



Hands-on  
**SHAFE**

# **01: STUDY TO CROSS KNOWLEDGE GAPS AND TO PREPARE ONLINE TRAINING PACKAGES**

European synthesis report of research results

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The aim of IO1 is to create a valid basis for the training packages to be developed in the frame of the Hands-on SHAFE Erasmus+ project. This report summarizes the research results in France, Germany, Ireland, the Netherlands, Poland and Portugal.

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# 1 Background and aims of the European synthesis report

The overall aim of the Hands-on SHAFE project is to promote smart healthy age-friendly environments by fostering the implementation and application of ICT solutions, adequate physical environments as well as health and well-being. For each of these areas, abbreviated by SMART, BUILT and HEALTHY, training packages for facilitators are to be developed. The target groups of the trainings are volunteers, entrepreneurs, family members, formal and informal caregivers and other stakeholders in personal services. Special awareness is given to low-qualified persons who want to engage in an entrepreneurial initiative.

Against this background, the Hands-on SHAFE project addresses:

- ✎ Facilitators who are promoting or want to promote the implementation of SHAFE products and services; they are considered the direct target group,
- ✎ Persons of all ages whose social participation and inclusion can be improved by means of SHAFE products and services; they are the end-users and considered of being the project's indirect target group.

The aim of the first Intellectual Output of the Erasmus+ project Hands-on SHAFE was to create a valid basis for the training packages to be developed for future facilitators. Information gaps on needs and demands on the side of end-users still hinder the implementation and usage of existing technologies and appropriate environments. Findings are needed to learn how adults can be best approached, trained, advised and practically supported on the various aspects of smart healthy age-friendly environments.

In the first project phase, comprehensive national reports have been elaborated to inform about current practices, problems and potential solutions in France, Germany, Ireland, the Netherlands, Poland and Portugal. Besides an overview on the national context they describe existing SHAFE products and services as well as their target groups, gaps between their availability and usage, existing implementation support offers and their funding. With special regards to facilitators who want to start their own company, the BUSINESS chapter informs about SHAFE areas which are appropriate for this intention, main regulation, support offers and stakeholders for starting a business, available training concepts and examples of good training practice. Based on this information, conclusions were drawn on appropriate strategies regarding the training and support of the target groups.

This European report summarizes key findings from the national reports. They focus on the most relevant facts and figures with the aim to arrive at recommendations for contents and methods for training packages from a European comparative perspective.

Examples of good practice for the application and implementation of user-centred services and products in the realms of SMART, BUILT and HEALTHY, described in the national reports are published in a separate document that can be also used in training measures. Specific measures are cross-referenced in these European synthesis reports.

The list of contributors of the national reports and the compendium can be found in [Annex 1: List of contributors](#), The individual publications can be accessed via following links:

- ✎ National report of France: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_national\\_report\\_france\\_final\\_v26.05.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_national_report_france_final_v26.05.pdf)
- ✎ National report of Germany: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_national\\_report\\_germany\\_final\\_v01.06.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_national_report_germany_final_v01.06.pdf)



- ✎ National report of Ireland: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_national\\_report\\_ireland\\_final\\_v04.01.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_national_report_ireland_final_v04.01.pdf)
- ✎ National report of Poland: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_national\\_report\\_poland\\_final\\_v03.01.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_national_report_poland_final_v03.01.pdf)
- ✎ National report of Portugal: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_national\\_report\\_portugal\\_final\\_v01.04.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_national_report_portugal_final_v01.04.pdf)
- ✎ National report of the Netherlands: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_national\\_report\\_netherlands\\_final\\_v06.04.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_national_report_netherlands_final_v06.04.pdf)
- ✎ European Compendium of Good Practices in the creation of Smart, Healthy and Age-Friendly Environments in the Hands-on SHAFE partner countries: [https://hands-on-shafe.eu/sites/default/files/hos\\_o1\\_compendium\\_of\\_good\\_practices\\_final\\_v01.04.pdf](https://hands-on-shafe.eu/sites/default/files/hos_o1_compendium_of_good_practices_final_v01.04.pdf)

## 2 SHAFE products, services and initiatives

### 2.1 HEALTHY: Health and well-being

#### 2.1.1 European context

A health and good medical care is currently one of the central social challenges. In its report "Global Strategy and Action Plan on Ageing and Health", the WHO states that the massive problem of an ageing society must be addressed (WHO, 2017). A health and good medical care is one of the central challenges of an ageing society. One of the crucial questions is how older people can be cared for in the future. With the rising life expectancy, chronic and dementia-related diseases will also increase in the population and lead to specific demands.

The population of people aged 65 or older in the EU is expected to further increase from 101 million in 2018 up to 149 million by 2050. Also, the number of people aged between 75 and 84 is forecasted to enlarge by 60,5% in the same period (Eurostat, 2019, p.15).

Due to innovations and improvements in the area of healthcare services, the number of healthy life years has constantly increased in the EU (Eurostat, 2019). Nevertheless, persons aged 65 or over are frequently facing long-standing illnesses or health problems that may reduce their quality of life (Table 1). This ratio has been quite stable over the past years at approximately 61% (Eurostat, 2019) and can be considered a function of age. While in 2017 this ratio in the age group 64-74 amounted to 56,9%, it is 66,9% in the age group 75-84 and 72,5% for people 85 or older (Eurostat, 2019, p. 60).

**TABLE 1: PEOPLE WITH A LONG-STANDING ILLNESS OR HEALTH PROBLEM AGED 65 OR OVER (%)**

|             | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------|------|------|------|------|------|------|------|------|------|
| EU28        | 59,5 | 59,9 | 61,0 | 61,1 | 59,7 | 62,0 | 61,1 | 61,9 | 60,9 |
| Germany     | 62,3 | 62,4 | 62,2 | 61,3 | 60,7 | 62,6 | 64,1 | 64,1 | 62,8 |
| France      | 65,3 | 64,1 | 64,0 | 63,0 | 63,3 | 63,3 | 66,7 | 68,1 | 64,7 |
| Netherlands | 49,8 | 51,8 | 53,5 | 53,1 | 51,4 | 52,5 | 49,6 | 50,9 | 49,5 |
| Poland      | 73,2 | 73,1 | 73,6 | 72,1 | 70,8 | 72,5 | 71,4 | 73,2 | 72,5 |
| Portugal    | 66,8 | 67,4 | 67,6 | 70,0 | 70,3 | 72,5 | 72,1 | 72,5 | 71,3 |

© Eurostat 2019

The growing number of older and very old people in combination with an increasing probability of health problems also leads to a rising need for SHAFE products and services. This need applies for both medical services and long-term care. A survey of Eurostat in 2014 detected a lack of assistance in personal care for 38,5% of all surveyed people in the EU28 member states in 2014 (Table 2). Especially persons at an age of 75 or higher are often facing several challenges in everyday tasks such as housework, preparing meals and taking a bath or shower. About 37,6% of these people were facing difficulties in doing occasional heavy housework, about 13% mentioned problems while preparing meals and 13,3% of the respondents stated certain challenges while bathing or showering (Eurostat, 2019, p.61).

**TABLE 2: NEED FOR HELP WITH PERSONAL CARE ACTIVITIES (%)**

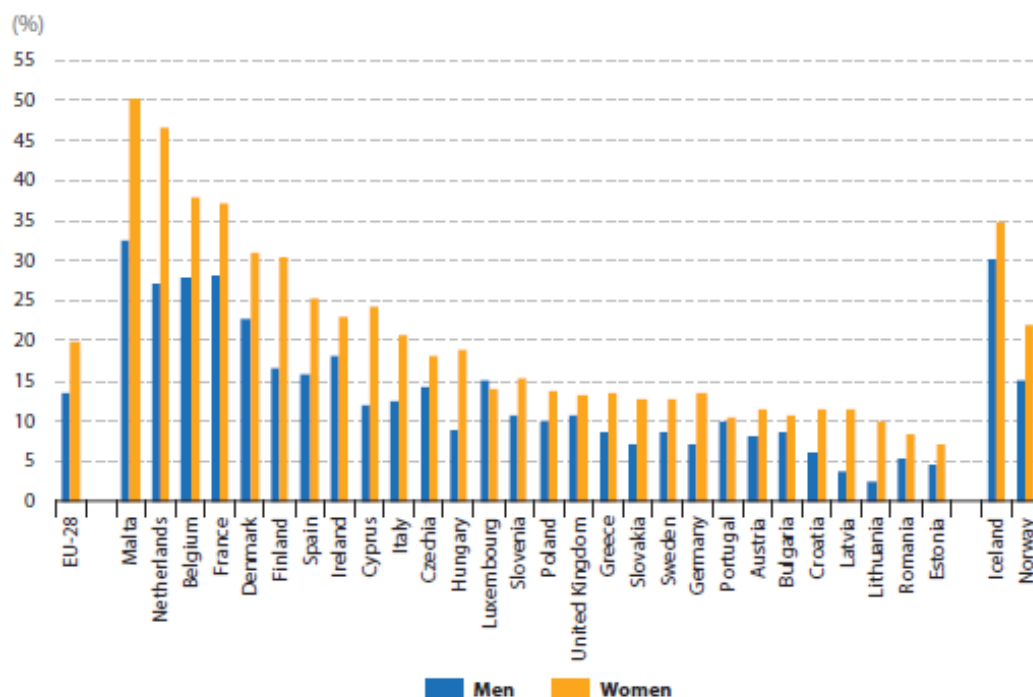
|             | No need for assistance | Get enough assistance | Lack of assistance |
|-------------|------------------------|-----------------------|--------------------|
| EU 28       | 34,6                   | 26,9                  | 38,5               |
| Germany     | 35,8                   | 16,5                  | 45,0               |
| Ireland     | n.a.                   | n.a.                  | n.a.               |
| France      | 26,1                   | 33,0                  | 40,9               |
| Netherlands | 71,5                   | 21,9                  | 6,6                |
| Poland      | 41,1                   | 18,2                  | 40,7               |
| Portugal    | 26,7                   | 38,0                  | 35,3               |

© Eurostat 2014

Another challenge regarding health services is the presence of doctors and the availability of medical services. According to the "Health at a glance" study by the EU, despite the trend of an increasing overall number of medical doctors in recent years, the ratio of general practitioners is decreasing in most countries (European Commission, 2018, p.178). The biggest challenge in this area is displayed by the uneven distribution of general practitioners in urban and more rural areas (European Commission, 2018, p. 178). In combination with 7,5 consultations with doctors per person and year in the EU average, the need of available healthcare services in all areas is beyond any doubt (European Commission, 2018, p.182).

Older people are facing several additional challenges in receiving medical care. The costs of medical services as well as long waiting lists and geographic distances to doctors can lead to unmet needs for medical examination especially in the age group 75+ (Eurostat, 2019, p.70). SHAFE approaches in the areas of telemedicine or individual digital monitoring systems thus have the potential to specifically address these challenges.

17,4% of all persons aged 75 or over in the EU member states had used homecare services in 2014 (Figure 1). With 20%, women outnumbered men (13,5%) in this area significantly.



Note: the figure is ranked on the share of all people (both sexes) aged ≥75 years making use of homecare services.

**FIGURE 1: SELF-REPORTED USE OF HOMECARE SERVICES AMONG PEOPLE AGED 75 OR OVER BY SEX 2014**

© Eurostat (online data code: hlth\_ehis\_am7e)



Older people are not only consumers of health services but appear at the same time as assistance providers (Eurostat, 2019, p.62). In 2015 the ratio of people aged between 65 and 74 participating in informal voluntary work, including care work for another person, was about 25% for women and 23% for men (Eurostat, 2019, p.144). Hence, almost every fourth person committed to the public good, among others with social and health care services.

