# COLLABORATION IN PRACTICE: TECHNOLOGY AND INNOVATION RESEARCH BEYOND BOUNDARIES

*This paper shows how involving older adults in technology and innovation design fosters age-friendly solutions for policy and implementation. As members of the Action's Working Group 3, we are committed to supporting policymakers and designers engaged who work with older participants. At the same time, we aim to better understand the diverse needs, preferences, everyday experiences of older adults by learning from each other.*

*This briefing paper reflects our "learning together" process that we shared during a recent event in Vilnius, Lithuania. We warmly invite you to take part in this ongoing journey! Come, learn with us, and let's shape the future of "collaboration in practice" together.*

# INTRODUCTION

The 2nd International Knowledge Exchange Event of the COST Action CA22167 Participatory Approaches with Older Adults (PAAR-net) was held at Mykolas Romeris University in Vilnius, Lithuania, in April 2025. This two-day event, organised by Working Group "Technology and Innovation" (WG 3), brought together researchers, policymakers, practitioners, and older adult co-creators to explore participatory approaches in ageing research through the lenses of technology and innovation. The present briefing paper summarises the keynote sessions and the outcome from the collaborative sessions and discussion panels, reflecting PAAR-net's methodological commitment to promoting participation and engagement across diverse disciplines, generations, national contexts, and cultural backgrounds.

Organised by WG3, this initiative benefited from the participation of 60+ older co-creators from 12 countries, who contributed decisively to the outcomes. Older adults made up 18% of all participants, with a balanced distribution in terms of gender and sexual diversity. In total, 33 male and 55 female participants from 33 countries took part in the event. Interactive sessions were designed to bring together participants with diverse backgrounds in both research and practice.

THE EVENT FOCUSED ON "RESEARCH BEYOND BOUNDARIES" THROUGH CROSS-DISCIPLINARY WORKING GROUP SESSIONS AND "COLLABORATION IN PRACTICE" BY ACTIVELY ENGAGING OLDER ADULTS IN DISCUSSIONS. THE EVENT USED DIVERSE FORMATS TO BRIDGE PARTICIPATORY AGEING RESEARCH AND PRACTICE.

# RESEARCH BEYOND BOUNDARIES

Broadly, the event focused on two main objectives.
First, it explored the theme "**Research Beyond Boundaries**," reflecting PAAR-net's methodological commitment to promoting participation and engagement across diverse disciplines, generations, national contexts, and cultural backgrounds. To leverage this diversity, the four working groups conducted parallel hybrid sessions, structured around four key themes:
·Health, Care, and Support (WG1)
·Community and Place (WG2)
·Technology and Innovation (WG3)
·Synthesis and Quality Criteria (WG4)

Additionally, a dedicated **Gender Equality in Research session** explored the integration of inclusive approaches within participatory ageing research. This dedicated session analysed gender biases in ageing research, policy and innovation, and identified plans to promote gender equality initiatives within the COST-Action. The meeting brought together representatives from all Working Groups, along with Leaders and Coordinators from the Stakeholders and Young Researchers and Innovators teams. Participants included Action members with strong interest and experience in gender equality, representing diverse career stages and a wide range of countries. The next steps in promoting gender equality will be development of a Gender Equality Plan for PAAR-net.

In the afternoon, WG3 hosted a **World Café session**, a rapid-fire structured and creative dialogue format, exploring **multidisciplinary and intergenerational perspectives** on technology and innovation, with discussions on the following topics:
·Health Technologies
·Urban Design & Age-Friendly Cities
·Generative AI Accessibility
·Digital Citizenship
·Food, Energy & Green Technologies

The first day concluded with the **Young Researchers and Innovators (YRI) Forum**, where participants shared insights from their experiences in Short-Term Scientific Missions (STSMs), Virtual Mobility (VM), and ITC Conferences. A social dinner followed, providing further opportunities for networking and exchange.

