JPI MORE YEARS BETTER LIVES
a Joint Programming Initiative

Final Report

ACCESS

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1 General Information

1.1 Acronym of the collaborative project

ACCESS

1.2 Full title of the project

ACCESS – Supporting digital literacy and appropriation of ICT by older people

1.3 Project duration

Planned start date	1.4.2018
Actual start date (of earliest starting national partner)	1.4.2018
Planned end date	31.3.2021
Actual end date (of latest ending national partner)	30.9.2021

1.4 Project coordinator

Name	Prof. Dr. Claudia Müller
Institution	University of Siegen, Department of Information Systems and New Media/ IT for the ageing society
Country	Germany
Email	claudia.mueller@uni-siegen.de
Funding Organisation	BMBF (Federal Ministry of Research and Education)
Duration project participation	1.4.2018 – 30.9.2021

1.5 Project Partners

Partner 2

Name of Principal Investigator	Prof. Dr. Eija Kärnä
Institution	University of Eastern Finland
Country	Finland
Email	eija.karna@uef.fi
Funding Organisation	The Academy of Finland
Duration project participation	1.4.2018 – 30.9.2021

Partner 3

Name of Principal Investigator	Prof. Dr. Christoph Strünck
Institution	Institut für Gerontologie at TU Dortmund
Country	Germany
Email	ffg@institut-fuer-gerontologie.de
Funding Organisation	Federal Ministry of Education and Research (BMBF), Germany
Duration project participation	1.4.2018-30.9.2021

Partner 4

Name of Principal Investigator	Dr. Roberta Bevilacqua
Institution	National Institute of Health and Science of Ageing
Country	Italy
Email	r.bevilacqua@inrca.it
Funding Organisation	MIUR (Ministero dell'Istruzione, dell'Università e della Ricerca)
Duration project participation	1.4.2018– 30.9.2021

Partner 5

Name of Principal Investigator	Prof. Dr. Franz Kolland
Institution	University of Vienna

Country	Austria
Email	franz.kolland@univie.ac.at
Funding Organisation	Österreichische Forschungsförderungsgesellschaft (FFG), Austria
Duration project participation	1.4.2018 – 30.9.2021

Partner 6

Name of Principal Investigator	Prof. Dr. Franz Waldenberger
Institution	Deutsches Institut für Japanstudien
Country	Japan
Email	waldenberger@dijtokyo.org
Funding Organisation	Own funds
Duration project participation	1.3.2019 – 31.1.2021

1.6 Project budget

Please add the budget of the overall project (total budget) and the budget per partner in Euros.

	Funds awarded	**Actual spend**
Total Budget	**€ 1.061.279,80**	**€ 1.096.025,80**

	Funds awarded	**Actual spend**
Budget Partner 1	€ 280.552,80	€ 280.552,80
Budget Partner 2	€ 250.616	€ 239.457
Budget Partner 3	€ 174.843	€ 176.467
Budget Partner 4	€ 170.000	€ 170.000
Budget Partner 5	€ 185.268	€ 183.549
Budget Partner 6	€ 0	€ 46.000 (own funds)

Please insert further rows of the table to add more partners, as appropriate.

2 Plain English Abstract

Digital media and new technologies can support older persons' wellbeing and enrich their everyday lives. However, older adults face a multitude of obstacles and hindrances when taking on these modern technologies. ACCESS provided socially embedded learning opportunities for older persons with low technical skills in order to enable them to get in touch with modern technology and find meaningful ways for its everyday use. ACCESS explored, implemented and evaluated new modes for older persons of approaching the new digital worlds and to gain experiences and sustainable knowledge and skills. To achieve this, different settings of informal, non-formal, and formal learning were examined and further developed in combination with different forms of learning (courses, senior-to-senior, negotiation spaces) as new learning opportunities. Besides, a stationary as well as a mobile demo kit of assistive technologies were created, accompanied by a training concept for learning providers and organisations, who can integrate these objectives in their repertoire of learning opportunities in the field of digital literacy. A policy brief with recommendations providing information to policy makers on how to decide regarding digital literacy and older adults has been worked on. ACCESS combined expertise from five participating countries (Austria, Finland, Germany, Italy, Japan) and considered a range of nation-specific different social and political framework conditions. By cooperating with local practice partners, the project examined diverse local circumstances and institutional structures supporting digital literacy of older people.

3 Achievements

Please describe the achievements of the overall project in relation to the aim of the joint call. There is space to elaborate on the achievements of individual work packages separately in the next section. The aim of the joint call was to support research concerned with the ways in which the health and wellbeing of older people, at all stages of later life, is supported and promoted through the design of the social and physical environment, access to opportunities to learn, and the use of technologies of all kinds. Each project addresses the topic of technology (I), projects may also address topics of place (II) and learning (III) in relation with technology. The interaction between technology, place and learning is important to the health of older people, and research which explores them may produce important new findings to inform policy.

I. **Technology:** especially digital technologies, are constantly evolving, and these changes have an important impact on the quality of individuals' lives, on their engagement with others, and on their participation in wider society. We need to understand how existing and emerging technologies can improve the quality of life, contribution and social engagement of older people.
II. **Place:** refers to how individuals experience the places where they live, work and engage with others, and how learning and technology enhance or diminish their quality of life. While it is well studied what kinds of housing, transport and urban planning are most effective at enabling people to remain independent and socially engaged throughout the lifespan, we need to understand policies and ways to achieve desired changes
III. **Learning:** in all its forms, is critical to people's ability to make the best use of the opportunities available to them, as to avoid cognitive decline. While it is clear that learning can contribute to quality of life across the extended lifespan, we need to better understand how opportunities for such learning can best be made available, by public, private and third sector means. It is important to find examples of, and develop policies for, increased access to learning and competence development across age.

Please explain how the project results contribute to these research topics (if applicable).

Technology
Our findings suggest that digital technology is becoming increasingly important for older people. The reasons vary from the need to stay in touch with their social networks to political inclusion. However, our findings further indicate that to use digital technologies is not a simple situation for many of the older adults, as many view themselves in a negative way especially when they do not manage to use them at all. On the other hand, when the sufficient support is provided, the older adults can benefit from the digital technologies and their engagement can lead to improve wellbeing. Further, also development of technology is impacted by the negative images of aging. For older adults to be able to contribute to technology development in a meaningful way, the design process needs to be explicitly focused on their learning of digital devices use.

Place in relation with technology
Our findings indicate that older adults use technology (digital and non-digital) in a broad range of places: both formal (such as computer clubs or online courses) and informal (homes, hobbies etc.). These settings can be also encountered in different modalities which in turn afford different types of learning and interactions, such as online or on-site. All together these different places mutually shape the experience older adults have in them. Places which are or can become learning spaces for older adults need to be organized in a specific way, such as make sure that the actual access to these places is low-threshold (both in physical and online context) and the older adults have skills necessary to access these places.

Learning in relation with technology

Our findings indicate that learning of older adults to use digital technology is a multifaceted process, in which all the different learning levels need to be included for the older adults' learning to successfully take place. Various learning formats offer older people to not only options to gain pure operating skills, but to be able to independently use digital technology in everyday life according to their needs and interests. Our findings further corroborate the results that show how the use, knowledge and awareness of technology, if properly educated through a training that is a tool capable of achieving high learning opportunities. As older adults interact with digital technologies in diverse ways and devices actively shape learning process in later life. Therefore, technologies are not just being used by, but interact with older adults in learning processes by, e.g. constantly changing through updates. This interaction makes the digital learning process in later life different from other learning processes. Finally, the necessary instructional support connected to technologies might never be taken away for some of the older adults.

4 Work Packages

Please complete the tables below which are intended to capture details of the achievements of the individual work packages. There is also space to highlight where you have had to deviate from your original work plans and why. This information will help us in anticipating problems that may be experienced by award holders in future joint calls. This section is for internal use and the information you provide will not be published.

4.1 Summary of Work Packages

WP	Title
WP 1	MAPPING THE LANDSCAPE OF POLICIES & STRUCTURES: FORMAL AND INFORMAL SERVICE PROVIDERS
WP 2	MAPPING THE LANDSCAPES OF AGEING, LEARNING AND DIGITAL TECHNOLOGY
WP 3	LOCAL IMPLEMENTATION IN AUSTRIA: TECHNOLOGICAL ARTEFACTS AND THEIR CONTRIBUTION TO THE DEVELOPMENT OF DIGITAL LITERACY
WP 4	LOCAL IMPLEMENTATION IN GERMANY: INTERNET SKILLS COURSES AND EXPLORA-TION OF ASSISTIVE TECHNOLOGIES WP 4.1. Study part I: Internet skill transfer courses and evaluation of long-term effects (TUD) WP 4.2: Study part II: PraxLabs-based co-exploration & experience exchange in respect to assistive technologies among different stakeholders (USI):
WP 5	THE JAPANESE CARE REFORM WITH THE AIM OF LONGER (IT-SUPPORTED) INDE-PENDENT LIVING AND ITS LOCAL IMPLEMENTATION
WP 6	LOCAL IMPLEMENTATION IN ITALY: SYNERGIES OF LEARNING PROVIDERS AND HEALTH LITERACY
WP 7	LOCAL IMPLEMENTATION IN FINLAND: THE LEARNING OF DIGITAL LITERACY SKILLS OF OLDER PEOPLE IN FORMAL AND NON-FORMAL SETTINGS
WP 8	COSTS-BENEFIT ANALYSES OF LOCAL IMPLEMENTATIONS IN DIFFERENT COUN-TRIES
WP 9	SYNTHESIS OF RESULTS OF THE IMPLEMENTATIONS
WP 10	TRANSFER, DISSEMINATION & EXPLOITATION ACTIVITIES
WP 11	PROJECT COORDINATION, QUALITY ASSURANCE & REPORTING

4.2 Achievements

Achievements WP 1
The intention of WP 1 was to examine and describe contextual factors of learning and digital literacy of older people. These objectives were achieved. The results presented in the WP-report show that factors supporting or hindering older people's competent usage of digital technology are complex and intertwined. These findings should be used to sensitize all relevant stakeholders: In order to strengthen digital skills of older people and assure their position as digitally included, it is crucial to broaden the focus from the individual on the interdependence of the political, social, and institutional level. Finland seems to be the front-runner in providing older people with opportunities to learn the handling of digital technologies. The topic is on the political agenda. Learning opportunities for older workers are provided by several institutions in Finland. The most prominent being universities and peer-to-peer programs. The findings from the Finish country study are in line with those from the secondary data analysis. In Finland the impact of digital technologies on the economy, society and daily living is seen as comparably positive.

In Austria the topic of quality of life of older citizens is of high relevance in the political and societal discussion. However, “Digitalization often plays a small role in policy papers that refer to demographic change and the older population. At the same time, digitalization is a key topic in Austrian policy papers.” (WP-report, p. 52). So, it seems that although all topics of ACCESS are found on the political agenda they are not “thought together”. The learning landscape for older Austrians to obtain digital skills and experience the usages of new technologies is large, but fragmented.

In a sense, the German situation is similar to the Austrian: “In the recent years, German politics increasingly pays attention to “older people and learning” as well as to digitalization and its relevance for older people. […] Especially in the last 3 years several political steps have been taken on the national level to foster and to link existing measures, programs, and initiatives regarding older people’s digital literacy.” (WP-report, p. 61) The landscape of learning opportunities regarding digital literacy and of respective providers is multifaceted.

Supported by the results of the secondary data analysis, one could say that Austria and Germany are between Finland and Italy. But the differences are rather small. “While in Germany, Austria and Finland we find similar patterns, Italians on average are a bit more sceptical.” (WP-report, p. 74)

Italy seems to be the country, where the digital skills among older people are the least considered and supported. No clear policy regarding learning opportunities for older people regarding digitalization and new technologies exist. Some initiative can be found on the local and regional level. “In Italy, a general lack of policies definitely affects the real opportunities of digital literacy and learning of older people. ‘Bottom-up’ projects and initiatives by NGO, foundations, or cultural centers for older people, in fact, represent widespread, but generally isolated chances for supporting the achievement of digital skills, while more structured governance is available at regional level” (WP-report, p. 24).

This lack of awareness of the importance of digital skills in Italy is reflected in the secondary data analysis of the EB data (WP-report, p. 72). Italian respondents are by far the most skeptical regarding the influence of digitalization and new technologies. And in particular older Italians have a negative perception of recent digital technologies. Summarizing the findings from the country studies and the secondary data analysis, one could say that Finland is the best prepared country for the challenges researched in ACCESS, while Italy seems to be the least prepared. Austria and Germany are in the middle.

The WP-report also illustrated the basic understanding of “Socio Informatics and Participatory Design in Politics and Research” as well as related chances and challenges. Furthermore, it highlighted “[…] the interrelation on policy perspectives and participatory co-design processes and projects.” (p. 76). In addition, country-specific developments and tendencies regarding end-user involvement in Finland, Italy, Austria, and Germany were explicated.

Achievements WP 2

The aim of WP2 was to develop an initial, interdisciplinary model on learning and the usage of digital technology by older adults. More specifically, the objective was to gain a better understanding of the challenges and barriers older adults face in their access to and usage of digital technology. Therefore, IFS conducted in collaboration with all other partners a secondary data analysis, as well as an interdisciplinary literature review. The outcome of this WP is a report in which all partners participated.

The analysis highlighted three major results, that were later used for the development of the initial model of ageing, technology and place (see Figure 1), and the toolkit of learning guidelines (see Figure 2):
First, data analysis highlighted the heterogeneity of **older non-users of digital technologies** across Europe. Based on a statistical analysis of the Survey of Health, Ageing and Retirement in Europe (SHARE, 2015), data analysis revealed four clusters of older non-users of digital

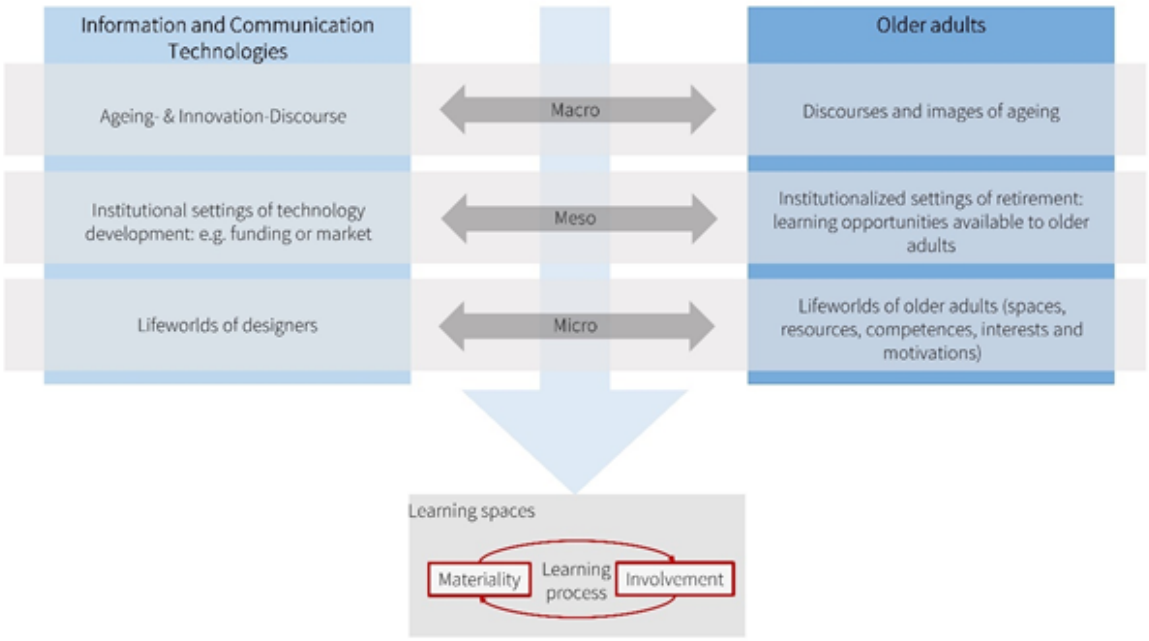
technologies: The first and the second cluster were labeled as ‚lower-educated-female' and ‚lower-educated-male' non-users who are characterized by a lower level of education and lower household income and who are living mostly in rural areas. The third group was labeled as 'socially active' non-user. They are younger, healthier, with a higher level of education and more social activities - like charity work- than the others. Finally, the fourth group was labeled as 'older-higher educated' non-user, because they have a higher age, higher levels of education and the majority lives in urban areas. Those clusters show the heterogeneity of older non-users especially regarding their divers learning experiences and resources. They highlight the necessity of target group specific learning programs for older adults and more and deeper knowledge in this area.

