



**SEAS  
2 GROW**

**SILVER ECONOMY ACCELERATING STRATEGIES**

# **Funding Models for Silver Economy Housing:**

*Financial innovation for age-friendly housing and agetech adoption*

## **Report 2D – Netherlands**

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**NOT FOR EXTERNAL PUBLICATION WITHOUT PERMISSION**

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# Table of contents

1. Introduction
2. Netherlands policy options response
  - a. Context and existing areas of innovation
  - b. Dutch innovation response
3. Discussion and recommendations

## Appendix

Financial innovation menu from previous Dec 2019 report

## Acknowledgements

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## 1. Introduction

Our first report on this topic, *Report on Funding Models for Silver Economy Housing* (Dec 2019)<sup>1</sup>, set out the background on the case for and costs of age-friendly housing design and incorporation of agetech products. We made some broad suggestions of innovative financial models and mechanisms that could help to increase the scale of adoption, with the core principle being that cost-effective expenditure in this area will both save money in reduced health and social care costs by preventing later problems, but also enable people to live longer, healthier and happier lives at home rather than going into care or hospital.

It was stated that the additional costs of basic age-friendly design improvements at the point of construction (level access, wider doorways etc) can cost as little as £/€2000 extra on a house or apartment<sup>2</sup>; and a useful package of agetech products could be installed or retrofitted for up to £/€5000<sup>3</sup>. In terms of a typical house or flat of say £/€250,000<sup>4</sup> this might add £/€6k or 2.4% to the cost.

The final reports are 4 short documents, one per partner country, looking at what financial innovations might enable these costs to be funded on the basis that they would be an investment worth enabling, and seeking the path of least resistance towards achieving this.

We are now writing in the COVID-19 period, and expecting the financial landscape to change significantly as the recovery happens. If finding ways to creatively finance better age-friendly housing and technology was becoming increasingly urgent before the crisis, it will be even more so afterwards. National governments, local authorities and housing providers are all now more sensitised to the need to provide households with smarter services to enable them to cope with threats to their health. This also creates opportunities for the providers of relevant products and services, and for those who invest in them, so the benefit is both social and economic.

Awareness of the need and opportunity may be greater, but availability of funding may be reduced. This makes it all the more important that the value for money and cost benefit case of products and services is made more strongly, and ideally that they rely less on state funding. So we look at ways of developing independent funding solutions or other self-funded mechanisms as progress may otherwise be delayed.

It is important to note that this report is not specifying a particular set of design features for new build or retrofit packages, or of any particular agetech products. It is assumed that the cost-benefit case can be made by focussing on those that provide the best value for money for each setting and for particular groups of older people according to their needs. We are dealing solely with the challenge of how in principle the cost of such design, adaptation or packages can be incorporated into the financial model of different phases of the construction and operation of housing that improves healthy independent living.

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<sup>1</sup> Available on SEAS2Grow website [www.seas2grow.com](http://www.seas2grow.com)

<sup>2</sup> Lifetime Homes website – ‘costs’ <http://www.lifetimehomes.org.uk/pages/costs.html>

<sup>3</sup> Based on Smart Homes NL experience

<sup>4</sup> NL average price €307,978 (2019, Statista) cf. UK £275,000 (Halifax index Oct 2020)

Some of the ‘costs of failure’ here are very high, and were discussed in the previous report. But with hip and femur fractures costing health systems around £30,000 it is self-evident that interventions that might reduce them by even 10% would be worth spending up to £3,000 to achieve.

Smart caring home products that are beginning to address such issues in an integrated manner are now widely available (see appendix 1) and a range of other complementary agetech products for more specific conditions (see previous report).

The challenge is how to improve awareness and robustness of the case, and then how to fund wider adoption.

Our earlier report identified a set of initial plausible financial innovations classified into 3 broad categories:

- A. Mechanisms to unlock additional funding sources
- B. Tax reliefs or other policy levers
- C. Business model innovations.

