

Smart home as a cleaver and healthy co-living concept for elderly

Manja K. Kuzman

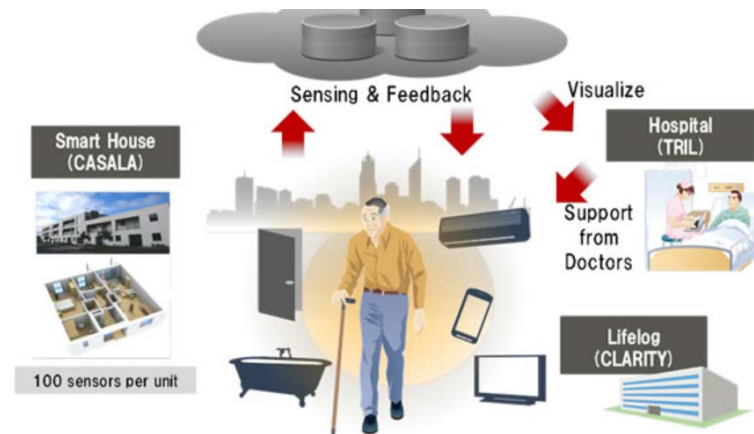
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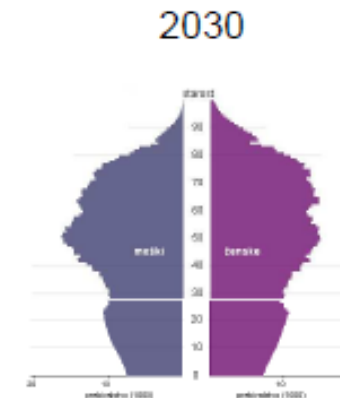
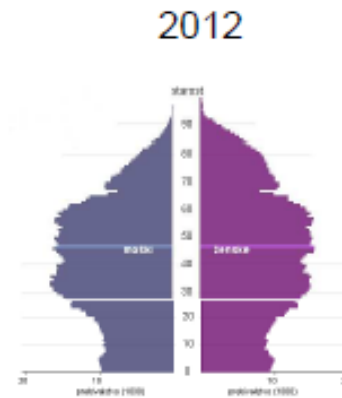
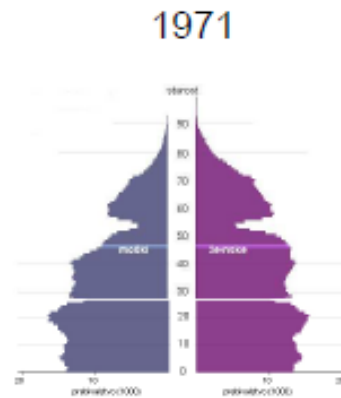
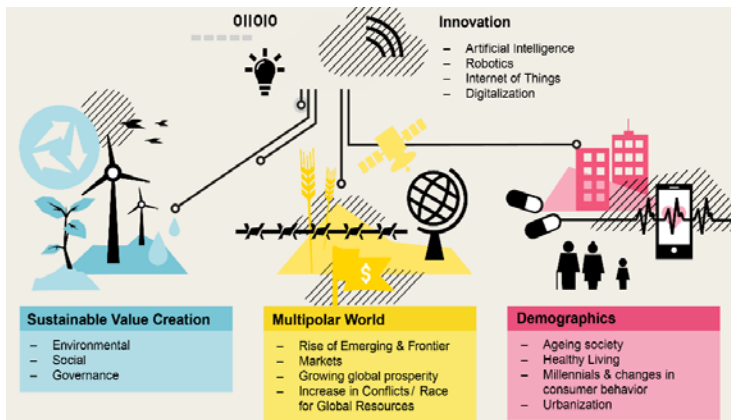
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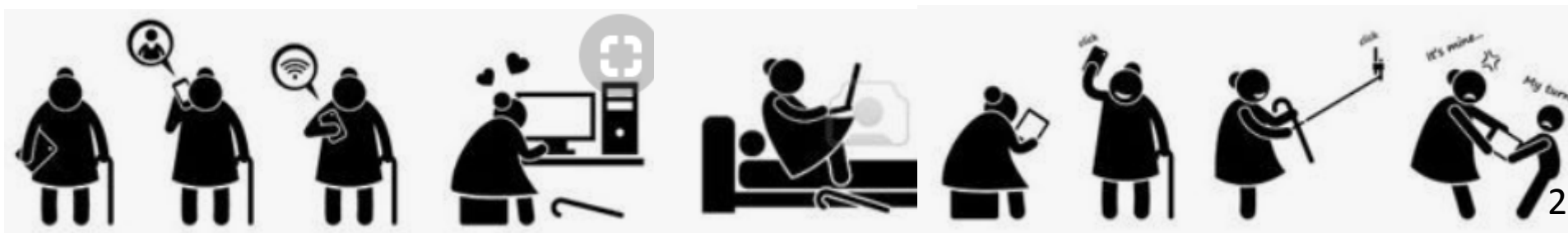


