulations to help parents and teachers understand the child's visual world. Programme managers can use the pro-gramme dashboard to view reports and live statistics, including numbers screened, referred and treated. Peek school screening has been used with partners in Kenya, Botswana and India. It has been validated in peer-reviewed research. The programme is being extended to new countries and regions, working with local partners and governments. The project is relevant to **SDG3**.



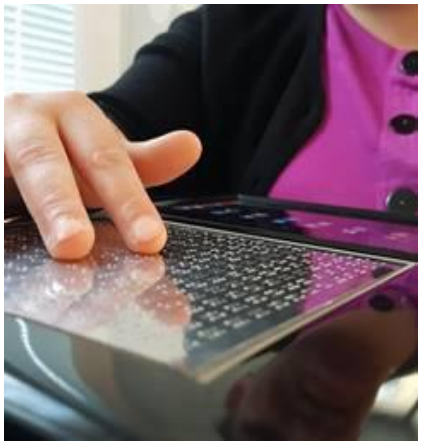
In **the United Kingdom**, **Forward Health** is a messaging app and broader communications platform designed for healthcare professionals, particularly those working in hospitals. One overly simplistic way to think of it is as a "WhatsApp for doctors", helping to wean healthcare professionals off of using the popular messaging app professionally, which is entirely unsuited for a regulated industry such as health care. However, the bigger vision is to "connect healthcare systems around the world" by improving clinician-to-clinician (and potentially clinician-to-patient) communication and information-sharing with a platform that is built from the get-go to be secure, flexible and compliant. The project is relevant to **SDG3**.

In **United Kingdom**, **Atom5** is a SaaS platform for all patient generated data. As a hardware agnostic, with the ability to integrated all Bluetooth enabled into our software. Utilising our platform patients and careers can share patient generated data from wearables, videos, voice, photos and text. There is an optional medication adherence module too. Our friendly UX and dynamic engagement and personalised features is designed to maximise patient engagement. A clinical dashboard allows for researcher and clinicians to see the data at individual patient level data and at cohort level data. The project is relevant to **SDG4, SDG9, SDG16**.

aparito

Action Line 7 E-LEARNING

In **Austria**, **BLITAB** is the first-ever Braille tablet using a disruptive actuating technology developed by our company, to create tactile text and graphics in real time. People call it “the tablet for the blind”. The novel invention is the cross-industry affordable technology (ICT & MTech/Health), which allows whole-page reading on a tactile screen. BLITAB allows for the first-time blind users to learn, work and play with one mobile device, and to have digital access to information in real time. BLITAB converts any document into Braille text; little smart dots (“tixels”) raise immediately from the surface and then fall down again when text changes. BLITAB is not just a tablet, it is a platform for all existing and future software applications for blind readers. BLITAB empowers children and students in the process of learning and acquiring new abilities at school and university, as well as adults using the Braille tablet at the office in their spare time. The project is relevant to **SDG4, SDG8, SDG16**.



In **Austria**, **Memocorby** is an innovative, multisensory learning tool for speech therapy that enables people to see, hear and grab language. According to neuro-scientific studies, this is the best and most sustainable way to learn language. Memocorby consists of five to ten cubes, a tablet and an app for language therapy activities. In the spirit of Maria Montessori, Memocorby encourages patients to re-learn language by giving them a speech therapy tool they can use independently. Memocorby is a learning system for stroke patients with aphasia and people who suffer from dementia that is hands-on, activates the brain and is easy and fun to use – no matter where one lives or how old one is. After a stroke, users can start Memocorby speech therapy with a speech therapist or pathologist already in hospital. The cubes are easy to grab and hold, and the activities can start at the level of a phoneme or even include musical intonation therapy. The project is relevant to **SDG3, SDG16.**

In **Belgium**, "**Digintelles**" is a Millennia2025 label meaning: "dig" = digital (digital skills); "int" = intelligence (collective intelligence) and "elles" = she, women (empowerment, equality, leadership). It is also a foresight tool proposed to the communities or regions interested to contribute. Its objective is to enhance human beings with digital tools. In line with the 64ths Commission on the status of women (CSW64), Millennia2025 digintelles invites you to answer to 7+1 questions online, in order to let us understand the configuration of collective intelligence and digital skills in your region: www.millennia2025-foundation.org/votre-contribution_en.html. The final objective will be to present, implement and promote the results of Millennia2025 in order to mobilize the political and economic leaders against violence, for women's empowerment and equality, within the framework of five UN Sustainable Development Goals identified within the Millennia2025 Strategic Axes: 3 = Health, 4 = Education, 5 = Equality, 6 = Justice and 8 = Economic leadership (http://www.millennia2025-foundation.org/un_sdg_en.html). This survey will remain open to allow you to spread this call to your networks and mobilize them to contribute. We will present the first results at the Forum Generation Equality, a global gathering for equality between women and men organized by UN Women in Paris from July 7-10 2020, as a commemoration of the 1995 Fourth World Conference on Women in Beijing, especially since Marie-Anne Delahaut is now a member of the UN Women Beijing+25 / Generation Equality Advisory Committee Working Group. Contribute, invite your colleagues, your students, your associations to answer and spread this call of Millennia2025 digintelles! All contributions will be taken into account and analyzed to better understand how to benefit from collective intelligences and develop digital skills as drivers for new generations: www.millennia2025-foundation.org/votre-contribution_en.html. The project is relevant to **SDG3, SDG4, SDG5, SDG8, SDG16**.

millennia2025
digintelles

In **France**, the **European Digital Mathematics Library Initiative** is an association without legal personality, formed by a network of universities, public research institutions, publishers, scientific database administrators and leading technology providers, and further subjects, dedicated to producing quality scientific information in mathematics. The purpose of the Initiative is to provide a Digital Mathematics Library for the worldwide scientific community as a public service – with the aim of helping scientists locate the information that is distributed in various digital repositories and discover information related to their work in an optimal way – and be exhaustive and comprehensive in the field of mathematics. The project is relevant to **SDG4**

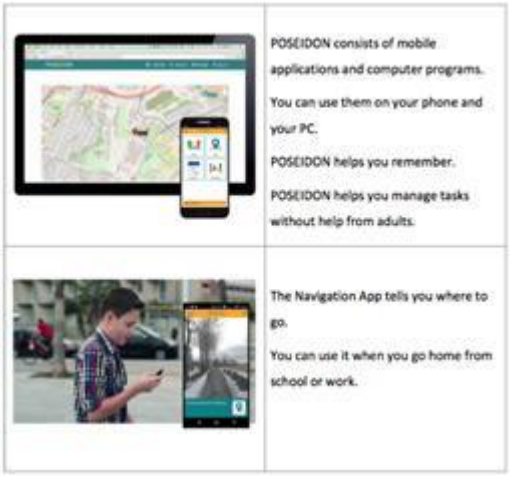
Simplon.co is a network of training centres in **France** and abroad that trains without fees people coming from underprivileged areas in digital technological jobs. Simplon.co makes a commitment in favor of parity in the digital technology sector, which is marked by a strong underrepresentation of women: indeed, women represent only 33 per cent of the salaried staff in the digital technology sector, and less than 20 per cent in technical jobs, as opposed to 53 per cent in all sectors (source: Syntec Numérique, 2016). From this perspective, Simplon.co built a program called #**Hackeuses** to raise awareness and guide more women towards the digital technology sector. The program has three main axes: communication and advocacy, company awareness, and training and prequalification. Communication and Pitch We lead diverse actions to mobilize the network around the subject of gender equality in tech. The targeted audience is Simplon.co's network of partners and the general public. The project is relevant to **SDG4, SDG5**.

In **France**, **Simplon.co** is a social business that empowers and trains unemployed people in highly sought after digital technical trades through a series of tuition-free coding bootcamps. Priority is given to groups of individuals who are underrepresented in the tech sector, such as: women, young job seekers, unemployed youth, individuals with handicaps, refugees, and recent immigrants, regardless of their age or education level. Simplon.co has opened over 89 training centres in France and abroad, and is present in 15 countries throughout Europe, Africa, the Middle East, and Asia. Since its creation, over 4,854 trainees have graduated from Simplon's bootcamps. Of these graduates, 75% had a positive outcome in the 6 months following their training, with 62% finding a job and 13% pursuing further tech trainings. In order to ensure the success of our trainees beyond the end of their training period, Simplon works in partnership with companies to ensure the professional integration of trainees post-graduation. The project is relevant to **SDG4, SDG5, SDG16**.

In **Italy**, **Ammal** is a new education initiative by Chaya that aims to empower women through gamified training. Ammal can get women coding, designing, building and, more importantly, collaborating. Run by the team behind Chayn, Ammal will create an open and collaborative network of women who support and empower each other by passing on the skills they have and the skills they have learned to other women. Chayn is a global, volunteer-run charity that leverages technology to empower women against violence through open source, need-specific toolkits, web platforms, hackathons and workshops. Chayn aims to empower women and girls who face not only domestic violence, but all other forms of gender oppression that exist regardless of location, religion or politics. The project is relevant to **SDG4, SDG5, SDG16**.