# COLLABORATION IN PRACTICE

The second objective, "Collaboration in Practice" reflected the core WG3 approach to knowledge exchange among researchers, stakeholders, practitioners, and older adults. Accordingly, the second day of the event focused on actively engaging older adults in technology and innovation research, and featured a series of expert presentations and interactive sessions, including:
·Social policy initiatives aimed at promoting the inclusion of older adults;
·The role of universities in addressing the needs of ageing societies;
·Spotlight on Older Adults' Activities, where co-creators presented their contributions to research and innovation;
·A roundtable discussion with practitioners, policymakers, and researchers, followed by a session showcasing participatory technology projects in ageing research;
·An interactive workshop exploring collaborative methods for involving both younger and older adults in the co-design of technological solutions;
·A Local Knowledge Exchange Event, held in Lithuanian, which engaged local stakeholders in participatory dialogue.

These sessions facilitated the active use of participatory approaches in both research and practice among PAAR-net members. Invited policymakers, designers, and older adult co-creators had meaningful opportunities to collaborate with researchers and innovators, expanding the Action's network through these interdisciplinary and intergenerational encounters.
The World Café format encouraged broad engagement across participants, while the forum and roundtable sessions fostered deeper discussions by bringing together experts from diverse fields and backgrounds.
These formats helped bridge good practices and emerging opportunities, effectively demonstrating the spirit of "collaboration in practice."

# WORLD CAFÉ SESSION: TECHNOLOGY AND INNOVATION IN MULTIDISCIPLINARY AND INTERGENERATIONAL CONTEXTS ACROSS MULTIPLE FOCUS AREAS

### Health Technologies
Rogério Ribeiro,
Eleanor Bantry-White

This session underscored the importance of transforming how participatory action research (PAR) and technological innovation engage with older adults. Key takeaways included the need to challenge dismissive attitudes toward PAR, involve older adults early and continuously in design processes, and foster inclusive dialogue among users, designers, and stakeholders. Emphasizing diversity, participants argued that technology should adapt to older users—not vice versa—and highlighted the value of evaluating technologies themselves rather than blaming user limitations. The session also pointed to the untapped potential of existing technologies, the importance of interoperability, and the value of co-designing with both older adults and their support networks. Ultimately, **building trust and ensuring older adults' voices shape governance and innovation emerged as central principles for future age-inclusive technology development.**

### Urban Design & Age-Friendly Cities
Willeke van Staalduinen,
Seran Demiral

Focusing on "ageing in place," this session explored how emerging technologies can be designed to support older adults at individual, neighborhood, and societal levels. Through imaginative questions—like waking up as a 100-year-old or being on a planet of elders—participants identified everyday challenges and proposed inclusive solutions such as smart lighting, accessible housing, and age-friendly digital applications. The discussion emphasized the **need for both technological and urban design responses, highlighting strategies to reduce isolation, promote intergenerational engagement, and foster inclusive communities**. Case studies from cities like Newcastle, Trondheim, and Tampere showcased successful models, while participants called for sector-wide collaboration and context-sensitive approaches. Final strategies included compiling best practices, conducting cross-sector reviews, and producing a policy paper to guide future age-inclusive innovation.

### Digital Citizenship

Ittay Mannheim,
Mariana Buciuceanu-Vrabie

The session on Digital Citizenship in Ageing Societies explored the multifaceted barriers older adults face in digital participation, emphasizing that digital citizenship is not just about access or skill but also emotional readiness, infrastructure, and social inclusion. Participants highlighted **the importance of recognizing digital inclusion as a right, discussed the variability in digital confidence, and proposed strategies such as intergenerational mentorship, community-based learning hubs, co-design of digital tools, and tailored educational programs to empower older adults as active digital citizens.**

# WORLD CAFÉ SESSION: TECHNOLOGY AND INNOVATION IN MULTIDISCIPLINARY AND INTERGENERATIONAL CONTEXTS ACROSS MULTIPLE FOCUS AREAS

## Food, Energy & Green Technologies

Krzysztof Klincewicz, Magdalena Zatorska

The session on older adults' participation in food, energy, and green technologies revealed key everyday challenges tied to affordability, usability, and accessibility across areas such as food consumption, cooking, home heating/cooling, and clean air. Participants emphasized how ageing affects nutrition, safety in the kitchen, energy use, and access to fresh air—compounded by physical, cognitive, and financial limitations. Recommendations included **redesigning products and services with usability and affordability in mind, while promoting participatory approaches to ensure older adults' needs are met**—such as smart packaging, adaptive energy solutions, and intergenerational collaborations to optimize resources and strengthen community support.