## 2.1.2 Tasks in the HEALTHY sector

The HEALTHY module focused on healthy lifestyles and therapy (especially the use of medication), dementia, chronic diseases and other cognitive and physical impairments. As shown by the European context data and the country reports, In particular, SHAFE measures in the HEALTHY sector must find solutions to the following challenges:

- ✎ Support for autonomy and everyday tasks
- ✎ Promotion of social participation and integration
- ✎ Assistance in living a healthy life and preventing diseases
- ✎ Ensuring medical care in rural areas
- ✎ Reducing the workload of the health care system

Even if certain regional differences become apparent in the national reports and health systems have country-specific characteristics, the basic problems are identical. These are in particular:

- ✎ Loneliness and lack of family or community support
- ✎ Difficulty to remain active and have good access to services and leisure
- ✎ Difficulties in sharing information between different structures on the health and care systems and with community/caregivers
- ✎ Lack of income for the older adults or low skilled adults to adopt technology like wi-fi and equipment
- ✎ Lack of public resources in offering quality services to the increasing number of citizens in need

According to the national reports and the experts interviewed, challenges in the implementation of SHAFE measures in the HEALTHY sector are numerous and various. One problem repeatedly mentioned is the lack of or limited ICT knowledge. This hinders the use of various current support measures. Lack of knowledge about possible diseases, their effects and possible support measures are also frequent. At the same time, the target group in need of these measures often deals with problems too late so that adaptations to lifestyles or relocations become very difficult or cannot be carried out anymore. In general, SHAFE measures should not only be aimed at older people with severe functional restrictions but should start much earlier with information and advice in preparation of later life spans.

### *Support for autonomy and everyday tasks*

Being able to stay in one's own apartment or house in older age is an essential wish of older people across countries. Thus, on the one hand, structural changes have to be made to allow people to stay in their own apartment or house (for more details see BUILT). On the other hand, there is a need for appropriate accompanying services, e.g. care services and support with everyday tasks such as food preparation, washing or cleaning. In many cases, relatives of dependent old persons cannot or do not want to take over these tasks. Sufficient care

services must therefore be available, and the financing of the services must be arranged. Furthermore, various ICT-supported products offer the possibility of making it easier to stay in one's own home (for more see SMART).

#### *Promotion of social participation and integration*

With advancing age, people are increasingly at risk of social isolation. When relatives, friends and family members die or move away, a process of social deprivation begins, which can lead to complete isolation. This situation is made worse, among other things, by physical limitations or illnesses, as well as by unsuitable housing or lack of accessibility in public spaces. In extreme and not too seldom cases, people are no longer able to leave their own homes. Here too, the challenge is to provide for the situation in old age in good time and to inform people about potential risks. At the same time, offers for senior citizens, consultations, meeting places and the use of digital media offer a possibility to reduce the risk of isolation in old age.

#### *Assistance in living a healthy life and preventing diseases*

Over the last decades, life expectancy has continuously increased in all countries of the European Union. At the same time, national reports show very different standards and degrees of availability in medical services. On the one hand, there are major national differences that can be attributed to the state of the medical system. On the other hand, in rural areas of all countries there is a general supply problem for medical services. For some years now, the solution has increasingly been health education, which begins at a young age. This includes the running of campaigns for healthy lifestyles (health-oriented diet, sports, no alcohol and smoking) and the advertisement of targeted sports activities and preventive medical check-ups. In addition to this, much hope is directed to ICT products in providing a solution to this problem. Health data are collected under the keyword "monitoring", also intending to raise the awareness of the users. In general, more emphasis is being placed on prophylaxis.

#### *Ensuring medical care in rural areas*

Medical care in rural areas is a great challenge. Due to increasing commercialization and rising costs of maintaining medical care services, limited offers in rural areas are a recurring topic of discussion. Problems in this context are aggravated by new, complex and expensive procedures of intensive care medicine. Various tele-medical offers are promoted in the hope to remedy the situation. Data can be used which are collected from the users by so-called Smart watches, but also video consultation hours can be offered.

#### *Reducing the workload of the healthcare system*

Tele-medicine services can not only help to improve the provision of healthcare in rural areas, but also help to avoid unnecessary visits to the doctor. Simple questions can usually be clarified with the help of tele-medical services, and even therapies can be carried out by using digital services. Another important point is that considerable costs can be saved by setting up uniform computer systems and diagnostic and administrative software. This way, multiple treatments can be avoided, and therapies can be more closely coordinated.

### **2.1.3 HEALTHY measures**

In line with the SHAFE concept, solutions to these social challenges are often interdisciplinary. For example, the use of tele-medicine services requires ICT knowledge and the corresponding infrastructure. The measures must therefore be considered in combination with those from the SMART and BUILT areas.

This interconnectivity is best demonstrated in the practical implementation of measures in France, Germany, Ireland, the Netherlands, Poland and Portugal. For this reason, good

practice examples have been collated in all partner countries and are published in a European compendium. Some measures improving health aspects in the context of SHAFE are shortly referred to below:

HEALTHY measures include, among others:

- 👉 Digital assistance systems
- 👉 Emergency systems
- 👉 Specialist help and advice for dementia and other diseases

The Irish smart wristband Pacsana, for instance, is designed to build a picture of the movement patterns of an older person in their home and trigger alerts to anomalies. These anomalies can be urgent ones such as a lack of movement or treatable symptoms such as a change in movement patterns over time. These insights are to help family members and carers to predict possible future health problems.<sup>1</sup>

The ToverTafel, developed in the Netherlands, is a playful, interactive light table for people with dementia, for children with special education needs, and for adults with cognitive disorders. The device is hanging from the ceiling over a table and is portable, which means that it can be easily moved to another room. Equipped with a projector and speakers, the device comes with games that can be played alone or under supervision.<sup>2</sup>

Support for family members of people living with dementia in form of information and training offers is widely spread in Europe.<sup>3</sup> In Germany, the Dementia Network Bensheim resulted from a pilot project on age-friendly housing concepts. The approx. 30 members of the network combine a wide range of services, including social associations, counselling centres, companies and doctors. They perform, among others, information events on the topic of dementia, preventive measures and the work with relatives, offer training for social and health care providers, link services and facilities, carry out public relations work on current topics and pro-actively involve people with dementia and their relatives.<sup>4</sup>

Preventive and rehabilitative measures impede or mitigate diseases or functional restrictions. Noteworthy approaches are, among others:

- 👉 Cognitive stimulation
- 👉 Occupational therapy / ergo-therapy
- 👉 Sports and exercises
- 👉 Healthy nutrition
- 👉 Healthy lifestyles

The Portuguese Rehab project works on cognitive stimulation and functional rehabilitation individually and in a group, in an assisted environment and at home, making available a multidimensional kit of innovative technologies and traditional materials. The used instruments range from geriatric games to cognitive training games, available on a tablet, through interaction with an avatar.<sup>5</sup>

<sup>1</sup> See good practice example number 27 in the European Compendium for details.

<sup>2</sup> See good practice example number 40 in the European Compendium for details.

<sup>3</sup> For an initiative in Poland see good practice example number 29 in the European Compendium.

<sup>4</sup> See good practice example number 24 in the European Compendium for details.

<sup>5</sup> See good practice example number 31 in the European Compendium for details.

In France, the services of an occupational therapist are partially or totally (depending on various parameters) funded by the social security if they take place in a medical establishment or if the patient is formally “hospitalized at home”. Hence people with diseases, mental or sensory deficiencies, disabilities or injuries can profit from a professional evaluation of their difficulties, suggestions on adaptations in their lifestyles, through physical or cognitive exercises or through functional physiotherapy.<sup>6</sup>

A similar holistic approach is taken by the Hessian Sports Association based in Frankfurt am Main, Germany. Training programmes are run for trainers of sports clubs to enable them in implementing qualitatively assured, health-oriented programmes to support people in developing active lifestyles, coping with stress and living on a health-oriented diet. Participant fees for courses run by licensed fitness trainers are reimbursed by the health insurance funds up to 80%. Thus, mostly older people are addressed who receive an incentive in maintaining their functional abilities and prevent diseases.<sup>7</sup>

Appropriate housing arrangements contribute to an independent and safe life in old age. Measures consist, among others, of:

- 👉 Smart home technologies
- 👉 Adapted flats for people living with dementia
- 👉 Home care services

The Housing and Quarter Centre WoQuAZ in Weiterstadt, Germany, combines residential and care services for older people with a commercial infrastructure open to everyone living in the quarter. From the very beginning in 2009 special emphasis was placed on the installation, testing and further development of smart home technologies. A day centre, for example, is running a daily programme for people living with dementia as a respite offer to their caregivers. Sheltered living is also provided for eleven dementia patients. The residents have private rooms and share facilities such as bathrooms or the kitchen. Multi-functional rooms for joint events, a café and various commercial offers can be used by all citizens. They include a cosmetics studio, Pilates training courses, a studio for Zumba and ballet as well as practices of physiotherapists and a dentist.<sup>8</sup>

The Zilver project, mainly located in North and South Holland, provides a Google Home Assistant for older people. As it is voice-activated, it is easier to use and more accessible for some than button-activated devices. The possibility of talking to a device that replies was also meant to reduce loneliness. It also enables older people to message or (video) call family, friends and acquaintances.<sup>9</sup>

Outpatient care services help dependent old and disabled people to preserve and improve their autonomy at home. Besides providing basic advice and body care through nurses and nursing assistants, the French “Services de soins infirmiers à domicile” also ensures the coordination of services of other healthcare providers, like physiotherapists, GPs or occupational therapists. For persons who meet the requirements, SSIAD services are completely funded by social security insurance.<sup>10</sup>

Social inclusion encompasses the existence of:

<sup>6</sup> See good practice example number 23 in the European Compendium for details.

<sup>7</sup> See good practice example number 16 in the European Compendium for details.

<sup>8</sup> See good practice example number 45 in the European Compendium for details.

<sup>9</sup> See good practice example number 28 in the European Compendium for details.

<sup>10</sup> See good practice example number 32 in the European Compendium for details.

- ✎ Meeting places and opportunities for conversations
- ✎ Offers for political and social participation
- ✎ Improvements in health literacy
- ✎ Access to new forms of encounters, e.g. by social media

Social centres, especially addressing older people, play an important role in reducing the risk of isolation in old age and are established in all countries of the European Union. They organize, among others, cultural activities, like painting workshops, film projections, concerts, trips and walks; intellectual and physical activities such as gym classes, chess games, gardening, bridge competitions; and every kind of social activities, including common meals, debates, playing of board games, etc.<sup>11</sup>

“Men’s sheds” in Ireland are places where men can share their feelings in an incidental way, and in a secure, respectful and friendly atmosphere, while working on practical projects such as gardening, repair and refurbishment or community activities. While shed members can benefit from age-friendly assistance, they may also provide facilitation. The members of each shed come from a range of backgrounds from professions to craft persons. The sheds also cooperate on projects of national significance, such as the organised effort by 50 sheds to remove Rhododendrons from a National Park.<sup>12</sup>

In many European countries, seniors have a say in social and political topics that concern the older population in a municipality, e.g. by Seniors Councils. In the County of Louth an old age people’s forum was established. It meets every three months and discusses the services of the local area, as well as challenges and formulates tentative solutions. To enable communication and exchange, Co. Louth has formulated a weekly communiqué called the Friday email. Within the document, it has a heading with a clear short description of each item and a link for further information. The forum has been one of the most powerful activities in enabling focused change within the local community.<sup>13</sup>

Tele-medical services include medical diagnosis and forms of treatments, like:

- ✎ Computer-assisted therapies
- ✎ Platforms and infrastructure for the digital exchange of professionals
- ✎ Medical advice
- ✎ Early diagnostics
- ✎ Monitoring
- ✎ Training and qualification measures for care professionals

Focusing on integrated care, a designated patient pathway was designed in Coimbra, Portugal, aiming to reduce the burden of long-term care (polypharmacy and multiple contacts with the health system) and emergency/acute care. It contributes to improve the patient's quality of life by sharing decisions based on what is essential to the patient in terms of treatments, health priorities, lifestyle and goals.<sup>14</sup>

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<sup>11</sup> For the French approach of social action centres see good practice example number 35 in the European Compendium.

<sup>12</sup> See good practice example number 18 in the European Compendium for details.

<sup>13</sup> See good practice example number 25 in the European Compendium for details.

<sup>14</sup> See good practice example number 42 in the European Compendium for details.



