CERTIFIED SMART AND INTEGRATED LIVING ENVIRONMENTS FOR AGEING WELL

Homes4Life

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Home4life

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OUR VISION FOR 2040

Imagine a society where your house is truly your home. A supportive, enabling environment that helps you realize your full personal and social potential.

Imagine a society where such houses are within reach for Europeans of all ages, regardless of income, gender, race or ethnic background, sexual orientation, health status, or disability. This is the vision Homes4Life supports for 2040.

Who are we?

We are the Homes4Life consortium, a team of European partners with diverse expertise. We adopt a common vision that is not stigmatising older age when we discuss how housing should look like in the future.

Our homes are more than just four walls and a roof. They are the places where we spend most of our time – up to 80% of our days and nights – when we reach 80 years of age. They are our familiar surroundings, intimately tied to our personal history and identity; the familiar surroundings where we want to keep living for as long as we possibly can. Our homes help us to be independent and in control of our lives; support us to remain active and healthy; keep us socially connected and engaged with our environment and community; and evolve with us as our lifestyle choices and needs change

with the passing of the years. If our homes do just that across the life course we consider them to be age-friendly. Age-friendly housing is therefore relevant for all citizens and has a tremendous influence on our health and wellbeing, our social interactions and our capacity to participate in community life. Thus, age-friendly housing must become a key public policy based on three elements:

1. All relevant stakeholders must be aware of the issues,

2. Appropriate tools and policy frameworks should be in place, and

3. All stakeholders need incentives appropriate to their needs and concerns.

Only then will it be possible to build new dwellings and retrofit existing ones at the scale required to support safe, healthy and independent living across the community.

BUILDING A CASE FOR AGE-FRIENDLY HOUSING

The most important reason to push age-friendly housing as a public policy is that people overwhelmingly want to live independently. But there are other forceful arguments for a public policy approach.

Good housing means good health

Populations across Europe are ageing rapidly. Is that a problem? Only if we don't manage to increase the number of years spent in good health. Work carried out by the World Health Organization (WHO) on age-friendly environments makes it very clear that adapting our housing has incredible potential to promote independent and healthy lives at all ages[1]. This finding is all the more pertinent that the current European housing stock is not in a good state to support independent living across people's life course. Even very basic needs are going unmet: the WHO[1] notes that 20% of European citizens live in housing with insufficient protection against excessive heat during summer, while 13% report that their housing was not comfortably warm during winter. Without specific and sustained policy action, this will not change. According to Renovate Europe, annual renovation rates lie between 0,4% and 1,2%, much too slow to achieve the proposed vision in 2040.

Good housing keeps people and care services away from institutions

Receiving care in your own home instead of in an institution is more cost-efficient and more effective in terms of health outcomes. Age-friendly housing helps individuals requiring care and support to continue to live in their own homes, by facilitating access to home care services delivered and provided directly in people's homes. The cost effectiveness of age-friendly housing is well-attested. In the UK, for instance, the Health Foundation estimated that for every pound invested in housing support to vulnerable people, two pounds in costs were avoided to public services, including care and health costs. Creating home environments suitable for care services is essential to safeguard the sustainability of public expenditure on long-term care (LTC), which is set to double between now and 2070.