Global megatrends represent changes, drive innovations in our world that have a sustained impact on everyone.

The number of senior citizens is rapidly Increasing.

Statistical prognosis indicates that, by 2030, 36% of people will be older than 60.

The majority of flats are designed for yung, fit, active people.



Adopting living spaces to needs of elderly

The elderly are at a different mental and physical health

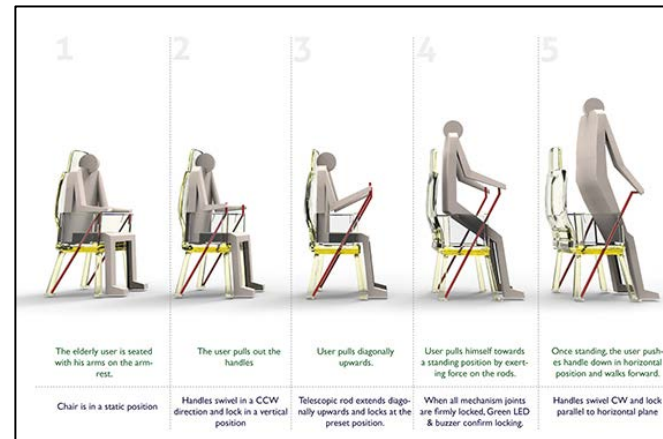
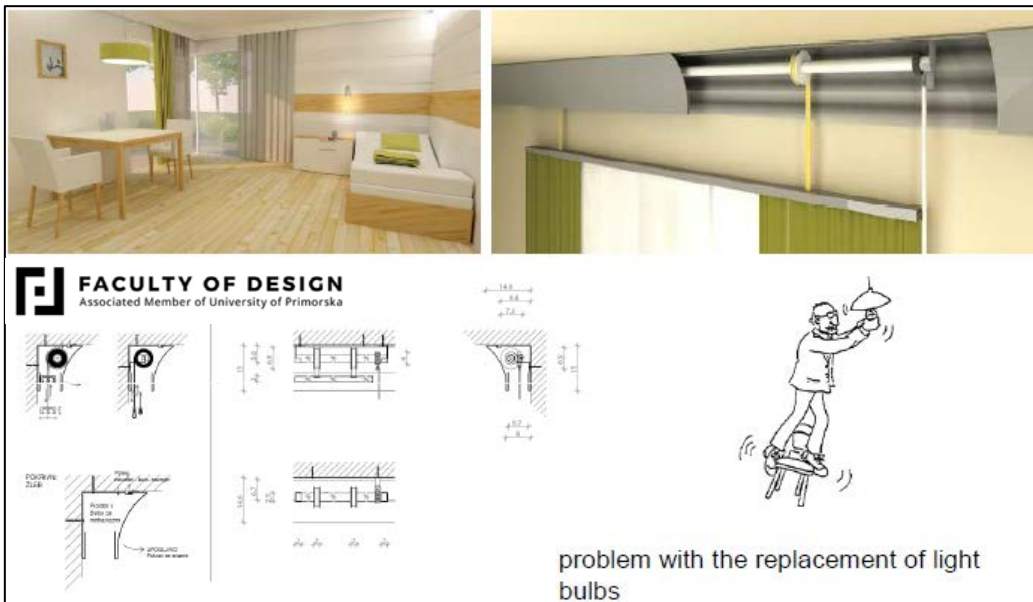
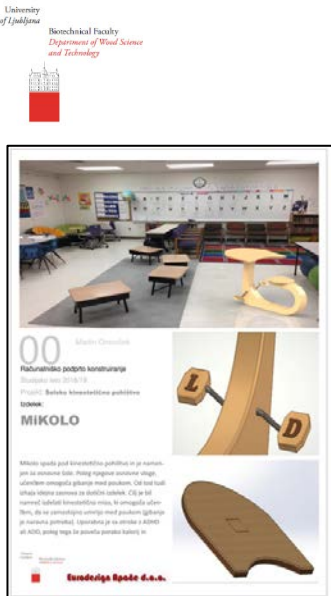