The Polish telecare system SIDLY, for instance, is an innovative telemedicine technology, which includes tele-medical bands and a tele-medical platform together with the possibility of a professional tele-monitoring. The data from the monitoring band are regularly sent to the users' applications and to a 24-hour tele-care platform, thanks to which the caregiver has constant access to information about the vital parameters of the monitored person. Furthermore, it is possible to replace the caregivers' monitoring tasks by the tele-care centre. If required, action is taken for appropriate support (e.g. remote counselling, notification of the caregiver, notification of the relevant emergency services).<sup>15</sup>

Tessa is a social robot from Nijmegen, the Netherlands, and functions as an agenda to help structure their days, suggest activities, and provide reminders. It is designed for people with dementia who are still living at home and is placed somewhere central. Via an app, a family member or caregiver creates the agenda, for example, by adding an activity, a message, and the time when Tessa should give it. The robot can also play music, but it is not interactive and cannot respond when people speak.<sup>16</sup>

Similar to this, the ZorgScherp, developed in Rotterdam, is a device designed to be accessible for older people with limited technological knowledge. Looking like a digital photo frame, it fits well in each living room. The device can help caregivers in providing remote care, and it includes emergency and relaxation functions such as a photo album.<sup>17</sup>

Easy to apply are smart glasses, developed in the laboratories of a French hospital, that are able to recognize its users and record the daily quantity drunk by each patient. With these glasses, each patient (and their caregivers) is able to track the daily hydric dose.<sup>18</sup>

All SHAFE measures have to meet certain quality criteria. With regard to the HEALTHY sector, the main focus is on respect for the human dignity, autonomy and independence of persons benefitting from the measures. They must be tailored to the needs and requirements of the target group and take account of existing habits and wishes as well as the specific personal and local conditions. A detailed and individual consultation is helpful and necessary. Especially when using digital technologies, it is important to make sure that the target group can understand and assess their functionalities, risks and opportunities. This reduces fears and leads to a self-confident approach. The target group must not be challenged too little or too much by the SHAFE measures, paternalism is to be avoided.

## 2.2 BUILT: Housing, public spaces, buildings and mobility

### 2.2.1 European context

The "European Disability Strategy 2010-2020: A Renewed Commitment to a Barrier-Free Europe" clarifies the needs of barrier-free environments in housing, public spaces and buildings as well as mobility: "One in six people in the European Union (EU) has a disability that ranges from mild to severe making around 80 million who are often prevented from taking part fully in society and the economy because of environmental and attitudinal barriers" (European Commission, 2010, p.3).

For many people, barrier-free building is an essential condition for being mobile and able to participate in social life. People with restricted mobility, with walking difficulties, paralysis or missing limbs who rely on aids such as wheelchairs, walkers, walking aids or handholds or

<sup>15</sup> See good practice example number 33 in the European Compendium for details.

<sup>16</sup> See good practice example number 38 in the European Compendium for details.

<sup>17</sup> See good practice example number 46 in the European Compendium for details.

<sup>18</sup> See good practice example number 41 in the European Compendium for details.

railings, but also tall or small people, including children, people with luggage or prams need to be able to move freely. There must be enough space to apply the technical aids, and passages must be sufficiently wide and high. Movement areas must be flat, differences in height or steps can be obstacles.

Older or physically impaired people in the EU are forming an especially vulnerable target group when living alone. Eurostat emphasizes that the number of people aged 65 years or over living alone in the EU is constantly on the rise, applying to 40% of women and 22% of men in 2017 (Eurostat, 2019, p.32). Further, more than the half of these persons is living in an “under-occupied” dwelling (Eurostat, 2019, p.36). This means that the living space of a person is too big to be adequately maintained, what makes everyday household chores even more challenging for older or physically impaired persons. 65,3% of the persons aged 65 or over in single households owned their home. This ratio is significantly higher in comparison to other age groups (Eurostat, 2019, p.37).

Older people in single households are facing a higher risk of social exclusion, and the challenges increase when the buildings in which these persons are living have obstacles like stairs, narrow doors or steps towards the bathroom. A large number of the EU housing stock was constructed decades ago which makes them more likely to be in a need of repair. These buildings then display a higher risk for older people to injure themselves while participating in everyday life activities (Eurostat, 2019, p.42).

The WHO states that large parts of the buildings in the EU member states are not designed to address the special need of older or physically limited persons. “Homes that are maladjusted to the needs of older people can set off a whole chain of consequences that include the risk of accidents and injuries and difficulties in performing activities of daily living” (WHO, 2017, p.39). About 9,6% of the people aged 65 or older living alone also reported that they were incapable of keeping their home warm enough (Eurostat, 2019, p.42).

Still a significant majority of older people in the European Union lives in their own homes. In 2011 only 3,8% of women and 1,9% of men aged 65 or over were living in an institutional facility such as a retirement or nursing home (Eurostat, 2019, p.34). Many people of higher age are facing one or more physical limitations which makes an age-friendly in the area of the built environment an important field of research (Table 3).

**TABLE 3: PHYSICAL AND SENSORY FUNCTIONAL LIMITATIONS IN PERSONS 65+ (%)**

|             | Seeing | Hearing | Walking |
|-------------|--------|---------|---------|
| EU 28       | 31,2   | 44,9    | 44,1    |
| Germany     | 23,9   | 41,1    | 34,1    |
| France      | 36,1   | 53,5    | 34,0    |
| Netherlands | n.a.   | n.a.    | n.a.    |
| Poland      | 49,4   | 38,3    | 56,1    |
| Portugal    | 35,8   | 42,9    | 42,5    |

© Eurostat 2014

The implementation of smart home solutions seems to be an appropriate tool to further improve the life quality of physically restricted persons. But many dwellings in Europe are still lacking even the most basic standards. A study carried out by the European Commission arrived at the result that 15% of the EU population are still living in dwellings with leaking roofs, damp walls or floors or rotting window frames, which makes the retrofitting of houses more difficult (Varnai et al., 2018b, p. 97).

A study from 2014 further explored the European smart home market development in the national contexts of Germany, UK and Italy. It emphasizes specific factors that prevent higher aged people from implementing smart home technologies, among others reliability, costs,

privacy and data security, as well as the work and cost-intensive challenge of retrofitting one's home (Balta-Ozkan et al., 2014, p.74).

A Eurobarometer survey on active ageing from 2011 involved questions about which improvements would have to be done to make a local area more age-friendly. 42% of the respondents considered an improved accessibility of healthcare facilities important and 40% mentioned better access to public transport. 25% referred to the accessibility to public areas such as parks and 15% to that of public buildings (Eurobarometer 378, 2012, p. 110).




Compared to other age groups, older people are more likely to live in rural areas, which in some cases can lead to further challenges regarding a lower accessibility of several services such as medical or transportation services (Eurostat, 2019, p.34). In this regard, too, older people are facing several barriers, e.g. no barrier-free transportation services.

A study of Risser, Haindl & Stahl from 2010 examined the most relevant barriers for older people in the context of transportation by comparing qualitative and quantitative studies of eight EU member states. Most frequently occurring problems are inconsiderate car or bus drivers, the lack of public toilets, vehicles on footpaths and overcrowded public transport vehicles (Risser, Haindl & Stahl, 2010, p.74). In interviews with older people and experts, a stronger enforcement of speed limits, the introduction of more low-floor vehicles or kneeling busses, and the improvement of pavement conditions were mentioned as primary demands (Risser, Haindl & Stahl, 2010, p.75).

Another study from 2016 found that accessibility, affordability, acceptability and availability of public transportation services decide about their suitability for older people (Shrestha et al., 2016, p.347-350). If only one of these factors is not matched with the specific needs of older people, they may be incapable of using any of these services (Shrestha et al., 2016, p.347).

## 2.2.2 Tasks in the BUILT sector

Measures in the BUILT module include housing characteristics that ensure safety, comfort, and easy maintenance that can be implemented through technical aids (e.g. handholds), the removal of barriers (e.g. tripping hazards), and increasing the cost-efficiency of dwelling (e.g. water and energy, availability of public transport). As shown by the European context data and the country reports, SHAFE measures in the BUILT sector must in particular find solutions to the following challenges:

-  Support for autonomy and everyday tasks
-  Promotion of social participation and integration
-  Implementation of suitable infrastructure

Interdisciplinary solutions are necessary in the BUILT sector, too. The aim of the measures is to design structural conditions according to barrier-free requirements. This enables the independent participation of all people in social networks and communities and simplifies the organization of everyday life. With the development of so-called smart homes, the implementation of ICT in the construction sector has been established. Smart homes represent a new market in which a lot of development work still needs to be done.

### *Support for autonomy and everyday tasks*

An important precondition for an independent and self-determined life in an ageing society are the living environments like private homes and public spaces. Especially for tenants of houses or apartments, reconstruction measures are often a special challenge, as they are connected with costs and require the landlord's permission. But many older house owners, too, lack the



initiative for innovations as the physical deterioration accompanying increasing age is an unpleasant theme; this is aggravated by the fact that many future heirs reject them for cost reasons. In general, it is necessary to plan appropriate measures at an early stage and/or to take them into consideration already during the building process. Here, the focus is especially on sanitary facilities, stairs and door openings. The topic of barrier-free building and reconstruction must be promoted even more in the future. Surveys of experts show that it is often acted upon too late and then the measures are often no longer implemented.

#### *Promotion of social participation and integration*

The social participation and integration of people in an ageing society faces the particular challenge of finding solutions to the question of mobility and housing. In public spaces, for example, steep stairs without railings, lacking wheelchair ramps, curbs or the choice of floor covering can be obstacle for people with disabilities. Therefore, it is necessary to plan barrier-free already at the new planning stage. In already existing structures a site inspection by older or disabled people is helpful to identify the relevant barriers. The possibility to reach public facilities, shopping, leisure activities and medical care without outside help promotes participation and integration and strengthens self-determination. Short distances and good accessibility should be taken into account in urban planning and in the planning of residential quarters and houses from the very beginning. Concepts such as community living can help to reduce the risk of isolation in old age.





#### *Implementation of suitable infrastructure*

In addition to the early planning of barrier-free environments, smart homes are an encouraging but also challenging approach. A lot of research and development has been carried out in this area in recent years, even if there are strong regional differences. Due to the rapid development of products and the short half-life of electronic devices, the existing infrastructure has to meet special requirements. An expert underlined the relevance of a good infrastructure in terms of power supply and internet cables. This can be used as a basic structure for innovative technologies, which can be renewed and replaced as required without having to change the existing building fabric essentially. The gap between a building designed for decades and a digital technology that is up to date for a few years is considerable.

### **2.2.3 BUILT measures**

In line with the SHAFE concept, solutions to these social challenges are often interdisciplinary. For example, telemedicine is increasingly being used to ensure medical care in rural areas. The use of these services requires ICT knowledge and the corresponding infrastructure. The measures must therefore usually be considered in combination with measures from the SMART and BUILT areas. Again, short descriptions of examples of good practices from the European compendium on smart, healthy and age-friendly environments are given with references for more information.

Essential SHAFE measures with a focus on the BUILT sector is the adaptation of the physical environment to the needs of individual users, including:

-  Communal living
-  Technical conversions
-  Technical devices to facilitate activities in daily life
-  Information on potential solutions

An example for communal living forms is the Hofje in Zwolle, the Netherlands, run by the Knarrenhof Foundation. It provides “life-cycle proofed” housing for also older adults who want to live both socially and independently. The model form promoted is the courtyard house (Hofjes) where residents live independently around a common courtyard or garden. The residents can, therefore, do activities together and keep an eye on one another. The projects begin with the residents helping to design the building before it is constructed. Knarrenhof finances the planning stages and guides the project groups through legal and other organizational challenges.<sup>19</sup>

A living lab, presenting interior design solutions, products and services, aimed at helping older people to stay longer healthy and independent, was created in Warsaw, Poland. The showroom was visited since its opening in 2016 by over 3000 persons, mostly older people and caregivers, but also public institutions representatives, architects and housing developers. Several movies were produced in the apartment. Thanks to their availability on the internet, also persons living outside Warsaw can take a look at the model apartment.<sup>20</sup>

A mobile housing advice team is run by the Seniors Office in Hanau, Germany, consisting of (mostly older) volunteers with expertise in specific areas, for example planning and construction, elder care, and fundraising. They present and discuss options for age-appropriate renovation and the technical equipment for a safe and comfortable life in old age. The outreach approach allows to directly respond to the conditions of the apartment or house, to give appropriate tips, name funding opportunities and, if necessary, additional contacts.<sup>21</sup>

The municipality is supporting the team, for example, by public relations, the reimbursement of expenses and taking on administrative tasks. The Hessian Office for Housing Advice offers training to volunteers.