They were also broken down by whether they are targeted at the developer or provider of the housing (both public and private); the consumer or their family; or another actor such as a local authority or home improvement agency. The full list is provided in Appendix 2.

Each country in the project was asked to consider the example financial mechanisms and these questions:

1. Which of the possible models on the list is relevant to your country, and why?
2. What financial innovations for age-friendly housing and technology are you already aware of?  
Is there anything similar to those items on the list already happening?
3. What financial innovations in other sectors could be applied to agetech?
4. Which single financial innovation would be the best one to propose for your country?
5. Do you have any expert contacts who might help?

The responses are outlined in the following section.

## 2. Netherlands policy options response

The Dutch partner Smart Homes provided some initial housing data and suggestions of where progress is being made in age-friendly housing and technology. Allia then developed the master list of ideas, against which a second response was given. These are outlined in the next 2 sections.

### a. Context and existing areas of innovation

SEAS2Grow partner Smart Homes summarises the situation in the Netherlands as follows. From 2000 on, for over a decade, approximately 10,000 genuinely smart apartments for senior citizens have been realised in The Netherlands, with the help of the Smart Homes organisation. These apartments were the result of a long preparation period, between 1993 (installation of a first smart demo house in Eindhoven) and the start of a first experiment with 125 apartments in 1998. The requirements and needs had been established by several approaches, of which one was to invite many older persons into the smart demo house and express their interest and feedback on what they saw.

The costs of these deployments ranged from 10,000 Euros per apartment in the beginning, down to some 5,000 Euros at the end of the decade. The apartments were mainly built by housing associations for the rental and social sector. The housing associations spent some half a million euros (if for example a block of 50 dwellings was developed), because most had substantial financial reserves and could therefore experiment. Also the Dutch government had for several years operated a special subsidy regulation where housing associations and care organisations together could get up to 5,000 Euros bonus if basic care technology infrastructure was installed.

In the beginning a so-called 10 bullet points list was used for deployment, among which were: automatic lighting at entrance; automatic light for bed-to-toilet route at night; electronic door lock, automatic switch off of certain sockets at night; “one button switch-off whole house”; video conferencing via TV screen; automatic transmission of intrusion and smoke alarm via the analogue telephone line to a call centre; passive alarm via motion sensors. Evaluation of many of these projects learned many important things:

- If you install the same 10 bullet points list in all dwellings, not all residents want these applications working from the beginning, maybe some at later stage;
- The applications needed a lot of personalisation, meaning that certain applications were not desired, but also needed different places, different working, etc.;
- Maintenance costs were much higher than expected because of individual re-settings and not properly working technology, but also because of usability issues;
- Most residents found it nice to have, but would not like to pay extra service costs for it.

It should be noted that all smart home applications were developed in a time that Internet, mobile telephony and tablets (the iPad was only launched in 2010!) were not fully existing or deployed. So, many of the applications that are still useful today can now be installed with ICT components built in and be maintained or changed remotely. Also, additional services have been developed over the years, but this decade of nationwide deployment has been a very good learning curve for both housing associations, project developers, building companies, installers and care organisations.

Due to the worldwide economic crisis in 2009, smart home deployment reduced strongly in the period up to approximately 2015. At that time, housing associations became much more restricted in large scale experiments such as in the first decade. Besides, many building companies and installers had lost personnel or gone bankrupt, so that it took many years, up to the present day, to return to the same installation level of new houses.

At this period of time, new deployments are gradually increasing again, but not in the massive way as in the first decade of the century. Besides, now most care technology is installed via digital platforms and IP based services. A lot of care technology has become wireless and can be installed upon request and only when there is a specific need. Nevertheless, project developers and housing associations come up with concepts such as “Smart Living”, from which they expect higher sales. In recent years, 2017-2020, however, there is a big shortage of housing, with sharply increasing sales prices of houses and apartments, which makes it less interesting and necessary for developers to make the houses “smart”. They will sell anyhow.