Increase the number of people who have sight, hearing or memory difficulties, people with hampered movement abilities, and users who have difficulty processing information.



Comfort is crucial for elderly

Adapting living space to the needs of elderly can reduce the risk of injury by 30 - 50%.



Elderly people have many difficulties in fitting shoe strings or cut the toenails. The students designed a special furniture elements which help elderly to manage the process of wearing shoes or cut toenails.



<https://fd.si/>

We designed a special roller stick that makes lifting and lowering of the curtain and lights.



IRIS is equipped with state-of-the-art communication technology adapted to different types and levels of disability. **The CoLIVING ICT** - based services address the three main areas of the elderly social interaction context:

- 1) care and wellness,
- 2) guidance as a daily tasks assistance
- 3) mobility monitoring.



Demonstration of the latest equipment, technical aids and rehabilitation technology improving quality of life of elderly: living made easy adaptable kitchen, working place, safety products in elderly bathroom.

The objectives of Smart Home IRIS

Practical example for future clever co-living concept

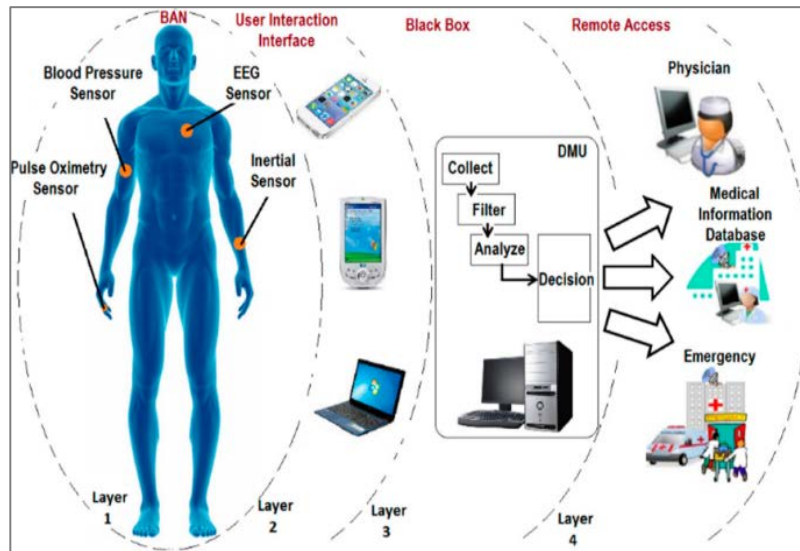
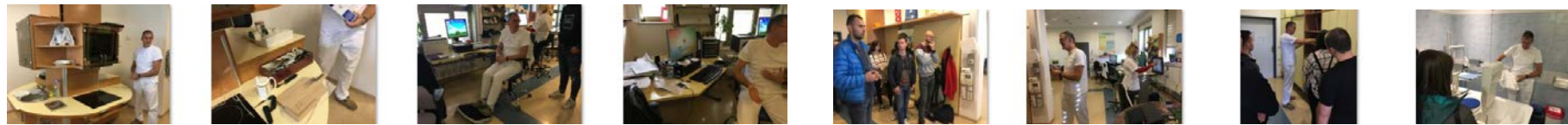
- **To facilitate public access** in Slovenia the demonstration of contemporary technology that assist people with diverse disabilities and the elderly,
- **To provide an opportunity for elderly to try out** and select technical solutions in the demonstration apartment for their respective disabilities in order to maximize functional independence in their home environment;
- **To advise elderly**, along with their care givers, on the most rational and economic adaptation of their current living quarters with regard to their particular needs;