With special regard to smart home technologies and digital assistance systems, the following measures are needed:

- 👉 Development of concepts
- 👉 Installation of infrastructure for the use of digital technologies
- 👉 Maintenance and servicing of smart homes
- 👉 Further training of craft enterprises for digital technologies
- 👉 Adaptation of digital assistance systems to the specific needs of the users
- 👉 Training in the use of assistance systems

A concrete example for how to connect BUILT, HEALTHY and SMART measures is the fall prevention package developed by the Tréguire Hospital in France. It reaches its goal with a light system of light markings on the ground. Concretely, by placing lighting diodes alongside the corridors and at strategic spots of the rooms, such as the bed, the bedside table or the bathroom door.<sup>22</sup>

The WoQuAz project in Weiterstadt, Germany, already mentioned under HEALTHY, has implemented a variety of smart home and assisted living applications. One of the biggest challenges was to find a balance between long-lasting architectural requirements on the one hand and short-lived digital innovations on the other, resulting in the installation of an extensive

<sup>19</sup> See good practice example number 39 in the European Compendium for details.

<sup>20</sup> See good practice example number 22 in the European Compendium for details.

<sup>21</sup> See good practice example number 20 in the European Compendium for details.

<sup>22</sup> See good practice example number 41 in the European Compendium for details.

digital infrastructure (power, data cables, connections). Smart homes and AAL concepts are often only tested in show homes and in the laboratory and further development is needed to ensure their suitability for everyday use. Also, in AAL correct problem and emergency identification is essential, usually achieved by monitoring and detecting deviations from the rule. This approach, however, is not suitable for assisted living because everyday situations are too complex and data protection must be ensured. WoQuAz and the affiliated company "Assisted Home Solutions" therefore focus on detecting real emergencies, not deviations.<sup>23</sup>

Barrier-free public spaces need:

- 👉 Counselling on barrier-free building
- 👉 Conception and implementation of reconstruction measures

A co-productive approach of municipalities and their citizens is illustrated by the Mobility Scouts project in the framework of Erasmus+ project. Older citizens were in five European member states were trained in the promotion of age-friendly environments. In Hanau, Germany, some of them, having a specific professional or volunteer background in this area, decided to work on improved traffic security. They organized excursions to places that had been reported as problematic. Traffic situations were documented with photos, short descriptions and suggested improvements. The results were submitted to the responsible officials of the City of Hanau who valued this feedback from citizens and took it seriously. A number of proposals for the improvement of traffic security were implemented quickly and much less bureaucratically than expected.<sup>24</sup>

SHAFE measures in the BUILT sector must also aim to respect the independence and human dignity of the users. The measures should enable participation and provide support and security. Particularly with regard to the new technology around smart homes, data protection and security must be guaranteed. The measures must not be patronizing but designed to support the users in their accustomed routine. Furthermore, all measures must be clear, understandable, attractively designed and intuitive in use.

## 2.3 SMART: ICT for BUILT and HEALTHY

### 2.3.1 European context

Within the framework of the "10-year strategy Europe 2020" (European Commission, 2010) and the "Digital Single Market Strategy for Europe" (European Commission, 2015), guidelines for the digitization of society were set that provide support for digital infrastructure and digital solutions in countries of the European Union. In line with this, in recent years several prerequisites for the development of an extended digital infrastructure have been evolving. The percentage of households with an internet access in the European Union has increased continuously and is currently at a level of 89% (Eurostat, 2019). Regarding the area of ICT, it has to be emphasized, that 58% of people aged between 65 and 74 used the internet within the last 12 months (Eurostat, 2018) (Table 4).

<sup>23</sup> See good practice example number 45 in the European Compendium for details.

<sup>24</sup> See good practice example number 21 in the European Compendium for details.

**TABLE 4: INTERNET USE BY AGE-GROUP WITHIN THE LAST 12 MONTHS (%)**

|             | 16-24 yrs | 25-34 yrs | 35-44 yrs | 45-54 yrs | 55-64 yrs | 65-74 yrs |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|
| EU 28       | 98        | 97        | 95        | 90        | 78        | 58        |
| Germany     | 100       | 99        | 99        | 97        | 88        | 74        |
| Ireland     | 98        | 99        | 97        | 91        | 85        | 45        |
| France      | 97        | 97        | 96        | 92        | 83        | 68        |
| Netherlands | 97        | 98        | 96        | 97        | 94        | 88        |
| Poland      | 99        | 98        | 95        | 80        | 58        | 35        |
| Portugal    | 99        | 98        | 93        | 80        | 54        | 34        |

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Almost the half of all people between 65 and 74 are already using e-mails as a digital communication service regularly (Eurostat, 2018) (Table 5). Furthermore, the interviewed experts remarked that especially video calls are increasingly well received by older people. In combination with increasing numbers of households with internet access this can be considered as an evolving indicator for the implementation of upcoming eHealth services.

**TABLE 5: INDIVIDUALS – INTERNET USE: SENDING/RECEIVING E-MAILS (%)**

|             | 16-24 yrs | 25-34 yrs | 35-44 yrs | 45-54 yrs | 55-64 yrs | 65-74 yrs |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|
| EU 28       | 86        | 88        | 83        | 74        | 61        | 45        |
| Germany     | 90        | 96        | 94        | 87        | 77        | 62        |
| Ireland     | 82        | 86        | 86        | 74        | 54        | 29        |
| France      | 87        | 89        | 85        | 77        | 68        | 58        |
| Netherlands | 95        | 96        | 94        | 93        | 89        | 82        |
| Poland      | 86        | 86        | 75        | 55        | 35        | 19        |
| Portugal    | 89        | 90        | 81        | 62        | 41        | 25        |

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The target groups of smart applications in the area of healthcare services are extraordinarily diverse. Besides the broad public, many eHealth measures are specifically addressing older people in need of care, people with a cancer diagnosis, people with mental illnesses, but also people with physical disability. SMART solutions in healthcare are also often combined with measures in the area of BUILT.

Especially as regards the decreasing share of doctors in rural areas and the restricted mobility of older people, digital healthcare services are gaining increasingly in importance. Telemedicine in this context has the potential to overcome geographic distances in consulting patients e.g. via video calls.

The European Commission considers the global market for integrated ICT solutions in healthcare monitoring in private homes to grow from 10,7 billion € in 2016 to 31,5 billion € in 2021. The Commissions' objectives in the field of connected healthcare services are e.g. the development of integrated and personalized health and care for older people, the development of a digital patient record, an increase in digital skills for carers, an increased efficiency in the health system as well as improvements in the prevention of chronic illnesses (Varnai et al., 2018b, p.66).

### 2.3.2 Tasks in the SMART sector

As shown by the European context data and the country reports, SHAFE measures in the SMART sector must in particular find solutions to the following challenges:

-  Promotion of ICT skills
-  Assistance in living a healthy life and preventing diseases

- ✎ Ensuring medical care in rural areas and reducing the workload of the health care system
- ✎ Support for autonomy and everyday tasks and promotion of social participation and integration

The SMART sector is in many ways special and has a prominent place in all national reports. Digitization currently offers many innovative opportunities and is becoming increasingly relevant in almost every area of society. Many new ideas from the HEALTHY and BUILT areas are based on ICT solutions. This results in many opportunities but also in many open ethical and practical questions. As one expert stated, the central question is always where and how digital technologies have practical benefits. These technologies are only meaningful if they support people.

#### *Promotion of ICT skills*

Promotion of ICT skills is of particular relevance as it forms the basis for the independent use of digital technologies.

The data and interviews of the national reports clearly show that there are still considerable differences in the everyday use of digital devices. Older people in particular use digital technologies less; as they have not grown up with these technologies, they may face specific challenges. Especially in old age and in combination with diseases, acquiring digital skills can be difficult. Two aspects are particularly relevant in this context: 1) Explanations and introductions must be tailored to the target group to avoid frustration. 2) Assistive products must have clear and simple structures which has to be considered already during the development phase. This requires outstanding technical, didactic and professional knowledge.

#### *Assistance in living a healthy life and preventing diseases*

Smart watches and similar devices record various health data which can be accessed by their owners. An increase in health awareness through such technologies is possible. At the same time, various apps and programmes are being developed in the field of tele-medicine with which early medical diagnosis or education can be achieved.

#### *Ensuring medical care in rural areas and reducing the workload of the health care systems*

Tele-medicine is not only used for early detection and educational purposes, but can also be used for diagnostics and treatment. By making use of various technical means and platforms, treatment results can be improved significantly. Especially therapies that rely on frequent repetition and practice can benefit from digital technologies. There are also various opportunities for rural areas. In particular, the elimination of long distances, for example to specialist clinics or therapists, greatly relieves the burden on older people or people with disabilities. A further positive aspect in this context is the availability of larger databases in which, for example, treatment data is stored. In this way, interlinks between different treatment providers can be improved.

#### *Support in autonomy and everyday tasks and promotion of social participation and integration*

SMART solutions are especially varied in this area, cover many HEALTHY and BUILT aspects and include the area of leisure activities, too. Technical aids are used to support people in manifold everyday situations. This can be achieved by regulating various technical processes in the smart home area (heating, shutters, light) or by medical emergency and alarm systems. Products include motion or fire detectors, but also devices for controlling vital functions. Another important area is the maintenance of social contacts. Whether in times of a pandemic

or due to physical distance, video chat programmes offer older people or people with disabilities the opportunity to participate in social life.

### 2.3.3 SMART measures

The aim of SMART measures is to support people in maintaining their autonomy. Digital technologies are therefore increasingly used in the areas of HEALTHY, but also BUILT.

SHAFE measures aiming at improving the health and living conditions of persons in need if support can be:

- 👉 Apps for telemedicine
- 👉 Retrofitting of buildings with digital infrastructure
- 👉 Mobile phones or tablets for older people
- 👉 Apps to promote communication and social life
- 👉 Apps for planning barrier-free routes

Various ICT-based examples have been already mentioned in the sections of HEALTHY and BUILT, among others the Pacsana wristband recording movement patterns, tele-medicine technologies provided by SIDLY, Tessa, the social robot, ZorgScherm, a tablet connecting older people to their caregivers, or the ToverTafel for people in later stages of dementia, stimulating them to move and interact with their environment.

ICT literacy, however, is often a prerequisite for applying SMART devices. Although most older people are meanwhile able and experienced in coping with ICT, there will always be a certain percentage who needs special support. MAXCOM, a smartphone with age-friendly screen functions developed in Poland, is easy to use and inexpensive. It does not have large keys, which many older people found stigmatizing. Moreover, traditional phones have rather small screen and watching photos or videos is hardly possible on them. MAXCOM enables them to enjoy the latest technological advances.<sup>25</sup>

People expect from digital technologies a relief for their everyday life and are, in principle, willing to use these products. At the same time, there are considerable data protection concerns, especially the fear of surveillance. For SHAFE measures, it is important to create trust, provide information and work with transparency. In doing so, the philosophy behind the design of the digital products is of great importance. Especially when it comes to emergency detection devices, they must work in a highly reliable way. It is not necessary to continuously collect and forward data. Data can also be collected and evaluated locally. This creates trust among the users.

