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KNOWLEDGE CENTRE FOR REAL ESTATE DEVELOPMENT

TULE final seminar 29.10.2025

Towards future age-friendly living

Future Senior Housing (TULE) -project

Knowledge Center For Real Estate Development (KCRED)
Faculty of Built Environment (BEN)
Tampere University

Project manager: Jaana Vanhatalo
Project leader: Jukka Puhto
Researchers: Veronika Haukeland + Juha-Matti Junnonen
Communications: CoreLab (Alisa Hakola & Jaakko Kinnunen)

Artificial intelligence (M365 Copilot) has been used in the translation of this document.

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Program

15.30 **Welcome!**

15.35 **Briefly about the TULE project**

15.45 **TULE-model: Towards future age-friendly living with sustainable principles**

17.15 **Discussion**

Ending at latest at 17.30

Briefly about the TULE project

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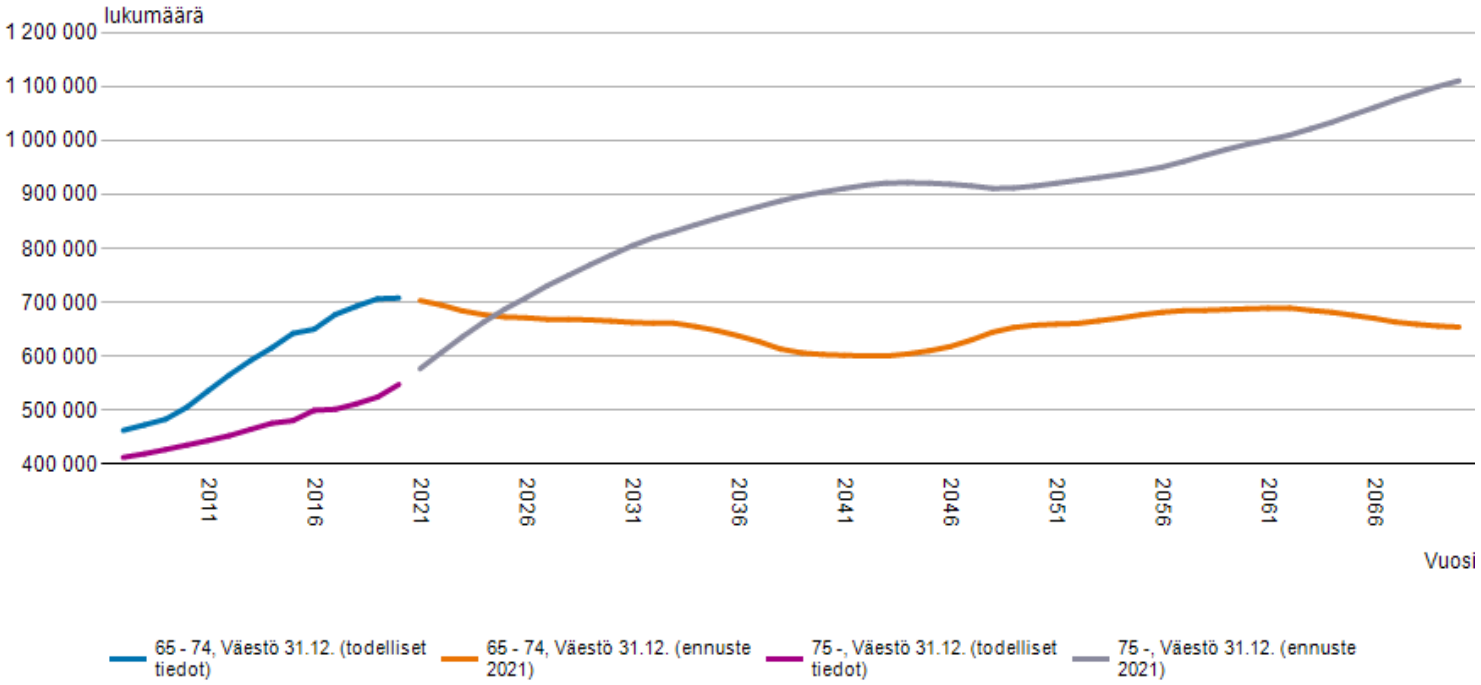
Background for the project

- Challenges of demographic change
- Need for intermediate form of housing
  - In project independent housing is included

+ Social Welfare reform in action in 2023
  - Wellbeing services counties
  - Communal housing

+ Changes in state-subsidized housing production



Statistics Finland 2022

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Future Senior Housing (TULE) -project

- Development, co-creation and research project
- 3/2023-10/2025
- Funded by Centre for State-Subsidised Housing Construction (Varke, former ARA) and 22 other organisations (housing providers, builders, municipalities) + expert member from Ministry of the Environment → Steering group & participants
  - Work supported by an internal specialist group from the TAU / BEN (Research groups of Sustainable Housing Design (ASUTUT), Urban planning and Construction management and economics)

Ympäristöministeriö — Valtion tukeman asuntorakentamisen keskus
ara Asumisen rahoitus- ja kehittämiskeskus
ARTTU asunnot
De Gamlas Hem TAMMERFORS 1898 TAMPERE
LAATUASUNNOT
Hailuoto luokseen kutsuva loistokunta
Helsinki Heka
IISALMI
JYVÄSKYLÄ
Järvenpää
Jaso Elämää yhdessä
Haapajärven Vuokratalot
KIINTEISTÖ OY KÄRRYKARTANO
VETELINRAITTI
Kirkkonummen VUOKRA-ASUNNOT OY
Lahti
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SAVUT
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TURKU
TUUSULA
tyvene
VAASA
YRJÖ JA HANNA KODIT

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Aim:
To develop novel housing concepts for future senior housing
As a result a broader model for developing and designing age-friendly living

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Workpackages of TULE project

TULE-PROJECT

WP 1:

Mapping of current state of senior housing

WP 2:

Modelling and analysis of the current actor network in senior housing

WP 3:

Assessment of Finnish and international practices and senior housing models

29 site visits in Finland & visits and meetings in UK

Study on good international practices

WP 4:

Development of different kind of senior housing related solutions and their economic examination

Solutions = TULE-model (inc. concept tool & concept examples)

WP 5:

Communications by CoreLab*

CORELAB
CONSTRUCTIVE COOPERATION

→ Living (not only housing)

Themes for assessment and development:

1. Spaces
2. Communality
3. Services
4. Technological solutions

\+ Other

**CoreLab is open co-creation platform located in the Faculty of Built Environment, and it works with many projects.*

TULE events:

- For steering group 8 workshops/meetings
  - With the workshops site visits to interesting schemes on housing and services
  - In meetings lectures, talks, discussions and workshopping related to different themes of senior housing
- Excursions abroad
  - London, UK 5/2024
  - Tallinn, Estonia 5/2025
- Webinars
  - On Welfare County reform 3/24 (in Finnish)
  - On international research and good practices 10/24 (in English)
  - Relocatable buildings as a potential for the future? 5/25 (in Finnish)
- Final seminars in Tampere (&Teams) Oct 9th and 29th

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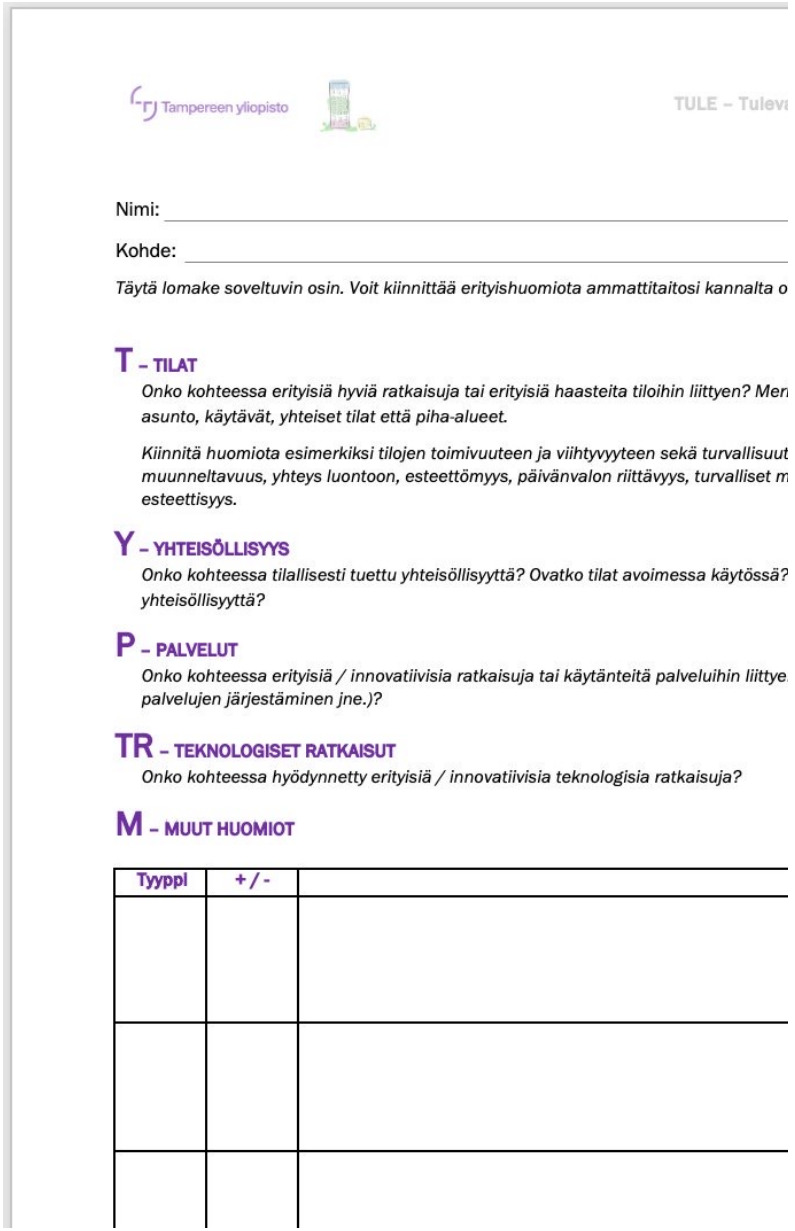
Assessment of Finnish schemes

- Through site visits (19 sites assessed)
- On site visit our participants filled site assessment form
  - these findings are summarized and analysed → Guidelines what to consider and what to avoid when designing/planning age-friendly living



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TULE – Tulev

Nimi: _____

Kohde: _____

Täytä lomake soveltuvin osin. Voit kiinnittää erityishuomiota ammattitaitosi kannalta o

T – TILAT

Onko kohteessa erityisiä hyviä ratkaisuja tai erityisiä haasteita tiloihin liittyen? Mer
asunto, käytävät, yhteiset tilat että piha-alueet.

Kiinnitä huomiota esimerkiksi tilojen toimivuuteen ja viihtyvyyteen sekä turvallisuut
muunneltavuus, yhteys luontoon, esteettömyys, päivänvalon riittävyys, turvalliset m
esteettisyys.

Y – YHTEISÖLLISYYS

Onko kohteessa tilallisesti tuettu yhteisöllisyyttä? Ovatko tilat avoimessa käytössä?
yhteisöllisyyttä?

P – PALVELUT

Onko kohteessa erityisiä / innovatiivisia ratkaisuja tai käytänteitä palveluihin liittye
palvelujen järjestäminen jne.)?

TR – TEKNOLOGISET RATKAISUT

Onko kohteessa hyödynnetty erityisiä / innovatiivisia teknologisia ratkaisuja?

M – MUUT HUOMIOT

Tyyppi	+/-	

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Study on good international practices

Which could give new aspects to Finnish senior housing

Spaces
- Hogeweyk, Netherlands
- SMILE Homes®, UK
- Rochestown House, Ireland

Communality
- New Ground Cohousing, UK
- SällBo, Sweden
- Tonic@Bankhouse, UK
- Regnbågen, Sweden

+ Financing / Implementation models
- Social Impact Bond, SIB
- Section 106 (S106) & Community Infrastructure Levy (CIL), UK

Services
- Bauernhof Wohngemeinschaft, Germany
- Middleton Hall, UK
- An Cluinín Retirement Village, Ireland
- Nippon Active Life Club, Japan

Technological solutions
- Circadian lighting in nursing homes, Denmark
- Intelligent Lilli, UK
- Green Man +, Singapore
- Age-friendly taxi ordering service, China
- Colette, France

Good international practices: visits abroads

Excursion to London 5/24:
- Tonic @Bankhouse
- Hazelhurst Court
- Appleby Blue Almshouse
- Noele Gordon House
- Auriens Chelsea
- A House for Artist
- Clarion Housing
- Container City
- Design Museum

Excursion to Tallinn 5/25:
- 3 module building companies
- Seminar with City of Tallinn
- 1st senior house of City of Tallinn (Maleva tn 18)
- Tabasalu Pihlakodu
- Scandium Living, Magma Studios

+ Vanhatalo's trip to Manchester & Leeds 11/24:
- Gorton Mill House (Southway)
- Abbey Hey / Ageing in place program
- MUCH - Manchester Urban Cohousing Limited (senior co-housing)
- Manchester universities
- Salford Foyer (Places for People)
- Manor Gardens, Bolton (Places for People)
- Smithy Croft, Heald Green, Stockport (Your Housing Group)
- Community Savers

+ 2x EFL autumn conference

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TULE-model: Towards future age-friendly living with sustainable principles

Jaana Vanhatalo & Veronika Haukeland

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Background, structure and guiding principles of TULE-model

Process for developing the model

- Materials for the development work:
  - Research conducted during the project
  - Workshops in the project
  - Discussions during project meetings
  - Domestic site visits
  - International trips
  - Expert knowledge
- Aimed to address challenges identified during the project
- From pure concepts to a broader TULE model

What is new in the model?

- → The model aims to provide an overall view of the entire process of developing, planning and designing age-friendly living, including its phases and stakeholder roles.
- → Bringing age-friendly approach to housing development and design.
- → In the model, for the start of the process, we introduce a regional discussion forum, regional development phase, and a formation of a regional vision.
- → Concept tool as part of the real estate development phase.
- → Collecting information related to age-friendliness from various sources and synthesizing it.

Parts of TULE model

Guiding principles
(7pcs.)

Process all the way from regional development to use and monitoring with recommendations

Key parts for each actors and their roles in different phases

Concept tool to support concept development
(in development phase)

TULE-model's applicability in other countries

- What can be used as such?
  - Process as a whole
  - Guiding principles
  - Recommendations
- What has to be adapted to local operational environment?
  - Stakeholders involved
  - Certain parts of phases
    - Local regulations

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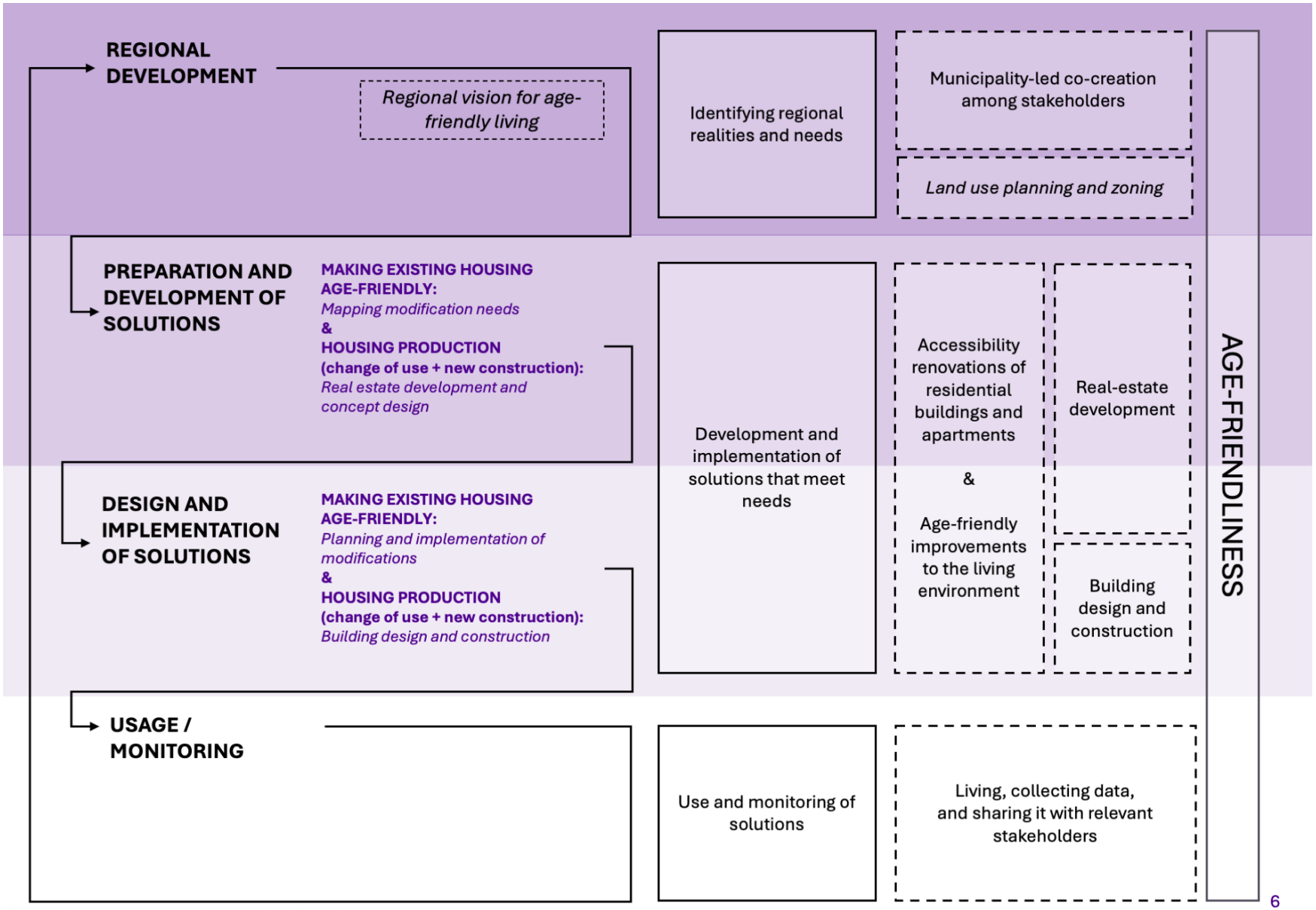
Sections of TULE model, their purpose, and connection to different phases of planning, design and construction