The objectives of Smart Home IRIS

Practical example

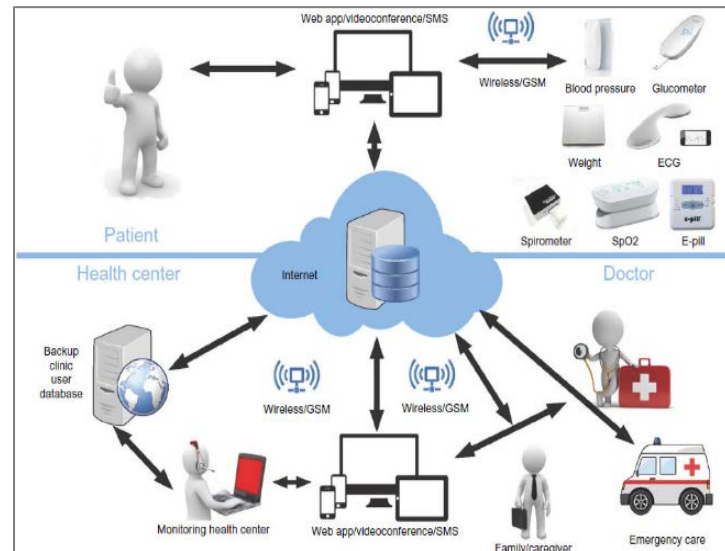
- To provide equipment manufacturers and service providers, in the field of rehabilitation technology, the opportunity to promote and test their solutions in the integrated environment of the demonstration department;
- To create new opportunities for researchers and developers in the fields of e-accessibility and e-inclusion in Slovenia and elsewhere.



Health monitoring system

Scheme of a home telecare system

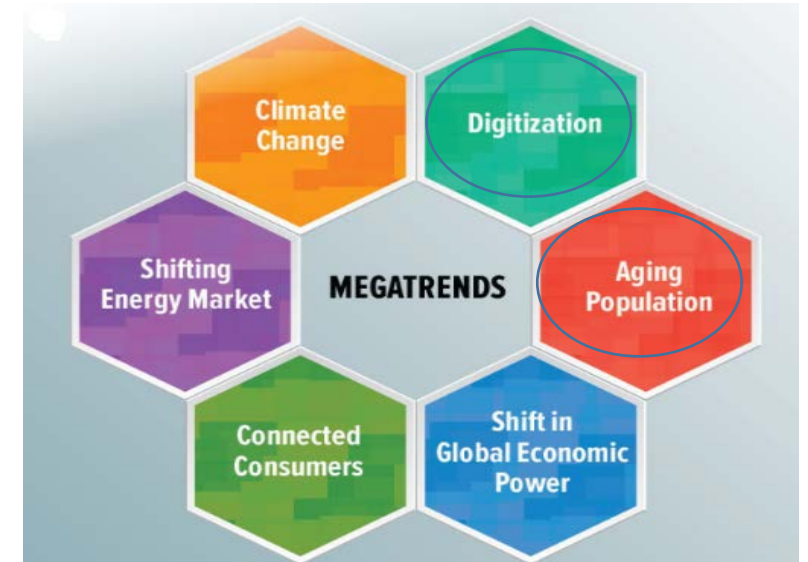
Source: Bujnowska-Fedak and Borkowska, 2019



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The users of Smart home IRIS


Practical example

People with different disabilities and elderly; professional organizations; the general public; designers of similar facilities, especially architects, interior designers and suppliers, student,....