## 2.4 BUSINESS: Earning an income with SHAFE

### 2.4.1 The silver economy market

According to World Economic Forum, the proportion of people over 65 years is expected to increase in OECD countries from 23% in 2011 up to 35% in 2030 (Global coalition on aging, 2014, p.2). Regarding this universal trend of ageing societies, the "silver economy" emerges as a market of high significance for the economic development in all countries of the European Union. The term "silver economy" thereby encompasses all economic activities that address

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<sup>25</sup> See good practice example number 17 in the European Compendium for details.



the needs of people aged 50 or older, including their private consumption and all economic activity connected to it: „The silver economy is considered part of the general economy that is relevant to the needs and demands of older adults” (Varnai et al., 2018, p.6).

According to studies for the European Commission, in 2015 the silver economy contributed over 4,2 trillion € to the GDP and helped sustaining more than 78 million jobs. Further, the economic share of the silver economy is predicted to grow about 5% per year. In comparison with younger economic groups, the clients within the silver economy spend more on healthcare, recreation or cultural services as well as household items. In 2015 the total contribution of the silver economy to the total EU GDP was 28,8%, and that to the overall employment was 35,3% (Figure 2). Due to an ageing society, these trends will continue in future (Technopolis, 2015 and Varnai et al., 2018, pp.8).

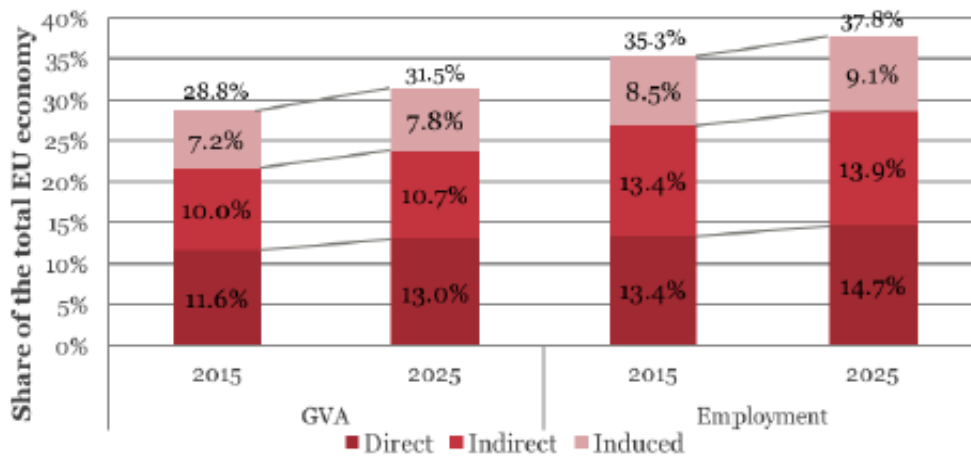


FIGURE 2: ECONOMIC IMPACT OF THE SILVER ECONOMY IN THE EU

© Varnai et al., 2018, p.10

Regarding the private consumption in the silver economy, about the half of all expenditures are made for housing and utilities, food and beverages as well as transport. As displayed in Figure 3, the consumption spending in the area of housing and utilities already accounted for a net worth of about 815 billion € in 2015 (Varnai et al., 2018, p.14).

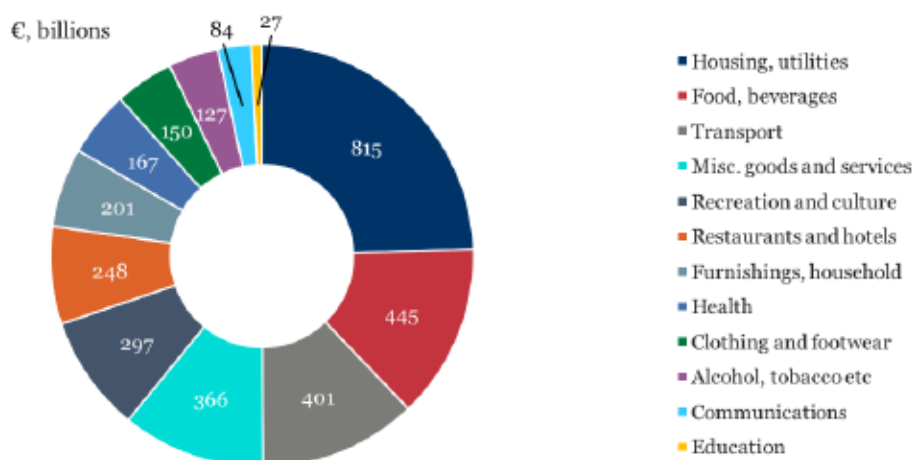
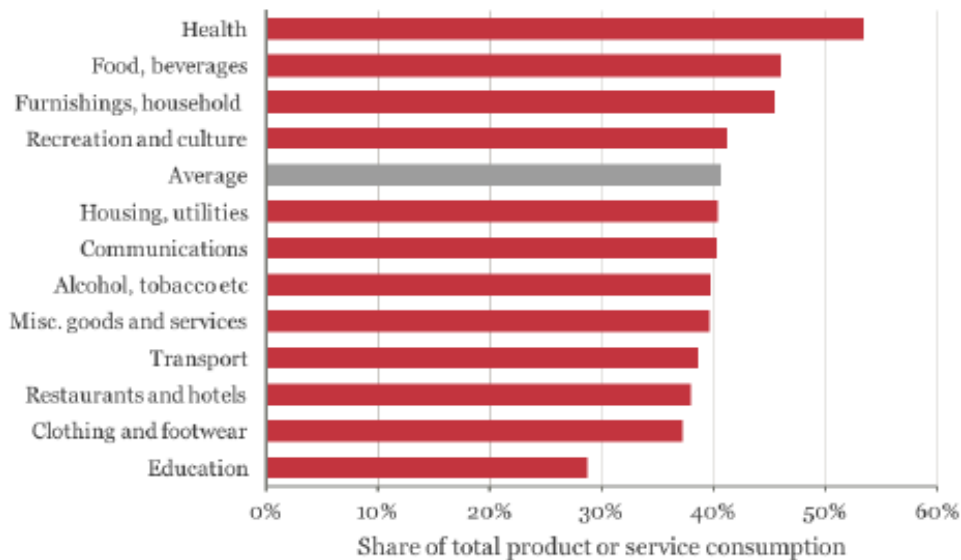


FIGURE 3: DISTRIBUTION OF SILVER ECONOMY PRIVATE CONSUMPTION EXPENDITURE IN 2015

© Varnai et al., 2018, p.15

Apart from this, the silver economy is characterized to be “a major consumer of health services”; the expenditures in this area in 2015 displayed over 53% of all private health expenditures in the EU. In contrast to that, the expenditures on education services of the silver economy are lower compared to other age groups and amount to only 29% (Figure 4). The European Commission forecasts these consumption patterns not to change between 2015 and 2025 while the silver economy share on health expenditures will grow up to 60% and the share for food and beverages to 50% until 2025 (Varnai et al, 2018, p.15).



**FIGURE 4: SILVER ECONOMY SHARE OF KEY CONSUMPTION GROUPS ACROSS EUROPE IN 2015**

© Varnai et al., 2018, p.16

Regarding the fact that nearly 90% of people at higher age favour staying in their homes instead of moving to a care facility, a high market potential for the distribution of smart home solutions is assumed. In Norway (30,5%), Sweden (28,5%) and Denmark (27,4%) the penetration rates for smart home technologies are significantly higher than in Germany (20,1%), Spain (10,3%), France (14,5%) or Portugal (6%) (Statista, 2019). Regarding a global consumer study commissioned in all six project countries and 49 other countries with relevant smart home markets in 2019, 30% of the users of smart home technologies are aged between 25 and 34, while only 10% are between 55 and 64 (Statista, 2019).

The eHealth and smart home markets are meanwhile considered to having progressed from breakthrough to mainstream markets. In this regard the market size for eHealth devices such as glucose meters or digital monitoring systems is expected to reach a level of 13,5 billion € while the market size of mobile health services such as digital prevention and diagnostic services is expected to grow to a level of 43,4 billion € until 2020 (Varnai et al., 2018b, p.67).

In summary: “The silver economy is an area of growth. Almost all economic sectors are expected to benefit from the silver economy. Sectors like cosmetics and fashion, smart homes, ITC, health services (including medical devices, pharmaceuticals and eHealth), fitness and wellness, robotics services, finance and insurance, safety, culture, education and skills, entertainment, transport and of course tourism are expected to gain the most from the emerging new field of economy. (...) As a result of the growing demand, senior tourists are foreseen to become a powerful consumer group in the near future.” (Zsarnoczly et al., 2016)



## 2.4.2 Potential areas for starting a SHAFE business

To promote the silver economy, the above-mentioned report commissioned by the European Commission presents a plural approach. Promotion activities include training and consulting services in the areas of finance and law. In addition, prospective founders from the target group need the right infrastructure, incubators and co-working spaces. Older people themselves are explicitly encouraged to become entrepreneurs. The study advises to raise awareness of the success factors of companies 50plus, also called "Olderpreneurs". This promotion of senior entrepreneurship is justified by the above-average success rate of companies founded by older people (Varnai et al. 2018).




The promotion of the silver economy in the partner countries of the Hands-on SHAFE project is very diverse. Ireland was one of the first countries to see the world's rapidly ageing population as a business opportunity and not just a societal challenge. Smart Ageing was identified as a key priority in the Global Irish Economic Forum in 2013 and in the following year appeared in the 2014 Action Plan for Jobs under the Title 'Smart Ageing' (DBEI, 2014). One of the recommendations was to carry out a mapping of Activity in Ireland and access the opportunities that may arise. They were identified as functional food, connected health, assisted living, adaptable housing and tourism (Technopolis Group, 2015).

Government action was taken in France. In 2013, "le contrat de filière silver economy", the "National pact on silver economy industries" was created. This pact was carried out by the French government institution "Ayrault II" working in tandem with stakeholders such as trade unions, companies, public authorities and business funders. It aims at defining goals and actions in order to develop the silver economy industry and improve ageing people's autonomy and quality of life by creating new products (like the expansion of gerontechnology) and services (in particular personal care services). Health, housing, transport, mobility and tourism are economic sectors that are to be more adapted to the needs of an ageing population.

In other countries, like in Germany, the silver economy is an issue of debate for researchers but no overarching strategies for its promotion is in place. There is evidence in Poland, that companies have not yet detected the silver economy market. Nearly 35% of entities did not consider the production or provision of senior services at all, while slightly more than 6% of entities believe that the demand for SHAFE goods and services is still too low (Statistics Poland, 2018). However, according to the study "Directions of the development of silver economy – forecast for Poland in the global context" the predicted potential areas for starting SHAFE business are mainly related with ICT technologies and promoting of healthy lifestyle (Fedorowski, 2015).

Noteworthy in this context is also the concept of the circular economy opening a huge space for entrepreneurs. Ancient arts can be combined with modern technology and result in new products and services: Old markets can be crossed with gourmet restaurants, lead typography with new design dynamics, modern technologies with artisanal parts in order to make the artistic part more profitable, and old utensils with new engines. From a circular economy perspective, products should not be thrown away, but reused and modernized.

From the national Hands-on SHAFE reports, the following conclusions can be drawn for areas, promising a valid basis – often also for low-qualified adults – to start an own business for the HEALTHY area:

-  Fitness and wellness offers, including preventive sports programmes
-  Promotion of health literacy
-  Respite care offers to informal carers of dependent old people

- ✎ Supply of hearing and vision support technologies, prosthetics and orthopaedics
- ✎ Supply of everyday aids, e.g. easy-to-handle can openers, spikes for shoes for safe walking on slippery grounds, games for memory training
- ✎ Provision of healthy meals, e.g. meals-on-wheels or in a facility of the community
- ✎ Provision of other personal services, e.g. leisure, travel, cultural, educational or entertainment offers

For the BUILT area, the following market opportunities were identified:

- ✎ Retrofitting advice
- ✎ Retrofitting services
- ✎ Installation of smart home technologies
- ✎ Installation of ambient assisted living (AAL) technologies
- ✎ Supply of smart age-friendly furniture
- ✎ Provision of home sharing options
- ✎ Cleaning and sewing services, e.g. at the municipal market
- ✎ Repair offers in the client's home or in public facilities like repair cafés
- ✎ Transport or accompaniment services
- ✎ Support in the care for plants and pets, e.g. walking the dog

Within the SMART sector, the following activities were mentioned:

- ✎ Installation of ICT devices
- ✎ Support in digital literacy
- ✎ Running of specific helpdesks and hotlines for seniors
- ✎ Advise and training in making use of SMART technologies
- ✎ Supply of eHealth technologies and robotics
- ✎ Support in making use of social media and networks to facilitate social inclusion
- ✎ Support in making use of online games to provide intellectual stimulation
- ✎ Provision of an aesthetic design of ICT tools

### 2.4.3 Available support measures

Starting a business is promoted by various support measures in all partner countries: Different stakeholders – governmental and non-governmental organizations – usually provide financial support for the initial phase of founding a business, information and counselling as well as training offers. Many support measures are free of charge or funded by different programmes, but their framework conditions vary and are country specific.