[1] Eurofound (2016). European Quality of Life Survey: https://www.eurofound.europa.eu/surveys/european-quality-of-life-surveys/european-quality-of-life-survey-2016
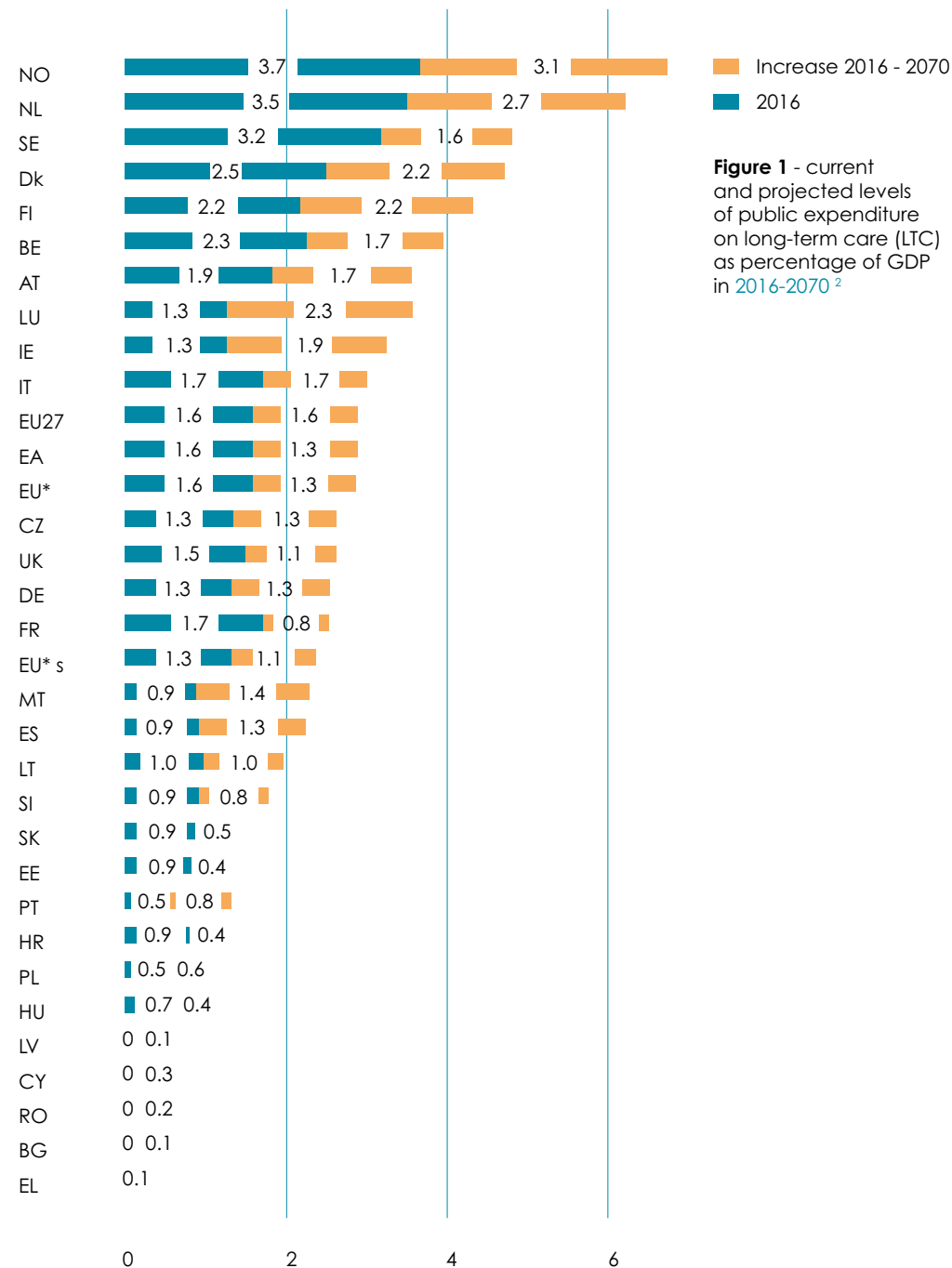
Figure 1 - current and projected levels of public expenditure on long-term care (LTC) as percentage of GDP in 2016-2070 [2]

	2016	Increase 2016 - 2070
NO	3.7	3.1
NL	3.5	2.7
SE	3.2	1.6
Dk	2.5	2.2
FI	2.2	2.2
BE	2.3	1.7
AT	1.9	1.7
LU	1.3	2.3
IE	1.3	1.9
IT	1.7	1.7
EU27	1.6	1.6
EA	1.6	1.3
EU*	1.6	1.3
CZ	1.3	1.3
UK	1.5	1.1
DE	1.3	1.3
FR	1.7	0.8
EU* s	1.3	1.1
MT	0.9	1.4
ES	0.9	1.3
LT	1.0	1.0
SI	0.9	0.8
SK	0.9	0.5
EE	0.9	0.4
PT	0.5	0.8
HR	0.9	0.4
PL	0.5	0.6
HU	0.7	0.4
LV	0	0.1
CY	0	0.3
RO	0	0.2
BG	0	0.1
EL	0.1	

Good housing empowers informal carers

Age-friendly housing and access to home-care services help informal carers reconcile work with their caring responsibilities. Informal carers frequently need to reduce their working hours or even quit their jobs to meet care responsibilities. There is a strong social business case to be made. When age-friendly housing is coupled with adequate access to home care services and other specific community support services (e.g. respite care, cash benefits) directed to informal carers, it could help tackle the current sustainability challenge of social and health care systems whilst at the same time preventing social exclusion and poverty of informal carers. A strong and convincing social business case! The 2016 European Quality of Life Survey[3] showed that 42% of non-working carers are in the lowest income quartile (compared to 24% of non-carers)[4].