## Reflections

While successful, the event faced challenges, especially regarding the time available for the World Café session. The need to execute two rounds meant that time for discussion in each was very limited. Based on the lessons learned, we suggest involving older adult co-creator from the very beginning of our Working Group Activities. By addressing the risk of digital exclusion and creating more opportunities for older adults to engage in our online interactions between in-person meetings, we can ensure deeper and more continuous involvement.

*WHEN WE BECOME MORE FAMILIAR WITH THE RISKS AND CHALLENGES OLDER ADULTS FACE IN THEIR EVERYDAY LIVES, WE CAN BETTER DESIGN INTERACTIVE SESSION FORMATS FOCUSED ON SOLUTION-BUILDING RATHER THAN MERELY IDENTIFYING PROBLEMS.*

DYMPNA O'SULLIVAN

## CO-DESIGNING ASSISTIVE TECHNOLOGY FOR DEMENTIA CARE: A PARTICIPATORY APPROACH TO SUPPORTING COGNITIVE HEALTH AND INFORMAL CAREGIVERS

Dementia is a growing global challenge, affecting not only those diagnosed but also individuals experiencing mild cognitive impairment (MCI) and those concerned about brain health as they age. Informal carers, who provide the majority of support for individuals with cognitive decline, often face significant emotional, physical and logistical burdens. To address these needs, Dympna's research focuses on the development of assistive technologies that enhance independent living, support cognitive function and improve the quality of life for both the person living with dementia (PLwD) and their carers. Central to this approach is participatory design, ensuring that the technologies developed are not only functional but also align with the real-world needs and preferences of stakeholders. The highlighted research adopts a co-design methodology, engaging persons across the dementia spectrum, their informal carers and relevant healthcare professionals in the iterative development of assistive solutions. A mixed-methods approach is employed, incorporating qualitative research techniques such as focus groups, interviews and hands-on co-design sessions with stakeholders to deeply understand user needs and experiences.

Key areas of development include interactive digital care plans, personalized cognitive support tools and an open remote monitoring framework and that facilitate communication between PLwD and their carers. A sensing framework monitors activities of daily living within home environments providing valuable insights into behavioural patterns and potential risks, which can inform timely interventions. Additionally, AI-driven personalization is explored to tailor recommendations and adapt technologies based on individual preferences and cognitive changes over time. For persons concerned about brain health, the work extends beyond traditional dementia care by integrating proactive and preventative strategies. Digital interventions, cognitive training applications and lifestyle-based tracking tools aim to support individuals in maintaining cognitive function and promoting overall well-being. Through participatory research, we ensure that these solutions are accessible, engaging and empower users to take control of their brain health.

The co-design process has revealed important insights into technology acceptance, usability and ethical considerations, such as informed consent and data privacy and the balance between autonomy and assistance. The shared findings emphasized the importance of transparent and inclusive development processes to foster trust and adoption among users. Furthermore, this research highlights the role of informal carers as key stakeholders, integrating their perspectives to create assistive solutions that also alleviate caregiving burdens.

By bridging the gap between technological development and participatory design, Dympna's work advances the development of assistive technologies that are not only effective but also socially and emotionally attuned to the needs of PLwD and their carers. Future directions include scaling solutions for broader deployment and engaging with healthcare systems to explore pathways for integration into routine care. Ultimately, this research underscores the value of participatory approaches in designing meaningful, sustainable and impactful assistive technologies for dementia care.

