

(eng)aging!

VIRTUAL CONFERENCE

FEBRUARY 10-11, 2021

CONFERENCE REPORT

ORGANIZED BY

keynote



CONTENTS

<u>INTRODUCTION CEREMONY</u>	3
<u>KEYNOTE LECTURES</u>	3
<u>DIGITAL REVOLUTION IN HEALTH CARE</u>	6
<u>INTERVIEW WITH JAROSLAV LORMAN</u>	8
<u>LONGEVITY RESEARCH</u>	8
<u>PERCEPTION AND DIGITAL SKILLS</u>	9
<u>SOCIAL ISOLATION AND ROLE OF ICT</u>	10
<u>TECHNOLOGICAL SESSIONS</u>	12
<u>DIGITALISATION AND AGING WORKFORCE: CASE STUDY OF ITALY</u>	15
<u>KEYNOTE SPEAKERS</u>	16
<u>CONFERENCE FACT SHEET</u>	17
<u>PARTNERS</u>	18

The 4th international conference was organized in the frame of the long-term (eng)aging! project, which aims to foster society-wide debate about the accelerating demographic change and population aging. The project aims to stimulate a constructive discussion about these trends and to look for ways to make use of them for the benefit of the society.

The project was co-financed by the Governments of Czechia, Hungary, Poland, and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.

INTRODUCTION CEREMONY

Jana Maláčová, Minister of Labour and Social Affairs of the Czech Republic greeted the audience and shared her thoughts of being honoured that the conference was organized under her auspices. She held the view that seniors need digital technology and the Coronavirus crisis showed how useful it can be. Maláčová also emphasized that “Nowadays, technology helps not only in making purchases or organizing care services but above all it protects us from loneliness”. She stressed the importance of assisting the seniors’ education and pointed out how the Ministry of Labour and Social Affairs is helping with it.

Martin Špáta, the coordinator of (eng)aging conference explained that the 4th Conference on Population Aging focused on how people can benefit from modern technologies. This program of two days had 26 sessions and more than 50 speakers.



KEYNOTE LECTURES

COVID-19, OLDER PEOPLE AND THE ROLE OF TECHNOLOGY

Alexandre Sidorenko opened the session and approved the topic of this year’s conference which is technologies for active and independent people in older age. Sidorenko mentioned the United Nations headquarters in New York City and the Commission for Social development that began its work. The priority theme of this year was the role of digital technologies on the social development and the well-being of all.

Rosette Farrugia-Bonello shared the view that nowadays the world has experienced the role of technology in our lives. She adopted the stance that “Social isolation is a major risk factor for older persons”. The situation with the COVID-19 pushed governments to implement restrictions

and encouraged older people to stay at home, however, the measures made it very difficult for them to access health care. In her presentation, she emphasized the influence of pandemic on older adults: continuous fears about their health, anxiety over the constant news cycle, fears about not being able to meet their basic needs and social isolation. Farrugia-Bonello pinpointed the key idea that “Technology is allowing everyone to be served” and it is a powerful tool during the COVID-19. Nevertheless, the risks of technology as online abuse of older people were highlighted. Farrugia-Bonello pointed out the problem of scams, frauds, for instance, when older adults are suggested with the fake COVID-19 testing. She stated that the research still should be ongoing to stop online abuse. Rosette Farrugia-Bonello raised a question of the means to access or afford the necessary IT equipment for older people and the difficulties with utilizing it. This pandemic increased awareness of the benefits of technologies and likewise “made “agism more visible”. Rosette Farrugia-Bonello concluded the presentation that digital technologies can create a more inclusive, equitable, resilient and sustainable society, where technology is a right for all - including older people.



THE PROMISE AND LIMITS OF TECHNOLOGY TO PROMOTE SUCCESSFUL LONGEVITY

Neil Charness presented his research that was focused on human factors, approached age and technology use, and the promise/limits of technology to promote successful longevity. He stated that “We are in the midst of two striking trends: widespread population aging and rapid diffusion of technology”. Charness observed a PRAS framework for

improving person-environment fit: prevent impairments, rehabilitate - train people, augment - support a failing function, substitute - replace a failed function. He mentioned also a crucial note that older adults are 8 times more likely to die if they are involved in a car crash, because of changing of the body structure, etc. The researcher claimed that “even if technology can help, people must be willing to adhere to using it”. To summarise the main points Charness added that technology products hold considerable promise for rehabilitating, augmenting and substituting for age-related negative changes.

DIGITAL COACHES AND BLENDED CARE: A COLLABORATIVE APPROACH TO HEALTHY AGING

In his presentation, **Martijn Vastenburg** discussed with **Miroslav Palát** a collaborative approach to healthy aging. Vastenburg demonstrated a project “FoodCoach” which is helping seniors to improve their nutritious behaviour. He explained that seniors are having difficulties with decreased appetite and insufficient food intake. Vastenburg shared the solutions that were being developed to improve the quality of life of older adults, however, nutritional professionals have a limited time to monitor what is happening with the patient, especially when they are working with them on distance. Nevertheless, digital coaches aim to support the process of motivating and guiding patients towards behavior goals. Vastenburg showed how digital robot companions and frail seniors look after each other, accordingly, the behavior of the seniors affects the mood of the robot and older adults were trying to keep the robot happy. The lesson learned by Vastenburg and his team was that: “We need to segment the patients; some patients are open to using technologies, we should start with those who are open and then to find a solution for the others”. The researchers were trying to predict what is significant for seniors, especially those who are not willing to use the technologies. The final remarks were that the goal of the project is “Not to make the robot as smart as possible, but to use the smartness of the people involved” as per the comments of Martijn Vastenburg.

PREVENTIVE MEDICINE IN AN AGING SOCIETY: BEYOND HEALTHCARE TO HEALTH

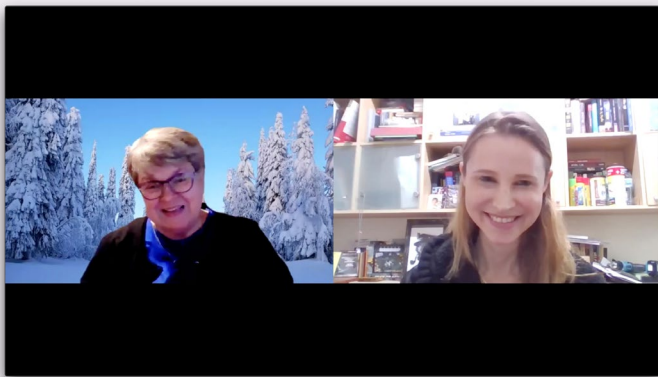
Professor **Brian Kennedy** described his internationally recognized research in the basic biology of aging, where he as a visionary was committed to translating research discoveries into new ways of delaying, detecting, preventing and treating human ageing and associated diseases. He suggested that researchers right now are focused on sick care: “We treat diseases as they are all different, to treat people differently”. Kennedy pointed out that the main goal of the recent research was not only to try to cure the disease

but to target aging for the means to prevent it. As a result, it will have a much bigger impact on health care. Professor put forward the idea that biomarkers of ageing include personal demographics, DNA methylation age, nutritional assessment, arterial stiffness, metabolites, facial biological age, body composition scan, cardiorespiratory fitness and inflammatory markers. All of these points according to Brian Kennedy “Make us understand biological aging”.