Investing in citizens' health makes social and economic sense

It makes social and economic sense to nurture the health and potential of all our citizens, to support their independence and social inclusion at all ages. With the average share of the EU28 population above 65 living alone at around 30%, and reaching up to 40% in some urban and capital regions e.g. in Denmark, Belgium, Finland and the UK, age-friendly housing that is affordable and accessible can have a key role combating social isolation, allowing older people to maintain social networks and engage in social activities within their communities.

[2] European Commission (2018). Ageing Report, p. 145: https://ec.europa.eu/info/sites/info/files/economy-finance/ip079_en.pdf

[3] Eurofound (2016). European Quality of Life Survey: https://www.eurofound.europa.eu/surveys/european-quality-of-life-surveys/european-quality-of-life-survey-2016

[4] European Commission (2018). Informal care in Europe. Exploring formalization, availability and quality: https://op.europa.eu/en/publication-detail/-/publication/96d27995-6dee-11e8-9483-01aa75ed71a1/language-en

Age-friendly housing contributes to Europe's headline ambitions

Age-friendly housing has a role to play in meeting at least three of the six headline ambitions for Europe - proposed by the President of the European Commission Ursula von der Leyen - over the next five years and well beyond: a European Green Deal, an economy that works for people, and a Europe fit for the digital age. The economic viewpoint alone is impressive. Estimates put the potential investment in housing retrofitting in the construction and Information and Communication Technologies (ICT) sectors at 200 billion EUR over the next 2-5 years. This investment, stimulating downstream and upstream sectors, has a potential knock-on effect of 200-374 billion EUR and 1,7 million new jobs across the European construction and ICT sectors [5]. Finally, it will stimulate innovation in the housing sector, contributing to creating knowledge in addition to new jobs.

[5] ECTP-AABE (2015). European RDI Policies for the Construction Sector in the Silver Economy: https://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/ectp.pdf

2040: WHAT IS THE CONTEXT WE MUST ANTICIPATE?

Age-friendly housing is an integral part of our future society. To understand what must be done to achieve the Homes4Life vision, we need to take into account a number of likely socioeconomic, demographic, technological and environmental trends and/or disruptive innovations, which will substantially impact upon peoples' lives across Europe in the next decades leading up to 2040. Some of these trends and their consequences outlined below clearly illustrate that age-friendly housing and the relevant housing actors (public and private) could play a crucial strategic role in creating more sustainable societies in 2040.

Changing demographics

Demographic projections show that Europe's older population will peak in the next decades. In 2040, 27,1% of EU citizens will be over 65. 9,2% will be over 80. A woman turning 65 in 2040 can expect to live on average another 24 years (20,7 years for men). In addition, by 2040, there will be about two persons younger than 65 for each person older than 65. Is that a major change? In comparison, in 1950, there were more than seven people of working age for every person of pension age.

Social innovation and employment

These demographic changes will trigger the need for policies to promote longer working lives. But longer is only part of the answer. More flexible employment policies are needed that allow people to reconcile work and caring responsibilities. Flexible working arrangements, access to care leave, temporary reduce working hours, gradual transitions from working life to retirement and other measures will all need to be brought into play. This will help people with caring duties to stay in the labour market and continue to accumulate pension rights, thus also combating social exclusion and poverty. Older people not anymore active on the labour market, but who wish to contribute and participate in society, should be able to do so through other models such as volunteering or unpaid work. Homes, probably enriched with opportunities from ICT, are an important environment that can support or constrain such new employment models.

Changing household composition and family networks

The average household size is shrinking. People across Europe are having fewer children, and they are having them later in life. Fewer people are getting married, and a larger proportion of marriages ends in divorce. Mobility of EU citizens is increasing, as is social and economic polarisation both within and between EU Member States.