In **Netherlands**, **ELPIDA** has developed an e-learning platform primarily targeting parents of people with intellectual disabilities (PWID) in order to empower them for better quality of life of PWID. Teaching recourses have been developed on the themes/topics of Human Rights, Communication, Stress management, Transition to Adulthood, Ageing and Sexual health. These themes have been chosen in consultation with family members of PWID. An own Needs Assessment study has been taken into consideration and informed the content of the e-learning modules and prioritize parents' preferences regarding the chosen topics. The project is relevant to **SDG9, SDG16**.

In **Norway** , **Poseidon** aims at developing a technological infrastructure that can foster a growing number of services developed to help people with Down Syndrome to become more integrated, to support their development as citizens and to enable them to make a greater contribution to society. There is a wide range of issues that can be tackled. Poseidon provides its contribution starting with a focus on supporting education, work, leisure and socialization. The infrastructure to be developed will provide a development environment that other organizations can use as a steppingstone to develop more new services for inclusion in the future. One outcome will be a working system with basic services to support inclusion, which will illustrate the effectiveness and potential of the proposal. Poseidon will be co-designed by final users. It has been user-centred from its inception, and will give all main stakeholders ample opportunities to shape the output of the project, which will ensure a final outcome that is of practical usefulness and interest to the intended users. The project is relevant to **SDG3, SDG4, SDG8**



In **Poland**, **Reading Images** is a response to a dream of sharing art with anyone, especially with disabled people who are often excluded from socio-cultural spheres of life. The collections presented on its website and in its app are often presented in permanent expositions in certain museums across the country. But its website also gives an insight to these, which are sometimes kept in magazines or are travelling somewhere in the world. Reading Images is yet another idea to eliminate the barriers in accessing the culture and its heritage. Its website and the app offer something interesting for everyone: it has audio descriptions, translations in sign language, simplified descriptions, photos, etc. – every-thing Reading Images was able to come up with in order to give access to art and culture to everyone. The project is relevant to **SDG4**.

In **Poland**, **DigiTutor** is a lifelong learning education device providing knowledge when and how users need it most. DigiTutor uses data accessible online to encourage people to learn and expand their knowledge every day. DigiTutor consists of a communication component worn behind an ear and a detachable micro -drone scanning the surroundings to provide context-relevant information. DigiTutor is independent from classroom environment. By providing educational content related to its user's immediate surroundings, and suggesting new knowledge based on earlier interactions with the device, DigiTutor enables lifelong education anytime, anywhere. The project is relevant to **SDG4**.

In **Poland**, **Wolne Lektury** is a free online library open 24 hours a day, 365 days a year. It archives books5518, including set readings recommended by the Ministry of National Education that have already fallen in the public domain. All the texts are adequately edited – annotated with footnotes and motifs – and are available in several formats – HTML , TXT, PDF, EPUB and MOBI. The library also contains a few hundred audiobooks read by famous actors such as Danuta Stenka, Jan Peszek or Andrzej Chyra. The audiobooks can be used in MP3 and Ogg Vorbis formats. They are also available in DAISY for-mat, suiting the needs of people with poor vision, the blind and those with reading difficulties. The Wolne Lektury library is available through mobile devices. Users are allowed to browse, listen to and download all the items in Wolne Lektury, as well as share and cite them, entirely free of charge. The project is relevant to **SDG4**.

In **Portugal**, Hardware - **CogniViTra** uses an RGB-D sensor, a microphone array and a capacitive touch screen. Software - CogniViTra uses different types of reasoning algorithms (e.g. Bayesian Networks, Neural Networks and Markov Decision Processes) to implement different parts of the solution that require processing and analysing data. Integration (communication layer) - CogniViTra communication layer is supported by conjugating RabbitMQ and WebSockets technologies. Interaction - CogniViTra executes both visual and sound actions, which are feedback (i.e. by display and speakers), the actions of the solution are executed by a Virtual companion and the virtual cognitive games. CogniViTra integrates Multimodal Interaction (Automatic Speech Recognition, Gesture Recognition) and Natural Language Processing features Standards - CogniViTra is following the standardization activities of the IEEE AuR working group, which is defining a standardized knowledge representation for autonomous systems; Additionally, CogniViTra is following some standards in terms of validation and assessment of usability and acceptance of the system - for example adopting SUS scale and other similar measurement instruments. The project is relevant to **SDG4, SDG9, SDG15**.

IPN
INSTITUTO PEDRO NUNES

In **Serbia**, the Ministry of Trade, Tourism and Telecommunications has set out the promotion of gender equality in the field of ICT as one of its goals, since not only is there a huge potential for employment in the field of information technology, but also the possession of ICT skills has become a requirement for many different professions. In accordance with that, the Ministry has initiated a **training programme for women** with the aim of teaching and developing digital skills and fostering digital literacy, as well as learning programming. The training programme was designed to last up to nine months and provide basic knowledge of programming languages such as JavaScript, HTML and CSS. NGOs chosen at a public tender announced by the Ministry operatively carried out the programmes. The project is relevant to **SDG4, SDG5**.

In **Serbia**, the Ministry of Trade, Tourism and Telecommunications is implementing programmes aimed at educating and raising awareness about the necessity of fast, regular and targeted integration of citizens, the educational system and economy into contemporary digital currents. In the framework of the Ministry, educational and promotional projects are implemented which should contribute to the development of digital literacy, digital competences and digital security culture among all citizens of Serbia. Special attention is paid to projects aimed at younger populations and women, but also support programmes for support of IT communities, IT industry, ICT applications in the economy, development of IT personnel and employment in this sector. In order to overcome the gender gap in the ICT sector, the Ministry of Trade, Tourism and Telecommunications is implementing a series of programmes to encourage and empower women to engage in this sector through re-training **IT ladies** programmes. The Ministry, in cooperation with NGOs, organizes trainings for the requalification of women in the field of ICT. Through the last training cycle, realized in 2017/2018, over 250 women participated, and gained basic knowledge from JavaScript, HTML, Phyton and C++ programming languages. The project is relevant to **SDG5**.

In **Turkey**, following the principle of providing equal access to information, Türk Telekom launched Turkey's first Telephone Library project – Books on the Phone – in collaboration with Boğaziçi University's Technology and Education Laboratory for the Visually Impaired (GETEM). Thanks to the Telephone Library Project, visually impaired Türk Telekom customers can access hundreds of audiobooks for free by dialing 0 800 219 91 91 from their home phones. Visually impaired Türk Telekom customers first sub-scribe to GETEM and then receive a password to access audiobooks free of charge. Currently, the Telephone Library consists of more than 1 000 audiobooks and other content in more than 50 categories, including poetry, novels, history, personal development and practice exams, as well as movies with narration. Users can mark their place in an audiobook and resume listening from the same point, rewind or fast forward, as well as slow down or speed up audiobook playback, and find books easily via the audio menu. The project is relevant to **SDG 4**.

In **Turkey**, addressing people unfamiliar with, and thus unable to utilize the potential of Internet, the **Life is Simple with Internet** project acquaints them with the online world via Internet literacy training programmes. The project is carried out with the cooperation of Türk Telekom, Habitat Association and the United Nations Development Programme. The main purpose of the project is to provide every-one an equal opportunity to access information by eliminating regional and economic inequalities. Therefore, the primary target group consists of adults, especially women, aged over 25, who live in priority cities for development –54 cities in total, and who either lack or have limited Internet skills. To date, 30 000 people have become Internet literate through the Life is Simple with Internet project. In 2017, a mobile app was developed for the project so that everyone can access its educational content anywhere. The mobile app also has an Arabic version to offer practical solutions to refugees in their daily lives via the Internet. The project is relevant to **SDG4, SDG10.**

In **Turkey**, not all children have equal opportunity to reach quality education. **Turkcell Whiz Kids** mobile application enables young people in Turkey to reach quality education without limits, get empowered with digital skills and eventually realise their potential and create a better future for themselves and for their country. Turkcell establishes technology laboratories since 2016, where students are introduced to robotic coding, software, Maths, Space Science, Internet of Things and Artificial Intelligence. Physical laboratories being limited to geography, Turkcell created Whiz Kids mobile application in 2019 as a further step to spread the technology knowledge all around Turkey, without any barriers, with more content than in-class. The mobile application is free, all access, eligible throughout the country. Until today, 50K users reached 2.500 pages of mobile content, attended 220K hours of mobile courses, viewed pages 5M times, asked 5K questions answered on discussion boards. The project changes our children's lives. Whiz Kids supported a group of students from a small village, called Sivrice Dream Team, which won the Rising Star prize in First Lego League competition held in Barcelona. A student stated his happiness of this experience by these words: "I did not know there was another world behind these mountains of ours". The project is relevant to **SDG4, SDG5, SDG10**.