#### *Grants and loans*

In France, subsidies for start-ups are mainly granted by regional or local authorities. For instance, the Region Nouvelle-Aquitaine has a programme for boosting economies of the rural

territories and working-class districts. This programme is oriented especially towards commerce businesses with the potential of having a strong social impact for the “weakest” and most remote populations. The programme grants subsidies (from 4.000 € to 10.000 €) to entrepreneurs that meet the requirements (about age, employment situation, own funds brought to the business, etc.). In addition to this, each municipality has its own range of supportive actions. For instance, in order to develop city centre services, many municipalities provide different grants like free loans or free rent of buildings, financial subsidies for the first financial expenses (such as stock buying, rent, and accountant fees) or communication support like an advertisement in the municipal journal or website.

In Germany, start-ups out of unemployment can be supported by the Federal Employment Agency. In order to bridge the initial phase, unemployment benefit recipients can receive financial support for livelihood and social protection through a start-up grant for up to six months (social security funds can be paid for further nine months). Beneficiaries of social benefits under the Social Welfare Act can be granted a start-up allowance over a maximum period of 24 months. In 2010, more than 150.000 founders made use of these opportunities.

Similar programmes for unemployed persons are run in Poland and Ireland. In addition to that, a Community Services Programme is funded by the Irish Department of Rural and Community Development and supports community companies and co-operatives to deliver local social, economic and environmental services that tackle disadvantage by providing a co-funding contribution towards the cost of employing a manager (max 32.000 €) and full-time equivalent positions (max 19.033 €).

Bridging support is available in Poland as a form of EU assistance for those planning to run a business. It allows to survive the first months of independent work and meet the obligations towards social insurance. This support is non-refundable and granted to all newly created companies, regardless of whether they generate revenues or not yet for a maximum of six months from the date of commencement of operations, but may be extended to twelve months of operation of the company. The maximum amount may not exceed the equivalent of the minimum wage applicable on the date of payment of support.

Promotional banks are providing loans for start-ups or guarantees to improve the chances of success in the credit negotiations with banks like the RKW in the State of Hessen. Microfinance Ireland (MFI) is a not-for-profit lender, established to deliver the Government’s Microenterprise Loan Fund. MFI works very closely with the Local Enterprise Offices (LEOs) providing unsecured business loans of 2.000 € to 25.000 € for commercially viable proposals. Loans can be used to fund start-up costs, working capital, purchase of stock, equipment, machinery, business expansion etc.

In Poland, low-interest loans from the "First Business – Support for Start" entrepreneurship programme, implemented by the Gospodarstwa Krajowego Bank be applied for by unemployed persons, university and college graduates and last year’s university students for starting a business. The Portuguese Entrepreneurship and Self-Employment Support Programme provides support to small for-profit start-up projects and cooperatives through access to secured credit and interest rate subsidies granted by banking institutions.

In Portugal, the most adequate public programme for the funding of SHAFE entrepreneurs appears to be SI2E Sistemas de Incentivos ao Emprego e Empreendedorismo (Incentive Systems for Employment and Entrepreneurship) as it does not value innovative or technological skills, but only the business impact on the region's economy for job creation and employability. Other opportunities are PAECPE Programa de Apoio ao Empreendedorismo e à Criação do Próprio Emprego (Support Programme for Entrepreneurship and the Creation of

Self-Employment), Centro 2020, PT 2020 and banks looking to invest in new products or giving microcredits.

### *Information and counselling*

In the Netherlands, various websites offer online tests to check if a person is “really” an entrepreneur. The tests also inform the business founder what they should additionally learn to level up their confidence and where to start.<sup>26</sup>

The SMEs online guide is part of the Irish Government's campaign, to increase awareness of the range of Government supports for start-ups and small businesses. Completing an online form of eight questions will return a report of which supports could possibly fit your business.

An online portal of the German Federal Ministry for Economics and Technology provides founders with information, checklists, a forum for networking, an interactive search engine for relevant authorities, a multi-media library, an expert forum as well as an online training. The platform is meant to be a one-stop facility to handle all start-up-related preparations and receive individual advice, from brainstorming, through the development of the business model and the business plan, to the appropriate support and financing. In order to make starting up a business in Germany easier, the platform assorts useful digital tools and integrates all key players in start-up consulting and financing.<sup>27</sup>

In all of the French regions, business counselling is funded completely by public institutions (regional authorities especially) for up to three years, provided that the entrepreneur meets the eligibility criteria, e.g. being a job seeker or between 18 and 25 years old. To benefit from a business support, entrepreneurs have to choose an organization, or a personal counsellor certified by the State to perform this activity.

Chambers of business mainly support entrepreneurs in the administrative processes and declarations related to a business creation. For instance, the Dutch Chamber of Commerce (KvK) provides a roadmap to support people who start their own business. It covers topics such as: what are the opportunities and your own competences, what is the available market, financial planning, legal entity, administration rules, company regulations such as location, fire regulations, how to find customers.<sup>28</sup> At regional level, the Chamber of Commerce provides so-called regional starter desks.

Also, universities may provide or support these starter desks. The province of Zuid-Holland provides the Innovation Quarter. This is an agency to strengthen the regional economic structure by stimulating the innovation potential of the greater delta region of Rotterdam and The Hague. Entrepreneurs can also meet at HigherLevel, the Dutch Business Forum, to exchange information, questions and answers. There entrepreneurs can also ask for comments on financial plan, website, international businesses, and consumer topics.

Voluntary initiatives like Business Angles and private companies also support start-ups. Banks offer advice and support in all phases of starting a business, especially on finance-related issues.

### *Training*

Start-up seminars are offered by public and private institutions. The local chambers of crafts, chambers of industry and commerce as well as the local employment offices organize seminars for business start-ups. Private educational institutions and foundations as well as

<sup>26</sup> <https://www.kvk.nl/krachtmeting/> or <https://entrepreneurscan.com/nl/ondernemerstest/>

<sup>27</sup> See good practice examples number 7, 26 and 44 in the European Compendium for details.

<sup>28</sup> <https://ondernemersplein.kvk.nl/eigen-bedrijf-starten-10-belangrijke-stappen/>

start-up coaches are also active in this field.<sup>29</sup> Seminars for start-up entrepreneurs include information events, basic seminars as well as the targeted group and subject-specific seminars.

Training offers for future entrepreneur usually address the following aspects:

- ✎ Foundation preparation and legal framework: Founding reasons, self-check of entrepreneur personality, formulation of business idea, location and choice of premises, market analysis, consulting and coaching, application and approval procedures, legal framework, choice of legal form, knowledge of GDPR, preparation of applications and documents
- ✎ Financing options and business plan: Modules of a business plan, criteria of success from the point of view of the donors, financing planning, founding with equity capital, basic knowledge of loans and support programmes for entrepreneurs, discussion with financial institutions
- ✎ Commercial basics: Accounting, liquidity planning, basics cost accounting, price calculation, receivables management, annual profit and loss, target-performance comparison
- ✎ Basics taxes and insurance: Income tax, sales tax, hedging private and corporate risks
- ✎ Role as founder and entrepreneur: Employee selection, leadership, communication, confident behaviour in business relationships, crisis management, self-marketing

In some countries comprehensive training offers are available online free of charge by public bodies. The Polish Agency for Enterprise Development offers online trainings in sectors such as finance, marketing, law, business support and management. Each section includes training packages in selected topic. For example, there are nine training packages in management section from the very basics as how to set up a company to more complicated issues such as management skills.<sup>30</sup> A French training programme, supported by European funding, follows a role-playing approach that aims at giving the participants basic insights on how a business works.<sup>31</sup> A Portuguese project funded by EIT Health is aiming especially at “silver starters”, 50+ entrepreneurs.<sup>32</sup>

Training for business in Ireland is generally managed through the network of local enterprise offices. This network runs a programme of one-day or evening seminars from local experts on relevant topics. They each also retain lists of local web, social media, and marketing consultants who will work with small business owners to improve their offering in different ways. The network also funds and retains a team of “business mentors” to local businesses on their books and arranges periodic meetings between young business owners and mentors with matching experience. These mentors are typically retired businesspeople themselves.

In Germany, persons who are unemployed or at risk of unemployment may receive an activation and placement voucher (AVGS) from the Employment Agency or the Job Centre. They can attend business start-up seminars free of charge. The activation and placement vouchers are meant to support the entry in the labour market. The vouchers can also be used for seminars like foreign language courses, software training, subject-specific further education or a career entry accompanied by individual coaching.

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<sup>29</sup> For information on personal coaching funded by the national labour agency see good practice example number 43 in the European Compendium.

<sup>30</sup> <https://www.parp.gov.pl/component/site/site/kursy-online>

<sup>31</sup> See good practice example number 19 in the European Compendium for details.

<sup>32</sup> See good practice example number 34 in the European Compendium for details.



### *Other support measures*

Various support offers for founders exist that embrace the full range from customer acquisition and retention to innovative measures targeted at the common good.

As an example, for the orientation towards more own clients, Telekom Germany offers low special tariffs for founders, including packages for building websites, for search engine optimization or for the design of an online shop. In Ireland, Business Start-up Packages are offered by all the main banks which includes two years free current account maintenance and transaction fees.

Incubators are an example for innovative measures oriented at a holistic support approach. They are facilities that support business creation in different stages by offering a range of (personalized) services. Each incubator has its own policy and develops its own services and ways of supporting businesses. Nonetheless, in most of the cases, incubators offer a workspace, mail and appointments management (by common secretaries), access to printers, information resources (books, subscriptions to specific websites...) and various materials, sharing of technical services, e.g. by accountant and lawyers, linkages to suppliers, potential customers and communications agencies, and a professional network of the members of the incubator resulting in cluster effects.

Besides these practical services, most incubators aim at counselling their members in all of the steps of a business creation and management. Furthermore, some incubators buy shares into the businesses of their members and become, besides all of the services described previously, a financing option for entrepreneurs.

There are hundreds of incubators in France. Each of them has its own specialization as well as its own range of services. An example from Germany is the Social Impact Lab in Frankfurt.

Innovative social start-ups receive a free support programme with individual coaching, professional advice, a fully equipped desk in the co-working space as well as technical and methodical support in financing and subsidy applications. The support runs up to eight months.

New Frontiers (2014) is a national programme funded by Enterprise Ireland and is aimed at supporting the establishment and growth of technology or knowledge intensive ventures with potential to trade internationally and create employment in Ireland. It is operated and managed at 16 incubation centres primarily in Institutes of Technology. The programme is run over three phases, and there is a competitive application process for each phase. Phase 1 lasts approx. 6-8 weeks, is part-time and offers training in key business areas. Phase 2 lasts circa 6 months, is full-time, offers in-depth training, as well as €15,000 funding and free incubator space. The training builds on Phase 1 with workshops and added one-to-one mentor clinics. Funding is provided as a tax-free, equity-free stipend.

In Poland, 56 incubators operate in 26 cities in the framework of the Academic Incubators of Entrepreneurship. Pre-incubation is programme for a time to learn to manage a company without having to start a business. Incubation and Incubation Plus help in the development of a company if it has already started.