# ENGAGING OLDER ADULTS IN TECHNOLOGY AND INNOVATION PROJECTS

## GRAŽINA RAPOLIENĖ

## IRENA ŽEMAITAITYTĖ, JOLANTA PIVORIENĖ, JUSTINA GARBAUSKAITĖ-JAKIMOVSKA, ROSITA DELUIGI

## SOCIAL POLICY PROJECTS FOR ENCOURAGEMENT PARTICIPATION OF OLDER ADULTS AS CO-CREATORS

## PARTICIPATORY RESEARCH UNIVERSITY'S MISSION IN ADDRESSING THE NEEDS OF AGEING SOCIETY

The presentation provided examples of participatory approaches with older adults in the Lithuanian social policy. In Lithuania, the Council for Senior's Affairs was established by the Ministry of Social Security and Labour in 2022 and senior's councils established in Kaunas city and Klaipėda city municipalities (following the example of Norway). Projects of NGOs representing older people are financed from the state budget. For example, in 2024, 765.000 euros were allocated to finance their activities aimed at: 1) stimulating active social participation; 2) supporting activities of NGOs of older people; 3) providing emotional psychological help by phone; 4) intergenerational projects strengthening digital skills of older people. Two examples of large national projects will be presented in more detail („Social prescription" and National week of older people) following by discussion about challenges of inclusion that were faced and multidimensionality of the social exclusion in old age to be considered from the theoretical perspective.

The growing number of older people in Lithuania and Europe over the past year has raised new challenges for the inclusion of older adults in society and activating their lifelong learning. The aim of project "UMANAS - University's Mission in Addressing the Needs of Ageing Society" (No. S-A-UEI-23-8) is to investigate the University's third mission in response to the needs of an ageing society by empowering older adults in participatory research. The University as an organization expresses respect for human rights and supports democratic principles, it aims to educate society, anticipate change and create an environment that not only meets the expectations of stakeholders, but also contributes to the creation of a life-long learning society.

The objective of this presentation was to present older adults' experiences in participatory research as a catalyst for active participation in community life. The research method utilized includes participatory research and interviews with non-academic researchers. The research was co-designed with older adults and focused on the citizenship education and the third mission of the university, investigating how universities can support older learners and what kinds of educational opportunities they can provide. Older adults were actively involved in drafting research questions, conducting interviews with university representatives and reflecting on the research process.

# SPOTLIGHT ON OLDER ADULTS' ACTIVITIES: OLDER CO-CREATORS IN ACTION

**PANELISTS**
- Alex Mitchell, Head of Strategic Partnerships, Voice Newcastle University, UK
- Michael Dorph Jensen, Residents Council & Municipality, Gladsaxe and Elder Councils, Denmark
- Stig Alund, Chair, User Board, Centre for Ageing and Supportive Environments, Lund University, Sweden
- Ulf Selin, User Board member, Lund University and co-founder Aktiv Senior Network
- Claudio Bolzman, President, National Forum on Age and Migration, Geneva, Switzerland

Coordinated by Annette Bilfeldt and Halina Figon, this session focused on older adults as empowered agents of change via their live experiences and active engagement in civil society, local governance, tech innovation designs and NGO's. The diverse group of participants collectively highlighted the importance of inclusive approaches in the field of research that acknowledge and integrate the voices, needs, experiences and contributions of older people, including those who are often marginalized in society. Following their presentations the forum and roundtable discussion brought together representatives from these councils and civic initiatives, offering valuable insights that led to comprehensive and interactive dialogue. Below are highlights from their activities, along with the names and institutional affiliations of the contributors from each country

# ENGAGING OLDER ADULTS IN POLICYMAKING AND DESIGN FOR USERS: PANEL OF STAKEHOLDERS, POLICYMAKERS, AND COMPANY LEADS

**PANELISTS**
- Carina Dantas – SHINE 2Europe, Portugal
- Øydis Ueland – Department Food and Health, Nofima AS, Norway
- Agnese Stunda-Zujeva – SIA SpirulinaNord, Latvia
- Heidi Elnimr – Architect (user-centred design), Austria
- Kai Schnackenberg – Germany (ministry of social affairs)
- Anthony Polychronakis – Municipality of Rotterdam, ENSA, Netherlands
- Kenneth Bone – SEASUS ICT (cybersecurity), Malta

