"Exploring eco-innovation experiences for user-oriented solutions to improve elderly independent living at home"

Smart home and the end-users perspective

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Workshop for the **INNOVAge Project**

Improvement the effectiveness of regional development policies in eco-**INN**ovation for smart h**O**me and independent li**V**ing to increase the quality of life of **Age**ing people.

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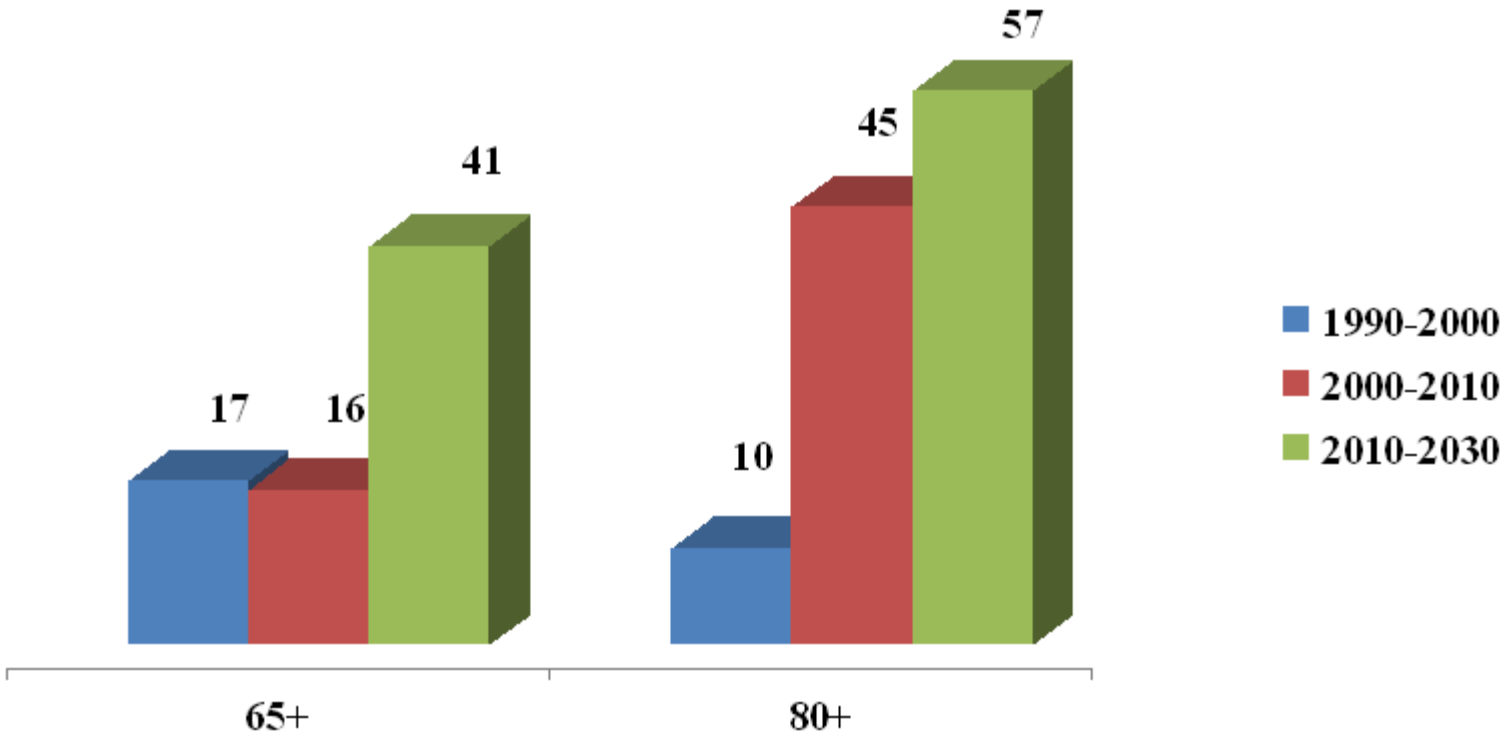
Summary

- Overview of the ageing phenomenon: trend, consequences of the demographic changes, needs and wishes of the older population.
- Why technology: the end-users, resources/constrains, involvement of older people.
- “Researching” with older people.
- The acceptance issue and the technology promotion.
- Some conclusions!