ERGONOMIC PRODUCTS DESIGN TO INCREASE ACCESSIBILITY FOR OLDER PEOPLE: JAPANESE EXPERIENCES AND INTERNATIONAL STANDARDISATION



In his presentation, **Ken Sagawa** focused on the inconveniences of older people in the use of everyday products. He presented the research that introduced the accessible design - a concept for increasing users of products. Sagawa shared the design conception based on diverse users to maximize the numbers of potential users who can readily use a system. The researcher came up with the solution that this accessible design can be implemented through visual, auditory tactile information, for instance, a shampoo bottle with tactile marking, manometer with sounds, ATM with voice guidance, a thermometer and call bell with vibration, TV with voice and captions and many others. Sagawa suggested as well the second method which is the accommodation to diverse human characteristics and abilities. The researcher insisted on the need for standards for its promotion: to provide common basic technology for industry, to avoid confusion of vulnerable users, to distribute public solutions. The structure should be developed to build an excessive design: individual sector standards, basic ergonomics, technical and general guidelines. **Ken Sagawa** gave a summary that “Standardization is an effective way for promoting accessible design in industrial fields”. Furthermore, human data is necessary to accommodate products to diverse human abilities and make the lives of older adults easier.



TECHNOLOGY LANDSCAPE AND OPPORTUNITIES: START-UP EXPERIENCE FROM TAIWAN

Yeh-Liang Hsu, professor at Yuan Ze University, Taiwan, where he is a Head of the Mechanical Engineering Department, Secretary-General, and Dean of Academic Affairs, started the next keynote session. He explained that Taiwan became an aged society in 2018 and was expected to become a super-aged society by 2025. The strategy of his research was to use technology to support caregivers, reduce their care burden, improve the quality of care, and provide the economic drive to society and industry. The professor stressed that the purpose is to design technology and environment for independent living and social participation of older persons in good health, comfort and safety. Yeh-Liang Hsu continued by sharing what exactly do people do in gerontechnology: monitoring vital signals/behaviour patterns, creating technology assistance for everyday life for older adults and caregivers, as well as platforms for social communication/participation and technology interventions for enhancing physical and cognitive ability. The professor summarised that “Design is our common language”.

“MY HOME IS SMARTER THAN YOUR HOME” - SMART HOMES AND AGING IN PLACE

The last presentation of the conference was held by **Yael Benvenisti**, who is CEO of Mediterranean Towers Ventures, a corporate venture capital that invests in technologies and services companies developing disruptive solutions for aging – the fastest growing population segment around the world. She described that “There is a lack of knowledge with the older adults because they do not know what is out there, however, it is our mission to show them”. Doctor Benvenisti presented the Smart home technology for the elderly, which is a living environment integrated with sensors. The goal of it was to give the older people retain control in their environment, “Knowing that if something goes wrong or they will need help, this help will arrive on time”. The idea of the smart home is to connect smart home devices and then to allow one to use voice commands to do things. Examples are the command such as: turn on/off lights, monitor cameras, unlock the front door, activate robot vacuum cleaner/washing machine, use the digital assistant to listen to music/ search for the news/ set reminders, etc. Doctor Benvenisti shared the plans to develop the next generation of devices that will control one’s health as the telehealth and remote clinical services of healthcare delivery.

DIGITAL REVOLUTION IN HEALTH CARE

FORGOING OF HEALTH SERVICES AMONG ADULTS DURING A CORONAVIRUS LOCKDOWN: IMPLICATIONS OF NEW CONSUMPTION AND TECHNOLOGY-USE PATTERNS

Aviad Tur-Sinai investigated several questions related to this research during his session. First, what healthcare services covered by National Health Insurance, if any, did the public choose to forgo due to the spread of COVID-19? Second, what factors explain the use of traditional and online healthcare services as against forgoing these services in the course of a medical emergency? Third and foremost, what connection is there between forgoing these healthcare services and socio-demographic and socioeconomic characteristics, health status, exposure to COVID-19, and perceived risk of developing the illness? As a result, Tur-Sinai discovered that older people had a lower possibility of having consumption of healthcare services in various ways during the lockdown period. On average, one of every two people who needed to consume at least one healthcare service during the lockdown period decided to forgo it. Among those who did not forgo, some ordinarily consumed the medical service and others did so in virtual ways. The recommendations provided by the professor included the idea that "The system should deploy for simple, efficient, and rapid delivery of basic healthcare services in virtual ways", additionally specific groups such as elders, the religious, and people afraid of COVID-19 infection should receive education and encouragement in using these methods.



IMPLEMENTATION OF TELEMEDICINE IN POLAND: CRITICAL STUDY AND EXAMPLES OF GOOD PRACTICE

Kaja Zapedowska-Kling discussed the importance of critical evaluation of the ongoing process of implementing telemedicine services in Poland. The assistant professor represented a part of a wider research project on "Application of New Technologies in Social Policies" in Poland and focused solely on public health. Zapedowska-Kling pinpointed that 80 percent of the society in Poland is ready to use telemedicine and "it is a huge improvement". However, there are several difficulties such as insufficient PR - insufficient promotions and measured legislation "which is always slower than technological advancement" as she mentioned, even though laws should somehow act in advance and solve the problems. Zapedowska-Kling talked also about the positive sides of telemedicine that helps to reduce high costs of healthcare systems and has a final goal to increase the quality of life and well-being of individuals and societies. As the assistant professor argued about the teleservices "it is not there to spy on us, but to help us". Zapedowska-Kling believed that the demand for healthcare services will grow and the development of new technologies will proceed, which will be concluded in a benefit for elders, less emergency/hospital visits and also reduced costs for the travel expenses.



FUTURE OF TELEMEDICINE IN VISEGRAD COUNTRIES

The discussion aimed to take advantage of recent unfortunate experiences with the virus, discuss the process of implementing telemedicine in healthcare in Visegrad countries, and share experience and good practices in this field. Regarding this topic, **Michał Czarnuch** took a stance that the law is extremely slow. He has been working actively to develop the telemedicine sector in Poland as one of the founders of the Telemedicine Working Group Foundation. Czarnuch suggested that the main goal should be to introduce the law regarding the changes and telemedicine, because as he thought the huge uptake of telemedicine showed all the problems Poland had with data, privacy and access to the information. He explained that the main reason for problems that arose was the absence of individual patients accounts in Poland.