In **the United Kingdom**, BCSWomen, the women's group of British Chartered Institute for IT, was founded by Dr Sue Black in 1991, building great credibility around women in tech/computing. It won the inaugural GEM Tech award 2014 for supporting women in IT, under the leadership of then-chair Gillian Arnold. Sarah Burnett became chair of BCSWomen in 2017 and made a personal commitment to focus particularly on artificial intelligence and increase the number of women interested and working in this field. To do this, she launched **AI Accelerator**, a programme of free artificial intelligence-focused webinars, seminars and workshops specifically targeted at women. Why? Artificial intelligence is a critical and urgently growing issue to ensure gender equality, a key issue in achieving the United Nations' SDG 5. Only 17 per cent of computing employees in the United Kingdom are women, and it is believed that even fewer work in artificial intelligence. Because men are programming artificial intelligence in everything from recruitment to health, unconscious bias is creeping in and could lead to backward steps in gender equality. Sarah Burnett does not receive any additional funding for AI Accelerator from the BCS, but runs it within the BCSWomen budget on a voluntary basis, with help from other volunteers, such as the BCSWomen committee members and speakers who give their time or corporate facilities for free. The project is relevant to **SDG5**.

In **the United Kingdom**, **Wayfindr** is a non-profit organization that is creating a benchmark in standards for digital wayfinding on mobile devices. It wants to empower vision-impaired people to overcome isolation, through audio-based navigation. Wayfindr has created the world's first internationally-approved standard for accessible audio navigation. There are an estimated 285 million people worldwide living with sight loss. This can often lead to isolation, poverty and depression. Of the estimated 2 million vision-impaired people in the United Kingdom, almost half say they would like to leave their homes more often. At the moment, many vision-impaired people are unable to travel independently, in-stead relying on other people to help them get around or just not venturing out at all. What if vision-impaired people were empowered to navigate independently using the smartphones they already have in their pockets? This was the challenge investigated by the Royal London Society for Blind People's Youth Forum and ustwo in 2014. Wayfindr soon discovered that yes, this was possible. There and then, they knew this was going to be life-changing: Wayfindr was formed. The project is relevant to **SDG3, SDG4, SDG16**.

In **United Kingdom**, in order to design **Cosmo** we worked with 200+ professionals from different specialisations and with over 500 people with disabilities (autism, cerebral palsy, brain injury, dementia). We learned that that every person with additional needs have their own individual skills, condition, skills they need to work on and get support by different professionals. So we ended up creating a solution that is very customisable, has activities for different skills and can work in a variety of settings. The system comprises of three main components: (a) the Cosmo hardware devices (b) iPad activities designed by teachers and therapists (c) Lesson plans that help professionals market specific cognitive communication and motor skill areas. The project is relevant to **SDG4**.

In **United Kingdom**, **Social Skills Animation** is a software which enables creation custom-made animations for targeted learning support to children with autism and other intellectual disabilities. It can be either downloaded and bought online from its website. In that case SSA software would only be available to be used on the device to which it is downloaded. However, the animated videos made in SSA can be transferred to any other device at no cost via email or by other means. Other way of purchasing SSA is by getting on Dongle (USB key). In that way the USB dongle key with the software on it is being shipped to a customer and it can be installed by inserting a USB key in a computer. In this option SSA can be used in any computer as long as the USB key is inserted in it. SSA uses 2D animations. Whole software was created by the team of animators and programmers. They have used Actionscript for Adobe Flash/Air platform for programming. For graphics and for the basis for flash/air platform the Adobe Animate was used. The software is very light in terms of required memory on a device as it does not require more then 30 MB. The project is relevant to **SDG4, SDG9, SDG16**.

In **United Kingdom**, the overarching aim of the **iMlango** project is to improve educational outcomes of 180,000 marginalised schoolgirls across 245 schools within Kenya in maths, literacy & life skills by delivering access to digital education services & content. Additionally the project aims to improve the Quality of Teaching in Literacy and Numeracy using effective ICT by primary school teachers. The key components include: 1) High-speed satellite internet providing interactive resources for teaching and learning. 2) Labs equipped with computers, teachers' laptops/projectors, and servers. 3) Digital Learning materials in literacy, numeracy, life skills and other areas. 4) A Personalised-Adaptive Maths Learning Platform allowing each child to learn specific to their own needs and learning levels. 5) Whole-class digital materials for literacy & numeracy to support teachers. 6) Professional development through regular in-school support and in-service sensitization. Students who have access to the satellite-enabled individualised learning platform for 60 minutes per week improve their "maths age" by, on average, 18 months in their first year of access. In marginalised communities, we are able to double learning progress rates and improve attendance records. Over time the progress rates for students using the platform has consistently improved and has always been above the Kenya baseline rate. The project is relevant to **SDG4**.

In **United Kingdom**, about 3 years ago I wrote my master thesis on how online education could be used for people who do not have access to education. Growing up between Geneva, in Switzerland and Sincelejo, a small town in Colombia has taught me how concepts of what quality education could be, vary from one context to another. I understood that an aspect that contributes to quality education is to enable people, and not only teachers/professors, to learn from other people's experiences, stories and knowledge. I decided to explore how the voices, experiences and knowledge of more people, especially women, people of colour and minorities, could be integrated into education. Nowadays these conversations do not happen without talking about new technologies and how to use them to create more access to impactful education. This created a personal passion for gaming and triggered my activism toward finding ways to use games for learning, social change and for giving people a voice that will be heard globally. Games have the potential to be one of the best tools to create powerful stories and experiences that induce learning and social change. My goal is to show that making game design open and accessible to anyone unlocks this potential. The voices of game designers are directly represented in the games they create. I wasn't a gamer or a game designer up until three years ago but I decided that I could become one and enable people to go through the same process as me. I designed and implemented the first grassroots initiative that **democratises educational game design**, after 2+ years of research to develop the needed resources and processes. This initiative enables people, mostly women, people of colour and minorities, would learn how to design educational games aimed at raising awareness of social inequalities in two days. I also created an initiative that led to the creation of 193 games on Climate Change – in partnership with Global Game Jam and Dr. Alaa Murabit, one of the 17 UN SDG advocate. The project is relevant to **SDG4, SDG5**.

Action Line 7 E-SCIENCE

In **Germany**, **LIFE: Linked Data for eScience Services** aims to improve interdisciplinary collaboration in research and education through the sharing of scientific data organized in space, time and semantics. The project addresses various kinds of resources, ranging from project- and user-generated data, through articles and books to historic maps. Exposed as Linked Data, these resources feed eScience services to discover, access and enrich them and to use them in scientific and other knowledge infra-structures. The project aims at overcoming the information silos that dominate libraries and research repositories. It builds on standards, such as those of the Open Geospatial Consortium, and extends them by linked data interfaces, targeting a better integration of bibliographic, scientific and administrative contents. This approach enables a retrieval of contents through spatiotemporal and semantic queries (e.g. “books about medieval Westphalia”, “politicians from the industrial period who were born in Berlin”, “borders of Prussia in 1830”). The project produces tools and workflows for data publishing across domains as well as insights regarding the requirements and benefits of heterogeneous datasets for eScience. The results enter and expand standard library workflows, supporting their maintenance. In particular, it develops: extract, trans-form, and load (ETL) processes for linked spatiotemporal data; annotation workflows and tools (clients to describe and enrich information resources); interfaces serving linked spatiotemporal data to standard clients (including services for spatial data and maps); and spatiotemporal retrieval and search tools. The project is relevant to **SDG4**.

In **Latvia**, the **National Research Information System (NRIS)** is a State information system, which collects data about scientific activity in Latvia from various stakeholders. All scientific institutions (universities, institutes, etc.) registered in Latvia report information about their staff, science projects where they participate, and the results of their research (scientific publications, intellectual property and conferences attended), including references to scientific publications available in Open Access. Science funders publish information about new calls for proposals. The Ministry of Education and Science collects statistical data and, using various indicators, calculates the public funding that is allocated to scientific institutions based on their staff size, quality and research performance criteria. Scientists submit project applications and apply for expert rights, which are confirmed by the Latvian Council of Science. Students and members of the public can use the NRIS as a platform where information is collected about the fields of science in which institutions and research groups specialize (except specific personal data and commercial data). These data are publicly available. Although several modules of the system are still under construction, the Latvian scientific community already sees it as a useful tool. NRIS is defined in the Law of Scientific Activity, approved by the Parliament of Latvia in December 2016. The project is relevant to **SDG4, SDG8, SDG9**.

In **the Netherlands**, also from the same entity, focuses on Visual Analytics for the World's Library Data. Today's libraries provide online access to millions of bibliographic records. Librarians and researchers require tools that allow them to manage and understand these enormous data sets. Most libraries only offer textual interfaces for searching and browsing their holdings. The resulting lists are difficult to navigate and do not allow users to get a general overview. Furthermore, data providers such as the Online Computer Library Centre are trying to enrich bibliographic databases with semantically meaningful structures, which are essentially lost when represented within a list-based interface. Visualizations provide a means to overcome these difficulties. Graphical representations provide quick access to bibliographic data, facilitate the browsing and identification of relevant metadata, and provide a quick overview of the coverage of libraries. The fields of Information Visualization and Visual Analytics within Computer Science develop

computer-supported, interactive, visual representations, which allow users to extract meaning from large and heterogeneous data sets. While such visual techniques have become common practice in the sciences, they are little employed by libraries, despite similar increases in available data. The project is relevant to **SDG4**.