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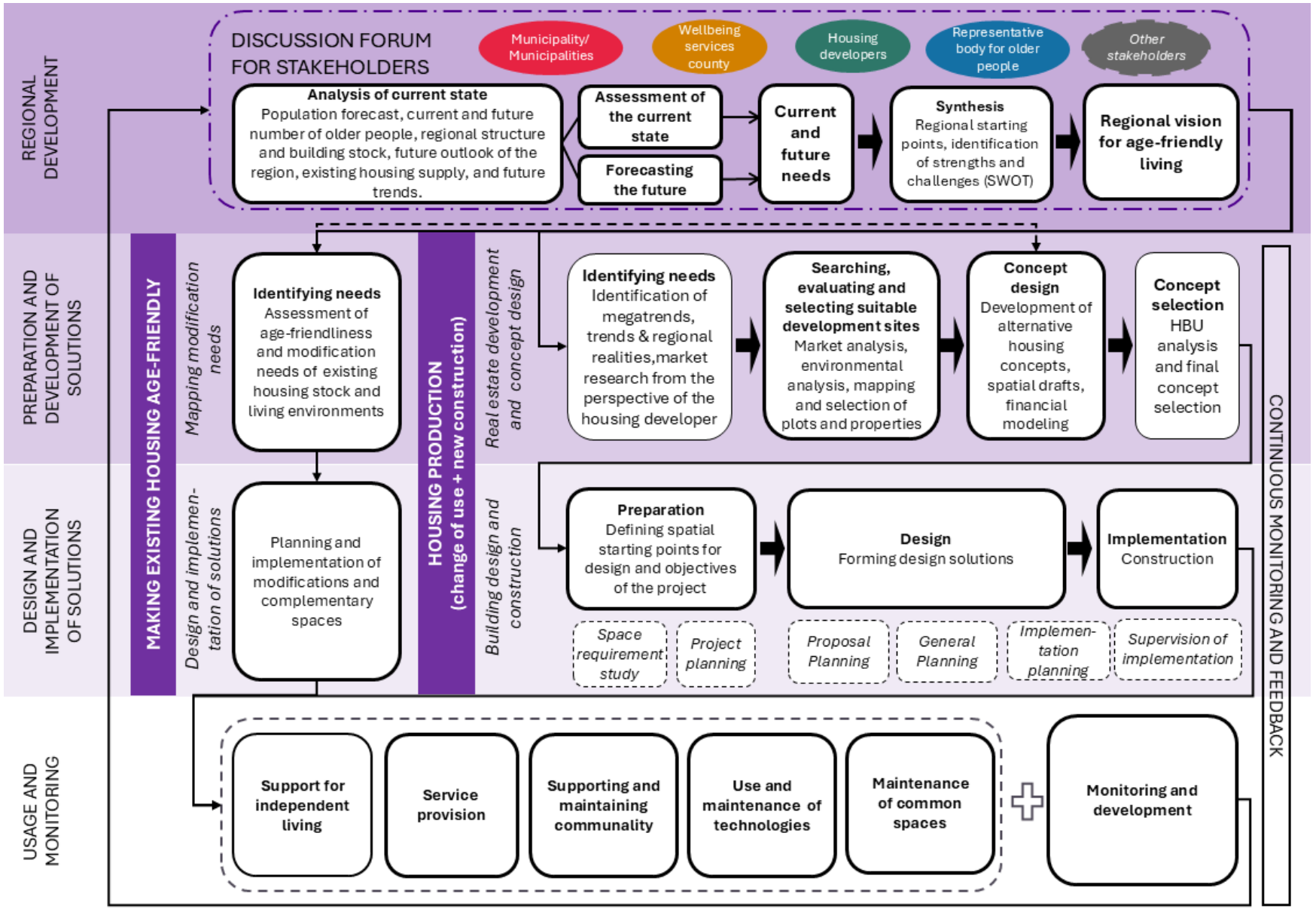
Process diagram of TULE model



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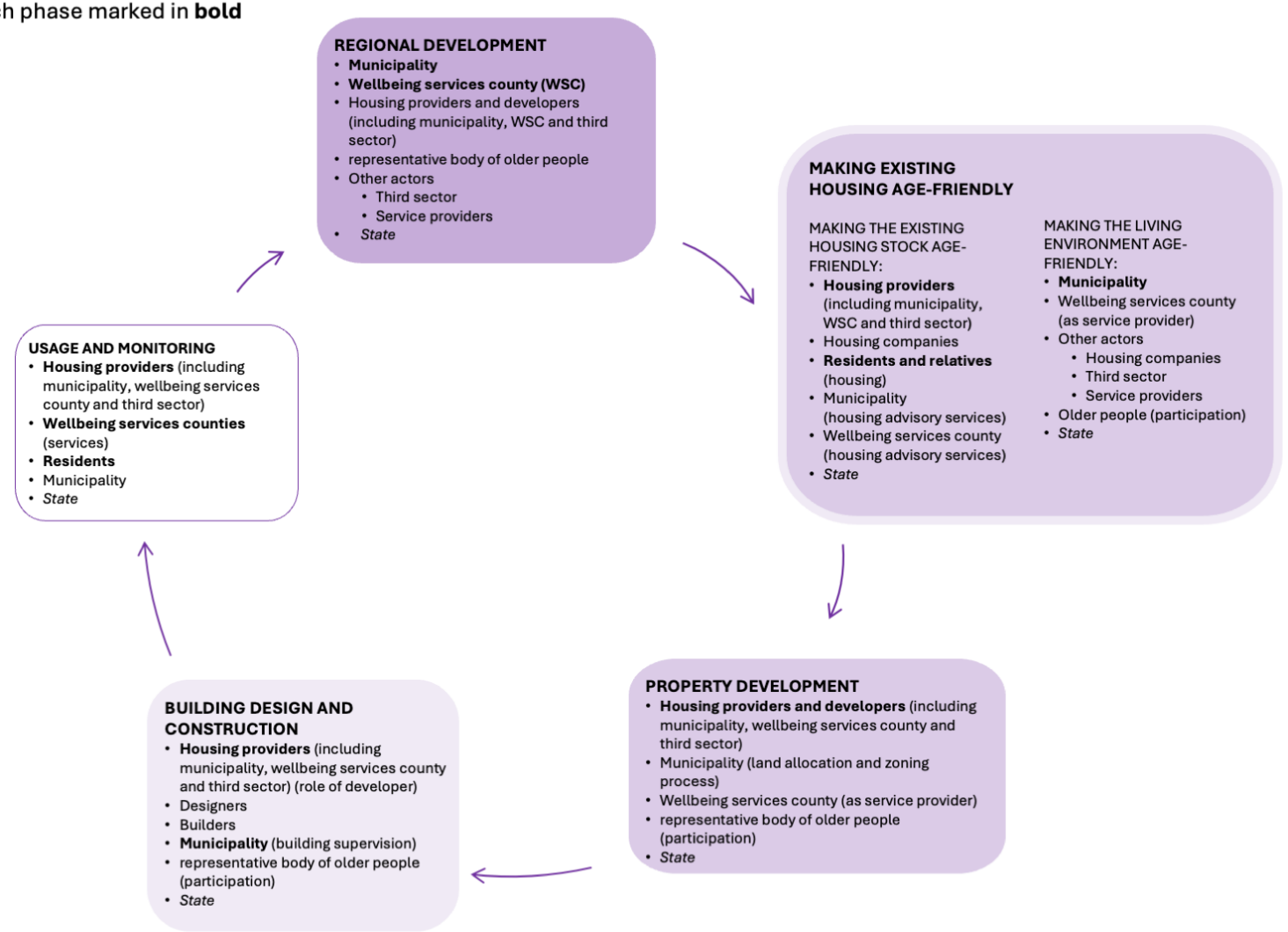
Stakeholders involved in different phases

Main actors of each phase marked in **bold**



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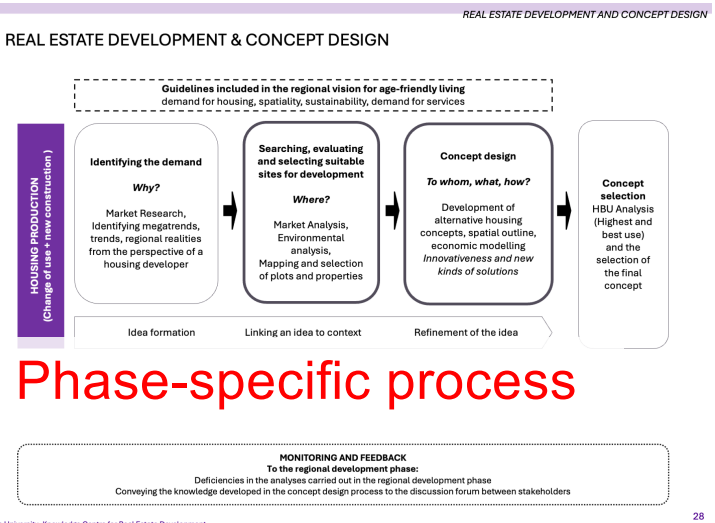
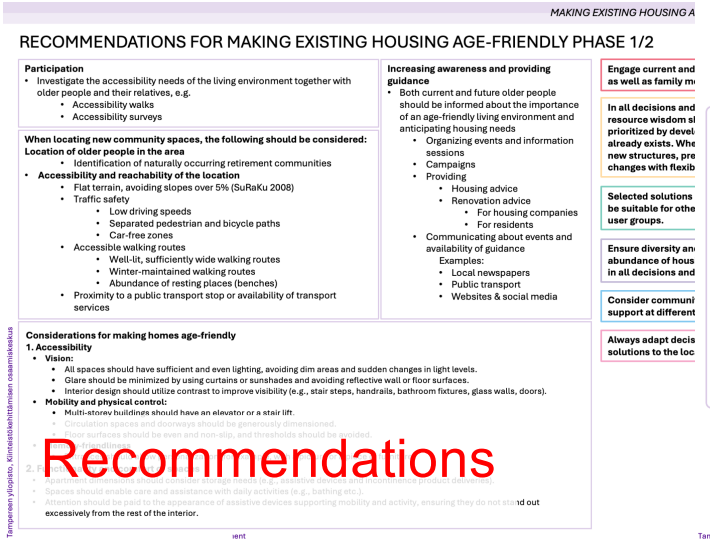
Content of each phase of TULE-model

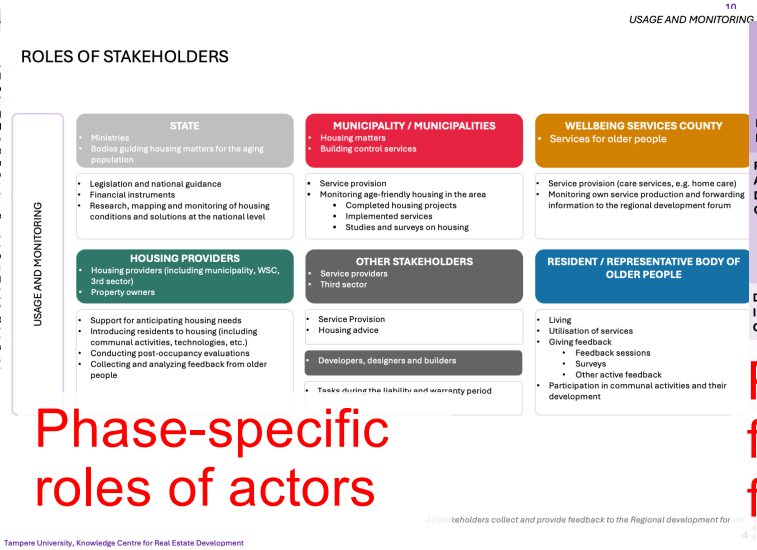
Title / introductory page



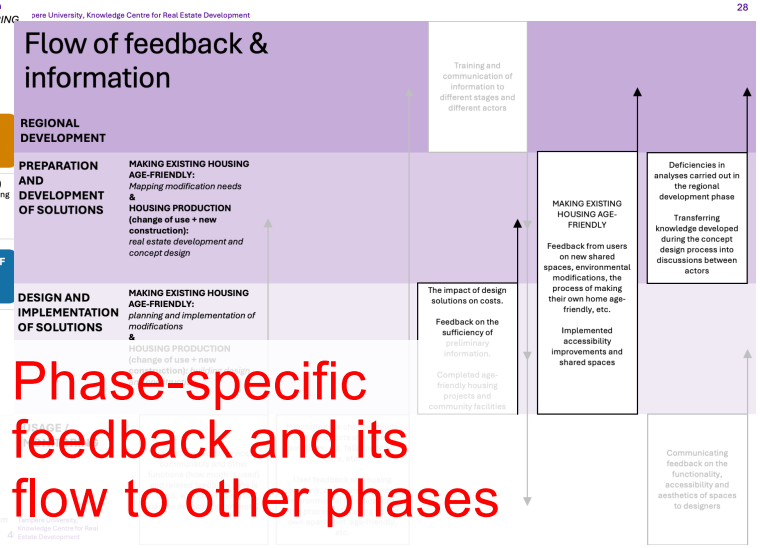
Phase-specific process



Recommendations



Phase-specific roles of actors



Phase-specific feedback and its flow to other phases

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Guiding principles

DESIGN FOR ALL

- Residential and living environments that accommodate diverse needs and promote independence

SUSTAINABILITY

- Take into account and utilize existing resources
- Flexible and resilient new solutions & production

PLACE-BASED SOLUTIONS

- Locally adapted solutions based on identified conditions

COMMUNALITY

- Fostering and supporting communality at all levels through various actions

PARTICIPATION

- Including aging population and utilizing their expertise when developing housing and services
- Diverse methods of participation

DIVERSITY

- Various options designed to reflect the diverse preferences and the diversity of present and future older populations

INNOVATIONS AND CHANGE IN ATTITUDE

- Open-mindedness & novel solutions
- Embracing and valuing aging

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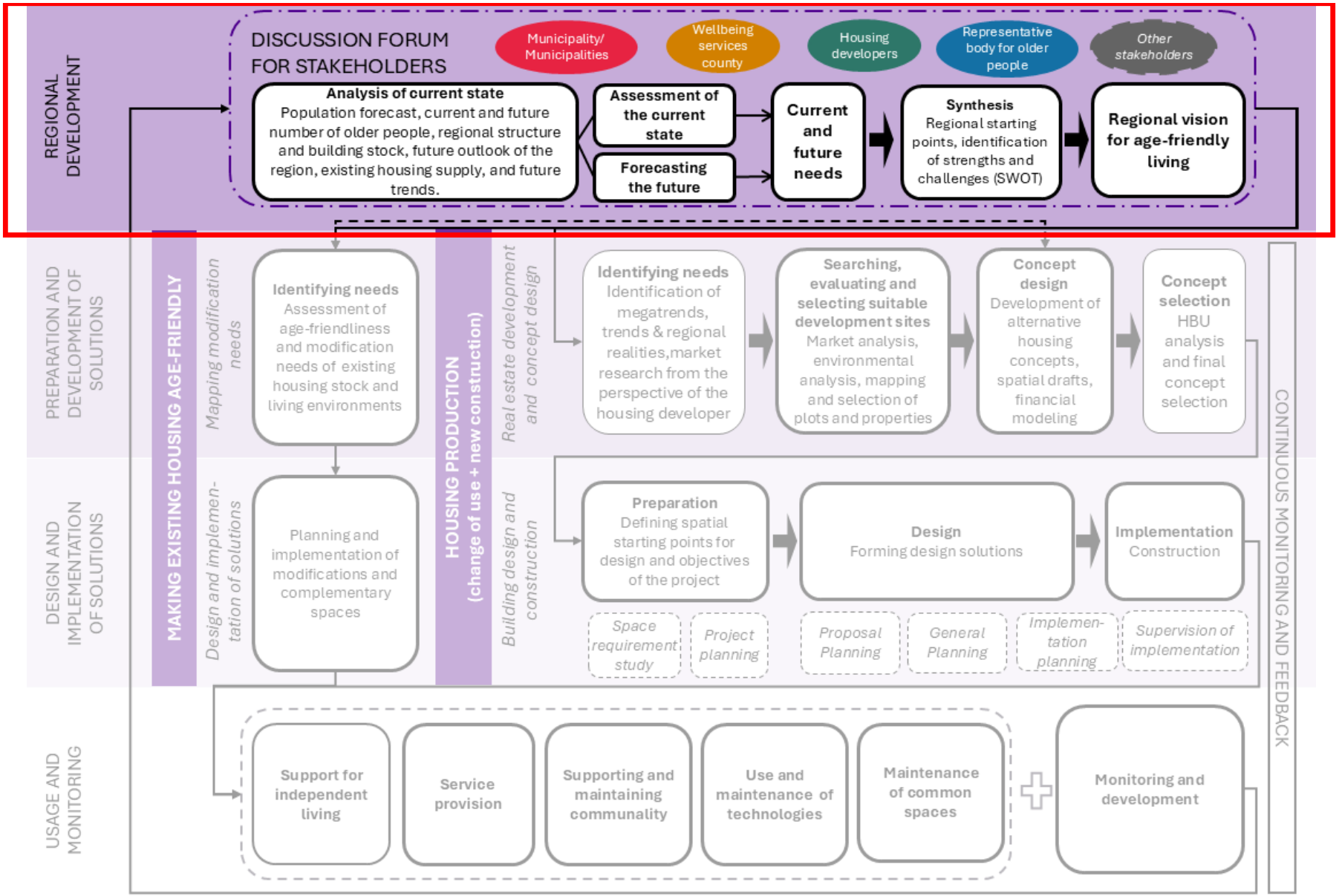
Regional development:
Regional Vision for Age-Friendly Living



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DISCUSSION FORUM FOR STAKEHOLDERS & VISION

The forum focuses on upper-level discussions and negotiation.
A competitive setting is not part of the forum.