Veronika Bulková introduced the International Centre for Telemedicine which is focused on cardiology issues for more than 15 years. The organization's team was searching for ways how to optimize the issues of telemedicine, as, for instance, the order is sent to the patients through email. She explained that the patient receives a package with information, and it is an ICG device, mobile phone and ICG electrodes and then the patient activates the device at home. She concluded that after the monitoring time patients return the device per post.

Later, **István Kósa** focused on the monitoring of Corona diseases which should be the top priority. He appended that the monitoring of the nutrition of the patients should be included in the plans as well, as "lifestyle is the first we should assess". Kósa described also the situation with telemedicine in Hungary, where the development process started, nevertheless, it does not currently exist in business in the country.

Peter Stachura continued the discussion by explaining how the conditions are in a health area in Slovakia. Peter Stachura pointed out that COVID-19 has changed many things in the country. Firstly, in all practices, specialists started to do telemedicine, which had both advantages and disadvantages. He explained the relevance of telemedicine and raised the issue of a negative wave of sending patients to the hospitals then using virtual services. He also addressed the challenge of specific areas of medicine which was hard to implement through telemedicine as the psychiatric communication with the patient. Stachura questioned the percentage of control in the mental treatment while using telemedicine.

The Future of Telemedicine in Visegrad Countries



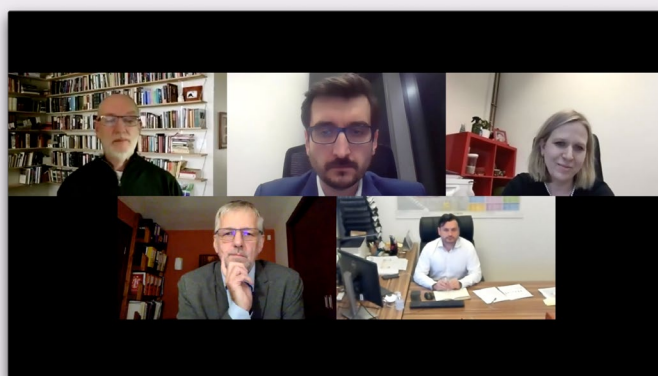
February 10-11, 2021

In cooperation with
International Visegrad Fund.

(eng)aging!

VIRTUAL CONFERENCE

FEBRUARY 10-11, 2021



Organized by:

keynote

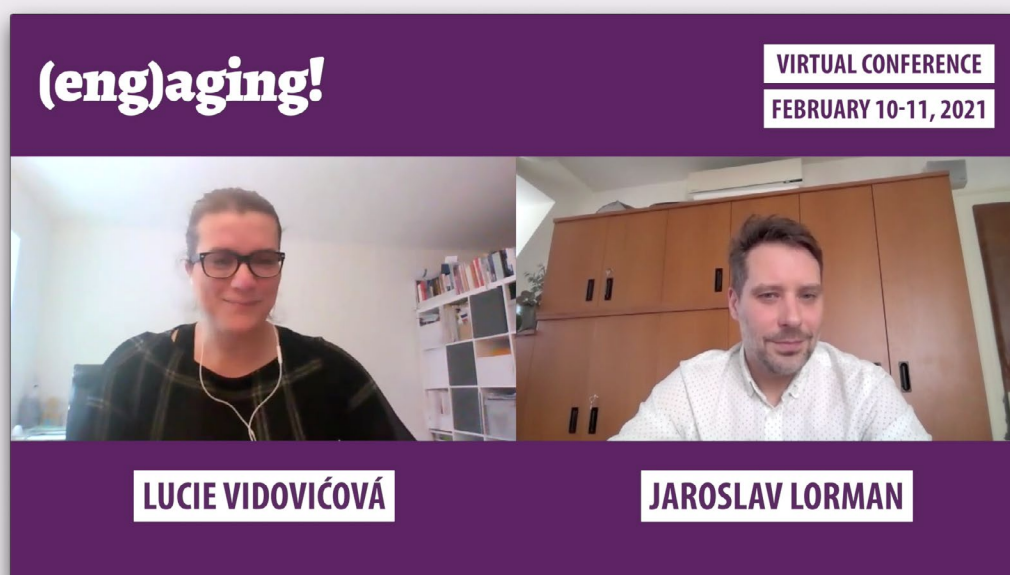


INTERVIEW

INTERVIEW ON LONELINESS, AGEISM AND TECHNOLOGICAL SERVICES OF LIFE 90 DURING THE COVID-19 PANDEMIC

Jaroslav Lorman, the executive director in ŽIVOT 90 (Life 90), explained how the organization reacted to the COVID-19 pandemic in March 2020. When they saw more and more cases in the Czech Republic, the organisation launched a senior telephone line for the elderly, a helpline. The crucial note is that it was even before the emergency state was introduced and before the government's decision about the first lockdown as Lorman stated. He described that ŽIVOT 90 had difficulties that had to close the community centre, the theatre and could not organize any meetings. The team came up with the idea "To go on with some cultural content using online streaming". Lorman pointed out that they engaged the celebrities, actors and "tried

transmitting some cultural programs, so the mental state of the people does not fall completely". He highlighted the topic of loneliness and shared how crucial it is "to be able to feel that someone is interested in me as a human being and to be able to express my interest in someone". **Lucie Vidovičová** mentioned the initiative "Let's End Ageism during Coronavirus" to fight the discrimination and ageism against seniors. Lorman suggested using technology and placing it in houses or apartments where older people live as a step in a very progressive direction. In the end, both Vidovičová and Lorman concurred with the opinion that during the crisis more seniors went online, and their digital literacy has increased.



LONGEVITY RESEARCH

LONGEVITY RESEARCH APPLIED: EMERGING STARTUPS OVERVIEW

Petr Šrámek as a co-founder and managing partner of the LongevityForum.eu presented the LongevityTech.Fund. The fund that is investing globally in companies extending healthy lifespans. He demonstrated one of the technologies of the platform - therapy that can break down cholesterol and oxidized cholesterol, unlike current medications. Šrámek answered to problematic diseases such as Alzheimer's, Parkinson's, heart disease, sarcopenia and others with the whole-body mitochondrial transfusion. He showed also the company "Genflow.Bio" that focused on genetic treatment

especially within the group of genes called SIRT6. The next company presented was "Youthfulness for life" which found a compound that you "apply to your skin and it affects it, as well as hair and everything that is on top of your body". Šrámek showed 12 projects in which they were investing funds as a platform. The company plans are that "till 2023 we can be sure that we can slow down some aspects of aging, from the year 2026 we can slow down all aspects of aging, till 2030 we will stop all aging and partially rejuvenate it and by 2023 this intervention will be available".