In the **Netherlands**, the eScience Centre initiated the project **Digital Humanities and the Arabic–Islamic Corpus**, which seeks to harness state-of-the art digital humanities approaches and technologies to make pioneering forays into the vast corpus of digitized Arabic texts that has become available in the last de-cade. This is done along the lines of four case studies, each of which examines a separate genre of Arabic and Islamic literary history (jurisprudence, inter-faith literature, early modern and modern journalism, and Arabic poetry). Despite some pioneering efforts in recent times, the longue durée analysis of conceptual history in the Islamic world remains a largely unexplored field of research. Researchers of Islamic intellectual history still tend to study a certain canon of texts, made available by previous Western researchers of the Islamic world, largely based on considerations of the relevance of these texts for Western theories, concepts and ideas. Indigenous conceptual developments and innovations are therefore insufficiently understood, particularly as concerns the transition from premodern to modern thought in Islam. The project is relevant to **SDG4**.

In **Portugal**, while it is true that people in general, and in particular pupils and students, as teachers, trainers and researchers, use Wikipedia, it is not yet clear what role it plays, or can play, for example, as a pedagogical strategy. Indeed Wikipedia is a key resource in digital contexts, especially when doing an online search on the internet. But can it also be a resource in educational, training and research contexts? How can wikis, and mainly Wikipedia, be a catalyst for the development of ICT skills and digital competences? The **WEIWER Wikis, Education & Research project** aims at training pupils and students, along with their teachers, in ICT skills and digital competences, namely by: developing informational and communicational literacies; enhancing collaborative writing and work. The project has a strong pedagogical and social basis, relying on voluntary work, in an innovating empowerment spirit. So far, open sessions, with and for international audiences have taken place, along with seminars and workshops for both pupils, students, teachers and librarians. We are already planning to continue to expand it to contexts, and further replicate it, in response to requests of local communities, for instance, like schools. The project is relevant to **SDG4**.

In **United Kingdom**, **GlamOre works with females** businesses who are actively engaged in CSR and knowledge-based projects. Its target are female scientists and inventors. Main objectives are support females' scientific research, projects and creative ideas to bring them to the market successfully. The project is relevant to **SDG5, SDG8, SDG9**.

Action Line 8

In **Austria**, they developed was an app for iOS and android mobile platforms. This enables the user to choose their own preferred hardware to view the content. The app was developed in react-native which besides cross platform support also has good support for the built in Talk back and Voiceover tools. The app also allows to change accessibility preferences by the user. These include basic features like color scheme, font sizes and filters for visually impaired people but also more advanced like selecting how content should be presented. This allows for example to use sign language videos instead of text descriptions. The available settings were chosen by multiple test groups of people with various accessibility preferences. This project is related to **SDG 9** and **SDG 16**.

KUNST HISTORISCHES MUSEUM WIEN

In **Croatia**, Senior citizens make up almost a quarter of the population of Koprivnica-Krizevci County in Croatia. Because young people migrate to towns and to other countries to work, many older people live alone and struggle with loneliness and feelings of isolation. **"Smartphone? Yes, Please!"** project has been introduced because senior members of the community are often reluctant of using smartphones and ICT in general. At the same time they are aware that ICT is essential part of everyday life, and that digital technology makes staying connected with family and friends easier than ever. The service is held by library volunteers and it consists of informal, customized lessons in using smartphones which last for one hour and are held once a week. Project objectives are digital inclusion of senior citizens, social inclusion, promoting importance of equality and equity and intergenerational solidarity. By now, a total of 51 workshops were held which included 48 participants. The greatest impact of the project is that by giving them tools and knowledge for communication with their family and friends, librarians and volunteers help them to avoid loneliness, abandonment, dejection and depression. They also encourage their self-confidence by giving them more independence in doing their daily tasks. This project is related to **SDG 4**.

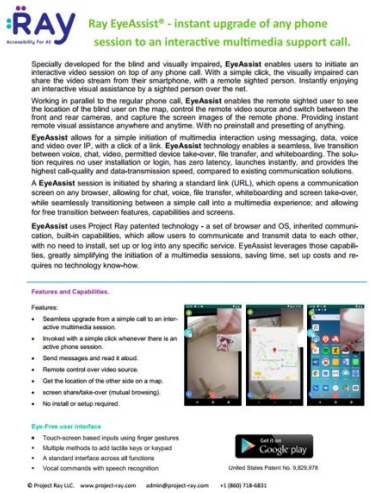
In **Czech Republic**, **Oscar Senior Family app** connects elderly with family friends and useful services. Each participant has Oscar Senior installed on his/her own device. This can be any smartphone or tablet running on iOS (Apple) or Android operating system. It is possible to make Oscar Senior the default home screen on the device of the elderly, so they cannot get lost. The big buttons make it easy to select the right function. With one click the user will go back to the default Oscar Senior screen. Users will add only trusted contacts to the Oscar Senior directory (needs to be confirmed) to ensure maximum safety. No unwanted messages can be received. Users will be able to communicate (also with group) via video calls, messaging/chatting and sharing photos. In addition, there are many entertainment and information functions allowing the elderly to explore digital possibilities like games, weather, latest news, reminders, music, etc. All functions are configurable, meaning they can be switch on/off to individualize the home screen of the user. Only functions needed/used will be visible. A unique feature is the remote management function. An assigned administrator (trusted family member or care giver) can control remotely the device of the senior. This means that the admin can add/remove contacts, switch on/off functions and even set up calls between the elderly and someone from the contact list. There is also a platform version of Oscar Senior for (care) organisation that want to have one tool to communicate with their clients/patients/residence. This project is related to **SDG 9** and **SDG 16**.

oscar
SENIOR

In **Denmark**, **RoboBraille** is a web-based solution capable of converting a wide range of documents into alternate media such as digital Braille, MP3 files, structured audio books, digital large-print and e-books. The service can also be used to convert otherwise inaccessible documents - e.g., scanned books and papers digitized using the camera function of a smartphone - into more accessible formats. The main objective of RoboBraille is to promote independence and self-sufficiency amongst people with disabilities in order to support inclusion in mainstream environments such as education and employment. The main target audience for the service include people with print impairments, e.g., the blind and partially sighted as well as people with dyslexia, learning disorders, cognitive disabilities, motor deficiencies, concussions and others. The service is also widely used by people with poor reading skills or poor language skills, foreign-language learners, flexible learners and others. This project is related **to SDG 9**.

In **Germany**, **Guide4Blind**; the mobil info is an application for the public transportation system in the area of Soest. It offers a digital and barrier free timetable information system which includes real-time services and a pedestrian navigation from the starting point to the bus stop or train station. Within the bluetooth range of the buses the app receives the line number and the destination of the entering bus. The app can be easily operated with the VoiceOver function (iOS) and TalkBack (Android) so that blind people can use the application easily. This project is related to **SDG 9**.

In **Israel**, Project **Ray** provides mobile & server-based digital solutions for the visually impaired, people with cognitive problems, and the elderly. The solutions address the requirements of users who are not able to use standard accessibility tools (screen reading utilities) because of its complexity - a group of about 75% of the 280 million visually impaired. For them, RAY uniquely provides a simple and intuitive interface that enables a common interaction across any smartphone function PLUS hardware add-ons with four tactile keys that facilitate full control of the different services using physical, touchable buttons. The solution is currently in use by about 20% of the visually impaired people in Israel, where we sell it together with the local mobile carriers. Please note that a market share of 20% in Israel is a unique achievement that is made possible by three major virtues – common interface across the entire phone; availability of tactile keypad to control the device with clickable buttons; the partnership with mobile carriers which have built a significant local awareness. The service includes numerous functions for communication, social interaction, entertainment, personal care, visual recognition, and remote support. This project is related to **SDG 8**.



Ray EyeAssist® - instant upgrade of any phone session to an interactive multimedia support call.

Specially developed for the blind and visually impaired, **EyeAssist** enables users to initiate an interactive video session on top of any phone call. With a simple click, the visually impaired can share the video stream from their smartphone, with a remote sighted person. Instantly enjoying an interactive visual assistance by a sighted person over the net.

Working in parallel to the regular phone call, **EyeAssist** enables the remote sighted user to see the location of the blind user on the map, control the remote video source and switch between the front and rear cameras, and capture the screen images of the remote phone. Providing instant remote visual assistance anywhere and anytime. With no preinstall and presetting of anything.

EyeAssist allows for a simple initiation of multimedia interaction using messaging, data, voice and video over IP, with a click of a link. **EyeAssist** technology enables a seamless, live transition between voice, chat, video, permitted device take-over, file transfer, and whiteboarding. The solution requires no user installation or login, has zero latency, launches instantly, and provides the highest call-quality and data-transmission speed, compared to existing communication solutions.