One of the biggest incubators of Portugal is the IPN's business incubator in Coimbra. There companies have, in their early years, facilitated access to the scientific and technological system and an environment that provides the widening of knowledge in matters such as quality, management, marketing and contact with national and international markets. The Incubator provides support during the nascent phase of new innovative and / or technology-based business projects and advanced services. Priority projects are spin-offs arising from the University of Coimbra and start-ups that ensure a strong connection to the university



environment, whether through students, teachers or research projects in laboratories, as well as projects from the private sector and R&D in consortium with the industry.

An example for other innovative approaches is the Irish Communities Creating Jobs programme, a national voluntary shared network of development groups committed to helping each other to create 10 jobs in each community. The goal of the organisation was to share ideas, solutions, best practices, replicable projects, enabling tools and site visits informing each other on how to progress their plans. The fundamental aim of the CCJ jobs model is to empower communities to take on projects, own them, build them up in partnership with the agencies in a supportive environment and sustain them into the future. The private entrepreneur automatically takes ownership of the new business and the jobs created benefits the local community.

## 3 Conclusions for training

### 3.1 Needs of end-users and role of facilitators







People who want to continue living independently and participate in society, need safety at home and in the streets, and secure measures to receive healthcare or to alert friends or family members. Also, most people look for opportunities to participate in community life.

The main target groups of SHAFE measures (the end users) are persons who are in need of cure or care or aiming at a healthy lifestyle to prevent them from diseases. Although this covers in principle all ages and health states, older persons, persons with disability as well as their relatives are the predominant targeted client groups. This also applies to measures to improve the physical environment but these measures can also be apt for tall or small people, including children, and people with luggage or prams, which is the case with inclusive universal design, where the design is agnostic of age or ability.

Hence, in order to prepare facilitators-to-be for their tasks, especially the needs of persons at advanced age or with disability must be considered. As volunteers, caregivers or self-employed persons with comparably low level of skills, they will usually deal with needs of everyday life. Problems that demand solutions at technically advanced levels will remain to be subject to specialist knowledge. Nevertheless, retired architects, for example, could cover this area as volunteers, too.

In many cases, SHAFE facilitators have the opportunity to render support on a self-employed basis. In other parts, volunteers are better equipped to fulfil the needs of the end-users. Well trained and prepared volunteers can, for instance, visit older people in their own homes, work remotely over the phone by calling people to see if they are doing well, teach people to use technology, go for a walk, just chat, use the internet, go shopping, accompany them to the doctor, hairdresser, etc. Such interactions can also help facilitators who have been thrust into the role through a change in the health status of a family member and are feeling isolated and ill-informed about elements of their role. Lobbying at political level is also a function worthwhile to be put forward.

The role of trained SHAFE facilitators will be to personally advise their clients (the end users) and/or provide practical support in promoting healthy lifestyles as well as comfortable and safe living environments. With view to the needs of older adults and people with functional restrictions or disability, facilitators must comply with the following demands:

-  Contents and methods of being counselled and supported are person-centred.
-  Communication must be based on the clients' language and concepts of comprehension. Especially digital appliances should be explained in a way that is oriented at practical needs. Patience is an obligatory prerequisite for facilitators.
-  Information must be clear and coherent.
-  Content and approach must consider characteristics of ageing such as frailty and reduced mobility and characteristics of conditions that are exacerbated by age, such as dementia and arthritis.
-  After a joint search for solutions to a problem, the client – and not the facilitator – defines the measures to be applied and the speed of implementation.
-  In order to provide a basis for profound decisions in this respect, it must be clarified how the measures work and what are their benefits.



- ✎ Concerns about potential negative side-effects, especially data protection issues, must be taken seriously by the facilitators.
- ✎ In case of solutions that need internet access, the technical preconditions as well as the readiness to learn how to apply them must be clarified.
- ✎ Technical solutions that are offered should be intuitive in application; also attractively designed products are easier to accept.
- ✎ Blended solutions, applying digital tools with personal accompaniment, can reduce barriers of persons who are not familiar with them.
- ✎ If digital solutions are rejected despite a thorough clarification of facts, alternatives should be offered although they may be only the second-best solutions.

Facilitators must be aware that they are rendering support for situations that are not welcome. End users such as older people are not inclined to prepare for being in dire straits well in advance. Usually, help is sought when it is already difficult to deliver. Nevertheless, the number of older people who are internet-savvy should not be underestimated in the first place.

Informal caregivers and other relatives as facilitators can be very supportive in assisting older people or people with disability (end users) to find and apply adequate solutions to their problems. But they can also block specific measures, be it that they see another facilitator as competition to their own expertise or that the costs of the solution will diminish their heritage. Therefore, their involvement in the counselling process is another important part of the work of SHAFE facilitators. It is a good start for the counselling process, if SHAFE measures help informal caregivers save time and lead to a lightening of their schedule devoted to the care of ageing people. Informal caregivers often wish to become better informed themselves about best practice and new ways of working. However, cost issues are often a barrier for end-users.

### 3.2 Strategies to address and attract facilitators

At organizational level, public institutions as well as non-profit organizations – such as umbrella organizations for SHAFE-related professions and volunteers but also, for instance, self-help groups for informal carers or neighbourhood initiatives at local level – are important cooperation partners in order to reach out to a large audience. Their interest in SHAFE oriented activities can be generated by showing the possibility of an intersection between public interest and income-generating business within the silver economy. Also, companies in the personal services industry can be targeted by the training. Especially providers of long-term care experience difficulties in recruiting qualified people, and their employees are very often low-qualified. In addition to providing useful tools, the trainings could contribute to increase their motivation and feeling of responsibility, which are some of the issues encountered in this field.

An information campaign about the possibilities associated with becoming a SHAFE facilitator - or targeting existing small business owners seeking to include SHAFE facilitation in their business model - would certainly have a huge effect on the attractiveness of this role. It should use as many different media as possible – social media, websites of municipalities, television, radio, newspapers, etc. – to reach the members of the different target groups. Ideally, information campaigns should also include the opportunity to check if the future facilitators have the necessary prerequisites to engage in a specific SHAFE field, to work with older adults and people with disabilities and to start their own business.

As SHAFE facilitators include low-qualified adults intending to start their own business, but also volunteers, some strategies to attract and address them must be tailored to their specific motivations. Others apply to both target groups.

The benefit of SHAFE facilitating to the individual and common welfare should be pointed out in both cases. Its value must be important to everybody engaging in this area because work with older adults and people with disabilities needs specific competences and may be exhausting. The personal satisfaction of contributing in a meaningful way and “making a difference” can also at least partly compensate for the fact that persons who want to earn their living as SHAFE facilitator will not get rich.




Given this background, it is to be recommended that key actors with an influential role in the community – e.g. the town mayor, the president of a local organization, or a representative of the parish council – are publicly addressing interested persons and highlighting the value of SHAFE facilitation for the community and individuals in need of support. This increases the social status of volunteers and self-employed persons. It is also advantageous if local facilities like care centres offer rooms for the training, meetings and discussions.

Another means to attract potential facilitators arises from opportunities for personal development by updating a qualification or gaining new skills in a certified educational offer. For younger persons, certificates with detailed information on the gained knowledge are important for participating in the labour market. If publicly displayed, a certificate proves the seriousness and quality orientation of one’s own work. But also volunteers at retirement age should be issued a certificate as it demonstrates acknowledgement and appreciation of the educational efforts. Further benefits will arise from an accreditation by the education training boards, so the material is delivered to an agreed level according to the national framework of qualifications.

Finally, adequate working conditions play an important part in the decision for professional activities or volunteering. Facilitators planning to set up their own business will appreciate the flexible working times. On the other hand, they must be sure that their commitment will serve to earn their living or sufficiently supplement existing income. Therefore, personal coaching, especially in the preparatory phase, is essential to make best use of the market potentials. SHAFE business is often less connected with financial risks because of its low overheads. This message can also be passed on: “What have you got to lose?”

Volunteers will not be interested in a gainful employment in the first place. But volunteers expect satisfactory working conditions in which they can focus on activities that correspond with their motivation. Administrative work necessary to match demand and offers, for example, is seldom in their primary interest and indeed medium scale volunteer organisations typically resort to retaining core paid professional staff to underpin the work of volunteers. Also individual overburdening must and can be avoided, e.g. by team solutions offering a substitute for times in which they have other obligations. The reimbursement of costs arising due to their activities (e.g. travel expenses) as well as accident and third-party liability insurances should be considered as a matter of course by the organization running the facilitating offers. Allowances may be attractive to older volunteers with a low income.

In general, the following aspects should be taken into account in order to reduce access barriers for future SHAFE facilitators:

-  Avoid the term “training”; the modules could take the form of practical guides or kits.
-  Make things seem easy by being practical and fun.
-  Especially with view to formal and informal caregivers, the training and its communication should highlight time-saving knowledge and skills and show that it will increase efficiency in everyday work.

### 3.3 Training contents

The SHAFE training is conceptualized as stand-alone modules. Each module needs to have clearly defined learning objectives, a syllabus, a method of delivery and method of self-assessment. If the self-assessment is successfully completed, the candidate is considered to have passed the course module.

SHAFE facilitators need training offers at different levels:

- 👉 Transversal themes
- 👉 Area-specific contents
- 👉 Management and administrative know-how (in case of starting an own business)

Facilitators who want to start a business will have to get further training offers. Especially important are topics like legal and administrative requirements, an introduction into social entrepreneurship, advertising and public relations, and setting up a business plan. The latter will have to include a market analysis and is indispensable if funding is applied for in the initial work phase, and many offers at local level, e.g. by the chambers of commerce, already exist.

However, it is essential that programmes are accessible for low-qualified trainees. Experience shows, at existing trainings may tend to reach out for high performers and do not address low-skilled adults in an appropriate way. Some of them do not realize that starting and running a business is more than a matter of how to register and gather funds. An attitude to "see what will happens" it fairly spread. For this reason, the SHAFE training will help to realize that there are

- 👉 Some important differences between running a business and being employed, and
- 👉 Questions to be asked, information to find and choices to make,

to raise their motivation to make use of available trainings at local level. Further, instead of learning how to elaborate profit and loss statements, SHAFE facilitators need to understand why it is important to know if they are earning or losing money and why they may need an accountant. The training should focus on acquiring the personal prerequisites and the ability to sell and to build a marketing programme for a good or service.

#### *Transversal themes*

SHAFE trainees are a diverse group. They can be volunteers, informal and formal caregivers, unemployed persons or people who want to make a career switch. Besides their provision with general information on SHAFE, a personal development and training needs analysis should be performed at the very beginning. Each participant should be enabled to recognize their motivation, strengths and training needs to compensate for missing skills.

New SHAFE facilitators who are returning to paid work after e.g. a family phase will need a level of personal development on social awareness as their position changes. Also, the level of self-confidence may decrease when major changes occur with readjustments of roles.

In each particular case, facilitators will have to assess what they can do for the client themselves and what must be left to experts in the specific area. Thus, a comprehensive understanding of the characteristics, needs and fears of the clientele is indispensable. Based on that, available support from family, informal and formal caregivers and other social network members must be identified in order to act appropriately. This includes the reflection of the facilitator's own stereotypes in connection to age and old people.

In addition to that, the training participants should develop skills in presentation and communication techniques, like:

- ✎ Using plain and non-discriminatory language
- ✎ Active listening
- ✎ Co-creation in moderating the search for solutions
- ✎ Conflict management

They should also understand the necessity of self-comprehension in terms of a professional appearance, respectful attitude, and avoiding prejudices and discriminatory behaviour.

### *Area-specific contents*

The following contents were suggested for training in the area of HEALTHY:

- ✎ Characteristics of ageing physiology changes with view to the selection of services and products (e.g. sight, hearing, mobility, frailty, fine motor skills),
- ✎ Promotion of health literacy, including sleeping and eating habits,
- ✎ Opportunities to prevent diseases and possibilities for their treatment,
- ✎ Impacts of the climate change on people with dementia, addiction problems or risky illnesses and possibilities of self-protection,
- ✎ Coping with persons who have been isolated, e.g. due to an illness, in order to facilitate their return back into community life,
- ✎ Assessing and promoting the personal physical fitness of older adults and people with disabilities through available online tools,
- ✎ Cognitive impairment recovery or management progressive impairment training, e.g. by the use of games on smart phones that can be collected and selected for particular skills.