In terms of numbers, 49% of over 65s are owner-occupiers with the remaining proportion renting either privately (21%) or through social housing associations (30%). 73% of mainstream housing lacks key accessibility features. Whilst it is difficult to get exact comparisons, statistics suggest that a

growing number of older people are living in unsuitable homes and that this situation is getting worse. Only 3-4% would consider moving from their current home.

In 2018 about one third (32%) of the single household seniors and one fifth of couples aged 65+ lives in a home that has minor alterations to live longer independently. The proportion of single household seniors living in a home with alterations is slowly decreasing (37% in 2012). Older households that rent a home from a housing corporation live significantly less in a home with alterations, although this number is decreasing. In 2012 45% of the one household seniors and 35% of the couples in the corporation sector lived in such a home, and in 2018 this decreased to 37% and 29%. Elderly living in a private rental home have on average fewer alterations in their homes; 32% of the single households and 21% of the couples. Looking at the private owned sector, this is even lower (25% and 17%), however, this number is slightly increasing.<sup>5</sup>

### Towards the Smart Caring Home

From Allia research we present below a basic smart caring home package for a user profile which is perhaps most urgently in need of such support: an older person living alone who is at the start of physical and/or cognitive decline which could accelerate, particularly if a critical incident such as a fall were to occur. In terms of the Life Curve presented in the previous paper, they are at risk of starting a rapid decline which is potentially costly to the state in terms of social care and hospitalisation. The products listed address a set of challenges, not all of which are likely to apply at the same time, but can be selected as appropriate in order to provide support which can slow or even reverse the decline and change the journey along the life curve to one which is extended in time, flatter in deterioration and less marked by painful incidents.

User profile – living alone, declining cognition, risk of falling, low tech user			
Main product focus: low level intervention aimed to prevent first healthcare crisis with combination of face to face and technology solutions			
Passive sensor system monitoring changes to routines, health signs, wellbeing			
Tendertec	<a href="https://www.tendertec.co.uk/pricing">https://www.tendertec.co.uk/pricing</a>	B2C product designed to pick up potential problems. Falls alerts, daily living activity reports, exit and wander alerts, visit alerts, trend monitoring.	£79/mth subscription
Kraydel Konnect	<a href="https://www.kraydel.com/">https://www.kraydel.com/</a>	See below – also has wellbeing monitoring sensors	£350 plus monthly £30-50
Health Navigator	<a href="https://www.health-navigator.co.uk/">https://www.health-navigator.co.uk/</a>	Proactive health coaching to prevent unplanned hospital care	Free
Falls prediction and prevention (also included in above)			
Zing	<a href="https://zing.fm/">https://zing.fm/</a>	Smart night light that learns personal routes and light up pathway	\$49 ea

<sup>5</sup> <https://www.woononderzoek.nl/handlers/ballroom.ashx?function=download&id=174>