A **EyeAssist** session is initiated by sharing a standard link (URL), which opens a communication screen on any browser, allowing for chat, voice, file transfer, whiteboarding and screen take-over, while seamlessly transitioning between a simple call into a multimedia experience; and allowing for free transition between features, capabilities and screens.

EyeAssist uses Project Ray patented technology - a set of browser and OS, inherited communication, built-in capabilities, which allow users to communicate and transmit data to each other, with no need to install, set up or log into any specific service. EyeAssist leverages those capabilities, greatly simplifying the initiation of a multimedia sessions, saving time, set up costs and requires no technology know-how.

Features and Capabilities.

Features:

- Seamless upgrade from a simple call to an interactive multimedia session.
- Invoked with a simple click whenever there is an active phone session.
- Send messages and read it aloud.
- Remote control over video source.
- Get the location of the other side on a map.
- screen share/take-over (mutual browsing).
- No install or setup required.

Eye-Free user interface

- Touch-screen based inputs using finger gestures
- Multiple methods to add tactile keys or keypad
- A standard interface across all functions
- Vocal commands with speech recognition

Get it on Google play

United States Patent No. 9,829,978

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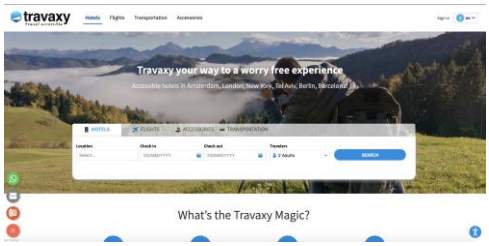
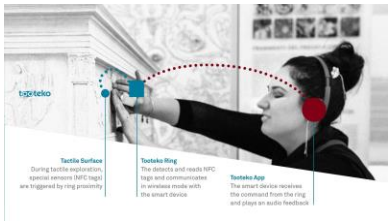
In **Israel**, **Travaxy** is the world‘s first online booking platform that enables people with disabilities to plan and book accessible Holidays in a simple, fast, fun and efficient way. Our main features are: Flights - Our flight booking system process the special requirements asked by the user online, we make sure that the airline will get this info and make the right arrangements so that the way to the destination will be as smooth as possible and a worry free. (Amadeus API) Hotels - Every hotel presented on our booking system has field a digital survey of accessibility. In order to be a part of our booking system hotels was asked to fill the survey that starts with the way to the hotel, the public transport, through the entrance of the hotel public areas, elevator and of course the Accessible room. (2 HOTEL API's - 1 is still being connect) The meaning of this is that every user/traveler according to their disability would be able to order a tailored room/most suitable for their specific disability. Car rental / Transport - we give the opportunity to book transport/car rental for the holiday, for now it works through up sales. The users fill the request and we came beak with an offer. Medical equipment rental - every traveler can choose not to take his own equipment and rent at destination medical equipment rental so they don't have to take it from the homeland. Few examples are: mobility scooter, shower chair, lift for the bed for quadriplegic travelers, regular wheelchair, Electric wheelchair. This project is related to **SDG 9** and **SDG 16**.



In **Italy**, **Rai** has developed a “Virtual-LIS” platform with four virtual LIS (Italian Sign Language) interpreters, developed by adopting the latest computer graphics technologies and the use of innovative technologies. This platform allows RAI to manage the entire process of generating new content in LIS for future services for the deaf. It is possible to develop new services for the deaf, both taking into account the technical and socio-cultural implications and involving the ENS (“Ente

Nazionale Sordi", national association of the deaf in Italy) and other associations of LIS Interpreters and the deaf. This project is related to **SDG 3** and **SDG 4**.

In **Italy**, UNESCO cultural heritage sites will be finally and fully accessible to the visual impaired and the blinds thanks to a disruptive ICT innovation brought by a creative and cultural enterprise, Tooteko. The technology in use integrates tactile exploration of work art (replicas) with audio data, which is provided by Antenna International, global leader in audio guides for cultural purposes. The art replicas, however, are per se "dumb", that is why an audio guide or a human guide is necessary to integrate tactile perception with verbal information. We therefore transform tactile models of artworks into speaking models, enabling an interactive and independent exploration by people with visual impairments. This project is related to **SDG 4, SDG 9, and SDG 10**.



In **Italy**, **STAGE** platform with online streaming access in recorded and live mode to cultural events offered by involved CIs in the three end users' partner countries. The platform also includes short info on offered events, star-based rating systems for users, access by CIs to upload events, history/chronology of the watched events, payment module through Paypal, and a potential new service for a voucher payment system, currently set up as a demo mockup. The STAGE service is based on a two-component platform: video management and distribution and Drupal. The two platforms communicate via REST API. Registration of users (i.e. Cultural Institutions and End Users) is performed on the Drupal platform and the data are communicated to the video platform to keep the two platforms synchronized. This project is related to **SDG 9 and SDG 16**.

In **Italy**, **Pedius** is available on existing hardwares such as: smartphones, tablets, PC by both Android and Apple systems. Our software uses a combination of the VoIP network, the connections of users and a distributed application to add voice synthesis and speech recognition services. Therefore our main necessities are: VOIP traffic towards the traditional network, cloud server for management, speech recognition algorithms, and speech synthesis software. From VoIP providers we have chosen Blueface, a company that has shown a strong focus on innovation and the world of the Deaf. Speech recognition is an important cornerstone for our system, the quality of the communication we will be able to offer greatly depends on its own quality. For this reason we have entered into a long-term agreement with Nuance while still maintaining beneficial relationships with other engines. Pedius uses advanced voice recognition and speech synthesis technology, the same used by Google and Siri. The technology used also makes it possible to simultaneously compare the output of multiple voice recognition methods to evaluate the quality of the transcripts obtained and provide the best transcription. In cases of uncertain transcriptions, the app will notify the user of any alternatives or the user may signal the other party to repeat what they have just said. Pedius is able to optimize our dictionary for specific conversations. Pedius is able to be integrated with any existing hardware without requiring any changes, making our solution adaptable to many different standards. This project is related to **SDG 9, and SDG 16.**

In **Serbia**, Main three objectives of this project were: improving the level of digital literacy and digital competences of women from rural area, conducting campaign related to raising awareness and increasing use of new technologies and e-services by women. In 2018, the Ministry of Trade, Tourism and Telecommunications announced a public call for non-governmental organisations to participate in the implementation of this project. Allocated budget was 71.500,00 euro Conditions for participation in the project implementation included organizing and conducting programs for improving digital competences of women from rural areas which should be in accordance with EU Digital Competences Framework. According to the Minister's Decision, eight programs submitted by non-governmental organisations were selected for the project implementation. Selected NGOs have headquarters in different cities in Serbia (Beograd, Priboj, Trstenik, Novi Pazar, Niš, Topola), so project activities were conducted in all developing Serbian regions. Every selected NGO organization delivered educational training for about 50 rural women (400 educated women in total). All these women who participated were housewives - they do farming, babysitting, housework and etc., so they did not have any basic ICT knowledge and digital competences

before. Training included empowering basic digital skills and competences, such as sending e-mails, creating files, creating profile on social media (Facebook), using digital marketing etc. Bearing in mind the fact that most of rural women produce tradition Serbian products (jam, juices, sweets), it was very useful for them to learn how to make digital promotion of traditional products and sell it online. For some of them the most useful training was about using excel program for simply monitoring and management their monthly costs. The most important fact is that five women from Trstenik found a job after this educational training and started developing their professional careers. This project is related to **SDG 4 and SDG 5**.

In **Spain**, **Pictogram** is platform based on cloud computing made up by three main pieces of software: Pictogram Communicator, Pictogram Web and Pictogram Analytics. Pictogram Communicator is an augmentative communication device (AAD) based on pictograms. It is designed according to the latest scientific findings in the field: functional and user-specific vocabulary support, motor planning, reactive data entry or language acquisition monitoring. This is especially useful to encourage incidental language learning, observing how other people communicate with us, who act as models. This project is related to **SDG 4 and SDG 9**.

Action Line 9

In **Austria**, the **My Technology** platform, launched on 10 April 2015, is an unparalleled attempt to display the wide range of opportunities on-line, in an eye-catching and organized way. As such, it runs the gamut, from workshops, excursions and competitions to information centres, mentoring programmes, career days, teaching and training materials, handbooks, awards and training opportunities. Providing topical and updated information, it draws attention to women's and girls' potentials for jobs in professions related to MINT subjects (mathematics, information science, natural science, and technology) connects relevant actors in this field. As such, it is *the* tool to consult to be kept up-to-date on everything happening in MINT subjects. The project is relevant to **SDG 4 and SDG 5.**

In **Austria**, **MediaLaws** Database hosts the International Press Institute's work on legal reform. As the global network of publishers, editors and leading journalists for press freedom, International Press Institute is using its voice to ensure that legal provisions affecting the media meet international standards and are not abused to limit the media's right to report on matters of public interest. The use of laws related to defamation, official secrets, counterterrorism and cybercrime, among others, beyond their legitimate purpose severely threatens the free flow of information and the ability of citizens to hold those in power accountable. Work so far under this programme has focused primarily on defamation laws in Europe and the Caribbean. The project is relevant to **SDG 16.**

In **France**, the **Platform for the Protection of Journalism and Safety of Journalists** is a public space to facilitate the compilation, processing and dissemination of information on serious concerns about media freedom and safety of journalists in Council of Europe member States, as guaranteed by Article 10 of the European Convention on Human Rights. It aims to improve the protection of journalists, better address threats and violence against media professionals and foster early warning mechanisms and response capacity within the Council of Europe. The Platform enables the Council of Europe bodies and institutions to be alerted on time, in a more systematic way and to take timely and coordinated action when necessary. It helps the Organization identify trends and propose adequate policy responses in the field of media freedom. The project is relevant to **SDG 3** and **SDG 16**.