The municipality and the wellbeing services county clarify the situational picture through analyses and initiate the discussion.

The goal is a shared CONSENSUS.

The forum also provides a good platform for identifying and considering opportunities for cooperation between stakeholders.

If needed, visits by different experts is arranged by invitation.

Stakeholders' resources and benefits in formulating guidelines

REPRESENTATIVE BODY FOR OLDER PEOPLE
User perspective, wishes, needs, identification of attractiveness factors

Responding to needs, opportunity to influence living arrangements

Housing developers' strategies

Slow change

MUNICIPALITY
Regional development perspective, land use planning,
Long-term development,
Political decision-making

Integration of issues into zoning and strategies,
Increased efficiency in housing planning,
Enhanced cooperation with stakeholders,
Reduction of conflicts

Regional vision for age friendly living
Guidelines:

Demand: Needed amount of housing	**Spatiality** Areas to be developed
Sustainability Sustainable implementation and consideration of future use	**Demand for services supporting independent living**

Fast change

HOUSING DEVELOPERS
Understanding of the market and demand, current realities, innovations, cost awareness

Increased efficiency in concept development,
Clarification of the operational field
Enhanced cooperation with other stakeholders
Avoidance of unnecessary work

Participating stakeholders

- Municipality/ Municipalities
- Wellbeing services county
- Housing developers
- Representative body for older people
- *Other stakeholders*

Municipal strategies

WELLBEING SERVICES COUNTY
Care perspective, regulations,
Provision of supported housing for older people, regulated by law
regional perspective

Integration of issues into strategies,
Identification of challenges,
Targeting and planning of supported housing regulated by law,
Enhanced cooperation with other stakeholders

Wellbeing services countys' strategies

DISCUSSION FORUM FOR STAKEHOLDERS & VISION

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Housing developers' strategies

Slow change

Administrative entity making
- Regional development
- Land use planning
- Long term development
- Political decision making

Regional vision for age friendly living
Guidelines:

Demand: Needed amount of housing

Spatiality Areas to be developed

Sustainability Sustainable implementation and consideration of future use

Demand for services supporting independent living

Fast change

HOUSING DEVELOPERS
Understanding of the market and demand, current realities, innovations, cost awareness

Increased efficiency in concept development,
Clarification of the operational field
Enhanced cooperation with other stakeholders
Avoidance of unnecessary work

Administrative entity
- Responsible for planning housing for elderly

Participating stakeholders

Municipality/ Municipalities

Wellbeing services county

Housing developers

Representative body for older people

Other stakeholders

Municipal strategies

LLBEING CES COUNTY

for older people, regulated by law regional perspective

Integration of issues into strategies, Identification of

Enhanced cooperation with other stakeholders

Administrative entity
- Responsible for providing care

Wellbeing services countys' strategies

ANALYSIS OF CURRENT STATE & CURRENT AND FUTURE NEEDS

Guidelines of public strategies

Analysing the current state

Population analysis

Number of older people

Distribution of older people in the area
- Naturally formed clusters
- Sparsely populated areas with older people
- Existing housing designed for older people

Number of middle-aged people

Health status of older people

Housing preferences of older people
- Participation through surveys and workshops

Environmental analysis
Grid-based analysis (GIS)

Location and mapping of services and identification of service clusters
- Everyday services
  - Grocery shops
  - Pharmacies
  - Post offices
  - Banks
- Health services
- Sports and exercise services
- Public transport
  - Public transport stops
  - Service interval
  - Service transportation
- Leisure services
- Services targeted at older people
- Community spaces

Location of green areas
- Parks and forests
- Outdoor routes
- Urban greenery

Accessibility analysis
- Slope of pathways mainly max 5% (SuRaKu 2008)
- Low-traffic areas
- Utilization of reports & surveys on accessibility and traffic safety, e.g.:
  - Accessible walking routes
    - Well-lit walking routes
    - Resting places
    - Winter-maintained walking routes
  - Traffic safety
    - Car-free zones
    - Separated cycling and walking paths
    - Low-speed zones

Building stock analysis

Available plots

Underutilized or vacant buildings
- Office buildings
- Shopping centers
- Government buildings
- Hotels
- Historical sites
- Schools, daycare centers
- Commercial premises
- Care facilities
- Service housing
- Existing rental apartment buildings or housing cooperatives where residents are mainly older people

Renovation needs of existing building stock
- Multi-storey buildings without elevators

Zoning analysis

Existing zoning plans
- Future development areas and their suitability for age-friendly residential use

Forecasting the future

Population forecast & Potential buildings

Demographic change
- Changes in age group distribution, emphasizing the ageing population
- Observations also spatially when possible

Potential future vacant or underused buildings

Future vision

Megatrends
- Major global megatrends affecting society

Trends
- Smaller-scale trends affecting housing for older people

"Future older people"
- Housing preferences of today's young and middle-aged people

Supply of housing for older people

Existing housing for older people

Market review of upcoming housing projects targeted at older people

Current and future needs

Demand for housing for older people now and in the future
Demand for housing support services for older people
Demand for making existing housing stock age-friendly
Demand for new age-friendly housing (conversion and new construction)
Demand for cooperation between stakeholders
Demand for services supporting independent living

SYNTHESIS & VISION

Comparison of the outcomes of different analyses and in relation to the given recommendations

Building stock analysis combined with environmental analysis and population analysis results. This enables classification and prioritization of areas **most suitable for age-friendly living**

Regional starting points

Regional principles

Where?
- Areas to be developed
- Identification of naturally formed retirement communities
- Possible need for modification of existing zoning plans

How much?
- Quantitative demand

How, under what conditions?
- Recommendation for implementation (whether to renovate, rebuild, or build new; what should be considered when building new)
- Consideration of the locality, regional structure, and location in the selected solutions
- Strategy for housing development (what is needed?)

Recommendations supporting age-friendliness and sustainability

- Accessibility
- Services and green environment
- Regional structure
- Diversity, variety of housing options

SWOT from the perspective of different stakeholders

- Refining the regional starting points into their final form
- Alignment of stakeholders' interests
- Participation of older people (surveys, workshops, etc.)

Regional vision for age-friendly living
Steps into the future

Guidelines on demand: Quantity of housing
- Demand for age-friendly modifications in current housing stock
- Housing production *change of use and new construction*
- Regional common spaces supporting independent living

Guidlines on spatiality: Areas to be developed

Guidelines on sustainability: Sustainable implementation and consideration of future use

Guidelines on demand of services: Services to support independent living

Indicators for monitoring the implementation of the vision

RECOMMENDATIONS FOR THE REGIONAL DEVELOPMENT PHASE

Factors influencing the spatial realization of the vision

When locating housing, the following must be considered:

Location of services and green areas

For age-friendly living, it is important to ensure:

- Direct connection to nature (green views, yard enabling outdoor activities, outdoor route within <500 m)
- Proximity to services (grocery store, pharmacy, etc. <500 m)
- Proximity to a public transport stop or availability of transport services
- Proximity to leisure services: library, theatres, cafés, restaurants, etc.

Accessibility of the immediate environment

For age-friendly living, it is important to consider:

- Flat terrain, avoiding slopes over 5%
- Low-traffic
    - Low driving speeds
    - Separated pedestrian and bicycle paths
    - Car-free zones
- Accessible walking routes
    - Well-lit walking routes
    - Winter-maintained walking routes
    - Abundance of resting places (benches)

Location of older people in the area

- Recognition of needs
- Identification of natural retirement communities

New Construction vs. Renovation

If the population is expected to decline significantly in the future, priority should be given to:

- Age-friendly modifications in current housing stock
- Utilizing vacant spaces
- Renovations
- Change of use
- Relocatable and reusable structures (circular economy)

Impact of forecasts and regional structure on the vision

- When assessing quantity and locating housing, future forecasts and regional structure must be considered
- Housing should primarily be located in or near service clusters
- All housing solutions must consider multi-functionality and the possibility of changes in use in the future
- The more sparsely populated the municipality is and the longer the distances, the more attention must be paid not only to housing solutions but also to mobile services and service transportation

Engage current and future users as well as family members.

In all decisions and solutions, resource wisdom should be prioritized by developing what already exists. When building new structures, prepare for changes with flexible solutions.

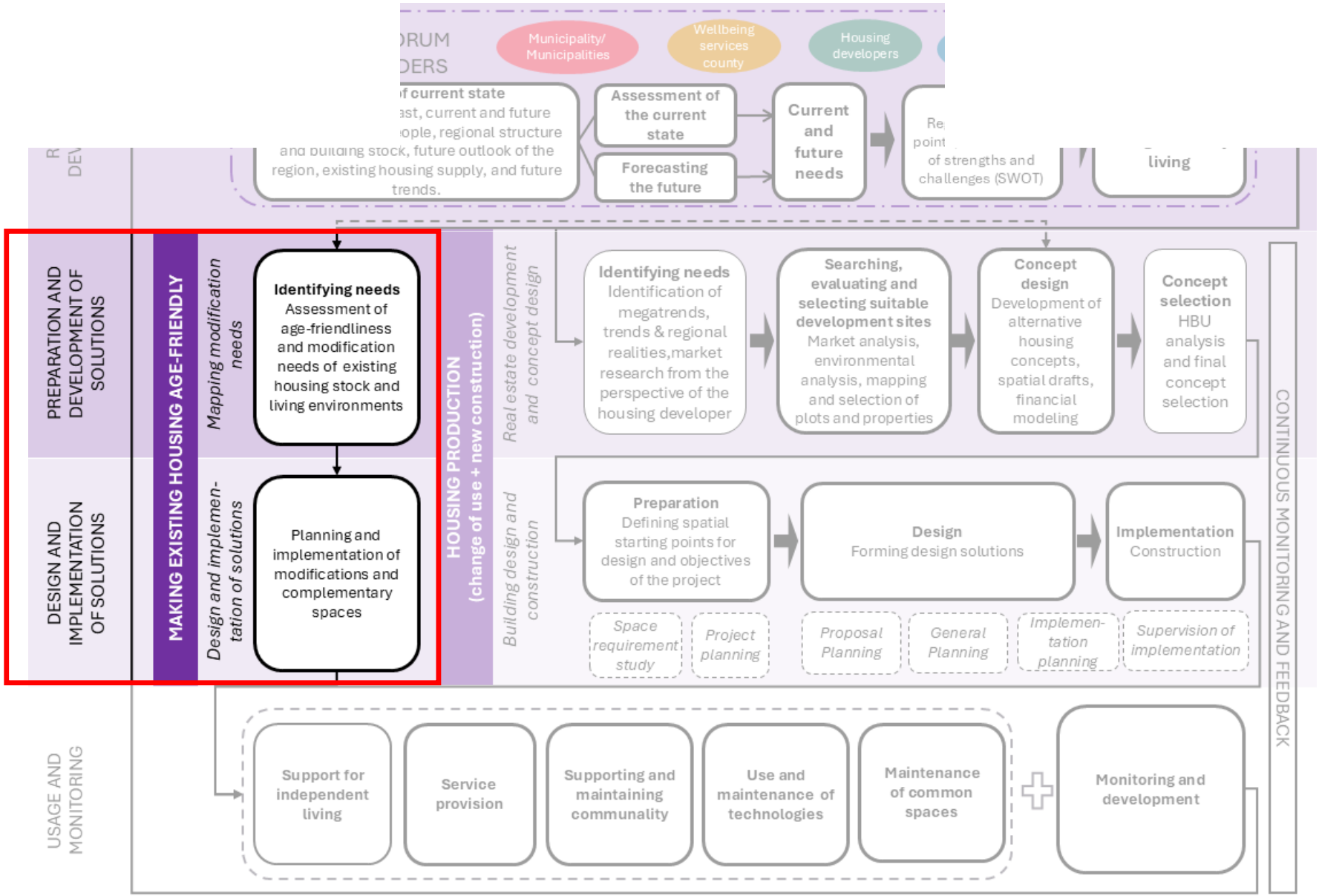
Selected solutions must also be suitable for other age and user groups.

Ensure diversity and abundance of housing options in all decisions and solutions.

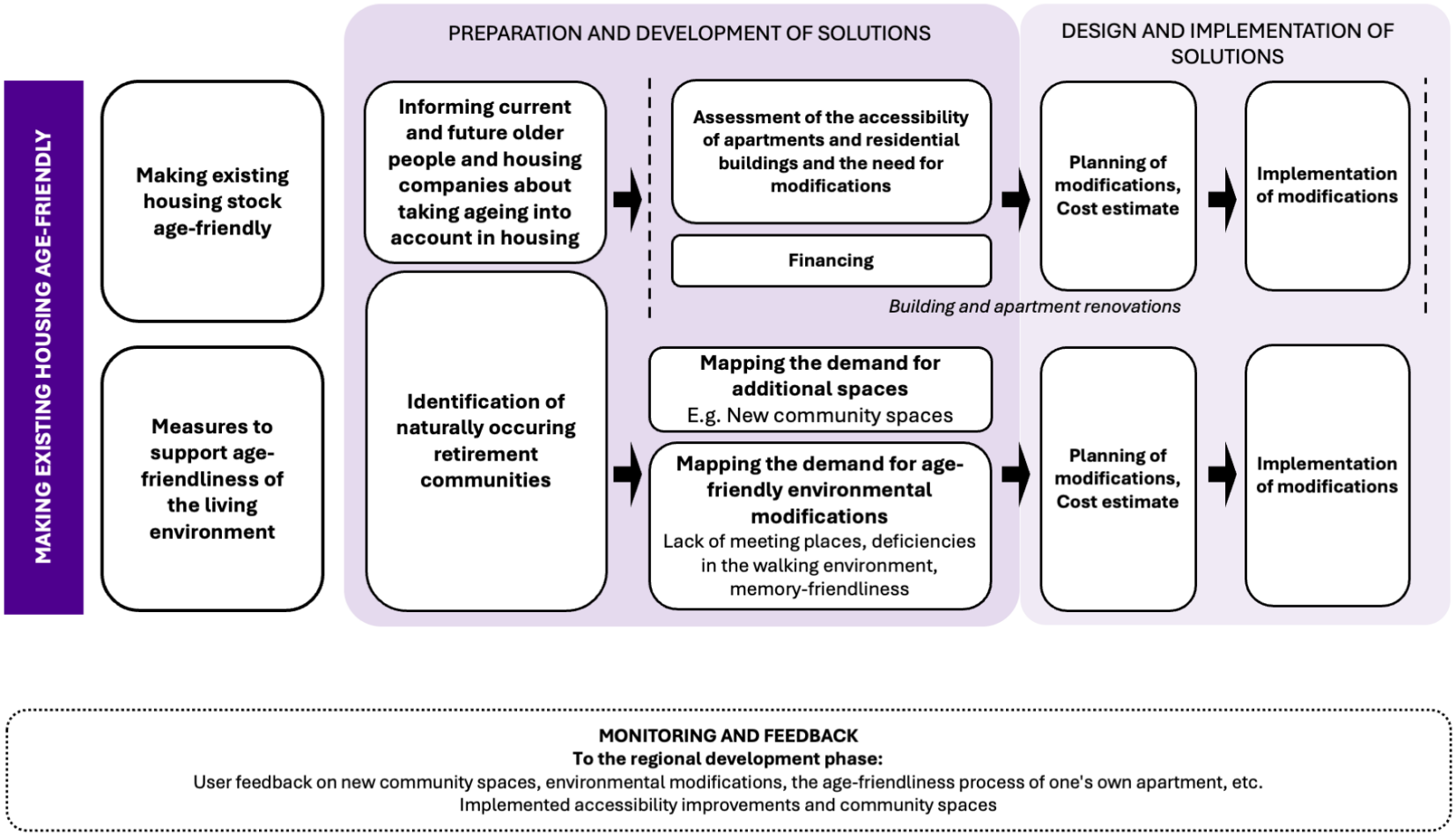
Consider community and its support at different levels.