Second, the **interdisciplinary literature review** highlighted the importance of interdisciplinary collaboration when evaluating and designing learning programs for these diverse clusters of older non-users. Each partner contributed a chapter which elaborated on scientific knowledge and conceptual approaches towards digital learning and digital literacy in later life from their disciplinary point of view, which includes sociology, psychology, educational science and socio-informatics.

Next to the analysis of SHARE data, **IFS** also conducted an analysis of data, that is derived from the Adult Education Survey 2011, showing that the appropriation of digital literacy in later life depends on nonformal and informal learning opportunities in retirement. With a literature review and analysis of data from the Special Eurobarometer 460, **TUD** showed the positive and negative effects of digital literacy in later life, whereby positive effects on life satisfaction, social inclusion and independence outweigh the research on negative effects. Further, **INRCA** elaborated in their conceptual approach that, in the context of ehealth literacy, it is not enough to focus on the digital literacy of older adults, there are rather many different competences needed (like health literacy). Therefore, to support older adults' digital learning, it is important to reflect the context of application and the competences that are needed for it. **UEF** discusses different learning theories and shows that because of the heterogeneity of resources, interests and motivations of older adults, knowledge form different learning theories needs to be utilized in learning processes in later life. Finally, **USI** added to WP2 insights about the role of digital technology in the practices of digital learning in later life. They argue that digital learning happens in interaction with digital technology, hence, to minimize barriers, more design processes are needed that actively involve older adults.

Third, these interdisciplinary perspectives were combined to develop the initial **model of technology, ageing and place** (see Figure 1) and the toolkit of learning guidelines (see Figure 2). Based on the WP's findings, it is argued that ICTs and older adults interact on various levels: the micro level of the individual, the meso level of e.g. educational opportunities, and the macro level of discourses, and legal frameworks (retirement system, labor market). This means that the learning process of older adults regarding digital technology needs to focus not just on the behavior and attitudes of older adults, but also on the social, economic and learning structures constituting the behavior and attitudes. Furthermore, the technical device itself, its development process and the applications it offers, enables and limits the learning process. Therefore, technological barriers should be kept in mind when designing learning programs for older adults. The learning model served as a basis for the country specific work packages and was developed further throughout the project (see the final version in the achievements of WP9).

Figure 1: Initial Model of Technology, Ageing and Place (WP2)



Out of this learning model, the ACCESS consortium developed a **toolkit of pedagogical principles** to be used for teaching older adults to use ICTs. The toolkit consists out of six practical guidelines, which should support the development of learning opportunities for older adults.

Figure 2: Toolkit of learning guidelines

Achievements WP 3
Please describe the achievements of work package 3 in relation to the initially planned objectives (max. 2 pages).

The objective of WP3 was to explore how technological artefacts structure social practices in older adults' everyday lives and learning. WP3 consisted of two rounds of data collection and analysis. The objective of the first phase was to gain a better understanding of the everyday lives of older non-user of digital technology and the barriers and challenges that digital artefacts hold for them. The objective of the second field phase was to analyse the learning situations that ICT-courses construct and their effects on older adults' engagement with technological artefacts. The first field phase was carried out in accordance with the original plan without any delays. The second field phase was interrupted by the COVID-19 pandemic, but IFS managed to collect data as originally planned with a delay of six months.

WP 3.1. + 3.2.: Interviews and Talk-Alongs with Older Non-Users of Digital Technologies

IFS conducted 15 qualitative interviews with older non-users of digital technologies as well as talk-alongs with a tablet and an assistive technology. Data collection was conducted between April and June 2019 in rural and urban areas of Austria and the data analysis was finished in December 2019. For sampling, an open call was made addressing older adults (65+) who have never used a computer and have not used the internet in the last 7 days. This definition was chosen to achieve a higher comparability with the clusters in WP2. The final sample consists of people between 69 and 88 years, with a mean age of 79 years, five men and 10 women.

Data analysis revealed three major results: First, while all interviewees perceived themselves as "non-users" of digital technologies, the interviews nevertheless revealed how they all regularly engaged with digital technologies in their everyday lives; for example, through partners or children who used the internet for them, or by coming across regular media references to homepages, e-mails, and social media channels. They made many positive and negative experiences with digital technology in their everyday lives. Data therefore highlights that in a digitized world, **older "non-users" are far from being digitally inactive**. Thus, even though the interviewed older adults conceptualized themselves as non-users of digital technologies, their everyday lives were full of practices in which digital technologies played a crucial role. These mundane engagements with digital technologies can serve as a basis for learning.

Second, interview data revealed that these manifold engagements with digital technologies can be summarized in **four bundles of technology practices of older non-users**: (1) Avoidance practices, in which the interview partners actively avoided using digital technologies through e.g. retiring early. (2) Usage practices, in which they are using digital technologies through other people, for example by asking their grandchildren to write messages for them. (3) Appropriation practices, in which interviewees tried to learn digital technologies from courses, manuals, or family members, however failed at it. This was mostly because of barriers and challenges like health limitations that made it hard to use digital devices or to reach ICT-courses. (4) Subjectivation practices, in which the interview partners integrated their non-use of digital technologies into their self-perceptions of being an "older non-user". They understood themselves as "stubborn", "old", "outsiders" and as "frail". Therefore, non-usage in later life is not the opposite of usage, it entails many different technology practices that shape the engagement with digital technologies in various ways. To tackle older non-users, future research and interventions should focus more on the active disengagement of older adults from the digital world.

Third, data analysis revealed that the **digital artefact itself posed a barrier** in the engagement with digital technology. Interviews showed that digital artefacts were often perceived as difficult to use, because for example the buttons are too small to see, the speaker of the mobile phone is too quiet to hear, or the touchscreen generally does react slowly to older people's skin. Such barriers of the artefact were perceived as a lack of competence by our interview partners which led to negative images of ageing. Not being able to use the device, often led to feelings of being old, stupid and frail. On the one hand, the design as a barrier should be addressed in ICT-courses in order to avoid feelings of incompetence. On the other hand, user-centred design processes could help to minimize those barriers.

WP 3.3.: Evaluation of Learning Programmes for Older Adults

In February 2020, IFS started with the second field phase, in which five ICT-courses for older adults were evaluated. For data collection a mixed-method, multi-perspective approach was used, whereby researchers conducted qualitative interviews with nine participants and seven trainers and observed the first and the last session of each course. Additionally, participants kept a photo diary for the duration of the course. Researchers conducted a quantitative survey with three waves as well (first and last session, and three months after the end of the course). To gain a better comparability, IFS developed the quantitative questionnaire in coordination with TUD.

Due to the COVID-19 pandemic, two courses couldn't finish as planed which mostly influenced the **quantitative data** collection, because IFS managed to hold the qualitative interviews online. The other three courses were evaluated in summer 2020 as planned. In general, 33 participants filled out the first wave, 29 participants the second wave, and 18 participants the third wave. Due to the interruption of courses, only nine people were able to fill out all three waves of questionnaires. The first wave shows that the participants are between 64 and 83 years old with an average age of 75 years. 61% of the participants were female and 24% had a higher level of education (ISCED-11: 4+). In the beginning of the courses, the participants had basic competences with ICT. Only 15% rated their competences with the internet as good, very good or excellent. This implicates that the courses were able to reach people with different gender, age, educational background, and digital literacy. The second and third wave showed that the courses lacked on opportunities for active participation leading to a low applicability of the course content to participants' everyday life. In the last session, 21% answered that they could bring their own experiences into the course and 11% could apply things they have learnt in the course to their everyday life. Three months after the course, 35% of the participants answered that they still use the knowledge they have learned in the course very often, often or sometimes in their everyday life. To achieve a better fit between older adults' everyday life and the course content, older adults should get a more active role in shaping the learning situation.

Qualitative analysis shows two major results: First, it could be shown that **the course is influenced by the digital artefacts**. The learning situation is shaped by the different operating systems, the changing functions (e.g. through updates), and the unsuitable design for use by older adults—especially those with health limitations. The trainers tried to handle the complexity of digital learning situations by being flexible and open to questions and problems that the digital devices introduced to the course. This flexibility, however, sometimes also meant that participants perceived the ICT-course as unstructured or even chaotic and boring. Therefore, interventions are required that foster trainers' competencies regarding the role of digital artefacts within the learning situation.

Second, we found that the learning process of older adults is not restricted to the classroom but **takes place in their everyday life**. In accordance with the results of WP3.1., we could see that the participants are surrounded by digital technologies in their everyday life. Therefore, their actual encounters with digital technology and the Internet happened outside of the course setting leading to positive and negative experiences with digital technology. Those experiences need to be addressed within the course. Applying these findings to intervention development suggests fostering senior education programs that are intertwined with older adults' everyday lives. The learning processes are not restricted to the space and time of the course, which demonstrates the need for courses that offer learning sessions and technical support at home as well as support for buying and installing new devices.

Achievements WP 4
AP4.1: FfG conducted a quantitative study on digital technology courses (smartphone, tablet, laptop, PC, etc.) for older people with little digital skills. This was done in cooperation with five practice partners (providers of educational services for older people) in North Rhine-Westphalia. The

standardized survey started in 8/2019 (t1). The second survey wave began in 9/2019 (t2), the third in 1/2021 (t3). The questionnaires were distributed in more than 30 courses. 221 course participants participated in the study. Across all three survey time points, 510 questionnaires were completed. 74% of the respondents are women. The average age is 72 years (min.:51, max. 89 years). Furthermore, from May to July 2021, qualitative expert-interviews were conducted. Included were experts representing different levels of action: a) level of course providers, b) scientific level and c) level of representation of interest of older people.

Regarding the quantitative sample, traditional media and word-of-mouth recommendation play a crucial role for participants` recruitment: A large proportion of respondents of the quantitative survey became aware of the courses through daily newspapers, weekly papers and radio (51%), as well as through friends and acquaintances (24%). Programme booklets (4%) or flyers (3%) were significantly less successful. In the qualitative interviews, the experts stated that advertising for digital skills courses must include a wide range of different channels. They reported on successful approaches by visiting existing meeting places, clubs and regular events of associations for older people to recruit course participants. What is more, experts recommended the integration of local gatekeepers, in terms of familiar persons of trust, in advertisement strategies.

With regard to the motivation for attending the course, 19% of the survey respondents stated, that they would like to be less dependent on the help of others in using digital technology in everyday life. 18% ticked the motivation of wanting to learn something new and stay mentally fit. 15% of respondents wanted to learn something in the course about the everyday situations in which they can use digital technology. Some participants answered that they wanted to learn how to use a certain digital device (12%) or that family or friends recommended to deal with modern technology (9%). From the experiences of the interviewed experts, the following features of digital technology generally motivate the majority of older course participants to attend: staying in contact with family and friends digitally and information search for various contents. Experts emphasized, that the most significant reason for participating in training courses is benefit perception: Older people need to know how digital technology can be useful or even essential. At t3 of the quantitative survey in (1/2021), the former course participants were asked if their interest in digital technology has increased due to the Corona pandemic. In all 64,1% percent of the respondents indicated that this was true to a certain degree. The rising pressure to use digital technology competently due to the Covid-19 crisis was stressed in the expert interviews, too.

Respondents in the second quantitative survey wave summed up, that the course had been very (52%) or somewhat (28%) helpful overall for their independent use of digital technology. Data analysis shows an overall improvement of self-reported skills and frequencies of technology use. Regarding supportive course characteristics, respondents highlighted small learning groups, tutor's patience in the face of often repeated questions, and consideration of participant´s individual interests. In general, the findings underline, that the heterogeneity of ageing needs to be reflected by providing a variety of affordable, for vulnerable groups also state-subsidized learning formats. As the experts pointed out, some older people need training courses, others one-to-one counselling, home visits or further different approaches to support their digital literacy. The experts stated, that sustainable support of older people`s digital literacy needs the long-term availability of low-threshold follow-up structures, e.g. consultation hours, or "refresh" courses. As part of the ACCESS-project, former course participants could submit questions to their course provider free of charge in the 12 months following the end of their digital skills course. But the utilization was influenced by the Corona pandemic: This option was only used by 30,6%. But 72,8% of respondents plan to attend a new digital skills course a soon as it will be possible again without problems.

AP4.2

USI conducted an ethnographically informed and action research-oriented study on digital literacy of older adults when taking part in a participatory design process. This was done in cooperation with a local organization, a senior computer club as well as a group of older participants established during

a previous research project in North Rhine-Westphalia. The study started in February 2020 when a presentation was hosted at the senior computer club with intention to inform its participants about project ACCESS but also as a way to find participants. For four weeks, a small group of researchers conducted participatory observation at the club, learning about the learning needs of the older adults as well as providing support in their digital learning. At the same time, the planned workshops started to taking place (with two groups), where different off-the-shelve digital technologies were collaboratively explored. Both of these activities were however abruptly interrupted when the COVID-19 pandemic started taking place. Meanwhile observations had to be completely cancelled, the collaborative workshops were moved online after a discussion with the older adults. There we focused on exploring different online tools instead and tried learning them in a collaborative manner. These workshops also served as a way to collect and create materials which could be gradually turned into the mobile demokit. In contrast to the original idea, we have first created the demokit as an online website. Next, as the pandemic ceased, we were able to move some of the activities back to on-site, such as some of the workshops and evaluation of the mobile demokit through several in-person events.

The key findings from our study point to the necessity to organize design of current digital technologies that could support older adults in learning and living in a way that considers learning as a lifelong effort. The design process should hence pay attention to the following:

1) Mutual understanding of digital tools of the participants

First, we have learned that the participation of the older adults in the online learning contexts such as participatory design workshops will depend on their ability to understand their different digital tools and how they are connected. To foster this ability, the researchers need to build the older participants' own understanding of what is possible to do with the tools through gradual steps. In other words, it is not possible to simply ask a participants "What tools do you use and how?"; instead, more hands-on or experiential understanding is necessary when both the researcher and the older participants gradually take steps towards understanding what tools are accessible to the older adults and in which ways they use them.

2) Creating instructional support through the project beyond the project

Second, we have learned that it is necessary to provide the older adults with instructional support on how to use the digital tools throughout the project for them to be able to take part in a meaningful way. This instructional support (either in form of verbal instructions or online materials) was more extensive at the beginning of our efforts and was designed to be gradually taken away. However, through the engagement with the whole community of the older adults, our results point to that it might not be possible to ever take the instructional effort fully away. Instead, it was necessary to rethink how we can provide the older adults with instructional support even after the project ends. We hence structured our efforts around the mobile-demokit, which provided a possible learning resource to be used also after the end of the project.

3) Co-creating learning resources with the participants to be used beyond the projects

Finally, one way how to address the above-mentioned problem is to include sustainability relevant activities already in the project. We did this by focusing on co-creation of learning resources for and with the older adults during our workshops. As such, the learning resources prompted learning of the older adults during the project (how to use online and digital tools). But these different learning resources were designed with the idea of being used beyond their own design processes. Therefore, we used them to form the mobile demokit, which is now further evaluated in various learning settings targeting older adults' use of digital tools.

Achievements WP 5

WP 5 complements the European work packages, by looking at the ICT usage of senior citizens in Japan a country, which is both a frontrunner with regard to aging and a highly advanced ICT economy.

The research was conducted by the German Institute for Japanese Studies (DIJ), Tokyo (www.dijtokyo.org), who participated in the ACCESS consortium as an associated partner. It was fully funded by DIJ. It focused on the following five research questions:

1. Which ICT-based solutions are regarded in Japan as effectively supportive to prolong independent living of older people in their accustomed local surroundings – even in the case of severe neediness?
2. Which of these ICT-based solutions are applied in Japan and which are typical barriers on the side of the elderly users in the case of implementation?
3. How can the spread of IT-based solutions be supported by policies? What are the respective experiences in the wake of the new Japanese strategy to stronger communalize the Long-Term-Care provision?
4. Which (co-)financing models can support the spread of IT-based solutions?
5. How can ICT based solutions be best integrated into the specific social structures of families, neighborhoods and friends at the local community level?

To answer these questions, we reviewed the relevant academic literature, policy reports and media content, interviewed policy makers, social entrepreneurs and Japanese academic experts, and did case studies of local initiatives. Due to the pandemic a few case studies had to be cancelled. Instead, we were able to conduct a survey with participants and teachers of ICT courses for elderly offered by two NGOs in Tokyo. The following summarizes the findings for each research question.

1. Which ICT-based solutions are regarded in Japan as effectively supportive of prolonging independent living of older people in their accustomed local surroundings – even in the case of severe neediness?

In general, the potential of ICT to cope with the challenges of an aging society is well recognized by policy makers. The main contributions expected from ICT are supporting life-long learning, improving employability, enhancing the provision of and access to health-related services and services supporting daily life, communication with family and friends. In the case of elderly care, robotic systems, including monitoring and surveillance solutions are considered essential in order to cope with increasing demand and growing shortage of care workers. In the future, autonomous driving and drones are expected to provide essential mobility and delivery services, especially in depopulated areas with high share of elderly population.