PERCEPTION AND DIGITAL SKILLS

WAKING UP FROM THE GEROTECHNOLOGICAL OPTIMISM

Lucie Vidovičová stressed the importance of waking up from gerotechnological optimism. She presented her latest applied project in the use of humanoid robots in promoting active ageing in older men and women (HUMR). Vidovičová demonstrated how the lessons in robotics for seniors worked before the COVID-19 and how enthusiastic older people are in meeting the robot. The researcher had difficulties in a lot of issues concerning the use of robots, the digital divide and ICT acceleration during the pandemic. During the crisis objective limits in functional and health decline, the problem arose. Vidovičová explained how their project workers bought computers and helped older people to upload a Zoom, but it would be much easier to do that in person (Impossible because of COVID-19 restrictions). To bring the presentation to a close here: the main suggestion of the project of Lucie Vidovičová is that robots utilizing can be fun, "We get social, and this is a very important point for older adults".

VIRTUAL REALITY IN KEEPING SENIORS ACTIVE: VIREAS PROJECT

In her presentation, **Věra Suchomelová** shared the results of the interdisciplinary project "VIREAS: Virtual reality in keeping seniors active" and the main results of a pilot study in a nursing home. The key features of virtual reality (VR) as a tool for keeping the elderly active are immersiveness (the feeling of being inside the story) and interactivity (the possibility to actively influence the storyline). However, Suchomelová raised the issue of risks for the older people as an improper content or form of the experience, motion sickness, confusion, and a danger of using a headset like a senior "babysitter". The two positive results of the project were creating the software - set of virtual experiences (three virtual environments, meeting the various needs of the elderly) and a conceptual manual for activity coordinators (Overview of the technology and how to use the VR). VR consisted of three different areas such as forest, travel and city centre as Suchomelová explained. She discussed the controversy surrounding the areas for the VR, as even though it is a virtual reality - "Seniors asked for as much reality as possible" and liked more real trees and would immediately recognize something strange there. To conclude, Věra Suchomelová stressed the positive sides of the project which resulted in the creation of positive emotions for older adults, support of their self-confidence, self-esteem and dignity, as well as support of interactions for the seniors' everyday lives.

USING OF BIOMETRICS IN OLD AND YOUNG AGE

Marcela Petrová Kafková presented a project in biometrics and ICT that was focused on the adoption of new technologies for everyday use. The question arose on how modern technologies are currently used and perceived after the "One year of pressure to use them". One of the findings of her research was that in old age women are slightly better equipped than men. Petrová Kafková described of the surveys that were held and it showed that older adults significantly differ in usage and knowledge about modern technologies and biometrics, as well old age gender conditioned. She raised the issue of risks of using ICT which are: deepening of digital gap and exclusion of older people

HOW ARE DIGITAL SKILLS RELATED TO MEMORY?

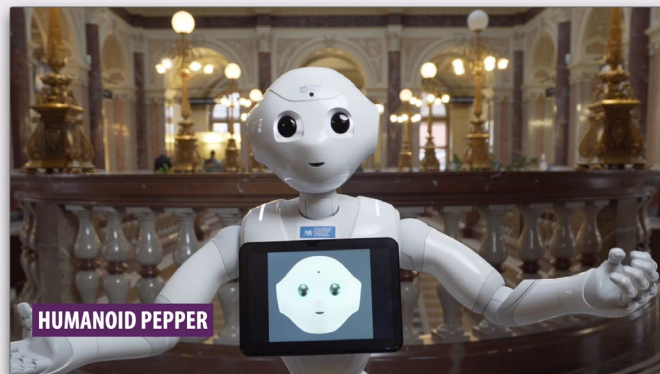
Corina Ilinca shared a chapter of her Ph.D. thesis published as a book named "Digital skills nowadays". Ilinca explained in her presentation how digital skills are connected with memory. She described the definition of memory, which is impairment, a disability and factors related to it, which are of timely importance provided that they may be kept under control and improved. Ilinca argued that "digital skills are a factor for memory impairment". One of the main ideas presented was that people who exercise their memory utilizing digital engagement are more likely to have better memory assessments. The researcher considered also a perspective of lifelong learning, taking into account what skills can be learned for a better life. Furthermore, "Communication with a caregiver may be improved if the person with memory impairment has at least basic digital skills". Ilinca also pointed out that usage of digital technologies may provide free access to health facilities, to keep older people informed and their social lives active. She concluded by sharing the results of her research that computer usage keeps its influence on memory, likewise, email usage. Corina Ilinca argued that "Future research also should focus on types of digital skills that may have a greater or lesser impact on memory".

SOCIAL ISOLATION AND ROLE OF ICT

IMPROVING ACCESSIBILITY OF SOCIAL SERVICES & LOCAL SUPPORT FOR INFORMAL CARERS

Olga Starostová presented a project “Care at Home” which provides support to informal carers in the Czech Republic. “Care at Home” project has developed a new “Care at Home” web portal for informal carers featuring the unique search engine for social services/support across the Czech Republic. She pointed out that “informal carers are still an invisible group, mainly in the Czech Republic”. The tools provide an opportunity for lectures online, discussions, therapy, self-supportive groups. Starostová stated that the biggest challenge in their work is a lack of information, so the main idea was to develop the map of support for the elderly and people in need. In this map all together health, social services, non-profit organisation, and other local stakeholders at villages in the Czech Republic. She explained that the goal was to create a “friendly atmosphere” to connect informal carers, with non-official language as they are not professionals.

Ivo Mareš further talked about the chart of support and observed what is the idea of this tool. Chart of support is a web portal where in one place it is possible to access all information and find support in the database of social services that covers the total area of the Czech Republic. He described how the search engine works based on 6 areas. An emergency care plan has all the information about the person you care for in one place so you can get it quickly and easily. Olga Starostová added that a “Carer emergency card is a card you can carry in your wallet to let people know that you care for someone”. Mareš described the plans of the project to create an application for informal carers and older people, which will include chart of support, client feedback, ADL (Index of Independence in Activities of Daily living), quality certification, medical history, emergency care plan and smart home features. Smart home (security) features would include movement sensors, security alarms on doors and windows, smoke alarms and many others.



COVID-19 AND AGETECH - EXPERIENCES AND IMPLICATIONS

Andrew Sixsmith addressed the problem of social isolation, which is a major concern for many people, but especially for older ones as it can significantly affect their well-being and health. He pointed out that the COVID-19 situation brings this issue into an even sharper focus. Sixsmith presented the studies on social isolation, which showed that participation in community activities positively influences health and socioeconomic outcomes for older adults. Accordingly, the lack of social contact can lead to stress, depression, cognitive decline and can affect physical health. He, as a scientific director of the AGE-WELL Network of Centres of Excellence (NCE) for the Older Adults and Caregivers Advisory Committee (OACAC), described the projects from 2020-2024. One of the most useful technologies as Sixsmith noted is “FamilyNet” - an easy-to-use communication platform that helps older adults keep in contact with their families and friends. He mentioned the Older Adult and Caregiver Committee whose members created “personas and scenarios” - a semi-functional description of a person, situation or problem and potential responses. Sixsmith demonstrated the results of the AGE-WELL survey on technology use by older people, where it was shown that during the pandemic, seniors have increased their use of video calls as a way to communicate with family and friends.