As a result of these combined developments, more people are single as they enter old age, and traditional intrafamilial support networks become disjointed. These phenomena will change both the nature (more single household flats) and volume of demand for age-friendly housing, especially in urban areas.

New models of care

Due to demographic ageing, we will see an increasing number of citizens living with disabilities, such as functional limitations, but also a greater prevalence of chronic, non-communicable diseases in the population with a shift from hospital-based to increasingly community-based and home-based care. This will also entail a shift in the balance of care, requiring a partnership model between health professionals, empowering patients and their carers to take an active role in managing their health and care. The focus of health and care services will shift from acute treatment to health promotion, prevention and rehabilitation, with a strong emphasis on healthy lifestyle promotion and early identification and management of risk factors. As the World Economic Forum (WEF)[6] puts it:

"The healthcare system of the future will look very different with a crucial change being the move to 'consumer-centric' healthcare. The two expected big shifts will be disruptions to the location of care (for instance, moving care out of the hospital and closer to home) and disruptions to the type of care ('diagnose and treat' to 'prevent and manage'). (…) As such, the home will become an important new location of care, and virtual care will broaden access to healthcare in rural areas".

New opportunities around digitalisation, robots and artificial intelligence

New digital technologies provide the potential to make our homes "smarter". By this we mean, that digitally enriched homes become more responsive to the needs of the dwellers and serve as a resource to maintain health, social connectedness, fun, and wellbeing across the life course. This entails a shift away from simplistic, instrumental views on technology to more comprehensive models of ICT development that provide opportunities for older people to maintain comfort, convenience, security and entertainment, and allow for monitoring of health risks, where this is needed.

[6] WEF (2016). Building the healthcare system of the future: http://reports.weforum.org/digital-transformation/building-the-healthcare-system-of-the-future/
[7] ECTP (2019). Innovative built environment. Strategic Research & Innovation Agenda 2021-2027

Climate change and environment

Climate change means we will need to deal with rising sea levels, more frequent and extreme weather events, hotter and drier summers and warmer and wetter winters. Given that older people are generally more vulnerable to extreme weather events, an age-friendly design of buildings also needs to consider issues such as how indoor air temperature is managed and how buildings will be weathered against more extreme climatic conditions. At the same time, housing represents a significant environmental burden, associated with high operational energy (according to ECTP [7] 97% of the housing stock is energy inefficient and buildings are responsible for 40% of Europe's energy consumption contributing to 36% greenhouse gas emissions). In short, there is a case for age-friendly housing to also integrate environmental sustainability and energy saving issues, that are recognized as cross-cutting policy priorities.

[7] ECTP (2019). Innovative built environment. Strategic Research & Innovation Agenda 2021-2027

WHAT IS THE VISION WE WANT TO FOLLOW?

**Homes4Life definition
of age-friendly housing**

Our homes should be a place that supports our independence and autonomy; allows us to remain active and healthy; promotes our social inclusion and engagement within our communities whilst respecting our lifestyle choices and evolving needs as the years go by. That is what it means for a house to be age-friendly. Age-friendly housing is therefore relevant for all citizens and has a tremendous potential to impact on our health and wellbeing, our social interactions and our capacity to participate in community life. The vision we support is a society where people have the opportunity to pick the place they want to live in and grow older. A society where age-friendly housing is available to all, regardless of income, gender, race or ethnic background, sexual orientation, health status, or disability.

How do we make it happen?
Framework conditions
for age-friendly housing in 2040

Whether it will prove feasible to achieve the Homes4Life vision is dependent on a number of framework conditions that Homes4Life identified in its desk research and country analysis. The parameter settings for these conditions determine to what extent public policy, innovation and business uptake will succeed in enabling age-friendly housing for all. As far as our desktop research has shown, these parameters are: (i) regulatory/legal frameworks, (ii) existing knowhow in the sector, (iii) financial incentives, (iv) housing stock structure and ownership, and (v) housing governance. The parameters are described in Table 1 below; they also inform the next section 3 - 'What is the way forward?'.