In **France**, in 2018 **EBU** decided to create a regular monthly podcast on technological accessibility innovations and products. While not in itself a 'product', the podcast is the first of its kind entirely by and for visually impaired individuals, which specifically deals with assistive technology. The aim is to create a modern, lively tool which can reach a wide audience and speak about new technologies in a language which blind and partially sighted people can immediately understand, as it deals with issues which directly concern this community. 5please note the entry form guidelines state 'Up to five high-resolution pictures of the solution' whereas five are in fact rendered obligatory by the form). The podcast not only highlights new innovations and advances, but also tests the limits of existing products, where possible providing hints and solutions to difficulties encountered. It fosters a spirit of community and involvement, thus reducing isolation. By its international nature it widens the scope of products and solutions which are on the market, helps visually impaired users avoid pitfalls and share the tips and innovations they gain within their own communities. It is therefore both a tool for empowerment and knowledge, which can be adapted and updated to the constantly changing needs of the marketplace. We also hope, through this podcast, to reach out to younger members of the visually impaired community who will be future leaders and role-models, and also show that this community is capable of harnessing new communications tools and using them to their own advantage. This project is related to **SDG 4, SDG 9, and SDG 16**.

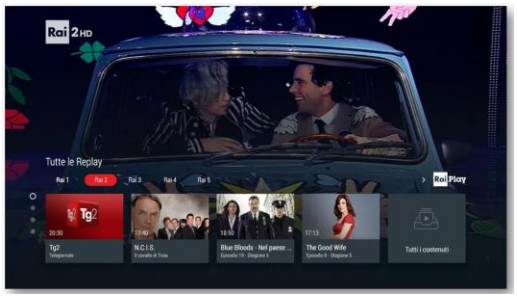
In **Hungary**, the Internet Hotline is a legal advisory service. It helps to quickly remove illegal content found on the Web, based on reports. It aims to ensure that children are exposed to as little harmful content as possible on the Internet. Cooperation is therefore ensured with the police and international partners. The hotline service was launched in 2005 in Hungary and has been operated by the legal authority since 2011. Similar hotlines are available all over the world, managed by state actors or NGOs. Certain countries may have more than one in operation at any given time. In the fight against illegal online content, the Hotline works closely and effectively with the Hungarian Police and the Anti-Cybercrime Department of the National Bureau of Investigation. Since 2012, we have also worked with the International Association of Internet Hotlines, the organization against the online sexual exploitation of children. We also have a working relationship with social media operators, for example employees responsible for regulation at Facebook and Google. The project is relevant to **SDG 3**.

In **Israel**, the users use an app downloaded from app store. The system includes a Nuc computer installed in the venue together with a wifi network Please meet **GalaPro**, a ground-breaking startup for the entertainment industry. Using advanced sound and speech recognition, GalaPro breaks down language and accessibility limitation for any show, movie, or lecture, immediately and conveniently. GalaPro does this by providing fully-synchronized in-show services including subtitles, dubbing, closed-captioning, audio description and amplification, all directly to the viewer's mobile device via a free app designed specifically to provide a seamless experience in a live environment. GalaPro has now completed its first objective, proving its technological capabilities and business case in the most difficult of markets, New York's Broadway theater district. This project is related to **SDG 9 and SDG 16**.

GALA PRO
Your Theater Connection

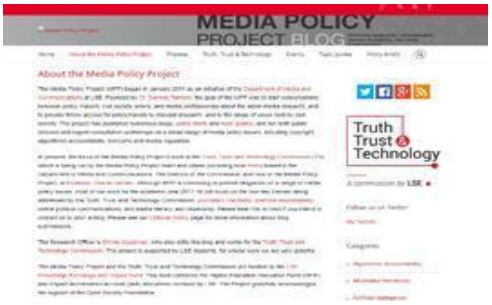
In **Italy**, the **Centre for Media Pluralism and Media Freedom** is a research and training hub that aims to develop innovative and relevant lines of research on media freedom and pluralism in Europe and beyond, and to pro-vide knowledge support to the international, European and national policy and rulemaking processes. It is directed by Pier Luigi Parcu and co-financed by the European Union. The Media Pluralism Monitor report 2017 findings show either general stagnation or deterioration in all of the four major areas encompassed by the MPM: basic protection, market plurality, political independence and social inclusiveness. The MPM 2017 has also confirmed the findings of the previous four rounds of monitoring – showing that no country analysed is free from risks to media pluralism. The project is relevant to **SDG 3** and **SDG 4.**

In **Italy**, the **Stretch TV** project improves the usability comprehensibility of television programs, slowing them down so as to present them at the optimal speed for the elderly and for those who suffer from sensory and cognitive disabilities. Reviewing a slowed television program can allow many people to enjoy it optimally, better understanding of the content and eliminating the frustration that stems from the fact not fully grasp what is being said. The slowdown is made so as to guarantee the intelligibility, timbre of the voice and quality of speech, maintaining synchronization with the video signal of the television program. Since the intelligibility of a program is extremely subjective, the viewer is offered the choice between different percentages of slowdown. Stretch TV is a service offered by Rai on its RaiPlay video on demand platform applied to TV newscasts. To access this service you need a SmartTV – HbbTV (Hybrid Broadcast Broadband Television) connected to Internet. The viewer can slow down the viewing of television content via a remote-control button. Another application of Stretch TV regards the foreign languages in the educational field, fostering a better understanding of foreign languages and their learning. Listening to a film in a foreign language known, in slow motion, significantly increases the understanding of the dialogues and the history represented. This project is related to **SDG 3, SDG 4, and SDG 11**.



In **Tukey**, **Equal Dictionary** is not a campaign but rather aims to create a sustainable “solution” to tackle the use of gender discriminatory language and celebrate International Women’s Day. In the current digital era and with the extensive use of social media, communication has become more written and less verbal than ever in history. The creative core of our idea stemmed from the fact that messages and social content are shared among hundreds of people on social media and WhatsApp groups, while the impact of our face-to-face verbal communication is still very limited In order to reduce the frequency and amount of gender discriminatory language, (to minimize the cultural acceptance of sexual discrimination) we decided to apply the Poka Yoke technique, which means tackling the problem at its source: on the keyboards of our mobile devices and PCs. The project is relevant to **SDG 5**.

In the **United Kingdom**, **the Media Policy Project** began in January 2011 as an initiative of the Department of Media and Communications at the London School of Economics. Founded by Dr. Damian Tambini, the goal of the Media Policy Project was to start con-versations between policy makers, civil society actors and media professionals about the latest media research, and to provide timely access for policymakers to relevant research and the range of views held by civil society. The project has published numerous blogs, policy briefs and topic guides, and run both public lectures and expert consultation workshops on a broad range of media policy issues, including copyright, algorithmic accountability, telecoms and media regulation. The project is relevant to **SDG 3** and **SDG 16**.



In the **United Kingdom**, **Index on Censorship** is a non-profit that defends and campaigns for free expression worldwide. We publish work by censored writers and artists, promote debate, and monitor threats to free speech. We believe that everyone should be free to express themselves without fear of harm or persecution – no matter what their views. The Index’s aim is to raise awareness about threats to free expression and the value of free speech as the first step to tackling censorship. The Index uses a mixture of research, reporting, direct advocacy and media campaigning to achieve our goals. The project is relevant to **SDG 3** and **SDG 16**.

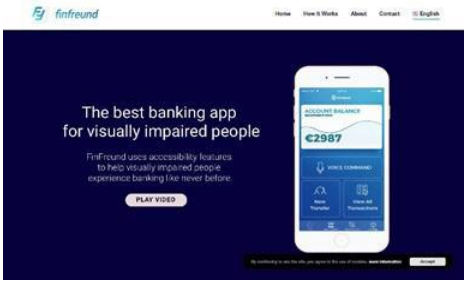
In **United Kingdom**, **VR therapies** is an innovative and new social enterprise, created for kids with special-needs & adults with disabilities. Through the magic of VR, I get to take those too poorly to walk swimming with dolphins, children undergoing chemotherapy to explore space… Sharing these experiences with them as a Nurse has been amazing. Therapeutic VR is the use of virtual reality technology for psychological and/or physical therapy. Those receiving VR therapy navigate through different environments, which can be anything from the middle of the ocean, to different galaxies. It is only limited by our imagination. This should be available to everyone – not just those already in the hospital, rich, or physically-able.. but those who would benefit most, yet currently are the least likely to access it. This project is related to **SDG 9 and SDG 16**.