Always adapt decisions and solutions to the local context.

Making existing housing age-friendly


ORUM
DERS
Municipality/ Municipalities
Wellbeing services county
Housing developers
f current state
ast, current and future
ople, regional structure
and building stock, future outlook of the region, existing housing supply, and future trends.
Assessment of the current state
Forecasting the future
Current and future needs
of strengths and challenges (SWOT)
living
PREPARATION AND DEVELOPMENT OF SOLUTIONS
DESIGN AND IMPLEMENTATION OF SOLUTIONS
USAGE AND MONITORING
MAKING EXISTING HOUSING AGE-FRIENDLY
Mapping modification needs
Design and implementation of solutions
Identifying needs
Assessment of age-friendliness and modification needs of existing housing stock and living environments
Planning and implementation of modifications and complementary spaces
HOUSING PRODUCTION
(change of use + new construction)
Real estate development and concept design
Building design and construction
Identifying needs
Identification of megatrends, trends & regional realities,market research from the perspective of the housing developer
Searching, evaluating and selecting suitable development sites
Market analysis, environmental analysis, mapping and selection of plots and properties
Concept design
Development of alternative housing concepts, spatial drafts, financial modeling
Concept selection
HBU analysis and final concept selection
Preparation
Defining spatial starting points for design and objectives of the project
Design
Forming design solutions
Implementation
Construction
Space requirement study
Project planning
Proposal Planning
General Planning
Implementation planning
Supervision of implementation
CONTINUOUS MONITORING AND FEEDBACK
Support for independent living
Service provision
Supporting and maintaining communality
Use and maintenance of technologies
Maintenance of common spaces
Monitoring and development

MAKING EXISTING HOUSING AGE-FRIENDLY



MONITORING AND FEEDBACK
To the regional development phase:
User feedback on new community spaces, environmental modifications, the age-friendliness process of one's own apartment, etc.
Implemented accessibility improvements and community spaces

RECOMMENDATIONS FOR MAKING EXISTING HOUSING AGE-FRIENDLY PHASE 1/2

Participation
- Investigate the accessibility needs of the living environment together with older people and their relatives, e.g.
  - Accessibility walks
  - Accessibility surveys

When locating new community spaces, the following should be considered:
Location of older people in the area
- Identification of naturally occurring retirement communities
- **Accessibility and reachability of the location**
  - Flat terrain, avoiding slopes over 5% (SuRaKu 2008)
  - Traffic safety
    - Low driving speeds
    - Separated pedestrian and bicycle paths
    - Car-free zones
  - Accessible walking routes
    - Well-lit, sufficiently wide walking routes
    - Winter-maintained walking routes
    - Abundance of resting places (benches)
  - Proximity to a public transport stop or availability of transport services

Increasing awareness and providing guidance
- Both current and future older people should be informed about the importance of an age-friendly living environment and anticipating housing needs
  - Organizing events and information sessions
  - Campaigns
  - Providing
    - Housing advice
    - Renovation advice
      - For housing companies
      - For residents
  - Communicating about events and availability of guidance
    Examples:
    - Local newspapers
    - Public transport
    - Websites & social media

Considerations for making homes age-friendly

1. Accessibility
- **Vision:**
  - All spaces should have sufficient and even lighting, avoiding dim areas and sudden changes in light levels.
  - Glare should be minimized by using curtains or sunshades and avoiding reflective wall or floor surfaces.
  - Interior design should utilize contrast to improve visibility (e.g., stair steps, handrails, bathroom fixtures, glass walls, doors).
- **Mobility and physical control:**
  - Multi-storey buildings should have an elevator or a stair lift.
  - Circulation spaces and doorways should be generously dimensioned.
  - Floor surfaces should be even and non-slip, and thresholds should be avoided.
- **Memory-friendliness**
  - Entrances should allow personalization (for example, with a picture or a piece of furniture)

2. Functionality and comfort of spaces
- Apartment dimensions should consider storage needs (e.g., assistive devices and incontinence product deliveries).
- Spaces should enable care and assistance with daily activities (e.g., bathing etc.).
- Attention should be paid to the appearance of assistive devices supporting mobility and activity, ensuring they do not stand out excessively from the rest of the interior.

Engage current and future users as well as family members.

In all decisions and solutions, resource wisdom should be prioritized by developing what already exists. When building new structures, prepare for changes with flexible solutions.

Selected solutions must also be suitable for other age and user groups.

Ensure diversity and abundance of housing options in all decisions and solutions.

Consider community and its support at different levels.

Always adapt decisions and solutions to the local context.

RECOMMENDATIONS FOR MAKING EXISTING HOUSING AGE-FRIENDLY PHASE 2/2

Considerations for designing the additional common spaces

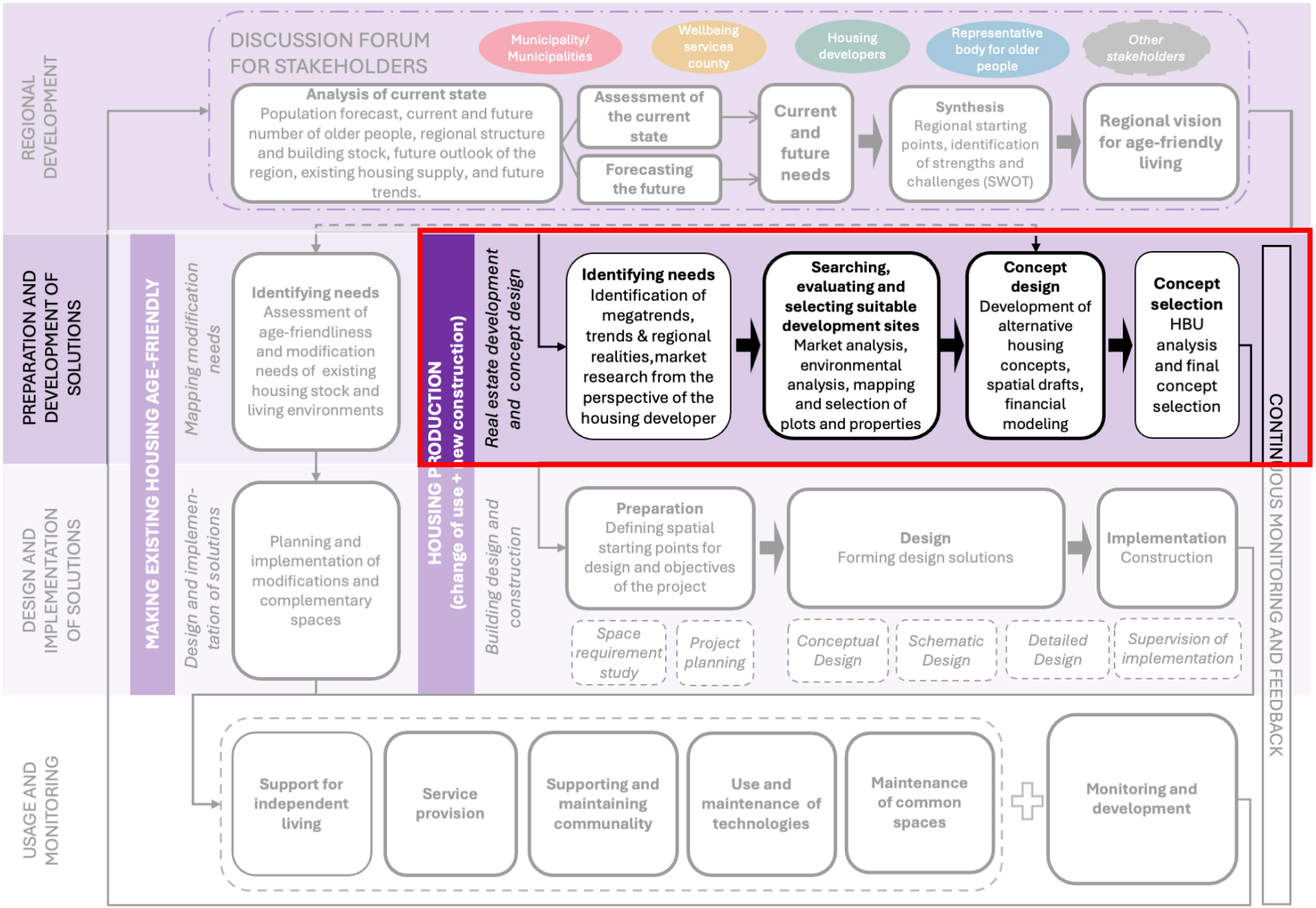
1. Accessibility

- **Vision:**
  - All spaces should have sufficient and even lighting, avoiding dim areas and sudden changes in light levels.
  - Glare should be minimized by using curtains or sunshades and avoiding reflective wall or floor surfaces.
  - Interior design should utilize contrast to improve visibility (e.g., stair steps, handrails, bathroom fixtures, glass walls, doors).
- **Kuulo**:
  - Common spaces should use materials that reduce echo and noise, such as acoustic panels
  - The layout of spaces and soundproofing solutions should ensure that sounds do not carry from one space to another
- **Mobility and body control**
  - Multi-storey buildings should have an elevator or a stair lift.
  - All circulation areas should have handrails
  - Circulation areas and doorways should be generously dimensioned
  - Floor surfaces should be even and non-slip, and thresholds should be avoided
  - Resting places should be available in circulation areas and outdoor spaces
  - An accessible toilet should be located adjacent to common spaces.
- **Memory-friendliness**
  - Long, maze-like corridors and repetitive spatial layouts should be avoided
  - Routes should mainly consist of sequences of functional spaces, where people using these spaces act as landmarks
  - Visual connections between spaces should be enabled
  - Colors and aids should be used to facilitate navigation (e.g., each floor has its own color code)
  - Entrances should be designed to stand out from the façade
  - Outdoor activities should be possible in a safe environment

2. Functionality and comfort of spaces

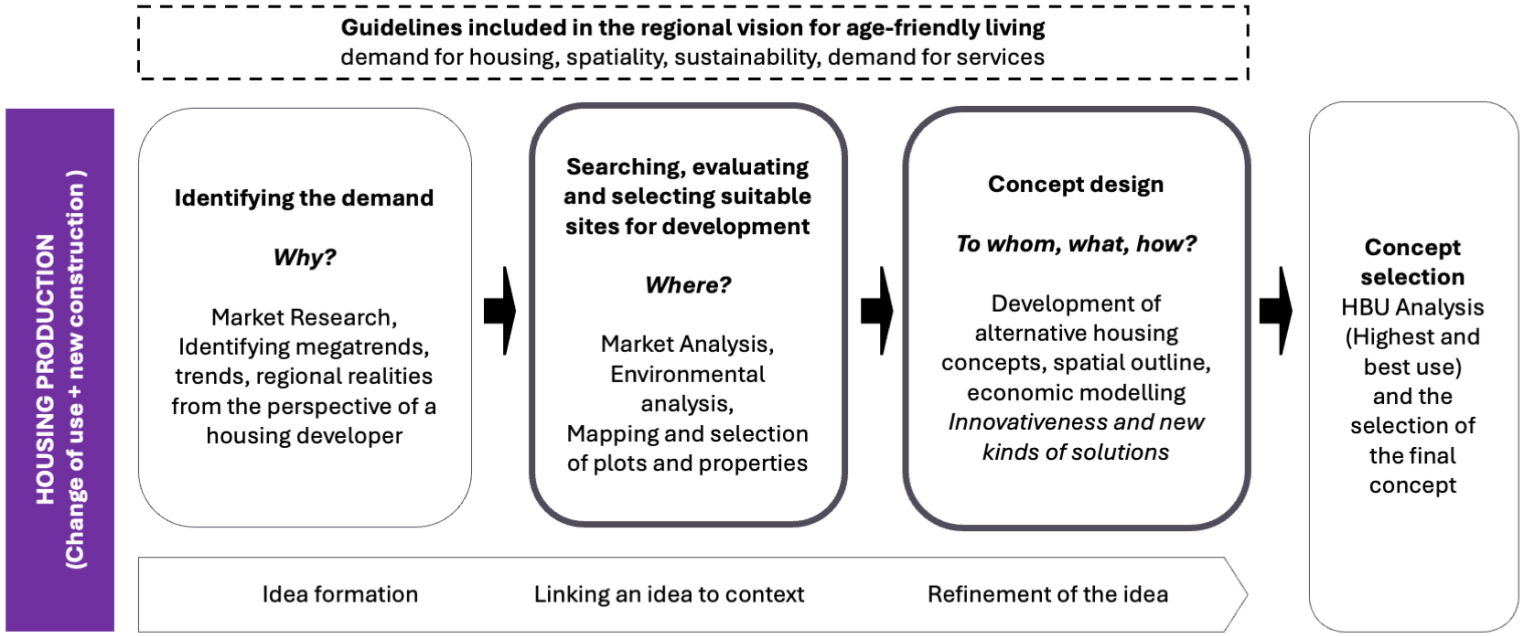
- Attention should be paid to the appearance of mobility and activity aids so that they do not stand out excessively from the rest of the interior
- Aesthetics should be considered when choosing furniture and materials
- Sufficient space should be reserved for the needs of operators

Real estate development and concept design



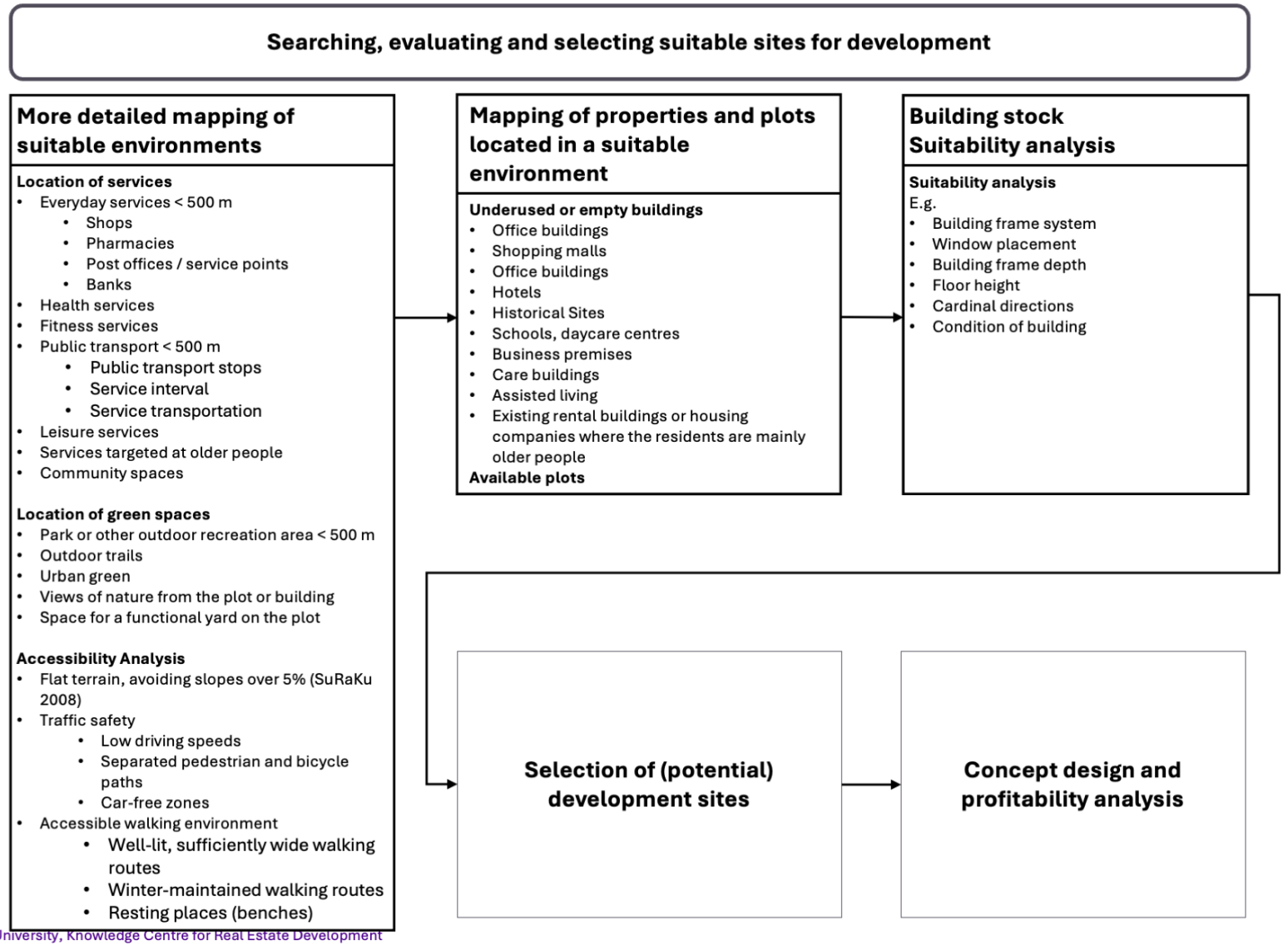
Tampereen yliopisto, Kiinteistökehityksen osaamiskeskus

