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This is an executive summary of Deliverable 1.1 of the project gAALaxy.

1. USER REQUIREMENT ANALYSIS

The user requirements analysis aims to provide a comprehensive description of users' requirements as well as implications for the solution of gAALaxy. The main research was derived from the project proposal and is stated as followed:

What are the requirements that elderly people (PE), their relatives (i-SE) as well as care-givers (f-SE) have towards a bundle of technical AAL- as well as smart home solutions for their own apartments or homes?

1.1. RESEARCH DESIGN AND SAMPLE

In order to gather a comprehensive picture of the requirement situation and answer the mentioned research question the following data collection and analysis methods have been combined:

- Qualitative interviews
- Quantitative survey
- (Group) expert interviews
- Literature review

Guaranteeing statistical representativeness was not a crucial criterion for the sample selection. Rather, a deliberate effort was made to gain a sample that entails typical potential gAALaxy users of each regional setting. Therefore, soft criteria was developed and adapted to regional requirements. E.g., while in Austria the focus was on persons at the age of 65 on older, the Italian sample focused more on physical health condition and basic openness towards technology and science as well as the willingness to participate in interviews etc.

That process led to the following sample:

Table 1: Sociodemographic data PE sample

Gender	Male	39 (72,22 %)	Living situation	Alone	32 (59,26 %)
	Female	15 (27,78 %)		With one relative	18 (33,33 %)
Age	Mean	76,74		With more than one relative	3 (5,56 %)
	Median	81,5		With one non-relative	1 (1,86 %)
Country	Austria	28 (51,86 %)	Residence type	Private apartment	29 (53,70 %)
	Belgium	15 (27,78 %)		Private house	19 (35,19 %)
	Italy	11 (20,37 %)		Assisted living	4 (7,41 %)
				Flat-sharing for elderly	2 (3,70 %)

1.2. FINDINGS

Home living situation, comfort and home security

Generally, home is considered a safe and pleasurable place. Participants stated that they feel safe in their homes. They value the time they can spend there and find it agreeable to have time for themselves. Due to these positive feelings, participants stated that they do not want to change their living situation. Besides the participants who want to retain the status-quo of living situation for positive reasons, four persons had a negative connotation. They stated that they do not want to change their apartments or make any larger investments as they would not know how long they will still be alive. Regarding challenges within their domestic surrounding, interviewees mentioned especially the lack of barrier-free equipment. In order to be able to retain their living situation, the interviewees seem to have a high awareness for home safety and comfort measures. Many narratives of the interviewees evolved around how they have adapted their living environments to make it safer and more comfortable. This

Personal safety

Falls and the risk of accidents in general have been a common topic within the interviews. Multiple participants (particularly in Italy) mentioned that they already had a fall accident. Out of these circumstances, they have drawn different conclusions related to technological and personal support as well as lifestyle adaptations.

The second important topic in terms of personal safety was related to moving around outdoors, which is generally considered crucial but difficult. Outdoor mobility is increasing the feeling of autonomy and independence for many participants. Italian participants also mentioned that outdoor mobility would help them to make their lives less monotonous and enable more contact to other people. However, leaving the safety of the homes is difficult for several reasons. Some participants mentioned that they would no longer leave the house alone, especially at night, as the outside world frightens them or simply because they were physically not able anymore.

A third topic mentioned by some interviewees in the context of personal safety was the fear of crimes. They use whistles, alarm pistols and pepper spray to protect themselves and refuse to leave the house, or open the doors at night.

Communication, entertainment and social relations

Social contact takes an important role in the lives of the interviewees. Regular contact with friends and family is generally highly valued. Many participants regularly meet with friends and relatives. The fear of loneliness was mentioned particularly by Belgian and Austrian participants, as many of them are living alone. As remedies against loneliness, participants talked about a range of measures, as e.g. frequent phone calls.

Entertainment activities are much enjoyed by most primary end-users. These include watching TV, reading books and newspapers, listening to music/radio, solving cross-word puzzles, or using the computer for gaming or surfing the Internet.

Some participants mentioned challenges related to certain communicatory or organization tasks, as e.g. meal ordering or bus plans.