Using these parameters, Homes4Life has explored four types of socio-economic and socio-cultural settings to determine which of these would be most conducive to the vision. These four stereotypical scenarios were constructed by the Homes4Life partners and debated in a stakeholder workshop that took place in Brussels, Belgium on 11 June 2019. The scenarios vary in terms of stakeholder buy-in, public sector commitment, resource allocation and operational readiness, and awareness level and represent a spectrum ranging from the ideal to the decidedly dystopian. They are summarised in Table 2.

Table 1 Factors influencing age-friendly housing

	Facilitators	Obstacles
REGULATORY FRAMEWORK	legal provisions for accessibility, home adaptation and home care services	no clear regulatory framework
EXISTING KNOW-HOW	official guidance (e.g. handbooks, accessibility standards, etc.) and supportive organisations	absence or very limited knowhow, or absence of knowledge transfer
FINANCIAL INCENTIVES	grants and tax credit/reduction for retrofitting and new age-friendly constructions	little or no financial incentives for property owners and/or individuals to adapt dwellings
HOUSING STOCK STRUCTURE AND OWNERSHIP	strong and non-marginalized rental sector (facilitating access to smaller dwelling i.e. flat)	weak and marginalized rental sector (emphasis on home-ownership, responsibility to individuals)
HOUSING GOVERNANCE	analysis of housing market and planning to meet future demand; specific institutions designated to deliver	no clear responsibilities lead to competing priorities in housing

Table 2 Likeliness of age-friendly housing to develop in each of the four scenarios

	#1 Frontrunner	#2 Happy many	#3 Happy few	#4 Lions' den
NEED FOR AGE-FRIENDLY HOUSING	++	++	+++	+++
AWARENESS OF THE NEED	+++	+++	+++ or ++ or +	+
OPERATIONAL READINESS	+++	++	++	+
FINANCIAL CAPACITY	+++	++	+	+

The 'frontrunner' scenario clearly presents the ideal conditions for age-friendly housing to develop. All stakeholders are convinced and committed to develop age-friendly housing and thus implement, operationally, a global ageing-in-place strategy. The level of awareness that age-friendly housing is needed is high and stakeholders are skilled equipped – both in terms of skills and resources – to implement this change.

The 'happy many' scenario is typically the situation where the public rental sector presents an important share of the market in countries with a high level of awareness regarding the benefits of an age-friendly approach to housing. Public budgets are allocated to provide incentives and develop the operational readiness, including of private stakeholders, for them to contribute to this global adaptation of the housing stock.

The 'happy few' scenario is rather bringing forward private stakeholders (individuals, landlords or private companies) where only those with the financial capacity are able to access and afford age-friendly housing. Since incentives do not exist for the massive

adaptation of existing dwellings or the construction of new buildings in an age-friendly approach, most of the needs for age-friendly housing remain unmet.

The 'lions' den' scenario is, finally, the most dystopian one where the level of awareness regarding age-friendly housing remains low. The operational capacity is not explored and resources – especially financial ones – are not allocated to support the development of age-friendly housing. The few initiatives depend on very local communities or specific stakeholders carrying pilot projects at a small scale.

In light of the success factors presented in Table 1, the second scenario (entitled "Happy many") is the one listing the most favourable, realistically achievable set of settings where to anchor the Homes4Life 2040 vision. In these settings, resilient and flexible dwellings that can accommodate different and evolving needs and preferences across the life course are considered a priority for the common good.

The above vision relies on a public policy encompassing various policy domains – housing, care, digitalisation, to name just a few – that coordinate the action and complementarities of the various stakeholders involved. This public policy permits to ensure the implementation of an age-friendly approach to housing is not seen as a commercial commodity, but a universal right for all Europeans wishing to age in their own homes, and thus complies with the following principles:

1. Homes must be adaptable to changing needs and lifestyle resulting from the interplay of different factors, such as health, culture, income, education level during the life course without resorting to institutionalization when more care and support are needed.

2. Homes must be accessible. Shared standards aiming at meeting the needs related to the different phases of people's lives, and, in particular, those related to older age (reduced mobility, dexterity and visual ability) increase the possibility to age in place, independently or with the help of caregivers. Even more importantly, accessible homes enable people to remain socially active, to maintain old relationships and build new ones, and to engage in meaningful and life-affirming activities.