2. Which of these ICT-based solutions are applied in Japan and which are typical barriers on the side of the elderly users in the case of implementation?

Most of the above technologies have been developed and are ready to be deployed and used. However, the level of implementation is at an infant stage. The main reasons are lack of knowledge by potential users (elderly, family, friends and care takers) about the existence of relevant solutions, barriers to use solutions due to inexperience, lack of confidence or trust, and also high costs.

Although Japan has one of the highest internet penetration rates in the OECD (, the gap in usage rate between the younger (16-24y) and older (55-74y) generation is relatively large (OECD 2020).

3. How can the spread of ICT-based solutions be supported by policies? What are the respective experiences in the wake of the new Japanese strategy to stronger communalise the Long-term-Care provision?

The policy focus has so far been on the research and development side. From the above it is clear that more user engagement in the development of ICT solutions, education to improve knowledge about ICT solutions and their use are essential to exploit the potential of ICT technologies. A central issue is the improvement of ICT literacy among the elderly population.

Both the central and the local governments are counting on NGOs, i.e. local volunteer organizations, to provide courses and other support measures targeted at improving the ICT literacy of seniors.

An important recent initiative in this respect is the recently initiated program “Assistant for Digital Activities of Seniors” by the Japanese Ministry of Internal Affairs and Communications (MIC). One main motive is to enable senior citizens to use online services by the public administration. The program aims to train local volunteers from NPOs, but also personnel in retail shops selling ICT equipment, such as mobile phones, to assist elderly citizens living in the same community in the use of digital devices and applications. After various test programs had been undertaken in 2019 and 2020, the program is to be implemented from June 2021 onwards with a budget of 930 million yen (7.5 mio euro). The budget will be used to train the assistants.

Municipalities are the key players in Japan’s public long-term care insurance system. However, ICT support measures, including the use of robotic systems, are so far not systematically covered by the system.

4. What (co-)financing models can support the spread of ICT-based solutions?

Improvement of ICT literacy is not covered by Japan’s long-term care insurance.

Central and local governments provide budgets that NGOs (volunteer groups) who organize ICT courses can apply for. Municipalities also offer class rooms. With the start of the pandemic courses have been organized online. NGOs criticize that the public financial support is insufficient to offer adequate and continuous courses fit to the needs and level of knowledge by participants.

5. How can ICT based solutions be best integrated into the specific social structures of families, neighbourhoods and friends at the local community level?

Social environment - family and friends - plays an important role in the acceptance and use of ICT solutions.

In line with the comprehensive scope of responsibilities rendered to municipalities by the Japanese long-term care insurance, the Japanese government pursues the goal to implement nation-wide by 2025 community-based integrated care systems (CBICS) to support the living conditions of elderly in their accustomed environments. CBICS envisage the integration of different local support systems, such as families, neighbourhoods, hospitals, care facilities, NGOs and the municipal administration. The use of ICT features prominently in CBICS. Not only in as tools to directly support elderly care activities, but also as means to virtually connect the various groups to exchange and share information and to coordinate support activities.

Achievements WP 6

All the tasks described in the submitted proposal have been achieved as follows:

6.1: Investigation on initiatives for supporting the technological literacy of older people on a local and national level

It has been concluded the analysis of official documents, databases and web, identifying initiatives or projects on the digitalization regarding older people in Italy as well as the regional and local level. It has been conducted the investigation on the resources and needs of stakeholders and existing initiatives through semi-structured interviews with experts in teaching computer and digital technologies to older people. In particular, the consolidated experience of a national leader in technological learning, the Fondazione Mondo Digitale (Rome) was collected. It has also been raised the approach used by several teachers, at regional level, of the main Italian network of NGOs for the recreational and educational activities of older adults, constituted by the Universities of the Third Age, that manage the didactics of computer courses for older people. The structure of the interview allowed to know:

- which teachings were more important to include in a training for seniors (e.g. computer skills or software vs. knowledge of social media and digital apps);
- which characteristics with respect to the content a digital skills training for older adults should have; which teaching method is better for them (e.g. frontal lecture or group learning dynamics);
- which individual needs older adults have with respect to learning digital skills.

6.2: Analysis of successful/unsuccessful initiatives with the users

Desk research and interviews with experts from the previous task were used to define effective initiatives with older users, so as to modulate the intervention of the training. On the basis of the analysis of successful interventions, it was collected information about main topics such as knowledge of the national and European context about level of digital skills of older adults; presence of eHealth and digital literacy, effective formats and methods to support learning.

6.3: Design of the technological literacy strategies for the Italian older users with an emphasis on health literacy.

On the basis of the priorities and contents analyzed in task 6.2, the handbook of the eHealth training to be conducted in Italy was developed. The training was divided on the following modules:

Module 1 introduced the objectives of the ACCESS project and analyses the definition and meaning of eHealth literacy. An overview of the initiatives and projects for the digitization of the older people in Italy was provided, with a focus on the barriers to the use of technological and digital health (eHealth) solutions (e.g. legal framework, privacy and sensitive data, limited cost-effectiveness of eHealth technology projects, multi-morbidity). The first part of the module was managed as a frontal lesson. In the second part, a discussion was conducted, in focus group mode, to reflect and share the point of view on approach and perceived images of technology. The aim was also to lead older participants to reflect on the concept acceptance/rejection of technological tools, trying to distinguish the barriers to access (motivational, digital skills, material, use) that are experienced more in everyday life. Before starting the training, the Informed Consent was provided to the participants and a copy of the signed informed consent was collected by postmail. During the first session, a questionnaire was presented to the participants, containing information on: experience with technology, eHealth literacy, socio-demographic information.

The preliminary questionnaire was composed by:

- an ad-hoc checklist to collect socio-demographic information;

- the Survey of Technology Use (SOTU) from the Matching Person and Technology Model. SOTU is composed by a 29-item checklist which inquire into current experiences and feelings toward

technologies. All items are presented in a three-point semantic differential format to elicit the consumer's feelings towards these influences (e.g. positive, neutral, negative), in this way, three subscales are scored, highlighting positive, negative or neutral past experiences with technology as well as a total score.

- The Italian version of the eHealth Literacy Scale (eHEALS), an 8-item measure of eHealth literacy developed to assess consumers' combined knowledge, comfort, and perceived skills at finding, evaluating, and applying electronic health information to health problems.

During the last session, a final questionnaire was administrated including:

- the eHealth Literacy Scale (eHEALS);

- ad- hoc checklist, consisting of 8 questions to be rated on a 5-point Likert scale, to assess the satisfaction with the training, from 1 "Not agree at all" to 5 "Completely agree". **Module 2** combined theoretical and practical aspects, guiding participants to know what is health literacy and eHealth literacy and providing information to improve health/eHealth literacy, in order to enhance knowledge and awareness of digital tools and applications more functional to psychophysical well-being. The second part of the lesson, was managed as a practical exercise, starting from the selection of freeware digital health apps, to promote in the older people a more autonomous and conscious management of health and increase the degree of health and digital literacy (eHealth). The objective was to provide participants with a selection of apps with health information from secure and verified official health systems' sources, easy to use and usable even after the end of the training, so that they are more familiar with, and gain greater utility from, the use of such tools in their daily lives. **Module 3** was focused on the concept of usability of digital and technological services and devices, presented in frontal lesson mode. The scope was to acquire greater awareness of the problems or errors in use, trying to distinguish situations in which the ineffective use, or non-use, is due to poor user skills or, conversely, to an inadequate degree of usability of the service/technological tool. The second part of the module has been conceived as a practical exercise, based on an example test of usability of online portals that offer a service of wide use, especially for health of older people. This test, for instance, concerned the online booking center of medical examinations. In particular, the main usability problems of an online site, which can cause difficulties of use for the older population, were shown. **Module 4** has been designed as intergenerational learning context: in agreement with a high school, students, coordinated by their teacher, conducted a lesson on the use of social networks (such as Instagram, Tik Tok, Youtube, Snapchat) to promote the use and social inclusion of the older adults. By describing the characteristics and functioning of some of the main web tools, apps and socials in common use, the young students stimulated the older adults to think about on current issues concerning the relationship with technology and the potential inherent in new forms of communication and sociality. **Module 5** aimed to assess the self-evaluation of an enhanced awareness, knowledge and skill levels of technological use and digital health literacy, with a concluding section regarding the evaluation of the training activity and teaching carried out. In the final session, the trainer described to the participants the characteristics of the final questionnaire to support them in filling it out. Moreover, the willingness to pay was analyzed at the end of the training. In addition, an attempt has been made to analyze the relationship between familiarity with technology and appreciation of the intervention with the health literacy.

6.4: Pilot activity

After the design of the pilot training, the participants were recruited. Due to Covid-19 pandemic, it was necessary to redefine twice this phase, as described below in the deviations section (4.3). In conformity with the lockdown and pandemic containment government measures, it has been mandatory to interrupt the lessons in classrooms' training conducted before in collaboration with the local NGO Università della Terza Età (University of the Third Age) of Ancona. For the remodeling of the pilot, it was considered appropriate to define it according to an online method. In agreement with the union of retirees FNP CISL Marche, it was possible to recruit 58 seniors - from all provinces of the regional territory (Pesaro, Ancona, Macerata, Ascoli Piceno and Fermo) - to the conduct of the

online training, through the platform GoToMeeting. The homogeneity of the contents was maintained as much as possible with respect to the characteristics of the initial pilot, adapting them to the specific needs and to the best possible use of them in the online mode by the older participants. For better management and a more effective coordination, the participants were subdivided into three distinct groups. According to the study design described above, the course was divided into five modules on a weekly basis (for a total of 12 lessons – Module 4 and 5 were conducted in the same session), of about 1 hour and 30 minutes in duration. All participants completed the mandatory informed consent form. The data from the questionnaires were collected and processed.

6.5 Analysis of the results and dissemination of the practice

In light of the results of the pilot training, observing the socio-demographic characteristics that emerged from the statistical analysis of the questionnaires, the 58 older adults' participants were found to be mostly male (58.6%, compared to 41.4% female), married (74.1%), and with a secondary level of education (70.7%). The average age was 68.2 (±5.0) years. There is a strong (almost 80%) positive and statistically significant relationship between satisfaction with the training and eHEALS scale enhancement, before and after the course. The pilot performed demonstrates that participants that, before the training, have less positive experiences with technology (SOTU-positive) or have less past experience with technology (SOTU total) have perceived a higher improvement of eHealth literacy after the course. Moreover, a relevant quota of older adults recognizes high economic value if the training was available in the marketplace. In the item regarding the potential price/cost, 31.6% of them would pay over 70 euros, and, between them, with a significant proportion of those who estimate the cost to be over 100 euros (12.3%), compared with those have indicated a preference for "free" course (22.8%). Additional results are in press.

Achievements WP 7

In Finland, the older adults´ learning of digital literacy skills is mainly organized in adult education centers and non-governmental organizations. Therefore, WP 7 collected information on the circumstances and factors influencing the active and efficient training of digital skills of older adults. A particular interest was on scrutinizing older adults' reasons to participate in the digital skill training as an ICT teacher in formal settings such as adult education centers or as a peer tutor in non-formal settings such as non-governmental organization providing digital skill tutoring to older adults. The activities of WP 7 included investigation of older adults' reasons to participate in digital skill training in formal and non-formal settings. Furthermore, the WP 7 investigated benefits that ICT teachers and peer tutors got from the digital skills training in different settings. The Wp 7 also scrutinized the older adults' digital skills training from the viewpoints of different learning approaches such as behaviorism, cognitivism and (social)constructionism and discovered three different training styles that applied those approaches

Place: Older adults´ motivations for learning digital skills in formal and non-formal settings

Rapid development of digital technologies affects the lives of all people and often leads to people being in unequal positions regarding digital skills training opportunities. According to the results of WP 7, tutors and professional ICT teachers had different motives for teaching digital skills to older adults. Male and female tutors had higher motives regarding "benefits for self" than professionals. Both male and female tutors reported significantly higher motives in benefits for self than same sex professionals whereas the strongest source of motive for professionals was "previous experiences". This may be related to the fact that professionals are being paid, hence benefits for self being was low, whereas tutors can gain something for themselves. This important to know when recruiting volunteer tutors as their role is crucial for maintaining and extending the digital training and support services in Finland.

Furthermore, as the role of the professional ICT teacher can become distanced from the learner as a formal relationship forms an informal one with peers may have more benefit for the older learners. As

a result, the sense of belonging to a community of tutors and peers of the same age can be motivating for the peer tutors and keep them coming back to offer help. Therefore, when digital skills courses are designed for older adults, it would be good practice to have volunteers who could act as peer tutors. These peer tutors may be able to better relate to the learners. This would keep the tutor-tutee ratio low, and more opportunities for one-to-one guidance that many older adults prefer. However, it would be good to support volunteer tutors (e.g., systematic training) so that they could get positive experiences from their work. For example, further guidance in how to work with others in digital skills training for the volunteers is needed. The results of WP 7 also indicate that the professional ICT teachers often have limited training regarding how to teach older adults. ICT teachers can bring their own knowledge to the learning situation but may struggle to get to grips with some of the digital skills older learners needed for everyday life. Therefore, more guidance on older adults' learning of ICT skills is needed for ICT professional ICT teachers.

Place: Older adults' self-perceived benefits of digital skills training in formal and non-formal settings

Older adults´ motivations for learning digital skills vary but they are generally connected with expectations of upcoming benefits. WP 7 also investigates the self-perceived benefits of older adults, ICT teachers and peer tutors who have participated in digital training sessions in non-governmental organizations or adult education centers. According to the WP 7 results, participation in digital training events supported development of digital literacy and wellbeing of the participants. Mostly older adult peer tutors described increase in their wellbeing. The findings of the study indicate that participation in digital training sessions in later life is beneficial, as it supports the growth of independence and positive interdependence in new types of learning communities that strengthen older adults' learning and wellbeing. The peer tutors themselves also had a sense of belonging that is common in the volunteer activities in general.

Learning: Training styles used in older adults' digital skill training

Older adults can face negative stereotypes concerning their abilities and motivation to learn to use technologies. In addition, people designing or introducing new technology cannot always imagine the difficulties that people from an earlier generation may experience. Researchers have tried to describe elements that highlight needs and preferences of older computer learners and it has been lately recognized that older adults, indeed, may have unique learning needs especially when concerning learning new technology. Yet, more comprehensive knowledge is needed to understand factors that facilitate or complicate the learning of older adults in technology contexts. There are studies that have introduced several general instructional design and contextual considerations for delivering technology-based instruction to older adults. However, researchers have pointed out that more age-specific instructional formats are needed, and more research needs to be done to know what instructional principles are helpful for which age group, under what conditions, and why. WP 7 tackled this issue by scrutinizing how tutors trained tutees and how three main learning approaches used mainly in education of children and youth can be successfully applied for training older adults and to support their individual needs as learners.

The results of WP7 revealed that tutors, in general, used three training styles when teaching digital skills for older adults. Each style had characteristics from one general learning approach. The training style that aimed at supporting tutees to use digital technology was the most used by tutors. This style had many characteristics from behaviorism, e.g., training was tutor-led, and the learning outcome of the training was known mainly by the tutor. This style was used particularly when the goal of the training was clear, there was only a limited time for training, or the tutee had very little knowledge on the issue to be learned. The use of this style provided a quick help for tutee. However, it did not foster tutee's understanding of digital technology and thus, the tutee usually had to come back to get further help. The outcome of the second training style used was to train the tutee to understand digital technology. This style contained many characteristics of cognitive learning approach. The style included activities such as asking questions from tutee, asking the tutee to try the learned instruction in different contexts, and activating tutee to ask questions from the tutor. This tutoring style provided

a deeper understanding of the issue to be learned than the first tyle. This style, however, required time and often also some prior knowledge from the tutee and thus, was less used by tutors than the first style. The outcome of the third style was to construct joint knowledge with tutor and tutee. The style had characteristics from (social) constructivism and was not often used as this required time and often prior knowledge and skills from the tutee. However, this was a rewarding style both for tutors and tutees as all seemed to learn and create new understanding of the issue to be learned. In addition, this style increased the feeling of community among tutees and tutors and increased motivation for all participants to share ideas and knowledge also in the future.