Action Line 10

In **France**, **"Digital Ladies & Allies"** aims to promote diversity in tech by increasing the number and the visibility of women in this industry, from their early age, through multiple initiatives in France and abroad. Thanks to the collective power of influence of the members, our ambition is to drive change towards a more inclusive tech industry with a positive impact for humanity and our future. We have compiled proposals and best practices from more than 150 tech experts to reduce inequalities and increase number and visibility for women in tech launched last 06 March

with the French government. We have set up a network with many associations working in common areas This project is related to **SDG 4, SDG 5, and SDG 16**.

In **Germany**, **FinFreud** is the first banking application for the blind and visually impaired. FinFreund is perfect for visually impaired users as it combines all accessibility features of the operating system with state-of-the-art AI, computer vision and voice controls, including IBM Watson's cognitive capabilities. FinFreund was initiated after winning the 2016 IBM Fintech Hackathon in Frankfurt and is seeking to revolutionize banking for the visually impaired with smart bill payments, AI concierge and other features. FinFreund brings together more than 3100 banks and financial sources in the application with the goal of positioning itself as the number one banking application for the visually impaired and blind, worldwide, so as to put an end to inequality in the mobile banking world. The project is relevant to **SDG 8 and SDG 10.**



In **Greece**, **TrollBusters** was launched in August 2015 as a result of several high-profile attacks against female writers and journalists in relation to the Gamergate controversy and other issues. The initiative has raised awareness and prompted action on the issue at prominent education/training events, such as in the context of the Online News Association, United Nations, Newsgeist, News Impact Summit, Society for Professional Journalists and other organizations, having an impact on hundreds of female and male journalists. Through its reporting tool, TrollBusters has reached hundreds of journalists with rescue services and education. Its methodology of using positive messaging is an innovative approach to addressing the phenomena of trolls and online harassment. It provides support to targets of online harassment, helping them to persist online and keep their voices strong. The project is relevant to **SDG 3 and SDG 16**.

In **Norway**, Oslo Metropolitan University (OsloMet) is Norway's third largest university and is unique in a national context due to its wide range of professional programs and a strong focus on social welfare and value creation in Norway and Europe. **OsloMet** is already a leading institution in areas such as health, welfare, education, youth, and unemployment. In its overarching research strategy, OsloMet highlights both interdisciplinary, regional and international cooperation. The university creates value for society by developing knowledge that contributes to improved social welfare. This research provides insights into the activities, frameworks, and conditions of sectors and occupational fields in a society that is continually changing. The Faculty of Technology, Art and Design conducts research in a number of areas that are closely related to universal design and sustainable development. These programs qualify graduates for work in multi-professional teams as innovators and entrepreneurs that can develop technology that is sustainable and socially responsible. The Faculty offers a Master program in Universal Design of information and communications technology as well as a Ph.D. program in Digital Engineering. The Faculty works in close collaboration with the public and private sector, including Norwegian regional governments, business and industry and national and international research institutions, to support the implementation of universal design of ICT law, policy, and practice. The research that forms the basis of this nomination emerged from a Master thesis project led by Rannveig A. Skjerve. As a research project, the principal audience is academics and academic institutions. However, as an action research project, Skjerve's results provide a unique opportunity to inform both public policy and ICT industry practices. For example, Skjerve has made a substantive contribution to the EQUALS inaugural report titled "Taking stock: Data and evidence on gender equality in digital access, skills and leadership". This project is related to **SDG 5, SDG 9, and SDG 16**.

OSLOMET

In **Sweden**, **Reach for Change Foundation** is a children's rights non-profit organization, headquartered in Sweden, with the mission to unleash the power of social entrepreneurship to create a world where all children reach their full potential in accordance with Agenda 2030. We do this by identifying promising local social entrepreneurs with social innovations operating from a child's rights perspective and targeting at least one of the Sustainable Development Goals (SDG). We develop the capacity of these social entrepreneurs, in 18 different countries across the globe, to scale solutions to improve the living conditions and outcomes of children and youth. Our programs (e.g. incubators and accelerators) support to develop and scale local innovators and their innovations through the design thinking process of identifying needs, testing the innovation, capacity-building, network connections and seed funding. In 2018, we supported 156 social entrepreneurs globally, 68% of which scaled their impact that year to reach more youth and children. Through activities of the social entrepreneurs, they reached a total of 341,620 children and youth with 66% of those innovations being led by female entrepreneurs. In 2018, we initiated a thematic program called BRIDGIT (Bridging the Digital Divide), which arose as a result of particular challenges our female social tech entrepreneurs were facing. All of the women in this program have tech solutions for solving a pressing issue for children or youth, and/or are encouraging more young girls to join a path towards a STEM career. These entrepreneurs, more so than the others in our portfolio struggle for financial sustainability and scaling. The BRIDGIT program is a way to further develop these innovations and female innovators to gain further traction towards impact This project is related to **SDG 1, SDG 5, SDG 8, and SDG 16**.

In the **United Kingdom**, the **Revenge Porn Helpline** was established by the South West Grid for Learning (SWGfL) Trust in 2015 and has already managed over 12 000 calls from victims. SWGfL was instrumental in supporting the introduction of new laws in 2015 to make it an offence to post personal intimate images of another person without consent. To support victims, it established the hugely successful helpline for victims of revenge porn, who are primarily women. It is clear from victims who have contacted the helpline that their sense of helplessness is totally overwhelming. The online helpline provides valuable and much-needed practical help in identifying and removing images from internet. The project is relevant to **SDG 11 and SDG 16**.

In **United Kingdom**, online gender based abuse is a huge barrier that prevents women from participating fully in public life. **Glitch** was founded in 2017 by Seyi Akiwowo, after she faced horrendous online abuse when a video of her speech at the European Parliament went viral. Glitch wants to see an increase in digital citizenship for all, across all online platforms and to instil the beliefs: that our online community is as real as our offline one and we should all be working together to make it a better place. Glitch believe that online abuse, in all its forms, is a vehicle to divide society and spread fear. This is why Glitch believes it's crucial that we work together to fix the glitch and eradicate online abuse. All work is upheld by three pillars: 1) Raising awareness, through campaigning and providing free information and resources, Gitch raise;s awareness of the scope of online abuse and its negative impact on individuals and society, particularly marginalised communities, and of how we can all help fix the glitch. 2) Advocacy work with social media companies on how to make their online platforms safer and to decision makers to ensure that rights are protected and access to justice is equal. Glitch has been praised in UK parliament twice and in 2018 and 2019 were invited by the UN Human Rights Council to advocate on behalf of those who have experienced online abuse, showcase our solutions and put pressure on governments to take action. 3) Action, Glitch's programmatic work consists of Digital Citizenship Workshop and Digital Resilience Training. In just two years supporters like you have enabled Glitch to deliver Digital Citizenship Workshops. In one of these, 86% of the young people surveyed said they would behave differently online as a result of the information they learned from us. Glitch also delivers Digital Resilience training. These are tailored for one-to-one consultations and group workshops for women in all forms of public life. This project is related to **SDG 5**.

Action Line 11

In **Belgium**, **The DiversIT Charter** is a roadmap and structured programme of activities that IT Associations, Companies, Educational Establishments and other bodies (hereafter called 'organisations') can take to establish a supporting environment for Women in IT professions. The activities are in three main stages (Bronze, Silver and Gold) with themes of activity at each stage. Signatories to the charter commit to engage in with the charter and undertake the activities of each stage in order to progress their work on gender diversity in IT. The successive steps or stages

are outlined within the DiversIT Charter supporting documentation and progressively allow organisations to build support for attracting and retaining women working in technology roles. The key themes are: •Creating a women's group •Activity in support of Women Organisation •Actions to increase the number of female role models •Monitoring Activities for insight •Working Links to other associations groups and Academia •Activities to increase the numbers of girls / young women in technology •KPIs to drive activity. The concept allows for best practice to flow from countries where there is currently much activity for attracting and retaining women in IT to those countries where less has been done to date. This project is related to **SDG 5**.