3. Homes must be affordable. In order to impact our societies, age-friendly housing must constitute a universal opportunity rather than the privilege of a few. To this end we must ensure that strategies for home improvement use sensible budget parameters and that strategies are in place to cover all segments of the housing market. Additionally, public sector stakeholders should not shy away from considering age-friendly housing as a public health policy, where targeted subsidies are a legitimate way to support those most in need and at risk.

WHAT IS THE WAY FORWARD?

To translate our vision into an actionable strategy, we propose the development of a range of strategic tools. We consider these key factors and enablers can stimulate the necessary practical conditions to implement an age-friendly approach to housing. Based on European good practices of age-friendly housing, they will greatly help there cognition of "age-friendliness" among homeowners and consumers.

A taxonomy of the benefits of age-friendly housing

A "Housing in All Policies" approach ensures that housing is fully integrated into health, social and urban policies at all levels from the European Union to local authorities. It implies that all key actors are fully aware and understand the benefits and contribution age-friendly housing can make to people and societies. This requires a new European Reference Framework for Age-friendly Housing (ERF-AFH) that is underpinned by salutogenic principles that promote health and wellbeing. This, in turn, will mean we need new, positive narratives for age-friendly housing; there cannot be a "one-size fits all" solution, rather age-friendly housing needs to be seen as a dynamic concept, that nonetheless is able to capture all the different aspects pertaining to housing considered as central elements for individuals to thrive in their lives and in their homes across all ages.

A balanced set of incentives

Incentives can stimulate greater investments from key actors to retrofit existing housing as well as the construction of new age-friendly housing. A one-sided focus on financial instruments – such as tax relief or subsidies – needs to give way to a value-based and multi-domain appraisal of the needs, preferences and motivations of housing and dwelling owners as the basis for effective incentivization. For instance, potential investment in homes could drive the emergence of local economic microsystems (small business, and employment opportunities for vulnerable groups), creating not just economic but also societal value.

Guidance, functional and technical specifications in the form of verifiable key performance indicators (KPIs)

The knowhow and necessary guidance on age-friendly housing are key factors in establishing a common vision and language and must become widely available in the form of handbooks, standards and other functional and technical specifications. It is vital that these specifications include all aspects and functions of the house that contribute to its age-friendliness.

Only then can guidance and specifications offer effective support to engineers, urban planners, architects, home owners and builders in undertaking the necessary measures to retrofit or construct age-friendly housing in flexible and citizen-centred ways.

Labelling and certification initiatives

Labelling and certification can be a big help in stimulating investment in better, age-friendly homes. Certification schemes can offer comfort and security to both public and private sector operatives and to occupants. When functioning well, they are a practical and recognizable expression of shared notions of safety, quality and fitness for purpose. However, certification schemes can only function in this way when they certify those aspects and functions of the home that are most important to occupants and other stakeholders. When they produce information that is relevant, appropriate to the implementation context, and understandable to the people using them. When they treat home owners, tenants and other stakeholders as co-owners of the certification process. And when their outcomes help make clear the material and immaterial value that an age-friendly home

environment can produce. Homes4Life accordingly proposes using the inclusive multi-domain taxonomy and KPI-framework as a conceptual and practical basis to develop specific certification applications, the Homes4Life Certification Scheme, to help stimulate investment in specific but high-volume types of homes and projects.

Operational readiness

All involved stakeholders need to behave proactively and should be prepared to the implementation of age-friendly housing. For instance, the construction sector must be prepared to integrate all the available new technologies, materials, and working processes

in its production process, also by updating and fostering the skills of its workforce, and develop multiservice packages to end-users (construction plus financing, data management, safety, security, etc.); the financial sector must develop instruments that enable access to finance aimed at retrofitting or building new age-friendly homes; public authorities must be operationally ready in terms of planning procedures, health and social care policies, public housing allocation, public-private partnership schemes; ICT providers are expected to increase their expertise in the field of home comfort and services; Community service providers must be prepared to meet a higher demand.

A MULTI-ACTOR & COLLABORATIVE PROCESS

A range of factors highly influences the chances of the vision to become a reality for everyone. Achieving the 2040 vision is a challenging task that requires a clear narrative of what must be done by each stakeholder, what are the potential benefits arising from their actions and the obstacles to be removed.