Chaitali Desai continued the topic and described her own “persona and scenario” and COVID-19 pandemic for the attendees. The concluding considerations she had was acceptance of tech-based solutions may be greater where it is not perceived to be replacing in-person care and caregivers should be involved in the design of tech devices, including education, adoption and sustainability.

LONELINESS AND WELL-BEING: A ROLE OF USING EMAIL AND SOCIAL MEDIA

Sunwoo Lee shared her scientific study for the benefit of using technology and the role of emailing, social media in decreasing loneliness and improving the well-being among older adults 65+. Lee demonstrated that the older adults who use social media more frequently were experiencing less loneliness. The key outcome of the study was that it is crucial to promote internet skill training; to create an aging-friendly web environment; to reduce computer stress, mistrust and a lack of confidence; to provide digital infrastructure and access to internet services. Sunwoo Lee observed limitations of future studies, which included the fact that sample frame does not represent all older adults in the US, causality between the latent factors is not defined, there is a socio-economic variability, e.g. gender, age, ethnicity, education, marital status, and living arrangements.

ONLINE DATING, INTIMACY & ACTIVE AGING OF BABY BOOMER WOMEN

In his presentation, **Ieva Stončikaitė** explained online dating, intimacy and active ageing in baby boomer women. She shared the novels of baby boomer writer - Erica Jong that investigated the relationship between older segments of society and digital technologies. Stončikaitė stated that the use of ICT has also played an important role during the recent spread of COVID-19. Dating apps and online dating sites are seen as an alternative way to connect emotionally, sexually and intimately, enhance social inclusion, and reduce loneliness and boredom during the pandemic. She raised the issue of the lack of research about the online dating of older adults as they are "often regarded as not interested in romantic experiences". The studies revealed a shortcoming that one-third of the baby-boomer representatives are now single and want to date. Ieva Stončikaitė provided evidence that older adults 50+ want to use online dating as the response for a lack of romantic interaction and response for decreasing satisfaction from traditional ways of meetings. Her opinion concurs with the idea that flexibility and anonymity allow using online dating apps, which is especially applicable for older women who feel less vulnerable in cyberspace. Stončikaitė held a view that the popularity of virtual partnering has a connection with the fact that partnering in older ages became more needed than in the previous decades. However, "Finding a suitable partner is much harder for an older woman than a man" as the researcher mentioned. Stončikaitė stated that older women want someone to have fun with, or simply to chat with. In conclusion, the researcher emphasized the increasing difficulties of being an older woman in a society that is dominated by technology and controversial mainstream discourse of aging, that is focused on sexual performance as a sign of active and healthy aging.

TECHNOLOGICAL SESSIONS

TECHNOLOGICAL SESSION - PART 1

Miniphone: Signalling System for Home Helppcare

Zoltán Havasi started the technological session with the presentation of "Miniphone" - signalling system for home healthcare. In Hungary, the system has been existing for 25 years already. Havasi explained that the service must be provided for local governments where the population is more than 10 000. The local governments provide a social health care system, dispatcher and home care medical attendances for those in need. Havasi took the stance that the device has an accessible design, easy to charge and care about.

AP-NURSE: A Simple and Modular Monitoring Tool for Patients with Alzheimer's and Parkinson's disease and Frail Elderly People

Matěj Cenký explored the monitoring tool for patients which is simple, designed for home and medical applications, aims to simplify caregiver's work, provide fast warning in case of possible danger and support independent living of frail elderly. The project focused on the development of the main two branches home and medical applications (different scalability and data flow). As Cenký described the tool encompasses ambient contactless sensors to identify changes in the environment. The researcher shared the plans to move towards testing directly in care centres operated by their project partners in Poland, Italy and Petržalka, the municipality of Bratislava, Slovakia. The implementation depends on the COVID-19 situation.

digitAAL Life – Multimodal Activation of Cognitive Performance

Maria Fellner began with a brief explanation of digitAAL Life GmbH which is an Austrian start-up company specialized in developing innovative digital solutions for health and care. Together with its strategic partner JOANNEUM RESEARCH digitAAL Life developed a tablet-based training game for the multimodal activation of cognitive performance, which has been already introduced to the market. Fellner highlighted how the training for users and caregivers was happening in a guided way. The goal is that "Older people will be able to use it under guidance or independently" as Maria Fellner noted. The training content of the tablet apps is also offered in the form of a dice game and can thus be used for group training.

SALSA: An App-based-solution to Support Physiotherapy and all Aspects of Starting and Maintaining an Active Lifestyle for Older Adults

In his presentation, **Stefan Schürz** observed the SALSA - app system for fitness and phytotherapy. He held the opinion that "It is not a man that needs to adapt to technology. It is a technology that needs to adapt to man." The LIFEtool was created to promote technology for people with special needs and people in 3rd age. Schürz explained that the app

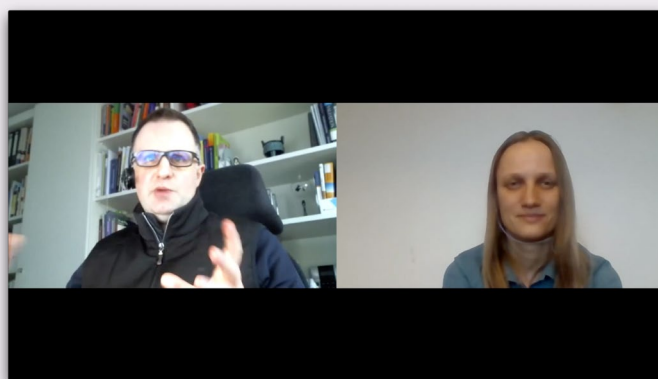
does counselling and training of individuals and groups. The main problem that arose was in the fact that 71 % percent of women and 70 % of men in Europe in the 55+ age group never or seldom exercise or do sport. The SALSA project came up with the solution that older adults are more likely to stick to physical activities if they can do them with people of similar age.

MonAMI Platform in Elderly Household Environment

Alena Galajdová described the results of the research that aimed to demonstrate how useful and accessible services could be delivered in mainstream systems to older people and people with disabilities in their homes. The MonAMI system created a system of alerts based on sensors, which helped to acquire data from the devices (temperature, light level, movement, gas, smoke). Galajdová pointed out how the system can send alerts through SMS, email or phone call in case of danger. Based on questionnaires she concluded that users were very satisfied because they felt safer at home, as well as carers.

Telemedicine in Gerontology

The next presenter **Markéta Janatová** shared the benefits of using a gaming system that can train not only coordination and stability but also cognitive functions. as she described older people could react to some movement of the ball, try to catch the ball and for some of them it was super motivating, so they wanted to continue exercising. She shared the benefits of distance therapy automatic devices, that as an example can detect emergencies with older adults.