WOM phone	<a href="https://wom-mobile.com/about-us">https://wom-mobile.com/about-us</a>	User friendly phone with design cases which incorporates alarm, fall detection and fall prediction.	No costs on website
<b>Cognitive Function maintenance</b>			
Mitocholine	<a href="https://mitocholine.com/">https://mitocholine.com/</a>	Compound to add to food and drink which increases brain energy and slows down cognitive decline	Close to market but no price info
My Cognition	<a href="https://mycognition.com/product-home/">https://mycognition.com/product-home/</a>	Training programme designed to improve cognitive fitness	No costs on website
MemRabel Clock	<a href="https://medpage-ltd.com/Memrabel-2-Dementia-Clock">https://medpage-ltd.com/Memrabel-2-Dementia-Clock</a>	Digital clock with reminders and alerts	£120
<b>Social contact and interaction</b>			
Buddy Hub	<a href="http://www.buddyhub.co.uk/">http://www.buddyhub.co.uk/</a>	Matching older people to new friends	No costs on website
Local treasures	<a href="https://www.localtreasures.me/about-us/">https://www.localtreasures.me/about-us/</a>	Vetted local people to help with everyday tasks	No costs on website
Kraydel Konnect	<a href="https://www.kraydel.com/">https://www.kraydel.com/</a>	TV-based communication portal with built in wellbeing sensors	Hub = £350 + monthly subscription = £30-£50
Move It or Lose It	<a href="https://www.moveitorloseit.co.uk/">https://www.moveitorloseit.co.uk/</a>	Local exercise classes for seniors	Currently digital £6.99/month
<b>Safety and security</b>			
RF Lightwave technology	<a href="https://lightwaverf.com/">https://lightwaverf.com/</a>	Smart home tech that will turn off all sockets downstairs when the upstairs light is turned on	Lighting and power starter kit £239
<b>Medication adherence</b>			
YourMedPack	<a href="http://www.yourmeds.net/">http://www.yourmeds.net/</a>	Organises medication, audible alerts and auto orders	Buy now link on webpage not working
<b>Nutrition, hydration and exercise</b>			
SitnStand	<a href="http://www.sitnstand.com/">http://www.sitnstand.com/</a>	Portable smart rising seat	£450 - £500
Droplex Hydration	<a href="https://www.droplet-hydration.com/">https://www.droplet-hydration.com/</a>	Smart base fits onto specially designed mug or tumbler with reminder to drink. 5 piece set.	£35
<b>Hygiene</b>			
Wash seat	<a href="https://washseat.co.uk/">https://washseat.co.uk/</a>	Toilet seat which incorporates a warm wash	£235 or £55/month

Ad van Berlo of Dutch partner Smart Homes comments that in addition to a suitable sensor system and any additional specifically agetech products to assist the resident, a blend of more conventional smart homes products would add further benefits:

- extra IT infrastructure: €1500
- electronic doorlock €500
- automatic lighting + dimming: €300
- energy control: €200

- wireless audio (good quality) around the house: €1000
- security alarms €300
- installation €500.

However the question of recurring charges for some agetech products requiring monitoring could be a barrier for some potential installations. In NL monthly fees are partially reimbursed.

In summary, a combination of suitable but mainly generic smart home products and carefully selected agetech specific products is the start of the smart caring home becoming a reality.

We believe that the first products and packages which combine proven benefits, clear cost-effectiveness and dedicated sources of funding – and are communicated in a trustworthy way to users – could take off exponentially.

A few case study examples of exemplary Dutch smarter senior housing can be offered:

**Blauwhoed** is said to be ‘one of the first Senior Smart Living project of the Netherlands in recent times’ (Smart Homes workshop report).

Senior Smart Living is based on the ideas of *Seniorenstad*, a vision of a comfortable living environment for seniors. With special attention to quality of life, sustainability, mobility and communication for the people who have passed the age of 55.

The developer promotes the scheme in terms of people’s concern for their care in older age at a time of ‘enormous reforms and cutbacks in welfare and care and at the same time great demand for attractive homes and living environments for seniors’. They state that ‘the new generation of elderly people who would like to stay in control, are active and want to stay, find social contact important, are involved and want to share that feeling with their peers, and also want to live together’.

<https://blauwhoed.nl/>  
[www.seniorsmartliving.nl](http://www.seniorsmartliving.nl)

**ParkEntree** in Schiedam is the first neighbourhood with the Senior Smart Living label. ParkEntree is a new-build project with 79 owner-occupied homes (bungalows and apartments), 10 free-sector rental homes and a beautiful lounge.

Lighting, heating, security, alarm and door communication that help us in our daily lives. Where not the technology, but the convenience is paramount. ParkEntree has thought about this and offers the basic infrastructure that is needed for this.

Bullets for each smart feature:

- *Super-fast internet via fibre provides the platform for smart device connectivity*
- *Intelligent lighting, remote controlled: offers a variety of security and energy saving settings*
- *A smart thermostat, simply comfortable: more control over energy consumption and comfort; self-learning*
- *Keyless entry: also opens the communal lounge, reduces risk of key loss.*

However, they are not yet offering any further monitoring sensors or AI-based systems.