The efforts required from the different stakeholder may vary according to the peculiarities of the housing market in a country or region, which is affected, for example, by the different dimension of public and private housing ownership. Framing stakeholders' opportunities and barriers is a crucial step in our vision, which could eventually support the targeting of future EU programmes for the implementation of age-friendly housing.

In the meantime, the following section aims at describing what could be the role of the key actors we have identified by presenting, for each of them, how age-friendly housing can benefit them [§1] and what could be their role in the development of this vision [§2].

Older people and the next generation of older people

With age-friendly housing, we will be able to decide where we want to live and grow old. Our home will support us to lead an independent life and enable us to continue doing what we have reason to value. Our home is a safe and reassuring environment which is affordable, adaptable and accessible.

Everyone can contribute by actively participating with their expertise and being able to reflect on the key elements they consider central for their home to be age-friendly. Success stories show that citizens are able to found their own housing cooperation, to plan for a newly built intergenerational community and to design innovative financing and ownership models.

Informal carers

Age-friendly housing can provide informal carers reassurance about the safety and wellbeing of their care-dependent relatives or friend by helping them to continue living in their own homes and thus helping and alleviating them in their caring tasks while they may need to balance other responsibilities such as work. Informal carers can contribute as they may have specific knowledge about the needs of the care-dependent person, and can many times act as an important interlocutor – as they may be strongly involved in assisting in various daily activities. They may

have specific needs for age-friendly housing that need to be taken into consideration depending on whether they are co-residing, living at a distance, and depending if they are working, studying or wishing to re-enter the labour market.

Public authorities and decision-makers

Housing has a tremendous impact on our health and wellbeing, our social interactions and our capacity to participate in community life. Age-friendly housing is therefore a preventive approach to keep citizen healthy and independent as long as possible in their own homes. Enabled through age-friendly housing, a healthy and independent population can help societies in meeting some of the societal challenges by improving social inclusion, supporting flexible working, creating new jobs, and supporting the shift to homecare. Age-friendly housing will also strengthen the citizenship rights, making sure that no citizen feels 'abandoned' because of old age. Public authorities are expected to design the public policy aimed at developing the regulatory framework to implement an age-

friendly housing approach. Their contribution is expected to affect three main areas: (i) regulations and policies on housing and community services (ii) financial incentives, fiscal rules, public procurement and investments, and (iii) awareness-raising, information and knowledge diffusion.

Housing stock owners (public, private, profit or not-for-profit)