Sheld-On: Improving Accessibility, Functionality, and Safety at Home, at Work and in Society, Integrating ICT Solutions into Habitats, Improved Building Design

Adam Kaczmarek continued the technological session by presenting the “Sheld-On” project. The “smart habitat” system was created to build smart furniture and accessories, smart home devices (TV, fridge, etc), sensorisation in a home environment, wearable devices and architectural solutions. The project plans to create the “Way of monitoring the person in the way of making it convenient without even knowing that the person is monitored”. Kaczmarek explained that older adults do not like to feel that they are monitored and carry all these sensors (on the fingers, parts of the body). The researcher pinpointed an interesting feature of the lie detector that can recognize the emotions of older adults from the app.

Smart Care in the Light of Society 4.0

Lenka Lhotská shared with the audience her on-going project for elderly and fragile people that is aimed “To extend the time people can stay in their own homes, enhance their independence and feeling of safety”. The COVID-19

situation highlighted the urgency of applications providing the described functionalities, including telemedicine and telehealth services as Lhotská highlighted. The main purpose of the project was to integrate reliable, commercially available sensors and HW systems. Lhotská concluded that the main functionalities were a fast alarm in case of accidents or abnormal situations, evaluation of long-term trends and detection of changes in behaviour.

Domestic and Ella4Life: projects supporting the elderly and the disabled

Mariusz Kaczmarek gave a brief introduction of the project “DOMESTIC” the main idea of which was to create a system for the elderly and disabled people. As he explained subsystems are controlling “stroke”, “heart”, “asthma”, and “sleep”. The main idea was to prevent depression, dementia, exclusion. The next project - “Ella4Life” is a virtual personal assistant for home and on the road. Kaczmarek noted that the pluses of the system are in helping the elderly to live independently longer by giving them easy-to-use technology. He concluded that the app is the modern vision of a “personal buddy” for older adults.



TECHNOLOGICAL SESSION - PART 2

OrCam MyEye2: A Revolutionary Vision Technology for Blind and Partially Sighted People

Jan Cejthamr started the second part of the technological session by introducing the Israel company “OrCam”. He showed the device that helps people with sight disabilities to see, which helps “To read wherever you are: not only the texts of newspapers, information at the malls, but also from digital screens such as emails”. **Cejthamr** shared the benefits of the OrCam MyEye2 for the older people with reading product labels at the kitchen for instance and they can cook for themselves, the same as in the malls where they can see the type of the product instantly, it can recognise the faces of their friends. The crucial feature of the device is colour recognition as well.

Virtual City for Cognitive Training in Elderly

Iveta Fajnerová weighed the opportunities of research of neurobiological mechanisms that lead to the development of severe mental disorders and the development and testing of new diagnostic and therapeutic methods at the National Institute of Mental Health. She presented the VR city for cognitive training in the elderly which has the main aim to have various locations that can be used for special navigation. Fajnerová explained that the goal was to create innovative technologies that could positively affect the lives of older adults in means of enhancement and/or rehabilitation of cognitive abilities affected by the aging process and degenerative diseases.

Kaleido: Virtual experiences for individual activation of the elderly

Marek Háša founded Flying Kale, a company focused on bringing innovations to life. In his presentation, Marek Háša presented the team's first project, Kaleido, which is a tool for individual activation in nursing homes and hospitals, providing engaging virtual reality-based experiences (travel, culture, relaxation, walks, ...) tailor-made for the elderly. The motto of the project is: "Can't visit the world? We make the world visit you". Háša aimed to reduce the level of loneliness of older adults. Kaleido managed to implement a large-scale free-of-charge pilot program in 40 Czech nursing homes and researched into the usability of VR in Czech social care. Háša proved that the tool had verified a positive impact on the physical and mental well-being of elderly people, as well as "Wonderful references, cute reactions and pictures".

Personal Shelf Inspector: Helping the blind people with shopping by a smart AI app

The next presenter **Andrej Bodi** presented the DataSentica platform which built the "Personal Shelf Inspector" - a mobile app and tool for merchandisers, sales reps and managers with analysing positioning, pricing and more about the products. The tool was adapted for the shopping assistant that made this process easier for visually impaired people. Bodi explained that the app navigates the user to a shop (Theia), to the shelf (In-store navigation) and to the product in itself (Personal Shelf Inspector). Then there is an additional "cash reader" that is checking the sum at the cashiers.

Cash Reader: Making banknotes accessible worldwide!

Tomáš Jelínek continued with the presenting of his start-up "CashReader" for visually impaired people. He demonstrated how the application works and can measure the length of the banknote (To understand the amount) and can scan the banknote and name the value. The application identifies 90+ currencies already as Jelínek pinpointed. He mentioned that the cash reader technology is based on artificial intelligence, 700 real banknotes, and 8k photos per note. He concluded that the app is already available for 40 Million people with visual impairments all around the world.

The AgeWell Project: Supporting the Transformation to Retirement by Virtual Coaching

In his presentation, **Johannes Kropf** introduced to the audience the "AgeWell" project that is focused on virtual coaching to support a healthy and meaningful life of older adults and employees in their retirement process. The goal was to build a virtual companion in the form of an avatar and a physically embodied device. Kropf explained that after the pre-trial participants got feedback that appreciated the opportunity for engagement activity. They felt stimulated and wanted to interact with the other users. The plan of the project is to extend the functionality of the robot companion as Johannes Kropf summarised.

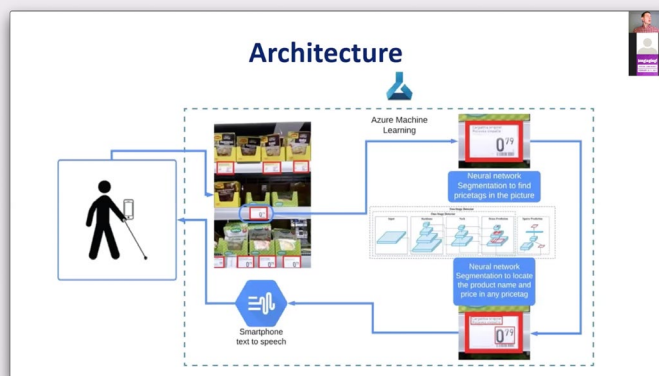
VR Senior Pack: Virtual Reality for Retirement Homes

The session's next presenter was **Leoš Kubíček**, co-owner of 3 companies - Holistic management, Virtual Lab, Virtual

Lab Development. He was talking about virtual reality in retirement homes. Virtual Lab brings to senior houses and social services the complete program for activation and reminiscent therapies in virtual reality. The project aimed to make activities easier such as education, adaptation process, communication process; to make financial profit and to save money/sources. Leoš Kubíček described the areas of the activities of the project which are soft and hard skills in VR and VR packs such as Edu, senior, health and VR/AR application development.

Self-adapting Toilets to Raise Independence

Paul Panek provided a short but informative look into self-adapting toilet technology. He explained that "toilets and bathrooms are almost white areas in the AAL landscape". However, there is a need for adaptive technologies in this area. That is why Panek created a solution - self-adapting supportive toilets for the semi-public area. He pointed out that this technology is empowering old or disabled people and allowing them to use toilets without assistance, to leave home, and participate in social life.