## TanteLouise

Tante Louise is a very innovative organisation for institutional elderly care. In the past decade the organisation has always paired its vision for maintaining as much as autonomy of demented persons as possible with the newest ICT technologies. In 2014, this has resulted in the implementation of a total ICT ecosystem for demented persons in Vissershaven and Hof van Nassau. Here, the demented persons live in small-scale groups of 8 bedrooms around a common kitchen and living room. More importantly, the more than 150 persons in these building has been given all freedom of movement, as long as their carers find this suited to their state of dementia. The freedom is given in certain life circles by wearing a pulse tag: circle 1 is the most restricted one and allows persons to move only within the group, but not allowing to go into the bedroom of another person. Circle 2 allows persons to move within the whole building and the outside garden, whereas circle 3 allows person to move into the city freely. These persons also wear a GPS tag. Apart from this freedom of movement, persons keep access to meaningful objects, such as scissors and knives.

After more than 5 years of experience, the results on quality of life are astonishing: medication among most residents has been brought to zero. Only 1 person, so far, has become wheelchair bound. Persons are enjoying in general and maintain their own activities of daily life. The environment offers a very protected and reassuring environment, which could not be given anymore in independent living.

The whole ecosystem is a well-balanced system of professional carers, informal carers and the residents working together with very well supported and maintained technology. The professional team is well trained in risk analyses and each employee knows the residents very well. Also surrounding shops etc. are aware of peculiarities of certain residents. The freedom is at the edge of what is considered acceptable. But national inspection and certifying authorities follow this rather unique pilot project intensely and allow now other institutes in NL to copy this well-balanced formula. With the help of newest technologies, Tante Louise wants to further expand on this success by implementing a so-called dynamic freedom profile of the residents in a next generation nursing home.

Clearly the Netherlands is in many ways one of the more advanced nations in terms of age-friendly and smart housing and advancement of care technology, despite the recent slowdown.

So can further financial innovations enable the pace of progress to be restored or increased?

## b. Dutch innovation response

The NL partners felt that all of the suggested innovation models could theoretically be implemented in the Netherlands, but that certain of them are more promising. The preferred approaches are set out below, with some initial discussion of each.

### ***A2. Loan to local authority or housing association for additional cost of age-focussed design and/or technology, with or without an outcomes payment link***

This is felt to be potentially relevant because Dutch municipalities are mainly responsible for providing house adaptations for those needed according to the Wet Maatschappelijke Ondersteuning (WMO) (Community Support Law). If linked to the WMO it was felt that an outcomes payment link would make it more effective. It may work better for physical construction or retrofit adaptation than agetech installation.

This could link to the type of existing financial innovation piloted by the municipality of Breda which provides a mortgage based on the overvalue of homes (ie. equity release), specifically for the purpose of making homes more senior-friendly and age-proof.<sup>6</sup>

### ***C7. People with money/assets – a hybrid funding model combining public money and self-funding***

This is an issue in NL, especially as long term social care is very costly. The Netherlands have a fragmented market in which everyone needs to pay for basic insurance (about €110 p/m), not like the NHS which provides ‘free healthcare’. So, this could be integrated in the Aanvullende Verzekering (Additional Health Insurance).

The idea of adding a supplement to the additional healthcare insurance to enable an older person to benefit from agetech would be worth exploring, though the exact amount and timing of any payment would need careful consideration. It may be better to extend the smallest possible supplement across the entire population to create a dedicated fund for the relatively smaller number of people who need the agetech systems at any point can get access. This approach could link to the idea of an agetech financing model explored later – ie. older people or their families could pay a voluntary top-up or take out a loan to cover the equipment cost.

### ***B5. Private developer/ housebuilder and purchaser incentive***

On a long term basis, it was felt that this could work in the Dutch market. People seem eager to invest in new build housing at present times, even during the pandemic. However, investing in the senior market seems not to be the highest priority anymore; much was done in previous years in this sector, and young starters seem to be now by far the most troubled finding suitable housing.

A model which reduced corporate taxation for developers of age-friendly property or to install generic agetech systems would be the simplest.