Ageing in Europe

% of people aged 65+ and 80+ in the EU27



Source: Eurostat,2010

Consequences of the changing demographics

- increasing proportion of older people, particularly the very old
- decreasing birth rates
- reduction in the size of the households and trends towards living alone
- reduction in the potential of people who care and more fragile family networks

Ageing characteristics

- ✓ Complex and variable: it leads to functional and homeostatic decline of the vital organs.
- ✓ Slow but dynamic: subject of internal and external influences, that means great heterogeneity within members of the same group.
- ✓ Common to all the members of a species.
- ✓ Progressive and irreversible.
- ✓ Influenced by experience and environment not only by genetic.

Older people needs

- ***Functional***: ADL (bathing, dressing, continence, toileting, moving, eating) & IADL (telephone, shopping, cooking, cleaning the house, washing, transports, medication , paying).
- ***Cognitive***: MCI VS dementia, etc…
- ***Psychological***: emotional support, isolation, depression, quality of life…
- ***Mobility***: functional but also psychological, falling, urban VS rural…

…in particular, mobility is:

- ✓ a recognized universal right
- ✓ freedom and autonomy for all citizens, including older persons
- ✓ vital to preserving older persons' quality of life
- ✓ delay disability and prevent frailty
- ✓ possibility to continue being part of society

- ✓ have a very negative effect on an elderly person's life and health
- ✓ are both a cause and a consequence of falls
- ✓ accidental falls represent the sixth cause of death among elderly
- ✓ it is estimated that one in three people aged 65+ is at risk of falling
- ✓ for people aged 80+ the figure increases to one in two people

Older people's experiences and wishes:

- Community participation
- Social isolation/loneliness/forgetfulness
- Mobility inside/outside
- Accessing to shops and services/information
- Security and Safety
- Keeping healthy and active
- Checking up on care provision

Technology and the Aging society

Technology has the potential of:

- supporting the everyday activities and the lack of competencies of the older people (with the effect of promoting the social participation);
- supporting the public/private services and the health organizations, in providing adequate aid to elderly and caregivers;
- filling the gap between elderly needs/resources and their environment, especially at home.

The research on technologies could be implemented through the promotion of the users' involvement

Constraints to the use of technology

- Low awareness by end-users
- Concerns about legal, ethical, and privacy issues
- Lack of effective response to social factors in technology development
- Cost of assistive technology devices
- Resistance to “high tech devices” among elders (usability, ergonomics)
- Concerns about fitting the technology into the environment (stigmatization, difficulties in changing routines)

Accessibility and usability difficulties to solve

Finding ICT solutions tailored to the needs of older people and/or ***Adapting*** technologies to the conditions of the different phases of old age:

- ✓ *phases of good health*, activity, and social integration
- ✓ *phases of frailty*, loneliness, and/or need of care.