Achievements WP 8

The objective of WP 8 was to analyse costs and benefits of local implementations (learning opportunities/courses for older people regarding digital technologies) in Austria, Germany, Finland, and Italy. Based on the results of a literature review on the topic of cost-benefit analyses in the context of education in old age and based on the findings of the previous WPs, the consortium developed a mainly qualitative approach. The aim was a description of possible (wider) benefits of taking part in learning activities on digital technologies vs. (wider) costs for participation in respectively provision of these learning opportunities on three levels: a) macro (society, policy), meso (organizations), and c) micro (individuals, older learners). In this regards, benefits ("outputs") concern the immediate result of the learning, the achievement of the learning process, e.g. to enable older course participants to use digital technology in everyday life, or to enable the older learners to decide consciously if they want to use a certain digital technology/application or not. Furthermore, wider benefits ("outcomes") are more far-reaching effects of the learning process; not directly related to the learning but occurring because of the learning and use of digital technology in everyday life. The same applies accordingly to the area of costs. Both, costs in the sense of course fees and costs for digital devices and Internet connection were considered. Costs in a broader sense were understood to be e.g., non-monetary resources that older learners must expend to attend the course. This, for example, can be efforts that older people have to make to overcome psychological barriers in the face of low self-confidence or discouraging learning experiences in their biography. Non-monetary aspects were analysed following the "value benefit analysis"-approach.

Results of 22 qualitative interviews from Austria, Italy, Finland and Germany were analysed to develop the WP8 "Model on contextual factors for cost-benefit considerations of implementing learning opportunities on digital technology for older people". The interviewees were organizers, lecturers and participants in learning opportunities for older people on digital technology. The qualitative sample also included experts from science and from the representation of the interests of older people, as well as stakeholders from member associations/trade unions.

In general, it can be stated that most of the answers on costs and benefits refer to the micro level (older learners). Nevertheless, the survey provides a collection of cost-benefit-related aspects on the meso and macro level, too. It is important to emphasize that the model does not make any statements about causal relationships. Rather, it shows (contextual) factors that are relevant for cost-benefit considerations of implementing learning opportunities on digital technology for older people.

The topic of business models was discussed very differently: Some experts made their point for an involvement of private (technology) companies in the design and implementation of technology courses for older people. Other experts, on the other hand, explicitly advise against having this area of education, which is important for social participation, carried out privately or commercially. From their point of view, it should be a genuine state or municipal task to guarantee affordable, low threshold access to technology learning activities, especially for vulnerable groups of older people.

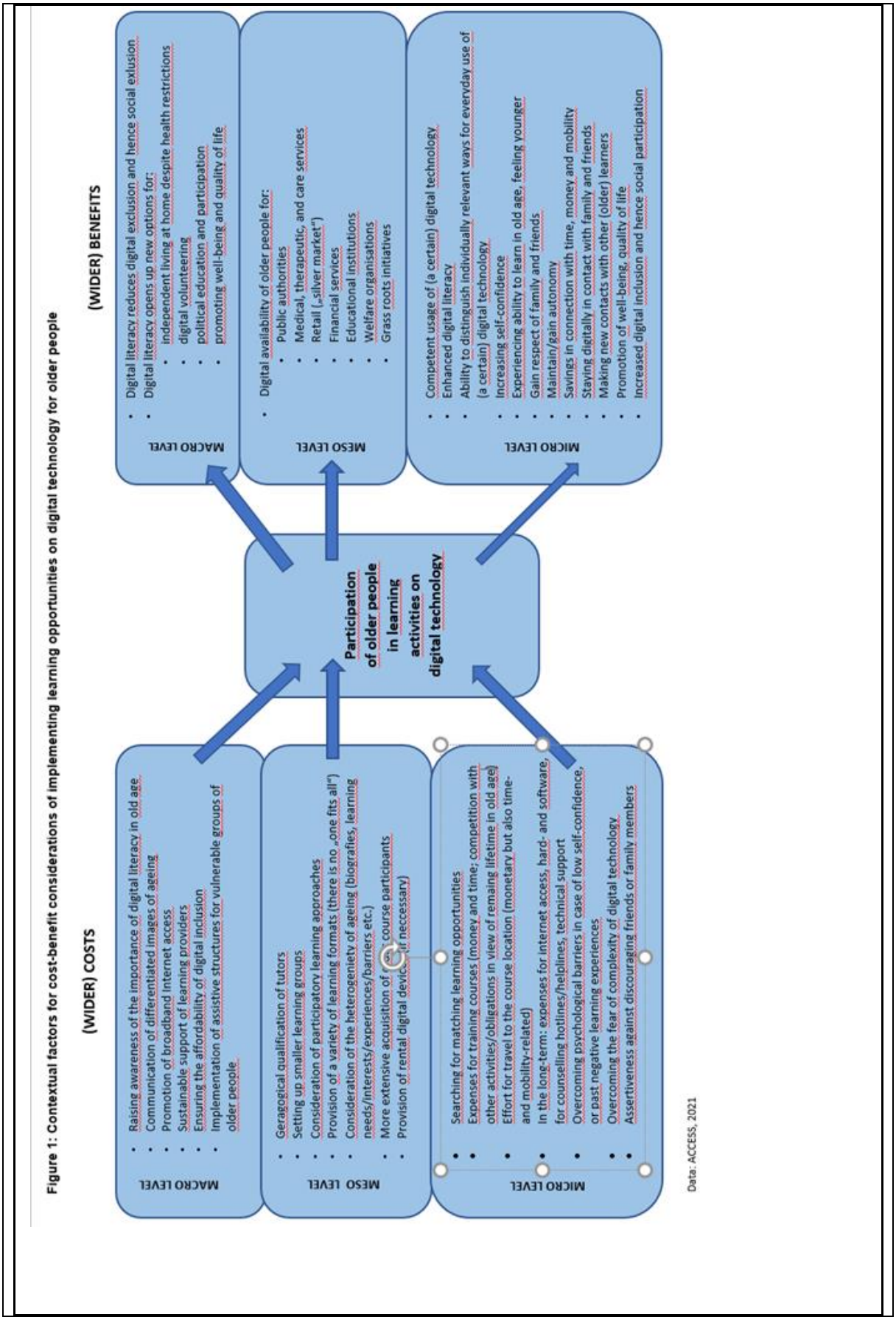


Figure 1: Contextual factors for cost-benefit considerations of implementing learning opportunities on digital technology for older people

Achievements WP 9

Please describe the achievements of work package 3 in relation to the initially planned objectives (max. 2 pages).

The goal of the project 'ACCESS – Supporting digital literacy and appropriation of ICT by older people was to tackle multi-level challenges related to older adults' digital literacy by exploring, implementing and evaluating different modes of socially embedded learning opportunities for older adults to gain experiences and sustainable knowledge and skills regarding modern technology. Consequently, ACCESS project developed recommendations and a model for the set-up of a new learning culture around the uptake of older adults' digital literacy. To reach the goals, the project explored different learning settings such as formal courses to learn to use internet or non-formal settings such as peers supporting older adults to learn digital literacy skills. Furthermore, a stationary as well as a mobile demo kit of assistive technologies were assembled accompanied by a training concept for learning providers and organizations to spark discourse and provide opportunities for improvement on the technological side. Finally, learning of older adults in the context of digital literacy was also investigated from the viewpoints of different educational approaches such as behaviorism, cognitivism and social constructionism. As a result, a holistic model describing older adults' learning of digital literacy from different angles, acknowledging (1) socio-cultural contexts (e.g., discourses on aging), (2) environments (e.g. institutional settings) and (3) Learning settings and instruction practices for learning digitating literacy) was created.

A model of the development/learning/training? of older adults' digital literacy

The results of the 'ACCESS project indicate that a broad understanding of the factors influencing the older adults' appropriation and learning processes in relation to design and use of digital technology is one solution to understand and facilitate these multi-level processes.

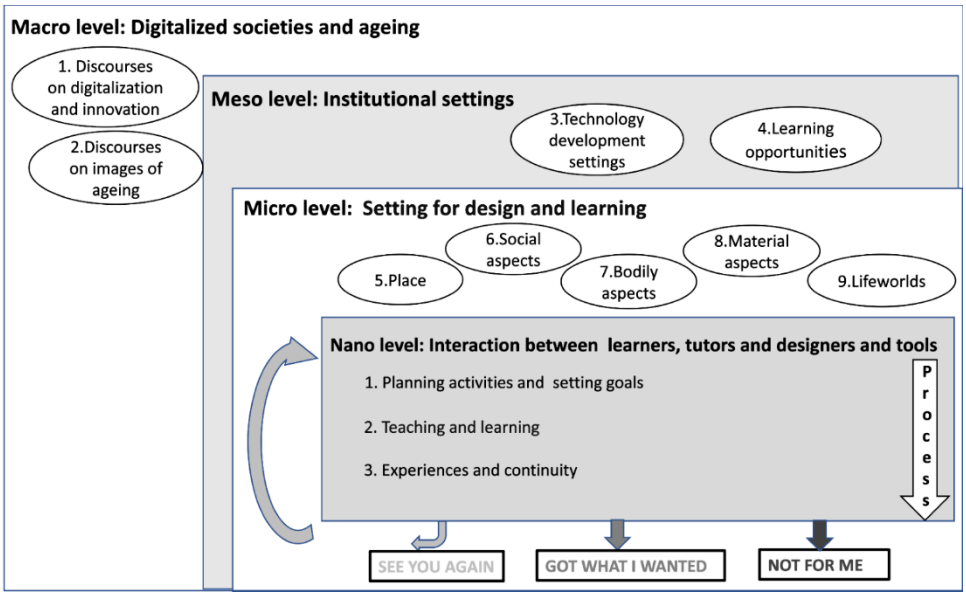


Figure 1. A model of factors influencing the development/learning/training? of older adults' digital literacy

Macro level: Discourses on the design and use digital technologies as well as images of aging needs particularly to be considered as they reflect and shape the way how the older adults' needs for the adoption of digital literacy skills are perceived and supported in societies. Currently, discourses on innovation, technology and aging typically focus on the facilitating and money saving effects of information technologies on the older adults' lives, like enabling independent living), and increasing individual well-being). In addition, critical topics such as example criminality, data protection and digital inequalities are nowadays addressed as well.

However, the current ageing-and-innovation discourse is problematic as it seems to legitimize investment in any kind of technology for older adults but do not provide means of discriminating between useful and non-useful technologies. In addition, the discourse seems to be based on a negative view of ageing which, can contribute to problems with acceptance of these technologies. Furthermore, s the ageing-and-innovation discourse creates a moral high ground it is hard for opponents to disagree with this discourse, and it can hinder the development of suitable technologies that fit in with the needs and lives of older adults.

Meso level: The institutional settings of technology development and learning opportunities also influence the older adult's participation in the design of digital technologies and the use of digital technologies in the everyday use. Questions regarding power distributions between older adults and technology developers have been raised. Consequently, due to power imbalances, the voice and opinions of older people may be sidelined to make place for more technical concerns. To achieve acceptable technologies for older adults, the understanding of how older persons can be involved successfully during technology design and how to support the adoption of digital literacy skills during PD process are necessary.

The institutional opportunities for older adults to get support for the acquisition of digital literacy is related to national policies on digitalization. A large majority of countries have developed national strategies for digitalization that address the need for broadband infrastructure (including broadband access) and access to technological devices, as well as encouraging lifelong learning. However, few strategies explicitly address the specific needs of older persons in relation to adopting digital literacy, and the benefits they may reap because of becoming more digitally literate and active. The strategies also need a practical plan to systematically implement the instruction for the adoption of digital literacy skills.

Micro level: The older adults' usage of digital technology also depends on their competences and interests as well as on the opportunities for learning and updating their digital literacy skills. Therefore, the practices of using new technologies are embedded not only on discourses about ageing and institutional settings but also on the instruction methods used to support the adoption of digital literacy skills. The important factors influencing the adoption of digital literacy skills are Place, social, bodily, and material aspects and the lifeworld's' of older adults

Nano level: The nano level includes the activities and processes related to actual training of digital skills. The content and the methods used in training can vary a lot depending on where the training take place and who is involved in the learning situation. The training process typically has three phases.

1. Planning activities and setting goals: When the training begins, it is crucial that the tutor or the teacher knows something about the participating learners. It is particularly important to know the participants' knowledge and skills in relation to the topic to be learned. This information helps the teacher or the tutor to plan the implementation of the training, e.g., how to organize the space, to get possible devices ready and to set the goals for the training. If the learners are not able to conceptualize what they want to learn, it is harder to set goals. If the tutor is not able to retrieve the information about the learner in advance (as it might be the case in more open-ended learning opportunities), it is necessary to have a range of different resources (e.g., plan to use different training methods or devices) at hand, which can be flexibly fitted to the learning situation.

2.Applying tutoring styles, Collaborating, Participating, Supporting, interacting with devices and tools. The training activities include that application of different training styles (e.g., based on different learning theories). Especially greater use of cognitive and constructivist learning theories would promote learners' understanding and remembering what has been learned. To ensure the learning of the participant it is important that the learners are actively involved in the training for example by encouraging their active participation and practice during the training session. It is also good to acknowledge that that sometimes the learner may know more than a teacher or a tutor

about a certain topic which will enhance the collaborative learning of all participants. if the environment is open and safe.

3. The ending of training session including experiences and continuity: In the end of the training session the experiences of the learners are important to acknowledge as they t helps the teachers and tutors to develop the content and methods of the training. if the training has been successful the learners feel that they got what they wanted or that they want to come again as they want to learn more. If the training does not meet with the needs of the learners, their experiences can be negative and foster their exclusion from the future digital training possibilities.

Achievements WP 10

The goal of the WP 10 was dissemination of the project findings in line with 5 different planned objectives. The objectives were reached through following activities:

(1) To communicate the results of the project to audiences that will maximise their impact on policy, practice and product development – has been achieved by working on a policy brief (in progress) based on the common findings from the project; conducting events to exchange information and experiences from the project particular activities (WP 4a, WP7); as well as publishing in academic venues which focus of product development (WP 4b).

(2) To ensure that the project's outputs inform the most important, strategic policy debate on the impact of digital inclusion, technology learning and sustainable usage by the elderly and related stakeholders in the partnering countries – by actively contributing to discourses about aging and technology on a political level by for example working together with national organizations like the finish Ministry of Finances or finish population data services (WP7).

(3) To close the gap between science and society in this field to ensure that general knowledge about the topics mentioned above is as widely known as possible – has been achieved by close collaboration with local actors through various empirical and practical work (all partners).

(4) To provide easy access for experts and citizens to vital information about how to gain and to promote digital literacy for the improvement of the elderly´s health and wellbeing; and – this objective has been tackled especially through the WP 6 and WP 4b which developed specific training (WP 6) or an online learning resource (WP 4b) focusing on fostering digital literacy of older adults; as well as presenting the results to stakeholders from the practice field, for example at the symposium of the "Forum Seniorenarbeit" (North Rhine-Westphalia). IFS exchanged the results and experiences with Edith Simöl from the Austrian Institute for Applied Telecommunications (ÖIAT).

(5) *To provide a major contribution to the various fields of research* – has been achieved by publishing reports, conference and journal publications as well as oral presentations at scientific and practitioners oriented conferences. These efforts were distributed over the different fields, where ACCESS partners were involved.

Achievements WP 11

The objective of this WP was achieved by ensuring good communication between all partners as well as the national funding organizations. Seven project meetings as well as regular videoconference meetings fostered project collaboration. Despite that 3 of the project meetings had to be done online (due to the restrictions connected to the pandemic), the meetings provided a good opportunity to collaborate together. Quality/ELSI assurance was carried out by USI with support by an advisory board representing different stakeholder groups.

Please insert further tables to add more work packages, as appropriate.

4.3 Deviations from the original work plan

As the focus of the project is on learning of older adults, who were one of the main populations affected by COVID-19, our project was heavily impacted by the virus and the connected consequences. When the pandemic started taking place in March 2020, almost all learning and research activities had to be either cancelled or consequently moved online. Taking this step often required finding new possibilities to study our topic as well as extensive adaptation of the methods we were using. All the partners within the project received an extension of 6 months to be able to finish the project work.

5 Key Findings and Recommendations

Please describe the key high-level findings of the research for each work package (max. four key findings per work package) and highlight recommendations associated with each key finding (e.g., recommendations for policy or practice).