REAL ESTATE DEVELOPMENT & CONCEPT DESIGN

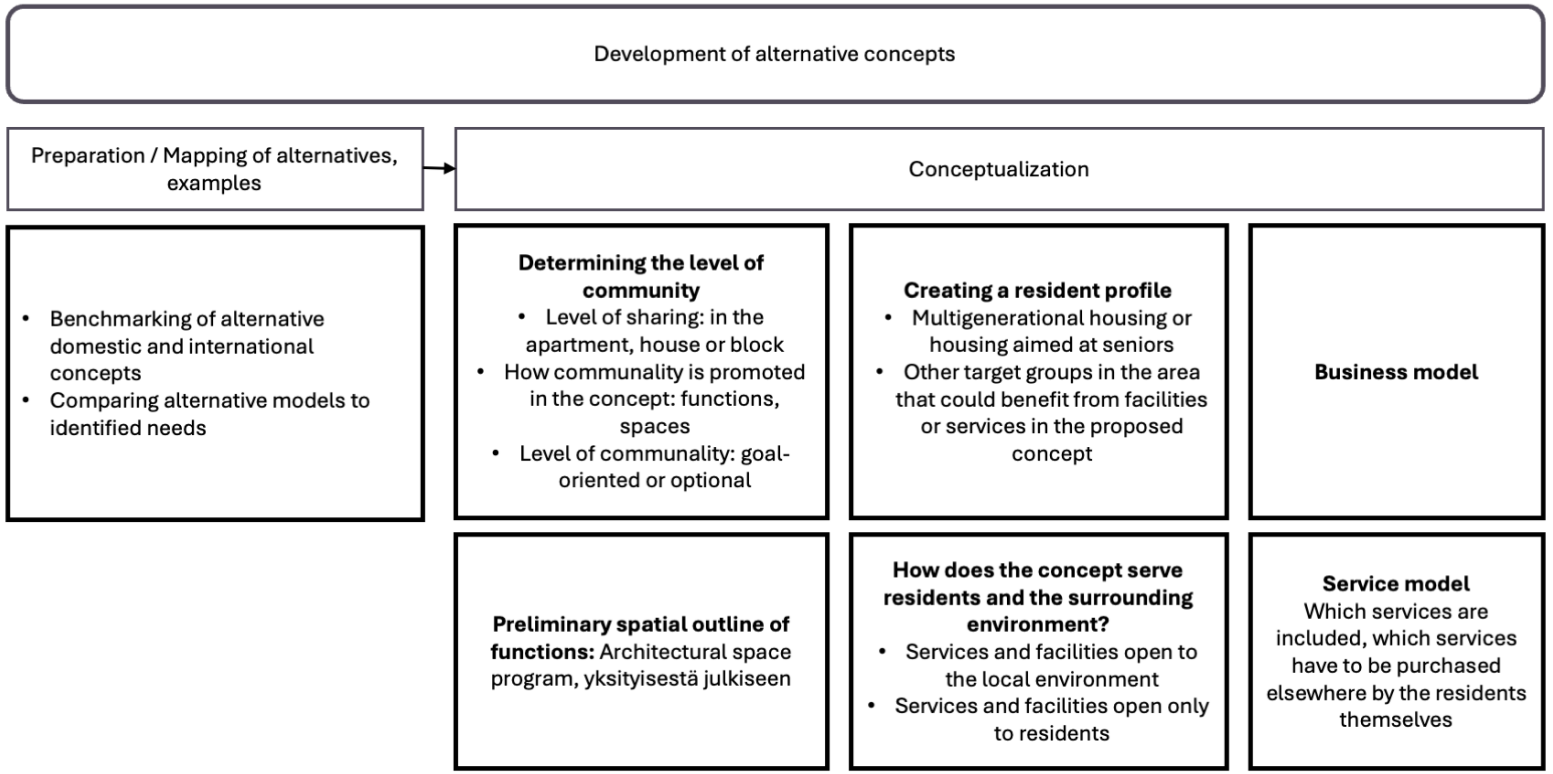


MONITORING AND FEEDBACK
To the regional development phase:
Deficiencies in the analyses carried out in the regional development phase
Conveying the knowledge developed in the concept design process to the discussion forum between stakeholders

Searching, evaluating and selecting suitable sites for development



Concept design



RECOMMENDATIONS FOR THE REAL ESTATE DEVELOPMENT AND CONCEPT DESIGN PHASE

Participation
- Involve older people and their relatives in concept development, e.g.
  - Workshop
  - Surveys mapping housing preferences
  - Surveys to test housing concepts

Intergenerationality
- When developing housing concepts, take intergenerationality into account and try to enable meeting places for different generations, e.g.
  - Spaces and services open to non-residents
  - Housing with a mixed-age population (no age limit)

Affordability
- When developing age-friendly housing, the affordability of housing and other housing-related costs should be ensured

Sustainability
- Consider potential alternative uses for the property already at the concept stage, in case the current intended use is no longer needed in the future.
- Prioritize (when possible) existing building stock (especially in areas where housing demand may decrease in the future).

Diversity
- Take into account the diverse needs and preferences of older people when developing concepts
  - Different needs for communality
  - Different housing preferences
  - Varying need for support
- **There are no one-size-fits-all solutions, many kinds of solutions are needed**

Accessibility (see also p. 21)
- When mapping a suitable site or plot, take into account:
  - Proximity to services and communal spaces
  - Proximity to green spaces and opportunities for outdoor activities on the plot
  - Accessible location

Effects of the regional structure on services
- The more sparsely populated the locality and the longer the distances in the area, attention should be paid not only to housing solutions, but also to mobile services and service traffic/transport services.

Cooperation between actors
- When developing concepts, opportunities for cooperation and partners (service providers, foundations, voluntary organisations, municipal actors, etc.) should be mapped out.
  - To organize activities or services
  - To share spaces

Engage current and future users as well as family members.

In all decisions and solutions, resource wisdom should be prioritized by developing what already exists. When building new structures, prepare for changes with flexible solutions.

Selected solutions must also be suitable for other age and user groups.

Ensure diversity and abundance of housing options in all decisions and solutions.

Consider community and its support at different levels.

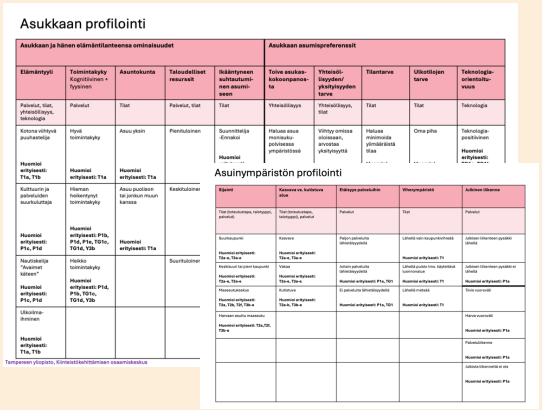
Always adapt decisions and solutions to the local context.

Tampereen yliopisto

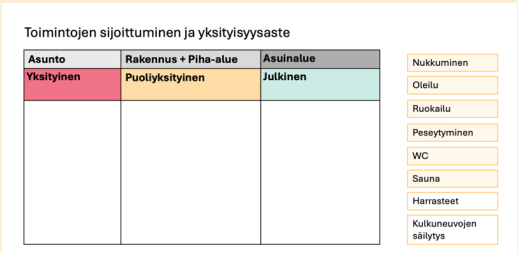
KNOWLEDGE CENTRE FOR REAL ESTATE DEVELOPMENT

Concept tool

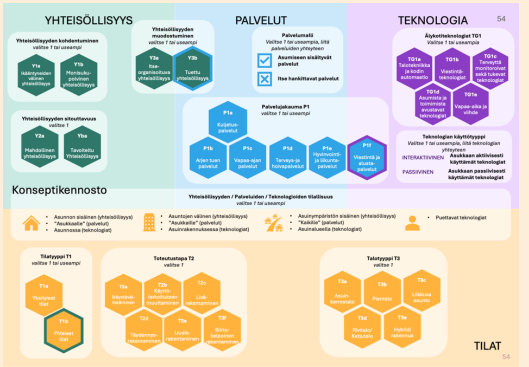
Resident and living environment -profile menus



Location of activities and their degree of privacy - table



Concept hive



Resident profiling

Asukkaan ja hänen elämäntilanteensa ominaisuudet					**Asukkaan asumispreferenssit**				
Elämäntyyli	**Toimintakyky** Kognitiivinen + fyysinen	**Asuntokunta**	**Taloudelliset resurssit**	**Ikääntyneen suhtautuminen asumiseen**	**Toive asukas-kokoonpanosta**	**Yhteisöllisyyden/ yksityisyyden tarve**	**Tilantarve**	**Ulkotilojen tarve**	**Teknologia-orientoituvuus**
Palvelut, tilat, yhteisöllisyys, teknologia	Palvelut	Tilat	Palvelut, tilat	Tilat	Yhteisöllisyys	Yhteisöllisyys, tilat	Tilat	Tilat	Teknologia
Kotona viihtyvä puuhastelija **Huomioi erityisesti: T1a, T1b**	Hyvä toimintakyky **Huomioi erityisesti: T1a**	Asuu yksin **Huomioi erityisesti: T1a**	Pienituloinen	Suunnittelija -Ennakoi **Huomioi erityisesti: T2a/T2b/T2c/ T2d/T2e**	Haluaa asua monisukupolvisessa ympäristössä **Huomioi erityisesti: Y1b**	Viihtyy omissa oloissaan, arvostaa yksityisyyttä **Huomioi erityisesti: Y2a**	Haluaa minimoida ylimääräistä tilaa **Huomioi erityisesti: T1a, T1b**	Oma piha **Huomioi erityisesti: T1a, T1b**	Teknologia-positiivinen **Huomioi erityisesti: TG1a, TG1b, TG1c, TG1d, TGe**
Kulttuurin ja palveluiden suurkuluttaja **Huomioi erityisesti: P1c, P1d**	Hieman heikentynyt toimintakyky **Huomioi erityisesti: P1b, P1d, P1e, TG1c, TG1d, Y3b**	Asuu puolison tai jonkun muun kanssa **Huomioi erityisesti: T1a**	Keskituloinen	Sopeutuja - Reagoi viiveellä **Huomioi erityisesti: T2a**	Haluaa asua ikääntyneiden kesken **Huomioi erityisesti: Y1a**	Osallistuu satunnaisesti yhteisölliseen toimintaan, hyödyntää yhteisiä tiloja ”yksin yhdessä” **Huomioi erityisesti: Y2a**	Haluaa asua väljästi **Huomioi erityisesti: T1a, T1b**	Terassi/Parveke **Huomioi erityisesti: T1a, T1b**	Varautunut teknologioita kohtaan **Huomioi erityisesti: TG1a, TG1c, TG1d PASSIIVINEN**
Nautiskelija ”Avaimet käteen” **Huomioi erityisesti: P1c, P1d**	Heikko toimintakyky **Huomioi erityisesti: P1d, P1b, TG1c, TG1d, Y3b**		Suurituloinen	Jäärä - Erittäin muutosvastarintainen **Huomioi erityisesti: T2a**		Osallistuu aktiivisesti yhteisöllisiin tapahtumiin **Huomioi erityisesti: Y2a**	On tarve työ- tai harrastetilalle **Huomioi erityisesti: T1b**	Ei ulkotiloja **Huomioi erityisesti: T1a, T1b**	Teknologia-negatiivinen **Huomioi erityisesti: TG1a, PASSIIVINEN**
Ulkoilmaihminen **Huomioi erityisesti: T1a, T1b**						Haluaa elää arkeaan yhteisöllisesti **Huomioi erityisesti: Y2b**			

Living environment profiling

Sijainti	**Kasvava vs. kutistuva alue**	**Etäisyys palveluihin**	**Viherympäristö**	**Julkinen liikenne**
Tilat (toteutustapa, talotyyppi, palvelut)	Tilat (toteutustapa, talotyyppi), palvelut	Palvelut	Tilat	Palvelut
Suurkaupunki **Huomioi erityisesti: T2a-e, T3a-e**	Kasvava **Huomioi erityisesti: T2a-e, T3a-e**	Paljon palveluita lähietäisyydellä	Lähellä vain kaupunkivihreää **Huomioi erityisesti: T1**	Julkisen liikenteen pysäkki lähellä
Keskisuuri tai pieni kaupunki **Huomioi erityisesti: T2a-e, T3a-e**	Vakaa **Huomioi erityisesti: T2a-e, T3a-e**	Joitain palveluita lähietäisyydellä **Huomioi erityisesti: P1a, TG1**	Lähellä puisto tms. käytettävä luonnonalue **Huomioi erityisesti: T1**	Julkisen liikenteen pysäkki ei lähellä **Huomioi erityisesti: P1a**
Maaseutukeskus **Huomioi erityisesti: T2a, T2b, T2f, T3b-e**	Kutistuva **Huomioi erityisesti: T2a-b, T3b-e**	Ei palveluita lähietäisyydellä **Huomioi erityisesti: P1a, TG1**	Lähellä metsää **Huomioi erityisesti: T1**	Tiivis vuoroväli
Harvaan asuttu maaseutu **Huomioi erityisesti: T2a,T2f, T3b-e**				Harva vuoroväli **Huomioi erityisesti: P1a**
				Palveluliikenne **Huomioi erityisesti: P1a**
				Julkista liikennettä ei ole **Huomioi erityisesti: P1a**

Location of activities and their degree of privacy

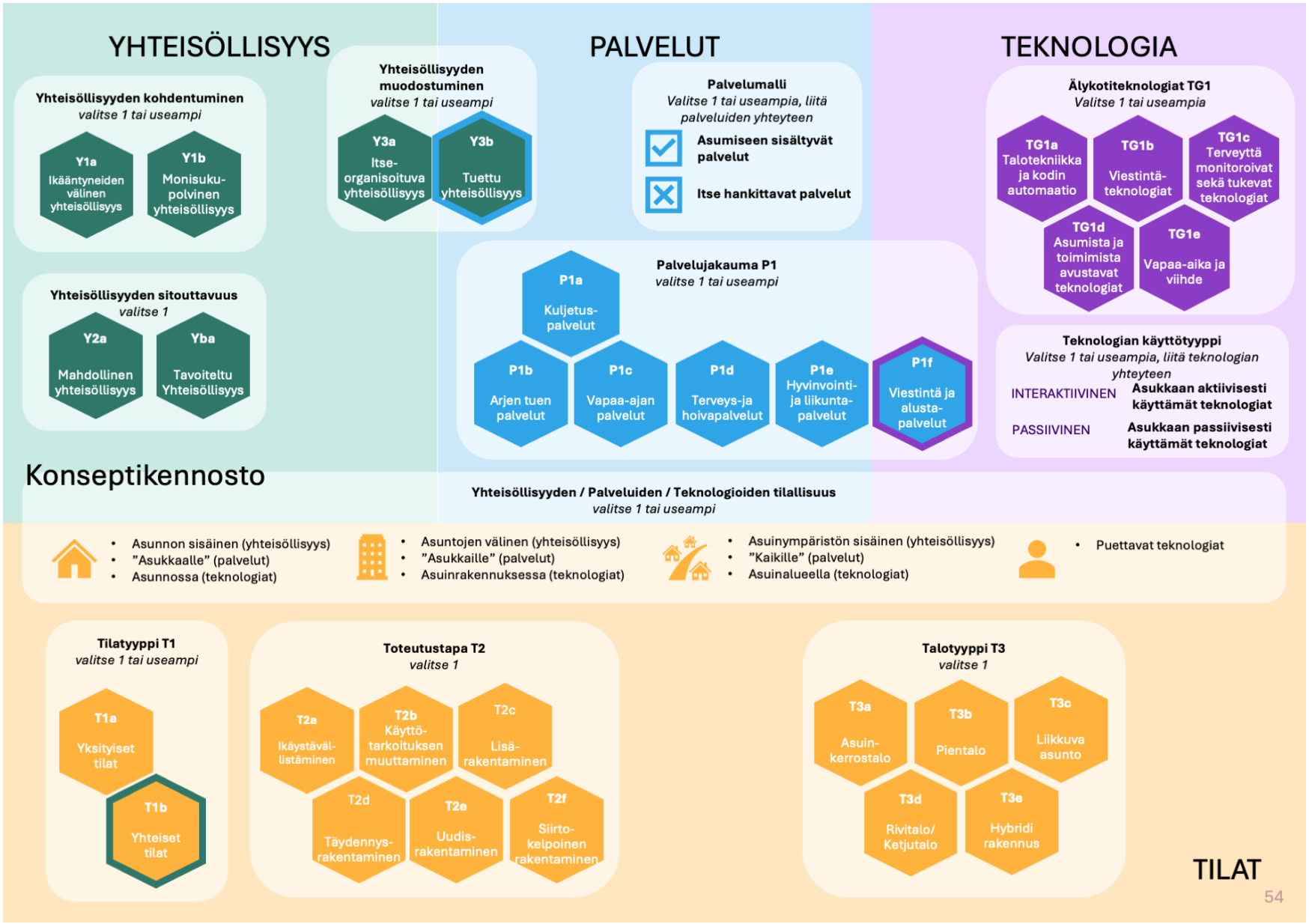
Apartment	Building + yard	Living environment
Private	**Semiprivate**	**Public**