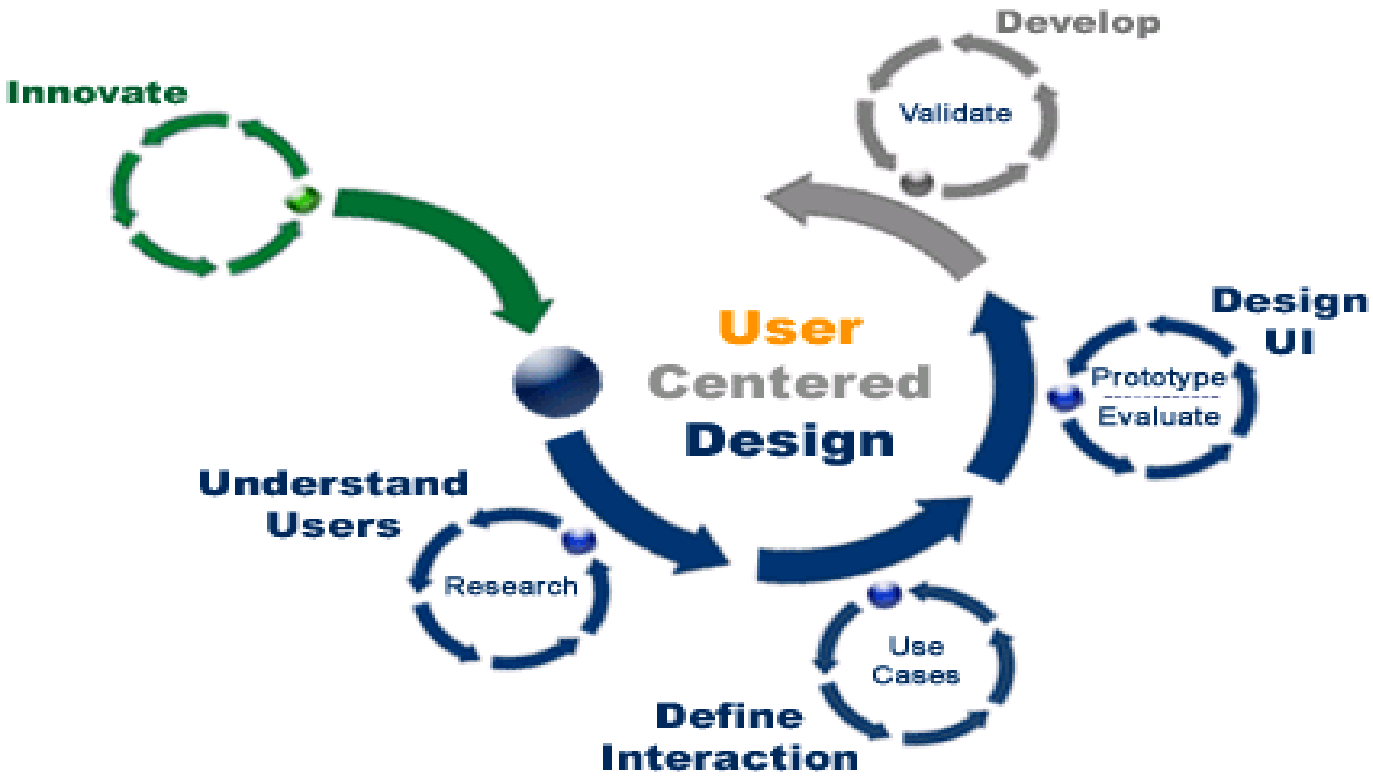
End-users in AAL Joint Programme

- ***Primary end-user*** who is actually using an AAL product or service, a single individual, “the well-being person”.
- ***Secondary end-users*** are persons or organisations directly being in contact with a primary end-user, such as formal and informal care persons, family members, friends, neighbours, care organisations and their representatives. This group benefits from AAL directly when using AAL products and services and indirectly when the care needs of primary end-users are reduced.
- ***Tertiary end-users*** are such institutions and private/public organisations that are not directly in contact with AAL products and services, but who somehow contribute in organizing, paying or enabling them. This group includes the public sector service organizers, social security systems, insurance companies.