WP 1	
Key findings	**Recommendations**
In all ACCESS-countries, national policy is paying increasing attention to the issue “older people and digital technology”. However, the policy frameworks that are relevant to the topic differ. This results in different levels of legal and financial support for initiatives and providers of learning opportunities. These in turn lead to qualitative and quantitative differences in the landscape for the promotion of digital literacy.	**Shape political framework**
In many places, volunteers are responsible for a large part of the initiatives to promote digital literacy among older people. They need to be linked to and supported by professional, long-term financed structures to ensure the quality and sustainability of this socially relevant task.	**Support volunteers professionally**
Differences in the political emphasis on the topic of digital literacy in old age are also reflected in the orientation of national research funding. In the participating countries, it can be observed that, at different speeds, the purely technology-focused calls are supplemented by those that explicitly fund social sciences issues. This is necessary to learn more about successful approaches to digitally include older people. EU-wide calls for proposals seem to be a step ahead here.	**Expand socio-scientific research funding**
The Corona pandemic relentlessly shows how crucial a comprehensive and reliable digital infrastructure and digital literacy have become even in the everyday lives of older people. Digital literacy can therefore not be discussed as a niche topic for a small number of well-off, tech-savvy older people. The provision of infrastructure and learning opportunities is a national task and must not be left to the commitment of individual, often voluntarily working local actors.	**Approve the importance of digitalization in older people`s everyday live**

WP 2	
Key findings	**Recommendations**

Results highlighted that older non-users of the internet are a large (48% of people over 65 years in Austria) yet heterogenous group regarding their financial, educational, health and social resources. The group of “low-educated-female” non-users, for example, have other interests, resources, and face other barriers then the group of “older-higher-educated” non-users living in urban areas. Interventions to support Internet use in later life need to take the heterogeneity of older non-users into account.	Target-group-specific learning programs to support older adults digital literacy are needed. There is no “one fits all”- solution, the solution is rather to support a variety of different non-formal and informal learning strategies.
The interdisciplinary literature review highlighted that learning of older adults with digital technologies takes place at different levels and encounters diverse challenges. One particular challenge is the technical device that plays a crucial role in digital learning in later life. This means that the learning process and usage is shaped by the design and possible applications of modern technology which needs to be considered in ICT-courses for older adults.	ICT-courses need to be aware of age-related design problems of digital technologies, while at the same time, designers and technology developers need to gain a better understanding of ageing and later life.
The conceptual model that was developed out of the interdisciplinary collaboration showed the complexity of digital learning processes in later life. Each discipline widened the model and opened up new perspectives leading to a holistic model. It showed that more conceptual work is needed to better understand the complex interplay of digital technology and older adults.	More funding for fundamental scientific research is needed to develop a better understanding of digital learning processes in later life. Here especially more conceptual ground work is needed.

WP 3	
Key findings	**Recommendations**
Data analysis revealed that older non-users are far from being digitally inactive: Most non-users of digital technologies have tried but failed to appropriate digital technologies. Many of the interviewed non-users turned to informal support through friends and family to learn digital technologies. While these informal networks were often helpful, interview partners also experienced informal learning with family members as unsuccessful. This highlights the need to professionally support older adults’ learning with digital technologies.	Digital learning in later life needs professional pedagogical support structures. Including informal learning networks in such support structures can be a successful strategy to enable sustainable digital learning in later life.
Interviews with older non-users of digital technologies revealed that learning programs are often hard to reach for older adults, especially for those with	More funding for outreaching educational work is needed. The COVID-19 crisis has especially put e-learning programs forward. However, more

health limitations. More outreaching educational work is needed to reach older adults with health limitations or living in rural areas. For this, e-learning programs could be a helpful resource. On the one hand, older adults can watch learning videos as many times as they want to. On the other hand, they can participate in ICT-courses from their home.	research and developments are needed to make e-learning programs accessible for older non-users. Including informal support networks and addressing older adults with their relatives to participate together in e-learning programs could ease the first steps for older non-users.
Data showed that digital learning processes are embedded in the everyday life of older adults. However, most of the course participants could not bring their own experiences into the course leading to a low applicability of the course content with their everyday life. Hence, on one side active participation needs to be fostered with new learning approaches, on the other side learning processes are not restricted to the space and time of the course, which demonstrates the need for courses that offer support outside of the course setting.	Learning initiatives need to be intertwined with older adults everyday lives. This could be fostered through specific training for senior educators - especially with a focus on active participation. Further, it could be fostered through courses that offer learning sessions and technical support at home as well as support for buying and installing new devices.
The digital learning processes in later life are shaped by the digital technology. The digital device thereby introduces a complexity to the learning situation through its different designs and functions, which the trainers try to handle by being flexible to questions and problems. However, the flexibility of the course content is experienced as unstructured by most of the participants. Therefore, the role of digital technology in learning situations, the tension and lack of structure it produces, needs to be reflected by the trainers.	Interventions are required that foster trainers' competencies regarding the role of digital technologies in learning situations. Learning approaches are needed that go beyond a flexible and open course content. Dividing the participants by the operating systems and device manufacturer could help to ease the tension in courses.

WP 4	
Key findings	**Recommendations**
The project provides insights into the diversity of actors, forms, and target groups of options to promote digital literacy in old age. There is no such thing as "one fits all" in terms of learning opportunities and training courses. On the contrary: only a certain variety of offers seems to be adequate to the heterogeneity of ageing. Learning opportunities and training courses on digital technology are very important, are successful and have to be enlarged. But additionally, measures for digital inclusion have to consider the needs of those older people, who are dependent on assistance, e.g. care recipients with cognitive impairment.	Pay regard to the heterogeneity of ageing

Selective measures can arouse interest in the use of digital technology in old age. Since technical capabilities are constantly advancing and the needs of older people can change quickly, long-term support must be available to strengthen digital literacy.	Implement long-term support
For older adults to be able to join design processes of digital technologies, they need to engage in further learning – not only how to use technologies but also in how to learn in a new way (peer-to-peer; online/on-site; experiential learning).	The current educational system need to be extended by learning offers for further and different types of learning and use on digital tools accessible to people of various ages.
It might not be possible to ever take away instructional support, when it comes to older adults using digital technologies to learn and live, if we want the impact of the development and research projects to last.	When designing research calls, the creators should consider funding that also prompts and covers activities taking place *after* the project ends.

WP 5	
Key findings	**Recommendations**
Japan's vision of Society 5.0 and the community-based integrated care system offer holistic approaches to the challenges of an aging society.	European policy makers should carefully study the initiatives and their implementation.
Japanese municipalities play a central role in older adults, child and family care, which makes it easier to plan, coordinate and implement initiatives in a holistic way and to mobilize local community support, like the "Assistant for Digital Activities of Seniors" program.	European policy makers should consider the further empowerment of municipalities in order to strengthen local / community initiatives.
The potential of ICT technologies has so far not been exploited to the full extent, because users (care takers and older adults) are not familiar with ICT solutions.	Users need to be included in the development of technologies. The use of new digital technologies needs to be integrated in the training of care takers.

WP 6	
Key findings	**Recommendations**
The analysis on the Italian context demonstrated a level of initiatives and projects for digital and eHealth literacy lacking and without specific mention to older people also from national policy guidelines on digitization.	**Access to technology as a fundamental right** Every day more, ICTs are essential for the information and the respect of more and more rights and duties of the citizen: a lack of or absent access to digital

	tools and services creates severe non-democratic inequalities, especially for older adults. **Center the older person in the digitalization process** It is necessary that policy makers fully understand the centrality of older people in the digitalization. In the face of a perspective demographic scenario of aging that regards the majority of the population across the EU (and even more, in the order of millions of people, in countries as Germany or Italy), leaving them at the edge of technological knowledge and digital skills' achievement means blocking and significantly weakening the whole process. **Foster the intergenerational mode of learning technologies** Include young, "digitally native" students in learning programs who can tutor or teach in specific modules structured by expert or professional trainers. Especially during social distancing and isolation, in Covid-19 permanent emergency, policymakers should reinforce the link between new and old generations, and similar technological tools and services are a main pillar to build digital culture e communities. **A consistent media relationship** Constant and widespread dissemination and public raising awareness strategy is fundamental: a solid media relationship on the topic of digitalization of older people is currently lacking. Politicians and institutional figures are visible and persistent in news-feed and can strongly contribute to an extensive information, starting from traditional media more familiar and prevalent for the older person, as newspaper, TV or radio.
Lack of standardization of training models that address digital literacy and skills, especially in the field of health (eHealth), tailored to older people, with study designs not yet adequate, as highlighted in the literature.	**Promoting technological and digital learning in policy priorities for social inclusion** Develop awareness measures and campaigns that are currently lacking - if not entirely inconsistent - at the regional or municipal policy level: these actions are becoming an urgent priority since the beginning of the Covid-19 pandemic and with the increasing social isolation/digital exclusion affecting older adults.

	Raise awareness on the improving of eHealth literacy as a prevention and empowerment asset for health care and well-being Support literacy in terms of skills, knowledge and awareness of digital technologies for health (eHealth literacy) with a standard training model for learning aimed at older people to be disseminated and implemented as best practice that can ameliorate, especially in prevention, health status and enhance perceived well-being. **"None alone": to address and assist the most fragile and isolated populations** Reducing barriers to digital technologies use and diffusion, starting from disadvantages areas where the digital divide and low literacy levels of older people are more critical, in order to include as many older people as possible, so that none of them feel isolated and alienated from the digital world.
The ACCESS pilot training has produced effective and promising results for older people by: • increasing knowledge and awareness of the older participant towards technology; • Significantly improving eHealth literacy between the start and end conditions of the training; • identifying a quality and sustainable learning opportunity.	**Solid partnerships and legal framework between policy and public stakeholders (e.g. Ngo's or pensioner's trade unions) including private companies** Binding agreements between political institutions and associations and communities representing the older adults to make effective the training programs of digital literacy and, specifically, also of eHealth literacy and thus ensure a continuity of concrete action, with positive results in the medium to long term. Trying to increasingly include also Silver market companies, in particular small and medium-sized businesses with greater connection with the local territory, for economic support and development of their products and services even more tailored to the needs of the older person. **Targeted public investment programs** Planning the allocation of more public funding, and uniquely and specifically targeted to digitalization of older people, understanding that it is a type of expenditure that virtuously impacts in the present, and even more in the future, to rationalize and reduce costs of social and health services.

	Support concrete, resilient and sustainable learning projects and initiatives of digital literacy Identify learning paths that yield measurable positive outcomes, with the ability to be adapted and replicated based on the specific needs of the older person and the most familiar and homelike context possible for them. Ensure that digitization has resilience and sustainability, so that the older person can maintain knowledge of these tools, applications and services as much as possible.

WP 7	
Key findings	**Recommendations**
Opportunities for digital skills training can enhance the development of digital skills learning communities that considerably enhance the wellbeing of older adults in digitalized society. There is not enough awareness of and support for these new learning communities.	More support at local, district and national level to the establishment and development of the new digital skills learning communities that strengthen older adults' learning and wellbeing in digitalized society.
There is a need for more systematic training for volunteer tutors who provide tutoring services on a voluntary-basis. Peer support is provided by national and local non-governmental organizations. These organizations provide short courses for older adults tutors on teaching digital literacy skills for their peers but the amount and quality of training varies.	Improvement of the content of training programs for professionals and volunteers providing tutoring services including contents such as technical facts on technology that older adults use, knowledge on the learning of older adults, and training of the methods to teach digital literacy skills.
There is not enough knowledge and awareness on the variety of aspects that have impact on older adults' motivation and possibilities to learn digital literacy skills.	Reduce barriers for older adults' participation in digital literacy skills training by considering space, content, and implementation of the support services and by acknowledging older adults' motives and feeling related to the use of digital devices and services.
Older adults do not have equal access to digital literacy tutoring services. Many factors, such as residence, services available in the community, older adults' physical and social conditions have impact on the older adults' possibilities to get support for the use of digital devices and services	Developing policies to guarantee nationwide, easily accessible, and free of charge tutoring services for older adults to get support for the acquisition of digitals literacy skills regardless of their residence, living arrangements, or health condition.

WP 8	
Key findings	**Recommendations**

In addition to the sheer cost of course fees, equipment and Internet connection, older people need to invest more to participate in technology learning opportunities. E.g., they must overcome psychological barriers in case of low self-confidence, or past negative learning experiences, and overcome the fear of complexity of digital technology. The same applies in reverse for benefits in the broader sense, which go beyond the mere ability to use digital technology, e.g. increasing self-confidence and more autonomy from others. Considering these costs and benefits in a wider sense, is relevant for recruitment strategies.	Providers should tailor the promotion of their services to the specific cost-benefit considerations of (specific groups of) older people.
Costs in the narrower and broader sense are incurred for the participation of older people in learning opportunities on digital technology at the micro, meso and macro levels. The same applies to benefits in the narrower and broader sense.	Awareness must be raised that strengthening digital competence in old age requires investments and returns at different levels. If the goal is to avoid digital exclusion in old age, purely financial considerations fall short.

WP 9	
Key findings	**Recommendations**
Factors affecting digital literacy of older adults need to be understood on of different levels	The ACCESS model that provides a holistic view on digital literacy of older adults to understand their learning and using of digital tools.

Please insert further tables to add more work packages, as appropriate.

6 Milestones

Please describe the milestone(s) for each work package and indicate when you achieved each milestone, leaving the final column blank if the milestone was not achieved.

WP	Milestone	Date achieved
WP 1	WP-report including an overview on services and opportunities for older people to acquire digital literacy	4/2019
WP2	WP-report including a theoretical model of digital learning processes and a toolkit for the implementation of learning guidelines	1/2019
WP3	Data collection and analysis completed	5/2021
WP4	First on-site evaluation of the mobile demokit	8/2021
	WP4.1-report on internet skill transfer courses and evaluation of long-term effects	9/2021
WP5	Literature and policy review Interviews, case studies and online survey,	10/2019 1/2021
WP6	Data collection and questionnaires analysis from participants in the online pilot training	6/2021
WP7	Data collection and analysis completed	5/2021
WP8	Model on contextual factors for cost-benefit considerations of implementing learning opportunities on digital technology for older people	9/2021
WP9	A model summarizing the elements contributing the older adult's acquisition of digital literacy skills	9/2021
WP10	Dissemination of the results	9/2021

Please insert further rows to add more deliverables, as appropriate.

7 Deliverables

Please describe the deliverable(s) for each work package and indicate when you achieved each deliverable, leaving the column blank if the deliverable was not achieved. In addition, please report the dissemination level (i.e., public, confidential) and the format of the deliverable (e.g., report, video). Please collate copies of all the deliverables in a ZIP-file and submit the file along with this report. Please name the individual items in the ZIP-file identically to the deliverable names in the table below to enable easy identification.

WP	Deliverable name	Date achieved	Dissemination level	Format	Attached
WP 1	WP1-report: Mapping the Landscapes of Policies and Structures	4/2019	Unpublished	Report	Yes
WP 2	WP2-report: Mapping the Landscapes of Ageing, Learning and Digital Technology	1/2019	unpublished	Report	Yes
WP 4	The first online version of the mobile demokit	12/2020	Published	Website	No
	WP4.1-report: Internet skill transfer courses and evaluation of long-term effects	9/2021	Pnpublished	Report	No
WP 5	Einsatz von robotischen Systemen in der Pflege in Japan mit Blick auf den steigenden Fachkräftebedarf - Use of robotic systems in nursing in Japan with a view to the increasing need for skilled workers	8/2019	Unpublished	Report	No
WP 6	Handbook of the ACCESS training Manual on Health and eHealth literacy for older adults	3/2019	Unpublished	Report	No
WP 7	Ikääntyvät oppijat digitaalisessa mediayhteiskunnassa – Ageing learners in the digitalising media society	5/2021	In review	Book	No
WP 9	Joint article introducing the model of the factors influencing the older' adults' learning of digital literacy	09/2021	In review	Article	No

Please insert further rows to add more deliverables, as appropriate.

8 Outputs

8.1 Publication list

Please list the publications that resulted from the funded project and indicate which type of publication (e.g., peer reviewed article, book/book chapter, review, communication in scientific congress, dissertation, other).