- Sleeping
- Spending time
- Eating
- Washing
- Toilet
- Sauna
- Hobbies
- Storage for transport devices

Examples of the locations of activities and degree of privacy in different concepts

Asunto	Rakennus + Pihaalue	Asuinalue
Yksityinen	**Puoliyksityinen**	**Julkinen**
Nukkuminen	Harrasteet	
Oleilu		
Peseytyminen	Kulkuneuvojen säilytys	
WC		
Ruokailu		

Asunto	Rakennus + Pihaalue	Asuinalue
Yksityinen	**Puoliyksityinen**	**Julkinen**
Nukkuminen	Harrasteet	
Oleilu		
Peseytyminen	Kulkuneuvojen säilytys	
WC		
Ruokailu		


YHTEISÖLLISYYS
PALVELUT
TEKNOLOGIA
Yhteisöllisyyden kohdentuminen
valitse 1 tai useampi
Y1a
Ikääntyneiden välinen yhteisöllisyys
Y1b
Monisuku-polvinen yhteisöllisyys
Yhteisöllisyyden muodostuminen
valitse 1 tai useampi
Y3a
Itse-organisoituva yhteisöllisyys
Y3b
Tuettu yhteisöllisyys
Palvelumalli
Valitse 1 tai useampia, liitä palveluiden yhteyteen
Asumiseen sisältyvät palvelut
Itse hankittavat palvelut
Älykotiteknologiat TG1
Valitse 1 tai useampia
TG1a
Talotekniikka ja kodin automaatio
TG1b
Viestintä-teknologiat
TG1c
Terveyttä monitoroivat sekä tukevat teknologiat
TG1d
Asumista ja toimimista avustavat teknologiat
TG1e
Vapaa-aika ja viihde
Yhteisöllisyyden sitouttavuus
valitse 1
Y2a
Mahdollinen yhteisöllisyys
Yba
Tavoiteltu Yhteisöllisyys
Palvelujakauma P1
valitse 1 tai useampi
P1a
Kuljetus-palvelut
P1b
Arjen tuen palvelut
P1c
Vapaa-ajan palvelut
P1d
Terveys-ja hoivapalvelut
P1e
Hyvinvointi-ja liikunta-palvelut
P1f
Viestintä ja alusta-palvelut
Teknologian käyttötyyppi
Valitse 1 tai useampia, liitä teknologian yhteyteen
INTERAKTIIVINEN
Asukkaan aktiivisesti käyttämät teknologiat
PASSIIVINEN
Asukkaan passiivisesti käyttämät teknologiat
Konseptikennosto
Yhteisöllisyyden / Palveluiden / Teknologioiden tilallisuus
valitse 1 tai useampi
Asunnon sisäinen (yhteisöllisyys)
”Asukkaalle” (palvelut)
Asunnossa (teknologiat)
Asuntojen välinen (yhteisöllisyys)
”Asukkaille” (palvelut)
Asuinrakennuksessa (teknologiat)
Asuinympäristön sisäinen (yhteisöllisyys)
”Kaikille” (palvelut)
Asuinalueella (teknologiat)
Puettavat teknologiat
Tilatyyppi T1
valitse 1 tai useampi
T1a
Yksityiset tilat
T1b
Yhteiset tilat
Toteutustapa T2
valitse 1
T2a
Ikäystäväl-listäminen
T2b
Käyttö-tarkoituksen muuttaminen
T2c
Lisä-rakentaminen
T2d
Täydennys-rakentaminen
T2e
Uudis-rakentaminen
T2f
Siirto-kelpoinen rakentaminen
Talotyyppi T3
valitse 1
T3a
Asuin-kerrostalo
T3b
Pientalo
T3c
Liikkuva asunto
T3d
Rivitalo/ Ketjutalo
T3e
Hybridi rakennus
TILAT

Yhteisöllisyys

Yhteisöllisyyden kohdentuminen
valitse 1 tai useita

Y1a Ikääntyneiden välinen yhteisöllisyys
- Ikääntyneille suunnattua asumista/toimintaa
- Ikärajatut kohteet/toiminnot

Y1b Monisuku-polvinen yhteisöllisyys
- Ikääntyneille sekä muun ikäisille suunnattua asumista/toimintaa
- Sekoitettu asukaskanta
- Myös monisukupolvinen asuminen perheen sisällä

Yhteisöllisyyden muodostuminen
valitse 1 tai useita

Y3a Itse-organisoituva yhteisöllisyys
- Yhteisöllisyys nojaa asukkaiden aloitteellisuuteen

Y3b Tuettu yhteisöllisyys
- Yhteisöllisyyttä tuetaan palveluin ja toiminnoin
- Esim. yhteisöllisyyskoordinaattori

Yhteisöllisyyden sitouttavuus
valitse 1

Y2a Mahdollinen yhteisöllisyys
- Asukkaille yhteisöllisyys on vaihtoehtoista eikä yhteisöllisyys ole asumisen keskeinen tavoite
- Asukkaita ei sitouteta yhteisöllisyyteen

Y2b Tavoiteltu yhteisöllisyys
- Yhteisöllisyys on tavoitteellista ja keskeinen osa asumismuotoa
- Asukkaat ovat aktiivisesti mukana kehittämässä yhteisöllisyyttä, järjestämässä toimintaa ja yhteisön arkea
- Vaatii:
  - Asukkailta sitoutumista yhteisöllisyyteen
  - Halua tutustua naapureihin
- Esim. Yhteisöasuminen

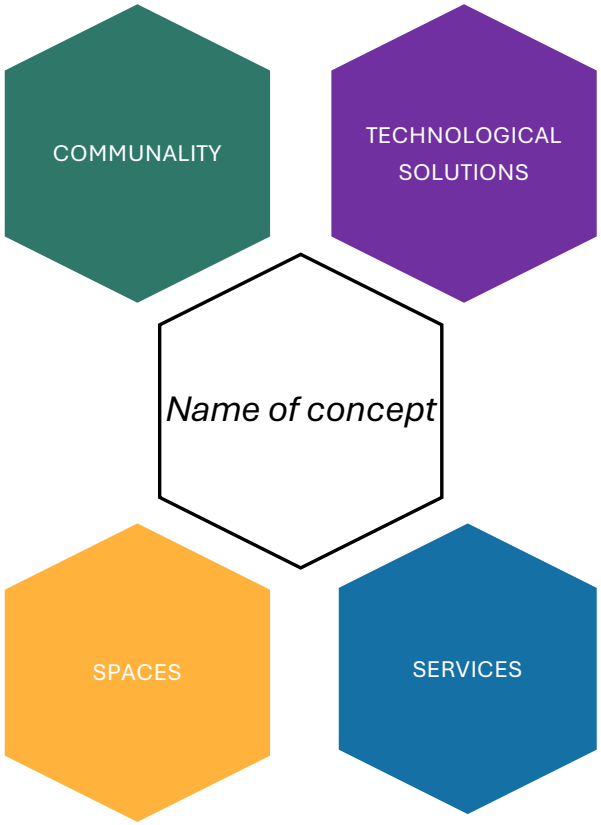
Yhteisöllisyyden tilallisuus
valitse 1 tai useita

- **Asunnon sisäinen yhteisöllisyys**
- Asunto jaetaan useamman asuntokunnan kesken
  - Soluasuminen
  - Kimppa-asuminen
  - Ryhmäkodit
- Ei sovellu kaikille
- Varmistettava asukkaille riittävä yksityisyys

- **Asuntojen välinen yhteisöllisyys**
- Asukkailla on omat asunnot, mutta he jakavat asunnon ulkoisia yhteisiä tiloja
- Yhteisöasuminen
- Yhteisöllinen asuminen
- Asuminen, jossa riittävät yhteistilat sosiaaliseen kanssakäymiseen
- Vaatii yhteistiloja rakennukseen

- **Asuinympäristön sisäinen yhteisöllisyys**
- Kaikille avoimet tilat tai toiminnot
- Kiinnitettävä huomiota turvallisuuteen ja yhteistilojen sijoittamiseen

Starting to create a new concept



EXAMPLE CONCEPT:

” AGE COMMUNITY IN RURAL AREA”

- Theme: Communality
- Resident segment: Resident activist longing for the peace and quiet of the countryside
- Context: Sparsely populated rural area

Resident profiling

Konseptin kehittämisessä käytetty persoona Hilja Laine

Muut profiilit, joille konsepti soveltuu

Asukkaan ja hänen elämäntilanteensa ominaisuudet					**Asukkaan asumispreferenssit**				
Elämäntyyli	**Toimintakyky** Kognitiivinen + fyysinen	**Asuntokunta**	**Taloudelliset resurssit**	**Ikääntyneen suhtautuminen asumiseen**	**Toive asukas-kokoonpanosta**	**Yhteisöllisyyden/ yksityisyyden tarve**	**Tilantarve**	**Ulkotilojen tarve**	**Teknologia-orientoituvuus**
Palvelut, tilat, yhteisöllisyys, teknologia	Palvelut	Tilat	Palvelut, tilat	Tilat	Yhteisöllisyys	Yhteisöllisyys, tilat	Tilat	Tilat	Teknologia
Kotona viihtyvä puuhastelija **Huomioi erityisesti: T1a, T1b**	Hyvä toimintakyky **Huomioi erityisesti: T1a**	Asuu yksin **Huomioi erityisesti: T1a**	Pienituloinen	Suunnittelija -Ennakoi **Huomioi erityisesti: T2a/T2b/T2c/ T2d/T2e**	Haluaa asua monisuku-polvisessa ympäristössä **Huomioi erityisesti: Y1b**	Viihtyy omissa oloissaan, arvostaa yksityisyyttä **Huomioi erityisesti: Y2a**	Haluaa minimoida ylimääräistä tilaa **Huomioi erityisesti: T1a, T1b**	Oma piha **Huomioi erityisesti: T1a, T1b**	Teknologia-positiivinen **Huomioi erityisesti: TG1a, TG1b, TG1c, TG1d, TGe**
Kulttuurin ja palveluiden suurkuluttaja **Huomioi erityisesti: P1c, P1d**	Hieman heikentynyt toimintakyky **Huomioi erityisesti: P1b, P1d, P1e, TG1c, TG1d, Y3b**	Asuu puolison tai jonkun muun kanssa **Huomioi erityisesti: T1a**	Keskituloinen	Sopeutuja - Reagoi viiveellä **Huomioi erityisesti: T2a**	Haluaa asua ikääntyneiden kesken **Huomioi erityisesti: Y1a**	Osallistuu satunnaisesti yhteisölliseen toimintaan, hyödyntää yhteisiä tiloja ”yksin yhdessä” **Huomioi erityisesti: Y2a**	Haluaa asua väljästi **Huomioi erityisesti: T1a, T1b**	Terassi/Parveke **Huomioi erityisesti: T1a, T1b**	Varautunut teknologioita kohtaan **Huomioi erityisesti: TG1a, TG1c, TG1d PASSIIVINEN**
Nautiskelija ”Avaimet käteen” **Huomioi erityisesti: P1c, P1d**	Heikko toimintakyky **Huomioi erityisesti: P1d, P1b, TG1c, TG1d, Y3b**		Suurituloinen	Jäärä - Erittäin muutosvasta-rintainen **Huomioi erityisesti: T2a**		Osallistuu aktiivisesti yhteisöllisiin tapahtumiin **Huomioi erityisesti: Y2a**	On tarve työ- tai harrastetilalle **Huomioi erityisesti: T1b**	Ei ulkotiloja **Huomioi erityisesti: T1a, T1b**	Teknologia-negatiivinen **Huomioi erityisesti: TG1a, PASSIIVINEN**
Ulkoilma-ihminen **Huomioi erityisesti: T1a, T1b**						Haluaa elää arkeaan yhteisöllisesti **Huomioi erityisesti: Y2b**			

Living environment profiling

Konseptin kehittämisessä käytetty sijainti

Muut sijaintiprofiilit, joille konsepti soveltuu

Sijainti	**Kasvava vs. kutistuva alue**	**Etäisyys palveluihin**	**Viherympäristö**	**Julkinen liikenne**
Tilat (toteutustapa, talotyyppi, palvelut)	Tilat (toteutustapa, talotyyppi), palvelut	Palvelut	Tilat	Palvelut
Suurkaupunki **Huomioi erityisesti: T2a-e, T3a-e**	Kasvava **Huomioi erityisesti: T2a-e, T3a-e**	Paljon palveluita lähietäisyydellä	Lähellä vain kaupunkivihreää **Huomioi erityisesti: T1**	Julkisen liikenteen pysäkki lähellä
Keskisuuri tai pieni kaupunki **Huomioi erityisesti: T2a-e, T3a-e**	Vakaa **Huomioi erityisesti: T2a-e, T3a-e**	Joitain palveluita lähietäisyydellä **Huomioi erityisesti: P1a, TG1**	Lähellä puisto tms. käytettävä luonnonalue **Huomioi erityisesti: T1**	Julkisen liikenteen pysäkki ei lähellä **Huomioi erityisesti: P1a**
Maaseutukeskus **Huomioi erityisesti: T2a, T2b, T2f, T3b-e**	Kutistuva **Huomioi erityisesti: T2a-b, T3b-e**	Ei palveluita lähietäisyydellä **Huomioi erityisesti: P1a, TG1**	Lähellä metsää **Huomioi erityisesti: T1**	Tiivis vuoroväli
Harvaan asuttu maaseutu **Huomioi erityisesti: T2a,T2f, T3b-e**				Harva vuoroväli **Huomioi erityisesti: P1a**
				Palveluliikenne **Huomioi erityisesti: P1a**
				Julkista liikennettä ei ole **Huomioi erityisesti: P1a**

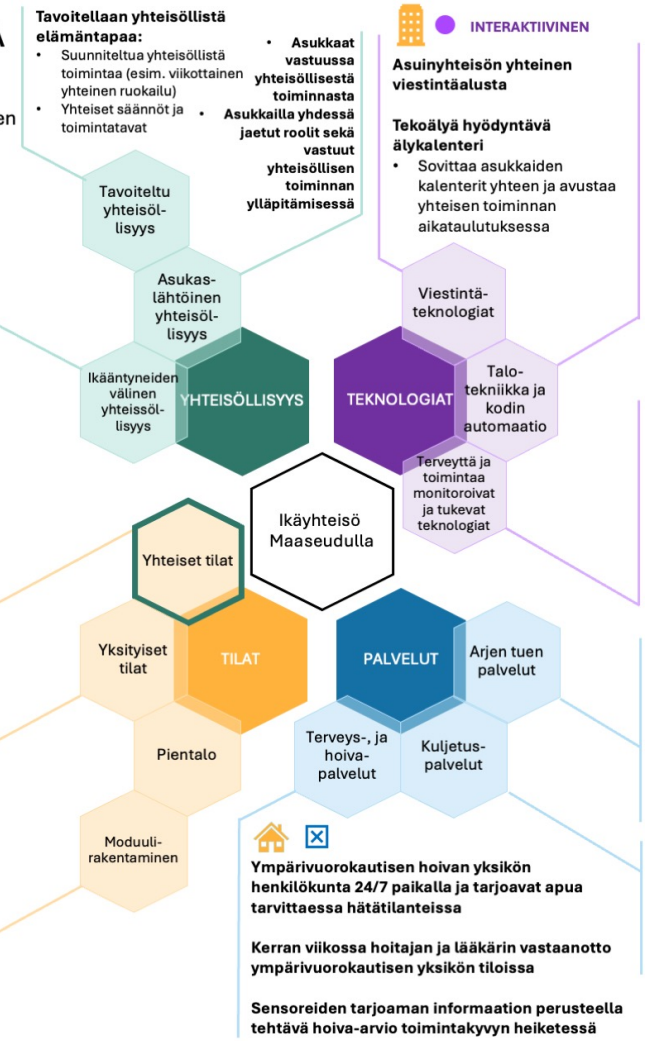
AGE COMMUNITY IN RURAL AREA

- Location of everyday activities in the concept and their degree of privacy

Asunto	**Rakennus + Piha-alue**	**Asuinalue**
Yksityinen	**Puoliyksityinen**	**Julkinen**
Nukkuminen	Harrasteet	
Oleilu		
Peseytyminen	Kulkuneuvojen säilytys	
WC		
Ruokailu		

IKÄYHTEISÖ MAASEUDULLA

- Konseptiprofiili
- Yhteisöllisyys
- Yhteisöllinen moduulikylä ympärivuokautisen yksikön läheisyydessä



Tavoitellaan yhteisöllistä elämäntapaa:

- Suunniteltua yhteisöllistä toimintaa (esim. viikottainen yhteinen ruokailu)
- Yhteiset säännöt ja toimintatavat
- **Asukkaat vastuussa yhteisöllisestä toiminnasta**
- **Asukkailla yhdessä jaetut roolit sekä vastuut yhteisöllisen toiminnan ylläpitämisessä**

Moduulikylässä asuminen on suunnattu yli 65 -vuotiaille

Moduulikylän asukasyhdistyksellä sopimus hyvinvointialueen kanssa päivätoiminnan järjestämisestä, josta asukasyhdistys saa varoja yhteisön ylläpitoon

- Lähellä asuvat ikääntyneet sekä ympärivuorokautisen asumisen asukkaat voivat kaksi kertaa viikossa vierailla yhteisön yhteisissä tiloissa, jossa järjestetään erilaista yhteisöllistä toimintaa asukkaiden johdolla

104 m2 yhteisötalomoduuli (4 moduulia)
Yhteisökeittiö + ruokailutila
Oleskelutila (hyödynnetään myös liikuntaan)
Sauna pesutiloineen
Yhteisöpiha

- Puutarha + oleskelupiha
- Viljelypalsta

26 – 52 neliön 1-2 hengen asuntomoduulit
1-2 h + k
Oma keittiö ja kylpyhuone
Voidaan räätälöidä asukkaan yksilöllisiin tarpeisiin (kalusteet, materiaalit, valaistus)

Yksittäisistä siirrettävistä moduuleista koostuva moduuli kylä ympärivuorokautisen yksikön läheisyydessä (sama moduulitoteutus)

- Moduuleja voidaan tilata lisää lyhyellä aikataululla ja palauttaa tarpeen loppuessa kiertoon.
- Vuokrataan valmistajalta, joka palauttaessa purkaa moduulin osiin ja käyttää osat uudelleen, tai vuokraa moduulit edelleen
- Itsenäisessä asumisessa käytössä olevat moduulit voivat hoivan tarpeen lisääntyessä siirtää osaksi ympärivuorokautista yksikköä jatkopalan avulla.