Create modular solutions that 
can be applied in diverse user environments (private living quarters, social institutions, retirement homes, etc.)

Facilitate greater independence among all user groups 

Reduce the cost of home-care (health care, nursing and other forms of assistance) 

Reduce the need for re-location to retirement homes and other suitable institutions 



Use natural materials / EWPs
Improve the user safety 



CIRCULAR ECONOMY IN THE FURNITURE INDUSTRY: OVERVIEW OF CURRENT CHALLENGES AND COMPETENCES NEEDS

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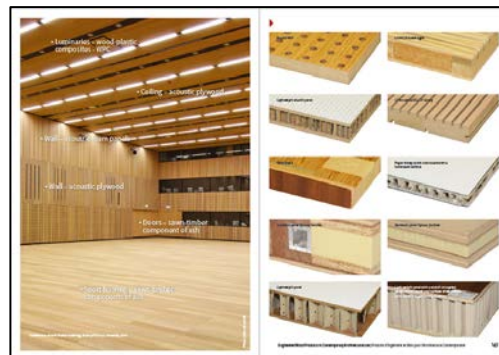


The built environment directly affects user health in many ways.

Targeted design interventions, especially with natural materials like wood, can impart many benefits to users.

Benefits that may be imparted by ones built environment include:

- *reduced psychophysiological stress*, the ability to cope better with stressful events and situations, and increased recovery from stress
- *reduced time away from work* due to illness
- *increased connection with and care for the natural environment*
- support for increased social cohesion
- support for more activity in typically sedentary lifestyles



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Wood as an element of REED

Restorative environment and ergonomic design

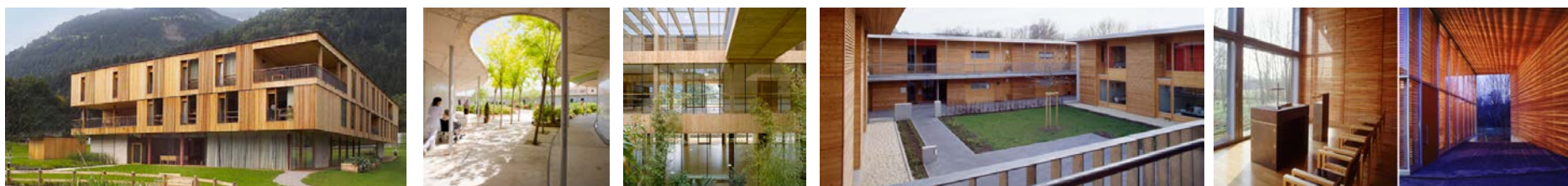
Conclusions - reasons for moving to a collaborative senior housing

„Smart home“ as a clever co-living concept could be the future solution

- *It includes the latest equipment, technical aids and rehabilitation technology, which improves the elderly with enriched quality of life and assure their optimal occupational, educational and social integration in society.*
- *Improving accessibility, functionality, and safety in general requires combining many disciplines together to develop solutions that integrate ICT, ergonomics, healthcare (psychological and physical), building, and community design.*
- The work of the Smart home *involves new expenditures*: the employment of new professionals, maintenance of the demonstration apartment with its equipment, renewal and continual improvement at the same.
- The built environment directly affects user health in many ways, wood is an ideal material for restorative environment and ergonomic design.

Acknowledgements:

COST Action CA 16121 "From sharing to caring".
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<http://blog.buildllc.com/2010/03/elderly-housing-design-in-europe/>

Thank you for attention!

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