Title	Type
Title of the publication and DOI number or other link	Peer reviewed article
Cerna, K., Paluch, R., Bäumer, F., Ertl, T. and C. Müller. (*Accepted for publication*). Transformation of HCI co-research with older adults: researchers' positionality in the COVID-19 pandemic. *Interaction design and Architectures: Designing during and for pandemics*.	Peer reviewed article
Cerna, K., Müller, C., Randall, D. & M. Hunker**.** Situated scaffolding for sustainable participatory design: Learning Online with Older Adults. *Accepted for publication in GROUP 2022*.	Peer revieweed article
Cerna, K., & Müller, C. (2021). Fostering digital literacy through a mobile demo-kit development: Co-designing didactic prototypes with older adults*. Adjunct Publication of the 23rd International Conference on Mobile Human-Computer Interaction,* 1–6.	Peer revieweed article
Cerna, K. & Müller, C. (2021): Making online participatory design work: Understanding the digital ecologies of older adults. In: *Proceedings of the 19th European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing on the Design of Cooperation Technologies - Exploratory Papers, Reports of the European Society for Socially Embedded Technologies* (ISSN 2510- 2591), DOI: 10.18420/ecscw2021_n22	Peer revieweed article
Cerna, K., & Müller, C. (ed.) (2020). Learning for life: A Workshop Report. *International Reports on Socio-Informatics (IRSI), 17 2,* (ISN ISSN 1861-4280).	Book chapter
Engelbutzeder, P., Cerna, K., Randall, D., Lawo, D., Müller, C., Stevens, G., & Wulf, V. (2020, October). Investigating the use of digital artifacts in a community project of sustainable food practices:'My chili blossoms'. *In Proceedings of the 11th Nordic Conference on Human-Computer Interaction: Shaping Experiences, Shaping Society* (pp. 1-4).	Peer revieweed article
Cerna, K., Dickel, M., Müller, C., Kärnä, E., Gallistl, V., Kolland, F., Reuter, V., Naegele, G., Bevilacqua, R., Kaspar, H., Otto, H. (2020): ECSCW 2020 Exploratory Papers Instructions. In: *Proceedings of the 18th European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing on the Design of Cooperation Technologies - Exploratory Papers, Reports of the European Society for Socially Embedded Technologies* (ISSN 2510-2591), DOI: 10.18420/ecscw2020_ws04	Peer revieweed article
Shkumbin Gashi, Heidi Kaspar, Claudia Müller, Katharina Pelzelmayer, Anita Schürch, Karin van Holten (2020) Partizipative Forschung im Lockdown, *Feministische Geo-RundMail*(83), S. 43-48.	Peer revieweed article
Qinyu Li, Peter Tolmie, Anne Weibert, Marén Schorch, Claudia Müller, Volker Wulf (2020) E-Portfolio: value tensions encountered in	Peer revieweed article

documenting design case studies, Ethics and Information Technology (1572-8439), *Springer*, doi:10.1007/s10676-020-09533-3	
Keller, R. (2019): Human-Computer Interaction und Geragogik: Soziotechnische Unterstützung der Aneignung von Medienkompetenz im Alter. University of Siegen, Department for Business Information Systems. (MA thesis)	Master thesis
Struzek, D., Müller, C. & Boden, A. (2019). Development of an Everyday Persuasive App for Movement Motivation for Older Adults. In: Proceedings of the 17th European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing and the Design of Cooperation Technologies - Demos and Posters, Reports of the European Society for Socially Embedded Technologies (ISSN 2510-2591), DOI: 10.18420/ecscw2019_d04	Peer revieweed article
Struzek, D., Müller, C. & Boden, A. (2019) Entwicklung einer alltagsnahen persuasiven App zur Bewegungsmotivation für ältere Nutzerinnen und Nutzer. In: Proceedings of the 14th International Conference on Wirtschaftsinformatik, February 24-27, 2019, Siegen, Germany, 1979-1983.	Peer revieweed article
Saleem , M. A. (2020). Master thesis Older Adults' Motivation for Smartphones & IT Artefacts: Overcoming Challenges in Pakistan (MA thesis)	Master thesis
David Struzek, Martin Dickel, Dave Randall, Claudia Müller (2020) How live streaming church services promotes social participation in rural areas, *Interactions* 27(1), S. 64-69, doi:10.1145/3373263	Invited article
Bevilacqua, R., Strano, S., Di Rosa, M., Giammarchi, C., Cerna, K. K., Mueller, C., & Maranesi, E. (2021). eHealth Literacy: From Theory to Clinical Application for Digital Health Improvement. Results from the ACCESS Training Experience. *International Journal of Environmental Research and Public Health*, 18(22), 11800.	Peer revieweed article
Bevilacqua, R. & Strano S. (2019): eHealth literacy for the Promotion of Technology Acceptance for the Older Adults In: Proceedings of the 16th European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing and the Design of Cooperation Technologies - Exploratory Papers, Reports of the European Society for Socially Embedded Technologies	Peer revieweed article
Gallistl, V., Parisot, V., Dobner, S., Mayer, T. & Kolland, F. (2018) Digital Literacy im Alter - Bildung im Alter und neue Technologien. In: Kuttner, C. & Schwenker, C. (Hg.): Mediale Lernkulturen im höheren Erwachsenenalter. Bd. 10 der Schriftenreihe 'Gesellschaft - Altern - Medien'. München: koaped. 61-78.	Book chapter
Rohner, R. (2021). Digitale Bildung und digitale Kompetenzen im Alter. In: Kolland, F., Hechl, E., Gallistl, G., Brünner, A. & Müllegger, J. (Hrgs.): Bildung in der nachberuflichen Lebensphase. Bestandsaufnahme und Zukuftsfragen. Stuttgart: Kohlhammer. (Accepted).	Book chapter
Kolland, F., Wanka, A. & Gallistl, V. (2019). Technik und Alter: Digitalisierung und die Ko-Konstitution von Alter(n) und Technologien.	Book chapter

In. Schroeter, K., Vogel, C. & Künemund, H. (eds.).: Handbuch Soziologie des Alter(n)s. Wiesbaden: Springer VS.	
Gallistl, V. & Wanka, A. (2019): Representing the Older End-User: Challenging the Role of Social Sciences in the Field of Ambient Assisted Living. International Journal of Care and Caring. p. 123-128	Peer reviewed article
Wanka, A. & Gallistl, V. (2020). Ältere Menschen und Digitalisierung aus Sicht der kritischen Gerontologie. In: Möglichkeiten und Herausforderungen der Implementierung von Technologien im Alltag von älteren Menschen: Expertise zum Achten Altersbericht der Bundesregierung. Berlin: Deutsches Zentrum für Altersfragen.	Book chapter
Wanka, A. & Gallistl, V. (2021). Socio-Gerontechnology – ein Forschungsprogramm zu Technik und Alter(n) an der Schnittstelle von Gerontologie und Science-and-Technology Studies. Zeitschrift für Gerontologie und Geriatrie: Organ der Deutschen Gesellschaft für Gerontologie und Geriatrie.	Peer reviewed article
Gallistl, V. & Wanka, A. 2021. Connecting the Dots of New Materialist Approaches in the Study of Age(ing): The Landscape of Material Gerontology. Tecnoscienza -Italien Journal of Science and Technology Studies, 11 (2): 119-124	Peer reviewed article
Wanka, A. & Gallistl, V. (2021). Age, actors and agency: what we can learn from Age Studies and STS for the development of Socio-Gerontechnology. In: Peine, A., Marshall, B. L., Martin, W. & Neven, L. (eds.). Socio-Gerontechnology: Interdisciplinary Critical Studies of Ageing and Technology. New York: Routledge, p. 24-41	Book chapter
Gallistl, V. & Kolland, F. (2020). Technik und Technikentwicklung. In: Flicker, E. & Parzer, M. (eds.). Forschungs- und Anwendungsfelder der Soziologie. (3., aktualisierte und erweiterte Auflage). Wien: Facultas Verlags- und Buchhandels AG, p. 252-266	Book chapter
Seifert, A., Rohner, R., Gallistl, V. Wanka, A. (2020). Aging in Digital Culture: How Older Smartphone Users Experience Aging. IfS Working Paper 3/2020.	Working Paper
Rohner, R., Warmuth, J., Jogl, I., Gallistl, V. & Kolland, F. (2018) WP2: Mapping the Landscapes of Ageing, Learning and Digital Technology. Working paper. Contributing Partners: University of Siegen (USI): Müller, M., Jung-Henrich, J.; TU Dortmund University (TUD): Hess, M., Ehlers, A.; University of Eastern Finland (UEF): Kärnä, E., Pihlainen, K.; National Institutes on Health and Science of Ageing, Italy (INRCA): Bevilacqua, R., Strano, S., Vienna	Working paper
Gallistl, V., Rohner, R., Seifert, A. & Wanka, A., 2020, Configuring the Older Non-User—Between Research, Policy and Practice of Digital Exclusion. Social Inclusion, 8(2), 233. DOI:10.17645/si.v8i2.2607	Peer reviewed article
Gallistl, V., Rohner, R., Hengl, L., Kolland, F. (2021). Doing Digital Exclusion –Technology Practices of Older Internet Non-Users. Journal of Aging Studies, 59, 1-8. https://doi.org/10.1016/j.jaging.2021.100973	Peer reviewed article
Köttl H., Gallistl V., Rohner R. & Ayalon L. (2021). "But at the age of 85? Forget it!": Internalized ageism, a barrier to technology use. Journal of Aging Studies, 59, 1-8. https://doi.org/10.1016/j.jaging.2021.100971	Peer reviewed article

Rohner, R., Hengl, L., Gallistl, V., Kolland, F. (2021). Learning With And About Digital Technology in Later Life: A Socio-Material Perspective. Education Sciences. 11(11), 686; https://doi.org/10.3390/educsci11110686	Peer reviewed article
Ehlers, A., Reuter, V., Kuhlmann, A., Frewer-Graumann, S. & Hess, M. (2021). WP 4.1: Internet skill transfer courses for older people and evaluation of long-term effects. Dortmund.	Report
Ehlers, A., Hess, M. & Frewer-Graumann, S. (2019) WP 1: Mapping the Landscapes of Policies and Structures. Working paper. Contributing Partners: Eija Kärnä & Kaisa Pihlainen: University of Eastern Finland; Roberta Bevilacqua & Stefano Strano: National Institute on Health and Science of Ageing, Italy; Ines Jogl, Rebekka Rohner & Vera Gallistl: University of Vienna, Austria; Jutta Jung-Henrich & Claudia Müller: University of Siegen, Germany	Report
Pihlainen, K., Korjonen-Kuusipuro, K. & Kärnä, E. (2021). Perceived benefits from non-formal digital training sessions in later life: views of older adult learners, peer tutors, and teachers. International journal of lifelong education 40 2: 155-169.	Peer-reviewed article
Ageing learners in the digital media society. Book (in finnish). K. Korjonen-Kuusipuro, P. Rasi, H. Vuojärvi, K. Pihlainen & E. Kärnä (Eds.) Gaudeamus, Finland.	Book, in review.
Teknokulttuurin pyörteissä. (In the heart of technoculture.) (2021). Korjonen-Kuusipuro, K. & Suopajärvi, T. In: K. Korjonen-Kuusipuro, P. Rasi, H. Vuojärvi, K. Pihlainen & E. Kärnä (Eds.) Ageing learners in the digital media society. (2021) Gaudeamus, Finland.	Book Chapter.
The learning theoretical ascpects of peer tutoring. (2021). Kärnä, E. In: K. Korjonen-Kuusipuro, P. Rasi, H. Vuojärvi, K. Pihlainen & E. Kärnä (Eds.) Ageing learners in the digital media society. (2021) Gaudeamus, Finland.	Book Chapter.
Mielekästä digitaitojen oppimista yhdessä. (Learning digital skills together). (2021). Pihlainen, K. & Ng, K. In: K. Korjonen-Kuusipuro, P. Rasi, H. Vuojärvi, K. Pihlainen & E. Kärnä (Eds.) Ageing learners in the digital media society. (2021) Gaudeamus, Finland.	Book Chapter.
Peer tutoring situation as a process. (2021). Aavikko, L., Pihlainen, K. & Kärnä, E. In: K. Korjonen-Kuusipuro, P. Rasi, H. Vuojärvi, K. Pihlainen & E. Kärnä (Eds.) Ageing learners in the digital media society. (2021) Gaudeamus, Finland.	Book Chapter.
Korjonen-Kuusipuro, K. & Saari, E. (2021). Huolta, ärsyyntymistä, pelkoa ja ahdistusta – ikääntyvien kielteiset tunteet digitalisaatiossa. Yhteiskuntapolitiikka 4/2021. [Worry, irritation, fear and anxiety – negative emotions of older adults in digitalizing society]	Manuscript under review.
Saari, E., Korjonen-Kuusipuro, K., Hirvonen, M., Turunen, J. & Kalavainen, S. (2021). Voluntary work for digital surviving of the citizens – enabler of agency and source for mutual learning?	Manuscript under review.
Seitsemän vuotta innostavaa yhteistyötä Joen Severin kanssa. (Seven years of fruitful co-work with Joen Severi). Kärnä, E., Pihlainen, K. & Korjonen-Kuusipuro, K. / Joen Severi 2010-2020. Joen Severi ry:n 10-vuotishistoriikki "Meiltähän tämä käy!". (10- history book of the organisation Joen Severi).	A book.

The intra-action of learning and teaching digital skills - Peer-tutoring as a way to support belonging of older people in Finland. Korjonen-Kuusipuro Kristiina, Pihlainen Kaisa, Kärnä Eija / Beyond Europe: Boundaries, Barriers and Belonging. Abstract book 14th ESA Conference Manchester. 2019.	A book abstract
Pihlainen, K. Ikäihmisille tarjottu digituki ja –opetus. Kyselyn tulokset –raportti. 2020.	Report.
Koski, J. (2021). Participation of older people in learning studies – a scoping review. University of Eastern Finland, School of Educational Sciences and Psychology.	Master's thesis.
Aavikko, L. (2019). Peer tutoring supporting older adults digital skills. University of Eastern Finland, School of Educational Sciences and Psychology. http://urn.fi/urn:nbn:fi:uef-20191232	Master's thesis.
Keskinen, L. & Åke, A. (2019) Seniors as users of digital devices - experienced knowledge and needed personal support. University of Eastern Finland, School of Educational Sciences and Psychology.	Master's thesis.

8.2 Presentations at (scientific) conferences and symposia, including JPI MYBL activities

Please list the presentations at (scientific) conferences and symposia that resulted from the funded project.

Presentation	Date
[Title presentation] at [name scientific conference] by [presenter name]	
Oral presentation: Ehlers, A.: "Wohnortnahe Angebote zur Stärkung digitaler Kompetenz: wichtiger denn je" at the "Gemeinsame Jahrestagung der Sektionen III und IV der DGGG" (online)	16.09.2021
Oral presentation: Ehlers, A.: "Erfahrungen aus dem internationalen Projekt ACCESS – Entwicklungsimpulse für die Zeit nach Corona" at the Fachtag des Forum Seniorenarbeit NRW (online)	20.07.2021
Oral presentation: Ehlers, A., Reuter; V., Kuhlmann, A. & Frewer-Graumann, S.: "Requirements and framework conditions for the design of ICT-courses for older people with little or no digital kills" at the NGK 25 Nordic Gerontology Congress (online)	02.06.2021
Oral presentation: Rohner, R. & Gallistl V.: „Running out of time for digital engagement? - The entanglement of life course time and digital time in later life" at the "4th International Sociological Association" (online)	23.2.-27.02.2021
Oral presentation: Rohner, R. & Gallistl V.: „Doing Digital Exclusion –Technology Practices of Older Internet Non-Users" at the "European Sociological Association's Research Network on Ageing in Europe (RN01) Midterm conference" (online)	10.01.-22.01.2021
Oral presentation: Cerna K., Digitalization of caring: Supporting older adults' learning of digital tools use, 21-22 Oktober 2020, at BeyondWork: European conference on labour research, online, invited talk.	21.10.2020
Oral presentation: Cerna, K. and C. Müller, Research related to older adults during the COVID-19 crisis: Supporting older adults' learning from distance, 10th November 2020, Online- Symposium des Fachausschuss „Alter und Technik" der Deutschen Gesellschaft für Gerontologie und Geriatrie (DGGG): "COVID-19 als : Was wir aus der Krise zum Thema Altern und Digitalisierung lernen können", online.	10.11.2020