DIGITALISATION AND AGING WORKFORCE: CASE STUDY OF ITALY

RECOVERY 4.0: AGING LABOUR MARKETS AND DIGITIZATION OF THE ECONOMY IN THE TIME OF COVID-19

Pietro Checcucci presented the results of his recent research in the Labor and Professions Department of INAPP on digitalisation of the economy and aging with the example of Italy. One of the main points shared was that despite the trust that Italian private employees show towards older workers as a guarantee of maintenance of “know-how and organisational resilience their digital employability appears critical”. Checcucci addressed the difficulties in skills recruiting for occupations. He added that high NRC could push employers to seek alternative solutions, “Which include offshoring options, in the absence of immigration policies able to manage the problem”. Checcucci also pointed out the effects of COVID-19 in Italy which resulted in a redefinition of risk parameters, impact on services, remote

working solutions speed-up, reconsideration of demographics and the critical role played by information. The researcher later moved on to the statistics of Eurofound, where Italy took second place (After Finland) with the highest share of 50+ people who started to work remotely. The reason for such a change in the first half of 2020 was caused by a pandemic crisis. As a result of the research, Pietro Checcucci suggested creating a correct and exhaustive identification of structural problems exacerbated by the pandemic and creating the strategy regarding the education sector as workforce training. The final remark was that “Public and private actors still lack a shared perception of problems and a clear vision of future scenarios”.

TECHNOLOGY INNOVATION AND THE AGING WORKFORCE IN THE TIME OF COVID-19

Luisa D’Agostino and **Maria Luisa Aversa** talked about the results of an “INAPP” qualitative study carried out in the manufacturing and services sector, which explores the relationship between the employability of workers over 50 and technological innovation. The researchers focused on the health and social services which, in the face of the increasing average age of the employees, must respond to a greater request for care and assistance from users who have also become older.

Maria Luisa Aversa explained the digitisation process in Italy and that the country is the most exposed to the risk of substitution in Europe. She proved the advantages of robots as an ability to perform heavy work “in a precise and repeatable way”. However, she as well compared robots with the skills of men, who are more developed in creativity, decision-making, flexibility and adaptability. Aversa observed the connection between COVID-19 and technologies that allowed to “Work, produce and deliver services on distance”. She summarised the crucial conclusion that digitalization requires a re-thinking and a redesign of work organisation that places human resources at the centre and ecosystems 4.0.

Luisa D’Agostino continued the presentation with the observation of workforce aging in the health sector. She held a view that significant workforce aging happened in the Italian health sector, where the average age in 2018 was 50.7. The research raised the issue of slow health services digitalisation which was linked to the personnel age. D’Agostino presented the 3 categories of solutions as computerization of administrative and patient management procedures, using telehealth (telemedicine, consultations and remote using artificial intelligence and Big Data. She highlighted that in health there is no real risk of a human-technology substitution because the human factor is essential. D’Agostino revealed shortcomings and obstacles to the diffusion of new technologies in health services: resistance to cultural change among older adults, aging concentration in the ruling class, work burden from the working class, innovation speed, and inadequate training courses. The researchers came up with a solution to the problem as an adaptation of the training courses, involving new professional figures, raising professional awareness, and training the IT technicians/designers.

AGING, FRAILTY, AND INNOVATION: EXPLORING THE FUNCTION OF NEW TECHNOLOGIES IN THE DEVELOPMENT OF THE CARE PROFESSIONS IN THE TIME OF COVID-19

Roberta Fefe’ focused on the specific results of the research that had been presented by Luisa D’Agostino on aging and IT. She specified the sensemaking process through which technoscientific innovations are co-produced and adopted. Fefe’ later indicated that the demand for care cannot be interpreted by separating the biological dimension of the illness from the contextual dimension in which disease was experienced. The

researchers observed the meaning of the intervention and aging and highlighted that “To create a competence in its use, the device has to deal with a process of shared construction of the meaning of the intervention in the socio-cultural sense that it assumes among operators - elderly families - as co-producers”.

KEYNOTE SPEAKERS



Yael Benvenisti (IL) – CEO, Mediterranean Towers Ventures

Yael Benvenisti is currently CEO of Mediterranean Towers Ventures, a corporate venture capital that invests in technologies and services companies developing disruptive solutions for aging – the fastest growing population segment around the world. She has been chairperson of

Technologies of Aging Well/Aging2.0 Israel since 2011 and founder of the Israeli entrepreneurial ecosystem of the Aging Tech space. Over the years, Yael has developed and built networks of contact with international cooperation to export the Israeli innovation and to have international corporations and investors to notice Israeli activities. For the past 12 years, she has been a board member of the Israel Gerontological Society.



Neil Charness (US) – Director, Institute for Successful Longevity

Neil Charness is William G. Chase Professor of Psychology and Director of the Institute for Successful Longevity at Florida State University. Neil's research focuses on human factors approaches to age and technology use. He has published over 200 journal articles,

book chapters, proceedings papers, and technical reports, and co-authored books on Designing Telehealth for an Aging Population: A Human Factors Perspective and Designing for older adults: Principles and creative human factors approaches. He is a Fellow of the American Psychological Association, the Association for Psychological Science, and the Gerontological Society of America.



Rosette Farrugia-Bonello (MT) – Deputy Director, International Institute on Ageing

Rosette Farrugia-Bonello is Deputy Director at the International Institute on Ageing, United Nations-Malta (INIA). She lectures at the Department of Gerontology and Dementia Studies, Faculty for Social Wellbeing, University of Malta, and has directed INIA's International

training programmes in the Dominican Republic, Georgia, India (Andhra Pradesh, Hyderabad, Mumbai and Pune), Malaysia and Nepal. Rosette is also chief editor of the International Journal on Ageing in Developing Countries, expert on the Task Forces on Dignified Ageing within AGE Platform Europe-Belgium, and a founding / council member of the Maltese Association of Gerontology and Geriatrics (MAGG).



Yeh-Liang Hsu (TW) – Editor-in-Chief and IT Director, International Society for Gerontechnology

Yeh-Liang Hsu is a professor at Yuan Ze University, Taiwan, where he has held many important roles, including Head of Mechanical Engineering Department, Secretary-General, and Dean of Academic Affairs. Professor Hsu directed his

research interest in design to gerontechnology and established the Gerontechnology Research Centre in 2003, the pioneering research institute in this field in Taiwan. He has published papers, books, and patents, and has conducted many projects in gerontechnology. Professor Hsu has been actively involved in the International Society for Gerontechnology (ISG). He is concurrently Editor-in-Chief for Gerontechnology (the official journal of the ISG) and IT Director of the ISG. In 2016, Professor Hsu founded Seda GTech Co. Ltd. Working with young co-founders who were his students, he has been pushing

gerontechnology research to real products for daily applications by older adults and caregivers.