Support structures

As the interviews guideline evolved around daily life patterns, narratives on personal support structures and primary end-users' attitudes towards it, emerged naturally in many of the interviews.

The findings relate to attitudes towards support given by relatives and families as well as attitudes towards support given by formal secondary end-users and care-giving organizations.

Several interviewees stated that their relatives worry and care a lot for them. The support by friends and family is highly valued, but at the same time presents a source of emotional dissonance, as primary end-users do not want to be a burden for their relatives. Also, some interviewees stated that they are proud and glad to be still able to do things on their own and do not want to receive more help than absolutely necessary.

With regards to support by formal secondary end-users, the interviewees' attitudes were contradictory to some extent. While some participants stated that caregivers were valued for their support and as an opportunity for interpersonal communication, others were rather sceptical for several reasons. Three participants expressed scepticism with regards to leaving 'strangers' into their houses. They emphasized that a relationship of trust would be very important in this context. Worries also relate to the consistency and affordability of external care.

Technology relations

With regards to technology relations, the qualitative interviews accounted for emotional as well as general attitudes towards technology usage, while factual evidence (e.g. what kind of technology is being used) was collected within the quantitative survey. Major narratives related to this category were a scepticism towards technology or even the refusal to engage with technology at all.

Scepticism towards the use of technology has several reasons that range from diffuse fears to rather specific problems that the interviewees have encountered. Some participants stated that they find most technical tools too complicated and not reliable enough. They therefore call for user-friendly devices. Also, the fear of surveillance with regards to ICT usage was mentioned. Specific problems that interviewees had encountered include operating problems (e.g. not knowing how to turn up the mobile phone volume or how to use certain applications) or technical problems such as failure alarms etc. These instances amplified the interviewees' impression that technology was not reliable or feasible.

Eight participants mentioned that they do not want to engage with technological devices at all. Reasons for this are a general lack of interest or the feeling of being too old for technology. Some participants also mentioned that they feel comfortable with their tech-skills and do not want to extend it.

Priorities and goals

The category 'priorities and goals' finally summarizes narratives on general values that were very important in the lives of the interviewees. Those values do not relate specifically to any of the above mentioned categories. Rather, they can be viewed as a general 'value framework' that may guide the overall design of the gAALaxy solution. Implications emerging out of this category, thus, may be seen as a potential set of success criteria for gAALaxy. The category includes narratives on (1) the urge to remain physically active as well as (2) mentally active, (3) the importance of independence and a feeling of responsibility, (4) the importance to stay positive and to enjoy life.

(1) A majority of participants recognized the benefits of a physically active life and highly value physical activity indoors as well as outdoors. They are proud of what they still can do and regret what they cannot do anymore. Many interviewees were eager to talk about the physical activities they perform. Depending on the level of physical health these include activities such as going for a walk,

swimming, doing gymnastics, biking or using a home trainer or do gardening work. Also domestic works were mentioned as a source of physical activity. As a result, some participants explicitly mentioned that they are sceptical towards home automation as this would prevent them from remaining physically active.

(2) The urge to remain mentally active was also considered as an important goal. Participants mentioned that they regularly perform activities to reach this goal, such as solving crossword puzzles, memory training, visiting lectures etc. Several participants also stated that it is important to them to be informed about what is going on in the world. One participant stated to be afraid of becoming oblivious.

(3) The importance of independence and a feeling of responsibility was another central theme within many interviews. Participants want to have regular responsibilities and tasks in order to feel useful. Similar as the urge to remain physically active, this presented a source of scepticism towards the use of home automation. Three participants explicitly stated that they do not want to receive support (technical and personal) as this would take away their feeling of responsibility. Moreover, two persons expressed regret to be no longer able to drive a car, because it reduced their level of freedom.

(4) Ten interviewees explained that a positive attitude towards life was very important to them. Despite certain constraints, they want to make the best of it and enjoy the benefits of this life phase. Four participants for example mentioned that they enjoy to only do what they want to do and five persons stated that the fact that they do not feel stressed anymore presented a substantial relief to them.