CEPIS CELEBRATING 30 YEARS

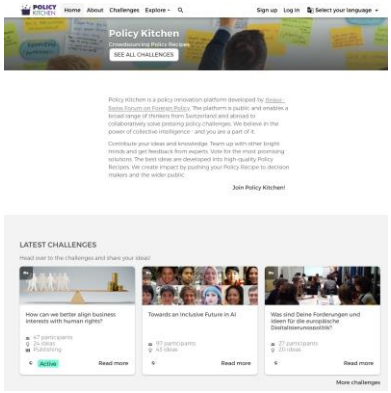
In **Finland**, **Slush** established Carbon Offsetting Partnership. Slush is a dynamic event that brings together 17 500 attendees, including over 2 000 start-ups from 124 countries. Slush Global Impact Accelerator is a programme created in collaboration with Finland's Ministry of Foreign Affairs and other multiple global partners. It supports impact start-ups and showcases exciting business opportunities in emerging markets, which are vital for implementing the 2030 Agenda for Sustainable Development and solving complex challenge. At Slush, the teams will be seeking partnerships, funding and perhaps even buyers for their enterprises. They will also pitch to a panel of judges and an audience of regional and global leaders in tech and business. This year, Slush is partnering with Fortum and CHOOOSE to offset the equivalent not only of the organization's carbon footprint, but also that of its 20 000 attendees' flights, food and hotel stays for the time of the event. The equivalent of 10 000 tons of carbon offsets will be made possible by Fortum, and powered by CHOOOSE, by investing in a thin film solar power project in Gujarat, India. This Golden Standard carbon offset project services the grid in an area mostly covered by a coal power plant, meaning the solar power provided can partially replace coal power in the area. The Slush–Fortum contribution is directly financing the operations of the power plant for half a year. The project is relevant to **SDG 13**.

In **Ireland**, Founded in 2002, **IST-Africa** focuses on strengthening ministry policy and strategy capacity as it relates to Innovation, Science and Technology, supporting a research culture in universities focused on addressing societal challenges at national and regional level, and encouraging public and education and research sector organizations to host Innovation Spaces to support entrepreneurship (including social entrepreneurship).. IST-Africa has helped African universities secure over €200 million in research funding over the last ten years. Supported by European Commission and African Union Commission, IST-Africa is a member of UN Sustainable Development Solutions Network and recognized by ITU as a WSIS 2018 Prizes Champion. This project is related to **SDG 1, SDG 2, SDG 3, SDG 4, SDG 5, SDG 6, SDG 7, SDG 8, SDG 9, SDG 10, SDG 11, SDG 16, and SDG 17**.

In **Spain**, **"Innovactoras"** started as a social responsibility project of Happeninn. Today it is a platform of women innovators from different disciplines of the 21st century. Science, Technology, Business, Education and Society, just to name a few. 51 North and South references (16 countries) are already inspiring innovation around the SDG objectives. Organizations have also started inspiring for example women in STEM careers, to encourage innovation in their environments. Innovactora connects, promotes and supports women innovators. Prizes are awarded to a young Innovactora every year. By the end of 2020 there will be 100 inspiring Innovactoras in 25 countries. Innovactora is sustainable with public private fonds This project is related to **SDG 4, SDG 5, and SDG 16**.

In **Switzerland**, **Policy Kitchen** is a policy crowdsourcing methodology developed by Foraus – Swiss Forum on Foreign Policy. It enables a diverse network of thinkers to co-create policy recipes to pressing global challenges. The methodology is built on a crowd innovation platform, physical workshops, and a support process to bring the best recipes to impact. Policy Kitchen is public and allows for bottom-up participation in the political process. Any person, irrespective of background or location, can participate and contribute ideas. To ensure a high level of expertise, we partner with experts and professionals of various sectors (science, government, international organizations, NPO, business, etc). Collaborations with the Open Think Tank Network and other partners allow us to scale participation internationally. In just 1 year, it has generated 10 challenges, hosted 30 workshops, counted with more than 550 participants and produced 180 ideas to tackle issues such as Inclusion in Artificial Intelligence, Biodiversity loss, alignment

between Business and Human Rights and more. The code for Policy Kitchen is made available as open-source software. We encourage and support other actors in using participative methods in their respective domains. Contact us, we are happy to help. This project is related to **SDG 16 and SDG 17**.



In **Switzerland**, **UNJSPF** has taken the leap into emerging technologies to streamline service delivery to clients, the 205,000 retired UN staff around the globe. Spearheaded by Dino Cataldo Dell'Accio, CIO, UNJSPF, this is part of the Fund's journey towards digital transformation, leveraging technology to update manual processes and streamline systems. The Fund's Certificate of Entitlement (CE) certifies that retiree beneficiaries are who they say they are, are still living, and still reside at their registered locations. This has been a cumbersome and manual process that has been prone to error. The Fund together with the UN International Computing Centre, with the partnership of Hyperledger open source blockchain solutions, has created a solution to automate and make immutable the CE process with blockchain, biometrics and a mobile app. The project team created and completed a Proof of Concept prototype demonstrating technology applied to overcome issues with the CE without introducing risks to hamper the flow of entitlements. The pilot was a success and approved at the Annual UNJSPF Board Meeting. Now the Fund is beginning to implement the solution, first with food Agencies in Rome, including WFP, IFAD and FAO, attesting to the cost savings and process streamlining with these innovative digital solutions. This project is related to **SDG 8, SDG 9, SDG 12, and SDG 13**.

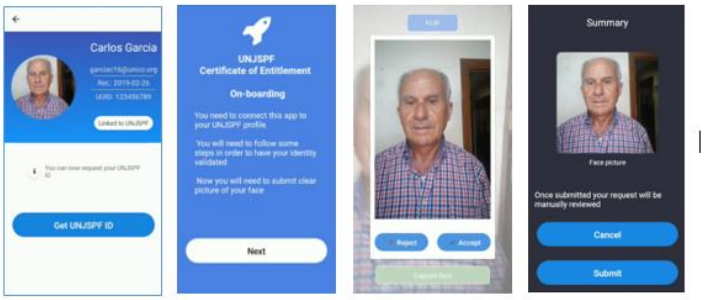


Photo: ICC

In **Switzerland**, given the scale at which Automated Decision-Making (ADM) systems are being deployed Affirmative Action for Algorithms (A+) is needed in order to correct real life bias and barriers that prevent women from achieving full participation and rights in the present, and in the future we invent. The **A+ Alliance** is comprised of concerned technology leaders, government agencies, nonprofits, and academics committed to gender equality in ADM. This global movement has thus far developed: resources and algorithms for the public and private sector to use to ensure gender equality in ADM; resource library including a first of its kind report focused on gender, AI and ADM; free resources and algorithms for individuals and organisations to use to support gender equality in ADM; and a website and global media campaign. The A+ Alliance focuses on awareness raising and advocacy for algorithm accountability in framework discussions being held multilaterally and implementing low-cost targeted pilots across geographies on the municipal level. The pilots use cutting edge technology to create algorithmic interventions to solve real world problems with technology, not only check for bias and are tailored to women and girls and the acute and diverse threats they face. This project is related to **SDG 1, SDG 2, SDG 3, SDG 4, SDG 5, SDG 6, SDG 7, SDG 8, SDG 9, SDG 10, SDG 11, SDG 12, SDG 13, SDG 14, SDG 15, SDG 16, and SDG 17**.

Conclusion

The International Telecommunication Union (ITU) remains committed to the World Summit on the Information Society (WSIS) process, and to implementation of the WSIS goals beyond 2020. ITU recognizes and highly appreciates the extremely valuable contributions made by stakeholders to enable the continuation of WSIS monitoring and reporting. There can be no doubt whatsoever that, in today's fast-moving world, innovation and efficiency are vital to success. Accordingly, the WSIS Stocktaking Report in the Europe Region 2019-2020 shares with you the most recent updates and success stories in the WSIS stocktaking process of this region.

The WSIS Stocktaking Platform continues to foster implementation of the WSIS outcomes and to facilitate exchange of information among 300,000 members representing governments, the private sector, international organizations, civil society and other stakeholders. As the Web platform continues to flourish, so does the promotion of social development and economic growth through ICTs. We continue to maintain and improve the WSIS Stocktaking Database, which contains around 13,000 entries this year. This encouraging outcome reinforces stakeholders' belief in and commitment to the WSIS Stocktaking process and their desire to share best practices.

In addition, the WSIS Overall Review called for close alignment between the WSIS process and the 2030 Agenda for Sustainable Development, highlighting the crosscutting contribution of ICTs to the SDGs. In this context too, WSIS Stocktaking is evolving to become the unique global process for the collection of information on actions carried out within the framework of WSIS, while underlining their contribution to implementation of the 2030 Agenda for Sustainable Development.

We are also pleased to announce the recent launch of a new and innovative interface, which will make it easier to search all WSIS-related activities. All stakeholders benefit from the sharing of interesting case studies, as this undoubtedly facilitates the transfer of knowledge, experiences and models for project implementation. The WSIS platform helps to create partnerships, provide greater visibility and add value to ICT projects all around the world. The many and varied stakeholders who have implemented innovative projects and contributed to the success of the WSIS Stocktaking process deserve our sincere gratitude.

Secretary-General of ITU launched a new Call for Submissions for the WSIS Stocktaking 2021, inviting all stakeholders to contribute to the WSIS Stocktaking process undertaken in support of the WSIS Implementation and Follow-up.

We are pleased to invite you to update and submit new entries online at the WSIS Stocktaking page https://www.itu.int/net4/wsis/stocktaking/Project/Projects/Submit.

Submitted activities will be reflected in the **WSIS Stocktaking Report 2021**, which will be released at the WSIS Forum 2021. We look forward to receiving your responses by **25 January 2021**.