Tampereen yliopisto, Kiinteistökehittämisen osaamiskeskus

INTERAKTIIVINEN

Asuinyhteisön yhteinen viestintäalusta

Tekoälyä hyödyntävä älykalenteri

- Sovittaa asukkaiden kalenterit yhteen ja avustaa yhteisen toiminnan aikataulutuksessa

PASSIIVINEN

Oppivaa tekoälyä hyödyntävä älykotialusta

- Säätelee:
  - **Kodin olosuhteita monitoroivat anturit:**
    - Lämpötila- ja kosteussensorit
    - Kodinkoneiden ja kodinelektroniikan aikakatkaisu (esim. liesivahti, tuloveden katkaisu)
    - Älyvalaistus
  - **Aurinkopaneelit**
    - Optimoi paneelien kulman ja suunnan maksimoidakseen energian saannin
  - **Energian kulutus (kodinkoneet yms.)**
    - Ajastaa kodinkoneet sähkön hinnan mukaan

PASSIIVINEN

Automaattihälytys hätätilanteessa (kaatuminen yms.)

- Ohjautuu ympärivuorokautisen asumisen yksikköön

Toimintaa seuraavat anturit

- Gps-anturi, jossa yksilöllisesti määritettävä turva-alue
  - Hälyttää valitun naapurin ja viimekädessä Ympärivuorokautisen hoivan, jos poistuu alueelta

INTERAKTIIVINEN

Lääkeautomaatti

INTERAKTIIVINEN

Kaksi kertaa viikossa vieraileva itseajava itsepalvelu kauppabussi (toimittaa myös paketteja)

Mahdollisuus ateriapalveluun ympärivuorokautisen asumisen yksiköstä

Ympärivuorokautisen hoivan yksikön henkilökunta 24/7 paikalla ja tarjoavat apua tarvittaessa hätätilanteissa

Kerran viikossa hoitajan ja lääkärin vastaanotto ympärivuorokautisen yksikön tiloissa

Sensoreiden tarjoaman informaation perusteella tehtävä hoiva-arvio toimintakyvyn heiketessä

PASSIIVINEN JA INTERAKTIIVINEN

Itseajava yhteiskäyttöauto

- Varataan älykalenterin kautta

Kimppakyytipalvelu

- Apin kautta varattava kimppakyyti

asumisen asukkaat voivat kaksi kertaa viikossa vierailla yhteisön yhteisissä tiloissa, jossa järjestetään erilaista yhteisöllistä toimintaa asukkaiden johdolla

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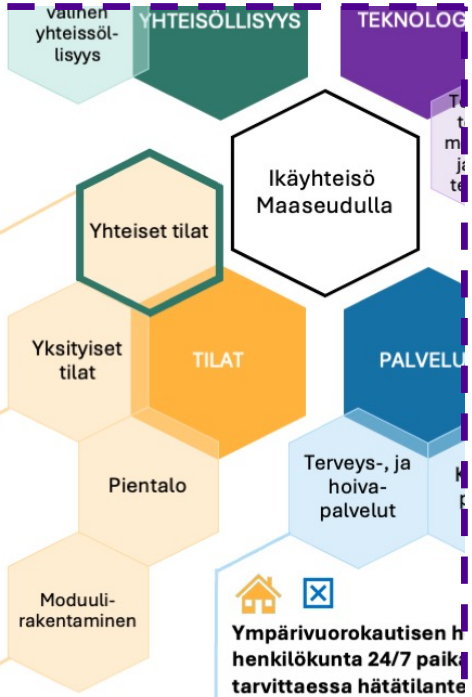
- Itsenäisessä asumisessa käytössä olevat moduulit voivat hoivan tarpeen lisääntyessä siirtää osaksi ympärivuorokautista yksikköä jatkopalan avulla.



Ympärivuorokautisen h
henkilökunta 24/7 paik
tarvittaessa hätätilante

Kerran viikossa hoitajar
ympärivuorokautisen y

Sensoreiden tarjoaman
tehtävä hoiva-arvio toi

HILJA'S DAY – Copilot's perspective on a resident's life

Hilja Laine wakes up early, as she usually does. The morning sun filters through the curtains, and the familiar sound of the coffee maker hums from the kitchen. She rises calmly, takes her morning blood pressure medication, and sits at the kitchen table. Outside, it's quiet. Beyond the field, the edge of the forest rises, and the community garden plot bathes in the early light. This is exactly what Hilja longed for when she decided to leave the city behind.

In her previous apartment, Hilja spent a lot of time alone. Evenings passed in front of the television, and although she wasn't unfamiliar with solitude, the silence began to feel heavy. Life is different now. Living with neighbors requires some effort—meetings, shared duties, and responsibilities—but it brings security. And having things to do keeps her active. Of course, sometimes someone irritates her, but clear rules and agreed practices help in tricky situations. Issues are discussed openly and respectfully. So far, everything has been resolved.

When Hilja moved to the modular village six months ago, she was able to choose the details of her housing module herself. The kitchen cabinets were installed at just the right height so she wouldn't have to stretch. The flooring was chosen for good grip—she had fallen once in her old home, and the fear lingered. The wall colors are soft and calming, just as she wished. Home feels like home.

In the bathroom, the washing machine starts quietly. Hilja pauses to listen and smiles to herself. She had loaded the laundry and detergent last night—the machine now runs on a timer, based on electricity prices. "Technology moves so fast, it's hard to keep up," she mutters. She doesn't care much for tech and doesn't want to fuss with devices, but these automated solutions have been useful. Her electricity bill has gone down, and all she needs to do is close the door. If something goes wrong, she asks the caregivers for help. "Young people know," she shrugs. One feature she truly values is the automatic emergency alert. If she were to fall or something happened, the signal would go straight to the nearby 24-hour care unit. That brings peace of mind.

In the late morning, Hilja checks the community notice board to see what's planned for today: a shared lunch in the community kitchen and afternoon activities with visitors from the care unit and nearby villages. She promised to bring dessert—a blackcurrant pie with berries she picked yesterday from the garden plot. In the kitchen, she mixes the dough and adds the berries to the pie dish. While the pie bakes, she steps outside to greet Martta, who is raking the path in the shared yard. "Is it that famous pie again?" Martta asks. "Yes, but with less sugar," Hilja replies with a smile.

The community kitchen is warm and lively. Aila and Reijo set the tables, and Martti brings herbal tea he dried in the community garden. Meals are prepared together—today it's Reijo's turn to cook the main dish, and Aila is in charge of salads. They chat around the kitchen table: about the weather, the berry harvest, and the upcoming residents' meeting where responsibilities will be assigned again. Hilja is thinking of volunteering for the community hall cleaning duty next month—it's light work and a good chance to catch up with others. The activity schedule, garden care, and cooking shifts are also decided at the meeting.

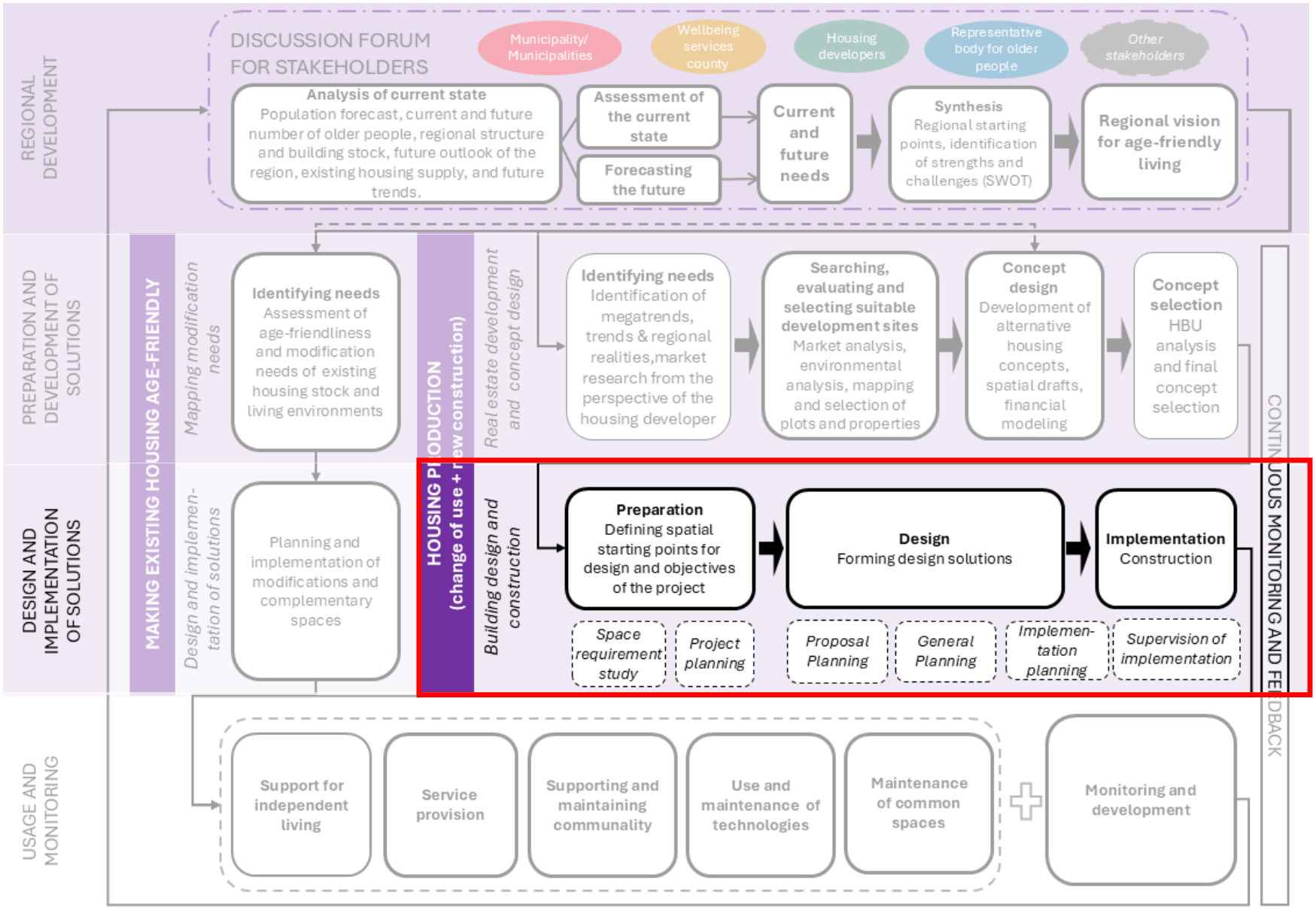
In the afternoon, familiar caregiver Sanni arrives with Eero, an elderly man in a wheelchair who lives in the care unit. Eero brings wooden crafts he made as therapy. "Here's a bird feeder," he says to Hilja. "I thought it would look nice by your herb bed." Hilja thanks him and promises to hang it up the next morning. Irja, an 85-year-old widow from a nearby village, also joins. She teaches crochet and shares childhood stories. The activity program is part of community life—residents plan and organize it themselves. Income from these events helps reduce the cost of shared spaces, which everyone appreciates. Hilja is delighted by how naturally people from different backgrounds and life situations connect.

In the evening, Hilja joins the shared sauna session. Afterward, she sits on a bench in the yard, watching the sun set behind the fields. Martta joins her, and they talk about next week's events. "I was thinking of suggesting a movie night," Martta says. "Great idea," Hilja replies. "We can use the community screen and make popcorn."

When Hilja returns home, she turns on just one lamp. The lighting adjusts to evening mode, and the temperature feels just right. She sits for a moment in her armchair and writes a message on the community board: "Thank you everyone for today—especially Eero and Irja. Days like this make this place feel like home."

Then she turns off the lights. Outside, it's quiet.

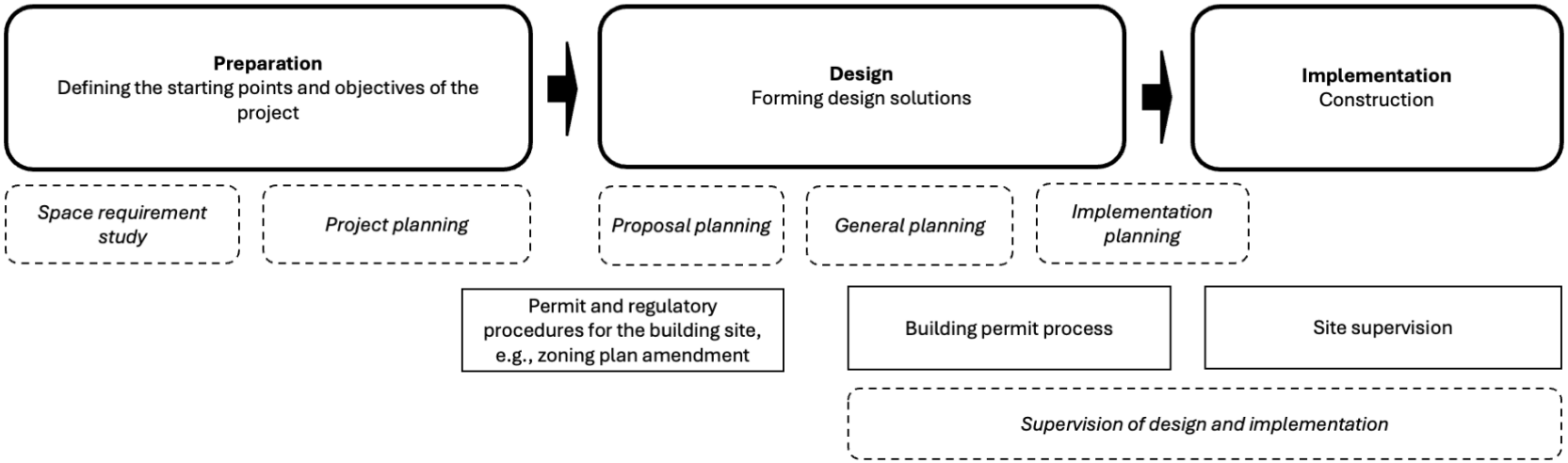
Building design and construction



Tampereen yliopisto, Kiinteistökehityksen osaamiskeskus

BUILDING DESIGN AND CONSTRUCTION PROCESS

Sources for the structure and the roles of actors: RT 10-10827; RT 10-11222; RT 10-11224; RT 10-11284; (Kuusiniemi 2019)



MONITORING AND FEEDBACK
For the regional development and real estate development and concept design phase:
The impact of design solutions on costs.
Completed age-friendly housing projects and community spaces
Within the design and implementation phase, from the design phase to the preparation phase:
Feedback on the sufficiency of preliminary information.

Preparation & recommendations

Preparation
Defining the starting points and objectives of the project

Space Requirement study	*Project planning*	
Project justifications: Preliminary space requirements and their requirements, Mapping of alternatives and estimation of their costs	Objectives for the implementation and design of the project	
Preliminary space requirements	**Forming an architectural space program** Distribution and dimensioning of requiered spaces	**Defining the principles that guide the design process**

Recommendations related to age-friendly housing concerning spatial requirements to be defined during the Space requirement study and project planning stages

Mapping of building site options
- The plot should have space for a functional accesible green yard

Forming a preliminary architectural space program
- Outdoor and indoor spaces should be reserved for exercise (e.g. gym, outdoor gym, lawn bowling).
- Common spaces should have functional outdoor and indoor spaces that encourage activities and exercise (e.g. workshop, gardening, planting boxes).
- The need for storage space (e.g. assistive devices, diaper deliveries) must be taken into account in the dimensioning of the apartments.
- If there are care staff in the building, the facilities intended for staff work and storage should be separated from the residents' facilities.
- In addition to the residents of the building, it is recommended that some of the common areas be directed to the residents of the surrounding area.