It would also be possible to incentivise or assist property purchasers of this type of property, in a similar way to a recently announced policy for young buyers (18 - 36 years) not having to pay the Buying Tax (2%) from 1st January 2021. However, people buying a second house now have to pay a tax of 8% of the house cost price, instead of the initial 6%. Perhaps if this extra tax was reduced for investors in properties with the highest standards of age-friendly design and agetech systems it would be an appropriate incentive to stimulate the right type of delivery. This type of housing market intervention tends to feed through into higher prices so it can be seen as a benefit to both buyers and developers.

### ***C8. Home improvement agencies***

These organisations are beginning to move into the self-funded (i.e. private) market, building on the high level of trust they enjoy as local authority agencies, and could both extend the impact of adaptations to more older people but also help cross-subsidise delivery to lower income people. The trusted installation function is an essential part of the mix but it is not straightforward to build their capacity quickly.

The partner felt that this could probably be even a better fit in NL than in the UK, again linking to the insurance system meaning there are many more companies eager to invest in healthcare as they can earn significant revenue. This means it is attractive to the private sector, though it would be good to explore a social enterprise approach less driven by profit.

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<sup>6</sup> (<https://www.bredavandaag.nl/nieuws/politiek/284370/breda-maakt-lening-mogelijk-voor-levensloopgeschied-maken-woning?redir>)

We also specifically asked for feedback on the idea of a ‘**National agotech loan fund**’.

One idea was to or enhance Langer Thuis (Longer at Home), a program that provides €340 million for more support and care at home and more suitable homes for elderly. A part of the program is Stimuleringsregeling E-health Thuis (SET) (Stimulation Act E-health at Home), a €28 million fund that gives those with (a higher risk of) chronic diseases or disability a reimbursement for technology at home. Langer Thuis does focus on individual seniors, on retrofit adaptations in one’s home, aiming to allow them to live there as long as possible. It is regarded as a successful model.

Another form of the loan fund that the NL partner felt might be valuable would be to route funding through the municipalities, as they fund most of the agotech in people’s homes.

Overall the Ministry of Health is putting extra money back to healthcare this year, including the WMO funding. Perhaps this would not have been possible before Covid-19, but elderly care now receives major government investment. However, looking at a hybrid model where seniors and families pay for some rental payments, shared with the WMO, is felt to be most suitable to the market. With the insurance-based model 'free healthcare' is only after paying 'own risk' (usually an amount between €350-800 depending on a person’s health insurance), so it is common to still pay partly for your own care. Getting everything reimbursed only happens when an innovation becomes part of the 'Basic Healthcare Insurance Package', but this is only possible when an innovation has been proven cost-effective. These is the key context for any attempt to bring new innovations, or ways to fund them, into the Dutch market.

### 3. Discussion and recommendations

We propose that in the first instance there is in fact a single unified economic model for all 4 regions (nations) as follows:

**To achieve improved healthy ageing outcomes, each state must find the most financially efficient way to cover the cost of high impact (high ROI / rapid payback) forms of improved new build design and agotech installation, as well as the larger task of adding agotech retrofit and adaptation to existing stock. The goal is to achieve better than current overall outcomes and value for money for all key stakeholders ie. senior citizens, state, housing providers and care providers, thereby improving independent healthy living outcomes whilst preventing unaffordable levels of expenditure.**

Each country/region has a different mix of housing culture and policy, and arrangements for financing the care and support of senior citizens. So the details of the best version of this economic model vary in each region.

Within this overall economic model there are separate strands or sub-models which are also common to the 4 regions but need to be tailored to the specific circumstances. They are best considered in a logical sequence based on either the provision of new build housing or of adaptations to existing housing. These have been identified from the list of ideas proposed in the previous discussion paper, and represent the most promising approaches:

## Economic model interventions for age-friendly housing

1

The most fundamental is to start with **planning policy** to ensure that the most ambitious standards are set for smarter caring housing that increasingly looks after its occupants as they age, thereby improving healthy ageing outcomes and reducing state expenditure. Closely linked to this is the ability of the state to identify sufficient of its own **land** (or to acquire it) to control the delivery of such planning goals more precisely, and with conditions attached to specifications and targeted residents.