In this session, PAAR-net stakeholder coordinators Krzysztof Klincewicz and Willeke van Staalduinen convened a diverse panel of policymakers and designers from various fields—including design, food, and technology—and from different countries, as listed above. The discussion centered on critical issues such as data ownership and protection concerning older adults, their participation in research and policymaking, and innovation and product development that both target and involve them as consumers. Ethical concerns were raised throughout, particularly around how older people are positioned within these processes.

The session was notably dynamic and participatory, with questions and reflections from participants leading to deeper engagement in the subsequent forum, where older co-creators also contributed. It was a highly interactive space in which participants actively listened to one another and collectively explored solutions to the challenges presented.

*Older co-creators and stakeholders highlighted:*

*The ongoing discussion also revealed such necessary points*

- the importance of dedicated time and space for conversation;

- the generation gap and varying experiences of ageing (also, ageing is experienced differently across generations);

- the value of mutual engagement through shared activities.

- long-term usability of innovations, long-term product designs with cooperation;

- interdisciplinary research requirements to design solutions;
- e.g. climate change as a lens for intergenerational cooperation;
- e.g. smart home environments shaped by personal histories;

- creating the conditions for ongoing relationships, shared learning, and mutual respect between generations, disciplines, and communities.

A clear thread running through all contributions was that older adults are not merely passive recipients of services or knowledge but active agents in shaping their own environments and futures. Their involvement —in translating knowledge, co-developing services, and influencing policy and technology— is essential.

# RECOMMENDATIONS AND IMPLICATIONS FOR PRACTICE

## Position Older Adults as Equal Co-Creators in Technology Development

Older adults should not be treated as end-users or test subjects in innovation processes. Instead, they must be active co-designers and decision-makers who shape the development of technologies from the outset.

Recommendations:

- Involve older adults in all phases of the innovation lifecycle: from problem identification, ideation, prototyping, testing, to evaluation.

- Establish co-creation teams that include older adults as full partners alongside developers, designers, and researchers.

- Recognise older adults as experts by experience, whose insights are crucial for ensuring technologies meet real-life needs.

## Acknowledge and Address the Diversity Among Older Adults

Age alone does not define how older adults engage with technology. Their experiences are shaped by factors such as gender, migration background, disability, socioeconomic status, digital literacy, and life stage.

Recommendations:

- Use nuanced and inclusive language (e.g., "older caregivers," "new retirees," "older adults with limited digital access") rather than age-based labels like "over 65."

- Design participatory processes that are intersectional and inclusive, addressing the compounding barriers faced by marginalised older adults.

- Ensure that technology development teams and participatory settings reflect the diversity of the older population

## Build Digital Capacity and Confidence Through Training and Support

Meaningful participation in technology development requires access to information, tools, and learning opportunities. Many older adults need support to engage confidently in co-creation processes.

Recommendations:

- Offer digital literacy and co-creation training tailored to different skill levels and learning paces.

- Provide peer-to-peer learning opportunities and support networks to foster confidence and knowledge sharing.

- Equip older adults with the technical vocabulary and tools needed to understand and contribute to innovation processes.

TO ENSURE THAT NEW TECHNOLOGIES AND INNOVATIONS ARE INCLUSIVE, ETHICAL, AND RESPONSIVE TO THE NEEDS OF AN AGEING POPULATION, OLDER ADULTS MUST BE ENGAGED AS EQUAL PARTNERS IN THEIR DEVELOPMENT. THIS REQUIRES A SHIFT FROM DESIGNING FOR OLDER ADULTS TO CO-CREATING WITH THEM. BY EMBRACING PARTICIPATORY APPROACHES THAT VALUE THEIR LIVED EXPERIENCES, SKILLS, AND DIVERSITY, WE CAN DEVELOP TECHNOLOGIES THAT ARE MORE MEANINGFUL, ACCESSIBLE, AND IMPACTFUL.