Oral presentation: Endter, C., Gallistl, V. Wanka, A. (2020). Kreative Interaktionen – Die alltagsweltliche Nutzung (digitaler) Technologien älterer Menschen in der Corona-Pandemie. 10th November 2020, Online- Symposium des Fachausschuss „Alter und Technik“ der Deutschen Gesellschaft für Gerontologie und Geriatrie (DGGG): "COVID-19 als: Was wir aus der Krise zum Thema Altern und Digitalisierung lernen können", online	10.11.2020
Oral presentation: Gallitsl V. & Wanka A. (2020). Warum Cyborgs nicht altern – Spannungen zwischen neuen Technologien und alternden Körpern. At Deutsche Gesellschaft für Soziologie (DGS) Digital: 40. Kongress. online	14.-24.09.2020
Oral presentation: Gallitsl V. (2020). Configuring the Older Non-User – Contexts and Practices of Technology Non-Use in Later Life. At the 12th World Conference of Gerontechnology of the International Society for Gerontechnology (ISG) in Trondheim, Norway. Online.	6.10.-9.10.2020
C. Müller, Autonomy and Digitization – Recommendations of the Eighth German Government Report on Older People 2020, invited panel presentation at International online Conference ‘Strengthening Older People’s Rights in Times of Digitalisation – Lessons learned from Covid-19’, 28-29 September 2020)(Organizer: German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, AGE Platform Europe, BAGSO – German National Association of Senior Citizens’ Organisations),	28.9.2020
C. Müller: expert meeting “Socially just transition towards sustainable development: The role of digital technologies on social development and well-being of all”, 4.-6.08.2020, invitation by the United Nations Department of Economic and Social Affairs/ Division for Inclusive Social Development	4.-6.08.2020
Oral presentation: Gallistl V. (2020). The Slow Side of The Digital Divide – Leisure Practices of Older Non-Users of Digital Technologies. At the Academy of Leisure Sciences (TALS). Urbana-Champaign, Illinois	11.2.2020
Symposium: Supporting digital literacy and appropriation of ICT by older people – the Access Project at the International Association of Gerontology and Geriatrics (IAGGER 2019) in Gothenburg, Sweden by all partners (chair: Müller, C. & Hess, M.).	23.5.2019
Oral presentation: The Use of e-Health Technologies in Informal Care at Geriatriekongress (Wien, Austria) by Bevilacqua, R.	26.04.2019
Oral presentation: Digital Technologies and Health: Learning models for Older Adults at IAGG-ER - International Association of Gerontology and Geriatrics European Region Congress (Gothenburg, Sweden) by Bevilacqua, R. & Strano, S.	24.5.2019
Oral presentation: Technological literacy for enhancing the health of older people at ForItAll 2019, Ancona, Italy by Strano, S.	21.6.2019
Gallistl, V. (2019). The Slow Side of The Digital Divide – Leisure Practices of Older Non-Users of Digital Technologies. At the 3rd International Workshop on Socio-Gerontechnology: “When Theory meets Practice” [June 19-20, 2019] in Stockholm (Sweden)	June 19-20, 2019
Oral Presentation: Positive and Negative Outcomes of Technology Use in Older Adults -- User Integration as Solution. International Association of Gerontology and Geriatrics European Region, Gothenburg, Sweden by Frewer-Graumann, S., Ehlers, A., Hess, M. & Müller, C.	2019

Symposium: Health Literacy in Digitized Environments held at the Geriatriekongress 2019 in Vienna, Austria by all partners (chair: Müller, C. & Gallistl, V.)	2019
Oral Presentation: Sensor Literacy in the Field of E-Health hold at Geriatriekongress 2019, by Müller, C. & Jung-Henrich, J. & Struzek, D., Vienna, Austria.	2019
Müller, C. (2019). Alter und Technik: zum 8. Altersbericht der Bundesregierung und Praxisbasiertes Design, LINGA Fachtag "Ausblick in unsere Zukunft", Landesinitiative Generationengerechter Alltag, 27.06.2019, Hannover. [invited contribution]	27.06.2019
Dickel, M., Struzek, D., Jung-Henrich, J., Müller, C., Kaspar, H., van Holten, K. & Pelzelmayer, K. (2019). Networks of Care in Rural Areas. Workshop: Networks of Care, European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing, 08.06.2019, Wien. [Call for Workshop Papers]	08.06.2019
Müller, C. (2019). Sozio-technisches Design von digitalen Medien für ältere Menschen, Zurich Chapter Ageing 2.0., 29.05.2019, Zürich. [invited contribution]	29.05.2019
Gallistl, V. (2019). Mundane Practices and Technologies in the Everyday Lives of Older Adults – What a Practice-Theoretical Perspective Can Offer. At the TrentAging Conference in Peterborough, Canada [May 28 - 31, 2019]	May 28 - 31, 2019
Müller, C. (2019). Partizipative Technikentwicklung im Quartier mit älteren BewohnerInnen, Facility Management-Perspektiven: FM Innovationen in Health Care Digital, ZHAW, 05.04.2019, Zürich. [invited contribution]	05.04.2019
Kaspar, H., Müller, C. & Otto, U. (2019). Beziehungsgestaltung und Kommunikation im Living Lab: Die unsichtbare und vernachlässigte Arbeit der Innovations- und Technologieforschung. Tagung Ageing and Living in Place (ALiP), 01.02.2019, Olten. [invited contribution]	01.02.2019
Jung-Heinrich, J., Müller, C. & Struzek, D. (2019). Sensor Literacy in the field of e-Health. Geriatriekongress 2019. Wien, 26.04.2019. [Call for Abstracts]	26.04.2019
Müller, C. (2019). Die Menschen einbeziehen – Chancen und Grenzen partizipativer Technologieentwicklung. Geriatriekongress 2019. Wien, 26.04.2019. [Call for Abstracts]	26.04.2019
Oral Presentation: Frewer-Graumann, S.; Ehlers, A. & Hess, M. “Country-specific Contexts of Technology Usage in Old Age” at Geriatriekongress. Vienna, Austria, [26.04.2019]	26.04.2019
Struzek, D., Müller, C. & Boden, A. (2019). Entwicklung einer alltagsnahen persuasiven App zur Bewegungsmotivation für ältere Nutzerinnen und Nutzer, Demo, Wirtschaftsinformatik- Tagung 2019, 26.02.2019. [Call for Papers]	26.02.2019
Struzek, D., Dickel, M. & Müller, C. (2019). Between theory and practice. The gap in the design process. 3rd International Workshop on Socio-Gerontechnology, 19./20.06.2019, Stockholm. [Call for Abstracts]	19./20.06.2019
Oral presentation: Frewer-Graumann, S. & Ehlers, A.: “Supporting digital literacy and appropriation of ICT by older people – ACCESS” at the “Jahrestagung des Arbeitskreises Geragogik [01.02.2019]	01.02.2019
Oral presentation: Gallistl V. & Rohner R.: „Digital Literacy and Exclusion in Old Age: Exploring the Multiple Digital Divides of Later Life” at the International	23.5.-25.5.2019

Association of Gerontology and Geriatrics (IAGG-ER 9th Congress) in Gothenburg, Sweden [23.5.-25.5.2019]	
Oral presentation: Gallistl V. & Rohner R.: „Digital Literacy and Its Impacts on Health Literacy" at the "14. Gemeinsamen Österreichisch-Deutschen Geriatriekongress" in Vienna [25.4.-27.4.2019]	25.4.-27.4.2019
Participation: Gallistl, V. at the ALIP 2019 (Ageing and Living in Place – Chancen und Risiken im Angesicht moderner Technik(en) und Technologien) and the AK Geragogik in Olten, Switzerland [30.1.2019-2.2.2019]	30.1.2019-2.2.2019
Poster presentation: "ACCESS – a conceptual model for sparking new IT learning cultures for older adults" at the "Gerontological Society of America (GSA)" [13.11.2018-17.11.2018] in Boston, USA by Jogl I., Kärnä E., Müller C., Waldenberger F., Bevilacqua R., Hess M., Gallistl V., Ehlers A., Warmuth J., Rohner R., Kolland F.	13.11.2018-17.11.2018
Oral presentation: Gallitsl V. in the workshop „Unsettling technogenarians: Interferences and synergies at the crossroads of Gerontology and Science and Technology Studies" [20.6.2018-23.6.2018] in Barcelona, Spain.	20.6.2018-23.6.2018
Organization of and Presentation at the congress „Lernen, älter zu werden und alt zu sein? Bildung und Handlungsfähigkeit im Alter: Herbsttagung der Sektion Alter(n) und Gesellschaft der Deutschen Gesellschaft für Soziologie" in Vienna, Austria (Vera Gallistl, Rebekka Rohner, Franz Kolland)	13.9.2019-14.9.2019
Invited presentation: Results of the ACCESS-project. Digital Support Northern Karelia- network meeting, Joensuu, Finland. By: Aavikko, L., Pihlainen, K. & Kärnä, E.	16.09.2021
Congress presentation at a symposium: How learning theories can be applied to support older adults' acquisition of digital skills? NKG 25th Nordic Gerontology Congress, Reykjavik, Iceland. by: Aavikko, L., Pihlainen, K. & Kärnä, E.	02.06.2021.
Invited presentation: Miten tukea ikäihmisten digitaalisten laitteiden ja palvelujen käyttöä. Näkökulmia ikäihmisten opastamiseen ja oppimiseen. Liikkuvat -verkoston seminaari,Helsinki, Suomi, by: Kärnä, E.	13.04.2021.
Invited presentation: Miten ohjaan toista?. Savonte ja Geronet-hankkeiden seminaari, SnellmanEDU, Verkkovälitteinen tilaisuus, Suomi, by: Kärnä, E.	23.03.2021.
Invited presentation: Vanha koira ei opi uusia temppuja? Ikääntyvien digioppiminen. Kasvun ja vanhenemisen tutkijat r.y., Tieteiden yö -tapahtuma,Helsinki, Suomi, by: Kärnä, E.	14.01.2021.
Invited presentation: Hyvä ja paha kokemustieto – tunteet ikäihmisten teknologiasuhteissa. Tieteen päivät, Helsinki, Finland. By: Korjonen-Kuusipuro, K.	14.1.2021.
Congress presentation. Teoreettisia lähtökohtia ikäihmisten oppimiseen. Kärnä, E. & Pihlainen, K. Education Days of the Finnish Educational Research Association (FERA), Helsinki, Finland.	15.12.2020.
Congress presentation. Digitaitojen oppimistilanteiden sosiaalinen merkitys ikäihmisille. Korjonen-Kuusipuro, K. Kärnä, E. & Pihlainen, K. Education Days of the Finnish Educational Research Association (FERA), Helsinki, Finland	15.12.2020.

Congress presentation. The formation of peer tutoring situations of older adults. Education Days of the Finnish Educational Research Association (FERA), Helsinki, Finland. by Aavikko, L.	15.12.2020.
Congress presentation. Participation of older people in learning studies. Scoping review and content analysis. Education Days of the Finnish Educational Research Association (FERA), Helsinki, Finland. by Koski, J., & Pihlainen, K.	15.12.2020.
Invited presentation: Miten huomioida erilaisuus oppimisessa?. SurfAreena, Vanhustyön keskusliitto,Valtakunnallinen webinaari, Suomi, by: Kärnä, E.	02.12.2020.
Invited presentation: How learning theories can be applied to support older adults¿ acquisition of digital skills?. Hungarian Gerontology Days 2020 International Scientific Conference, International webinar, by Kärnä, E. & Pihlainen, K.	27.11.2020.
Invited presentation: ACCESS – Supporting digital literacy and appropriation of ICT by older people. Harvest-project final event, by Korjonen-Kuusipuro, K.	25.11.2020
Invited presentation: ¿Ihmiset ovat erilaisia¿. Jotkut ovat tutkimusmatkailijoita, jotkut ovat ylivarovaisia. Digituki-seminaari, Pohjois- Karjalan-Digitukihanke ja Digi- ja väestötietovirasto, Valtakunnallinen webinaari, Suomi, by: Kärnä, E.	10.11.2020
Invited presentation: ¿Pelko pois ja yks pikku asia kerrallaan opitaan¿ - Oppimista tukeva digiohjausprosessi. Pohjois-karjalan kirjastojen digitukihanke, Suomi, by: Kärnä, E.	20.02.2020
Congress-presentation: Apua ja ajan tasalla pysymistä ¿ Vertaisopastajien ja ¿opastettavien syyt hakeutua digitaitojen vertaisopastustilanteisiin. (Help and keeping up – The reasons of peer tutors and tutees to get involved to the peer support situations of digital skills) Adult Education Conference, Rovaniemi, Finland by Kärnä, E. & Pihlainen, K.	14.02.2020
Congress presentation: Kartoitus ikäihmisten oppimiseen liittyvästä tutkimuksesta. Aikuiskasvatuksen tutkimuspäivät, Rovaniemi, Suomi, by Pihlainen, K.	13.02.2020
Congress presentation: Ikäihmisten tunteet ja oppiminen digituen vertaisopastustilanteissa. Korjonen-Kuusipuro, K., Kärnä, E. & Pihlainen, K. Aikuiskasvatuksen tutkimuspäivät, Rovaniemi. Finland.	13.-14.2.2020
Invited presentation: Esimerkkejä digituen toteuttamisesta Tanskassa. Digituki Pohjois-Karjala, Joensuu, Suomi, by Pihlainen, K.	29.01.2020
Congress presentation: "Älä ongi vaan opeta onkimaa" - Ikäihmisten digitaalisten taitojen vertaisopastustilanteet kolmen eri oppimisteoreettisen näkökulman kautta tarkasteltuna. Education Days of the Finnish Educational Research Association (FERA), Joensuu, Finland, by Kärnä, E., Korjonen-Kuusipuro, K. & Pihlainen, K.	22.11.2019
Congress presentation: Learning in a (not so) digitalised society. Finnish Educational Association Conference,Joensuu, Suomi, by: Kärnä, E.	21.11.2019
Congress presentation: Older persons basic psychological needs with learning digital and internet skills.. Finnish Educational Association Conference, Joensuu, Suomi, by: Kwok, N., Pihlainen, K. & Kärnä, E.	21.11.2019
Congress presentation: Yhdessä pähkäillen - digitaitojen vertaisopastusta ikäihmisille. Kasvatustieteen päivät 2019, Joensuu, Suomi, by Korjonen-Kuusipuro, K., Pihlainen, K. & Kärnä, E.	21.11.2019

Congress presentation: Peer tutoring supporting older adults digital skills. Education Days of the Finnish Educational Research Association (FERA), Joensuu, Finland by Aavikko, L.	21.11.2019
Invited presentation: ¿ Älä ongi vaan opeta onkimaa¿ - Ikäihmisten digitaalisten taitojen vertaisopastustilanteet kolmen eri oppimisteoreettisen näkökulman kautta tarkasteltuna. Pohjois-Karjalan digitukiverkoston tapaaminen,Joensuu, Suomi, by Kärnä, E., Korjonen-Kuusipuro, K. & Pihlainen, K.	05.11.2019
Congress presentation: Progress Dialogue Form ACCESS 14 Technikforshung, -gestaltung und -aneignung, Siegen, Germany by Pihlainen, K., Korjonen-Kuusipuro, K. & Kärnä, E., Korjonen-Kuusipuro, K. & Pihlainen, K.	02.10.2019
Invited presentation: ¿Pelko pois ja yks pikku asia kerrallaan opitaan¿ - Oppimista tukeva digiohjausprosessi. Digituki 2019 -verkostotapaaminen,Tampere, Suomi. by: Kärnä, E., Korjonen-Kuusipuro, K. & Pihlainen, K.	05.09.2019
Oral Presentation: The intra-action of learning and teaching digital skills – Peer-tutoring as a way to support belonging of older people in Finland. European Sociological Association, Manchester, United Kingdom by Korjonen-Kuusipuro, K., Pihlainen, K. & Kärnä, E.	21.08.2019
Oral Presentation: Learning and participation in participatory design processes with older adults. Interdisziplinäre Perspektiven auf Technikforschung, -gestaltung und –aneignung, Siegen, Germany by Pihlainen, K.	05.06.2019
Poster Presentation: Benefits from digital training events in later life: Views of older adults, their peer tutors and ICT teachers. Interdisziplinäre Perspektiven auf Technikforshung, -gestaltung und -aneignung, Siegen, Germany by Pihlainen, K., Korjonen-Kuusipuro, K. & Kärnä, E.	05.06.2019
Tulevaisuus ilman ahdistusta ja pelkoa? Oikenlainen digituki käyttöön! (Future without anxiety and fear? A right digital support in place!) Korjonen-Kuusipuro, K., Kärnä, E. & Pihlainen, K. 2019. https://suomidigi.fi/tulevaisuus-ilman-ahdistusta-ja-pelkoa-oikeanlainen-digituki-kayttoon/	June 2019
Congress presentation: Learning of Older Adults in Digital Technology Context. International Association of Gerontology and Geriatrics European Region Congress 2019, Göteborg, Ruotsi, by: Kärnä, E. & Pihlainen, K.	24.05.2019
Congress presentation: Motives and needs of older people digital skills trainers. Media Education Conference,Salla, Suomi, by: Kwok, N., Kärnä, E. & Pihlainen, K.	24.04.2019 - 26.04.2019
Congress presentation: Older adults' learning and digital technology. Geriatriekongress 2019,Wien, Itävalta,. by: Kärnä, E. & Pihlainen, K.	26.04.2019
Congress presentation: Digitukitilanteiden rakentuminen senioreiden vertaisopastustilanteissa (Seniors´ peer guidance process in digital use context). Education Days of the Finnish Educational Research Association (FERA), Tampere, Finland by Pihlainen, K. & Kärnä, E.	16.11.2018

8.3 Communications, public engagement activities and knowledge exchange events

Please list the communications, public engagement activities and knowledge exchange events where results from the funded project were shared with specific audiences, including the general public.