The economic model case is that the cost of achieving planning policy targets is generally absorbed into the business models of private sector developers and/or the housing market. At the margins there may be a trade-off between setting aspirational targets and achieving a lower scale of delivery.

2

The next logical step, if the first means of achieving the economic model cannot be used (either because of policy resistance – perhaps in the form of lobbying from the property sector – or in the case of housing that has already been completed) then national and local government should find efficient and robust ways to **incentivise housing developers and builders** to achieve age-friendly and agetech outcomes, including the buyers of completed units.

We propose a tax relief on the rate of taxation of developer profit proportionate to the number and level of age-friendly design/technology inclusion in new build schemes.

The economic model here is based on the amount of tax revenue foregone leveraging a greater sum in future revenue expenditure saved.

3

Next comes any means to enable and **incentivise older people and/or their families** to purchase age-friendly or agetech fitted housing, or to retrofit products into existing housing.

Simplest route: Reduce or remove VAT on renovations, adaptation and agetech products; or reduce or remove purchase tax on new age-adapted housing.

Economic model: the tax revenue foregone model applies here.

4

Next there are **self-payers who need an appropriate and affordable level of service** which can also help to **cross subsidise those who cannot pay** – enabled through supporting home improvement agencies to grow and become a key part of delivery.

There is a need for coordination of adaptation information and funding into a single point of contact – this could help coordinate the practical delivery of adaptations by trusted public and private sector contractors.

Economic model: better coordination and building the capacity of silver economy companies to deliver high quality installations will achieve economies of scale and greater impact without any necessary increase in public expenditure.

5

**Finance system to increase agetech uptake** and enable individuals, their families and local authorities to cover the upfront cost of agetech installation through a standardised rental or leasing model repaid by the best combination of self-payment, welfare benefits, insurance policy or state cost savings. Creating an organisation to address this would also address the identified problem of the lack of information about suitable products and the best way of funding them.

Economic model: Part of the reason for slow uptake of agetech products is a market failure caused by lack of liquidity combined with lack of information about products and funding opportunities among the target audience (or their families). Both problems can be addressed by modest initial expenditure to create the vehicle that offers the credit function, with the liquidity itself being ultimately revenue neutral or in fact profit-making (and therefore able to assist the most needy individuals as well as foster innovation) as is the case with the parallel Motability example operating in the UK.

We can summarise and simplify those options into a single set of interventions, with a very brief reflection on the Dutch perspective as represented to us:

Process stage	New build	Retrofit	Netherlands?
Planning system	Set the 'rules of the game' for developers	N/A	May be needed to restore focus on age-friendly housing
Public land allocation	Terms of use linked to policy outcomes	N/A	Can be a useful tool
Construction of smart caring homes	Tax incentive for developers / investors	Tax relief on adaptations	Explore both
Incorporation and provision of agetech	Widen tax incentives to include	Adaptation funding to include more agetech	Aim to include more agetech in existing reimbursements
Consumer acquisition of agetech products	N/A	Financing vehicle for consumers. Information campaign	CIC may have explored tech loan facility

In each case the primary role to stimulate the increased level of activity comes best from central or regional government as it has the overview and can take decisions where increased investment in one area has benefits across other areas (eg. housing funding achieving health savings).

However, other actors can initiate change by piloting innovative approaches, for example local government, housing associations and property developers especially those targeting the elderly. These can demonstrate how scaling a successful approach would be possible through government support.

### Final Netherlands recommended priorities

For Netherlands we recommend that the following areas are explored with stakeholders in the dissemination of the project findings.

#### For new build:

We recommend that the regional and national government consider a **pilot tax break** to accelerate age-friendly housing provision, with the goal of reducing the cost of approved agetech product installations. Specifically we recommend setting a lower or zero rate of VAT and/or a reduction of corporate tax on property developer profits pro rata to actual delivery of units meeting an agreed specification.