# RECOMMENDATIONS AND IMPLICATIONS FOR PRACTICE

## Allocate Adequate Resources for Inclusive Co-Creation

Participatory technology development is resource-intensive. Time, funding, and human support are essential to ensure that older adults can engage meaningfully.

Recommendations:

- Budget for remuneration of older co-creators, including compensation for time, travel, and caregiving responsibilities.
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- Allocate personnel and facilitation resources to support inclusive processes, including community liaisons, accessibility experts, and multilingual facilitators.

- Plan for long-term engagement, recognising that trust-building and iterative co-creation take time.

## Design Participatory Processes That Share Power and Decision-Making

Co-creation requires a redistribution of power, ensuring that older adults have real influence over the direction and outcomes of technology development.

Recommendations:

- Create shared decision-making structures, such as co-design committees or innovation councils, where older adults have equal voice.

- Use participatory design methods that encourage collaboration, creativity, and mutual learning (e.g., design sprints, scenario building, prototyping workshops).

- Train researchers and technologists in power-sharing and facilitation skills to support equitable collaboration.

## Ensure Physical and Digital Accessibility in Participation

Participation must be accessible to all older adults, regardless of mobility, digital literacy, or communication preferences.

Recommendations:

- Conduct co-creation activities in familiar and accessible spaces, such as libraries, community centres, or mobile outreach units

- Provide assistive technologies, multilingual support, and alternative formats (e.g., large print, audio, visual aids).

- Use user-friendly digital platforms with adjustable interfaces and ensure compatibility with assistive devices.

## Embed Co-Creation into Policy and Innovation Systems

To sustain the involvement of older adults in technology development, participatory approaches must be institutionalised and embedded in innovation ecosystems.

Recommendations:

- Integrate co-creation requirements into funding criteria and innovation policy frameworks.
- Support the creation of intergenerational innovation labs or age-inclusive tech hubs.
- Develop guidelines and standards for inclusive design that reflect the input of older adults.

CO-DEVELOPING NEW TECHNOLOGIES AND INNOVATIONS WITH OLDER ADULTS AS EQUAL PARTNERS IS ESSENTIAL FOR BUILDING INCLUSIVE AND RESPONSIVE TECHNOLOGICAL FUTURES. BY EMBRACING PARTICIPATORY, INTERSECTIONAL, AND RESOURCE-SENSITIVE APPROACHES, WE CAN ENSURE THAT TECHNOLOGY DOES NOT EXCLUDE OR MARGINALISE OLDER ADULTS—BUT INSTEAD EMPOWERS THEM AS CO-CREATORS AND CONTRIBUTORS. THIS SHIFT NOT ONLY ENHANCES INNOVATION BUT ALSO FOSTERS DIGNITY, INCLUSION, AND EQUITY IN THE DIGITAL AGE.

# GENERAL CONCLUSION

FINAL REMARKS
Together, the forum and roundtable bridged policy and practice, reinforcing the need for participatory structures that honor older adults' agency, promote cross-sectoral learning, and sustain intergenerational collaboration. These reflections reaffirmed that co-creation is not a one-time consultation but a sustained, responsive, and dialogical process.

NEXT STEPS
PAAR-net continues to follow both research coordination and capacity building objectives through Knowledge Exchange Events, Training Schools, Grants, and Working Groups' outputs. The inclusion and engagement with older adults keeps a priority goal. The next Training School will be dedicated particularly to co-creation with older adults, and all Working Groups are now approaching this objective with greater care and concrete strategies. In addition, we are actively exploring ways to collaborate across thematic areas and foster cross-group activities. PAAR-net prioritizes intercommunication and knowledge exchange among multiple actors, including in design, policymaking, and research –towards advancing social change.

**REFERENCES AND FURTHER READING**

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