Issues for the users' involvement

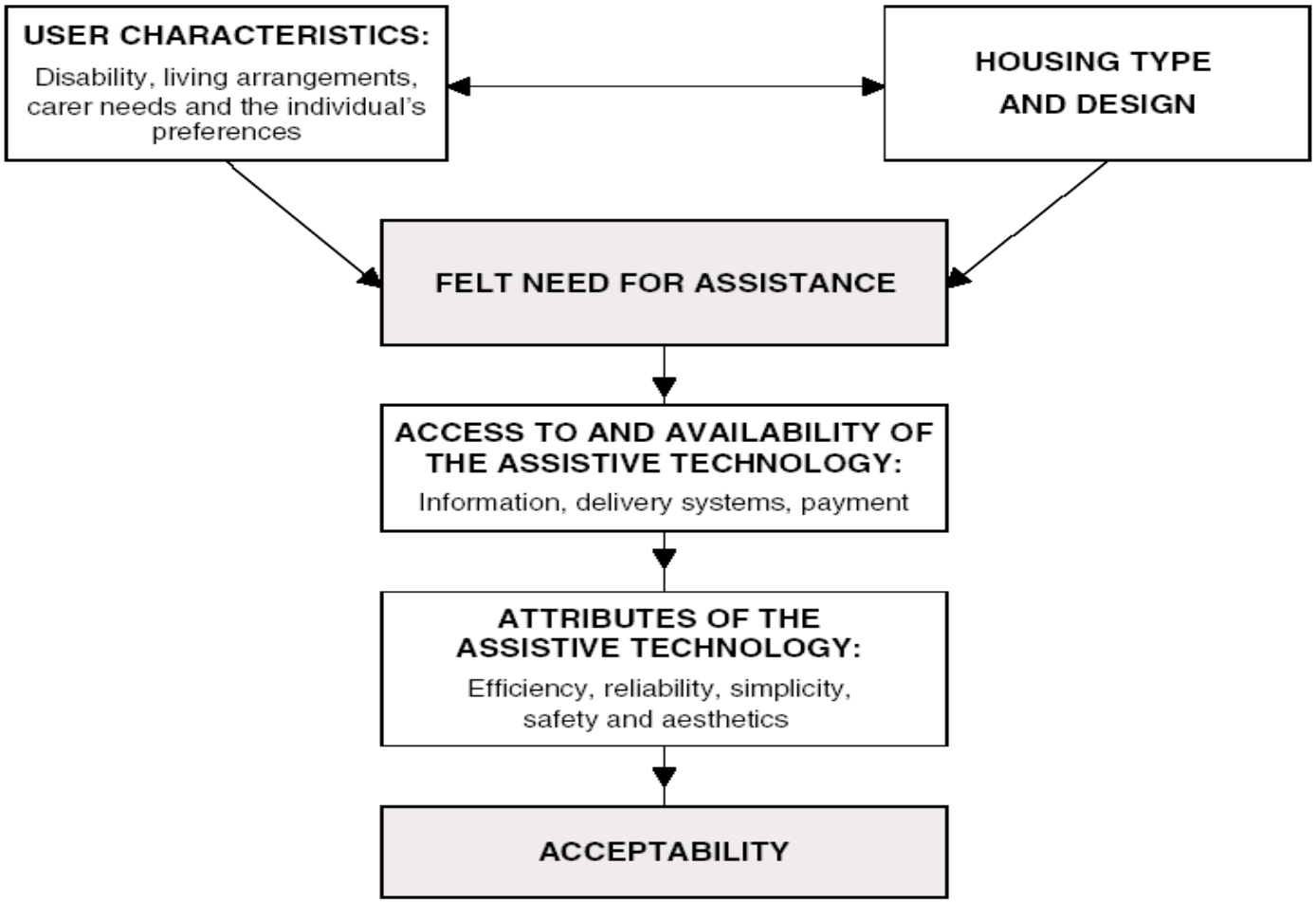
- Involving older people in the research process helps the researcher in identifying the right questions.
- Users' involvement should be guided by the views of the users and by the nature of the research.
- The involvement of the users is required in every phase of the research and development (design, implementation, dissemination).
- Devoted training should be implemented to involve users successfully.

User-centred design



UCD is a design philosophy and a process in which the needs, wants, and limitations of end users of a product are given extensive attention at each stage of the design process

Acceptance of technology



To promote the acceptance means:

- Ensure the device's use
- Answer not only to the needs but also to the preferences of the older people
- Impact on the family and on the society
- Impact on the market: motivation and acceptance are drivers for the exploitation of new technologies (markets from/for ageing)
- Support the residual abilities and not substitute the close relationships
- Achieve useful knowledge for the future older population, probably more literate on the technological side.

Conclusions

- Take into account the multiple perspectives including older person, carers, professionals and other stakeholders, system and policy.
- Particular attention has to be given to Ethics (privacy, invasiveness…).
- More time and funds for the dissemination: the results should be communicated to end users and stakeholders in a more appropriate way.

…but most of all:

Technology should not create new barriers!
Improve the conditions for ICT- and AAL- use

- by designing devices and systems according to Universal Design principles/User Centred Design
- by providing accompanying measures (services, training, counselling, integrative learning opportunities)
- involving users in research and development.

Thank you for your attention!!!

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