Brian Kennedy (SG/US) – Director, Centre for Healthy Ageing

Professor Kennedy is internationally recognized for his research in the field of basic biology of aging and as a visionary committed to translating research discoveries into new ways of delaying, detecting, preventing and treating human aging and associated diseases. He is

a Professor in Biochemistry and Physiology at the Yong Loo Lin School of Medicine at National University Singapore, and Director of the Centre for Healthy Longevity at the National University Health System. He has published over 200 papers and has an H factor of 69 (Google Scholar). From 2010 to 2016, he was the President and CEO of the Buck Institute for Research on Aging. Currently, he remains a Professor at the Institute where his lab addresses the biology of aging. During his tenure at the Buck Institute, seven start-up companies were created in the Biotechnology space.



Jaroslav Lorman (CZ) – Executive Director, Život 90/Life 90

Jaroslav is an Executive Director in ŽIVOT 90/ Life 90. He graduated from Faculty of Arts (Latin, German) and Catholic Theological Faculty of Charles University in Prague. He also lectured at CTF UK theological ethics. He stands up for rights of LGBT minorities. The non-profit organization

Život 90/ Life 90 was founded in 1990 with the goal to enable senior citizens to live a fulfilling life where they are the happiest – at home. Since 1995 the organization has run a community centre for senior citizens, their careers and their families in the middle of the historical part of Prague. Services of the community centre include a crisis helpline, emergency care, a Consultancy Centre, a Stationery and Rehabilitation Centre, a Daily Services Centre, and care service. The Volunteering Centre and U Valšů Theatre are the other important parts of the organization.



Ken Sagawa (JP) – Emeritus Researcher, National Institute of Advanced Industrial Science and Technology (AIST)

Ken Sagawa is Emeritus Researcher of National Institute of Advanced Industrial Science and Technology (AIST) in Japan. He specialises in visual science with special interests in aging and ergonomic design for older people, and

people with visual disabilities, the outcomes of which aimed for international standardization on accessibility.



Martijn Vastenburg (NL) – Founder, Connected Care

Martijn Vastenburg is Founder of ConnectedCare. He has a background as An Assistant Professor at Delft University of Technology. He has coordinated projects in care Innovation, together with research organisations, companies, care organisations

and users. His core expertise is in social tools for care collaboration, persuasive technology, design methodology and sensor-based group awareness. Next to being Managing Director of ConnectedCare R&D, Martijn is also The Founder of HalloZorg and Senior Researcher at the Eindhoven University of Technology.

CONFERENCE FACT SHEET

The 4th (eng)aging! Conference was held on February 10–11, 2021 under the title “Technologies for Active and Independent Living in Old Age”. All the Conference sessions were held online in consequence of the COVID-19 pandemic. Virtual Conference examined how modern technology can improve quality of life of older people and recent COVID-19 developments and its impacts on the elderly.

During these two days, the event hosted a wide range of respected experts from number of fields – representatives of governments, technological companies, researchers, scholars, NGOs, geriatrics, gerontologists, providers of health care and social services and representatives of senior organisations. The Conference consisted of online presentations of academic papers, keynote lectures, technological fair and networking session (26 zoom sessions, 55 speakers).

OVERALL STATISTICS		UNIQUE ZOOM CONNECTIONS		MAX. ATTENDANCE IN ONE MOMENT	
SPEAKERS	55 (19 COUNTRIES)	FEB 10	281 (530 TOTAL)	FEB 10	161
ATTENDEES	554	FEB 11	180 (393 TOTAL)	FEB 11	95
TEAM	5				

The first-ever online (eng)aging! Conference was attended, among others, by the Director of the Institute of Successful Longevity, Neil Charness (US), the Deputy Director of the International Institute of Ageing at the United Nations, Rosette-Farugia Bonello (MT), the Director of the Singapore Centre for Healthy Ageing, Brian Kennedy (SG), Ken Sagawa (JP), a Researcher Emeritus at Japan's National Institute for Modern Industrial Science and Technology, and Martijn Vastenburg (NL), co-founder of ConnectedCare, and many more.

The COVID-19 pandemic made it significantly more difficult to access health care and lives of older people have been among the most affected. Therefore, one of the conference sections “Future of telemedicine” focused on digitalization of our healthcare system which could be very handy and beneficial not just for older people, but for everyone.

Two Technological sessions showcased 17 technology projects, products and innovations aimed at older people and their specific needs. These included robots, VR, gadgets, mobile applications, wearables, etc.

The Conference offered also Networking session. There were 3 networking rooms, 3 topics and 3 hosts:

Room 1 – Longevity Research: How to Extend Health-span and Geroscience (hosted by Petr Šrámek);

Room 2 – Investing in Technology and Disruptive Solutions for Aging (hosted by Yael Benvenisti);

Room 3 – Aging 2.0: A Global Network of Innovators Addressing Aging (hosted Stephen Johnston).

All Conference outcomes, including the video recordings and press releases are available at the project's [website](#).

STEERING COMMITTEE

Radim Boháček, Coordinator of SHARE, Academy of Sciences, Czech Republic

Juhani Ilmarinen, Former Director, Department of Physiology, Finnish Institute of Occupational Health (FIOH), Finland

Stephen Johnston, Co-founder, Aging2.0, UK/USA

Rainer Münz, European Political Strategy Centre (EPSC) / European Commission, Austria

Alexandre Sidorenko, Former Chief of United Nations Program on Aging, Austria

Vladimír Špidla, Former Prime Minister, Former European Commissioner for Employment, Social Affairs and Equal Opportunities, Czech Republic

Ilona Štorová, Chairwoman, Age Management z.s., Czech Republic

Petr Wija, Director, Institute for Social Policy and Research, Czech Republic

THE CONFERENCE ON SOCIAL MEDIA



facebook.com/engagingprague



twitter.com/engagingprague

PARTNERS

The conference, which took place under the auspices of Jana Maláčová, Minister of Labour and Social Affairs, and Milena Johnová, Councillor for Social and Health Care, City of Prague, was co-organized by the Centre for Active Aging and the KEYNOTE company.

The partners of the conference were the International Visegrad Fund, JTI, The Embassy of the Kingdom of the Netherlands in Prague, and MEDDIhub.

The project was co-financed by the Governments of Czechia, Hungary, Poland, and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.

The Visegrad Grant partners were:

Czech Institute of Informatics, Robotics and Informatics, Czech Technical University in Prague (CIIRC ČVUT); Faculty of Electronics, Telecommunications and Informatics, Gdańsk University of Technology; Federated Innovation and Knowledge Centre, Budapest University of Technology and Economics; Department of Cybernetics and Artificial Intelligence, Technical University of Košice.

[Learn more about the Visegrad project.](#)

Organizers



General Partner



Main Partner



Partners



Supporter



Auspices



CONTACT



Martin Špáta

Project coordinator

+420 608 153 456

spata@keynote.cz

www.engagingprague.com

(eng)aging!

www.engagingprague.com