Recommendations related to age-friendly housing for defining the principles that guide the design process
- The facilities must be designed to be accessible. Please note:
  - Memory-friendly design
  - Sensory-friendly design
  - Accessibility (Mobility)
- The spatial structure should support both a sense of community and ensure privacy
- The space needs of care and storage must be taken into account
  - There should be enough storage space in the apartment and common areas (assistive devices, diaper boxes, etc.)
- Facilities must be designed to be flexible in the short and long term. E.g.
  - Provisions for building systems, and structural openings
  - Kitchen provision in all units
  - Provisions for future installation of assistive technologies and devices
- Connection with nature
  - Yard design, views from the apartments
- Age-neutral design principles
- Requirements for furniture and equipment
  - Technologies that increase safety
    - E.g. stove guards, safe stoves
  - Age-friendly and ergonomic furniture
    - E.g. decending kitchen upper cabinets, raised sockets

Design & Implementation & Recommendations

Design
Forming design solutions

Implementation
Construction

Proposal planning	*General planning*	*Implementation planning*	
Alternative spatial solutions, their efficiency and economy, analysis, selection	Specified selected spatial solution + preliminary technical requirements	Dimensioned plans and product specification	Implementation of plans

- **See Recommendations for design pp. 38-39**

Supervision of design and implementation

Building permit process	Site supervision
• Implementation of permit documents • Applying for a building permit • Granting a building permit	• On-site supervision by the developer and principal designer • Building control inspections • E.g. Accessibility inspections

Ensuring accessibility both in the building permit process and supervision during construction
E.g.
- Requiring an accessibility report as part of a building permit application (Arpiainen et al., 2021, 78)
- Requirement for an accessibility survey at renovation sites and a report on the repair measures (Arpiainen et al., 2021, 78)
- Accessibility inspections as part of building control inspections
- Ensuring that the changes made during construction do not impair the accessibility of the project

RECOMMENDATIONS FOR DESIGN 1/2

1.Accessibility

- **Vision:**
  - Sufficient and even lighting should be ensured in all spaces, and dim spaces and sudden changes in the amount of light should be avoided.
  - Both artificial light and natural light should be used in lighting conditions.
  - Glare should be minimized by using curtains or sun visors and avoiding reflective wall or floor surfaces.
  - Contrast differences should be used in the interior to improve visibility (e.g. staircase steps, railings, toilet fixtures, glass walls, doors).
- **Hearing:**
  - Materials that reduce echoes and noise, such as acoustic panels, should be used in common areas.
  - The placement of the premises and sound insulation solutions must ensure that sounds do not carry from one space to another.
- **Movement and body control:**
  - Multi-storey housing should have an elevator or a stairlift.
  - All circulation spaces must have railings.
  - Passageways and doorways must be dimensioned spaciously
  - Floor surfaces should be flat and non-slip, and thresholds should be avoided.
  - There should be resting places in the circulation spaces and in the yard.
  - There should be an accessible toilet in connection with common areas.
  - In the apartment, the toilet should be located in connection with the bedroom.
  - The doors should be easy to use, for example. assisted by electric opening.
- **Memory-friendliness**
  - Avoid long, maze-like corridors and repetitive spatial layouts.
  - Circulation routes should primarily consist of a sequence of functional spaces, allowing people using these spaces to serve as landmarks.
  - Visual connections between spaces should be enabled.
  - Colors and cues should be used to support navigation (e.g., each residential floor has its own color code).
  - Apartment entrances should allow personalization (for example, with a picture or a piece of furniture).
  - The building should provide access to an accessible outdoor courtyard.
  - Apartments designed for people with memory disorders should preferably be located so that residents have direct, unaccompanied access from the residential floor to a safe outdoor area without needing an escort (via elevator or stairs)

2. Connections to the outside

- Apartments and shared spaces should offer views of green space (e.g., towards a courtyard).
- Yard design should consider ease of winter maintenance (Verma et al., 2022).
- Placement of functions on the plot should take into account how building massing and positioning affect light conditions for both the plot and the building.
- Views from apartments should, where possible, be oriented towards nature

Engage current and future users as well as family members.

In all decisions and solutions, resource wisdom should be prioritized by developing what already exists. When building new structures, prepare for changes with flexible solutions.

Selected solutions must also be suitable for other age and user groups.

Ensure diversity and abundance of housing options in all decisions and solutions.

Consider community and its support at different levels.

Always adapt decisions and solutions to the local context.

RECOMMENDATIONS FOR DESIGN 2/2

3. Communality (Haukeland 2024)

- **Design that supports social interaction**
  - Common areas should be designed to be functional (e.g. shared kitchen, conservatory, garden, gym, laundry room).
  - Shared spaces should be centrally located in the spatial structure in relation to the apartments and in connection with everyday routes.
  - The apartments should have views of the common areas (e.g. from the kitchen to the courtyard).
  - The routes should be compiled mainly from functional space series, and windowless narrow corridors should be avoided.

- **Design that supports privacy**
  - Sounds should not carry between apartments and shared spaces.
  - Apartment entrances should not be located directly adjacent to shared spaces; instead, there should be a transitional zone (e.g., a resident-controlled area or stairwell) between apartments and shared spaces to protect privacy.
  - Shared spaces should not have unobstructed visual access to apartments.

- **An environment that supports inclusion:**
  - In the design of common areas, it must be taken into account that residents have the opportunity to meet with different sizes of ensembles.
  - The residents' handprint should also be visible in the common areas (for example, a personalised apartment entrance).

4. Functionality and comfort

- The need for storage space (e.g. assistive devices, diaper deliveries) must be taken into account in the dimensioning of the apartments.
- The premises of the apartment must enable care and assistance in everyday activities (e.g. washing, etc.).
- Attention should be paid to the appearance of assistive devices that support movement and activity, and they should not stand out too much from the rest of the interior.
- When choosing furniture, attention should be paid to aesthetics and office-like furniture should be avoided.
- The property must have a designated parking space for care staff.

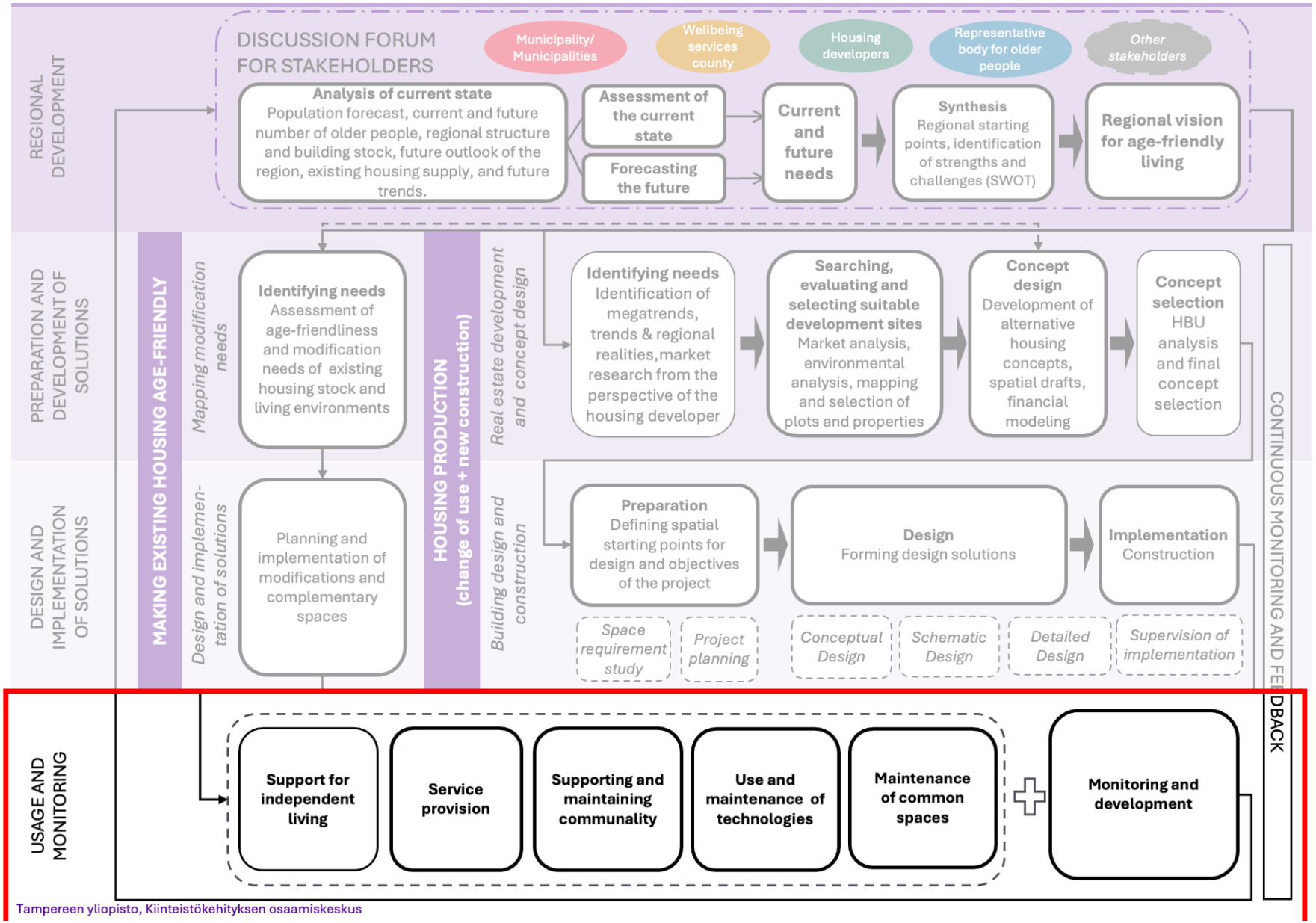
5. Adaptability

- The design should take into account how structural systems, building services, and layout affect the building's adaptability in the future (see Tarpio 2015)
  - Adaptability is made possible, for example, by long spans and pillar structures (Häkkinen and Ala-Kotila 2019).
- The window division must enable the division of spaces into smaller spaces with windows (Pelsmakers et al. 2022; Yrjänä 2024).
- The number and placement of the building's stairwells must enable versatile and flexible apartments (Yrjänä 2024)

6. Universal principles of good housing design (Pelsmakers et al. 2022)

- The frame depth of the building should not exceed 12 metres
- Most apartments should open in at least two directions
- The central corridors dividing the building's frame in two should be avoided and natural light should be allowed to enter the stairwell
- All apartments should have a direct connection to the outside (terrace or balcony)
- It must be possible to furnish the apartments in several ways

Usage and monitoring



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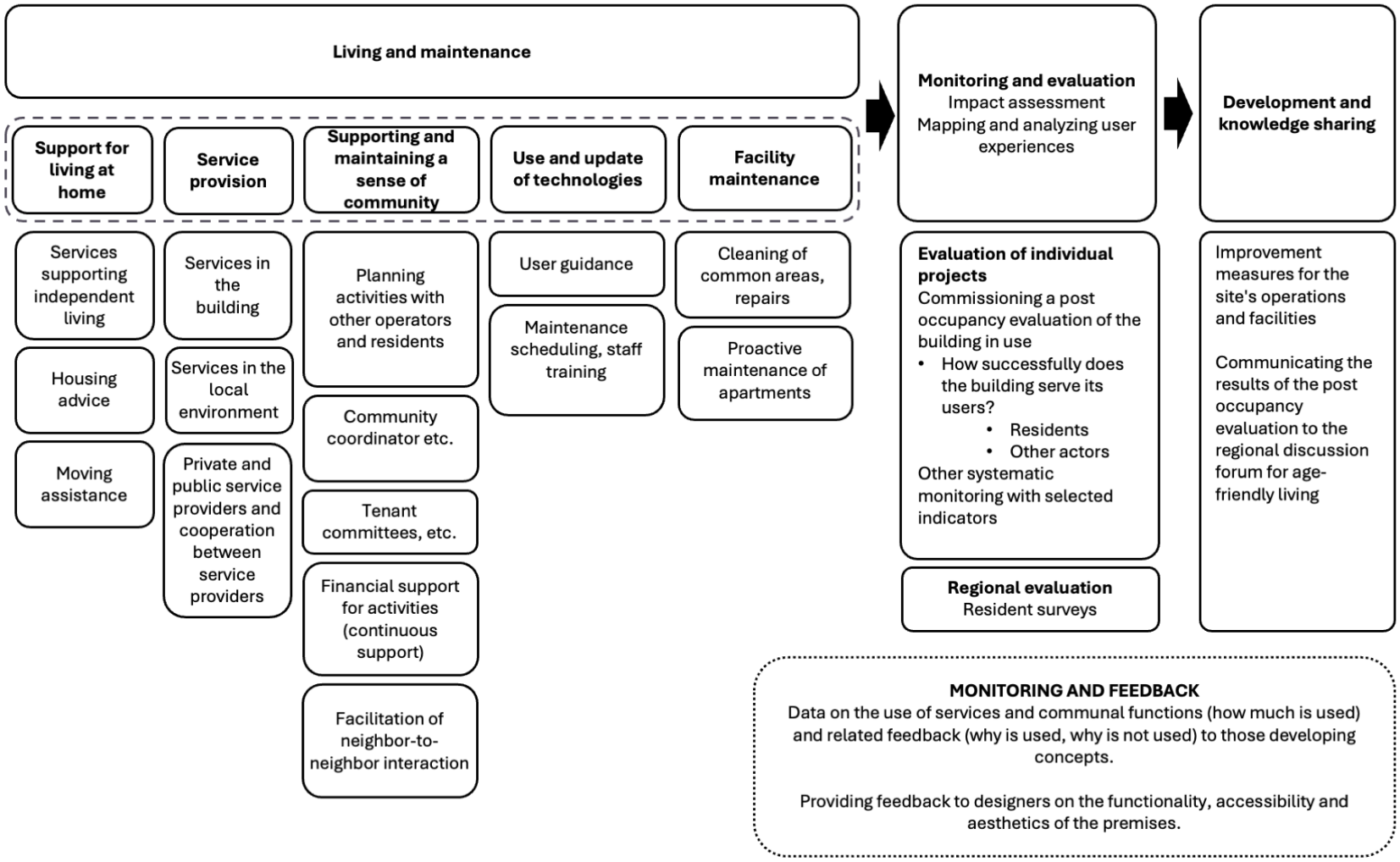
USAGE AND MONITORING PROCESS



RECOMMENDATIONS FOR THE USAGE AND MONITORING PHASE

Participation
- Engage older people in the development of services and community activities
- Collect and respond to feedback from older people
- Support and enable activities organized by older people themselves

Adequate guidance
- Older people must be familiarized with the technologies utilized in housing and their proper use.
  - For example, stove guard and similar devices.
- Older people must be instructed on how to use the new apartment and the building

Supporting communality
- Activities organised by the elderly themselves should be supported and enabled.
- Cooperation with different actors and service providers should be utilised in the production of communal events and activities.
- ntergenerational communality and a sense of community within the area should also be promoted through events or activities open to non-residents.

Collecting feedback and further development
- Satisfaction with the quality of housing must be assessed, and opportunities for providing feedback must be ensured
  - For older people
  - For other stakeholders
- Identified challenges must be addressed, and efforts should be made to find appropriate solutions.
- Post-occupancy evaluation (POE) should be conducted for completed housing projects a few years after completion. The results should be reported to developers of age-friendly housing and shared in the regional discussion forum for age-friendly living

Supporting living at home
- Considering and anticipating personal housing needs
  - Housing advice
- Supporting moving into an age-friendly apartment
  - Moving assistance
- Services supporting independent living and their needs assessment

Engage current and future users as well as family members.

In all decisions and solutions, resource wisdom should be prioritized by developing what already exists. When building new structures, prepare for changes with flexible solutions.

Selected solutions must also be suitable for other age and user groups.

Ensure diversity and abundance of housing options in all decisions and solutions.

Consider community and its support at different levels.

Always adapt decisions and solutions to the local context.

Recommendations

Selected recommendations (1/2)

- Age-friendly modifications and changes of use should come first before new construction
  - Age-friendliness as a principle in all modifications and construction
- Versatility and flexibility, diverse housing options
  - Also services should adapt to residents' needs, not the other way around!
  - Considering the needs of future older adults
  - Place-based solutions
- Supporting communality and active participation
  - Engaging current and future older adults in all stages of housing development
  - Communities should be nurtured and maintained
  - Developing methods of participation

Selected recommendations (2/2)

- Recommendations related to regulation and funding:
  - Encouraging and enabling experimentation
  - National guidelines how to interpret fire regulations
  - Testing of new financing models (eg. S106 / uk)
  - Age-friendly housing development and renovations should be financially supported
- Small municipalities: different realities compared to cities, but housing must be enabled (ageing in place)
  - Other services and solutions must also be taken into account
- Collaboration across all domains
- Actors' training, exploration of new solutions
- Strategic approach, long-term planning
  - Sharing information → utilization
  - Preparing for the future

Comments?
Questions?

More information

- TULE-model can be downloaded from project's web page: https://projects.tuni.fi/tulevaisuuden-senioriasuminen/
  + Basic information about the project
- Event recordings on Corelab's YouTube channel: https://www.youtube.com/@corelabcorelab3314
- Follow CoreLab in LinkedIn: https://www.linkedin.com/company/24785215/

Tampereen yliopisto

KNOWLEDGE CENTRE FOR REAL ESTATE DEVELOPMENT

Thank you!

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