Potential SMART training topics were mentioned as follows:

- ✎ Awareness of the characteristics of the digital divide that cannot be expected to disappear since older people may be slower in catching up with the technical developments,
- ✎ Availability of AT products and services that help ageing citizens in their daily lives, where and how to locate them, how can it improve daily life, and how they can be customised to the person's needs, including a safe and easy access,
- ✎ Identifying the level of digital literacy, confidence and support needed to run the devices,
- ✎ Identifying and explaining funding as well as assistance with applying for funding,
- ✎ Informal ICT training to clients around smart phones and apps, including the selection of the most appropriate phone in terms of design, user-friendliness, the availability of a panic button, the caller ID and software,
- ✎ Informal ICT training to clients around connecting smart phones to devices such as watches and pendants,
- ✎ Vulnerability awareness and assessment, e.g. around online form filling, ensuring that the form is an official bank site, never disclosing passwords or physical awareness of changing their routine periodically to prevent or reduce opportunist crime.

For BUILT as regards housing and public spaces a number of topics appear especially relevant:

- ✚ Available solutions in creating safe living environments according to the particular locations (living room, bathroom, bedroom, communal spaces in houses, outdoor spaces, public buildings and health facilities),
- ✚ Adapting the living environments before it is needed or as it is needed by the client,
- ✚ Energy saving, reducing carbon footprint and the annual costs for heating,
- ✚ Making use of circular economy offers,
- ✚ Identifying and explaining funding as well as assistance with applying for funding,
- ✚ Outdoor care and repair services in gardening, trimming grass and bushes etc. under aspects that the client would give when done themselves,
- ✚ Care and repair inside the home, for example to change the TV from analogue to digital transmission, to fix a piece of loose carpet, a door handle or other incidentals,
- ✚ Smart equipment to aid in assisted living in terms of availability, potentials for the improvement of quality of life and its value for money,
- ✚ Security devices like thumb locks and non-recording video camera, changing the sequence of lighting timers.
- ✚ Training regarding personal safety to aid in the elder person remain in their homes for longer and to minimize opportunists crime,
- ✚ Synchronous leisure technologies by setting up and personalizing communications technology solutions that enable synchronous online enjoyment of leisure activities (e.g. online book clubs, cookery or fitness classes).

As regards mobility, transport and shopping a couple of training contents were suggested for facilitators addressing and training civil servants, shop owners or staff in chambers of commerce. Towns could become more age-friendly if, for example, key routes of older adults are kept maintained with good lighting, additional time for pedestrian traffic light durations, hand rails, seats and clear parking zones, perhaps some for older adults and others for disabled. Shops should be styled to minimise noise, excessive lighting, and contrast colours on floors that can be trip hazards for people living with dementia who might believe it could be a physical step.

Also the capacity of the public service as regards IT solutions, data analysis and front-end design is weak or non-existent. Training or short monthly webinars can help to promote this. Having a certificate of completion would also ensure that trainings are performed by the relevant public service staff.

Further, there is often a gap of the language and direction of interaction between the person providing the service and the end user. For example, if a local authority was providing a service to an infirmed older person, the conversation is directed to an intermediary, such as the persons' adult companion and not the infirmed older person themselves. Again, a code-of-conduct and training in how to implement it could improve the situation.

Navigation support can be given by all service providers whose clients have to find their way in unfamiliar spaces. Age-friendly guesthouses could offer a chaperoned mix of tour guide and restaurant section and direction orientation aid to the older adult. Hospital liaison persons to help navigate the older adult during their visits to hospitals. This type of support is common



practice in airports. Training can be provided to highlight some of the benefits and challenges to be expected.

### *Management and administrative know-how*

There is an essential need of facilitators for tools in order to manage, coordinate and administrate their activities.

- ✎ Appointments: To make contact with the person with the help of a contacts list and a diary to schedule activities, including changes in appointments and a secure storage of personal data and other (i.e. times of the day where the person is not available if they need to be contacted or other communication issues) must be part of the training.
- ✎ Collection of notes on activities to do: Within the daily, weekly, monthly calendar there will be leads to chase up, new areas to investigate, and professional development. After all, this facilitator activity will need to be self-sustaining over time. There needs to be training on how to complete and manage that work, how to plan for that activity and the importance of that effort.
- ✎ Collection of notes on work to be completed: A format and location are needed where information can be stored securely about the work and activities that needs to be completed for a person or group.
- ✎ Collection of notes on jobs completed: When a job is completed, there will be areas where some changes had to occur to the original plan. In the building construction industry they used to be known as redline drawings or 'as built' drawings. These notes can be reviewed periodically and if some of the planning for training material is persistently missing details, this material can then be updated.
- ✎ Boundary management: Facilitators must be aware of the need for defining roles and recognizing boundaries between them and the end user (e.g. hours of support, appropriateness of engagement).
- ✎ Code of ethics: In some countries, when dealing with vulnerable people, a vetting is needed. But also in other countries it is recommendable that there will be a code of ethics developed and training around it to ensure the facilitators comply with it. It should also include and to agree on a reprimand if they fail to comply – such as removal from a register.
- ✎ Insurance: To operate a business insurance and proof of insurance will be needed. Training and guidance will be required to explain what is normally included and not included in the insurance, where to get the insurance and which costs will arise.
- ✎ Public funding: In some cases, SHAFE facilitators can be funded directly or indirectly (via the client's entitlement) by governmental programmes, health insurance funds or other public sources. Knowledge about these opportunities is crucial for a successful recruitment of customers.
- ✎ Certification: In some SHAFE areas certification will be needed to protect clients from hazardous work results. Examples include electrical work or gas installation and repair. There are other roles such as gardening, painting, odd-jobs, transport, hairstyling, where no certification is needed.
- ✎ Identification of and response to health and safety hazards and risks: There are inherent risks associated with certain facilitation roles, such as injuries that are picked up by facilitators while lifting or reorienting a physically disabled person during a care task. SHAFE facilitators should also be on the lookout for behaviour associated with functional

decline that is potentially hazardous, such as night-walking, or driving or climbing ladders while prone to seizures.

### 3.4 Training methods

Training methods applied in the above-mentioned training modules must take into account that low-qualified adults can be among the learners. But also, for learners with a higher educational level, an easy to comprehend training design is of no disadvantage:

A successful approach in training the facilitators, and then for them to train their clients, appears to be “See, Hear and Do”. According to this concept, learners retain more information by what they “do” as opposed to what is “heard”, “read” or “observed”. The contents of the training modules should be presented to the facilitators with little written text, in a visual way, sketches and many practical examples. Also, videos of not more than 3 to 4 minutes can be used with interactive material like questionnaires to handle "do" part.

Learning steps should be small, clear and repetitive. The skill as a learning outcome must be broken down into a practice of carefully orchestrated parts of the whole skill (i.e. the part-part), to gain confidence and connection to the skill, then at the end the learner tries to perform the whole skill again.

Learning relies on repeating them until they retrain the emotional connection to the process, and it becomes normal. This approach is the more beneficial, as facilitators would in their service provision normally repeat the training manner as well as the content, in the fashion in which they were originally taught. SHAFE facilitators must provide repetition in their transfer of know-how without the impression of being bored. The end user/client may only encounter a situation for the first time while the facilitator may have seen it repeatedly. Thus, it can be difficult to remain calm, minimize frustration, not belittle the end user or skip steps by becoming complacent.

Interactive tools such as multiple-choice test should be used in each training module to allow for self-checks on what has been learned and needs to be deepened.

Strong benefits are expected for low-qualified adults from a one-to-one and face-to-face online training. One expert mentioned: "In this type of target, other types of monitoring other than personal and face-to-face during an initial learning phase are unthinkable." An implementation of this advice in stand-alone online training modules is challenging but must be nevertheless taken seriously.

Opportunities for job shadowing, personal coaching and blended learning should be advertised. Following the education to the trainee facilitator on, for example, code of ethics and the domain in which the aid will be provided, on-the-job experiences are crucial. Opportunities in which the trainee facilitator is guided while working on the job with an experienced mentor and building up the skill of interacting and listening to clients must be collected and recommended in order to ensure a sustainable training outcome.

For volunteers, 60 learning units were considered the upper limit; this is in accord with, for instance, the duration of the courses for licenced trainers in preventive sports programmes in Germany. Professional advice and the sharing of experiences once a week should be arranged for at least six months after the training.

### 3.5 Strategies to sustain the training outcomes

A couple of measures are important to sustain the activities of SHAFE facilitators. Again, a principle distinction should be made between volunteers and persons who start their own business. Some measures, however, apply to both groups.

Basically, it appears useful to cooperate with local partners in order to foster the SHAFE training packages and the implementation of measures. Organizations with an important territorial anchorage and activities impacting smart, healthy age-friendly environments, who are well-known and effective in meeting the main needs of end-users and facilitators qualify as preferred partners in this context. Especially municipalities should be encouraged to provide funding or support for SHAFE facilitators in terms of advertising their services. Also, health centres, family doctors and other stakeholders in touch with end users that need SHAFE products or services – e.g. grocery stores, cafes and kiosks, can take on important functions in disseminating the facilitation services.

Facilitators will feel more connected if they operate in a system. On the side of the end users, there is a need for a trusted network, marketplace or central point of contact to advertise, find out and negotiate about services and products and for localised support of products and services. Belonging to such a network would lend credibility to a facilitator externally. Internally, it would give the opportunity to registered facilitators to support each other and share their experiences. Also monitoring and gathering feedback from users could be facilitated by such a network.

Organizations that run measures with volunteers must make sure that activities are neither surpassing their professional capacities nor embrace too many unpleasant activities. For instance, volunteers should not be expected to do the job of a professional caregiver, including the allotment of medicine or changing diapers. Volunteers should at least be provided with the following support:

- 👉 **Logistical provisions:** SHAFE facilitators may need a workplace to organise meetings and to offer consulting hours for citizens who want to contact them (e.g. for advice in housing issues). These rooms can be located in municipality buildings, community centres or day centres and should have a low threshold for seniors. Further, the work of SHAFE facilitators may require office equipment (such as computers, telephones and an internet access). Without these facilities, long-term projects will be very difficult to coordinate and implement.
- 👉 **Organisational support and provisions:** Clear goals of the activities and organisational structure are crucial factors. Administrative burdens should be reduced as far as possible by paid staff. Besides framework conditions like allowances, the reimbursement of costs and insurances, other aspects of the legal framework conditions (e.g. data protection) must be clarified. Also, continuous communication among SHAFE facilitators should be promoted. The exchange of information, knowledge and expertise, as well as sharing methods and good practices are supportive conditions. Specific training on digital applications (E-Mail, SMS, WhatsApp, Dropbox, etc.), internal workflows and work organisation should be offered in case of need.
- 👉 **Support in public relations:** The knowledge of the community on SHAFE facilitation offers is also important to generate resonance and motivate persons to make use of the offers. Effective public relations can be established in cooperation with local newspapers (still a preferred information source by older people) and parishes. Older





people's organisations may also play a role in the dissemination of SHAFE facilitation offers to a broad (older) public. The public recognition of the achievements of SHAFE facilitators by local authorities and policy-makers – e.g. on “thank-you-events”, receptions or the bestowals of badges of honour – are important to motivate them in the long run.

The above-mentioned measures are necessary for a successful work of volunteers. Parts of it can be also used to sustain the work of self-employed SHAFE facilitators.

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## Annex 1: List of contributors

This “European synthesis report of research results” summarizes the research results presented in:

- ✎ The six national reports about current practices, problems and potential solutions in the six Hands-on SHAFE partner countries (France, Germany, Ireland, Poland, Portugal and the Netherlands) in the creation and implementation of Smart, Healthy and Age-Friendly Environments and
- ✎ The “European Compendium of Good Practices in the creation of Smart, Healthy and Age-Friendly Environments in the Hands-on SHAFE partner countries”.

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