Activity or event	Date

Claudia Müller, invitation to and nomination as deputy chairwoman of the expert commission of the “Eighth Age Report” of the Federal Government. https://www.uni-siegen.de/start/news/oeffentlichkeit/830185.html/	Starting from 08/2018
Claudia Müller, elected deputy chairwomen of the special interest group on Human-Computer Interaction of the German Informatics Society (dt. Gesellschaft für Informatik (GI))	Starting from 01/ 2020
Claudia Müller, Co-speaker of the expert committee "Age and Technology" of the German Society for Geriatrics and Gerontology (DGGG)	Starting from 09/ 2018
Claudia Müller, reviewer of the Karl Zeiss Foundation for the funding programs "Durchbrüche" and "Transfer”	03/2020-05/2020
Organization of and Presentation at the congress „Lernen, älter zu werden und alt zu sein? Bildung und Handlungsfähigkeit im Alter: Herbsttagung der Sektion Alter(n) und Gesellschaft der Deutschen Gesellschaft für Soziologie“ in Vienna, Austria (Vera Gallistl, Rebekka Rohner, Franz Kolland)	13.9.2019-14.9.2019
Presentation of the project as “Success Story: ACCESS >> Digitale Kompetenz kennt kein Alter!” at the homepage of the Austrian Research Promotion Agency (FFG)	21.11.2019
Introduction of the project in the newsletter of the ESA research network on Ageing in Europe (RN01) in 2019 (Issue 25)	2019
Presentation “Alterdiskriminierung in digitalen Umwelten“ at the International Week in Vechta, Germany	1.6.2021
Mobile demokit evaluation during a public event Playin Siegen	
Participatory design workshops on-site and online organized by USI	February 2020 – September March 2022
Advisory board meeting (Digi arkeen). Human rights in the digital services in Finland and in the EU. Taking part to a round table discussion and workshop. (Ministry of Finance.) by: Aavikko, L.	19.05.2021
Advisory board meeting (Digi arkeen). Knowledge and Skills in the digitalized society. Taking part to a round table discussion and workshop. (Ministry of Finance.) by: Pihlainen, K.	16.02.2021
Advisory board meeting (Digi arkeen). Roundtable discussion and workshop. (Ministry of Finance) by Korjonen-Kuusipuro, K.	29.10.2020
Invited collaboration meeting: The Finnish Organisation of Hearing, Making of Digital skills-game workshop, by Korjonen-Kuusipuro, K. & Aavikko, L.	21.08.2020
Collaboration meeting with regional digital support operators, Helsinki and Joensuu, Finland. (Ministry of Finance and Digital and Population Data Services Agency), by Aavikko, L.	21.-23.10. 2019
Collaboration meeting with local digital support project in North Karelia district, Finland, by E. Kärnä	24.09.2019
Member of Steering group, Digituki@EKarjala by Korjonen-Kuusipuro, K.	2019-2020
Member of advisory board (Digi arkeen). (Ministry of Finance.) by: Korjonen-Kuusipuro, K.	2017-2020
Professional interview (newspaper): Interview (Kärnä, E.) considering ACCESS-project. Helsingin uutiset (News of Helsinki).	24.03.2021

Professional interview (newspaper): Interview (Kärnä, E) considering ACCESS-project. Savon sanomat (News of Savo).	03.03.2021
Professional interview: Peer learning boosts well-being among the elderly. https://www.uef.fi/en/article/peer-learning-boosts-well-being-among-the-elderly. (Kärnä, E. & Pihlainen, K.)	27.08.2020
Professional interview (podcast): Olenko tullut tyhmäksi? Entinen multitaskaaja tekniikan huipputunarina (interviewing Kärnä, E.). Yle 1 radio, Finland.	25.01.2020
Professional interview (newspaper): UEF: Seniori oppii eri tavalla kuin juniori - yliopisto selvittää, miten digitaitoja pitäisi opettaa [Seniors' way of learning is different from the juniors way of learning – university investigates how digital skills should be taught (Kärnä, E. & Pihlainen, K.) Newspaper Karjalainen.	07.10.2018
INRCA: Presentation of project results at KUM Festival (Ancona, Italy)	9.10.2018-21.10.2018
INRCA: (2018) SHARPER, European Researchers' Night (Ancona, Italy)	27.9.2018-28.9.2018
INRCA: (2019) SHARPER, European Researchers' Night (Ancona, Italy)	27.9.2019
INRCA: (2021) SHARPER, European Researchers' Night (Ancona, Italy)	24.9.2021
Networking activities in the framework of the Online- Symposium des Fachausschuss „Alter und Technik" der Deutschen Gesellschaft für Gerontologie und Geriatrie (DGGG) "COVID-19 als <Brennglas>: Was wir aus der Krise zum Thema Altern und Digitalisierung lernen können", Germany (Claudia Müller (Co-Organisation), Anja Ehlers (Contributor)).	10.11.2020
Participation in workshops at the "Werkstatt-Tag ´Sozialraum digital gestalten´. Gemeinsame Arbeitstagung der Arbeitsgruppen des Forum Seniorenarbeit NRW". Präsenzveranstaltung in Schwerte, Germany (Anja Ehlers).	24.09.2020

9 Impact

9.1 Scientific impact

This project adds to the current state of knowledge on various levels: First, new perspectives were used in the research fields to gather new data leading to a better understanding of the learning process in old age. For example, IFS gained new knowledge by applying practice theoretical and socio-material perspectives that shifted the researchers' attention on the one hand to the various practices of non-users of digital technology and on the other hand to the human and non-human actors that shape the learning situations. In Italy, there is not much research about digital literacy of older adults, especially in the context of e-health. The data of this project therefore raises awareness not only in the scientific field but also in Italian politics. In educational science, there is not much existing research about the learning process of older adults, which is why UEF had the idea to apply learning theories to the digital learning of older adults. In general, conceptual development was a high priority in this project. Hereby, the goal of two work packages (WP2 + WP9) was to gain a holistic understanding of these processes by developing an interdisciplinary model in the consortium that conceptualizes learning processes in old age.

Second, the transnational consortium made the first transnational stock-tacking of national policies and institutional support regarding older people, learning and digital technology possible (WP1). It also made the first transnational approach to cost-benefit analysis regarding learning opportunities on digital technology for older adults possible (WP8).

Third, new methods were applied. The researchers of USI have done the first long-term online participatory workshop with older adults and managed a long-term collaboration of 17 older adults. A long-term collaboration with this many participants in such a context has never been reached before leading to new knowledge about problems, barriers and motivations of older adults.

Finally, one and a half years of the project took place during the COVID-19 pandemic – a crisis in which the topic of digital literacy in old age gained particular importance. The consortium was forced to develop new approaches to the field, collected data from older people and experts under the impression of a state of emergency, and reflected on changes in political and social discourses about aging and digital technology, which could be observed in real time. The experiences and findings are therefore of great scientific relevance.

9.2 Societal impact

The project had an impact on different target groups: The first group are the older participants. USI and INRCA made workshops with the older adults and increased their usage and understanding of digital devices. IFS and TUD have attended existing ICT-courses, which enabled up to 300 older adults to join a training course on digital technology free of charge. This supported the social inclusion by increasing digital inclusion.

Second, through the collaboration and exchange of information with course providers, the project had an impact on course providers and how they conduct their courses. Further, TUD brought key results into practice by presenting the results in front of stakeholders from the practice field, for example at the symposium of the "Forum Seniorenarbeit" (North Rhine-Westphalia). IFS exchanged the results and experiences with Edith Simöl from the Austrian Institute for Applied Telecommunications (ÖIAT).

Third, the project contributes to discourses about aging and technology on a political level by for example working together with national organizations like the finish Ministry of Finances or finish population data services. The findings of this project are -especially now in times of the pandemic- a valuable contribution to the societal debate on the urgency of promoting and supporting digital literacy in old age.

10 Data Management and Data Sharing

Describe how this project contributes to sustainable data and research infrastructures; including a description of the sustainability of the research results within the wider research community. Please take into account the FAIR data Principles and indicate if your project (partly) contributes to these principles (max. 1 page).
For all the partners, data sharing has not been applicable due to local ethical regulations. Research results has been heavily shared through research activities (presentations, publications etc.). Furthermore, the participants who took part in the participatory design workshops (USI) were invited to participate in other research projects connected to digitalization and aging, hence further fostering their digital literacy and sustaining relationships in line with the Living lab approach.

Publicly-funded research data are valuable, long-term resources that, where practical, should be made available for secondary scientific research. Some funders expect that all data created or repurposed during the lifetime of a grant will be made available for re-use or archiving, recognising that some research data are more sensitive than others. If you have created or repurposed data as part of your project and it has been made available for re-use or archiving, please use the table below to indicate where it can be accessed and who it can be accessed by.

Dataset	**Available for**	**Available at**
Name of the dataset	Who can access the data?	Link to the dataset (if applicable)
-none-		

11 Collaboration

11.1 Collaboration within the project

Are the academic collaborations within this project new or were these existing collaborations? How did you involve the different academic partners in the project?

The academic collaborations were mainly new. The partners were included in collaboration mainly through meetings. The communication and collaboration between different academic partners were maintained via monthly consortium online meetings. In addition, the consortium had two-day face-to-face meets until COVID-19 began. After that the face-to-face meetings were replaced by virtual meetings. Collaboration in which various partners were included was also fostered through different academic activities, such as writing joint texts and organizing a workshop together. The collaboration has been very fruitful and all partners have equally contributed to the successful implementation of the project.

IFS and TUD exchanged their questionnaires and agreed upon survey questions to make a comparison of the results possible. The whole consortium discussed and the partners, who conducted quantitative surveys, also implemented two questions to measure cost-benefits for WP8.

11.2 Collaboration with Stakeholders

Are the collaborations with stakeholders within this project new or were these existing collaborations? How did you involve the different stakeholders in the project?

Collaborations with stakeholders were partly already existing, but also new collaborations were made.throughout the project

USI has extended previous collaborations with both, the local senior computer club as well as an already known group of participants which was formed during a previous project. Through these collaborations people who have been involved with research projects have been included as well as new people, through their social networks.

FfG established new cooperations within the project. They collaborated with five practical partners who offer training courses for older people on digital technology: Senioren-Internetc@fé Herne, balou Dortmund, Volkshochschule Dortmund, Senioren-Internetcafé Bochu m, „Zeitraum“ Münster. The partners were involved by a) conducting surveys with their course participants, b) conducting expert interviews with tutors, and c) providing them with practice-related scientific input about older people, learning, and digital technology. In addition, we reflected our findings with two experts from the scientific level and the representation of interest of older people.

IFS collaborated with both stakeholders, with which they had worked before, and new cooperations. First, one cooperation was with Edith Simöl from the Austrian Institute for Applied Telecommunications (ÖIAT), with whom IFS had worked before in another project. She was invited to the consortium meeting in Vienna, Austria (April 2019) to present and discuss her good practice criteria for ICT-courses for older adults. Second, different stakeholders of previous projects, like Christa Witz of Aktives Zentrum, were contacted in the process of searching for interview partners for the qualitative study in the first field phase of WP3. Third, for the purposes of finding interview partners also new connections to stakeholders were made, like the neighbourhood centre in Vienna. Last, after conducting extensive online research about various programs offering digital senior education in Austria, five practice partners were selected for the second field phase of WP3. With some organizers IFS had collaborated before with others not. The organizers were not involved in the research design, but they helped gaining interview partners, especially for the visual diaries. However, they were solely in charge of the course organization and the contents.

11.3 Collaboration with Patients and the Public

How did you involve patients and/or the public in the project? Were patients and the public actively involved in research design and delivery? Did decisions about the research include the patient and public perspective Note, when we refer to patient and public involvement in research we mean research being carried out with and by patients and the public, not to, for or about them (see, www.invo.org.uk). We do not mean patient and public engagement, where research information is presented or disseminated to patients and the public.
WP4-USI: we have participated with the older participants in the development of the mobile demokit. We have also organized a public event to evaluate aspects of the demokit, where the audience could interact with different aspects of the demokit and we could hence better understand how the demokit might be suited for such context.
WP4- FfG: The quantitative questionnaire for course participants was tested by and discussed with older people at the Senioren-Internetcafé Bochum.
WP3: In the first field phase of WP3, IFS conducted 15 qualitative interviews with older adults. The interview partners were not involved in the research design. However, the openness of the qualitative research design enables the interview partners to set their own relevance. In the second field phase of WP3, nine interviews were conducted with participants of ICT-courses. Participants were involved in the process as “co-researchers”, by documenting their engagement with digital technologies in their everyday life through a visual diary for the duration of the course. They were asked to answer the following research questions by taking pictures: “Why is it important that older adults use digital technologies?” and “Why is it difficult to use digital technologies in later life?”. The pictures were discussed in the end of the interviews.
WP6-INRCA: Final end-users, Local NGOs and educational entities, as well as stakeholders in the field of technology learning for ageing have been involved during all the phases of the project. In particular, the following primary and tertiary end-users have taken part to the project activities on a voluntary basis: ▫ 58 citizens of the local municipality, aged 60 and more, that have undertaken the online training. ▫ The University of the Third Age of Ancona (Italy), a non-profit social-recreational association network that deals with learning for older adults. At the beginning, the pilot training was conducted, involving older adults registered in the computer classes of the University of the Third Age of Ancona, as well as teacher were involved through interviews in the first phase of the training design. Pandemic situation made necessary to suspend, but contacts are kept open for possible further collaborations. ▫ FNP-CISL Marche syndicate (Italy): following the redefinition of the training to online modes, the pilot was conducted in agreement with the pensioners' section of one of the main labour unions operating in the region, thus extending the participants’ number not only to the municipal level. The members of the association were also interviewed to design the training. ▫ Liceo di Scienze Umane Carlo Rinaldini of Ancona: together with the above mentioned NGOs, it has been possible to realize a module of the training in intergenerational mode, with young students who have acted as teachers to older adults.

11.4 Collaboration with other JPI MYBL projects

Please describe any connections, bilateral meetings, knowledge exchange etc. between your project and other JTC projects funded by the JPI MYBL.
WP3: There has been collaboration with the BECONNECT project, especially with colleagues Alexander Peine (PI), Barbara Marshall and Mireia Fernandez-Adevol. Project partners from

ACCESS and BECONNECT organized a joint session at the TrentAging 2019 conference “Critical Engagements with Aging and Technology”.
WP4: The coordinator (Prof. Müller, Uni Siegen) has invited Prof. Thommes, partner in ORIENT as a keynote speaker to a networking symposium of the BMBF-funding line “Robotic Systems in Care”, 11.02.2022.
WP7 – Co-work in Finland with HARVEST-project (https://www.harvestresearch.net/) resulting in a book (in re-view, in Finnish) and forming theme groups to the Education Days of the Finnish Educational Research Association (FERA) 2019 and 2020 and the Adult Education Conference 2020 in Finland.

11.5 Collaboration with other European/national projects

Please describe actual and intended collaborations with other European/national projects (e.g. collaboration with related projects not funded by JPI MYBL).
WP4-USI: Collaboration with SNF- funded project Caring Community Labs (2018-2021), cooperation of PhD students, development of joint publications, joint organisation of a workshop at ECSCW conference 2020. WP4-USI: Collaboration with the Special Collaborative Research Center (CRC) 1187 “Media of Cooperation” at the University of Siegen (2018-2021), cooperation of PhD students, development of joint publications. WP4-USI: Collaboration with the BMBF funded project “BeBeRobot” (2019-2021), cooperation between PhD students, development of a joint publication.
WP7 – Co-work in Finland with Ikälhme-project (https://www.ulapland.fi/FI/Kotisivut/IkaihMe-hanke/Key-facts-in-English) funded by the Finnish Teacher Education Development Programme of the Ministry of Education and Culture (2018–2021).
WP3: There has been close collaboration with the Ageing+Communication+Technologies (ACT) project, funded by the Social Sciences and Humanities Research Council of Canada (https://actproject.ca/). IFS is involved in several activities with researchers from the ACT project, e.g. a joint session at the Trent Aging Conference 2019 (“Older Audiences in the Digital Media Environment”), in which project results from ACCESS were presented and discussed.

11.6 Added value of the International Consortium

Please describe the added value of working as an international consortium, compared to project partners each working separately at the national level. In what way and to what extent did the international cooperation in the project help to broaden your perspective on demographic change in Europe and beyond?
Working as an international and interdisciplinary consortium allowed all partners to not only gain insights into different policy and institutional frameworks, but also to enrich the understanding of aging society, learning and technology through the perspective of each discipline. Thus, a holistic view on digital literacy could be gained, which is highlighted by the development of a new conceptual model of digital learning processes combining the different perspectives and research results. Furthermore, the partners supported each other in accessing necessary information on methods and concepts. They also compared results leading to deeper insights and a better understanding of digital learning processes.

12 What can we do for you?

12.1 What can we do for you?

What can we do to help you to amplify your message? How can we help you to connect to the right people/stakeholders (e.g. to share your research results)? How can we help you to add value to your results?
A EU-wide symposium could be organized with speakers from the projects.

12.2 Feedback for JPI MYBL

Please provide any feedback arising from this project so we can improve our procedure for any future joint calls.