The awareness of the ageing population issue along with a regulatory framework aimed at incentivizing age-friendly housing should increase the demand for adapted houses. Satisfying this demand will give to dwelling owners a competitive advantage in renting or selling their age-friendly properties, whose value will be higher than standard homes. Since retrofitting or building new homes according to the proposed approach implies further costs for dwelling owners. The main challenge they face consists in finding investors and financial resources to cover the cost of switching to an age-friendly housing model.
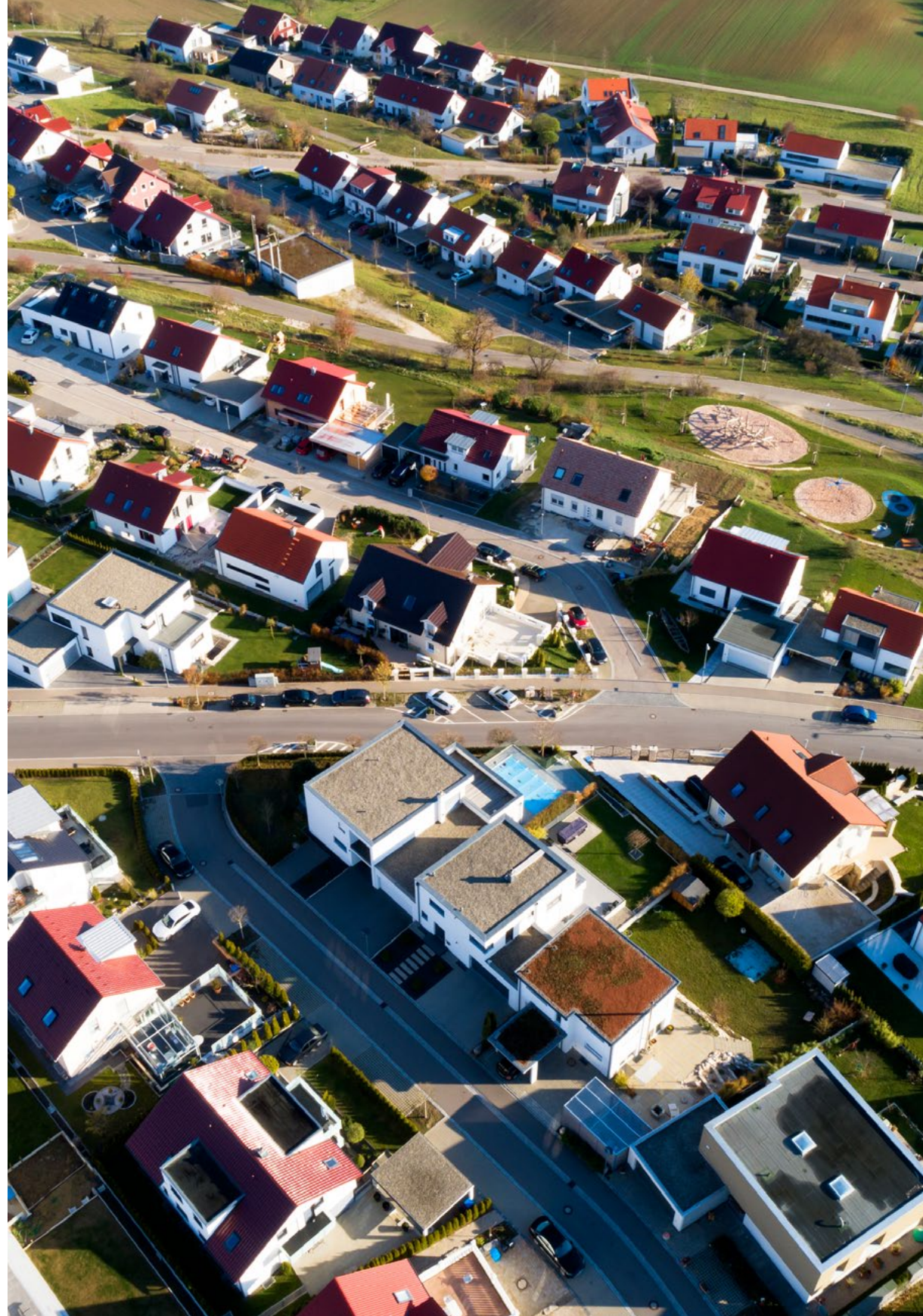
Construction sector (builders, architects, products developers and manufacturers)

Along with the sustainability issue, a person-centred approach in housing supply should stimulate the construction sector and its upstream and downstream sectors and increase its competitiveness. Adopting such an approach, in fact, requires developing specific know-how and knowledge. In order to make standards and needs well understood by builders and technicians, engineers, architects, and, in general, the construction sector at large must be specifically trained.

The main contribution of the construction sector to the realization of the vision consists in developing and implementing, functional, technical and constructive solutions based on the Homes4Life approach, and suggesting possible changes, updates and improvements from their practical experience on the ground. They could pro-actively engage with older citizens to understand their housing needs. New business and service models emerged around such initiatives, where construction companies maintain ownership of the building and provide dedicated services, including IoT solutions, to inhabitants

Community service providers

Improving the quality of houses will reflect in a better work environment for home-care workers, contributing to increase their job satisfaction, physical health and propensity to stay with the organization, while minimizing stress levels, and, finally, to provide a higher quality service. Community service providers

must take part to the process of spreading awareness about the necessity of age-friendly living environments. In addition, like the construction sector, they can use their field experience to test-drive the Homes4Life approach and suggest changes and improvements, in order to respond to health and care needs in the most appropriate way.

ICT-solution developers and providers

Implementing ICT solutions in the age-friendly housing represents a new market opportunity for personal household services, long-term care services at home, and smart products for home automation. There is a widespread digitalization of many sectors and many health and care service providers already partner with ICT solution providers for the provision of their services.

Again, along with builders and home-care service providers, their contribution regards their expertise supporting the definition of technical solutions available to support independent living. The adoption of a widely available ICT infrastructure and open standards that enables interoperability, increases the possibility for mass customization and flexible standardisation of age-friendly housing.