#### For retrofit:

We strongly recommend the development of a system to make the acquisition or installation of agetech products easier and more popular. This is best done through the **agetech financing service** proposed earlier which makes loans available on favourable terms for selected products, allowing the cost to be spread over time. It could operate on a national, regional, local authority or even housing association basis. Possible linkages with Langer Thuis or developing an Additional Healthcare Insurance premium be created to fund agetech systems installation.

Alternatively, as under development in the Nord region in France, a **technology library** for agetech products could lend the items on a trial or long term basis, with or without payment according to the funding arrangements.

The rate of installations could be accelerated by pump-priming funding to build the **capacity of home improvement agencies** to undertake this work, ideally targeting a mix of self-paying, state-funded and unfunded customers.

**In conclusion** there is an opportunity for the governments of the project participant countries to accelerate progress towards age-friendly and agetech-enabled housing for their ageing populations through adopting and supporting some of the financial and economic model innovations outlined.

The opportunity is increased by recent mass awareness and sensitisation to the issue – Covid-19 has helped raise awareness of the needs of the elderly in general, but particularly around loneliness and vulnerability; and also the problems of care homes. At the same time, the need for technology familiarisation that was previously held as a barrier to progress has now been accelerated by the pandemic.

Other outstanding challenges remain:

- A proven product range with clarity on optimum deployment, cost effectiveness and financial returns – AgeTech Accelerator has a key role in testing, validating and assisting with investment for further products that will improve on the capability and cost-effectiveness of options available to frontline teams
- An effective marketing system which enables consumers to understand what is becoming available
- Trusted installation partners such as local authority assistive technology departments and any certified partners; and home improvement agencies.

With further progress here we will be in a strong position to start developing the financing system to accelerate this deployment.

Has the time for silver economy housing and its ultimate expression, the smart caring home, finally come?

## Appendix

### Financial innovation menu from previous Dec 2019 report

#### A. Mainly new funding mechanisms:

1. Consumer loan for age-focussed adaptations including approved technology packages:
  - a. Repaid by an outcomes contract with a statutory social care provider
  - b. Repaid by private individual or their family on death, linked to value of estate where sufficient. Details to be worked out including which products for which conditions are approved and eligible; how the loan is made and possibly secured.
2. Loan to local authority or housing association for additional cost of age-focussed design/technology, with or without outcomes link:
  - a. Sourced from state: e.g. main department of health or similar; or from or on behalf of a social care department.
  - b. Or sourced from commercial loan finance or social investment according to market appetite for risk and/or corporate partnership goals.
3. Government-backed equity release for approved downsizing – an example from a think tank has been developed for how to do this at little or no cost to the government.
4. Government/local authority innovation fund (grants/loans) for products with the greatest cost-benefit potential for positive impact.

#### B. Mainly tax/policy:

5. Private developer/housebuilder – if they cannot directly charge a slight increased price on the basis that the unit is more marketable to its target audience who will be willing to pay for peace of mind – they could be incentivised by:
  - a tax break for inclusion of age tech as suggested by the IME
  - or covered by a separate investment where the return is paid by either the resident as a service charge or on their behalf by a health or social care agency. This could be sourced from a social investor or other government fund such as Big Society Capital or other dormant assets. 'Age Friendly Housing Investment Fund'?
  - A version of government low cost finance for first time buyers, but where older people buying an age-friendly home are given assistance with the extra cost e.g. in the form of an interest free loan, which could be recouped when they move (unless to another age-friendly home) or die.
6. Planning system discounts linked to achievement of age-specific requirements over and above minimum standards.

#### C. Mainly new business models:

7. People with money/assets – a hybrid funding model combining with public money could also achieve more than either on their own. This could help address the challenge of funding long term social care, which the government has repeatedly delayed addressing properly.

8. Home improvement agencies are beginning to move into the self-funded (i.e. private) market, building on the high level of trust they enjoy as local authority agencies, and could both extend the impact of adaptations to move older people but also help cross-subsidise delivery to lower income people.